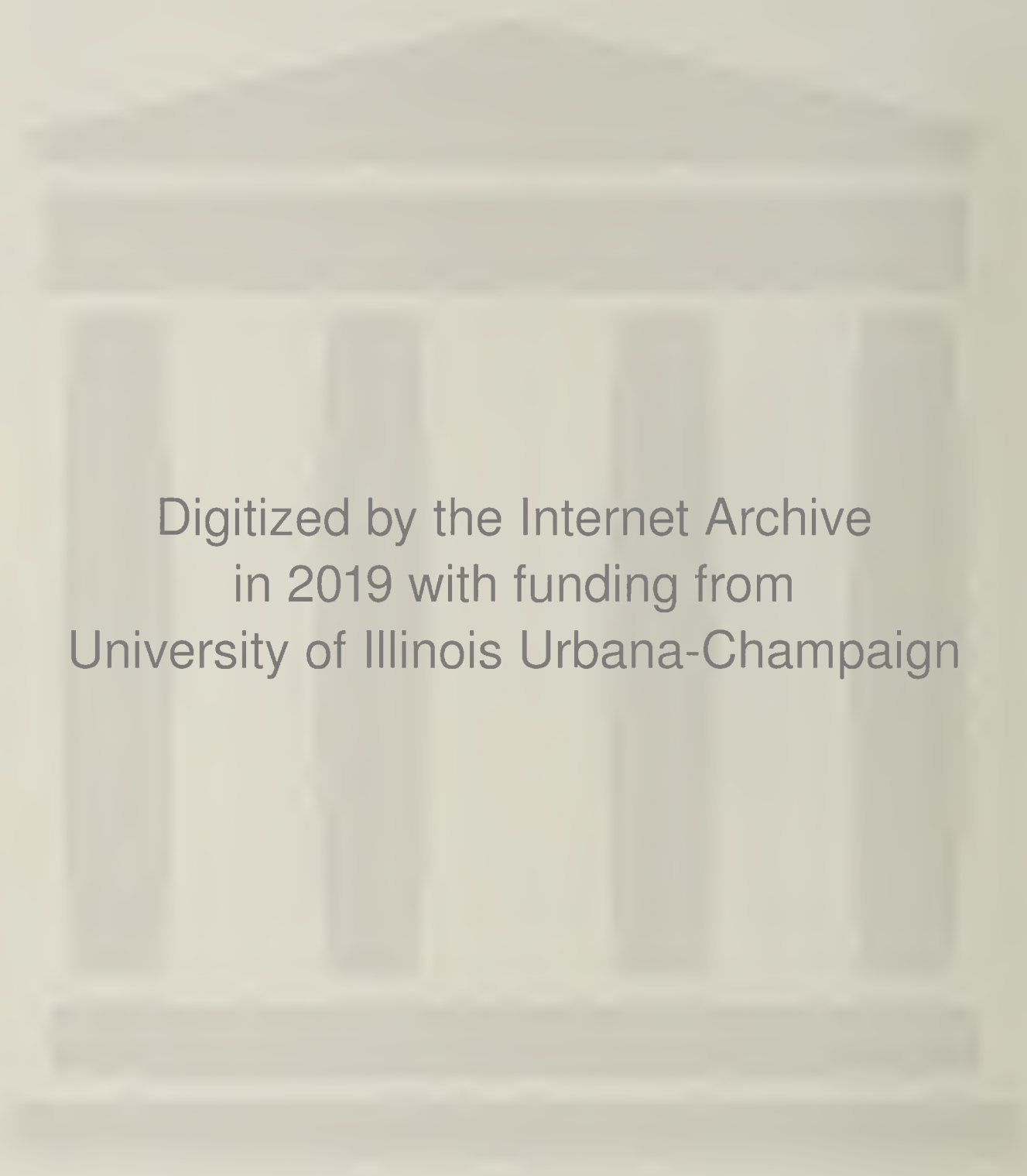




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THE JOURNAL

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American Medical Association

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MEETING, IN THE SEVERAL SECTIONS, TOGETHER WITH THE

MEDICAL LITERATURE OF THE PERIOD

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BY

GEORGE H. SIMMONS, M.D.

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Address.

SPECIALTIES AND SPECIALISTS.*

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CHICAGO.

Specialism is a significant feature of our times and by no means confined to medicine. Few eminent lawyers undertake to practice all phases of jurisprudence; many devote their efforts to one distinct department only. Thus we have the criminal, the patent, the real-estate, the probate, the mercantile, the corporation, and, lastly, but not of the least interest to some physicians, the collection lawyer. Few painters have achieved world-wide fame unless by constant application to a single purpose. Rosa Bonheur and Verboeckhoven have never tired of depicting animals, the Barbizon school has revealed to us the beauties of rural life, Mezdag is known only by his marine pictures, Israel by his frugal interiors, Meissonier by his war scenes, Lenbach and Whistler by their realistic portraits, our own Innes by his inimitable landscapes. In all domains of mental energy, in commerce and the industries, we find specialties. Who can wonder then that the phenomenal development of medicine during the past fifty years has of necessity led, not to its division into as many independent departments as there are different organs in the body, but—comparing it to a tree—to a healthy and strong development of all its branches to a degree where some of them, while still drawing their life-blood from the same old roots, and while still firmly attached to the same old trunk, have grown to imposing dimensions. Specialties in medicine are, therefore, not the arbitrary, capricious, artificial products of the respective specialists, but the legitimate result of increased medical knowledge, the inevitable and irrepressible consequence of evolution.

Some specialties have long ago reached their age of maturity and few of you will question their standing and title to-day. In the majority of good medical schools, here and abroad, there have been for a long time separate chairs of ophthalmology and otology, gynecology, laryngology, neurology and psychiatry, pediatrics and dermatology, although examinations in all these branches were not always obligatory for obtaining a degree. Advisedly I do not mention obstetrics here, for a long time recognized by a special chair, for it is rare that practice is confined to it exclusively; nor would it be proper to call surgery a specialty. Of more recent date are the specialties of rhinology, orthopedic surgery, and genito-urinary surgery. In practice, but hardly in the regular degree-conferring colleges, we have proctology, as it lately has been baptized—not to mention the title of official surgery—gastrology, and abdominal surgery. To those of you who in the near future may find an over-

crowded state of affairs in most of the specialties just enumerated, I would suggest a few good openings, as follows: Glossology (diseases of the tongue), hepatology (diseases of the liver), nephrology, splenology, pancreatology, thyroidology, onychology, (diseases of the nails), etc., ad libitum. The general public, of course, is constantly creating all sorts of specialists, as for instance the specialist for rheumatism, for appendicitis, for intubation, the fever and the catarrh specialists; the complexion and the hair specialist, and so on. Let us not forget one important species, the specialist for everything—the man who never turns anybody from his door, who treats anything and everybody. As varieties of this marvelous category, we might mention the osteopath, the “Christian scientist,” the Dowieite, vitopath, hydropath, electropath, and other charlatans.

In view of the tremendous array of specialties just alluded to, some of you might well ask if there is anything left for the general practitioner. To this I would answer: everything. Not only in the smaller communities, but even in the larger centers of population, the historic style of the well-trained, good, all-around, general practitioner will and must remain the backbone, or as my friend Patrick would call it, “the solid Muldoon,” of the medical profession, and with the continued improvement in our colleges, this type should attain the highest order of perfection. The general practitioner ought never to collide with the *true* specialist, who, rather than antagonize him, should be his ally in times of need, clearing up a doubtful diagnosis, mapping out a successful line of treatment in difficult cases, always ready to support, never willing to supplant him. The general practitioner will always keep the management of acute diseases, and should be the trusted medical counselor of the household in everything pertaining to hygiene, sanitation, development of children, etc. He will attend to all normal confinements, but will be glad to have his responsibility shared by the expert obstetrician in cases of placenta previa, or face presentation. He will treat the majority of eye affections, but will leave cataract extraction and refined ophthalmoscopic diagnosis to the trained oculist. He will manage all sorts of throat troubles, be prepared for the use of antitoxin against diphtheria, be even ready to perform tracheotomy when emergency arises, but leave intralaryngeal operations and intubations to the skilled laryngologist. And so in all other departments of medicine. But the busy general practitioner will find little time for scientific research work and be content to watch the progress of medicine as an interested and intelligent observer. The bulk of the real work in the science and art of medicine has for years been and will always be done by the pathologist and the clinician respectively, which includes the specialist. And by work I do not mean the writing of journal articles, or the compilation of text-books, but investigation by means of microscope, chemical analysis, animal experimentation and methodical clinical observa-

* Address delivered at the Opening Exercises of Northwestern University Medical School, Oct. 2, 1900.

tion on large hospital material, and the publication of such work in appropriate scientific form. Herein I see before everything else, if there is at all need of it, a vindication of the specialties, which are too often unjustly arraigned and held to account for the doings and vagaries of their would-be votaries. The specialties are all right. The specialists are only too often all wrong. The rush to the specialties during the last two decades, particularly in the large cities, has been so impetuous that it naturally resulted in the establishment of a class of mediocre specialists, who often bring discredit on the whole institution of specialism. I have no hesitation in saying that we have too many specialists, but not enough good ones.

What are the criteria of the true, the ideal specialist? He should be a man with an excellent general preliminary education. This should even include a knowledge of the more important modern languages, an indispensable accomplishment for one who must follow the international medical literature of to-day. He should have had a broad, comprehensive medical training in college and hospital, particularly in pathology. In addition to this, he should have devoted, according to the line of work selected, from two to four years to his special studies, comprising clinical, literary and laboratory work. He should never lose the intimate contact with general medicine, and no matter how small the field of his special labors may be, he should always remain a physician. The true specialist will never become narrow, and I may later on have occasion to illustrate of at least one specialty the many bonds of union by which it is inseparably tied to general medicine. The true specialist can never afford to stop working scientifically. The continued wave of progress in medicine must be closely followed by him, lest he remain behind, and particularly if he should be a teacher we must expect him to be always at the front. In his practice the true specialist should before all be a reliable diagnostician. Acquaintance with the commoner diseases of any organ may safely be expected of any well-trained and fairly experienced general physician. But we have a right to demand from the specialist thorough and easy familiarity with rare and exotic affections also; in other words, in his rôle as a consultant, he should be an expert. Likewise, should he be fully at home in all therapeutic methods and measures pertaining to his specialty. I think it is perfectly fair to insist that a specialist should confine his practice strictly to his chosen department; and yet it is exceedingly difficult to avoid occasional—at least apparent—conflict with other fields. The neurologist finds himself daily confronted with cases requiring the fullest knowledge of the pathology and treatment of syphilis; the syphilographer again must as often be prepared to meet in his patients, nose and throat, eye and nerve disturbances. The throat specialist will find many of his cases to be complicated by bronchial and lung affections, and the oculist may trace many eye troubles to rheumatism, diabetes or other systemic derangements which call for his interference. In all such cases the specialist must show that he has not ceased to be a physician; he should not degrade himself to a mere tool in the hands of his professional constituents. Tact and judgment will, however, easily keep him from treading on the general practitioner's toes.

Shall I attempt to characterize the would-be, the poor or mediocre specialist? An ungrateful, perhaps an ingracious task. Look around you and see the man who is ever ready to present you his card whereon is inscribed "Practice limited to such and such diseases;" who "makes

a specialty" of this or that—a disgusting expression to me, by the way—who constantly talks to his friends of his cases and the increase of his income; who appears before medical societies to parade with his poorly observed and often misinterpreted cases; who uses every opportunity at such gatherings to get up and talk for no other purpose than to let his audience know that he, too, has seen cases of exactly the nature that the essayist has described, but that in his hands the drug recommended has been of no value, while a formula of his own or a specially devised instrument, which he forgets to describe, have uniformly proved successful; who, with a lot of others of the same genus, but engaged in different departments, forms a sort of a trust for the exchange of cases; and who often enough, let us be frank, holds out all sorts of inducements to general practitioners for the transfer of special cases; to whom his specialty is indeed naught but a milk cow. Such a man probably enters medical college with a firm determination of eventually "making a specialty" of a certain class of diseases. While in college he considers everything which is not directly related to his prospective special field, as irrelevant, gets through his medical course easily, about well enough to barely pass his examinations without being plucked. His sheepskin still damp from the signature of the faculty members, he at once goes abroad for special studies in Paris, London, Vienna. These studies are largely devoted to a minute investigation of the most famous cafés, restaurants, theaters and other places of amusement; a few special courses by privat-docents or assistants, given in a poorly understood foreign language, are however, usually taken along, by the way, as it were. Six or twelve months later, this perfect, newly-made specialist arrives home, where his friends have already been prepared by numerous letters of his wonderful attainments abroad, armed with instruments of the latest pattern, declaiming about the very most recent methods of treatment which he is now the only possessor of, and superciliously sneering at the old foggyish Dr. X, whose competitor he starts out to become. Soon enough he succeeds in buying a professorship in the Aesculapian College for Advanced Clinical Medicine, and what seems most remarkable, many members of the profession open their arms to that sort of medical luminary and shower patronage on him. Even soap bubbles rise up; for a time, at least. Do not consider these remarks as exaggerated or slanderous, but take them, I mean you students, as a timely warning. If you, freshmen, have come here with a specialistic bee buzzing in your ears, kill it at once. If you develop during your college studies a special inclination toward some particular branch of medicine, cultivate it as much as you may, without, however, neglecting any other work. Build a strong foundation for your future by earnest devotion to the fundamental studies, anatomy, physiology, chemistry, pharmacology, and lastly, but most important, pathology. You can never build this foundation too massive. Add as the next story of the structure, as it were, the principles of medicine and surgery. Then, if you choose, you may undertake to erect your specialty on the top floor. But this last part of your training for any chosen specialty can not be gotten in a regular medical college, and should not be expected from it. The teaching staff of a high-grade medical school nowadays must, of course, contain quite a number of specialists. You would not be willing to have the most excellent general practitioner lecture to you on neurology, eye diseases, or laryngology. But your teacher of any specialty, if he realizes his position and appreciates

your wants, will, with wise discretion, pick out for your instruction from the bewildering mass of material at hand, those subjects which you are most likely to meet in your future daily work. He will treat exhaustively the more common affections, mention without going into technical details the chief features of the rarer diseases, always maintaining the contact with general pathology, always pointing out the relationship to general medicine and surgery. Taught in this way, the study of the specialties in the college will help to broaden you, rather than to detract from your general medical education.

The step into a specialty may be made in various ways. The opinion frequently voiced that in order to become a good specialist one should have spent from five to ten years in general practice is justified in many respects. At the same time it will easily be admitted that two-years' work in a large hospital, going from one service to another, far outweighs the experience acquired in the former. Work in a hospital is, as a rule, more apt to be of a high scientific order, while busy general practice often leads to routine and from its very nature, the constant strain on mind and body unfits its follower for hard scientific work in one particular line. In what manner attendance on hundreds of cases of labor, pneumonia or typhoid fever can benefit the future ophthalmologist or dermatologist I fail to see. I can comprehend the value and am glad to admit the desirability of general practice as a stepping-stone for the neurologist or gynecologist; but the aforementioned opinion is altogether too sweeping when applied to all specialties. I would put much less emphasis on general practice, but much more on general pathology as the essential basic element for all specialties. The real and ideal school for the specialist must be a large clinical material in hospital and dispensary work, with its attached scientific laboratories, under the direction of an experienced master. The man who, without such schooling, dashes into a specialty is likely to use his private patients as a material for his studies—a somewhat questionable procedure. As I said before, it is this kind of would-be specialists who, by their blunders in the first years of their practice, bring discredit on the whole institution. It is this kind of specialists who evoke such bitter criticism as could be heard in that famous discussion before the Chicago Medical Society about two and a half years ago. Some of our most representative men aired their feelings against the prevailing style of specialism then and there, and while most of what was said could easily meet with the heartiest approval of the unbiased hearer, a good deal was harsh and unjust. Listen to a few of those statements: "And yet one finds specialists of the ear who do not treat diseases of the postnasal space and pharynx. Specialists of diseases of the skin whose knowledge of the digestive and excretory organs is limited." And so, in turn, every specialty is taken to account. Further on the same speaker says, referring to autointoxication, malassimilation, etc.: "The above-named conditions give the dermatologist an opportunity to write volumes on skin eruptions with a nomenclature horrifying in degree." Another speaker evidently intent at being humorous said: "Many specialties have but a narrow basis to build on; they are shaped like an inverted pyramid. Some have been built on an instrument or appliance; others on a nomenclature. Gynecology on the speculum; nose and throat on the laryngoscope; genito-urinary on the endoscope and cystoscope; orthopedic surgery on the tenetome and plaster of paris; dermatology on a nomenclature; nervous diseases on

electricity; otology on the otoscope and Politzer's air bag."

I must leave it to those representing other branches of medicine to speak for themselves. But I may be permitted to use this opportunity, though somewhat late, to show the injustice of those hits made at dermatology. The fact is that this department was not represented in that discussion.

I do not feel it my province to defend dermatology against any attacks on its right to recognition as a legitimate and most important field for special study and special practice. Dermatology is too proud to defend its *raison d'être*. For more than fifty years the scientific study of skin diseases has been carried on by an indefatigable lot of workers in all civilized countries with results surpassed only by the more conspicuous and brilliant achievements of modern surgery. To charge dermatology with being little more than a mere aggregation of titles of diseases denotes either ignorance, lack of sympathy or wilful vituperation. Nobody realizes more than we dermatologists that the numerous attempts to classify the various cutaneous disorders after the example of other sciences like botany or zoology, have not proved altogether satisfactory; but the respective labors of a Willan and Bateman at the beginning of this century, of the great reformer, Hebra, in the '50s, of Auspitz, Bronson and Jessner more recently, to mention only a few representative names, have not been entirely lost. They have helped to clear up many a dark spot, to group together many apparently different disorders, to separate others of seeming likeness, but distinct in their essential nature. Our nomenclature may seem indeed "horrifying in degree" to the uninitiated, but to the dermatologist the many titles are nothing but excellent servants, intended to promote universal interchange of ideas and never allowed to become our masters. The names are like the short inscription on a painting, useful for ready reference; behind them stands a mass of pathological, histological and etiological study. Let bacteriology get a few years older and you will have a terminology there which will make us poor dermatologists blush for our comparative insignificance. This sneer at our nomenclature reminds me of the kind of diagnoses that are occasionally made in practice, when the patient is told by his doctor "Oh, this is no cancer, it is just skin disease." Are we to go back to that lovely era of humoral pathology, when indeed it was quite an unnecessary ballast to know anything about cutaneous affections, when finer distinctions and differentiations were superfluous, because any eruption on the skin was looked on merely as the outward sign of an impurity of the blood, when the physician without troubling himself much whether his patient had the itch, ringworm, acne or eczema, was ever ready with his purgatives, diuretics and alteratives, poured without aim or choice into the poor victim? Horrifying nomenclature indeed! The 62 volumes of the *Archives for Dermatology and Syphilis*, the 30 volumes of Unna's *Monthly Journal for Practical Dermatology*, the dozens of the French *Annales* and our own *American Journal for Cutaneous Diseases*, not to mention the British and Italian periodicals, contain nothing but discussions as to names. The American Dermatological Association, which convenes annually for its scientific deliberations, the triennial International Congress for Dermatology comprising hundreds of the most eminent physicians and surgeons of all countries, the many smaller national and local special societies have little more to do

than to wrangle over names! In the idea of our critics at least.

Can I undertake within the limitations of a short address to signalize the scope, the scientific and practical importance of dermatology? This would be impossible. Permit me to give a few illustrations suggestive of what signal service dermatology has been to general medicine.

Let me remind you that the epoch-making studies of Robert Koch on the nature and etiology of tuberculosis have been primarily undertaken on material furnished by that destructive skin affection which is known as lupus. Long before the discovery of the tubercle bacillus in 1880, clinical observation had made it more than probable that there existed a relationship between that local disease and generalized tuberculosis, statistics undertaken by various observers on large material having demonstrated that in more than 70 per cent. of all cases of lupus there existed simultaneously or followed eventually some other manifestation of tuberculosis. Now, when a new era of pathology had been inaugurated, dermatology eagerly took hold of bacteriological methods and proved quite a number of hitherto misunderstood skin affections to be nothing but forms of local tuberculosis. The well-known serofulous ulcers of early and adolescent life; the wart-like formations often following infection in post-mortem work and known as verruca necrogenica or anatomical tubercle; the so-called tuberculosis verrucosa cutis, an affection occurring in the form of round, raised, papillomatous patches on the hands of butchers, coachmen and others occupied with diseased cattle; the many accidental ulcerations following infection by the tubercle bacillus, as for instance after circumcision, piercing of the ears, washing of infected linen; the rapidly progressive, ominous ulcers on the lips and in the mouth or other mucous outlets, observed in the last stages of consumption, besides some other rarer skin lesions were thus assigned a sure place in pathology. Much of the modern progress in the knowledge of the nature, the therapeutic and hygienic management of this all-important pandemic disease is justly due to the stimulus furnished by dermatological work. And right now we may hopefully look forward to much better success in our fight against that scourge when the magnificent results achieved in Finsen's light-ray institute at Copenhagen for the treatment of lupus, as well as the distinct effects of the Roentgen rays on the same disease make it more than probable that these, as yet somewhat mysterious agents, may before long be utilized against tuberculosis in other parts of the body.

Another example of the value of dermatological study may be furnished by that ever live and interesting chapter, the malignant and benign new growths. It will be readily admitted that nowhere are the conditions for observation and investigation more favorable than on the external integument, which is so frequently the seat of the various forms of epithelioma, sarcoma and other tumors. The transformation of apparently harmless eczema-like lesions into a most serious form of multiple sarcomas of the skin, better known as mycosis fungoides; the formation of numerous carcinomas on the skin of young subjects, who early in life on a dry and harsh skin develop excessive pigmentations in the form of freckles and many small ectatic blood-vessels, a disease first described by Kaposi as xeroderma pigmentosum and usually affecting several members of the same family; the nature of the so-called senile warts and their tendency to metamorphosis into flat epithelioma; the fact that some forms of cancer may remain local in character for many years and indeed have justly been

called benign epithelioma, while others exhibit a most destructive energy and tend to rapid multiplication; the relationship of keloid to cancer; the knowledge of multiple melanotic sarcoma of the skin; the investigation within the last few years of those most interesting tumor-like vegetations due to an inoculation of the yeast fungi and termed blastomycosis; the pronounced influence of the systematic use of arsenic in gradually increasing and large doses on certain forms of multiple tumors, particularly those affecting the lymphatic glands known as pseudo lymphosarcoma, or Hodgkin's disease; the decided effect of Fowler's solution used locally only on some forms of epithelioma, a method not to be undervalued in patients to whom the word operation means untold horrors; these are some of the lessons which have been taught by dermatology.

And what of the earnest and unceasing labor bestowed by dermatologists in all parts of the world on the study of that most fearful disease, not of the skin alone but of all organs alike, leprosy? I do not intend to sound an alarm cry here; but believing as I do in the infectious nature of this disease, I regard it of growing import to us. Only two years ago there assembled in Berlin an international congress solely for the discussion of leprosy, its nature and the best means for its mitigation and extermination. As one result of that conference, I may mention the founding of a special journal for leprology, international in character, and supported by collaborators, mostly dermatologists, in all zones. The discovery of an easily recognizable bacillus in all products of lepra by Hansen, has wonderfully helped to instigate a great deal of scientific research and much has been done in the last few years toward the development of more rational methods of treatment, especially by an antileprosy serum, though this is still in the experimental stage.

It is hardly necessary to remind you of the enormous importance of syphilis, a disease which no practitioner of medicine, no specialist, whatever his particular field may be, can afford to ignore, for syphilis spares no organ, no tissue. And need I emphasize the value of dermatology in this respect? Almost all the histological and experimental work in this department, all the descriptive detail, the development of the modern scientific methods of treatment, I refer especially to the employment of mercury in the form of hypodermic injections, is due to the work of the dermatologist and syphilographer. Nor have they neglected the many sociological and hygienic problems which are presented by that disease.

The illustrations just cited refer to diseases of a pre-eminently cutaneous character. But even in fields of purely clinical medicine, dermatology has often contributed to a better and richer pathological understanding. Take for instance diabetes. Very frequently this disease is first recognized by the dermatologist, to whom the patient is directed on account of the prominence of cutaneous disturbances, which are indeed quite manifold: often a more or less severe itching of the skin; again the appearance of numerous furuncles; occasionally even gangrene in some peripheral part, as for instance the toes; as rarer manifestations, large and peculiar ulcerative patches on the lower limbs, first described by Kaposi as dermatitis diabetica; finally the formation of innumerable smaller and larger yellowish tumors in the skin known as xanthoma diabeticorum.

Medicine in general and neurology especially will always be under obligation to dermatology for work done in reference to the distinctly trophic or neurotic dis-

turbances of the skin. I need only to refer to herpes zoster, popularly known as shingles, that most interesting disease, whose relationship to pathological alterations of the underlying nerves or nearest ganglia has been proved beyond doubt; to symmetrical gangrene of the toes and the finger tips or other peripheral parts, well known as Raynaud's disease; to the various forms of that strange bullous eruption, pemphigus, which we have strong reasons to attribute to deep-seated nervous changes.

Of much general value is the work done by dermatologists in regard to the various drug eruptions. I am glad to mention in this connection two important publications by American authors, J. C. White of Boston, and P. A. Morrow of New York. The untoward effects of our remedies must ever be kept in mind by the practitioner, and among the foremost of these are cutaneous disturbances. Of the long list of drugs with whose action in this respect we are not quite familiar, I will only mention as of chief interest on account of their frequent and varied employment, the iodine and bromide preparations. That potassium iodide very readily leads to a symptom-complex known as iodism, in which is comprised an eruption of small pustules and papules on the forehead, neck and shoulders, is quite well known. But besides these vulgar and comparatively harmless lesions, it is sometimes responsible, even after minute doses, in people exhibiting a special idiosyncrasy, for an eruption of large, copious bullæ which may cover the hands and the whole face and thus become of serious import. Bromides also produce almost inevitably, after being used for some time, the well-known brom-acne. In addition to this, dermatologists have, however, traced a most peculiar, I might say picturesque, dermatosis to its use. The senior students present to-night may still remember the case of an infant which was brought to our clinic last spring. On the hips and limbs and on the face could be seen sharply configurated, roundish and irregular, fungoid elevations of a pinkish color, with a slight central depression of the individual lesions, which proved to be quite firm, large papules. In spite of the apparent resemblance to infantile eczema of the face the diagnosis of a bromide eruption was promptly made and a statement then elicited from the mother that the child had for some time been subject to, and treated for, some sort of nervous attacks, was sufficient corroboration. We soon learned from inspection of the doctor's prescription, that the child had indeed been taking potassium bromide. The mere suspension of this drug was all that was needed for a cure.

Turning from these more or less clinical sides of cutaneous medicine to its purely scientific aspects, I would willingly submit to the judgment of the histologist and bacteriologist, if dermatology has not done more than its share in the advancement of these respective sciences. It might easily fill the space of a separate paper to show in detail what has been accomplished in this respect, and I will only point to that monumental work of Unna on the histopathology of the skin, a classical volume of over a thousand pages and a lasting testimony to the services of that prolific and suggestive writer and worker.

The proposition advanced in the earlier part of this address that the specialist must always remain a physician, that he must be well versed in general medicine, holds particularly good in the practical work of the dermatologist. The man who would look on the skin as a detached organ and treat its diseases from a narrow standpoint is bound to make a failure of his vocation.

True, a large number of skin diseases, pre-eminently those of a purely parasitary origin, a very respectable class, by the way, can and should be managed by topical applications only, no matter how firmly the patient may be convinced that his blood is out of order and how eager he may be to get some purifying medicine. Notions of this kind are largely due to the inspiration drawn from the famous advertisements in our dailies and weeklies, the church papers not excluded. To respond to them borders close on quackery. I find patients in this country, as a rule, quite willing and capable of being enlightened, and it is only very rarely that a conscientious practitioner needs to resort to placebos. In this connection I wish to expose that most reprehensible habit of many physicians to feed every skin disorder, irrespective of its meaning, with arsenic in some form. I am fully aware of the beneficial and often curative action of this drug at the proper time and in the proper place, but given indiscriminately, it is more often harmful than useful, and I can not too strongly denounce its light-handed exhibition.

In the majority of skin diseases, on the other hand, which are met with in daily practice, there is indeed an important field for systematic treatment of the underlying cause. The teaching of Hebra, who in his enthusiasm proclaimed the purely local nature of such affections as eczema and acne, have long ago been discarded by modern dermatologists. The young girl who finds her face covered with blackheads and pimples will in vain try all sorts of soaps, salves and lotions. For while in acne there is a local, often parasitary, and besides this almost always a structural, anatomical element in its make-up, we can invariably ascertain important deviations of the assimilative and eliminative functions from the normal standard, and consequent on these we find often changes in the morphological aspect of the blood. Whoever undertakes to treat acne without the most careful attention to the diet, general hygiene and correction of the conditions just alluded to, will be disappointed.

And so it is with eczema. It may sound ungrateful from one to whom the traditions of that old and venerable school of dermatology at Vienna are still as dear as ever, but I can not help declaring and teaching as a result of unbiased observation and study, that I look on eczema as something more than a mere local catarrh of the skin. Sure enough, many instances of that protean disease are primarily due to some local irritation, and in all probability to some sort of parasite of which Unna has lately shown us quite a variety, since he has himself discarded his former *Morococcus*. These local forms might better be called dermatitis eczematodes. They are, as a rule, easily managed and no physician ought to lose much sleep over them. True eczema, however, the kind that appears often apparently without any external provocation, that recurs in spite of the most careful local treatment and is liable to persist for years, is due to a multiplicity of constitutional disturbances too varied to permit of enumeration here; disturbances which may be conveniently comprised under the designation of auto-intoxication. As a classical representative of this category, I might mention gout and its congener rheumatism. Nor should we forget that important type of nervous eczema. These kinds of eczema demand for their relief the most circumspective management, require besides a mastery of a good deal of technical detail as regards the topical treatment, a wide acquaintance with general pathology and general medicine. Mark well, it is the combined local and systemic

action in such cases which alone can promise success. Mere reliance on dietetic, hygienic or internal treatment can not succeed in removing the deep-seated anatomic alterations of the skin, which are the result of a chronic catarrhal inflammation in loco, leading to hypertrophy in all the layers of the skin. No more would you undertake in the case of a mature cataract, which is due to diabetes, to clear up the cloudy lens by an antidiabetic diet or expect the disappearance of hemorrhoids, the result of an impeded portal circulation, from stimulation of peristalsis alone.

To put before you still further illustrations in order to show the value and importance of dermatology would be, I fear, too severe a tax on your indulgence. Maybe you have already concluded that dermatological nomenclature is horrifying indeed.

There is only one more point which I can not suppress, for it is always near and dear to my dermatological heart, and though I have urged it time and again without response, I shall never tire of repeating that the American schools of medicine, our own not excluded, and the American hospitals, with very few exceptions, make an altogether too insignificant provision for the cultivation of dermatological studies. When, eleven years ago, this college first established a distinct chair for the teaching of skin diseases, and I was invited to hold one clinical demonstration each week, some of my friends used to discourage me by predicting lack of clinical material and consequent lack of interest on the part of the students. It is with pardonable satisfaction that I look back to the record of dermatological instruction in this school during these eleven years. We have succeeded in building up a clinic, which now justifies daily demonstrations in our dispensary and which is ample to illustrate our regular clinical lectures. The students have invariably shown a keen interest in this branch and have, as a rule, left our school well prepared for the demands of ordinary general practice, while a few have even chosen dermatology as a field for special study in which to-day they are conscientious and faithful workers. But I hope for still better work, particularly in the direction of hospital and laboratory facilities. It is invidious to draw comparisons, and almost humiliating to look over to such places as Paris, Vienna and Breslau. The famous Hospital St. Louis in Paris contains hundreds of beds for patients suffering from skin and venereal diseases. Its unique Baretta collection of life-like wax models of cutaneous disorders forms a treasury which perennially attracts a pilgrimage of seekers of instruction. The resources of the general hospital in Vienna, with its almost 300 beds for the same purpose, are too well known to need reiteration here. But even in that comparatively small Silesian town, with its 200,000 inhabitants, in Breslau, you may see a special institute, a large building, exclusively for the advancement of dermatology. It contains several wards, polyclinical rooms, bacteriological and histological laboratories, rooms for photographing, particularly for stereoscopic reproductions, lecture halls, complete bathing arrangements, drug rooms, in short, it is an ideal dermatological household, under the leadership of that enthusiastic master, Neisser, and his assistants. Where is the millionaire who will ever endow anything like it here?

Let us keep our eyes open to our short-comings and possible defects, let us continuously strive for further improvements in our methods of instruction and our technical facilities. Then, indeed, may the day not be far off when our young graduates will cease to wander

across the water in search of higher medical education; when, as Osler predicted recently, the current of seekers of knowledge and skill may be reversed toward our own shores. Then the United States of America will be the leaders not only in all spheres of industrial and commercial activities, but also in the higher domain of the science and art of medicine.

ETIOLOGY OF DYSENTERY.*

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Our imperfect knowledge of the nature of dysentery is not due to lack of opportunity for, or of energy in, its study. The disease, in the past quarter of a century, has not escaped the attention of bacteriologists, although it must be confessed that the results of somewhat extensive studies along these lines have been far less conclusive than might have been predicted. The attempt to establish a common etiological factor for all cases of dysentery has thus far failed. This failure has tended to emphasize the existence of several pathological states for which the term dysentery is employed merely as the collective designation. That these conclusions regarding the disease may, after all, not be in keeping with the facts is at least open to suspicion. When we recall the protean nature of other infectious diseases, there can be no *a priori* objection to the hypothesis that the causative agent of dysentery need not necessarily vary for each of the many types of the disease that have, from time to time, been distinguished.

That the lines of demarcation between the several clinical and pathological types should be inaccurate is not a matter of wonder. Both the beginning and end of any given instance may vary very widely and the symptoms and lesions of cases arising sporadically in temperate climates may agree with those of dysentery occurring endemically in the tropics or epidemically in both localities. The terms "catarrhal," "tropical," "epidemic," and "diphtheritic" are far from signifying sharp-cut entities.

As must always occur when classification of a disease proceeds on clinical and pathological rather than etiological lines, the literature of dysentery is burdened with an interminable mass of appellations indicating the nature of the disorder or the author's conception of its pathological anatomy. Dysenteries, however, are now divided by the chief writers into several groups, depending on the clinical history or the mode of prevalence; thus Osler writes of the acute catarrhal, tropical or amebic, the diphtheritic, and the chronic dysentery. Davidson considers the subject under two headings, 1. according to prevalence—epidemic, endemic, the dysentery of war and famine; 2. on clinical grounds—acute, fibrinous or pseudo-diphtheritic, and chronic dysentery. Kartulis described endemic, epidemic, and sporadic varieties; Manson speaks of a catarrhal and ulcerating dysentery, while Delafield distinguishes in the environs of New York at least five distinct types of the disease, only one of which appears to be due to a specific agent, the ameba coli.

Bacteria have been urged by many investigators as the cause of dysentery. The earlier studies of Klebs, Prior, and Ziegler have now only a minor historical interest, although Ziegler still holds that the relation of certain bacilli to the lesions speaks for their pathogenic

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action. The early studies of Hlava on the epidemic disease yielded quite inconclusive results. Chantemesse and Widal were somewhat more fortunate in that from five cases of tropical dysentery they obtained a bacillus which, when injected into the stomach or rectum of guinea-pigs, gave rise to diphtheritis, an observation, however, which Grigoriew, who believed that he had isolated the same micro-organism from ten cases of dysentery, failed to confirm. Maggiori obtained from eleven cases of the epidemic disease *B. coli communis*. This investigator considered it highly probable that the disease was caused by this organism, whose virulence was intensified, a conception also shared by Laveran, Arnaud, Celli, and Fioeca and Escherich, who isolated the same organism from dysenteric cases.

The studies on this bacillus by Celli and Fioeca are the most important which we possess. Their cases included examples of the sporadic, epidemic, and tropical disease occurring in Italy and Egypt. They paid special attention to the occurrence and action of the ameba coli, so that they are doubly useful. They exclude this organism as a cause of any form of the disease and consider that a variety of the colon bacillus particularly pathogenic, which they designate *B. coli dysenteriae*, is responsible for the lesions. A toxin separated from growths of the organism was found to act on the intestines of animals in a manner similar to the bacilli. Results similar to those of Celli were obtained by Del Pino and Alessandri. The colon bacillus is also believed by Escherich to play an important part in the production of colitis contagiosa in children—a disease which in its morbid anatomy agrees with catarrhal dysentery.

The bacilli thus far enumerated, except those of Chantemesse and Widal, show no specific properties. They all represent a well-known bacterial species, constantly present normally in the situations from which they were obtained in disease, and whose only unusual properties were increased virulence when tested on animals, and a capacity to set up enteritis when injected into the intestines of dogs and cats.

Investigation of an epidemic of dysentery which prevailed in Japan yielded different and apparently more convincing results. Ogata isolated fine bacilli, which liquefy gelatin, stain by Gram's method, and set up in guinea-pigs and cats intestinal ulcerations. A similar organism was later obtained in Padua by Vivaldi, since which time it appears not to have been found again. This list covers the bacillary species isolated in cases of dysentery, with the exception of an organism obtained by Shiga, who also studied the disease prevailing in Japan. This investigator's studies, which have a very direct value on my own, are deferred for the present.

On the other hand, a causative rôle in the production of dysentery has also been ascribed to the pyogenic cocci. Besides being found in association with bacilli by several of the investigators already mentioned, they have been regarded as the chief pathogenic agents by Zancarol, whose studies were carried out in Alexandria, and very recently by Ascher, who investigated cases arising in Eastern and Western Prussia. Similar observations were made by Silvestri, of Turin, and by Bertrand and Baucher in France. These cocci, especially the streptococci, were capable in certain instances of setting up, in cats, dysentery and liver abscess. An especial variety of endemic dysentery occurring in Cochin China, yielded Calmette the *B. pyocyaneus*. The same micro-organism was isolated from a small epidemic of the disease occur-

ring in New York state by Lartigau; in another epidemic in children prevailing in Canada by Adami, and in certain sporadic cases, by Barker in Baltimore.

Protozoa have also been brought forward as the cause of dysentery. These organisms differ from the bacteria in not existing in easily demonstrable forms or numbers in the dejecta in health and the number of species occurring under all conditions is small. Among the protozoa the amebæ have achieved the distinction of being connected in a causal relation with endemic dysentery. Since the studies of Kartulis, Councilman and Lafleur, and Kruse and Pasquale, so firmly has the idea of this connection taken hold of the popular medical mind that the designation "amebic" as synonymous with "endemic" or "tropical" dysentery has been widely adopted; and yet the evidence on which this belief is placed can not be regarded as convincing. Until we shall have gained other means of differentiating amebæ than we now possess, and moreover until we are able to control their development with at least as great perfection as in the case of bacteria, the question of the precise part played by them in dysentery can not be satisfactorily determined.

The last ten years have seen a modification of the views regarding amebæ as causes of pathological conditions in human beings. That these organisms exist in diseases other than dysentery was conclusively proved by the early observations—Cunningham, Lewis—on choleraic discharges. Grassi found them in diseases so varied as typhoid fever, cholera, pellagra and colitis secondary to tumors. He also found them in the dejecta of healthy individuals, a fact further established by Calandrucci, Massiutin, Kruse and Pasquale, Gasser and Sehuberg. It can, therefore, no longer be held that amebæ are necessarily pathogenic when found sojourning in the intestine of man.

That these organisms, when combined with bacteria, may cause intestinal lesions and even ulceration, is now established. The experiments of Kartulis and Kruse and Pasquale with the contents of hepatic abscesses supposed to be free from bacteria are all but convincing in so far as they are supposed to prove the capacity of amebæ alone to set up such changes. Councilman and Lefleur believed that the amebæ alone produced the intestinal lesions. Kartulis, on the other hand, sees in the occasional diphtheritis evidence of the action of bacteria, while Kruse and Pasquale have followed the latter in their penetration into the coats of the gut where they lie side by side with the amebæ, or even precede them in the invasion.

We may, I think, sum up the present knowledge of the cause of dysentery in the following way:

1. No bacterial species yet described as the cause of dysentery has an especial claim to be regarded as the chief micro-organism concerned with the disease.

2. It is unlikely that any bacterial species that is constantly and normally present in the intestine or in the environs of man, except where the disease prevails in an endemic form, can be regarded as a probable cause of epidemic dysentery.

3. The relations of sporadic to epidemic dysentery are so remote that it is improbable that the two diseases are produced by the same organic cause.

4. The pathogenic action of the ameba coli in many cases of tropical and in certain examples of sporadic dysentery has not been disproved by the discovery of amebæ in the normal intestine, and in diseases other than dysentery. While amebæ are commonly present and are concerned in the production of the lesions of

subacute and chronic dysentery, they have not thus far been shown to be equally connected with the acute dysenteries, even in the tropics. In the former varieties, bacterial association probably has much influence on the pathogenic powers of the amebæ.

The Dysentery of Japan and the Philippine Islands.—Every year, especially in the summer and autumn, dysentery prevails in Japan. The epidemic studied by Ogata occurred in the province of Oita. Lesions in the intestine are described in one instance, death having occurred on the eleventh day of the disease. The lower segment of the small intestine was hyperemic. The large intestine was greatly swollen so that the lumen was almost obliterated. The mucous membrane was hyperemic, and presented a deep bluish-red color, while the mucous membrane of the transverse and descending colon showed small ulcers, which were so numerous as to give to the membrane a sieve-like appearance. The peculiar bacilli described by him were obtained from these cases.

The most recent bacteriological study of Japanese dysentery has been made by Shiga. Out of the considerable number of cases of the disease occurring in Tokyo in 1897, thirty-six were subjected to examination. Shiga recognized that in order to prove that an organism which is suspected of standing in etiological relation to a disease is really the causative agent, four points have to be demonstrated, 1, that organism must occur constantly; 2, it must be a species not present normally in the diseased parts; 3, it must be pathogenic, and produce in experimental animals lesions similar to those from which it was obtained; and 4, it should, in virtue of its pathogenic activity in man, show the Widal agglutination reaction with the blood-sera of those who have suffered from the disease. From the series of cases examined, there was obtained from the dejecta and intestinal contents and walls, and from the mesenteric glands a bacillus which fulfilled all these requirements, and which was regarded as the cause of at least Japanese dysentery.

Before describing this organism, I wish to direct your attention to the dysentery prevailing in the Philippine Islands, especially in and around Manila. The report of the surgeon-general of the army for 1899 contains a tabulation of diseases observed among the American troops during the first four months of the American occupation of Manila. In it the dysenteries are included with the diarrheal diseases. The total number of cases reported was 445, death-rate being 0.48 per cent. The comment made is that the malarial diseases exceed their prevalence in the United States in the proportion of 370 to 96, and the diarrheal diseases in the proportion of 445 to 116, or about four to one in both instances. This compilation fails to give an adequate idea of the extent, severity and mortality of dysentery in Manila. Although the figures were not obtainable, I was convinced from nearly three months' residence in Manila that the enteric diseases, of which dysentery was the most frequent and important, were the chief causes of disability and mortality among the land forces of the American army.

The disease occurs in two main forms: acute and chronic. The stools and intestinal contents were scrutinized for amebæ. These organisms were absent or very difficult to find in the acute cases. In the chronic forms of the disease, in which ulcers were present, they were variable as to actual occurrence and number. Large hepatic abscesses, usually single, were encountered in a number of these cases.

The morbid anatomy of the chronic disease agrees in part only with that of the so-called amebic dysentery. The pathological changes in the acute disease differ widely from those of the chronic cases. I shall give an illustrative example: American soldier, dead on the sixth day of the disease. The entire large intestine from the cecum to the rectum is dilated and the walls of the gut are thickened. The mucous membrane is swollen, its consistence much increased, and the normal folds are thrown into elevated coarse corrugations. The general color of the mucous membrane is deep red, but there are present many brighter spots, evidently due to hemorrhage. A false membrane, consisting of scattered white elevations, occurs on the surface. Distinct ulceration can not be made out with the naked eye.

Bacteriology of Philippine Dysentery.—In the study of the bacterial flora of the disease, acute and chronic cases were utilized. Plate cultures in agar-agar were employed. The material for the cultures was obtained from the dejecta and from the intestinal contents after death. From the separated colonies slant cultures were made. Those consisting of the pyogenic cocci, which were never absent, were not studied further. Portions taken from the several bacillary colonies were tested on various culture-media with the result that two distinct types of organisms could be distinguished, especially in the acute cases. Their properties are as follows:

TYPE 1. Bacillus of average size; variable in length, usually occurs singly, sometimes in pairs, but only very rarely in filaments. The ends are slightly rounded. Moderate motility. Gram's stain is negative. Morphology: colon—typhoid type.

Growth took place on all culture-media at the room temperature, but better in the thermostat. Gelatin was not liquefied.

The colony forms resemble those of *B. typhosus*; after many successive transplantations on artificial culture-media, the colonies and slant growths become more opaque and abundant.

Potato: Growth takes place along the line of inoculation and spreads beyond. After some days it is a little elevated and of a pale-brown tint. On unfavorable potatoes the growth is slight, moist and membranous, resembling that of *B. typhosus* when typical, excepting for the greater amount of moisture.

Sugar-agar is not fermented gaseously; in glucose media a moderate acid production takes place.

Litmus-milk: At first a very faint lilac color appears. It is discernible after 24 hours, but more marked at the end of 48 or 72 hours. After a lapse of 6 to 8 days alkali begins to be produced, which increases in amount until the litmus is rendered deep-blue in color. No coagulation of the milk ensues.

Indol: This body is variable in its formation. Even in sugar-free bouillon it may fail to appear, or be produced in small quantities only.

Suitable cultures of this organism, when tested for the agglutination reaction with the blood-serum of persons suffering from dysentery, whether the host or another individual, give in many cases a positive reaction.

TYPE 2. Present in all instances. In the acute cases it may not predominate, being less numerous than the members of Type 1. In all others it is the predominating bacterium. Its properties are variable, but agree with those of the group of *B. coli communis*. The main variations relate to the extent and rapidity of growth on the several culture-media as exhibited by the color, thickness, etc., of the colonies. The sugars are

broken up with the formation of gas. Litmus-milk is reddened promptly, but coagulation sets in at variable intervals—sometimes after twenty-four hours, at other times not for several days or weeks. Indol is produced, but can not be demonstrated in all cases within twenty-four hours. In morphology the bacillus resembles *B. coli communis*. Some specimens are motile at the end of twenty-four hours; in others, motility could not be demonstrated.

The results of the agglutination tests varied according as the blood of the host or another individual was employed. With the host there was frequently a reaction in low dilutions; with another person the reaction was rarely and very inconstantly obtained.

Before proceeding to the assumption that this organism was concerned with the production of the intestinal lesions of dysentery occurring in Manila, its absence from the stools of healthy persons and those suffering from other diseases must be established. Strong presumptive evidence of its being an unusual inhabitant of the intestine of man may be gathered from the facts already known concerning the ordinary intestinal flora. But as such observations would not suffice for a new region and under new conditions, the organism was searched for in other persons who had been in close association with those suffering from dysentery and also in inhabitants of other parts of the Island of Luzon. The organism was not demonstrated in healthy dejecta or in the evacuations of persons (native Filipinos) suffering from beri-beri. A further argument in favor of its restricted distribution is furnished by its absence from cases of chronic dysentery or its marked reduction in numbers.

Pathogenicity.—The pathogenicity of the bacillus type was studied, soon after its isolation, on mice and monkeys in Manila, and on various animals in this country with cultures brought back from the Philippines.

Mice are susceptible to subcutaneous injections, but react more readily to intraperitoneal inoculations. According to the dose, death takes place in from 12 to 48 hours—more rarely after several days. The site of the puncture shows edema, and when the inoculation is made into the peritoneum a slight turbid exudate is present. Bacilli are present in very large numbers in both situations and there is a general invasion.

Guinea-pigs react much in the same way as mice. The dose required is slightly larger, but successive inoculations quickly increase the pathogenicity. At first the organisms remain confined to the site of injection, but when the virulence has become intensified the body is invaded. Intraperitoneal injections cause a sero-purulent peritonitis, many bacilli being contained within polymorphonuclear cells. The intestines are hyperemic; the contents are watery and the bacilli can be cultivated from the fluid portions.

Subcutaneous injection into rabbits gives rise to a localized swelling, which is sometimes followed by death. At other times an abscess forms and perforates the skin, after which recovery may take place.

Cats and dogs are also susceptible to feeding with cultures, the first after the administration of croton-oil, the second directly. In both enteritis is set up; an increased secretion of mucus takes place, hemorrhages may occur, and bacilli are cultivatable from the dejections and intestinal contents. Ulceration does not take place.

Tests made with dead cultures on guinea-pigs show them to be highly toxic.

If the bacillus described is of significance in the etiology of dysentery, it must occur with regularity in the disease. Whether or not it will be found to have the distribution that is necessary in order to establish this relationship can only be determined when the study is carried on in widely different places and in all forms of the disease. That the bacillus is identical with the organisms obtained by Shiga in the epidemic of dysentery which prevails in Japan, there can be no reasonable doubt.

I have recently been enabled to study bacteriologically and pathologically a case of chronic Puerto Rican dysentery contracted during the Spanish war. The autopsy showed the colon to be greatly thickened, especially along the sigmoid flexure. The mucous membrane presented a roughened surface without showing pronounced ulceration. The submucosa was thickened also, and there was considerable contraction. A very small amount of pseudo-membrane was present over the lower part of the sigmoid flexure. Bacteriological examination yielded two types of bacilli, the prevailing one agreeing with the type of *B. coli communis*, the other with bacillus type 1, already described.

The bacteriological studies of Egyptian dysentery published by Kruse and Pasquale contain numerous references to typhoid-life bacteria. Critical examination shows the majority to belong to the group *B. coli communis*. Still other examples of bacillus similar to, and possibly identical with, the *B. dysenteriae* have been found in dysentery, although they are not suspected of standing in any etiological relation to it. Pansini studied four cases of abscess of the liver, three of which had followed dysentery. The bacilli which were isolated resembled *B. typhosus*; indeed, Pansini could not distinguish between the two series. Babes also, although only in a single instance, isolated such an organism from a case of dysentery.

The question naturally arises: In what way does the bacillus Type 1 differ from *B. typhosus*? When the properties of Shiga's bacillus and that of the Eberth-Gaffkey organism are compared, the criteria of difference are not numerous. The main features, however, are as follows: The former shows less marked motility when first isolated and a tendency rapidly to lose motility in artificial cultivations; it displays a more uniform generation of indol; after a brief preliminary acid-production in milk, there follows a gradually increasing alkalization; it is inactive to blood-serum from typhoid cases, but reacts with serum from dysenteric cases to which the *B. typhosus* does not respond.

The Agglutination Test.—The tests in the case of the bacillus isolated in Manila were made at the time with blood obtained from acute and chronic cases of dysentery, and after the return to this country, with the blood-serum from the case of the chronic Puerto Rican disease as well as with blood obtained through the courtesy of Assistant-Surgeon Craig, stationed at the Presidio at San Francisco, the last having been obtained from convalescents and other soldiers suffering from chronic dysentery who had returned from the Philippines. The results were positive in the cases of the acute disease in which infection with the bacilli was established. It was also positive with the blood of the Puerto Rican case of chronic dysentery, but was inconstant with blood from other chronic cases. Dr. Osler has told me of his experience. In several cases of amebic dysentery that have come to his attention in the Johns Hopkins Hospital, the blood-serum has not caused agglutination of the dysenteric bacilli obtained in Manila. In a case of the

Porto Rican disease a positive reaction was obtained.

These results are, I think, suggestive of the nature of tropical dysentery. The typical acute and infectious variety is probably bacillary in origin, and the indications are that the particular bacillus which has been described is the cause of this variety of the disease. On the other hand, the chronic form of the disease would appear to be dependent on at least two sets of causes: the one representing a continuation of the acute disease and probably due to the same micro-organism, the other being due to a different organism and apparently the ameba coli. The first variety of the chronic disease only may be expected to give the serum reaction with the *B. dysenteriae*.

Protective Inoculation and Serum Therapy.—It is not unreasonable to hope that with the discovery of the specific cause of dysentery, particularly if it be a bacterium capable of being artificially cultivated, means will be found by which protective inoculation may be carried out with effect and safety. The fundamental conditions underlying such immunizations are now fairly established, and two general methods of accomplishing such results are open to investigation. In the first place, an active immunity may be achieved through the use of cultures of a determined grade of activity; in the second, the serum of animals may be employed either as a therapeutic agent or to provide a passive immunity.

It has been found possible, through the use of cultures destroyed by heat or the addition of chemicals, to protect small animals from the effects of subsequent inoculations of the virulent bacilli. Larger animals, such as the goat, when treated first with the dead and afterward with the living cultures, develop a gradually increasing resistance to the inoculations; their blood-serum assumes highly agglutinating qualities for the bacillus, and coincidentally acquires protective and healing properties. My own experiments relating to this topic have been carried out on small animals only, as no patient with acute dysentery has been seen by me since the serum from the goats has been available. Shiga has, however, been able to test the serum on human cases.

According to Dr. Eldridge, up to Nov. 1, 1899, Shiga treated with serum cases as follows: 1898, in Laboratory Hospital, 65 cases, death-rate, 9 per cent.; 1899, in Laboratory Hospital, 91 cases, death-rate, 8 per cent.; 1899, in Hirowo Hospital, 110 cases, death-rate, 12 per cent. During the same period of 1899 there were under ordinary treatment at Tokyo: at Honjo Hospital, 166 cases, death-rate, 37.9 per cent.; at Hirowo Hospital, 53 cases, death-rate, 37.7 per cent.; at Komogome Hospital, 398 cases, death-rate 34.6 per cent; in private houses, 1119 cases, death-rate, 28.5 per cent.

I should, however, expect greater benefit from a species of vaccination, especially in those exposed to the endemic or the endemo-epidemic dysentery of the tropics. The encouraging results of the injections of the dead bacilli of Asiatic cholera makes the use of a similar procedure in persons exposed to dysentery advisable. The practical details of such inoculations will, of course, be established only after trials, preferably on human beings who are anxious to submit to this method of treatment.

Very little remains for me to say at the present time. It is only natural to ask whether the results given in the last half of the paper justify a belief in a specific organism of dysentery. My own sense is against that belief, although it must be conceded that the varieties of the disease are fewer than the clinical and patho-

logico-anatomical conceptions of this time would lead one to suppose. I am disposed at this time to view tropical dysentery as consisting of a bacillary and amebic form separable in their early and later stages by their clinical histories, their etiology and pathological anatomy. Whether epidemic dysentery may have a simpler etiology future studies will be necessary to decide. The view expressed by Shiga, to the effect that the bacillus isolated by him is the cause of the epidemic disease occurring in Japan, may be followed by the establishment of the same organism as the cause of other epidemics. My own observations prove the wide distribution and pathologic activities of the organism as well as its relations with a certain class of dysenteries.

NOTES ON TROPICAL DYSENTERY.*

JOHN HERR MUSSER, M. D.

PHILADELPHIA.

Professor Flexner has made such exhaustive remarks on the subject that it remains for me only to present the clinical history of a case. I trust I may be permitted to state also the impressions I received from consideration of the combined clinical and pathological features of the case. The impressions were new to me, partly because of ignorance and partly because it was the first opportunity I had of observing the clinical course and the pathological findings. I had seen tropical dysentery, and associated it with the group of symptoms we are accustomed to see in our climate; or with the more severe types seen during our civil war, with which we were made familiar by the writings of Woodward and others; or with the amebic form, for our more precise knowledge of which we are indebted as much to our colleagues, Councilman, Lafleur, Osler and Flexner, as to any other writers.

Toxic Symptoms.—In the case to be reported we find inflammation of the intestinal tract with its train of symptoms, we find an afebrile course, extreme emaciation and a profound toxic state terminating in the familiar typhoid condition. With these symptoms, the strikingly sallow, pallid hue of the skin, which I had seen in other cases, and which was attached by me to the ailment, was observed.

Serum Diagnosis.—In addition to the interesting toxic phenomena, the serum agglutination, as performed by Dr. Flexner with cultures of the bacillus of Shiga—the bacillus dysenteriae—proving that the tropical dysentery of Porto Rico was similar to that of the Philippines added thrill to the interest of the case. Moreover, here again was applied a method of diagnosis, which with increasing experience seems to grow in value.

Scorbutic Symptoms.—During the period of observation, symptoms of scurvy set in so that, had we not had the positive results of the serum agglutination we might have thought the case was one of aggravated scurvy. So similar were the symptoms, we felt justified in resorting to antiscorbutic measures. It is needless to say they availed nothing. Nevertheless, the sore and bleeding gums, the subcutaneous hemorrhages, the complexion, the boils and the bloody flux tallied with many of the descriptions of old-time scorbutus.

The Anatomical Findings.—It could not be otherwise than noticed, that in spite of the grave and extensive symptoms, but relatively few anatomical changes were found. The small amount of ulceration of the intes-

* Presented to the Section on Practice of Medicine, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

tinal tract contrasted strongly with the large ulcers and sloughs in amebic dysentery. Then, too, there were none of the embolic phenomena seen in the latter infection. The extent of the anatomical lesions were, on the whole, disappointing. Briefly told, the story of the case is as follows:

G. R., aged 32, white; soldier; native of Kansas; admitted Oct. 12, 1899.

Family history: Father and one brother living and well; mother dead, cause unknown; one brother died of measles.

Previous Personal History: Has never been ill excepting with whooping-cough. At the age of 21 he joined the army, and has been a soldier until two months ago. During the Spanish-American war, he was camped near Mobile and Tampa, but did not suffer from any disease while there. He was in Porto Rico 11 months, and while there contracted conditions from which he is now suffering. He has had gonorrhea several times, but is not troubled with it now.

History of Present Illness: Disease began, after being in Porto Rico about three weeks. Many others began to suffer at the same time. Water and food while sufficient in amount, were bad in quality. Diarrhea was his chief symptom, and he had as many as 10 and 12 stools daily, and sometimes half his night would be spent on the water-closet. Associated with this was much rectal tenesmus. His stools contained much mucus, were watery to a degree, and some blood was found in them. At one time he passed something looking like a piece of bowel covered with mucus. During, and before having a stool he often had crampy pain; relief would come after having had a number of stools. He did not pass much urine after these attacks began. There was a constant bearing down pain over base of bladder, which is not relieved by anything. Nausea and vomiting often accompanied diarrhea, and vomit was of about the same character as stool—watery mucous and blood. Many symptoms of indigestion were present during these attacks; eructations, flatus and distention of abdomen, bad taste in mouth, coated tongue, and lack of appetite. Sleeplessness, burning pain along vertebral column were present continuously. He claims to have weighed over 200 lbs., before going to Porto Rico; weight on admission 120¼ pounds. Within three months he has noticed pains in his shoulders, and has had numerous boils on different parts of body, within the year.

Condition on Admission: Patient complains of four different things: a diarrhea, pain over bladder, pains in both shoulders, and boils. He is a tall man—5 feet 11¼ inches—with a large frame, this frame being covered sparsely; weight 120¼. Skin of face is sallow, old parchment-like in appearance, but mucous membranes are pale. Pupils equal; react to light and accommodation. Arteries not tortuous. Epidermal scaling over thorax. Chest very prominent; badly emaciated; expansion good and equal; tactile fremitus normal. Percussion resonance normal. Respiratory resonance and fremitus normal. No râles anteriorly or posteriorly. Heart normal, except slight accentuation of second sound. Abdominal examination negative. Numerous scars in different parts of body due to boils. Over prominence of buttocks on right side, and tuber ischii on left side, two circumscribed areas of inflammation; furuncles at their height.

October 13: Urine, normal; sp. gr. 1016, acid; turbid; amber; no albumin; no sugar. Stools: no ameba; milk globules; no blood; mucus in quantities; contains curds; undigested masses of different colors; offensive odor. Blood normal.

Treatment: Patient is put on milk diet, f3vi every two hours; urine, and bowel movements are noted in number and character.

October 14: Patient has had 9 movements within 48 hours; character as described. A large furuncle over right buttock was opened and curetted; a teaspoonful of purulent material escaped. T. P. and R. are normal, and patient feels much more comfortable.

October 18: While patient says that he feels much improved, there is no sign of abatement in his dysenteric condition, num-

ber of stools averaging 3 in 24 hours; character of stools has changed but little, if any.

October 19.—A new furuncle is showing itself at shoulder.

October 23: Stools have diminished to 2 in 24 hours, and patient feels quite well. He had some nausea with vomiting yesterday, but has recovered to-day. Color of stool is brown, characteristics otherwise unchanged. He has been put on meat diet. Enemata of silver nitrate 1 to 20,000 are ordered.

October 27: Treatment as above; condition unchanged.

October 31: Patient passed a partially formed stool; enemata are 1 to 16,000 strong.

November 14: Patient has but one or two bowel movements daily; occasionally they are partially formed, but there is comparatively little improvement as regarding consistency. His appetite is poor, and he tires of all food very readily. He is losing in weight right along, and seems to be getting weaker. His sleep is not especially sound. Heart seems normal; both sounds are strong. He has a number of purpuric spots, varying in size from a pinhead to a split pea, which he states he has had continuously during the past four months; first condition usually of larger spots; furuncle, which after evacuation of pus, resulted in the persistence of purpuric spot. Since his admission, he has had two large boils on right shoulder; these were surrounded by various sized areas of hemorrhagic effusion. Cultures from pus revealed staphylococcus albus. About three days ago, he began to complain of soreness of gums. They are quite reddish and edematous, but have never bled.

November 26: Patient seems not to assimilate food too well; his weight diminishes at each weighing. Last Monday (Nov. 21) he weighed but 100 pounds. The number of stools is also again increasing. Fecal material, examined two days ago for tubercle bacilli, but did not reveal any.

December: Patient is rapidly failing in every respect. There is little left of him besides skin and bones; condition of bowel movements has not changed; they are liquid and semi-liquid, brownish-green in color, containing undigested material, curds, mucus, and the last few days also some blood; odor is sour; no fecal odor. Appetite has been failing for some time. Chest examination is entirely negative. He occasionally has some pain in abdomen. Temperature has been as low as 95.6, and is continually subnormal; body cold and clammy. Stools have been examined microscopically, and contain mucus strands, fat globules, some blood and numerous bacteria. Urine is normal in every respect.

December 15, 1899: Emaciation continues; skin has for some time been dry and brittle, numerous scales all over; hair-pits all over body are covered by brownish scales; tongue is dry and glassy, side covered by white coating; teeth have sordes; voice is thick and low; complains of dryness of entire laryngopharyngeal tract. Examination of lungs shows no change; heart-sounds weak, but nothing abnormal. Abdomen boat-shaped; has had considerable pain in epigastrium for several days past; better to-day. No new hemorrhages over limbs. Joint surfaces look red; skin ready to break. Appetite good, craves, and eats ravenously of oysters, milk, etc. Temperature varies between 95 and 97. Pulse is fairly strong at about 90. Respirations vary between 12 and 15. During sleep sink as low as six. Patient feels much warmer than a week ago. Bowels move almost continually now; to-day a brownish liquid, with fecal odor.

AUTOPSY, DEC. 18, 1899, 10 A.M. UNIVERSITY HOSPITAL.

PERFORMED BY DRS. SAILER AND FLEXNER.

External Appearance: Body of man, extremely emaciated. Marked post-mortem discoloration on abdomen. Small sore covered by scab on right shoulder; another on the left lumbar region, brown; injected spot on right hip; numerous scars and ulcers on right leg; thickened fissuration over right knee. No rigor mortis.

Peritoneal Cavity: Small amount of reddish fluid. The wall of the colon contains areas of dark-black pigmentation. There is a slight injection of the peritoneal surface, particularly about the hepatic flexure. The glands of the mesocolon are

all enlarged to the size of peas, and of moderate consistency. The mesenteric glands are also enlarged, pale-gray, apparently covered by dilated lymph-vessels. The lymphatic vessels in the peritoneum are all greatly distended. The caput coli and small intestines are moderately distended. The lower border of the stomach is below the ribs; position nearly horizontal. The lower border of the liver is below the costal border. The left pleural cavity is clear. The right pleural cavity contains a few cubic centimeters of clear, straw-colored fluid. The right side of the pericardial cavity contains a large diverticulum, which extends from the peritoneum into the right pleural cavity; it communicates with the pericardial cavity by an opening .5 cm. in diameter.

Heart: Very small. Epicardium slightly thick and opaque. It forms ridges accompanying the blood-vessels. The latter are tortuous and the veins are slightly distended. There is a small patch of dense, white thickening on the anterior surface of the right ventricle. The right auricle is contracted. Foramen ovale is not patulous. No valve over the coronary vein. The tricuspid orifice admits two fingers; endocardium is clear and transparent. The right ventricle shows slight thinning of the walls, the muscle being 4 mm. in thickness. The muscle is brown and soft. The pulmonary valves are normal. The pulmonary artery is small, 6 cm. in circumference. The left auricle is small; endocardium is pale and opaque. The mitral valve admits one and a half fingers; mitral leaflets normal. The wall of the left ventricle is thin, measures 9 mm.; brown in color, contains trabeculae of connective tissue. There is a slight atheromatous change in the anterior leaflets of the mitral valve. There is slight sclerosis at the base of the aortic valve and thickening of the corpora arantii. Willow-tree marking at the base of the aorta. Coronary artery is normal. Weight of heart, 160 grams.

Left Lung: Moderate anthracosis of apex and edges of lung. Lungs are pale and show considerable bullous emphysema, particularly at the apical edges. The bronchial glands are anthracotic and slightly enlarged. Surface of section is pale pink.

Right Lung: Apex anthracotic; incomplete separation of the two upper lobes.

Left Adrenal: Normal. Fatty degeneration in cortex. Small accessory below lower end.

Right Kidney: Normal vessels. Ureter not distended. Substance of the kidney is firm. Similar to the left. Weight, 117 grams.

Right Lung: The posterior surface of the upper lobe shows hypostatic pneumonia. On the anterior surface of the lower lobe, there is an area of consolidation, sharply limited, of irregular shape, reddish color. The pulmonary tissue resembles that of the left lung.

Spleen: Small. Capsule thickened, wrinkled. Consistence firm. Trabeculae markedly hyperplastic.

Renal Vessels: Normal. Ureter not dilated. Left kidney very firm, capsule strips readily, although slightly adherent. The cortex is finely granular. Stellate veins injected. On section the cortex is slightly thick. The glomeruli are greatly distended. The pyramids are normal. Weight, 117 grams.

Mesentery: Deeply discolored, the result of post-mortem decomposition apparently.

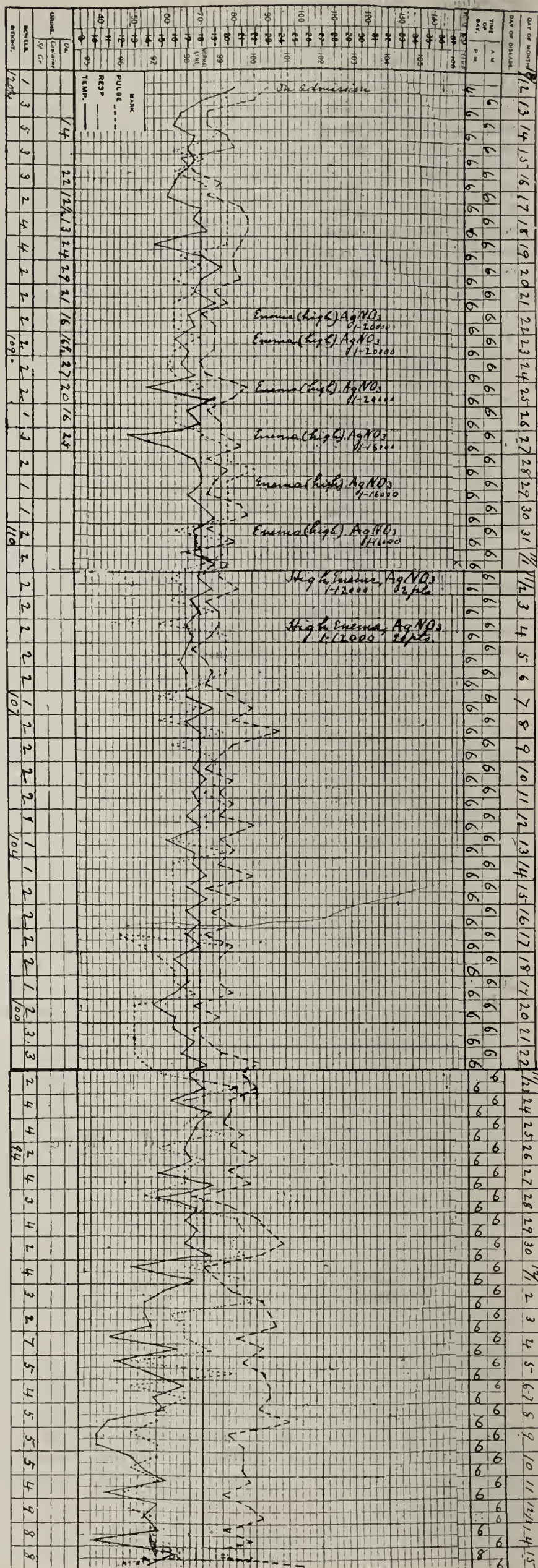
Mucous membrane of the stomach is smooth, soft and covered with mucus containing bloody pigment. Cardiac orifice dilated. The wall of the esophagus is thickened. The mucous membrane contains hemorrhagic pigment. The mucous membrane of the duodenum shows fine brownish pigment. The bile-duct is freely patulous.

Pancreas: Soft. Tissues apparently normal.

The intima of the aorta is pale, smooth. The aorta is elastic.

The lymphatic follicles in the duodenum are considerably distended. Throughout the whole intestinal tract there is fine granulation, more marked in some places than in others. No ulceration; slight hypostatic congestion of certain areas.

Liver: Firm; capsule transparent. Weight 1160 grams. Section normal.



Large Intestine: The peritoneal surface, particularly along the sigmoid flexure, shows dark points and lines of discoloration. There are no peritoneal adhesions. On opening the intestine the rectum and sigmoid are contracted, whereas the transverse colon is distinctly dilated. The intestinal mucosa is thickened throughout, and there are recent hemorrhages into its substance. Throughout the entire length there are present, in addition, numerous, dark, slaty areas of pigmentation, indicative of old hemorrhages. No definite pronounced ulceration is present. The general mucosa presents a granular appearance, and there are superficial areas of denudation of the epithelium. On section the submucosa is firm, but not greatly thickened, excepting in the lower part of the intestine, where there is much contraction. In the region of the transverse colon the mucous membrane is also edematous; that of the cecum is less involved and the small intestine has entirely escaped; only in the lower portion of the sigmoid flexure is there an irregular and small development of pseudo-membrane.

Anatomical Diagnosis: Dysentery. Ulcerative and pseudo-membranous colitis. Infarction of lung (?). Anemia universalis.

BACTERIOLOGICAL PROTOCOL.

Cultures from liver, spleen, bile, infarction of lung, mesenteric gland, sterile after twenty-four hours in the thermostat.

Petri-plates were made from the intestinal contents taken from the hepatic and sigmoid flexures by burning the surface of the intestine before their removal. Plates were also made from the contents of the large intestine after removal at the autopsy and opening. All plates which were crowded with colonies were discarded; only discrete colonies were selected, from which various kinds were transferred to glucose-agar. From the many transplantations made, a small number only showed at the end of twenty-four hours no gas formation. These on comparison showed similar growths.

Coverslips gave short bacilli with rounded ends, showing moderate motility. Transplanted to the milk there is produced at the end of the first twenty-four hours a moderate acid production which, after a lapse of several days, is succeeded by an alkaline reaction of the milk. No coagulation. Gas is not made in any of the sugar media.

The organism corresponds with the bacillus dysenteriae isolated from cases of dysentery occurring in Manila.

In addition to the case recorded I had the opportunity, through the kindness of Dr. Wilson, of Beaver, Pa., of seeing a case with him. It corresponded in clinical features with the one just recorded, save that scorbutic symptoms were absent. The disease was contracted in the Philippines, eleven months previously, but despite change of climate and the excellent care and treatment of Dr. Wilson, who early recognized the gravity of the case, the course of the disease was not abated. The gravity of the infection and the intensity of the intoxication can be realized when we consider that a lusty youth of two and twenty could be reduced from over 200 pounds to less than 90, and the flower of his country, be carried to his grave. Our new possessions bring to the medical profession new responsibilities in combating these dire diseases.

DISCUSSION ON PAPERS OF DRs. FLEXNER AND MUSSER.

DR. WILLIAM OSLER, Baltimore—I have had some experience with this subject during the past six months. When the Doctor returned from Manila and told me about the bacilli I think the impression was at that time that the ameba would have to take a back seat in cases of dysentery. We had one instance admitted to the ward; he was a soldier from Porto Rico with dysentery which had lasted some months. No bacilli could be discovered. An interesting point was regarding the blood brought from Manila where the bacilli were obtained. Also, Dr. Flexner's second point, in amebic dysentery whether the bacilli could be outlined and whether the blood agglutinated would react with Shiga's bacillus. We have had six cases of the ordinary type of so-called amebic dysentery, but the blood did not react with Shiga's bacillus, which would indicate dis-

tinctly that the disease is separate and distinct from the dysentery as met with in the tropics. I should like to ask Dr. Flexner if this dysentery, which is growing so wide-spread, is not probably the same form which occurs in this country in poor-houses and jails, and which occasionally is seen in the hospitals and which has been locally epidemic. These features are quite different from the ordinary amebic dysentery.

DR. NORMAN BRIDGE, Los Angeles—I should like to ask Dr. Flexner if typhoid fever may occur in conjunction with the form of dysentery which he has described, and if the blood-serum of the dysenteric patient will produce the Widal reaction of typhoid; that is, if it will agglutinate a typhoid culture? I ask these questions because of my observation of a patient in hospital, a year ago last fall, whose history was substantially like that of the patient referred to by Dr. Musser, who had all the appearances he describes—great prostration, purpuric spots, etc. The patient had been a soldier in Cuba, and I supposed the case to be one of tropical dysentery until the Widal reaction of typhoid fever was produced. The patient died a few days after purpuric spots appeared. In another case under observation in hospital within the past three or four months, the same symptoms were present, purpuric spots and all. The patient was a soldier who had returned from Manila, and he died with the dysentery symptoms. In this case no Widal reaction could be produced.

DR. C. H. HUNTER, Minneapolis—It may not come amiss to report two cases of dysentery that came under my observation. In one, a soldier belonging to the 13th Minnesota, the ameba could be demonstrated in the secretion. This patient died, and he had all the appearances that have been described. The other case was similar to, but not so severe as, the case described by Dr. Musser. The symptoms were severe if the young man permitted himself to continue exercising, or to labor and work, even intellectual work. If he remained in the hospital under careful diet and rest, the symptoms would not be severe and the dysenteric discharges would nearly cease. The discharges were examined by Dr. Westbrook and no amebic germs could be found. There were no agglutination phenomena like those reported. No adequate cause for infective symptoms could be demonstrated. I speak of these cases because it is quite possible that the information may be of some value. They will be reported elsewhere more fully.

COL. A. A. WOODHULL, U. S. A.—I can add nothing to what Dr. Flexner has said. The statements that he has made in such a complimentary way are of service not only to the army but to medicine at large. My own duties in Manila were purely administrative, having no direct relation to clinical medicine. One can not work with both hands under those conditions. We suffer from a great deal of dysentery and other affections peculiar to the tropics. In a general way we found that it was desirable that the severe cases should be sent out of the country because of the fact that there was a general tendency to reaction. But that is a little apart from this discussion. There is nothing I can properly say that will add to the professional knowledge on this subject beyond what has been stated by Dr. Flexner, Dr. Osler, and others.

DR. FRANKLIN E. MURPHY, Kansas City, Mo.—While listening to the report of Dr. Flexner I received the impression that he is not ascribing such an important part, in the production of so-called tropical dysentery, to the ameba coli as is taught by Dr. Osler and others who have studied the disease. I am extremely interested in this subject for the reason that in our locality, Kansas City, in the same latitude as Philadelphia, I have seen three cases of amebic dysentery. The first case I saw seven years ago. The case was reported in THE JOURNAL. The patient lived continuously in Kansas City for more than eight years prior to the attack and in these eight years had not been ten miles from home. I have since seen two other cases. One a patient who lived about fifty miles west from Kansas City, in Kansas, was suspected to have a pulmonary abscess consequent to pneumonia. A carefully taken history showed, however, chronic dysentery; later, symptoms of sepsis; then was found a large area of dulness at the base of the right lung, and after a time expectoration of much pus. Amebæ were re-

peatedly demonstrated in this pus. This patient had never been below this latitude.

The third case was that of a man who lived in Kansas City for twelve years, and who, in that time, had never been out of the city. Amebæ corresponding accurately with all descriptions given were repeatedly found in the bowel discharges. I rise, merely, to report to the Section the occurrence of amebic dysentery in an inland city so far north as the latitude of Kansas City.

DR. V. C. VAUGHAN, Ann Arbor—I would like to ask Dr. Flexner if he has had an opportunity to make a bacteriological study of the so-called bloody flux that is sometimes quite prevalent in the Southern states. I have seen epidemics of this disease in Missouri and one or two small epidemics in Michigan. But the disease is very rare as far north as the last-mentioned state. A few years ago I made a bacteriological study of several cases of this disease and could find only the colon bacillus. However, this study was not very thoroughly carried out, and I have not since had an opportunity to pursue it further. In the camps in the Southern states during 1898 there were a great many cases of acute dysentery in which the patients passed considerable quantities of blood. These cases were easily amenable to treatment, and usually recovered after the administration of a few doses of castor-oil. In going over the sick reports furnished by regimental and other army surgeons I was struck by the fact that among the troops that remained in the United States in 1898 there were very few cases of chronic dysentery. On the other hand, during the Santiago campaign I saw a great many cases of dysentery, and these differed wholly from those which I had previously observed in this country. In Cuba the men with dysentery passed but little blood. They had many copious stools, and rapidly wasted away, becoming exhausted physically and apathetic mentally. I was also impressed with the fact that many of these patients recovered under the hypodermic administration of strychnia. I saw a great many men suffering with this disease who were apparently *in articulo mortis*, but who recovered if the heart was kept going by the use of strychnia. I think there were few cases of amebic dysentery among the soldiers who participated in the Santiago campaign.

DR. J. H. WILSON, Beaver, Pa.—A member of the 10th Pennsylvania Volunteers, came under my care in August, 1899, in whom the disease was progressive. He died April 20, 1900. The clinical type was as Dr. Musser has stated. The attack presented the appearances as related in the paper from the beginning to the end of the disease. There was no epithelium on the tongue; there was no blood in the stools; there was no pain, nor any elevation of temperature—which is a point that has not been mentioned by the speakers. During the greater part of the time the temperature was subnormal. Emaciation was progressive and went on to the last extreme, and the patient died from exhaustion. There was never any pain or tenesmus and no evidences of sphacelation of the mucous membrane.

DR. SIMON FLEXNER—Replying to Dr. Osler's question: I think it highly probable that the acute forms of the disease which we encountered may agree with those arising under the conditions mentioned by him. It is desirable that from now on all acute outbreaks of the disease should be examined in reference to their bacteriology and also to their blood reactions. The latter test will often be possible when the bacteriological examination is for one reason or another impracticable. I shall be happy to supply cultures of the bacillus to anyone desiring to carry out the tests. In regard to Dr. Bridge's question I see no objection to a belief in the existence of a double typhoid and dysenteric infection. I have, however, not encountered such an instance. Under such circumstances the agglutination phenomena might at first be very puzzling. Then it is to be borne in mind that the typhoid reaction may persist after recovery from typhoid fever, after which a dysenteric infection may be acquired. Dr. Hunter's question regarding the duality or multiplicity of tropical dysentery is answered in my paper. Abscess of the liver would appear to be common only in the amebic disease. It was not encountered in the acute or chronic bacillary cases studied.

DR. J. T. MUSSER.—There was an absence of fever; indeed, the temperature was subnormal throughout. I wish to lay stress on the method of diagnosis formulated by Dr. Flexner, the agglutination method. I also wish to emphasize the fact he has referred to, namely the absence of secondary infection in other parts of the body.

CASE OF MALIGNANT ENDOCARDITIS WITH RECOVERY.*

N. S. DAVIS, JR., A.M., M.D.

Professor Principles and Practice of Medicine, Northwestern University, etc.

CHICAGO.

D. McD., a locomotive fireman, aged 25, entered Mercy Hospital Dec. 4, 1899. His family history was excellent, and habits were good. He had la grippe seven years ago. During the past year he had suffered from frequent headaches. These occurred almost daily during the preceding month. The pain was severe, and lasted several hours; at times it came twice daily. During the same time he suffered from gastric distress, coming on a few minutes after eating and lasting one or two hours. Gaseous and acid eructations were frequent. For four or five months vomiting occurred soon after several meals, especially if work was undertaken then. His bowels were constipated. Hurried movements caused slight breathlessness. He had noticed at irregular intervals palpitation of the heart. For a year he had not had the endurance which he formerly possessed. His general nutrition was good, his tongue slightly coated, and breath heavy. Physical examination of thoracic organs revealed nothing. The liver and spleen were normal in size. There was slight tenderness in the epigastrium, but no distention of the abdomen.

He did not vomit after he entered the hospital, but the headaches persisted. Symptoms of gastric indigestion lessened, and his bowels were kept fairly regular. His pulse and temperature were normal for a week. On the afternoon of December 11, the former was 84 and the latter 99.2 F. Two days later the afternoon temperature was a little over 100. On the 16th of the month it was 101.4, and on the 18th, 103. His headaches were severe up to this time. During the following week they lessened and finally disappeared. His temperature resembled that of typhoid. It was usually from 101.6 to 102 in the morning, and from 103 to 103.6 in the afternoon. His face was not flushed; abdomen not tympanitic, and there were no rosy spots. The spleen was very moderately enlarged. He had little appetite, and was placed on a milk diet. At no time during the course of his illness could plasmodia be found in his blood, and it caused no clumping when Widal's reaction was attempted. On the 24th of the month he had a slight nose-bleed. On the 26th the morning temperature became 99. A few days later in the afternoon rise became less and of shorter duration. For instance, on Jan. 1, his temperature was not above 99 from 4 a. m. to 2 p. m., and not above 100.5 from 3 p. m. to 7 p. m. A 8 p. m. it reached its maximum, 101.2.

About a week before this I observed that the first sound of the heart was peculiarly feeble, so weak in fact as to be almost inaudible. The next day it was not quite so feeble, but near the left margin of the sternum, opposite the second intercostal space, a roughness of the second sound was every evident. This gradually became more intense, and finally a clear rough murmur could be heard. It was audible in an area about as large as a silver dollar. No thrill could be felt, and the heart was not enlarged. His pulse was of medium size, soft, and showed from 84 to 96 heart-beats per minute. His temperature was low, except for a short time in the afternoon, when it sometimes reached 102, and always 101.5. On January 6, his temperature was 100.4 at 8:30 a. m.; 101 at 2 p. m. At 1:50 p. m. he had a severe chill, which lasted twenty minutes. His temperature rose to 104.5 at 6 p. m. During the evening he sweat profusely. At 9:45 the next morning he had a similar

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chill. His temperature at 10 was 104, and it reached 105 at 4 p. m. Profuse diaphoresis followed the chill and fever. On the 8th he had no chill, but on the 9th he felt cold at noon, when his temperature was 103.4. Up to this time he had been bathed as typhoid patients are. He had become greatly emaciated and very feeble. Recovery seemed very improbable. Dailyunctions of unguentum Cr   were begun. He had no more chills and his fever steadily lessened. On the 15th his temperature was 99.4 at 5 a. m., 97.6 at noon, and 101 at 10 p. m. The unctions were discontinued. Two days later he had another chill and his temperature rose to 103. The following days it was 102.2 at 8 a. m., 103.5 at noon, and 102.6 at 4 p. m. Daily applications of the ointment were again commenced. After January 20, his temperature did not exceed, and rarely reached, 100. He steadily improved. He was able to take more nourishment and gained strength rapidly. The heart murmur continued, but was not so rough in quality as at first. Although his temperature had been normal for a week, on January 31 he awoke with fever. It was then 102.8; at 10.30 a. m., 101.4; at 1:30 p. m., 102.2; but the following day it was again normal. There was no apparent reason for this rise of temperature. For ten days the thermometer rarely registered an oral temperature of more than 98. On February 20, after he had been sitting up for some days, his left leg became moderately edematous to the hip. There was pain and tenderness in the calf of that leg. By March 4 all evidences of this phlebitis was gone. On the 6th he was discharged from the hospital. He had nearly regained his weight. He felt perfectly well, but lacked endurance. Slow walking did not quicken his heart. Its sounds were normal, except that the second at the base was slightly rough. It would be called an impurity rather than a murmur. His digestion was good. During his illness his urine was examined frequently; it contained a trace of albumin only once. A positive diazo-reaction was obtained several times. On January 1, his blood contained 3,860,000 red corpuscles and 5200 white. March 5, it contained 5,020,000 red and 6800 white. At no time did he have pulmonary symptoms.

When this patient first entered the hospital a diagnosis of gastroenteritis was made. When his fever began typhoid was feared, but except for the continued high temperature there were no symptoms of it. The possibility of malignant endocarditis was considered soon after the pyrexia developed, and I felt that the diagnosis was confirmed when the persistent cardiac murmur was discovered.

The history of this case is that of an acute infection of a severe type, in the course of which a heart murmur persistent and characteristic of aortic regurgitation developed. The fever was not typhoid, malarial, tubercular, nor could a source of sepsis be readily found. The course of fever and its severity made the case during the first of his illness resemble those cases of acute endocarditis which are described as typhoidal. Later the type changed, and it became distinctly septic. Such a change of type I have seen in several other instances.

A hard and fast line can not be drawn between simple and malignant endocarditis. Anatomically they are identical. Those cases in which high fever seems to originate from endocarditis are usually called malignant.

In this case there were none of the usual sources of infection, such as pneumonia, abscess, suppurating wounds, gonorrhea, or middle-ear disease, and it was not preceded by any typical infection. Is it not possible that the chronic gastritis may have made infection possible? This recalls to my mind another case seen by me several times in consultation, in which severe sub-acute enteritis seemed to be the channel through which infection occurred. Intense putrefaction of the contents of the intestines lasted for some weeks. It was ac-

companied by persistent fever of moderate grade, which was intensified whenever the putrefaction was. The patient had a chronic valvular disease of the heart, which was well compensated. During his long illness his physician, who had attended him for many years, noticed no changes in the character of the physical signs of heart disease. Nor did his heart or the murmurs change while I saw him. The existence of malignant endocarditis was suspected or thought possible, but could not be demonstrated until near the end of life, when embolism in many places and finally a rapid enfeeblement of the heart made it evident. In this case no wound or channel through which infection was likely to occur could be found, unless the intestinal disorder, which was chiefly characterized by intense putrefaction in the fecal mass, afforded it.

It has been my lot to see numerous cases of malignant endocarditis. This is the first in which I have seen recovery.

In 1888 Sanson¹ described a case. The evidence of chronic valvular disease did not disappear, but septic infection did. This case was treated with sulphocarbonate of zinc.

Pye-Smith² reported a case of recovery from ulcerative endocarditis, in which emboli had been observed in various arteries.

James Finlayson³ reported an attack of ulcerative endocarditis in a boy, aged 10 years, ending in recovery. The case presented an alarming feature in the frequent occurrence of paroxysms of pyrexia. During these paroxysms, however, no rigors could be recognized. The patient, having rheumatic disease, was first treated by the usual antirheumatic remedies. When the paroxysms of high fever developed, quinin was administered in large doses. After six months the patient was dismissed from the hospital as convalescent, and a month later was reported quite well, active in his limbs, free from cardiac symptoms and gaining flesh.

Dr. Sainsbury⁴ reported a case of ulcerative endocarditis in a boy, aged 13 years, cured by antistreptococcus serum. The cardiac dulness began in the first left intercostal space and extended to the right sternal border. The heart's apex-beat was in the fifth space, four inches to the left of the midsternal line. There was a well-marked thrill and a double-murmur at the apex. The liver and spleen were not palpable below the costal margin. The patient was admitted to the hospital and 15 grains of salicylate of soda were administered every two hours in a mixture. Then treatment with liquor hydrargyri perchloridi was commenced. The boy grew languid and took food badly. After about two months of treatment 20 c.c. of antistreptococcus serum was injected. During the next eight days 10 c.c. were injected four times. The area of cardiac dulness became again normal, and the heart's apex-beat well within the nipple line. Examination of the blood showed no streptococci, five days later another 10 c.c. of serum was injected. This was followed by marked improvement, and a week later the patient was able to be out.

A case of ulcerative endocarditis successfully treated by antistreptococcus serum is reported by J. W. Washburn.⁵ The patient, a female, aged 22, came under observation a few days after the commencement of the illness. During the first seven weeks she suffered from an ill-defined septicemia, without any local manifestation of the disease. Up to the time when serum was first injected she was progressively losing ground, and a few days before the commencement of the injection the pulmonary valve became affected. The result of the

treatment was most satisfactory. At the end of five weeks injections were given every other day instead of daily.

Dr. Margaret Dunn (Pearse)⁶ records the case of a girl, 16 years old, who was also treated with antistreptococcus serum.

Moritz⁷ reports a case of ulcerative endocarditis cured by antistaphylococcus serum. The patient, aged 22 years, had had gonorrhea and cystitis eight months previously. At the time of the onset of the malady no gonococci could be discovered. A musical murmur was heard, and the diagnosis of malignant endocarditis seemed to be beyond doubt. Moritz decided to try antistaphylococcus serum, because a previous case had shown after death the presence of the staphylococcus albus and aureus. The acute symptoms disappeared after six injections of 5 c.c. of the serum. The temperature was normal about six weeks later. Metastatic inflammation was observed in the right calf and in the left ankle after two of these injections, but no suppuration occurred.

It is difficult to determine from the scattered literature of the subject what is the mortality of malignant endocarditis. Occasionally cases such as these are recorded. The much larger number of fatal cases are not. The mortality is high, and the malady is rightly regarded as almost invariably fatal.

It is not possible from these few cases to discuss treatment satisfactorily. It is a noticeable fact that the majority were treated with remedies believed to have some specific value in combating streptococcus or staphylococcus infection.

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DISCUSSION FOLLOWING SYMPOSIUM ON ARTHRITIS.

DR. F. A. PACKARD, Philadelphia—At the present time rheumatism is a term used to cover much of our ignorance. It is now applied to almost any painful affection, such as neuritis, myositis, pleuritis and various forms of endocarditis, even where there is nothing in the history of the case to warrant the diagnosis of rheumatism. Rheumatism should not be the diagnosis simply because there is present trouble with the endocardium or an affection of any one structure. The occurrence of endocarditis, pericarditis or inflammation of other serous membranes does not warrant the diagnosis of rheumatism. These occur from a variety of infections. If we diagnosticate various lesions as rheumatic we are in danger of covering our heads in the sand and ceasing to look for ultimate etiological factors in each particular case. A proper definition of acute articular rheumatism would, I think, be as follows: Acute rheumatism is a well-defined series of morbid signs and symptoms produced by an etiological factor at the present time not definitely known, but probably of micro-organismal origin. The process is characterized by a tendency to attack serous membranes, notably the heart and endocardium.

It seems to me that in arthritic diseases there is quite a distinct series of gradations, each being separate and distinct, a regular and progressive series leading from acute articular rheumatism to the various arthropathies. Starting from, 1, acute articular rheumatism, one can pass to, 2, the acute arthritis occurring in the course of well-recognized infections, such as scarlet fever and gonorrhea; 3, chronic infectious arthritis, such as is especially seen in children and young adults; in which we can not always find the seat of primary infection; 4, somewhat allied to these are cases of arthritis deformans; here there is a strong likelihood that the infectious nature of the disease will be, in a short time, absolutely proven;

as Dr. Kelly pointed out, in the disease there are various atrophic changes, probably due to lesions of the central nervous system, produced by absorption of toxins from the infected joints; 5, the arthritis of gout; 6, midway between rheumatoid arthritis and the changes in gout might be placed the spinal arthropathies, although these are apparently at first purely degenerative changes.

Given a case of endocarditis with growing pains, why should we call it a case of rheumatic endocarditis? There is no possible reason, unless we accept the frequency of the occurrence of endocarditis in acute rheumatism as a proof of the relation. I believe that in pleurisy it is a great mistake to speak of rheumatic pleurisy unless it is due to tuberculous infection or is due to extension from the underlying lung. As with endocarditis, so in the case of pleurisy, the pleural serous membrane can be involved in any infection, and the so-called rheumatic pleurisy is in reality a mild infection of the pleura.

Rheumatism is not a nervous disease; the only possible reason for thinking of the nervous system in connection with it is because of the atrophies occurring in the neighborhood of the inflamed joint. Regarding the lactic-acid theory, because Richardson injected lactic acid in animals and found change in the endocardium, this theory held sway for a long time. It is now abandoned. The excess of lactic acid in rheumatism is an effect of the disease and may possibly produce some of the symptoms secondarily. Personally I believe that acute articular rheumatism is an infectious process, probably not caused by one particular organism, but by various organisms. Access to parts may be obtained through various points of entrance, that more frequently employed being the mucous membrane of the throat. I would finally make a plea for a more careful nomenclature, in regard to all of the group of lesions of joints, serous membranes and fibrous tissues, to which the term "rheumatic" is now so frequently applied.

DR. J. H. MUSSER, Philadelphia—I have been well repaid for my attendance here to-day. I am somewhat in a quandary in regard to the classification of rheumatism. I feel that Dr. Packard's classification is a satisfactory, provisional one. In my own mind I am accustomed to divide joint lesions in accordance with the form of infection, which is causal. We must bear in mind that a number of joint cases have undoubtedly a toxic or chemical origin, not only the toxemia of gout, but also that due to diseases of the gastrointestinal tract. I should like to lay particular stress on the number of cases of toxic origin frequently associated with the skin lesions which are also seen in rheumatism; in this broad class of cases it is quite common to find forms of erythema associated with arthritis which are manifestations of gastro-intestinal disorder as indicated by the symptoms as well as by a physical and chemical examination of the gastro-intestinal secretions.

DR. J. M. ANDERS, Philadelphia—Rheumatism is unquestionably an infectious disease, although the infectious agent has not yet been discovered. The leading complications, endocarditis and pericarditis, are always infectious, and, I believe, they will be shown to be due to a toxin or the micro-organism of the disease. The subject of the relation of chorea and rheumatism is of special interest. I find myself in agreement with Dr. Burr when he states that they are not etiologically related, even though, as he stated, acute rheumatic manifestations may precede an attack of chorea. In my experience chorea occurs quite commonly in persons hereditarily predisposed to rheumatism. While, therefore, not in accord with the view that these diseases are specially related, it should be remembered that the period of greatest liability to rheumatism is between the years 30 and 40, and for chorea, probably between the 10th and 15th years. Both are frequently occurring affections. I believe that rheumatic attacks rarely either immediately precede or follow on chorea. On the other hand, in a much larger percentage of cases rheumatism follows chorea at a more remote period. I was glad to hear this point emphasized. He also said correctly that the endocarditis of chorea is not necessarily a rheumatic endocarditis. Endocarditis is an effect and not a cause of chorea. The diagnosis of endocarditis in connection with chorea is confessedly diffi-

cult. I think it is going too far to assume that in all cases of chorea in which endocardial murmur occurs it is dependent on an endocarditis; it may be functional. In some of my cases the heart murmur has disappeared after the chorea ran its course. Chorea is not a febrile affection, and when fever develops in connection with the presence of a murmur then we may be justified in making a diagnosis of complicating acute endocarditis. On the other hand, rheumatism is a febrile disease. Here the diagnosis of acute endocarditis as a complication rests upon the fever, a heart murmur, and a slight increase in the area of cardiac dulness toward the left, due to dilatation of the left ventricle. In a paper published a few years ago I analyzed the complications of erysipelas, and of the total number—over 200—I found acute rheumatism to be the most frequent complication, next to abscesses. The danger of mistaking acute articular rheumatism for other forms of multiple arthritis occurring secondarily to acute infectious processes, is great. It should always be borne in mind in attempting a diagnosis of rheumatism that it is, as a rule, a primary affection. In the cases in which the rheumatism is itself secondary to other infective disease it is frequently impossible to differentiate it. Still, I should like to emphasize two points: 1, secondary acute rheumatism is a rare affection, rheumatism being usually a primary disease; 2, the nature of the primary affection should be noted for the reason that it occurs more commonly after certain infectious diseases than after others. It is not uncommon after erysipelas, and I also believe that acute rheumatism does occur, though rarely, during convalescence from scarlet fever.

It is lamentable to note the number of cases of osteomyelitis that are confounded with acute rheumatism. Osteomyelitis is sometimes a subacute affection, or develops more gradually than is usual, and if not recognized early and properly treated produces marked destructive changes. The differential diagnosis between these affections is important. In osteomyelitis, as in rheumatism, we have redness, swelling and tumefaction. While these symptoms may extend clear to the joint implicated, they do not involve the articular surfaces in the early stages of the affection at least. In osteomyelitis the bone is affected and, when making bilateral pressure with the thumb and finger, there is great tenderness, not over the joint, but immediately above or below it. In a case I saw in consultation in the early stage of the affection I could flex and extend the leg gently without causing additional pain; that could not have been done in a case of acute rheumatism. This, of course, applies only to the early stages of the affection. Septic osteitis is usually a mono-articular affection; whereas, rheumatism is a polyarthritis, as a rule; at all events, acute rheumatism in the early stages is almost always a polyarthritis. Yet, one should remember that some of the joints implicated in rheumatism may be so slightly involved as to give rise to little suffering and hence may be entirely overlooked; such cases are often regarded as mono-articular from the start. It is also to be remembered that osteomyelitis may be multiple; this point is important. Fever and joint symptoms are more profound in septic osteitis than in acute rheumatism, except in the subacute cases. Sweats are less common than in acute rheumatism. The therapeutic test with salicylic acid also aids in making a differential diagnosis. It positively relieves the pain in acute rheumatism, but it has no effect in osteomyelitis. I emphasize the differential diagnosis between these two affections because, although they would appear to be surgical from the standpoint of treatment, yet it is the physician who, as a rule, is first called to see them. The question of the prevention of the cardiac disturbances in acute rheumatism is interesting. Not to detain the Section longer I will state that my own rule is to employ the combined salicylic acid and alkaline treatment. It has seemed to me that this method does obviate the development of cardiac complications, the prophylactic influence being ascribable to the alkalies. Dr. Kelly has given us a clear and elegant exposition of the pathogenesis of rheumatoid arthritis.

DR. CHARLES G. STOCKTON, Buffalo.—There seems to be a lack of certainty in considering the ground now open for discussion on the question of arthritic diseases; but the consen-

sus of opinion seems to be that they are infectious diseases; no one in the discussion to-day has been heard to state otherwise; and it has been admitted that it probably depends on no one infection. It has also been stated that we should not regard endocarditis as necessarily the result of rheumatism. Now, endocarditis is the result of infection. Of course nearly all admit a small group of infections which produce in individuals acute affections that have a rather definite clinical history and are relieved by the administration of salicylates; and this group is named rheumatism. We agree to speak of rheumatism as a specific disease; perhaps it is. If we could regard rheumatism as depending on one influence, it would simplify matters. Have we reached that point? I think we have not. So far as we understand acute rheumatism to-day it is not always due to one particular infection. Take the other extreme and speak of chronic joint affections; there are unquestionable reasons for believing that they depend on neuropathic conditions. We may get that extreme in the Charcot's joint. Dr. Kelly has presented all we know, and as well as it could be presented, when he used the expression "neurotrophic infections." When he referred to "neurotrophic infections" I did not understand; but as he further demonstrated his position I could see that he meant that the weakness of certain structures permitted infection to find place. I think that is a reasonable position to hold. It is a position parallel to that taken in the admirable paper read yesterday by Dr. Preble. There are conditions that produce different results in different individuals, depending on the lowered resistance of certain parts. Having reached such a point of view, we may go back further and state that there are certain conditions in certain individuals called "diatheses" which influence the development of arthritic conditions. To admit some other influence besides the action of infection in producing acute and chronic rheumatism seems to be necessary. Diatheses represent some of these influences.

DR. LOUIS FAUGERES BISHOP, New York City—I believe there is a disorder of the chemistry of the body as well as infection. I believe that there are disorders of the powers of nutrition besides infection. By classifying these disorders into certain groups we can get a better idea of arthritic affections. Take that which is most striking, acute rheumatism; this is undoubtedly a specific infectious disease. Certainly, in the spring of the year the hospital wards are filled with cases of an acute rheumatism; a disease that attacks young adults, coming on suddenly with temperature and with pain in a joint, that spreads to other joints of the patient; a disease with a tendency to endocarditis. Toward the middle of the summer many of these cases have entirely recovered without any tendency to recurrences. Such a patient may go the rest of his life without another attack of rheumatism. That is acute rheumatism and represents an infection. On the other hand, gout is a disorder of the chemistry of the body whereby insoluble urates replace soluble urates in the system. I believe that much stated about uric acid in relation to gout is a great humbug. Gout is a complex disorder of the body chemistry.

Again, there are disorders of the tissues of the body due to trophic disturbances. The nervous system is so perfect in action and so little liable to disorder that we do not realize how dependent the nutrition of the body is on the nervous system. I lately saw a case in which the trophic influence was cut off, showing how important this is. A patient developed myelitis of the lower end of the cord. In the course of a few days he had excavated ulcers over the sacrum. The myelitis cleared up and repair took place in the course of a few months. That is an extreme instance of trophic change. The nervous system sometimes becomes disordered and disturbed through other affections; for instance, in persons who have undergone shock. The general trophic powers of the nervous system are disturbed and there may be developed arthritis deformans. As the Doctor has stated in his paper on this disease, there is probably some disturbance in the trophic centers that control the joints.

Now, having clearly stated that there is an infectious articular rheumatism, that there is a disturbance of the chemistry

of the body and that there are neuropathic disturbances, then to clearly define the various arthritic cases we must consider that there is often more than one of the causes existing at the same time. If, also, we get a clear understanding of the various blood infections and if we remember that the sick are specially liable to the development of these poisons, we can explain a great many symptoms by secondary infection in the acute rheumatism, in gout, or in neuropathic trophic conditions. In reference to chorea, it would seem that, like rheumatism, it has been too definitely defined. We have Sydenham's chorea, which is fairly a well-defined disease like acute rheumatism; but there are other forms of choreic movements. It seems to me that chorea major is a different disease, and probably a disease due to some more serious infection. We have choreic movements due to other diseases than chorea: among these are septic infections. For instance, I have seen choreic movements develop after measles, having probably no connection with ordinary chorea; it was an entirely different condition. Although I have examined many hundred cases of chorea and discovered many murmurs, I believe that only a few of them were due to an endocarditis. I do not believe that chorea and rheumatism are the same disease. Rheumatism is confused with other infections, and chorea often complicates these other affections.

DR. G. W. McCASKEY, Fort Wayne—I protest against the term rheumatism, except when applied to the definite clinical picture which we all recognize. We should drop that indefinite term in a large group of cases which have no connection with rheumatism. I wish to refer to the subject of arthritis deformans. I do not know whether to use the term infection or not; I think that it is a toxemia, the toxin resulting from some sort of germ infection gaining access to the blood and so affecting the tissues with which it comes in contact. The origin of the poison is, I think, most probably from the gastrointestinal tract. I may say in this connection that I have not found a single case in which there was no evidence of gastrointestinal disturbance or toxemia from this source. While the treatment is, perhaps, outside the scope of this discussion, yet I wish to refer to one experiment recently made by myself with cataphoresis. The negative electrode was placed over the forehead and both hands were immersed in a saturated solution of iodid of potassium in which the positive pole was placed; the current was then turned on as strong as the patient could bear it.

DR. S. SOLIS-COHEN, Philadelphia—Arthritis deformans is still something of a serap-bag. It must further be subdivided into several classes. Acute cases chiefly affect the large joints, while the chronic cases chiefly affect the small joints. In the chronic cases there are at least two classes, those in which a spindle-shaped deformity develops and those in which lateral deformity results from exostoses. If infection has to do with arthritis deformans it is more probable that it will be found in the acute than in the chronic cases. The latter probably depend more largely on metabolic error. If Dr. Kelly will modify his formula and substitute for infectious trophoneurosis, the term toxic trophoneurosis we shall all agree with him. There is one drug of much value. That drug is the tincture of the chlorid of iron. It must be given freely and frequently. By a simple pharmaceutical device, the use of ammonium citrate may be combined with sodium salicylate; this combination seems especially useful in anemic persons and in recurrent and lingering cases. To prevent the cardiac complications, we must give an alkaline course pushed quickly until the urine becomes and remains distinctly alkaline. Why, I do not know. Methyl salicylate—oil of birch or oil of wintergreen—can sometimes be given when other salicylates are not well borne. It is a question of the individual and of care in administration. Locally these oils are sometimes very useful.

DR. D. RIESMAN—Regarding the treatment of rheumatoid arthritis I would recall to the Section a case which I reported at the Philadelphia meeting three years ago. It was a young woman who had been unable to stand or walk for seventeen months on account of rheumatoid arthritis involving, among other joints, also the knees and ankles. The knees were flexed,

but by the use of extension, such as is employed for fractured femur, the legs were gradually straightened out. The apparatus was on altogether sixteen weeks. The disease was arrested and the patient was able to walk and ride on the bicycle, although for many months distinct grating in the joints persisted. I am convinced that if extension had not been employed she would have been hopelessly crippled despite the arrest of the disease. The treatment I employ in acute articular rheumatism is salicylate of sodium in large doses, combined, if the heart shows any signs of involvement, with the alkalies; and in that case the latter are given in large doses until the urine is alkaline in reaction, after which the dose is reduced. The diet consists of milk and lemonade, and the patient is kept between blankets. With respect to the etiology of rheumatism the speakers seem all to be agreed that it is an infectious disease. I believe that we shall find not only that it is an infectious disease, but that the typical disease is due to one species of microorganism—and to one alone.

DR. JAMES J. WALSH.—It is interesting to note that rheumatic endocarditis always occurs in the left heart. The blood flowing through the left heart has just come from the lungs and is freshly aerated. If the supposed microbe of rheumatism be in the blood-stream it is just at this moment after its recent exposure to the oxygen of the air that it may be considered to have taken on new vitality. On the other hand the comparative absence of oxygen in the venous blood may account for the fact that the right heart is so seldom affected. The aerobic germ of rheumatism is, in its passage throughout the right heart, in a condition of lowered vitality. The connection between rheumatism and chorea has been a matter of a great deal of dispute. One lesion is constantly found at the autopsy of chorea cases. It is a chronic endocarditis. Here seems to be the point where chorea and rheumatism touch. Choreia as we see it is really a nervous disease. Its manifestations may very well be due to an insufficient blood-supply to the motor cortex. The reason for this insufficient blood-supply is the chronic endocarditis that has been noted as occurring so constantly. The affected heart does its work very well until under the stress of over-work, over-study, sudden fright or great emotion, an excessive call is made on its energy. A certain amount of incompetency develops and in the growing child with extreme sensitive nerve cells the disturbance of circulation is first noted by its action on the motor cortex. The endocarditis that leads to this disturbance of circulation is due to a preceding attack of rheumatism, or some other infectious disease. It is well known that chorea may follow almost any of the infectious diseases. Its greater frequency after rheumatism is only due to the fact that in childhood particularly, rheumatism almost never leaves the heart unaffected. The attack of rheumatism which caused the endocarditis may have been almost latent, may have been concealed under the term "growing pains," or may have been a primary rheumatic endocarditis without any arthritic manifestations. The reason why patients who have had chorea have subsequent attacks of rheumatism is that they had rheumatism before they had their chorea, and one attack of rheumatism predisposes to subsequent attacks.

DR. DELANCEY ROCHESTER—In reference to the treatment of acute rheumatism, the use of iron is of the utmost importance. Here there is a tremendous anemia that should not be neglected. The pyrophosphate of iron is of value given in doses of 8 to 15 grains; little doses are of no value. The tincture of the chlorid of iron is of great value in doses of 15 to 30 minims. I believe that no treatment can prevent heart infection. I believe, moreover, in the rest in bed treatment, which tends to prevent dilatation of the heart. Strychnin given throughout the disease is of great value. The bowels should be kept freely open by the use of Rochelle salts. Large doses of sodium salicylate, frequently repeated, should be administered day and night.

DR. A. O. J. KELLY—In the treatment of several cases of arthritis deformans, I have observed considerable good result from the use of superheated dry air. I recall one case in particular, that of a middle-aged woman, who, in August last, was admitted to the medical wards of the Hospital of the Uni-

versity of Pennsylvania to the service of Dr. Musser. She had to be carried in, as practically all the joints of her extremities were implicated, more especially the joints of her hands and feet. In addition to repeated treatments with hot air she was given some alterative medication and a full nutritious diet. After treatment lasting for a couple of months, she left the hospital able to walk without a cane and able to do fine embroidery. That the desired results be attained, it is essential to bear in mind that the treatment with hot air must be persisted in for some time even if a dozen or more applications seem ineffectual. It may even be observed that in a few cases each of the early treatments seems to be followed by an aggravation of the pain; the mobility of the joints is, however, almost always increased. In certain cases of acute articular rheumatism this treatment is also efficacious. It finds its especial range of usefulness, however, in those cases that seemingly commence acutely with implication of many joints, but which, instead of subsiding as do the cases ordinarily, pass on to a subacute stage with especial localization of the disease in one joint, usually one of the larger joints. In the majority of cases of acute rheumatism, the first essential is to bring the system rapidly under the influence of the salicylates. Personally, particularly in persons with sensitive stomachs, I prefer the salicylate of strontium. In many cases the pure salicylic acid administered in milk will be found most effectual.

EXTERNAL DRAINAGE OF LUNG CAVITIES.*

LE MOYNE WILLS, M.D.

LOS ANGELES, CAL.

The subject to which I wish to call your attention is one much neglected, though very near to us all, especially to those of us who live in the regions to which tuberculous patients are most frequently sent in all stages of the disease.

Just why abscesses and cavities in the lungs should be allowed to run their course of breakdown and produce infection of the other lung and a pyemic condition of the system is hard to explain in these days of exploitation in all parts of the human body. It is partly due to the timidity of the physician in recommending, and in operating for, the relief of the suppurative process as elsewhere, but chiefly to the reluctance of the patient to submit to operation when there is yet time to do good by such interference.

Of course it would not be good surgery to subject a patient in the last stages of his disease to such hazard with such a very small chance for betterment. When satisfied that we have to deal with a septic condition, due to inadequate drainage by the bronchus and in order to save a patient's strength and life, then I claim it to be good conservative surgery of the most progressive type to drain cavities externally. I hope to be able to sustain my point by two cases operated on by a colleague and myself for the relief of this condition. Both these patients were failing rapidly from fever and sepsis, and each had one good lung, the other seriously damaged, and both were in fairly good condition for operation and willing and anxious to undergo anything that promised relief for their unfortunate condition.

From an elaborate series of experiments on rabbits, reported to the Medical Society of the State of California in 1892, I satisfied myself that the resistance of the pleura was much greater than is usually supposed, and that the lungs could be operated on with much less danger than authorities had formerly taught. I chose this animal for experimental work because of its lack of vitality, which diminished the chances of recovery, and

because it would probably follow that the same operation on human lungs would be more so, if the operation on the rabbit's lung was successful. Until 2½ years ago I could not find a patient who would submit to such an operation as I wish to report to you. Several, however, talked of it, but always backed out as the time agreed on drew near. In fact, my first patient went to the hospital for the operation, grew somewhat better temporarily, then declined it and left. Afterward, however, he grew steadily worse, and in six months returned for operation. This was in March, 1898.

History—H. H. H., aged 45, unmarried, was born in California. He was 5 ft. 9 in. in height, and his usual weight ranged from 175 to 200 lbs. He was a ranchman and liveryman, a man of fine physique, with red hair, large chest, was accustomed to all kinds of labor and had been a vaquero. He had comparatively dissipated habits, no personal history of syphilis, and no history of tubercular disease in his immediate family, nor, in fact, among his more remote ancestors. His father and mother were living, aged 75 and 70 respectively, and he had brothers and sisters all well and vigorous, of good size and physical strength.

In October, 1896, having been unfortunate in farming operations, he came to the city, did not find work, was badly lodged and fed, and rapidly ran down in flesh and strength. Then, on December 17, he presented himself with evidences of pleurisy on the left side. The salicylates were exhibited under the impression that the pleurisy was of rheumatic origin. The treatment reduced the temperature and relieved pain; however, after about a week or ten days, evidences of effusion were present within the left pleura cavity. Salicylates were continued and iodid of potassium given, and with repeated counter-irritation. The effusion gradually disappeared, as well as the pain and discomfort, and the patient was to all appearances restored to health.

Believing himself to be in good physical condition, he accepted a position as foreman in charge of hydraulic placer mining operations, and this, during the winter, exposed him to all kinds of weather, and also led to constant wetting. The following August the second attack occurred, confining him to his tent for about three weeks, and during this period, according to his statement, he suffered from high temperature and pain on the side previously involved. It might be well to state here that these attacks of pleurisy were not preceded by any pain or inflammation about the joints, and so it was probably tubercular from its inception.

On August 30, 1897, the patient was brought to my office by his physician, Dr. Shorb, suffering from laryngitis, emaciation and cough. He gave the history as above, and stated that during a ride of some twenty miles, over rough mountain roads, a sudden vomiting of about 1½ pints of pus took place, and with this venting a relief of pain.

Physical Examination.—He showed marked emaciation, large frame, good chest development, and, on inspection, impaired respiratory movement of the left side—rapid breathing, his respiration being about 24 to 30 per minute. His fingernails were clubbed on the left hand and the matrix showed evidences of imperfect oxidation. On palpation, there was impaired resonance and increased vocal fremitus at the apex. The lower lobe of the left lung, at a point over the lower end of the scapula, had all the characteristic signs of cavity. There was also, in the apex, a condition either of small cavity or an area of consolidation. However, there existed no question as to the larger cavity. This latter, approximately, extended from the sixth interspace to the ninth rib, and apparently from the spinal column to the mid-axillary line.

The patient gave a history of dyspnea and orthopnea, with vomiting of from half to one pint of pus every morning. Examination of his sputum showed the presence of tubercle bacilli with elastic fibers, etc. He was induced to go to the County Hospital for an operation, and after his admission, showed marked septic symptoms, with a temperature ranging from subnormal in the morning to 101.2 in the evening; he also suffered from night sweats.

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Operation.—A consultation was held and resection of the ribs for external drainage of the lung cavity advised. He was put on tonic treatment and given large doses of creosote for several weeks, with such improvement in his general condition—an increase of 15 pounds in weight—that he declined operation. He remained in the hospital three months, and during this time the amount of expectoration lessened, owing to good medicinal treatment and the creosote, but the septic conditions continued. He gained in weight but not in strength. At the expiration of the three months he returned to his home in San Jacinto, a town in the San Jacinto Valley, inland, 100 miles from the coast and with an altitude of 1500 feet. He remained there until March, 1898, gradually losing ground gained by the former treatment. During the last week of this month his condition grew so serious, and he was expectorating such large quantities of pus continuously, that he came to Los Angeles for operative relief. There an interesting condition was discovered. When first admitted to the hospital, I had intended to make a resection of the seventh and eighth ribs in the posterior axillary line, but after his return an inflammatory area was noticed extending over the fifth, sixth and seventh spaces from the anterior axillary line forward to and below the left nipple, which suggested the advisability of interfering at this point instead of carrying out my original plan. It was red, painful, bacon-like, and presented all the signs of a suppurating focus. The most natural supposition, therefore, was that the abscess had ruptured into the pleural space, and was approaching the surface at this spot. The patient's general condition was bad, temperature 104, heart's action enfeebled, breathing labored and his condition demanded prompt relief.

I made my incision over the sixth rib, in the anterior axillary line, and resected a piece $1\frac{1}{2}$ inches long, found the pleura thickened, the lung very much congested, and even fingered the apex of the heart; but to my chagrin, on opening the pleural cavity, I found not one drop of pus. The patient's condition was so precarious that the operation was cut as short as possible and a large rubber drainage-tube sewed in the wound. Ether was used and, though skillfully given, he almost collapsed on the table, preventing the completion of the contemplated operation, which was to resect more ribs and enter the lung cavity and establish free drainage.

He reacted fairly well, and under bold stimulation passed the eight days following the operation uneventfully, with absolutely no expectoration, though the temperature was extremely irregular. On the morning of the ninth day, the patient was almost choked by a sudden gush of pus, intensely fetid and gangrenous in odor, through the trachea into the mouth, and it also poured forth from the wound. With this free external drainage established through the incision, which continued for months, abnormal temperature instantly ceased, and it remained normal thereafter, septic symptoms only appearing when the free drainage through the incision was interfered with. The patient became so offensive that it was necessary to remove him from the general surgery ward to an isolated room. Dressings had to be changed several times daily. Irrigation with large quantities of bichlorid of mercury solution, 1/4000, were used twice daily; the patient having unusual tolerance for this germicide, derived great benefits therefrom, and never showed any poisonous results from its use. This suppurative process continued for sixteen months, gradually diminishing.

The cavity was opened externally and had a connection with the left bronchus, as evidenced by the taste of the irrigating fluids. The patient did not gain strength during the warm weather of the summer and was losing ground every day, so decided to go back to the San Jacinto Valley in September, 1898. During the summer sinuses formed in front of the incision, following the line of the ribs and cartilages forward almost to the sternum. These were opened and curetted and finally healed. He remained at home, gained strength and cared for himself. He would fill the cavities with a strong solution of HgCl_2 once or twice daily, by placing himself in a recumbent position, thus retaining a quart of this solution for several hours, when he would rise up and allow it to flow out

through the opening in the chest wall. This he did without the knowledge and advice of his physician. The cough gradually diminished until August, 1899, when it stopped entirely, as did the expectoration.

The patient was not seen by his physicians from September, 1898, till December, 1899, although they heard from him at long intervals. He came to Los Angeles and was carefully examined on Dec. 13, 1899. There was absolutely no sign of cavity, only sounds of a consolidation in the left lower lobe and bronchial breathing over the left apex. He is able to work, chop wood—had put in forty acres of grain—can ride horseback, and feels better than for years. He experiences pain only when he stoops over. He has put on 75 pounds of hard, sound flesh since he first came under our care three years ago.

This operation was simply a resection of one rib—the intention was to take out two or more, but respiration was so shallow and the condition so alarming that the operation was hastily completed, a chance for drainage only being possible. After the acute congestion produced pus, the abscess in the lung ruptured in the direction of least resistance, and the pus gushed forth up through the bronchus and out of the wound in the side. Gravity drainage through the chest wall rendered coughing unnecessary.

Undoubtedly the climate and surrounding conditions had much to do with the improvement of this patient, and he might not have recovered at the County Hospital. On the other hand, he had absolutely no attention for sixteen months, other than that given by himself. The pus simply ran out through the incision, and he washed, irrigated and dressed his wounds as he had been taught and as best he could for himself. It is a remarkable case, and well worth considering, even if what was intended at the outset was not entirely carried out owing to the man's dangerous condition while being operated on. The man had bacilli in the sputum and was in a desperate condition and the beneficial effect of the strong solution of HgCl_2 on the suppurative process is well worth considering.

Case 2.—M. L. D., aged 30, married, by occupation a traveling salesman, for a number of years had been exposed to all sorts of weather in northwestern Iowa, poor hotel accommodations, irregular hours. His family history was negative as regards a tuberculous taint, his parents, two sisters and one brother living in good health.

He enjoyed perfect health, weighing 128 pounds on an average until two years ago, when he had an attack of pleurisy on the right side. This occurred in July, 1898, and he was laid up two or three months. His recovery was gradual and he returned to his work, but a dry, hacking cough remained with no expectoration. In April, 1899, he began to expectorate freely, and for the first time was told that his lungs were affected, tubercle bacilli being found in the sputum. He immediately went to Chicago and consulted Dr. John B. Murphy, who also found tubercle bacilli. Dr. Murphy advised against the use of nitrogen gas in his case and recommended Colorado as a health resort. The patient returned to his home in Iowa and, in the following month had a second attack of pleurisy on the same side. He was ill six weeks and convalesced slowly. This time he was expectorating freely, suffering severe pain in his right side and having night sweats. Under the judicious use of morphin the pain was controlled and he gained 14 pounds in weight before coming to California. In July, 1899, at a weight of 114 pounds, he came to Los Angeles, and put himself under the care of Dr. Jude Barth Shorb.

Physical Examination.—Inspection showed the characteristic phthisical chest. There was no evidence of increased vocal fremitus or vocal resonance, but dulness was slightly increased over both lungs. Percussion and auscultation discovered a cavity which extended from the end of the scapula as far down

as the last rib and from two inches to the right of the spinal column to the mid-axillary line, on the right side. Auscultation revealed fine crepitant râles in the apices of both lungs and evidences of bronchitis. There were evidences of compression of the right lung above and in front of the cavity already mentioned. Expectoration at this time was scanty, averaging probably a teaspoonful in twenty-four hours. The temperature varied from subnormal to 103, and the patient progressively lost in weight. He was advised to submit to operation for the purpose of draining the cavity in the back at its most dependent part.

Operation.—This was performed at 9 a.m., Jan. 11, 1900, at the Good Samaritan Hospital, several physicians present, and after careful preparation for several days. Ether was the anesthetic. Section was made over the angle of the eighth and ninth ribs on the right side, three inches from and parallel to the spine. The incision was four inches long, two inches of each rib was removed forward of the angle, no vessels except those of the skin being opened, and the periosteum and nerves pushed out of the way. The patient took ether badly and I was obliged to hurry, so hastily opened the pleura and found I was just behind the posterior edge of the cavity's adhesion to the chest wall. The man's condition prevented extension of the wound forward. The pleura was carefully but hastily examined and found to be perfectly healthy and smooth. An attempt was made by both of us to push the index finger into the cavity, which could be distinguished by feel, considerable force being used, but the wall was too strong, both of us being sure of its existence, though not daring to use the knife as we had intended. There was absolutely nothing in the pleural sac. The lower lobe collapsed behind and below the adhesion over the cavity to the ribs, as above noted.

Operators were much chagrined that the cavity was not opened directly as planned, but the prolongation of the operation meant death to the patient, on the table, so the pleural sac was hastily wiped out with sterile gauze and the skin wound closed with silkworm gut interrupted sutures as quickly as possible, without drainage; a thick, firm, gauze compress and dressing was applied. The intention was to operate again farther forward. The patient reacted well.

On January 17, six days after operation, the temperature was 103 F. We removed the stitches, the wound being perfectly healed and dry but the skin distended; fluctuation was noted. The skin wound was opened freely and nearly two pints of brownish, fetid pus gushed forth. On digital exploration, the finger entered directly into the lung and discovered a large cavity, location and size as diagnosed. The wound of the pleura and cavity of the lung was irrigated thoroughly with weak formalin solution and sterile water afterward, and the cavity packed with sterile gauze, the lower level of the pleural sac walled off from the general sac and pleura, washed and dressed daily as indications required. On Jan. 18, the temperature dropped to 97.5 and then went up to 98.4, and on the 19th to 99. There was much pus, but the condition was improving. On January 28, we withdrew all gauze; there was little discharge, and granulating at the bottom, the man doing well, with a pulse and temperature slightly above normal. By January 29 he was improving every day.

The bruising of the pleura by the fingers in the attempt to enter the lung cavity produced, by ulceration, the connection with the external incision desired and gave the gravity drainage sought. Undoubtedly the pleura was the better prepared for its fetid bath by the handling it received and the consequent inflammation and covering of its surface with lymph. The improvement in pulse and temperature is good evidence of this and proved the desirability of and justified the operation.

Immediately following operation, and with the establishment of drainage posteriorly, the patient's condition began to improve. His temperature went down and his appetite and strength increased. Within a month following operation there were evidences of communication

of the cavity with the bronchial tubes, as shown by the coughing up of pus on three distinct occasions and the ability to taste the irrigating fluids.

Since this I regret to acknowledge that the patient has not continued to improve and there is marked evidence of involvement in other parts of the same lung, and he is losing strength and weight; but the operative wound through the chest wall into the abscess cavity is still open and discharging a very small quantity of pus.

These cases are unique in many respects: 1, from the fact that the patients had been given up to die, both being tuberculous, as demonstrated by the physical condition and by the microscope; 2, in consenting to operation; 3, in behavior under the anesthetic (ether) due to impaired respiratory power; 4, immediate improvement after operation, as to temperature, pulse, cessation of fever and cough and no expectoration of pus as soon as pus drained through the external wound; 5, while in both cases the condition prohibited the completion of operation as planned, still indirectly the purpose of operation was attained—having by interference established a point of least resistance for the abscess to rupture and discharge its contents.

These cases were very different in history, physical strength and other characteristics, the chief difference being that in the first there was a direct communication between the abscess cavity and the bronchus, and in the second case no apparent vent existed at all, and in each case the patient was dying as a result of absorption of septic matter, and prompt surgical interference was suggested as the only means of relief. In each septic symptoms ceased as soon as external drainage was secured.

In the first case reported the condition was not one of empyema, because there was absolutely no pus in the pleural space when it was opened, and not until the consolidated area about the abscess cavity broke down and ruptured in the direction of the least resistance, viz., toward the incision in the chest wall, was there any pus. That there was a damming back of pus is proved by the cessation of cough and expectoration for eight days after operation, and then suddenly the patient was nearly choked by a gush of intensely fetid pus upward, while at the same time pus flowed in quantity through the incision in the chest wall, and so continued to do, whereupon the cough ceased and also the expectoration, showing that gravity drainage was effectual. The patient, while much exhausted and run down, gained slowly and steadily and, having the best climatic conditions, recovered. Had he remained in the County Hospital among tuberculous patients he would have almost certainly succumbed to the disease.

The second case is as good a test of this mode of treatment, by reason of his less vigorous physique and long exposure to the sudden changes of Iowa and Nebraska and the greater progress of disease and the naturally depraved fiber of the man. If this patient, who is convalescent now, does not recover he will have demonstrated the correctness of the theory of this mode of treatment just as well as does Case 1. This man's septic symptoms stopped at once, his temperature fell, he did not cough, was more comfortable and gained weight slowly but steadily, leaving the hospital at the end of the eighth week. He is now under the care of my colleague, Dr. Shorb.

Both patients took the anesthetic—ether—badly and almost collapsed on the table. In each, owing to bad general conditions, the operation could not be completed as planned, and in each, owing to the handling and exploring with the finger as much as we dared, we accom-

plished indirectly what we otherwise would have done had the patient borne prolongation of the operation well. The fact that we did not do and find what we expected does not detract from the merits of the operation and the benefits to the patients, and we shall always feel that we did the correct thing and are ready to do the same operation again for similar conditions, only hoping it may not be necessary to hurry or change plans.

A half-completed operation is better than a dead patient, and the beneficial results from the half-finished and changed plan of operation are just as satisfactory to the patient if not to the operator. These patients knew exactly what they had to expect—discomfort, suffering and certain death under the usual let-alone or round-about medicinal plan of treatment on the one hand, and a slim chance for betterment by the proposed operation on the other. The second patient was being examined in my office when the first came in, looking so robust and well that these men, the one recovered and the other considering the same plan of treatment, were introduced to each other and had many talks before the second consented to operation, and that he did so was only due to the proof of benefit exhibited to him by the other's recovery and his satisfaction with operative treatment.

I wish to acknowledge my indebtedness to Dr. J. de Bart Shorb, of Los Angeles, for his valuable suggestions and assistance in the treatment of these patients.

DISCUSSION.

DR. JOHN B. MURPHY, Chicago—The purpose of drainage of the chest is a very important one, but I will not go into the objections attending it. The methods of drainage are two, internal and external. We can either drain the abscess through the bronchi or an external opening. We drain through the bronchi where we have no adhesions, but where we have adhesions the life of the patient would be jeopardized. If we make an incision into the chest cavity we immediately have the entrance of air. Through the opening you can grasp and palpate the abscess. Unless great care be used you are likely to have a septic pleurisy develop. You have an operation that can be performed with comparative safety, which is that of compressing the lung, allowing the pus to escape through the bronchus. You can also puncture the chest and allow the patient to inspire air. About 170 cubic inches of air may be aspirated, and the patient can have his chest filled every third day if you wish to hasten the process. There is no inconvenience from air taken in that way. Of all the injections of air into the pleural cavity we have had but one accident, and that was where the needle was inserted while the tube was connected. I never have the tube connected when I wish to insert air into the chest. By this method you can fill air into the chest and drain the cavity effectually, but in cases of adhesions this is impossible. Many surgeons fear to open the chest, but their fears are groundless. You can palpate the lung just as well as you can palpate in the pelvis, and you can locate your abscess exactly. Do not make the mistake of endeavoring to reach it with a Paquelin cautery, for you will find the lung will retract in the chest out of reach of the cautery, unless an incision be made in the chest wall large enough to enable you to seize the lung or unless it be adherent. You will have less oozing in these cases than you might think for, but the abscess will heal perfectly.

DR. LE MOYNE WILLS—Of course we have the advantage of a dry climate, which means a great deal in these cases; otherwise my patients would almost certainly have died. The second case was operated on only last January, while the other case was operated on two years ago.

The first case spent fifteen months, after leaving the Los Angeles County Hospital, in the San Jacinto Valley, in the open air, at light work, and was undoubtedly greatly assisted in his cure by climatic conditions. Had he remained in the County Hospital he would certainly have died. You do not have the opportunity to place your patients in such an at-

mosphere. These are not the kind of cases you see, whereas we see many of them.

I have experimented on rabbits from time to time since 1892, and have learned much from my work. My patients had the courage to consent to, and go through with, the operation and are perfectly satisfied with the result, although the surgeons may not be. The second case is not likely to live long, but is much more comfortable and will live longer than he otherwise would have done, without external drainage. The first man practically got well by over-flushing with a strong solution of mercury bichlorid, for I really believe the bichlorid did it. He is doing manual labor, keeps up his weight and strength, and is perfectly satisfied. I hope to be able to continue this subject at a later date.

SURGICAL ERRORS IN SKIAGRAPHY.*

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The case with which some small bones of the human body can be reproduced by the Roentgen rays on a photographic plate led many medical novices, and even ignorant laymen, to the indiscriminate use, or rather abuse, of the rays.

For the ignorance of unskilful operators many distorted Roentgen ray pictures are responsible. Some of them caused such fatal errors that even well-experienced medical men felt a great disappointment in the results. But in considering all these errors, some of which were indiscriminately heralded through the medical as well as the lay press, it becomes evident that the Roentgen rays never lie, but that it is entirely our own imperfection which induces some of us to err under peculiar circumstances.

In the first place, we should never forget that a so-called Roentgen-ray picture is by no means an ordinary photograph of an object, but a silhouette only (skia-graph), i. e., a photograph of its shadow. To interpret such shadows properly a thorough knowledge of the normal anatomic relations of the tissues, especially of the bones, that produce such shadows, is required. As the most minute gradation of density is registered, the importance of being thoroughly acquainted with the anatomic relations of the bones producing the doubtful shadow is obvious, and for this purpose it is necessary to have the pictures of the shadows of the normal structures of the body always at hand for comparison.

There are slight irregularities of the surface of normal bone, which we could neither recognize nor appreciate before the Roentgen rays were discovered. Their shadows may at first sight appear to represent pathologic processes, but prove to be normal by thorough comparison with a normal skeleton. On certain portions of the normal skeleton the muscles and tendons would naturally cause obscure shadows. The carpus is especially likely to produce such errors in the skiagraph; the tuberosities of the trapezium, the scaphoid, the hamulus ossis hamati, the os pisiforme, and the eminentiæ carpi volaris radialis and ulnaris double up the thickness of the carpus, thereby causing dark shadows which might be mistaken for foreign bodies. Similar considerations and similar cautions apply to the other diagnostic opportunities offered by the rays.

If a skiagraph of the human hand is taken, for instance, the plate will show the least light where the bones rest, while the soft tissues appear opaque. There is also a difference of opacity according to the thickness of the tissues, their blood-supply, and their air capacity.

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The foot, while easily skiagraphed in the direction of the dorsum toward the planta pedis, from the toes up to the upper third of the metatarsus presents an obstacle farther backward in the first and third cuneiform bones and the scaphoid, so that it is necessary also to skiagraph the foot on these portions transversely by having the outer surface rest on the support. It is by this procedure only that the isolated shadows of the astragalus, the calcaneum, the os cuboidum, the scaphoid, and the fourth and fifth metatarsal bones can be distinctly outlined, so that false interpretations may be excluded.

In the early era of the Roentgen rays the normal sesamoids were also sometimes incorrectly interpreted.

How important the knowledge of minute anatomic detail is, especially of non-pathologic abnormalities, will be evident from the fact that the os intermedium cruris—os trigonum tarsi—has been mistaken for a fragment severed from the astragalus. This bone is a typical part of the tarsus of all mammalia, and is estimated at from 7 to 8 per cent.

Shepherd, who mistook this bone for a fractured fragment, says: "The fact that this fracture is not mentioned in any of the text-books of surgery or in special treatises on fractures would easily be accounted for by its only being discovered by dissection; it causes no deformity, and the symptoms it would give rise to during life would probably be obscure." The same author tried to produce this fracture artificially on the cadaver, but "in every case," he says, "where this maneuver was performed, I failed, even when the greatest force was used, to break off the little process of bone mentioned above." Pfizner regards the os trigonum tarsi as an integral part of the posterior process of the astragalus in the adult, which is analogous to the os intermedium antibrachii.

The practical significance of this bone is evident from a case described by Williams, which is also highly interesting from a medicolegal standpoint: A laborer claimed that he was injured by an iron bar, on Jan. 20, 1897, but was able to work during the whole day, but the following day he called on Dr. Wilmans, complaining of intense pain at his internal malleolus. He limped and emphasized his inability to work. Dr. Wilmans found a slight swelling below the right internal malleolus. Ecchymosis of the skin being absent, the swelling was attributed to the presence of a considerable degree of talipes, from which the laborer suffered at the same time. The leg was elevated and fomentations were applied for several days. The laborer still complaining of great pain, it was decided to transfer him to a hospital for observation. When discharged, after several weeks of treatment, he made an effort to resume work, but at once declared that he was unable to keep it up. He was therefore admitted to another hospital, where he repeated this maneuver several times during a period of six months. Finally he claimed damages for having been crippled by the injury sustained on the date above, but in view of the negative objective condition found by Dr. Wilmans, the society decided not to grant any claims. The consequence was that the laborer was transferred to the surgical division of a third hospital for further observation. There he complained that he had continuous pains below the right external malleolus, even while in the recumbent position. The pain increased while walking or sitting. Stepping on the right heel, he also declared to be impossible. By distracting his attention, however, it was noticed that he could stand well on his heel, and he would undoubtedly have been declared a malingerer had not the Roentgen rays.

mirabile dictu, come to his rescue, at least temporarily, for a skiagraph showed a bone-fragment at the junction of the astragalus with the posterior surface of the calcaneum. On the strength of this skiagraphic "proof," Dr. Wilmans, although still mistrusting, was forced to modify his original opinion, and certified that the patient suffered from "fracture of the astragalus, in consequence of which he was damaged for life." The laborer therefore received an annuity of 30 per cent., in proportion to the estimated curtailing of his wages.

Soon afterward the laborer was discovered by Dr. Wilmans carrying a heavy load without any apparent pain, while formerly he had claimed to be unable to walk without a cane or a crutch. The Doctor insisted on a second irradiation, this time also skiagraphing the uninjured left foot. The skiagraph showed the "severed bone-fragment," which had first been regarded as a sesamoid of the musculus flexor longus hallucis, but which was now recognized as a normal os intermedium cruris. The society, of course, refused the annuity, and the German Supreme Assurance Court, to which the laborer had appealed, not only sustained the verdict of the society, but also decided that the laborer must return the annuity which he had unjustifiably enjoyed for eighteen months.

The significance of a skiagraph for the purpose of estimating the degree of functional disability is not always conclusive. A skiagraph may show a considerable degree of bony deformity after a fracture, and still the function may hardly be disturbed at all. Skiagraphic test has shown that, as a whole, even our best functional results show by no means an ideal union. An unscrupulous patient who secures possession of a skiagraph of his own case which shows considerable deformity, may, although there is no functional disturbance, strongly appeal to a jury on the strength of his skiagraph, if he succeeds in simulating great impairment. On the other hand, there may be but little evidence of bone-injury on the skiagraph, but there may be severe impairment of function on account of the injury to the soft tissues—circulatory, trophic or inflammatory disturbances—which can be represented only faintly, if at all. This shows the necessity of considering all the other clinical symptoms in connection with the skiagraph.

While it is easy, even for a layman, to understand the significance of most skiagraphs, there are, as alluded to, injuries the correct interpretation of which presupposes, besides thorough anatomic knowledge, the greatest care and a vast amount of experience as to the different modes of delineation in various projection-planes. The greatest diagnostic difficulties are offered by the joints. The more complicated a joint is the more complicated the skiagraphs of its various positions will naturally appear. It is especially the elbow-joint and hip-joint which are kept in view. First of all, the interpretation of the displacement caused by supracondylar fracture of the humerus and the deformities resulting from it later on, may tax the power of discrimination considerably.

The older the fracture, the less conspicuous the fracture-line will appear, since it will be more or less overshadowed by the callus. In old fractures the lines can not be represented as such, and it is only in case of union in a displaced position that its features could be guessed. In one of my cases, for instance, a second skiagraph was taken three years afterward, which showed essentially the same features as the first one, which had been taken four weeks after the injury.

In the case of the entire absence of displacement, it is

only a very distinct skiagraph that shows the line clearly. It is natural that in such cases there is no skiagraphic evidence after recovery—that is, in from four to ten weeks, according to the type of the fracture.

If such a case fails to be skiagraphed shortly after the injury, no evidence of the fracture may be subsequently obtained. On the other hand, callus formation may be so abundant that, in spite of the absence of displacement, the fullest evidence of fracture may still be furnished months after. In one of my cases callus formation was so excessive that the attending physician was accused of malpractice, and it was the skiagraph only which convinced the patient that his physician had treated him correctly, the bones being in perfect apposition.

The intra-articular fracture types offer the greatest diagnostic difficulties, inasmuch as the fracture-line is also obscured by the callus formation. If, however, a skiagraph of the other joint is made at the same time, in the same position, and in the same projection, the various delineations of the shadows will be correctly understood and interpreted.

A normal skeleton should always be compared on the skiagraph. It should particularly be remembered that certain pathologic conditions—such as rachitis, for instance—influence the outlines of the bones and may deceptively be supposed to represent a portion of an injury. In such an event the skiagram of the fellow-extremity will set matters right.

In very young children the eminentia capitata appears as if entirely severed from the humerus, although the relations are absolutely normal. The explanation of this very important phenomenon is that the epiphyseal tissues are not sufficiently ossified to produce a shadow on the plate. If these points are not thoroughly considered, a displaced fracture-fragment might be erroneously diagnosed.

Union between the epiphysis and the diaphysis of the head of the humerus is not perfect before the twentieth year. The lower epiphysis of the humerus consists of four nuclei, which do not ossify before from the eighth to the seventeenth year. The epiphyses of the trochlea, as well as of the olecranon, do not ossify before between the seventh and twelfth years, which explains why an osseous nucleus that is still connected with its neighboring epiphyseal nuclei, and the diaphysis by cartilaginous tissue, appears as an isolated piece of bone which might erroneously be taken for a fragment. The acromio-clavicular junction sometimes shows, in the skiagraph, a hiatus the width of a finger, so that a diastasis of the joint might be assumed. But since our knowledge on this new subject has increased, we know that this apparent diastasis is by no means pathologic, and that there is a normal gap between the osseous ends of the acromion and the acromial end of the clavicle. The upper epiphysis and the diaphysis of the radius unite between the seventeenth and the eighteenth year, and its lower epiphysis and the diaphysis join in the twentieth year. During the early Roentgen era the translucent space above the epiphyseal cartilage in children was erroneously taken for a fracture-line. The head of the femur unites with the diaphysis at the eighteenth or nineteenth year and the lower epiphysis follows after the twentieth year. The upper epiphysis of the tibia unites with the diaphysis in the twentieth or twenty-second year, while the lower tibial epiphysis unites with the diaphysis between the eighteenth and the nineteenth year.

For the thorough interpretation of skiagraphs in children, it is important to know that at birth the diaphyses

of the radius, the ulna, the metacarpal bones and the phalanges are ossified, while their epiphyses, as well as the whole carpus, are still cartilaginous. It is not before the seventh year that an osseous nucleus shows at the lower epiphysis of the ulna. Union with the diaphysis sometimes begins with the twelfth year, but, as a rule, not before the fifteenth. Even then a small epiphyseal disc remains, which does not disappear before the seventeenth year in the female, and not before the nineteenth in the male.

The osseous nuclei of the carpus show at different periods, viz., at the os capitatum, at the fourth month; at the hamatum, at the fifth month; while the triquetrum shows its nucleus between the second and the third year, the lunatum between the third and fifth, the naviculare between the fifth and the seventh, the trapezium and trapezoid between the sixth and the seventh, and the os pisiforme between the eleventh and the fifteenth year. After five years the capitatum, hamatum and triquetrum have assumed their regular shapes, while the others, with the exception of the pisiforme, are perfectly developed at the twelfth year.

The osseous nuclei of the epiphyses of the metacarpal bones show at the second year, their synostosis with the diaphysis taking place between the twelfth and the seventeenth year in the females, and at the age of 19 in the male. The epiphyseal nuclei of the phalanges are ossified between the fourth and the fifth year, their synostosis with the diaphysis taking place at the same age as that of the metacarpal bones—from the twelfth to the seventeenth year in the female, and between the sixteenth and the nineteenth in the male.

Regarding the elbow-joint, it must be considered that an osseous nucleus appears at the medial side of the capitulum humeri between the second and third year, another one in the internal epicondyle at the fifth year, a third in the trochlea between the eleventh and the twelfth, and soon afterward a fourth in the external epicondyle. The nucleus of the internal epicondyle unites with the diaphysis between the sixteenth and the twentieth year, but the other three nuclei form a synostosis among themselves at the seventeenth year and then form the uniform osseous epiphysis, which completes its synostosis with the diaphysis at about the twentieth. In the capitulum radii an osseous nucleus appears between the fifth and seventh year, and in the olecranon between the sixth and the eighteenth, both uniting with the diaphysis between the twentieth and the twenty-fifth and between the sixteenth and the twentieth year.

Regarding the knee-joint, it must be considered that the lower femoral epiphysis contains an osseous nucleus at birth, while the nucleus in the tibial epiphysis shows shortly afterward. At the fourth year both these epiphyses have completed their development, but they do not unite with the diaphysis before the fifteenth year. The anatomic text-books say that union takes place between the seventeenth and the twenty-fourth year, but a skiagraphic experience points to an average period of only sixteen. The osseous epiphyseal nucleus of the fibula appears between the second and the fifth year, and unites with the diaphysis between the eighteenth and the twenty-fifth, but the skiagraph dates this period earlier, viz., the fifteenth year. The osseous nucleus in the tibial spine appears between the eighth and the tenth year; the epiphyseal line disappears between it and the diaphysis at the fifteenth.

As to the bones of the foot, it may be said that the lower epiphyses of the tibia and fibula show their osseous nuclei in the first and second years, and unite with the

diaphysis between the eighteenth and twenty-fifth; according to skiagraphs, as early as before the eighteenth year. The osseous nucleus of the astragalus and calcaneum appears intra-utero, that of the cuboid shortly before or after birth, that of the cuneiform bones between the first and the fifth year, and that of the os naviculare from the first to the fifth. The osseous nuclei of the metatarsal bones and the phalanges appear from the second to the tenth year, and unite with the diaphyses between the sixteenth and the twenty-second.

In elbow-joint fractures occurring in childhood it is necessary, therefore, to take at least two skiagraphs in different projection-planes and to compare them thoroughly with the normal fellow. In a case of fracture of the femoral head, for instance, the deformity had appeared three times as large as it actually was, on account of inappropriate projection. The degree of shortening of the limb was accordingly overestimated. This shows the necessity of considering the other clinical symptoms and data in connection with the skiagraph.

In fractures of childhood it should also be remembered that the process of ossification is influenced by various affections of the bone, as, for instance, in rickets.

How important the question of projection is becomes evident when we consider that grave errors may sometimes occur even if all the preliminary conditions required for a thorough understanding of the case seem to be fulfilled. This will appear from the following experience, which has probably not been paralleled in the literature of this subject:

A boy 4 years of age, while playing in the street, fell against an iron bar. Being unable to rise again, he was taken up and carried to St. Mark's Hospital, where the first instance of moderate pain was noted, besides the functional disturbance. There was no difference in level nor any other deformity, nor any shortening, nor the typical equinus position. A photograph taken two days after the injury only showed a very moderate and uniform swelling of the leg. Abnormal mobility and crepitus in accordance could be produced only by very rough manipulations.

On the day following the injury two skiagraphs were made, one in the dorsal and the other in the lateral position. To my surprise, the one which had been skia-graphed by a direct irradiation, the center of the platinum disc of the tube being perpendicular to the anterior surface of the leg, did not show the slightest indication of fracture, while the one which represented the leg irradiated from the outer aspect of the tibia showed a marked fracture-line. The fracture presented the typical oblique type in the middle of the tibia, the fracture-line running from anteriorly to above posteriorly, the upper, tapering fragment overlapping the lower end. No side-ward displacement having been present, it can be understood why the rays reaching the long axis of the tibia in a vertical direction did not show the fracture-line. A very slight change in position, where the inclination toward the fibular direction amounts to less than 1 millimeter, brought out the fracture distinctly. If I had, as is the custom in general, taken a skiagraph in the antero-posterior direction only, and if the manipulations made during the first examination had been carried out as gently as they properly should be, the fracture might have been overlooked entirely. And if, in view of the local pain and tenderness, the swelling and the functional disturbance, the possibility of a fracture had been seriously considered, the skiagraph might have silenced the uneasy conscience. This experience teaches the necessity of adopting the principle of always taking at

least two skiagraphs in two different positions in all cases of suspected fracture.

In taking skiagraphs of foreign bodies it must be considered that their size varies according to the distance from the tube. In oblong bodies great errors as to their extent may be committed. Once I was very much surprised in a case where a needle-fragment had entered the palm of the hand in a perpendicular direction. The plate, while indicating the presence of the needle, distinctly created the impression that the fragment was only about 2 millimeters in length. When extracted it was found to be more than an inch long, the rays having reached the hand in a perpendicular direction so that the circumference of the fragment was reproduced rather than its length. A side view would have cleared up the error at once.

Misinterpretations have also arisen from unavoidable mechanical and chemical effects, causing markings in the photographic plate, the significance of which must be well known to the skiagraphic interpreter. Blemishes may also be produced by spots caused by pus from wounds or by perspiration. In the location of foreign bodies, especially in the skull, many errors were and are still committed. Their avoidance will be considered in a special article.

DISCUSSION ON PAPERS OF DRS. BECK, LEONARD AND DAVIS.*

DR. HOWARD KELLY, Baltimore—Dr. Leonard has presented a remarkable paper, and I feel sure he is doing the finest work of this kind. I have had a chance to test his skill in several cases of calculi. I had supposed until recently that in the female I had occupied this field pretty much for myself by making a diagnosis by slipping into the kidney my wax-tip bougie and finding the scratch marks on it when a stone is present; but recently I have had two cases in which I have been unable to detect the presence of the calculus in the kidney by this method, and in one of these cases Dr. Leonard cleared up the diagnosis. A patient came to me with a renal calculus on the left side, and on catheterizing the kidney I drew off a small amount of urine containing pus, but got no scratch marks. I then catheterized the other side simply to ascertain its condition, and there I unexpectedly got the scratch marks on the bougie. I therefore had a pyonephrosis on one side and calculus on the other. I passed the catheter a second time and got scratch marks again. Dr. Leonard happened to be in Baltimore at that time and took a skiagraph which located a calculus also in the side first tested. I operated first on the worst side and ten days ago on the other side. We must all learn to do this work as Dr. Leonard does it.

To facilitate end-to-end anastomosis of the ureter, I have invented what I call an anastomosis guide, which is shaped like a long thin cartridge with a long handle to use it. I slit the ureter above the division and slip in the guide and bring the ends together and suture them over the guide. The ureter can be anastomosed into the bladder in the same way. It is sometimes necessary to make a long anastomosis of the ureter into the bladder, as shown by some of my cases. I remember a patient in whom a carcinoma obstructed a ureter. I brought the ureter into the bladder by devising a plan which originated some years ago by simply freeing the bladder from its attachments and pulling it up until it reaches the ureter; the bladder was then retained in this extreme displacement by suturing it to the psoas muscle on level with the posterior border of the pelvis. By this means I have secured a perfectly satisfactory anastomosis.

DR. A. D. BEVAN, Chicago—I want to congratulate Dr. Leonard on the very fine work he has been doing. Some of the early work in finding renal calculi by means of the X-ray was done by Dr. McArthur and myself in Chicago. At that time

* Dr. Davis' paper on "Treatment of Injuries to the Ureters" appeared in last issue; Dr. Leonard's paper on "Diagnosis of Calculus Disease of Kidney, Ureters and Bladder by Roentgen Method" appeared elsewhere.

the work was rather crude and the only stones found were those of large size. I am inclined to believe that some of the cases which had stone were not always demonstrated by the X-ray, but recently the technique has been very much improved. I regard it as of the greatest possible value in the diagnosis of stone in the kidney and recall a case where its value in this connection was well demonstrated. The patient was 30 years of age and had all the symptoms of a renal stone. The patient was sent to me by Dr. Billings, of Chicago. Dr. Crane, of Kalamazoo, who has been experimenting somewhat with the X-ray, took much interest in the case and examined it with his own apparatus. He presented three pictures which showed a stone three-fourths of an inch below the last rib and also a very small shadow one-third of an inch in length and not more than one-twelfth of an inch in width below this large stone. To the outer side was seen a kidney-shaped shadow about the size of a bean. At the time of the operation the kidney was pulled out and the vessels were controlled by pressure so that the posterior border of the kidney could be split. The large and small stones were easily found, but there was no evidence of the third stone. Very thorough examination was made, but was unsuccessful. I had the X-ray picture in the operating-room and I measured with my eye as nearly as I could where the third stone was supposed to be. I then took a hypodermic needle and very readily found the second size stone in the kidney itself, which shows the great value of the X-ray. You would be surprised at the small size of the smallest stone, and I am satisfied that this method is the most valuable for diagnostic purposes that we have at our disposal. Where it fails it is largely due to improper handling or wrong interpretation: when you hear a man say it is misleading, be sure that either he does not take good pictures or he does not know how to interpret them. We must learn something about the technique and how to interpret the result gained.

DR. J. WESLEY BOVEE, Washington, D. C.—Until recently we had very little evidence of the value of the X-ray in the diagnosis of biliary and renal calculi and I am very glad to learn that the work can be done so satisfactorily at the present time.

I was very much pleased with the way Dr. Davis presented the subject of ureteral injuries, and I have no doubt that the best method of uniting a severed ureter is by uretero-ureteral anastomosis. The end-to-end method is done in nearly all cases transversely, and, in one of my own, obliquely. The experiments with this method on dogs has not been carried out on man in but the one case. The lateral anastomosis by Dr. Weller Van Hook is a good method, and recently another method of lateral anastomosis similar to the way it is performed in the intestines has been brought forward in Italy. The operation by different methods has been done 21 times on man, and an unfavorable result followed in but one case. Anastomosis with the bladder is a good operation and has been done something like 70 times. The point on which I do not agree is concerning the failure of the rectal or colon implantation, which has been done over 80 times and in a large number of cases has been successful. If we remember the work done by some of the foreign surgeons and get their statistics we shall find that they are successfully implanting the ureters into the bowel. The implantation of the severed ends of the ureter, however, has not been very satisfactory here, if we may judge from experiments on dogs, but the dangers have been greatly overdrawn. There has not been a case reported of marked stenosis in uretero-ureteral anastomosis, except one where tuberculosis was present; this may have had something to do with it, and the operation was not necessarily faulty.

DR. GEORGE GOODHUE, Dayton, Ohio—It was my experience six years ago to have a patient who complained of pain over one side in the kidney region, but not on the other. A surgeon of large experience was called in to operate on this man, and removed the kidney from the side which gave him the trouble, although it was very slightly, if at all, diseased. The other kidney I removed at the autopsy several months later, and found it packed with stone. I simply mention this to show what the X-ray might have done had we had it at that time.

Only an hour or two before I left home I had a patient, who gave every symptom of renal calculus, subjected to the X-ray, but I came away too soon to learn the results. I would like to ask Dr. Leonard to state what part of the surface should be exposed to get the best results, i. e., whether the posterior, anterior or lateral. Our work is being done by a man who is doing excellently in this line. Later I shall report a case of successful anastomosis of ureter by implanting the upper section into the lower through an opening made into the side, as recommended by Kelly.

DR. RANDOLPH WINSLOW, Baltimore—Four years ago, while doing a hysterectomy, I was unfortunate enough to cut a ureter. I was aware of the work that had been done by Van Hook and Kelly, and I made an incision into the ureter, slit it up, invaginated the upper end into the lower, closed the lower end over the upper, and the woman recovered. The operation, so far as I can see, does not differ from the one the reader of the paper has presented, except that I used silk instead of catgut. The woman has remained well for three years, and I believe is still so. All of these operations are merely modifications of the original method of Van Hook, and to him is due the credit for whatever success has been accomplished. The ureter is ordinarily described as terminating in the pelvis of the kidney, which, passing through the sinus of the kidney, forms a large dilatation within the substance of this organ. This description is not correct in most cases. The pelvis of the kidney is usually quite a small structure and may be either fusiform or triangular, or more or less quadrilateral in shape. From the pelvis issues several long and narrow tubes, usually at least four in number, which terminate in calices after passing a considerable distance, perhaps an inch or more in length. You may have a stone in one of these calices. You may pass a ureteral catheter, which will go into the pelvis or into one of the calices, but not in the one where the stone is impacted. A stone developed in the lower calices can not be reached in this manner.

DR. CARL BECK, New York City—It seems to me to be a deplorable fact that the great importance of the X-ray has not been realized by the profession, and I only wish that more such beautiful and convincing explanations could be brought forward. I agree with every point but one, and that is that the skiagraph will always show whether a renal calculus is present or not. I think this is a dangerous statement. Although a man's technique may be splendid, yet he may commit some errors. I would not make a diagnosis on a negative skiagraphic report regarding the presence of renal calculi. While a positive skiagraph is proof enough for the surgeon, a negative skiagraph will not convince me there is not a stone. In a doubtful case at least two short and long exposures should be made, and if possible, with different tubes. It has occurred to me that renal calculi, if they be elliptical in shape, may be confounded with biliary calculi, particularly if the body is irradiated in the oblique direction, so that the calculus appears near the spinal column.

DR. L. L. MCARTHUR, Chicago—I agree with the last speaker, Dr. Beck, that not all calculi may be expected to be found with the skiagraph. I believe Dr. Leonard, in his paper, failed to emphasize sufficiently the fact that the chemical composition of the calculus determines the intensity of the shadow. A uric-acid calculus will give a very slight shadow. I made some investigations before attempting to photograph a stone in the kidney, and on taking a group of calculi of varying types I found that a pure uric-acid calculus gave a very feeble shadow. Since that time I have cut down and found uric-acid calculi which were not demonstrable by the X-ray in the hands of our expert in its use, Mr. Fuehs.

DR. J. E. SUMMERS, JR., Omaha—Dr. Davis' technique is practically identical with that adopted years ago by Joseph Price, and is, I believe, as simple as any, being particularly advantageous when there has been a loss of substance and under such circumstances has an advantage over Van Hook's method. One must remember when operating on the ureter that it may have a fellow on the same side and that these ureters may come from a horse-shoe (more or less fused) kidney. Those who have examined the pathological exhibit will

remember a specimen of double ureter on both sides, there being two separate kidneys. Recently I did a left-sided nephrectomy for tuberculosis; the patient was a female, aged 2½ years. There were two ureters on this side and a large kidney. Fearing the possibility of a single kidney, I button-holed the other side in order to examine for the presence and condition of the right kidney. The kidney was removed together with the ureters, the lower one, which was healthy, was removed only in part, the upper, which was tubercular, was removed to below the pelvic brim. The child recovered nicely.

DR. F. B. CARPENTER, San Francisco—Seeing Dr. Kelly requested that all cases like his own should be reported, I will report one to add to the list. I brought the upper end of the ureter down to meet the lower, and consequently tied off the lower, destroying the mucosa that remained. I then made a large incision in the posterior wall of the bladder and passed three catgut sutures from within out to the upper end of the ureter. I brought the ureter firmly down from the lower angle of the incision into the bladder. When this was once secured I closed the remaining portion of the long incision into the bladder, and the patient made a good recovery, without any bad symptoms. I would call attention to an idea I derived at the time of the operation. It occurred to me that hereafter I could make use of Murphy's idea of a button in making anastomoses between the lower end of the ureter and the bladder. One important thing in this connection was that when the button came away it must necessarily fall into the bladder and could then be brought out through the urethra. The button will probably be slow, as our experience with buttons passing into the intestine has been. Phosphatic deposits may accumulate, which will cause some delay.

DR. C. L. LEONARD—I purposely refrain from speaking of the technique of skiagraphy, as I have just published a full description in the *Annals of Surgery*, and reported 59 cases in which I had found 12 calculi. Of those calculi a chemical analysis has been made, which shows that they consist of all the varieties except cholesterin. Uric-acid crystals, carbonates and phosphates are all represented. The reason why these calculi may now be detected by the X-ray, but could not at first, is due to the different quality of the X-ray I use. If you use a tube that has an equivalent resistance of 2 inches you will penetrate a uric-acid stone, but if, on the other hand, you use a tube which has a resistance of 1½ inches and will stay at that point, you will not penetrate the uric-acid stones. I found a calculus that weighed nine-tenths of a grain, while another of pure uric acid was removed from the ureter and weighed two and three-quarter grains. I had hoped to be able to show you some slides demonstrating these calculi. One of those slides shows 7 calculi that have been taken with different qualities of the X-ray, but with all other conditions equal. It shows that vacuum tubes will penetrate uric-acid stones, while the low vacuum gives opaque shadows, and it is this improvement in the technique that has made it possible for me to develop the method which I now use and which is so essential. I use a light which will not penetrate the less opaque calculi. If you get in the negative a shadow of the lumbar muscles you may be absolutely sure that no calculi exist. The only case of error in either positive or negative diagnosis was made in a case examined for Dr. W. W. Keen. It was an error in technique and served to show that the method *per se* was not at fault. The plate had not been placed sufficiently high, so that a calculus in the upper pole of the left kidney escaped detection. This error only served to strengthen my belief in the correctness of the method and helped to improve my technique. A second case for Dr. Keen showed that I was amply justified in my faith in the method, even to the extent of opposing his diagnosis. The symptoms were sufficiently severe to justify operative intervention, but the result of the operation coincided with the negative diagnosis. It is the method which I believe is absolute, the errors are entirely the result of faulty technique in applying it.

DR. B. B. DAVIS—I have certainly succeeded in getting some more cases reported, if my paper has accomplished nothing else, and this will make these cases of record. In practically all instances where there has been a ureter severed at the time

of operation the patient is exhausted and the surgeon is tired before the operation is completed, and consequently we want to have a method of repair which will be as simple as possible. The quicker it can be done the better will it be for all concerned. Kelly will do his operation very quickly, of course, but for the average operator I think it will take a good deal longer time than the method I have described. Although I do not profess to be a rapid operator, I am sure it did not take me more than five minutes to finish up the anastomosis. Catgut soon dissolves, so that there is no danger from the suture. As to the button which has been shown, I can not but think that with such a small lumen as it must necessarily have, it is almost sure to be filled by the phosphates before it separates.

WALLED OFF.*

JOHN B. DEEVER, M.D.

PHILADELPHIA.

"Walled off" is an expression so often heard in connection with cases of appendicitis which have gone on to pus formation, that I have selected it for the subject of discussion. When I hear a physician boast that his case has advanced to this stage and is ripe for operation, I often wonder how it is possible for him to have been unaware of the dangers to which the patient has been subjected and feel sorry for the physician's or surgeon's lack of knowledge of the living pathology of this vicious and deceptive disease that he has allowed to stealthily advance to that point where he believes he has every reason to congratulate himself. The most charitable view one can come to is, that he is familiar with operation under this one circumstance only.

In order to make clear the object of this paper, let me draw the comparison between an operation for walled-off pus, and operation in the absence of pus, or before the pus has become walled off.

Before taking up the arguments in favor of early operation and against late interference, let me impress on you that the mere evacuation of an appendicular abscess, drainage and subsequent healing of the abscess does not insure the patient immunity from a subsequent attack of appendicitis. A recurrent attack is much more likely to follow a partial operation—where the appendix is not removed—on account of the retention of an appendix which is damaged, therefore more vulnerable, and a fruitful source for subsequent attacks. That the appendix, in the case of a walled-off abscess, is frequently discharged as a slough, I am prepared to deny. The surgeon or the physician deceives himself, the patient, and the patient's friends when he makes this statement. I have repeatedly operated on cases in which a walled-off abscess had been drained, and in not one have I failed to find the appendix. At this time I may say that I have never met with a case where the appendix was normally absent.

Walling off of an abscess is nature's means of protecting the general peritoneal cavity. It has been stated that nature should be allowed to pursue its course unhampered by human skill or interference. The fact must not be lost sight of, that nature in dealing with pathological conditions does not work with the same immutability that it does with other normal laws, and therefore there is always to be considered the probability that the lauded and longed-for walled-off condition may fail to materialize, thus leaving the patient far worse off in the second state than he was in the first. The fact that a sufficient number of cases which constitute a large series is warrant enough for a decided opinion enables me to

* Read before the Profession of Springfield, Mass., at the Mercy Hospital.

say without reservation or fear of successful contradiction few cases of abscess are completely walled off.

What is to be gained by waiting until the abscess is walled off? Shall we allow the unfortunate patient to perish, or have one or more of the many serious complications that go hand in hand with abscess in the peritoneum?

To recover from an operation for a walled-off appendicular abscess, means, to say nothing of the many risks to life, an indefinite convalescence. Abscess formation in appendicitis is a preventable complication and certainly a desirable one to eliminate from the treatment of the disease. I fully realize the difficulty experienced by physicians in some instances to convince the patient and their friends that early operation is the course of wisdom. This is the exception and not the rule, as the laity more often raise the question of operation when they are told that the case is one of appendicitis.

What can we expect when many of our prominent surgeons are still crying down too-early operation. Against the latter dictum, just criticism is in order. It is my experience and yours as well, I am sure, that the surgeon and physician who has had the largest experience with this disease and particularly those who have studied the living pathology, that is having seen in the living belly-cavity this vicious inflammation when in full force, are those who advocate, yes, pray for early interference.

When I hear the surgeon or physician say, "let us wait twenty-four hours longer," I am sure their experience has been limited and therefore they are not qualified to give an authoritative opinion on this important question. Many lives have been sacrificed by procrastination, while I dare say not one, except through faulty technique, perhaps, has been lost by too-early interference. Great is the number of surgeons and physicians who have regretted operating too late in appendicitis, while I venture to declare that if this country were raked with a fine-toothed comb not one could be found who regrets having operated too early. This is the doctrine to inculcate into the minds of our medical friends if we would reduce the mortality of this disease and do away with complications and sequelæ.

It has been said that not to be able to discriminate between cases of appendicitis which require immediate operation and those in which operation can be deferred for one or two days, or until the attack has subsided, is unscientific. In answer to this I beg to say that this kind of science which is killing many human beings daily should be thrown to the dogs. I challenge any one to interpret to a certainty the pathological condition in a case of an acute inflammation of the appendix, unless the opportunity is given to see inside the belly-cavity. To be plain, this sort of pretention is disgusting to say the least. I tell the students attending the clinic at the German Hospital that I know but two things in a case of appendicitis, namely, that the disease is an inflammation of the appendix and that the appendix should come out.

To foretell the extent of the diseased condition on the inside of the abdomen by an external examination I am unable to do. Perhaps my colleagues who have seen only little of this class of operations can, and if so, they are wiser than I am.

Statements such as the following, that "I have had two hundred cases of appendicitis and never lost a patient, nor have I had to have one operated on," is false beyond question. Many of the gentlemen who have never lost a patient have waited until the eleventh hour and then sent for the surgeon, who very foolishly operates, is

credited with the death, and relieves the attending physician of counting this against his record.

There are five forms in which appendicular abscess are met with, depending on the locality in which the collection is situated. I will discuss them one at a time and try to convince you of the futility of depending on nature to control intraperitoneal suppuration and its effects, by the process of walling off.

1. The most common in my experience is when the collection is post-cecal, or post-colic, and between the layers of the mesocolon, it is a walled-off collection, but not walled off so as to avoid infection of the peritoneum in its evacuation. The parietal peritoneum does not enter as a part of the abscess wall, and therefore in opening the abdomen to get at the collection the general peritoneal cavity must necessarily be opened and unless gauze be properly distributed so as to make up for nature's deficiency the general peritoneal cavity will be endangered. It may sometimes be possible to open the collection through the loin space, but this means an element of uncertainty as well as simply evacuation, leaving the appendix. I think it is inadvisable, and to a degree dangerous. If any class of surgery should be complete it is appendicular surgery.

2. The second variety of walled-off pus is where the collection is found directly beneath the parietal peritoneum and its limiting wall is formed by the cecum, coils of small intestines, the omentum, the appendix, the parietal peritoneum and masses of lymph binding these together. This is the variety of walled abscess which the advocates of the "let alone" theory hope to secure by their masterly inactivity. This variety occurs second in order of frequency of the walled-off type of appendicitis. In this class of cases it is a most common occurrence to find that the abscess is in communication with, and includes, the pelvis. To complete the operation in this type we must protect the peritoneal cavity from infection with protecting gauze, evacuate the collection, remove the appendix, introduce drainage, both tubular and gauze.

3. In the third variety of walled-off abscess, the collection is wholly confined to the pelvis and shut off from the general peritoneal cavity. The pus can not be evacuated without endangering the peritoneal cavity unless gauze packing is extensively used to protect it. The appendix will always be found to be located in the pelvis and therefore its removal must be accomplished before completing the operation.

The evacuation of a pelvic collection of pus, the result of an appendicular inflammation, by vaginal or rectal puncture is to be heartily condemned for several reasons; that it is contrary to sound surgical principles; that it is attended by certain risks; that it does not remove the source of disease; and, that it is at least only a very dangerous and temporary makeshift. By attacking the pelvic collection of pus through the abdominal wall, the appendix can be removed and the pus cavity properly treated, thus favoring healing by the process of granulation.

4. The fourth variety of walled-off pus is found located near the median line of the abdomen and to the inner side of the cecum. The retaining wall is composed of cecum, appendix, small intestine, mesentery, omentum, and possibly the sigmoid flexure of the colon. In order to operate with more safety to the patient in this variety of abscess it may be necessary to make a second incision to the median side of the incision which opens the pus cavity, so as to protect the peritoneum with

gauze packing in order to complete the operation by removing the appendix.

5. The fifth variety of appendicular pus is found free in the peritoneal cavity. In this variety there has been no attempt on the part of nature to confine the pus. This, the most unfortunate variety, especially if the patient is not operated on within the first twelve hours, in that the patient's chances are reduced almost to nil. The attempt to treat this variety of abscess successfully will depend on the thoroughness of the technique, which will sometimes secure a favorable outcome to the case.

The writer's successful cases in this variety of abscess have been where he has operated within the first six or twelve hours of the disease. The following case demonstrates the correctness of my position in appendicular surgery. I am very sure that had the operation been deferred in the case I report until the serofibrinous exudate had become pus, or until the appendix had perforated, this young physician's life would have been lost.

Patient was an interne of the German Hospital, operated on for acute appendicitis Oct. 1, 1900. History of previous attack was negative, with the exception of possibly an attack of the mildest character two years ago. On the evening of Sept. 30, 1900, after an especially hearty dinner, the patient had a little abdominal pain, which was general and cramp-like, but not severe. He took a dose of salts. The general pain complained of at first became better after salts had operated, but patient was left with some pain, which was referred to the right iliac fossa. The following morning, Oct. 1, the Doctor was on duty attending to his daily duties. About 12 a.m., Oct. 1, pain became so much worse that the Doctor went to bed. I saw him at 1 p.m., Oct. 1, when the diagnosis of acute appendicitis had been made by my house surgeons, Drs. Curry and Moore. I confirmed the diagnosis and operated immediately, finding the abdominal cavity filled with serofibrinous exudate, and appendix distended with pus. Recovery was uninterrupted; in fact, it was unusually smooth. Operation was made through a 1½-inch incision through the right rectus muscle.

Thus far we have dealt with cases which have advanced to pus formation. I shall now take up pus in the peritoneal cavity, whether free or confined, and endeavor to prove to you that it is far better to anticipate pus than to have to combat it.

Let us sum up the evidence of the possible results of appendicular pus, and in order to deal with it properly, divide it into two headings, general sepsis and local sepsis. Under the first, general sepsis, we must include septicemia, pyemia, pyelophlebitis, hepatitis, abscess of the liver, septic pneumonia, septic nephritis, etc. Under the latter heading we find adhesions, softened and gangrenous bowel and omentum, perforation of the bowel, bladder or ureter, fecal fistula, prolonged convalescence, ventral hernia, and subsequent obstruction of the bowel, either from bands or from the contraction of the abscess wall.

In drawing comparisons between the mortality in the presence of pus and operation done prior to pus formation, we know that operation in the presence of pus gives a percentage of 10 to 18 deaths per 100, while in the pre-suppurative stage the mortality is .5 per cent. This statement should make further argument unnecessary.

It is likewise proper that we consider the length of time necessary to establish convalescence under the two conditions. The recovery in cases operated on in the presence of pus is always problematical and the convalescence protracted, lasting anywhere from four to six

weeks in the most favorable cases and in many instances to as many months, while recovery in those cases where pus is absent takes but ten to twelve days.

In considering some of the results of pus formation from appendicitis, fecal fistula is one of the most unfortunate. The most common cause for fecal fistula is pressure necrosis, due either to an extensive purulent collection, or from the very high grade of infection. By very early operation a fistula due to either of these causes can be prevented. One of the common causes for a simple fistula is an unhealed abscess cavity. It is unnecessary for me to add that a fecal fistula too often is a most distressing sequel to appendicitis and difficult at times to cure, even with operative interference.

It has been my experience that walled-off abscess is followed by ventral hernia, the operation for the relief of which is attended by greater risk than is the original operation, and too often with less certainty of a permanently good result. Chronic sepsis is the natural result of a peritoneal abscess; this of itself is attended by a mortality.

There is no choice as to the time of operation in appendicitis; theoretically, there may be arguments advanced to refute this statement, but it is the results which impress us and from which we must draw the rules of guidance in matters which involve life and death. It has been claimed that appendicular pus becomes less virulent the longer it remains in the peritoneal cavity, and that in time it will become sterile but what of the poor unfortunate patient while this intraperitoneal sterilization of the pus is taking place?

It has been said that man can become accustomed to anything, even hanging, and it seems, if we accept the above claim, that he can even become used to having a collection of pus in his peritoneum until it becomes sterile, but that delay on the part of the patient, or by the consent of the physician, is good and sound treatment, I deny with all the strength I possess.

Let me insist that you have your cases of appendicitis operated on, yes, immediately after the onset of the initial pain. Do not be influenced by the pernicious doctrine that you can wait for further developments, as the latter teaching is at the cost of many precious human lives.

When I hear and read remarks like this, when in cases of appendicitis the symptoms are progressing unfavorably after twenty-four hours have elapsed, operate and operate immediately. I have unquestionable evidence of one of the reasons at least why the mortality in this disease is so high. Why should delay for twenty-four hours in the presence of unfavorable symptoms be entertained? My answer would be want of confidence on the part of one so advising.

It has been said, and well said, that he who stops to deliberate is lost; this is apropos of this discussion, for the physician or surgeon who stops to deliberate, that is, waits twenty-four hours, to operate in the presence of unfavorable symptoms, is not only lost in the sense that he is lost as to the knowledge of the living pathology of the disease, but that many more patients will be lost if this dangerous teaching is practiced.

In concluding my remarks on this subject I shall in brief review the salient points with especial reference to impressing them on your thoughts and ask your unbiased discussion in reviewing the facts:

1. Pus is an avoidable complication in the treatment of appendicitis.

2. The patient's welfare is best preserved by avoiding any of the complications incident to pus formation.

3. The walled-off abscess is not the blessing to be sought, but rather an evil to be avoided by prompt surgical interference as soon as the symptoms of appendicitis manifest themselves.

4. Operation on cases of walled-off pus imperils the patient's chances for recovery, on account of liability to infection of the peritoneal cavity.

5. Fecal fistula as a result of a walled-off appendicular abscess is an unavoidable sequel to appendicitis and should not be permitted to occur.

6. The latter statement is true of all complications and sequelæ of appendicitis due to pus formation.

THE ARMY SURGEON IN THE PHILIPPINES.

WILLIAM J. LYSTER, M.D.

ACTING ASSISTANT-SURGEON, U. S. A.
MANILA, P. I.

In a number of islands, stretched out through a thousand miles of the greatest of oceans, is the United States Army of occupation in the Philippines, holding positions in the interior of islands as large as the State of Ohio, many of whose inhabitants had never before seen the faces of white men. With the troops combating diseases of new type, among barbarous communities ignorant of all sanitary precautions, is the army surgeon, attempting to carry with him the principles and appliances of modern science necessary to the preservation of life, in a climate that is strange to him and which impels a study of its peculiarities at the same time that it increases his work. The medicines, instruments and foods necessary for the victims of wounds and disease in these remote places must be carried, with difficulties of which even the quartermaster's department is scarcely competent to judge. Troops are sometimes expected to live on the country; campaigns have been made that way. But no medical officer can deliberately leave to the "fortunes of war" the chance of finding medicines and instruments in the enemy's country. We can eat the barbarian's or even the savage's food, but he has no medicines.

Yet, as a rule, our troops have been provided with abundance of medicines, instruments, sterilizing apparatus, dressings, foods for the invalids, shelter and nursing. But it has not been done without constant planning, forethought, ability to adapt, strenuous endeavor, sacrifice and loyalty to duty. With moving bodies of troops or expeditionary forces, as they have been called in this campaign, the handling of the sick is naturally a more difficult problem than in even the smallest and most remote posts. Schwan's Expeditionary Force in its movements offers a typical illustration of the medical corps in action, and some remarks concerning it will best illustrate its work.

This force consisted of about 27,000 men, and moved south from Manila, Bacoor and Ismus, through Cavité province to the province of Tayabas around Lake Taal, occupying important points as it proceeded and part of it appearing on the Laguna da Bahia. Medical supplies were sent to points on Manila Bay, through which or from which the forces started, and were then transported under the supervision of medical officers in ambulances and wagons. As the region traversed became more rough and mountainous, both supplies and the sick and wounded were conveyed by Chinese coolies. These bearers were invaluable in the country impassable for the ambulance. They were economical and reliable, being useful immediately on the firing line. As the expedition debouched on the southern seacoast it was

met by a hospital ship, which relieved the army of its sick and furnished fresh supplies. Thus a fresh start was practically possible. When the expedition, recurring, reached the shore of Laguna da Bahia it was met by another hospital ship, a light-draft boat, that repeated the work of the first ship.

Thus the care for the sick was most ably performed, and the column, relieved of the burden of its wounded, was rendered more mobile, a military advantage of first importance. This was also done by leaving the sick and wounded with the troops garrisoning the points held as the army proceeded. But it did not end with leaving them. Post hospitals arose as rapidly as the smoke from the camp fire; equipments and medicines were at hand by the forethought of dividing the supplies into small outfits, and relief and rest were at once afforded to those needing it. The seriously ill were rapidly sent from emergency to regimental hospitals, or to hospitals placed at points advantageous for the transportation of men and supplies.

The base hospitals, which were only converted buildings, usually of a public or semi-public character, answered well and were more fully equipped than the smaller hospitals. They have on an average a capacity of about fifty beds, and are at such points along the



Bird's-Eye View, Convalescent Hospital, Corregidor Island, P. I.

arteries of transportation, sail or water, that fresh supplies can be readily and frequently furnished. Here the treating of patients is necessarily an easier problem and those requiring special foods obtain them. These base hospitals are in close touch with Manila, the metropolis of the islands and the headquarters for Luzon, the largest island.

At Manila are large general hospitals; one alone contained, at one time, 1400 patients. Here are sent patients requiring special treatment, and those from the crowded base hospitals. A receiving hospital assigns them to others of special function. Surgical cases are taken to one on an island at the entrance of Manila Bay; those convalescing from malarial fever, to another; medical cases and all diseases of the eye, to another; disabled soldiers who are to leave the service and whose disabilities are to be passed on by a medical board, and all soldiers who are to be sent to America for treatment, to another. From the latter the patients are transferred to the general hospital at San Francisco, from which point they are sent to such places as their special troubles demand or discharged from the service.

Contagious diseases are closely looked for, and few, if any, escape the hospital authorities. When a diagnosis is not clear a board investigates. All this work

comes in the regular line of duty of the military surgeon.

The regular corps is at present supplemented by several hundred civil surgeons. Understanding the methods of the corps, the administrative work is naturally entirely in the hands of the surgeons of the regular army. Further assistance is rendered by the medical officers of the volunteer regiments, most of whom are permanently attached as regimental officers. As the regiments are broken up into small detachments for garrisoning, the need of a larger number of medical officers is pressingly increased. The distance between the posts is often considerable and traveling between them has, as a rule, been dangerous. In a land where physical exertion is impossible to the same extent as in the temperate zone, it requires a separate medical officer with each independent detachment that is at all removed from headquarters.

The proper work of the department is at present seriously handicapped, both by the small number of men, and further by the fact that the surgeons who are not members of the regular corps are inexperienced in the method of the department, though of sufficient professional attainments. The distribution of medical supplies is the reverse of that of forwarding the sick

ber and quantity of supplies handled by the department is beyond belief. Medicines, foods necessary for the sick, instruments, mechanical and scientific apparatus and food, even ice, are supplied. It is hoped to equip all base hospitals with ice machines capable of an output of 3000 pounds per diem.

The medical officer is responsible for the care, discipline and existence of the soldiers who assist him in his professional duties, the hospital-corps men. Feeling the need of better trained men than the present system gives it, the department established a school for educating to a limited extent the subordinates on whom it must depend in both practical and theoretical branches. Men are assigned to a company of instruction for a period of eighteen weeks. Some fifty men are then gathered from the different districts of the department and drilled and taught theoretical and practical branches of hospital nursing, practical handling of the wounded on the field, ward work, cooking and administration of medicines. A smarter and more competent man is turned out and some bad material is gotten rid of. To those obtaining a certain degree of skill a certificate of proficiency is given at the recommendation of the officer who is acting as instructor. At present, while the company is an independent organization, it



First Reserve Hospital, Manila, P. I.—Front Entrance.



Main Entrance, Second Reserve Hospital, Manila.

soldiers to the United States. With the United States as the source of supplies, through San Francisco they are shipped down to Manila as the central distributing point of the archipelago. Points accessible by water in Luzon and by the only railway are then supplied; and then the smaller posts in the respective districts of these depots, and so to the emergency hospitals.

The class and quantities of medicines are much different from those issued for the home troops. The diseases characteristic of the tropics require quantities of drugs scarcely used in the United States. The supplying of appropriate medicines and in sufficient quantity and in advance of the seasons when the demand for them will be the greatest, is a work calling for forethought, when we recall that many posts are cut off from all communication during the greater part of the rainy season. In Luzon, an island of some 40,000 square miles, Vigan and Aparri in the north are supplied from Manila by water communication; Angeles, in Luzon, by the railway; Nueva Caceres, in S. Luzon, by water. In the Visayan Island Silay, Cebu and Zamboanga are the centers for their respective districts. The transportation of the sick and the supplies is supervised by the medical department, though it increases their work immensely. The character, num-

ber and quantity of supplies handled by the department is beyond belief. Medicines, foods necessary for the sick, instruments, mechanical and scientific apparatus and food, even ice, are supplied. It is hoped to equip all base hospitals with ice machines capable of an output of 3000 pounds per diem.

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is located near Hospital No. 3, one of the largest hospitals in the islands, and the men taking this course are thus enabled to have practical instruction under close observation. Records are kept of the man's qualifications and conduct and at the end of his course he can be assigned where most needed, according to the cases for men of special aptitude or general proficiency. At the last graduation of this school these men were promoted to the rank of acting hospital steward.

This brings us to the question of nurses. The experience of the United States Medical Department is that men of greater proficiency are needed in the hospital corps, and that with the training and wages paid to female nurses they will probably be forthcoming and have the advantage of being useful with moving columns in the field as well as in the general hospitals. Indeed, in them is probably to be found the solution of the interesting question.

Still further to better combat the diseases peculiar to the climate, medical officers have been studying tropical diseases, and recently several have been named to scientifically specialize on this subject. Their studies and the results will be followed most closely and possibly a special course may be offered to the junior medical officer when he comes to this island.

The question of transportation has already been touched on but much of the actual handling of the sick is done by the medical department alone and absolutely independent of the quartermaster's department. Two ships are under the orders and immediate control of the department, which are devoted wholly to the transportation of sick, or as actual hospitals. One has a capacity of 260 beds. It is easily seen what an important factor a hospital can be in relieving pain and

sels. The present ships, while almost perfect in equipment and of good size, are often unable to get near enough shore to enable the sick to be easily taken off.

The only railway in the islands, tapping a large area and running through the seat of the most active operations and through almost the only country not open to water communication, becomes early an important artery of transportation of men and supplies to where most of our troops were operating. A surgeon was



Saturday Inspection, Hospital Corps. Detachments of Hospital No. 3, Manila, P. I.



Quarters of Company of Instruction at Manila, P. I.

sickness, and also even the mobility of a column, by immediately removing its disabled and making unnecessary the detaching of troops to protect its sick and wounded. The hospital is moved to the wounded, instead of the wounded to the hospital. In an archipelago with numerous scattered ports and with independent expeditionary forces this is a matter of first importance. The conditions could be still further improved by the addition of several small light-draft ves-

kept on duty on the daily train and ambulances run in connection with the distributing hospitals to Manila. To facilitate the handling of the very sick, and make the trying trip more endurable, two cars were fitted up. Cots were placed in them, a closet added; a small ice-chest, medicines and cooking apparatus were carried. The trip from Manila to the end of the line is twenty-four hours in time, and the convenience and comfort to all concerned can scarcely be overestimated. Hos-

pital corps soldiers were on duty and a surgeon at hand, so all emergencies were ably met.

Among the most important and difficult of the problems met in the administrative work of the medical department are those of public vaccination. The American soldier has been vaccinated when recruited and usually also previous to this. On the long trip to the Philippines he is vaccinated again, if necessary, and frequently as a matter of precaution. When finally permanently garrisoned he is constantly under the eye of a medical officer who sees that all the men are protected against smallpox. The result is that even in a country where it is epidemic, the disease has been of little trouble or danger to the American. But to the native it is far different. The many pox-marked faces are among the first thing peculiar to the country that impress the traveler. Its ravages have been dreadful but, in spite of its being among the most frightful of diseases, the Filipino pays little attention to it. Ignorant of all prophylactic measures, except inoculation, the funerals are public, the cases are visited by friends, and the family remains living in the same hut. The fact that it has been epidemic and endemic since Europeans first visited the islands has probably rendered it less severe to the descendants of the survivors; many are protected by the disease

taken up more thoroughly and efficiently the work formerly neglected by the Spanish régime. Practically a house-to-house inspection was made. The streets and public places had already been cleaned or work begun on them by the sanitary department. But now old vaults, dirty yards, and unhealthy places generally were ordered cleaned and the order strictly enforced. A smallpox hospital was established and cases were removed there and treated in isolation while the places formerly occupied were disinfected and quarantined and the other occupants vaccinated.

The success of the medical department in combating the scourge of the East, the black or bubonic plague, reflects most brilliantly its ability and its courage. This dread disease has been prevalent in Manila for many months, but we have yet to hear of the first case outside the city limits. The comparatively small number developing speaks well for the means adopted by the department, all of which were the most modern that science offers. The use of the odorless excavator owes its introduction in Manila to the medical department. The inspection of the abattoir, of the markets and the foods for sale in them are the civic duties in which the medical department is engaged. But this work does not stop in Manila. It is only more extensively carried on



Hospital Steam Launch.

itself. The three districts of Northern Luzon may be taken as fairly indicative of the conditions prevailing elsewhere in the archipelago, except as to the number vaccinated. This is understood when we remember that only in the districts where peace prevails is it possible to vaccinate. Even here prejudice and ignorance have hindered the work, but this is true even of England and the United States.

To supply the vaccin necessary for this great work the chief surgeon has established farms in Manila, and one in the southern islands. The lymph is procured from the cariboo, the indigenous water buffalo. The results, where the vaccin matter can be obtained fresh, are highly satisfactory. With the manufacture of vaccin at base hospitals, the lymph will be preserved and can be sent to all districts occupied by our troops, and the natives, as well as our troops, be protected.

It was natural to expect, under military government, that the city of Manila, the headquarters of the army, would be taken care of by the military régime, but more than that was done. Not only was the city cleaned, sewers repaired, filth removed and improvements generally instituted, but the city health was directly looked after by the medical department. A board of health was established. American quarantine officers had already



Exterior from South End and Office, Regimental Hospital, Seventeenth U. S. I., Bautista, P. I.

there. The same system prevails throughout the provinces occupied by our troops. Every city, village or hamlet occupied by troops is kept in the same clean condition. None are too small. The streets must be clean and the natives must not litter up the yard. The house and person of the native is, to his credit, usually extremely clean, but he is indifferent as to what his surroundings are or whence comes his water-supply. These important things are being rapidly taught them. Typhoid is endemic in the islands and garrisons have to be most careful in the selection of a water-supply.

Leprosy, the care of those afflicted with it, and the prevention of its further inroads, are subjects now occupying the medical department. A commission is searching for an island on which to establish a leper colony. Probably introduced from China, it has spread until there are in Northern Luzon some 12,000 (estimated) natives and Chinese afflicted with this disease. So far, it has been unrestricted, though for the relief of some of the sufferers a Chinese hospital exists. The supplies of medicines and other necessities may now be furnished. The medical officer in the isolated southern part of the island must receive the same care and attention to his applications for nurses or supplies as the one in Manila. The man in the interior of some mountainous province

must have his supplies before the rains have made transportation impossible.

The position of chief administrative officer of this department calls for abilities equal to those necessary to the successful manager of a railroad system or a great industry. But it is not a question of profits that is the splendid reward, nor is it an independent personal fortune. The tremendous responsibilities are assumed for a modest salary.

This hurried recital of the work of the United States Medical Department in the Philippines will probably introduce to the practitioner at home duties he had never dreamed of as belonging to this corps.

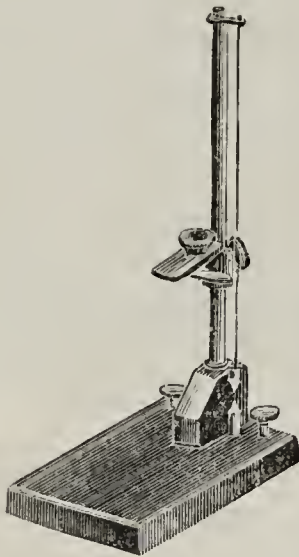
It would require a paper in itself to tell of the work the medical officer is doing among the natives of the islands in numerous little villages. The treatment of the sick, the government's generous distribution of medicines and food can not fail to elicit some feeling of gratitude, and moreover the sanitary measures will not fail to protect him and his family. The medical department will not be the least useful instrument employed in making Luzon a second Java.

A NORMAL ACOUMETER.*

E. AMBERG, M.D.

DETROIT, MICH.

If the eyes of a patient have been examined he may receive a certificate and go to any country with his ophthalmic passport. It is different with the ear.



Amberg's Acoumeter—One-fifth Natural Size.

The voices of different men vary, and instruments, which are precisely alike and can be used in precisely the same way by various examiners, do not exist. Even Politzer's acoumeter is not exempted, in my opinion.

After careful consideration of the merits of Politzer's instrument, I am convinced that the limit of exactness is not reached therein. In the first place it is too complicated to give a guarantee that all acoumeters can be constructed exactly alike, and there is a possibility that the same instrument produces different effects at different times, if differently handled by the examiners. For instance, the effects of elasticity are not entirely barred. Although the question may arise whether for our work those delicate discriminations should be considered, I am of the opinion that from a scientific point of view, if not from a practical one, we should have our instruments as exact as they can possibly be made.

Guided by a desire to have, at least for air conduction, an apparatus which excludes the possibilities of error as much as possible, I had one constructed, in Berlin, by Heele, maker of precision-instruments, which in

my mind excludes errors to a greater extent than Politzer's acoumeter does. The principle of this apparatus is an old one. A steel ball of a certain weight, in this case of one gram, falls through a certain distance on a metallic block. The weight can be made absolutely correct. The surface, as to constitution and direction, can also be made absolutely correct; as the manufacturer told me metal of the same character can be procured at any time.

A similar instrument is used, for instance in psychophysical laboratories, in order to test the depth of sleep. I mentioned this fact some time ago when referring to my instrument on another occasion.

The conditions for examination can be changed, either by placing the apparatus at various distances from the patient's ear, or by changing the height from which the steel ball has to fall. I should like to suggest that, in comparing records, either the plan be adopted to place the instrument one or two meters from the patient's ear and to record the height, or else that the instrument may be moved and the distance recorded when the steel ball falls a certain number of millimeters.

I believe that Jacques Loeb has had experiments made on the ear with the aid of a similar instrument. I became acquainted with this fact after my apparatus had been constructed. The value of my apparatus consists in the fact that the instruments can be made so that they do not differ one from another.

32 Miami Avenue.

AMBLYOPIA FOLLOWING THE INTOXICATING USE OF JAMAICA GINGER.

SUBSEQUENT RECOVERY OF VISION.*

EDWARD STIEREN, M.D.

PITTSBURG, PA.

A careful search through American ophthalmic literature reveals eight recorded cases of blindness following the ingestion of ginger. One case is reported by Archibald G. Thompson,¹ of Philadelphia. Asst.-Surgeon J. B. Greene reports² a case which appears to be one of the six carefully reported cases of Hiram Woods,³ of Baltimore.

The history of my case is as follows:

N. C. R., aged 36, contractor and builder, was first seen Sunday evening, Oct. 15, 1899, and appeared totally blind, requiring the services of a friend to lead him about.

He had been drinking heavily on Saturday and, on sobering up Sunday morning in a "dry" community where no liquor of any kind could be obtained, purchased from a storekeeper a box of a dozen bottles of Jamaica ginger, each containing about an ounce. The entire dozen were consumed before noon, the first four bottles diluted with water, the remaining eight undiluted. About noon he dropped into a drunken stupor, and awoke about 3 p. m. totally blind, but with no other untoward symptoms, except a consuming thirst. His alarmed cries brought friends to his assistance; they brought him to me about 6 p. m.

Examination revealed the following conditions: Pupils widely dilated, and unaffected by light or accommodation; conjunctiva slightly injected; media clear:

* Presented to the Section on Ophthalmology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

1. Ophthalmic Record, November, 1897.

2. Annual Report of the Supervising Surgeon-General of the U. S. Marine-Hospital Service, 1898.

3. Ophthalmic Record, February, 1899.

* Demonstrated before the Detroit Medical Society, Nov. 7, 1900.

no change whatever in disc or vessels, and beyond a slight blurring of edge of disc due to slight retinal edema, fundus of each eye was normal. Vision was almost nil; he could see hand moved at twelve inches. Cornea was almost totally insensitive to touch with camel-hair pencil.

Treatment consisted in immediate confinement to bed in a darkened room. Three hot foot-baths were given during the night, and 20 grs. each of calomel and compound jalap powder in divided doses. He received $\frac{1}{8}$ gr. pilocarpin muriate hypodermically twice during the night.

This treatment caused active diaphoresis and catharsis, and at 9 o'clock the next morning patient was able to count fingers with each eye at ten inches.

The pilocarpin was continued, $\frac{1}{8}$ gr. hypodermically at intervals of six hours, and calomel in 1 gr. doses every two hours for the next two days, when the pilocarpin was discontinued and 20 gr. doses of potassium iodid supplanted the calomel, slight tenderness of the gums occurring.

Patient's vision continued to improve, and on the fifth day he was allowed to come to my office; vision in each eye was 20/30. At no time was there any change in the ophthalmoscopic picture. His field of vision could not be obtained when first seen, but in the second office-visit, the fifth day after his indiscretion, no scotoma nor narrowing of the field could be demonstrated. Pupils reacted strongly to light and accommodation. He could read J. No. 1 with an effort, and read No. 4 readily. He has 1 D. hypermetropia with which, corrected, vision in each eye = 20/20.

I have seen this patient from time to time since his acute attack of blindness and, having been thoroughly frightened, he has totally abstained from alcoholic stimulants. His ocular condition remains the same as above noted. I saw him last, March 27, and obtained from him a negative history in regard to syphilis. He uses tobacco in moderation, and before his sudden attack of blindness, was a periodic alcoholic, going on a spree about once every six weeks and which usually lasted three to four days.

I believe, with Thompson and Woods, that the lesion in these cases is an acute retrobulbar neuritis, and that it is of a toxic nature.

The sudden onset in an individual who had practiced alcoholic indiscretions periodically for a number of years without any evil effects to his eyes, and who then becomes suddenly blind after drinking an enormous quantity of an irritating essence containing volatile oils, resins, and a questionable form of alcohol, inclines me to believe in the toxic factor in producing the neuritis. This belief is further strengthened when prompt eliminative measures are followed by improvement and cure.

THE DOUCHE IN THE TREATMENT OF OPHTHALMIA NEONATORUM.*

E. E. HOLT, M.D.

PORTLAND, ME.

On May 22, 1899, Dr. Fuller, of Bath, sent me an infant suffering from ophthalmia neonatorum. Dr. Fuller had been called in consultation to see the baby in Richmond and found it in such a critical condition that he advised having it taken to me at once. The baby was between two and three weeks old, and the disease had

developed into a critical condition. There was a profuse purulent discharge issuing from both eyes, and so much chemosis and swelling of the lids that it was difficult to make a satisfactory inspection of the cornea of either eye; it was finally determined that the cornea was involved and about to break down in each eye.

The mother was making a supreme effort to save the sight of the child, having recently left her bed to make the journey to Portland. She was delicate, exceedingly nervous, but intelligent and anxious to do anything to save some sight for the child. As she was nursing the child I assured her that it was absolutely essential for her to compose herself in order to give her baby the best chance for recovery. This she did in a heroic manner; cow's milk was given in addition to that of the mother's. On carefully considering the case it did not seem to me that continuing the ordinary methods of treating eyes in such cases would preserve much sight for the child; but it occurred to me that if the eyes could be thoroughly douched and all the secretions from the conjunctiva kept constantly washed away there would be some chance of saving sight. Acting on this suggestion I took a Davidson syringe, and with the No. 1 point I pressed it between the lids at the outer canthus and threw a stream of tepid water containing about 1 per cent. of boric acid until I had used a quart or more for each eye. The point of the syringe was always directed away from the eyeball and was gradually worked along the whole length of the retrotarsal fold so that the conjunctival sac was thoroughly washed out. The douching of the eye was repeated every half hour, night and day, for the first twenty-four hours; then less frequently and at the end of the fifth day the baby was opening its eyes and looking about the room. This was certainly a revelation to me and the nurses who were familiar with the usual methods of treatment, and had witnessed the rapid change.

The cornea cleared, recovery was complete and the mother went home with all the happiness that could come from such a rapid and unexpected result.

The same method of douching has been carried out on other cases in about the same critical condition with the same happy result.

In the first case cited a 2 per cent. solution of nitrate of silver was used from the first and the eyes were cleansed by irrigations, pipettes and absorbent cotton. When the child came under my care the 2 per cent. solution of nitrate of silver was continued daily, care being taken that it did not reach the cornea; cold packs were applied to the lids between the intervals of douching, and the nourishment of the child was given all the attention possible.

All authorities are agreed that cleanliness is of the highest importance, but I fail to find any mention of the douche to accomplish this result. The douching may be carried out by the use of the fountain syringe, but I prefer the syringe like that known as the Davidson where the force of the stream can be increased or diminished at will. For the purpose of accomplishing the douching, especially at the beginning of the practice, I have had the Davidson Rubber Company make me a hook-like point which has several openings at its end that may be attached to the syringe and used instead of the No. 1 point that comes with the syringe.

I believe that the douche properly carried out will be as efficient to check the disastrous course of those cases of purulent conjunctivitis which have arrived at the critical condition here described as Cr  d  's method is in preventing them from reaching this critical condition.

*Presented to the Section on Ophthalmology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

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THE PAST AND THE FUTURE.

With this issue we begin a new year and a new century. That just closed has been without parallel in the world's history in its material and scientific advances, and our science and our profession have not been the least sharers in the progress. The surgery of the beginning of the 19th century, as a distinguished authority has said, was nearer to that of the times of Hippocrates than to that of the present day, and the same is little less true of medicine in general and its related sciences, though the fact may not be so immediately apparent. In no corresponding period of the world's history as we know it, have there been so many epoch-making discoveries and so marked a general advance.

The medicine of 1800 was hardly less antiquated than its surgery, when compared with that of the present day, and this difference is not a matter of fashion or convention, but a scientific advance that stands the tests of time and experience. The marked prolongation of human life at the present time, over that of the 18th century or the beginning of the 19th, is of itself ample proof of the advance of medical science to which the science of hygiene owes its growth.

There is still another side to the shield, however; with all the progress of the past and present, there are still the old problems of death and disease to be met by our profession and some that are brought before us by the special conditions of our modern civilization. The world has, in a sense of the term, grown smaller and to the diseases of civilization through the increased and universal facilities of intercourse, we have to meet those of barbarism also. At the present time we are in the presence of a pandemic of plague, which has already invaded regions where it possibly was never known before, and we do not yet know what the outcome may be, though we do not fear a repetition of the wholesale epidemics of the past. There is occurring, apparently, a reemergence of leprosy that threatens civilization, and it is to be expected that other disorders may extend their range and call for our serious attention if they do not materially affect our mortality rates.

What will be the problems and achievements of the coming century no man can prophesy and it would be rash to assume that equal progress will or will not be made. There are some who apparently believe that we shall solve all the mysteries of life, but they may be very much disappointed. What may be reasonably hoped

for is a continuation of progress along the lines already opened, a greater perfection in technique, diagnosis and treatment, a widening of our pathologic knowledge, increasing acquaintance with the natural processes and remedies for disease, a better prophylaxis, and more than for anything else we should strive for a broader and deeper culture in our profession that will enable it not only to accumulate facts and originate theories, but to properly estimate them and utilize them.

That medicine starts in on the new round of years, greatly in advance of the position it occupied 100 years ago, is unquestioned. It has kept well abreast with the progress achieved in other fields of human endeavor. While marked by less productiveness and originality than in older countries yet American medicine during the nineteenth century has passed through a remarkable development fairly commensurate with the marvelous material progress of this country. During the nineteenth century things were achieved in medicine that were unknown and undreamt 100 years ago. But there are abundant unsolved problems left for the twentieth century to solve, and in the light of the achievements of the century just ended it is permissible to predict that great revelations are in store. During the coming years the productive activity now apparent in American medicine is bound to increase. The opportunities for investigation were never quite as promising as now. A new spirit—the university spirit—is beginning to make itself felt and to direct developments in medical education, and a corresponding elevation of standards in all lines of work is already apparent.

While assured that American medicine in the twentieth century will take an active part in the advancement of medical sciences, the sociologic relations of medicine in this country offer problems of great importance. There is need above all things for a greater public faith in the teachings and the advice of the medical profession in matters relating to hygiene and to the prevention of disease. Hygiene should dictate to legislators and courts of law and not economic interests alone. "Unfortunately on the human race there still weighs that fate by which both preventable diseases and premature deaths, as well as duration of life itself, essentially depend on economic institutions." There is hope that the twentieth century may witness great improvements as knowledge is disseminated and the mass of the people learn to place confidence in medical teaching.

The medical college in the coming century will have to give more attention to the quality than the quantity of its output, if present signs are not misleading. Human nature will not change; there will still be deceivers and their followers, but this will only accentuate the demand for higher qualifications in our profession. The future of science is not in doubt; the world will not stop in its progress nor lose what it has gained, but the future of the medical profession is in its own hands and can only be assured by its living up to its higher ideals.

THE IMPORTANCE OF EARLY DIAGNOSIS IN CARCINOMA OF THE UTERUS.

The section on gynecology of the Thirteenth International Congress of Medicine, held at Paris last August, passed a resolution to the effect that while the question of the method of operations, vaginal or abdominal, in hysterectomy is still subject to discussion, the curability by surgical means of carcinoma of the uterus is affirmed. This resolution was presented at the conclusion of an exhaustive presentation and discussion of the subject of carcinoma of the uterus by such men as Ott, Cullen, Richelot, Jonnesco, Morisani, Delagenière, Fritsch, Bouilly, Faure, Jesset, Leguen and many others.

This statement of the curability of cancer was based on the fact that of the many hundred cases operated on, and presented, about 10 per cent. on an average had passed the three-year limit without recurrence and could thus be classed as permanently cured. The immediate mortality of hysterectomy has been reduced to 5 per cent. or less. Excluding the small number who die from intercurrent diseases before three years without recurrence, there remain the appalling number, about 80 per cent., who die from recurrence and with very few exceptions recurrence *in loco*, which indicates that the disease had already advanced too far at the time of operation. Could a more forcible argument in favor of an early diagnosis and operation in carcinoma of the uterus be presented?

The responsibility of the early recognition of these cases rests especially on the general practitioner, as it is to him that the large majority of them at first appeal. Often when they reach the operator they have had symptoms of their trouble for several months, or even years. Many of these cases are not recognized earlier, because the average practitioner's ideas of carcinoma of the uterus are not based on the early symptoms, but on the terminal stage of the disease. He too often waits for a foul-smelling, bloody discharge; for pain, suffering, emaciation and cachexia; for the appearance of a large tumor; for the uterus to become fixed by invasion of surrounding parts; for the history of "cancer in the family," etc.; and in the meantime the patient is lulled into a state of false security by the statement that she has a simple "ulcer of the womb," or is having "change of life," etc. Heredity should be given no weight in the diagnosis of carcinoma of the uterus, for in over 80 per cent. of the cases reported¹ there was no history of cancer in the family. Carcinoma may extend beyond the stage of successful operation without pain, emaciation or cachexia, and the discharge may not become offensive until late in the disease. When the uterus is fixed by the invasion of surrounding parts the case is already inoperable.

Every woman, the subject of menstrual disturbances or irregularities, should be subjected to a proper careful examination. The presence in the cervix of hard nod-

ules, of infiltration or of ulceration; or the appearance in a woman past the menopause, of a discharge, even though it be but watery, should excite at once a suspicion of malignancy, and proper steps should be taken without delay to establish a correct diagnosis by microscopic examination of the uterine scrapings or of a section of the cervix, as the case may be.

The general practitioner should realize his responsibility in these cases. Not only is an early diagnosis necessary, but an early operation as well. An operation must be considered not the last, but the first resort. Women should be taught the necessity of an examination when any of the many symptoms of carcinoma appear.

A NEW METHOD OF TREATING PULMONARY TUBERCULOSIS.

Probably no disease has had as many remedies recommended for its treatment as pulmonary tuberculosis, but we are as yet without one of which it can be said that it exerts a directly curative effect. Of antiseptics capable of inhibiting the tubercle bacillus there is none that will not equally injure the tissues of the body. Nevertheless, the last decade has witnessed a noteworthy diminution in the morbidity and the mortality of tuberculosis as a result of advances in hygienic and prophylactic methods generally and of improved methods of treatment, based on more enlightened etiologic conceptions. It is agreed that recovery does take place from pulmonary tuberculosis, at times spontaneously, at other times in conjunction with adventitious aid, and the object of treatment should be the stimulation and the fortification of the natural processes of resistance and antagonism to the tubercle bacillus and its products. The most valuable means at our command for these purposes consist essentially in improvement of the general nutrition through air and food and a proper adjustment of rest and exercise.

In the Harveian Lectures of the current year, Dr. Robert Maguire discusses the prognosis and treatment of pulmonary tuberculosis and relates some interesting clinical and experimental observations of a therapeutic nature. He satisfied himself that neither by subcutaneous injection, by administration by the mouth, nor by direct injection into the lungs was any effect produced on the tubercle bacillus or its congeners, the staphylococcus pyogenes and the pneumococcus. It suggested itself to him that the lungs could be reached most directly through the venous system, but he found mercuric cyanid and potassium iodid, for instance, too dangerous to be used on human beings. Diastase in solution, cytase and nucleinic acid had too little effect to justify their employment, and besides they caused marked febrile reaction. Finally, formaldehyd, which has been shown to be capable of a destructive effect on tubercle bacilli, was employed in normal salt-solution in a strength of 1 in 2000, of which 50 c.c. were injected into the veins by means of a special apparatus, and the results claimed seems to be encouraging. In all of fifty cases of advanced pulmonary tuberculosis, improvement was noted

¹ Cullen: *Cancer of the Uterus*, 1900, p. 651.

in the clinical signs, with diminution in the amount of expectoration and disappearance of tubercle bacilli from the sputum.

We have no wish to be pessimistic, but a rather disappointing experience has taught us not to expect too much from any method of treatment for pulmonary tuberculosis that has not been on trial for years and has sustained its early reputation. Too often have we read reports almost identical with those cited, but time has merely proved the fallacy of generalizing upon insufficient experience. Besides, we doubt if the intravenous method of treatment will ever become a popular or even generally commendable one, as it offers numerous opportunities for grave accidents. We are hopeful that a specific for tuberculosis will yet be discovered, and we believe that it will be of biologic origin, but it must be borne in mind that the infection in cases of pulmonary tuberculosis often becomes early a mixed one and we may then have to do with serious complications. The treatment, therefore, will always have to be general and be directed both to the constitutional state as well as to the local lesion.

DISEASES FROM VEGETABLES.

Some time ago *THE JOURNAL*¹ noticed editorially an epidemic of typhoid in an eastern institution that was traced to eating raw celery, and incidentally pointed out the possible dangers of eating uncooked garden vegetables. Quite recently a series of observations have been made by Professor Gualdi, of the Bureau of Hygiene, at Rome, on the relations existing between the occurrence of typhoid and the consumption of raw vegetables. As reported in the Rome correspondence of *The Lancet*,² he finds a close connection between the two, the seasonal curve of typhoid corresponding very closely to that of the quantity of such vegetables sold in different months of the year. Neither the water-supply nor milk contamination are able to satisfactorily explain the facts that can be accounted for in this way.

At Padua a careful and extended microscopic and bacteriologic study of garden vegetables has also been carried out by Professor Ceresole which clearly demonstrates their importance as typhoid-producers. After first thoroughly washing them with the excellent local aqueduct water, the vegetables—lettuce, endives, radishes, fennel and celery—to put them in the condition in which they are usually eaten, they were cut up fine with sterilized scissors and placed in a flask of distilled and sterilized water. After a thorough shaking the water was examined microscopically and bacteriologically. The microscopic examination revealed, besides a host of innocuous forms, *ameba coli*, *balantidium coli*, *isotrica prostoma* and *anguillula stercoralis*, together with eggs of *tenia*, *oxyuris*, *ascaris*, *trichocephalus* and *ankylostoma*. The bacteriologic examination revealed such a host of species that identification of every one was impracticable, but among them were found *bacillus*

coli, *septicus*, *tetani*, and a form indistinguishable from *B. typhosus*. Six animals inoculated with washings, after they had been some minutes heated, all died, five from malignant edema and one from tetanus. Four animals were inoculated with washings not heated, one died with malignant edema, one with tetanus and the other two had locally at the point of inoculation large abscesses from which pure cultures of *streptococcus* and *staphylococcus* were obtained.

If vegetables elsewhere are at all comparable, as regards their pathogenic associations, with those of Italy, vegetarianism ought to be at a discount and most of us would do well to make our wills. It is probable that germs enough abound and that we occasionally suffer from their activity; certainly there is good reason to be cautious in eating uncooked vegetables. The fact that ordinary washing is not sufficient to destroy or remove them, as is indicated by Professor Ceresole's experiments, is important, as is also the fact that he states that a half-hour's soaking in a 3 per cent. solution of tartaric acid—about one ounce to the quart of water—is an efficient disinfectant. The danger is one worthy of investigation and while it is not so imminent as it might appear, since most of us must have acquired a certain degree of immunity, yet the products of the truck gardens in the vicinity of large towns, particularly in continental Europe, are not above suspicion of contamination of a possibly dangerous type. It would be well for those investigating obscure causes of epidemics of typhoid to bear in mind this possible causation.

MOB LAW IN COLORADO.

The Denver *Medical Times* for December contains as its editorial leader a lucubration which, though its title is "Mob Law in Colorado," in tone is distinctly apologetic for the recent atrocious lynching where a negro was burned at the stake. If the lack of provision for capital punishment in Colorado's laws involves the alternative of such occurrences, the sooner hanging is reinstated the better; there ought to be no lack of executioners since so large a portion of the community are willing to volunteer not merely as hangmen, but as torturers. The proceeding was a disgrace to the age and to the state, and while we can recognize the possibility of a temporary delirium affecting the community, its late condonation has not even this excuse.

EDITORIAL CHANGE IN THE PHILADELPHIA MEDICAL JOURNAL.

Dr. George M. Gould has retired from the editorship of the *Philadelphia Medical Journal*, Drs. John Hendrie Lloyd and Julius L. Salinger assuming charge of the editorial management. This announcement will be a surprise to most of our readers, as it was supposed that Dr. Gould was inseparably connected with that journal. We doubt, however, if he will stay out of medical journalism long, as it is a work he loves and for which he is well fitted. He has always stood for high ideals in medicine and medical journalism and his continued absence from the editorial ranks would

¹ Vol. xxxiv, p. 240. ² November 24, p. 1540.

be a loss. While it is reported that the *Philadelphia Medical Journal* has sunk a large amount of money in the three years of its existence, this does not reflect on the editorial management, but rather on the lack of business sagacity of those who put money into it. It does not require much of a mathematician to figure up the cost of paper, press-work, typesetting and postage; there need be no guess work about this. And when to these figures are added the other expenses connected with such an enterprise, which can be fairly well estimated, it ought to have been known that at the price charged a loss must result. If such a losing enterprise affected only those who backed it financially, it would be a serious matter to them alone, but in this instance it has a demoralizing effect on legitimate medical journalism.

THERAPEUTIC NIHILISM.

Optimism, not pessimism, is needed in medicine; not, however, the optimism that takes up each new fad to the exclusion of old and tried measures, but the kind that begets hopefulness and confidence. There is a tendency, among a few, to therapeutic nihilism that is to be regretted. He who has watched a huge cardiac edema subside under the intelligent administration of digitalis, or who has seen an angry tertiary syphilid fade away under full doses of potassium iodid, or, above all, who has seen the threatening false membrane of diphtheria shrivel and fall after the use of antitoxin can never honestly express a disbelief in the benefits of modern therapeutics. Those who are yet opposing the use of antitoxin argue chiefly from *a priori* reasoning. The men who are treating diphtheria with antitoxin and who are old enough to compare their own results under the old means with those since they began to employ the new, have another tale to tell. The therapeutic nihilist has no place in modern medicine; now the science of therapeutics is becoming thoroughly rational. Profession of disbelief in measures for aiding in healing of disease is a confession of personal failure in practice. The fault is in the man, and not in the method. Many diseases yet baffle us, and many of our agents are not yet perfect, but the spirit that will lead to a better state of affairs is only that of hopefulness and of belief in the capacity of medical science to grow until more and more diseases are conquered.

THE TOXIC EFFECTS OF FORMALDEHYDE (FORMALIN).

The general use made of formaldehyde—especially in the form of the commercial 40 per cent. solution in water, known as formalin—as a disinfectant, as an embalming fluid by undertakers, and in histologic laboratories makes the experimental study of its toxic effects desirable. In a preliminary communication, Martin Fischer¹ shows that the inhalation of formaldehyde produces a marked inflammation of the respiratory tract. Injections into the stomach produce a variety of symptoms, and even sudden death; apparently the intensity of the symptoms and the degree of histologic disturbances bear no direct relation to strength or quantity of formalin introduced. Intense congestion, extensive

necrosis and inflammatory reaction occur. Intraperitoneal injections produce a fibrino-hemorrhagic peritonitis of varying intensity, according to the strength of the solution. Subcutaneously injected, formalin produces a marked exudation and leucocytic infiltration. The eye is especially sensitive to the action of formalin. A single drop of concentrated formalin may injure the eye permanently, due largely to an intense edema of the eye-lids, which are prevented from closing. Various degenerative changes and focal necrosis are seen in the liver and the kidneys, no matter where formalin is introduced into the body. The leucocytic infiltration after the introduction of formalin is characterized by the eosinophiles appearing the first, followed by other polymorphonuclear forms, the small mononuclears appearing last. Fischer believes that osmotic disturbances are to be held accountable for the exudation and the cellular necrosis. Deleterious chemical action causes the changes seen in organs distant from the point of injection. A substance as active as formaldehyde, and in so general use, is of much toxicologic importance and, judging from Fischer's experiments, it certainly behooves all that employ this substance to exercise the greatest care, lest serious accidents happen.

LAY MANAGEMENT OF MEDICAL INSTITUTIONS.

It is a common practice of politicians, and sometimes also of lay professional philanthropists and others, to charge physicians with a lack of business or so-called executive ability and to therefore insist upon lay management of medical institutions. It is very exceptionally the case that facts justify this assumption, while a very large number of cases can be cited where lay management is unbusinesslike and even disastrous. The needs of a medical establishment, and especially of a hospital, can only be fully appreciated by a medically-educated man, and it often happens that while finances may be economically administered, the real purpose of the charity is to a greater or less extent frustrated by the ignorance or obstinacy of its lay administrators. Even this judicious management of funds is not the universal rule and the worst financial scandals occur under just such conditions. The *Medical Press and Circular* editorially mentions an instance of fatuous financing of a public charity by lay managers that strikingly illustrates this point. The oldest and best known ophthalmologic hospital in Great Britain, until recently, occupied freehold premises of immense and increasing value. On the plea that they were inadequate the committee sold the premises, transferring the hospital to grounds involving a yearly rental of thousands of dollars and heavy taxes. Then they sank the amount derived from the sale of their old site in their new building and deprived the hospital of apparently its only permanent asset. It is said, moreover, that the charities commissioners will require that the value of the site be made up within a definite period, thus making an additional charge upon the hospital. Altogether it appears to be about as bad a piece of financing a trust as can well be imagined; but it is not without its counterparts. Medical administrators may have their faults, but they could hardly be worse than their lay confrères: they have, moreover, what the others lack, a professional

1. Journ. Boston Soc. of Med. Sc., 1900, v, 18-22.

interest in their charge and we believe also, as a rule, a feeling of professional honor, which is a better insurance of honest administration than much of the average business principles extant. It may be that sometimes these latter, as our English contemporary strongly hints, are not used to the best advantage of medical trusts confided to the care of business men.

PROFESSIONAL APATHY.

The *Practitioner* editorially bemoans the apathy of the majority of the members of the medical profession. As an illustration it cites the annual meeting of the Fellows and Members of the Royal College of Surgeons, of England, at which only ten of the 1300 Fellows and less than three-score of the 17,500 Members thought it worth while to attend. The meeting is characterized as representing nothing "but the total indifference of the body corporate to the affairs of the College." As a remedy it recommended, and wisely too, that the members be given a share in the management of the College, which it seems that they do not have now. By so doing it is hoped that the members may be roused from the apathy that now delays and hinders the removal of grievances and disabilities of the medical profession in England. This goes to illustrate that in this case, as in so many others with which we are more directly familiar, it is largely the fault of the physicians themselves that the "well-being of the medical commonweal" is allowed to suffer neglect. How many a time throughout our various states has not a worthy cause of vital interest to the medical profession been ruined by careless advocacy? Whenever the medical profession joins its efforts in a movement concerning the earnestness of which there is no doubt it is quite sure to carry its point. As indicated by the *Practitioner*, in commenting on some remarks in *THE JOURNAL* for November 3, on "Medical Men in Politics," "is it not mainly the fault of the doctors themselves that they are so poorly represented in the legislative councils?"

THE BACTERIOLOGY OF YELLOW FEVER.

Walter Reed and James Carroll have made a comparative study of the biological characters and pathogenic actions of bacillus X of Sternberg, bacillus icteroides of Sanarelli, and the hog cholera bacillus.¹ The results will be of much interest to those who have followed the controversy in regard to the etiology of yellow fever, which has been going on for some time between these authors and Sanarelli. Reed and Carroll conclude that Sternberg's bacillus X belongs to the colon group, and that Sanarelli's bacillus icteroides, proclaimed by its discoverer to be a cause of yellow fever, is a member of the hog-cholera group, because the various channels of infection, the duration of the disease and the gross and microscopic lesions in mice, guinea-pigs and rabbits are the same for B. icteroides and the hog-cholera bacillus. Comparison of the cultural characteristics also indicate that bacillus icteroides should be put among the hog-cholera group of bacteria. The hog-cholera bacillus of Salmon and Smith and bacillus icteroides produce the same clinical symptoms and anatomical lesions by intravenous injections in dogs. Bacillus icteroides, when

fed to domestic pigs, causes fatal infection with diphtheritic, necrotic and ulcerative lesions in the digestive tract, such as are seen in hog-cholera. Guinea-pigs may be immunized with sterile cultures of bacillus icteroides from a fatal dose of the hog-cholera bacillus and vice versa; and rabbits may be immunized from a fatal dose of the hog-cholera bacillus by increasing doses of living cultures of bacillus icteroides. Serums of animals immunized with bacillus icteroides and with the hog-cholera bacillus, respectively, show a marked reciprocal agglutinative reaction. The blood of yellow fever practically does not exercise an agglutinative reaction upon bacillus icteroides, while the blood of hog-cholera agglutinates this bacillus in a much more marked degree. Add to this the fact that bacillus icteroides may be absent from the blood of yellow-fever patients during life and from the blood and the organs after death, and it seems quite evident that bacillus icteroides can not be regarded as bearing any closer relationship to yellow fever than that of an occasional secondary invader. The essential outcome of the matter is that the etiology of yellow fever is still an unsolved problem.

POLYMYOSITIS.

Although inflammation of muscle is not a rare complication of other diseases, it is exceedingly uncommon as a primary and independent affection. It is likely that the muscular involvement of acute rheumatism is inflammatory in character, and it may be that a part of what we are accustomed to designate subacute or muscular rheumatism and some forms of myalgia are also of like nature. It seems, further, not impossible that some cases diagnosed neuritis are complicated by, if not primarily a condition of, myositis. Some difference of opinion prevails as to whether the several varieties of primary muscle-inflammation are identical in character, though differing in degree—dependent upon the same cause, and the symptomatology varying with the virulence and the volume of the infecting agency on the one hand and the susceptibility of the individual attack on the other hand—or, whether the etiology is diverse and multiple. A clinical and pathological distinction can be made between purulent and non-purulent myositis; and of the latter, three varieties can be recognized, namely, dermatomyositis, hemorrhagic polymyositis, and polymyositis associated with multiform erythema. To the small number of cases of acute hemorrhagic polymyositis on record Struppler¹ adds the report of another, occurring in a laborer, 33 years old, and terminating fatally from edema of the larynx in the course of six days. The onset was sudden, without prodromes, and the clinical manifestations included articular pain, moderate elevation of temperature, profuse sweating, increased pulse-frequency, cutaneous hemorrhage, tumefaction and infiltration of various muscles of the upper and lower extremities, with slight superadjacent doughy edema, glossitis, angina, edema of the larynx and fibrinous pleurisy. Post-mortem examination disclosed polymyositis of the supinators and extensors of both arms, with hemorrhagic extravasations in the muscles and the skin and in the palatopharyngeal arch, the peritracheal tissues and the lungs. The heart was not involved. The spleen was

¹ Jour. Exp. Med., 1900, v, 215-270.

¹ Deutsches Archiv f. Klin. Med., Bd. lxxviii, H. 5 u. 6., p. 407.

slightly enlarged. Struppler reports also a case of recurrent acute rheumatic polymyositis associated with multi-form erythema, occurring in a painter, 24 years old, with involvement of the frontal muscles and the left temporal muscle, which suddenly became the seat of a tender edematous swelling, in addition to the gastrocnemii and the right peroneus brevis.

Medical News.

CALIFORNIA.

DR. JOHN FIFE, Red Bluff, has been appointed physician of Tehama County at a salary of \$80 per month.

THE POSITION of health officer of Humboldt county was abolished by the supervisors, December 12. What the county will do after January 1 without a health officer is a matter of conjecture and even the supervisors who abolished the office are ignorant as to the outcome of their order.

THE CALIFORNIA HOSPITAL, Los Angeles, at the annual meeting of its stockholders, December 18, elected Dr. Fred T. Bicknell, president; Dr. Everett R. Smith, vice-president; Dr. Walter Lindley, secretary and manager, and Dr. William W. Hitchcock, treasurer. During the two years and four months since the hospital was opened, 2325 patients have been treated, and the capacity of the institution has been nearly doubled in the last year, by the construction of an annex.

THERE IS TROUBLE in San Francisco because the Pacific Coast Regular College of Medicine, a night medical school, incorporated in May, 1900, proposes to graduate seven students this month. It is claimed that 2 of the 7 would-be graduates have no certificates showing that they have taken the requisite courses of study and passed the required examination. There is nothing in the law of California to prevent any enterprising person from incorporating himself and a few of his friends as a medical college and thereafter issuing degrees after compliance by the graduates with such requirements as may seem to suit him best. Dr. Dudley Tait, of the State Board of Examiners, says he will oppose the granting of licenses to the graduates of this school.

PLAGUE REPORT.

The case of a man residing at 844 Washington street, with suspicious symptoms of plague, was reported to the health office on December 6. Dr. Kellogg, the city bacteriologist, saw the man at 4.30 p. m. of that day with Drs. Morrissey and Pratt. They found a Chinaman, named Lee Ho, in a comatose condition, pulse 146 and very weak. The temperature was not taken, but the man's body was very warm to the touch, while the extremities were cool and cyanotic. There were no petechiæ in the skin. There was a very large and tender bubo in the left femoral region. Blood would not flow from the ear, but the bloody fluid secured by aspiration of the bubo showed numerous plague bacilli. The people in the house could give no intelligent account of his illness, but said he had been sick only six days. The patient died the next morning at 10 a. m. and Dr. Kellogg performed an autopsy on the afternoon of the same day, Drs. Rykfogel, Kinyoun, Wilson, Morton, and Brown being present. The subject was a well-developed, well-nourished medium-sized male. The heart and lungs were normal, the right lung being bound down by extensive adhesions. There was about 15 c.c. of blood-tinged serum in the pericardium, and about 60 c.c. in each pleura. The liver was fatty. The spleen was about twice its normal size, dark red and soft, a cut section showing whitish specks scattered over its surface. The kidneys were normal in size, dark in color, and considerable fluid blood exuded from their cut surfaces. Their capsules stripped easily. The mesenteric glands were slightly enlarged. The small intestines contained a few submucous hemorrhages. The diagnosis in the case of Lee Ho has been fully confirmed by inoculating animals with a pure culture obtained from his blood the day before he died. The guinea-pig died in three days with typical plague lesion, and the organism was obtained in pure culture from its spleen.

COLORADO.

DR. WILLIAM L. KELLER, acting post-surgeon at Fort Logan, Denver, has been assigned to duty in the Philippines. He has been succeeded by Dr. Louis Brechemin.

DR. MARY KAVENY, Denver, who recently brought suit against Dr. Clayton Parkhill, for \$10,000 damages, because of an alleged shortening of one quarter of an inch in a leg treated

by him, has refused to allow X-ray photographs to be taken of the leg, and in consequence the suit will probably be dropped.

THE SECRETARY of the State Board of Health states that there are 50 cases of smallpox in El Paso county, 16 in the Cripple Creek district, 25 in Pueblo, 20 in Denver and 10 in Clear Creek county. There are also scattering cases in nearly all the mining camps. Extra precautions are being taken by the local health boards.

CONNECTICUT.

TWO NEW HAVEN PHYSICIANS, Percy D. Littlejohn and Alfred G. Nadler, have offered their services as medical examiners in the public schools, free of charge.

THE COMMISSION appointed by the National Association for the Study of Epilepsy, to collect statistics relative to the malady and to assist in a movement to establish a state asylum for epileptics, consists of Drs. Frank K. Hallock, Bridgeport; Max Mailhouse, New Haven, and Edwin A. Down, Hartford.

THE GENERAL HOSPITAL SOCIETY of Connecticut has agreed to allow Yale University to erect a clinic building for its medical school, on the hospital grounds in New Haven. The building will cost \$3500 and is to be used by professors and instructors of the medical school. The university will pay a small rent for the current expenses of the building.

THE HARTFORD HOSPITAL held its annual meeting December 19 and announced the following changes in its staff: Dr. Frederick T. Simpson becomes consulting physician and surgeon; Dr. Everett J. McKnight succeeds the late Dr. Melancthon Storrs as visiting surgeon, and Dr. Walter R. Steiner is appointed pathologist and bacteriologist in place of Dr. John B. McCook, who is made assistant surgeon.

DELAWARE.

SURGEON HIRAM W. AUSTIN, U. S. M.-H. S., has been appointed medical officer in charge of the national quarantine service on the Delaware river and bays, which includes the quarantines at the Delaware Breakwater and Reedy Island.

THE MEDICAL EXAMINING BOARD, representing the president and fellows of the Medical Society of Delaware, met at Dover, December 11, 12 and 13, to examine candidates for licenses to practice medicine and surgery in the state. Seven candidates appeared.

THE RESULT of the execution of the law regulating the practice of medicine and surgery in the state is shown in the report of the medical examining boards for the year. Of regular medical colleges, 61 graduates applied; of homeopathic colleges, 13. The failures to pass occurred in the cases of 14 regulars and 1 homeopath.

ILLINOIS.

THE MAYOR of Moline has appointed W. A. MacBeth, a civilian, as a director of the hospital board to succeed Dr. A. H. Arp.

C. A. LUNDGREN, a magnetic healer, of Moline, was fined \$100 and costs on December 21, for practicing medicine without a license. He was committed to jail on his refusal to pay his fine.

EVANSTON HOSPITAL is to be improved by the erection of the new Herman D. Cable memorial building, a three-story isolation, a boiler-house and numerous improvements to the present buildings, at an expense of nearly \$50,000.

Chicago.

THE ISOLATION HOSPITAL received two smallpox patients on December 29, neither of whom had been vaccinated.

THE EXECUTORS of the will of the late George M. Pullman have paid Mary Thompson Hospital \$10,000; St. Luke's Hospital \$20,000, and Presbyterian Hospital, \$10,000.

ST. LUKE'S HOSPITAL and two of its attending staff have been sued for \$5000 damages because a boy treated at the institution and in the service of the two gentlemen, died of tetanus twelve days after a gunshot wound of the hand.

FOR THE WEEK ended December 22, the mortality of the city was at an annual rate of 14.73 per 1000. An unusual proportion of the 480 deaths occurred in those over 60 years of age—105 or nearly 22 per cent. Pneumonia caused more than 20 per cent. of the deaths.

BY AN AGREEMENT filed December 20, Thomas J. Kent and wife turn over to Wesley Hospital \$25,000 to be used in constructing the hospital building, contingent on the payment of a 6 per cent. annuity to the donors, upon whose decease the gift is made absolute to the hospital.

THE FUNERAL SERVICES of Dr. Ephraim Ingals were held at his residence, December 20. Drs. N. S. Davis, Sr., Daniel R. Brower, Walter Haines, F. C. Hotz, Arthur D. Bevan, John Bartlett and J. Nevins Hyde were among the honorary pall-

bearers, and Drs. J. M. Dodson, J. E. Rhodes and J. Clarence Webster were the physicians among the active pallbearers.

INDIANA.

DR. ROBERT C. ROGERS, Bloomington, has been appointed acting assistant-surgeon in the army, and has been assigned to duty in the Philippines.

THE REPRESENTATIVE from Daviess county in the state legislature is to introduce a bill providing that only physicians shall be eligible for coroner.

DR. WILLIAM N. WISHARD, Indianapolis, has been appointed a member of the State Board of Health, vice Dr. P. Henry Jameson, Jr., Indianapolis, resigned.

THE CONTRACT for the hospital for the incurable insane, which is to be erected in the grounds of the Central Hospital for the Insane, has been awarded, the contract price being \$86,728.

SMALLPOX continues to increase in the state. Dr. James N. Hurty, secretary of the State Board of Health, has received reports of 100 new cases during December. The total number of cases reported since November 1, is 250, and of these 60 occurred in Allen county.

THE STATE BOARD OF HEALTH has considered three points of medical legislation which it is proposed to lay before the general assembly at its coming session: 1, examination of all applicants for license to practice medicine; 2, that county clerks shall keep on file as a matter of record in their offices the certificates which the State Medical Board send to them, on which they issue license to medical practitioners, and 3, the enactment of a law defining the phrase "practice of medicine."

COMPULSORY TREATMENT of liquor and drug habitués is the object of a bill to be introduced at the coming session of the legislature. The bill provides that any habitual drunkard who is a public charge or likely to become a public charge may, on application to the county judge, either in person or by friend or near kin, making oath to the facts in the case, be sent to an institution in which inebriates are cured. The expense, not to exceed \$100, is to be paid by the county of which the beneficiary is a resident. Provision is made for the repayment of the money so expended, by the one benefited giving his note to the county commissioners and paying it as a whole or by installments.

IOWA.

DR. LEVI LOAR, Selma, was found guilty on December 14 of performing a criminal operation on a young girl and sentence was deferred.

THE METHODIST STATE HOSPITAL, Des Moines, which has been obtained by remodeling the Callanan college, is almost ready for opening.

AGATHA HOSPITAL, Clinton, was dedicated December 17. The building is 57x84 feet, three stories in height, and was erected at a cost of about \$20,000.

THE IOWA COLLEGE OF PHYSICIANS AND SURGEONS, which has been conducted for several years as an auxiliary school to Drake University, Des Moines, has been merged with the university.

THE SUPREME COURT of the state has rendered a decision in the case of the State vs. W. M. Bair, which holds that the law requiring itinerant physicians to secure a license from the state board of medical examiners is constitutional.

THE STATE BOARD of Medical Examiners met at Des Moines, December 18, and refused to issue a certificate to an osteopath, a graduate of the Still College of Osteopathy, Des Moines. The board has also declined to grant licenses to practice to graduates of schools of the same character at Quincy, Ill., and Kirksville, Mo.

KANSAS.

THE PHYSICIANS of Leavenworth met on December 4 and paid a last tribute to the memory of the late Dr. Jesse W. Brock.

THE HUTCHINSON Board of Health has organized with Dr. Attila M. Hutchinson, chairman, and Dr. Cornelius A. Mann, secretary.

THE MAIN BUILDING of Stormont Hospital, Topeka, was burned, December 20, with a loss of \$10,000. The eight patients who were in the hospital were removed in safety to the Santa Fe Hospital.

SINCE DECEMBER physicians in Topeka who have not registered at the city physician's office in compliance with the city ordinance, are liable to a fine of \$25. At last report 49 had failed to register.

LOUISIANA.

DR. ULYSSES G. TALLEY, New Orleans, was fined \$25, December 11, for delaying to notify the board of health of a case of smallpox for two days.

DR. WILLIAM J. EMMER has been elected president of the re-organized New Iberia board of health, the other medical member being Dr. Alfred Duperier.

IT IS PROPOSED by the New Orleans Health Department to introduce the Bertillon system of classification of causes of death with the opening of the new year.

THE HEALTH DEPARTMENT of New Orleans asked the city council for \$31,000 to carry on its work, but the council cut down the estimate \$26,000. The officers say that they will be compelled to discharge the whole sanitary force on January 1 for lack of funds to pay salaries.

THE SENSES HOSPITAL, New Orleans, elected the following medical staff on December 12: Drs. Ernest E. A. Robin, Richard W. Salter and Timothy A. Duggan assistants in the eye department: Drs. Ambrose B. Gaudet, and H. J. Dupuy, assistant surgeons in the ear, nose and throat departments: Dr. Lieven De Poorter, resident surgeon for one year; Dr. Isadore Dyer, consulting dermatologist, and Dr. Gordon King, surgeon of the ear, nose and throat department.

MAINE.

LOWELL EMERGENCY HOSPITAL has been incorporated at Kittery, capital stock not stated, to maintain an emergency hospital and dispensary.

THE SAGADAHOE EMERGENCY HOSPITAL, Bath, has recently been opened by Dr. Edwin M. Fuller. It contains all necessary equipment for the treatment of emergencies.

THE MAINE EYE AND EAR INFIRMARY held its annual meeting at Portland, November 26. Dr. Eugene E. Holt, executive surgeon of the institution, reported that 1396 patients had been treated during the fiscal year: 749 in the eye department, 258 in the ear department, and 248 in adjunct clinics.

DOVER has now 14 cases of scarlet fever, making in all about 40 cases since the end of September. All except two of the schools have been closed, and the Board of Health has now requested parents to keep their children confined to their own premises for a few weeks, to prevent the spread of the disease.

MARYLAND.

THE ONE HUNDRED AND THIRD annual report of the Maryland Hospital for the Insane at Spring Grove, Catonsville, shows that there were 626 patients in the institution during the year and 510 at its close. The superintendent recommends the erection of an industrial building for the female inmates.

Baltimore.

THE HEALTH COMMISSIONER has taken steps for the sale of the old quarantine property, the proceeds from which are to be devoted to the establishment of a hospital for infectious diseases.

A FIRE took place in the library and laboratory of Dr. Howard A. Kelly on December 16, which damaged books and furniture to the extent of \$2000, and the building to the extent of \$600.

BALTIMORE UNIVERSITY HOSPITAL was damaged by fire to the extent of \$1000 or \$1500 by fire shortly after midnight December 18. The patients were all rescued. The books, etc., in the faculty room were destroyed, but the prompt response of the fire department saved the building from entire destruction.

DR. WALTER WICKS has resigned as assistant resident physician at the University of Maryland Lying-in Hospital. Dr. A. C. Hoyt, third assistant on the surgical staff of the Maryland University Hospital, will succeed him and Dr. A. J. Edwards, of Winston, N. C., one of the assistant resident physicians at the hospital last year, will fill Dr. Hoyt's place.

THE NUMBER of cases of diphtheria reported for December was only about half that of last December. The decrease is attributed by Dr. Bosley to the enforcement of the new law of the department prohibiting public funerals of persons dying from the disease, and the quarantining of infected houses. The people accept the new rule kindly and cooperate with the department in its execution.

MASSACHUSETTS.

DRS. EDWARD C. FROST and THOMAS H. MCCARTHY have been appointed members of the staff of the Brockton Hospital.

DR. JOSEPH B. HOWLAND has succeeded Dr. Archibald J. Ranney as assistant superintendent and physician at the State Almshouse Hospital, Tewkesbury.

THE TRUSTEES of the Dickinson Hospital, Northampton, have received a donation of from \$15,000 to \$20,000 for the purpose of building an annex to the hospital 50x30 feet in extent.

THE WALTHAM BOARD OF HEALTH has issued notices to all physicians in its jurisdiction to report at once all cases of typhoid fever. The board has made an investigation to ascer-

tain the source of the infection which has caused so many cases of the disease and has traced it to a farm on the outskirts of the city which supplied milk to many of the families where the disease existed.

MICHIGAN.

DR. JAMES E. MEAD, Detroit, has been appointed acting assistant-surgeon in the army.

LICENSE to practice was refused to about forty applicants in Wayne County by the State Board of Registration.

DR. JAMES H. KELLOGG, Battle Creek, was stabbed, but not seriously wounded, by an insane patient, December 22.

A NEW SANATORIUM is planned on Maniton Beach, Devil's Lake, twenty miles south of Jackson, by a syndicate of physicians.

A "DIPLOMATE" of the notorious Independent Medical College was arrested at Grand Rapids, December 17, on the charge of practicing medicine without having legally registered. It is likely that this will be made a test case.

A WELL-ORGANIZED effort is to be made by the enemies of the new medical registration law to attack it at the regular session of the state legislature, and, if possible, to have it wiped off the statute books, or so changed by amendment that much of its present strength will be taken away.

MINNESOTA.

DESPITE the resolution of the Duluth Board of Education that unvaccinated children be admitted to the public schools, Health Commissioner Robinson, backed by the recent decision of the county court, stands firm and will prevent the attendance of these children at school.

ABOUT eight hundred houses at Winona have been under quarantine for smallpox during the past two months, but now from twenty to thirty patients a day are being released and there are not more than 400 cases now on hand. The disease is in a very mild form and only few deaths have occurred.

THE STATE COMMISSION appointed to investigate and report on the condition of the state asylums and hospitals for the insane is heartily in favor of the plan now being pursued in the new institutions at Anoka and Hastings. In its report special mention is made of the benefits received by patients in the smaller institutions.

MISSOURI.

DR. CLARENCE LOEB, St. Louis, interne at the City Hospital, has resigned and will be associated in practice with Dr. Carl Barek.

KANSAS CITY is to have a new pest-house 200 feet long by 20 feet wide, capable of accommodating 80 patients, and erected at a cost of \$2300. On December 14, 17 patients were sent to the isolation hospital.

ST. LUKE'S HOSPITAL, St. Louis, will soon have a new building on Dedmar avenue, where a site has been purchased by the board of trustees. The amount—\$100,000—required for the erection of the building has almost all been subscribed.

DR. GEORGE O. COFFIN, city physician of Kansas City, is enforcing rigidly the compulsory vaccination ordinance for school-children and has asked the superintendent of public schools to furnish the board of health with lists of all school children with vaccination or no vaccination noted opposite each name.

DR. L. C. McELWEE, secretary of the State Board of Health, has asked for a special appropriation of \$25,000 to assist in stamping out variola, which has appeared in 96 out of 114 counties of Missouri. If allowed, vigorous quarantine measures will be established, which will certainly be necessary to prevent the spread of the disease.

NEW JERSEY.

DR. THOMAS N. GRAY has been appointed city physician of East Orange, to fill the unexpired term of Dr. Winthrop D. Mitchell.

ON CHRISTMAS DAY, Thomas H. Vinter, executor of the estate of the late Benjamin D. Maxham, presented the New Jersey Training School for Feeble-Minded Children at Vineland with \$100,000.

OWING to smallpox in Jersey City, the president of the State Board of Health issued an order that precautions be taken against its spread. At Lorillard's tobacco factory about 4000 girls were ordered vaccinated.

ACCORDING to the last report of the Board of Children's Guardians of the State, made to the Governor, the results prove that it has not been hard to get children out of the almshouses and place them in country homes, some free of charge, and others at a rate of \$1.50 per week. Last year the legislature appropriated \$2000 for this purpose, but this sum has been found insufficient. An appropriation of \$6000 will be asked for.

NEW YORK.

THE sixteenth annual report of Flushing Hospital shows a large increase in donations and subscriptions, but a larger increase in expenses. The board of estimate and apportionment gave the hospital \$7500 in 1899.

DR. WILLIAM P. SPRATLING, medical superintendent of the Craig Colony at Sonyea, gave a dinner at the colony to the members of the Livingston County Board of Supervisors and other invited guests, at which the work of the institution was reviewed by the members of the board of directors, and suggestions made as to opportunities for improvement.

Buffalo.

THE NEW morgue building, when finished, will be one of the most modern and complete of the kind in the United States.

THE UNIVERSITY OF PENNSYLVANIA exhibit, which was one of the most complete in the Paris Exposition education department, will be brought to Buffalo for the Pan-American Exposition.

THE BOARD OF SUPERVISORS has approved the following appropriations for 1901: Buffalo Eye and Ear Infirmary, \$2200; Charity Eye and Ear Infirmary, \$1800, and German Hospital Dispensary, \$1500.

THE GERMAN HOSPITAL BAZAAR closed December 16. About \$5000 was realized. The hospital will now receive its proper furnishings for wards and private rooms and will be ready for the reception of patients by February 1.

THE PLANS for a cancer hospital in connection with the Buffalo General Hospital have been filed with the bureau of buildings. They provide for a three-story fire-proof building, which will be used as an annex of the Buffalo General Hospital and will be erected near that institution.

MANY OF THE PHYSICIANS of Erie County, who have long been members of the New York State Medical Association, now propose to organize a county association in affiliation with it and in accordance with its charter and by-laws. A meeting of organization was held on December 20.

New York City.

DURING the last week of 1900, 23,782 persons were vaccinated in the city, 4500 of whom were inmates of lodging houses.

THE BOARD OF HEALTH decided, December 19, to use the Bertillon system in classifying the causes of death in the Bureau of Records after January 1.

THE NURSES in charge of the Bellevue Hospital alcoholic ward, who were charged with brutality toward patients, have been suspended pending further investigation and have been held by the grand jury to answer to the charge of manslaughter.

PENNSYLVANIA.

DR. M. C. WARREN has resigned as resident physician at the Reading Hospital and has been succeeded by Dr. Thomas C. Buchanan, Honeybrook.

THE COMMITTEE on public buildings and grounds has reported favorably on the Dalzell bill, appropriating \$91,000 for a United States marine-hospital at Pittsburg.

THE OSTEOPATH at Beaver Falls, "Dr." E. E. Pierce, charged with practicing medicine and surgery without a license, was found guilty and recommended by the jury to the mercy of the court.

CASES OF SMALLPOX are still being found in Pittsburg in districts supposed to be free from the disease. On December 25 a case was discovered and the patient taken to the Municipal Hospital. Several other inmates of the room were also removed and taken to the hospital to prevent the spread of the disease. On December 23 an unknown man was found in one of the parks and was taken to the Allegheny General Hospital, where his condition was diagnosed smallpox. He was at once removed to the Municipal Hospital.

Philadelphia.

ON DECEMBER 24, Coroner Dugan held inquests in 24 cases. Verdicts were reached in 21 instances, and 3 have been continued.

THE CITY COUNCILS have made the following appropriations for the year 1901: Bureau of health, \$207,080; bureau of charities, \$576,678, and coroner, \$30,300.

BY THE WILL of John Betz, recently deceased, \$2000 has been given the German Hospital. This hospital has also received \$1000 from the Baldwin Locomotive Works.

VIRGINIA.

THE RICHMOND Academy of Medicine and Surgery has adopted appropriate resolutions on the death of the late Dr. Frank S. Harker.

A FIRE in the Virginia Hospital, Richmond, December 10, caused great excitement and alarm, but fortunately only slight damage and no loss of life.

DR. ALBERT S. PRIDDY, Charlottesville, the nominee of the State Medical Society, has been appointed a member of the medical examining board of the state-at-large.

DURING THE YEAR 435 patients were under treatment, on the average, at the Central Hospital for the Insane. The new admissions numbered 192, and of these two-thirds were discharged cured. The board of directors will ask the legislature to make an appropriation sufficient to erect three new female wards.

GENERAL.

ON DECEMBER 11 three Franciscan nuns arrived in Honolulu from New York State. They go to Molokai to work among the lepers.

F. R. DAY, M.D., for many years a member of the Honolulu Board of Health and port physician, resigned his positions in November, and sailed a few days ago for California, on his way to Berlin, where he will take up special medical studies for two years.

LEPROSY IN THE PHILIPPINE ISLANDS.

An appended report to General MacArthur's review of the civil affairs of the Philippines for the last fiscal year gives some rather startling facts regarding the introduction and prevalence of leprosy in the islands. According to the estimates of the Franciscan fathers, says Major Guy L. Edie, the writer of the report, there are no less than 30,000 lepers in the archipelago, the major portion of these being in the Visayas. Leprosy was introduced in 1633, when the Emperor of Japan sent a ship with 150 lepers to the Philippines to be cared for by the catholic priests. Thus the seed was planted, and, as no practical methods ever were adopted to eradicate the disease or prevent its spread, it has taken firm root. A house-to-house inspection begun last January found more than 100 lepers concealed in dwellings. These were sent to San Lazaro hospital in Manila, but many others escaped into the surrounding country. A commission is now engaged in the work of selecting a suitable island or islands for the purpose of isolating all the lepers in the archipelago.

WAR ON MOSQUITOES.

The United States government has formally recognized the responsibility of the mosquito for the transmission of yellow fever and malarial diseases. This fact is indicated by the issuance of a general order by Major-General Wood at Havana, directed to his post commanders reciting that the chief surgeon of the Department of Cuba has reported that it is now well established that malarial, yellow fever, and filarial infection are transmitted by the bites of mosquitoes. The troops are therefore enjoined to observe carefully two precautions: 1, they are to use mosquito bars in all barracks, hospitals, and field service whenever practicable; they are to destroy the larvæ or young mosquitoes, by the use of petroleum on the waters where they breed. Permanent pools or puddles are to be filled up. To the others are to be applied one ounce of kerosene to each fifteen square feet of water twice a month, which will destroy not only the young, but the old mosquitoes. This does not injure drinking water if drawn from below and not dipped out. Protection is thus secured, according to the order, because the mosquito does not fly far; seeks shelter when the wind blows, and thus each community breeds its own mosquitoes.

ETHER VERSUS CHLOROFORM IN THE TROPICS.

In a report to the surgeon-general of the army on the operative work at the First Reserve Hospital, Manila, P. I., from Sept. 1, 1899, till Feb. 28, 1900, Major W. P. Kendall, surgeon, U. S. A., makes some interesting remarks on the anesthetics used. The cases included 49 of hernia, radical cure; 19 appendicitis; 15 amputations, including two of the hip-joint, one of which was successful; 35 of hemorrhoids; 13 varicoceles; 1 ligature of the external iliac, the femoral and the subclavian in its second part, all successful, and many other operations involving the use of a general anesthetic. "Regarding the choice of anesthetics," says Surgeon Kendall, "there was an apparent difference, not seen in the United States, between ether and chloroform. Whether this would disappear after a longer experience and some modified way of administration or not was not determined; but, as it was, we all grew to be afraid of chloroform, including those whose experience with it had been large, even to the exclusion almost of ether. Heart failures came on rapidly and with great severity, producing death in two chronic appendicitis cases before operation was begun. Besides these there were several cases of suspended animation,

while with ether no trouble was observed. Our experience fully confirms that of those who claim that in hot countries the paralyzing effect of chloroform is greater than when used in colder climates, due, probably, to the lack of tone of the motor nerves.

DR. GEORGE M. GOULD AND THE PHILADELPHIA MEDICAL JOURNAL.

The following telegram was received after our note referring to the editorial change in the *Philadelphia Medical Journal* was in type:

PHILADELPHIA, Jan. 1, 1900.

Dr. George H. Simmons: I have just received the first official intimation that my services are no longer desired as editor of the *Philadelphia Medical Journal*, the discharge to take effect immediately. The following editorial, written from private information, was inserted in the issue of December 29, but was not allowed to appear. For considerations of courtesy to many subscribers, I would be pleased to have you publish this hurried word of goodbye to the profession. The extinguished editorial is as follows:

A Personal Word from the Editor.—Just as the last forms are going to press I learn that the present number of the *Philadelphia Medical Journal* will be the last—except as to the original article department of the next issue—for which I shall have editorial responsibility. I am unable to set forth the reasons why the board of trustees no longer wish my services as editor. I am in complete ignorance what such reasons may be. I have heard of no criticism upon their part of my conduct of the journal, and my communication handed to the board in session on December 8, expressing my desire to be retained as editor, has not been answered. To the thousands of friends, to all subscribers who may read these lines, I can only here express my most profound regret at the sudden separation. In the endeavor to aid in establishing a great independent medical journal, utterly free from publishers' influence, from commercial bias and from what is, if possible, still worse, an unprofessional spirit within the profession, I have given my labor and my life, all too freely. What mistakes I may have made I trust may be excused in the belief that they were due to a sincere desire to devote every line of the reading columns to the cause of professional truth and honor.—GEORGE M. GOULD.

FOREIGN.

TYPHOID FEVER occurred, up to September 28, in 15,655 British soldiers in South Africa, with a mortality of 3642.

A NATIONAL association of the medical press has recently been organized in Denmark, Norway, Sweden and Russia in response to the efforts of Dr. R. Blondel, of the French association, who visited the chief cities in these countries.

THE FACULTY of medicine of the University of Edinburgh, according to the *British Medical Journal*, has formally expressed its disapproval of the publication of laudatory certificates from its graduates, in trade advertisements.

THE RUBONIC plague has increased in death-rate in India to the extent of about 50 per cent. during the last month. On the other hand, the famine ceases to be a noticeable factor in mortality; at present only 500,000 require assistance.

THE GERMAN imperial bill lengthening medical study to at least 5 years, meets with the approval of the profession. Berlin has one physician to every 798 of the population, Breslau one to every 775, Halle one to every 735, and Königsberg one for every 681.

THE PHYSICIANS who attended the Czar in his illness have just received their rewards. Dr. Hirsch, the famous surgeon, has been given the Order of Alexander-Newski, established by Catherine the Great. Prof. Popoff has been made the Czar's body physician, and Dr. Tichokonoff honorary medical adviser.

THE BRITISH ambassador at Pekin, Sir Claude MacDonald, in his dispatches, refers to the valuable services of Drs. Morrison, Poole and Velde during the late memorable siege. The two latter were in charge of the International Hospital, where 166 cases were treated, 20 of which suffered from illness and the rest from wounds.

THE ROMAN correspondent of the *Lancet* states that a statue of Aesculapius has recently been found in the Roman Forum. The head and part of the right arm are missing. The god is represented with a *volumen* of parchment or paper in the left hand, leaning on a staff around which is coiled a serpent, the symbol of renovation. It was found near the Well of Juturna, reputed for the salubrity of its water.

PROFESSOR CELLI estimates in his new work "La Malaria," an annual mortality in Italy of 15,000 due to malaria, and states

that 5,000,000 acres of good soil remains uncultivated. As member of the Italian parliament, he proposes to make it obligatory on landowners and employers to provide every possible agent against the scourge. It is likewise proposed that the government supply the sufferers with pure quinin at a trifle above cost price.

THE DEATH of Professor Podrèze of Charkow is announced, in consequence of a fall from his horse. The eminent Russian surgeon was in his forty-ninth year, and by his will his property, including his private clinic, is bequeathed to the Charkow university to found a clinic for urogenital diseases. Both the physicians attached to the Belgian ambulance dispatched to the Transvaal have died in the last few months.

THE *Wiener Med. Woch.* of December 1 publishes a line from Prof. Stofella to the effect that he can not subscribe in all respects to the communication purporting to be from his polyclinic in the two preceding numbers of the *Wochenschrift* on the "Medicinal Treatment of Tuberculosis," by Adolf Hoff, reviewed in THE JOURNAL of Dec. 22, p. 1635. He states that the results of his observation and experience of the treatment described have not always corroborated those of Dr. Hoff.

SANITARY PRECAUTIONS ADOPTED AT OSAKA, JAPAN.

In a letter of Dec. 4, 1900, received by the surgeon-general of the Marine-Hospital Service from the acting asst.-surgeon on duty in the office of the United States consul-general at Yokohama, it is stated that, from June 19 to November 5, 1900, 176,818 rats were destroyed in Osaka. A conference of sanitarians and quarantine officers was at that time sitting in Tokyo, under the order of the Home Department, with the object, if possible, of devising some method of combating the plague, more effective than that hitherto employed.

CANADA.

THE Montreal Health Department has created a department for the inspection of food, with Dr. J. J. McCarrey as superintendent.

DR. OSCAR F. MERCIER has recently been appointed head surgeon of the Notre Dame Hospital, Montreal. He will also be professor of the surgical clinic.

THE Hygienic Committee of Montreal has decided that hereafter three doctors be appointed to sit with the committee. For this they will receive compensation at the rate of \$5 per diem.

DR. F. J. SHEPHERD, of Montreal, has just returned from Havana, where he accompanied Sir William Van Horne. He has been elected a vice-president of the Pan-American Medical Congress and president of the section on pathology. He will attend the sessions in February next.

MONTREAL GENERAL HOSPITAL.

This hospital is still in hot water financially. Fifteen thousand dollars is needed as an augmentation fund each year to enable the trustees to carry on the work of the institution. The capacity of this hospital has doubled since 1885. In that year the revenue was \$39,308 and the expenditure \$40,910. In 1900, the revenue amounted to \$67,421, while the expenditure was \$81,570, showing a deficit of \$14,149. The increase in public subscriptions in that time has only been 25 per cent., but the number of out-door patients has increased from 13,000 in 1885 to 37,000 in the present year.

HOSPITAL FOR SICK CHILDREN, TORONTO.

The twenty-fifth annual report of this institution has just been issued. It covers the work done for the year ending Sept. 30, 1900. The daily average of patients for the previous year was 101½, and for the present year 111½. During the twenty-five years of the hospital's existence over 40,000 children have been treated. The total income for 1900 was \$56,116, and the expenditure \$36,274. The assets of the hospital now total \$215,180, and a nominal liability of \$3000 or \$4000 is expected to be wiped out by the end of the year. In connection with this institution is the Lakeside Home for Little Children on Toronto Island, which is the largest sanitarium for children in the world.

PHYSICIANS' AND SURGEONS' SUPPLY COMPANY.

A synopsis of a plan for securing better and cheaper drugs for medical practitioners was given in the columns of THE JOURNAL some little time ago, as proposed at a meeting of the Huron Medical Association by Dr. J. R. Shaw, of Clinton, Ont. A charter has been applied for and several members of the profession in Western Ontario and also some few in Toronto are interesting themselves in forming a company to be known as the Physicians' and Surgeons' Supply Company (Limited). The success of the enterprise seems assured from the amount of stock already subscribed. The company is not meant as a combine in any way, but the druggists will be no longer com-

pelled to keep brands of drugs to suit every doctor's whim. A meeting will shortly be held in Toronto for completing organization. Dr. Gunn, of Clinton, is the provisional president.

LONDON LETTER.

THE "EPIDEMIC" OF ARSENICAL POISONING FROM BEER-DRINKING.

The epidemic of arsenical poisoning in Manchester and the surrounding districts, which I have described in my last letter, has caused a wide-spread scare among beer-drinkers throughout England. In London the publicans are posting on their windows notices that they guarantee their beer free from arsenic. Everywhere analyses have been made of the beer sold for consumption, but outside the districts mentioned it has been found uncontaminated. In Manchester alone about 2000 people have been under medical treatment for arsenical peripheral neuritis, to say nothing of milder cases which did not come under observation. The medical officer of health of Manchester, in his report on the epidemic, states that examination of the glucose used in the 20 Manchester breweries revealed arsenic only in that of 5. This glucose all emanated from a single firm and contained arsenic in considerable amount. A number of deaths are alleged to have taken place from arsenical poisoning, but definite proof is lacking in these cases that arsenic was the cause of the fatal result. However, the statistics show that the deaths from peripheral neuritis in Manchester have nearly doubled in 1900. In the first 48 weeks of the years 1897, 1898, 1899, and 1900 the deaths from peripheral neuritis were 11, 17, 18 and 39 respectively. Persons of all ages and both sexes were affected. The youngest patient who suffered from arsenical poisoning from beer-drinking was a little girl of 2, the daughter of a publican who was petted by the customers and given small quantities of beer to drink. Two cases have been recorded in which infants at the breast were poisoned by their mother's milk and recovered when cow's milk was substituted. In one, a woman aged 32, took stout after confinement. After five weeks she felt numbness of the fingers and "jumping" in the feet; her eyes began to smart and her throat became sore. At the same time the child began to vomit after every nursing. It became emaciated and snuffled. Its feet were slightly erythematous. A number of beer-sellers in Manchester are to be prosecuted for selling impure liquor. At Salford, a town near Manchester, it is stated that 6 deaths from drinking arsenical beer have occurred. At Liverpool a number of cases of arsenical neuritis have been observed, but nothing of the nature of an "epidemic." It is interesting that in one case arsenic was found in the urine. At Chester 8 samples of beer from 7 breweries were examined, and 4 were found to contain arsenic. A number of cases of peripheral neuritis have occurred. Upward of 500 barrels of beer have been destroyed.

THE PARASITOLOGY, ETIOLOGY AND PREVENTION OF MALARIA.

At the Royal Medical and Chirurgical Society Dr. Manson gave a résumé of recent advances on this subject. In 1896-97 the cycle of the malarial parasite to the human body was studied, but the cycle external to the body was not studied. How it was introduced was not known, but since the organism was a blood parasite, some blood-sucking animal was suspected as the means of infection, and there were epidemiological and geographical reasons which pointed to the mosquito. Surgeon-Major Ross, by two or three years indomitable perseverance, conclusively proved the truth of the mosquito theory. He first studied the evolution of the coccidium *Schübergii* in bird malaria and found there were an endogenous and an exogenous phase. Then he found that the parasite of estivo-autumnal fever was strictly analogous. In the blood of man its evolution was asexual, in the mosquito bisexual. As to the various kinds of mosquito concerned in the conveyance of infection hitherto only anopheles had been implicated in malarial infection, and of this there were 46 known species. In 7 of these the mosquito had been found. Recent investigations have shown that children are specially susceptible to malaria: as many as 70 or 80 per cent. of native children under one year of age contract it. The proportion of infected becomes gradually smaller as age advances until 10 or 12 years is reached. An immunity of some kind seemed to be obtained by the native population. Practically all deaths from malaria occurred in children. The etiology of blackwater fever was still undiscovered. The suggestions that it might be due to a special type of malaria parasite or a parasite the virulence of which was increased by being transmitted through a particular species of mosquito, or a disease sui generis, were all tenable, but they lacked confirmation. As to prophylaxis, four means were available—to avoid the natives, to take quinin, to destroy mosquitoes, and to protect oneself against them. These measures were efficient but not always applicable. Complete protection

was perhaps impracticable, but relative protection was valuable and was always possible.

THE DIAGNOSIS OF TREATMENT OF THORACIC ANEURYSM.

At the Medical Society of London Dr. Kingston-Fowler said that the diastolic thud was a sign of the greatest value since it was present in no other condition. Tracheal tugging also indicated aortic aneurysm. The only fallacy was that a new growth almost surrounding the aorta and attached to the trachea might communicate movement to it. The treatment consisted of several factors. Rest and iodid were very efficacious in the relief of pain. If no improvement took place he then added a modified Tufnell diet. Seven ounces of solids and eight of fluids daily were the quantities he had adopted. Lanceraux' method of treatment by gelatin injections he had seen carried out in 3 cases. His experience was not favorable. One of the patients had probably been benefited. Where spasm of the laryngeal muscles existed inhalations of oxygen and the injection of morphia were useful. The prognosis of aneurysm he believed was better than was generally thought. He had known several patients to live for years—one for 13 years, another for 6, and another for 9.

Correspondence.

Origin of Leprosy in Hawaii.

KOLOA, KAUAI, H. I., Dec. 15., 1900.

To the Editor:—In your issue of November 17 last you say editorially in regard to the origin of leprosy in Hawaii, its protection by the chiefs, etc.:

"The missionary physicians soon learned to recognize it, and one of them, Dr. Dwight Baldwin, it is said, made a report of it, stating the facts of its origin. . . . So long as the Hawaiian monarchy existed, segregation of lepers, though legally demanded, was very imperfectly carried out, owing, it is said, to the interference in high places. . . . The isolation law is an unpopular one with the natives. . . . These data were obtained from the *Honolulu Commercial Advertiser*, whose authority for the main facts is the Rev. Sereno Bishop. . . . We have not seen this bit of medical history narrated elsewhere."

In my article on leprosy, which appeared in the *New York Medical Record* of Jan. 27, 1900, and which was republished in book form several months ago, I said:

"The first leprosy man in Hawaii that came to the notice of the general public, was a native man named Naea, who died in 1852, after having been a leper for ten years. His case was reported by Dr. D. D. Baldwin of Lahaina, who, in 1863, discovered that there were 50 lepers in his church. He was a physician as well as a minister. . . . The same year Dr. Hillebrandt, surgeon to the Queen's Hospital, wrote: 'I wish to bring to the public's notice a subject of great importance. . . . It is genuine oriental leprosy. Repeated investigations leave but little doubt in my mind about the contagious character of the disease.' . . . It was called by the natives 'mai pake,' or Chinese disease."

The name "mai alii," not "ma'i alli," as you have it—was never so current as "mai pake," which is the common name for leprosy.

"In 1864 the board of health appointed Mr. Jourdan to take a 'leper census,' and report the same. . . . In January, 1865, the King signed an act providing that certain lands be 'set apart' for 'the isolation and segregation of lepers'; that the board of health or its agents 'be authorized and empowered to cause to be confined all lepers who shall be deemed capable of spreading the disease of leprosy.' . . . With all his talk, Mr. Gibson delayed the good work of segregation, and during the time that he was president of the board of health very little effective work was done. When, later on, Dr. Emerson and others took up the health matters of the country, it was with added difficulty. . . . It was the sad fate of Dr. J. K. Smith to die by the hand of a man whose wife the doctor had ordered to Molokai."

In his official report for 1884, W. M. Gibson, as president of the board of health, says: "But it is difficult to indulge in any reflection on the action of my predecessors because the law

requiring segregation has not been carried out with rigor. For what does this law require? That men, women and children shall be torn from their homes [here is a recital of several pathetic cases]. These are some of the experiences and consequences of the law. . . . There should be no alarm in consequence of the temporary presence in the street of a leper; or on account of any ordinary intercourse with sufferers from this disease. . . . According to invariable experience in the observation of this disease in this country and elsewhere, such a sufferer may pass the healthy in the street or frequent the same room with them in the ordinary intercourse of life."

This was a shameless bid for the favor of Kalakaua and his native population. Following the report of Gibson is that of Dr. N. B. Emerson, then—1884—superintendent of the leper settlement, in which he says: "I can not refrain from remarking with great regret the comparatively small number of lepers that have been brought to this settlement from without during the past year, when one considers the great number still at large in the community. I gravely apprehend that this may prove a matter of serious regret to the Hawaiian nation in the future."

In a contribution to the *Philadelphia Medical Journal*, June 2, 1900, I said: "With 4000 lepers scattered over the group, the Hawaiian government began to segregate at first in an inefficient way, retarded often by ignorant and designing officers. . . . In the 34 years during which Hawaii has practiced segregation the law has been really enforced in the last 14 only."

In respect to the first case of leprosy in Hawaii, accounts differ. Sereno Bishop thinks that Kakauonohi, a Hawaii chief, contracted leprosy in China—to which country Hawaiian ships frequently went with sandalwood—and introduced the disease among his people. In a personal interview with ex-Queen Lilioukalani she said she remembered seeing the first leper on Oahu, and that he was a chief who had been to China.

On the other hand, the government "Biennial Report," issued in 1888, says: "Leprosy was first made out to exist in this country about the year 1840, in the person of one Naea, a messenger of the chief, who died in 1852. His case was reported by Rev. D. D. Baldwin, M.D., of Lahaina, in a communication to the minister of the interior, dated May 26, 1864."

E. S. GOODHUE, M.D.

Foreign Bodies in the Ear.

BURLINGTON, IA., Dec. 30, 1900.

To the Editor: I hope that I shall not be accused of trying to make a mountain out of a molehill, but I think that somebody should at least say that your other correspondent on this subject, in THE JOURNAL of December 22, page 1643, is preaching just as pernicious a doctrine as that he assumes to condemn.

Personally speaking, after an experience of more than twenty years, with a fairly numerous clientele, I am unable to recall a single instance where serious permanent damage resulted from retention of foreign bodies in the ear. Several years ago I removed a small piece of slate pencil—case was reported then—which my patient maintained she had poked into the canal when she was a child twenty years before. So far as I could see, it might have safely remained there another twenty years imbedded as it was in cerumen. Insects whole and in pieces I have extracted after months and years of lodgment.

On the other hand, and this I think is a common experience among aurists, or the books would not so universally speak of it, I have seen no little damage done by ill-advised and ill-devised attempts at extraction—particularly where instrumental delivery was the means adopted.

In a paper which I prepared many years ago for the annual meeting of our State Medical Society I formulated a rule, which I still hold as covering the situation. It was in this wise:

Be sure that the foreign body is in the ear. Then remember that if it is of such consistency and size that it will offer resistance to such a stream of water as you can introduce with a syringe, then the stream of warm water from a syringe, with the nozzle at the highest margin of the meatus, will bring it

out. But the foreign body may be such that it offers no resistance—insects like mosquitos whose diaphanous wings will bend before the stream and flatten out against the walls—or the stream of water can not be thrown to the bottom of the canal on account of the swelling of the surrounding tissues or the swelling of the foreign body itself in the event of its being one of the cereals. Then remember that you must have either an experienced technique with ear instruments or you must confine yourself to an attempt to reduce the swelling only.

Personally speaking, again, I do not want any foreign bodies in my ear; but I will take my chances with the ordinary kind rather than the bent probe—or forceps—in the hands of one whose technique I do not thoroughly know. Truly yours,

H. B. YOUNG, M.D.

Marriages.

LUTHER C. FISCHER, M.D., to Miss Lucy Hart, both of Atlanta, Ga., December 12.

HARRY W. LYMAN, M.D., to Miss Sarah Long, both of St. Louis, Mo., December 12.

RICHARD FINLAY, M.D., to Miss Luella Duer, both of Centerville, S. D., November 29.

MARSHALL CLINTON, M.D., to Miss Alethe Evans, both of Buffalo, N. Y., December 12.

FRANK M. THIGPIN, M.D., to Miss Stella White, both of Pensacola, Fla., December 12.

EDWARD E. MAXEY, M.D., to Miss Edna Horn, both of Caldwell, Idaho, December 19.

S. HOWELL GARDNER, M.D., Sharpsburg, Md., to Miss Harriett Christian, of Mount Carroll, Ill.

VAN E. MCFARLAND, M.D., to Miss Alice Townsend, both of Eagle Pass, Texas, December 12.

G. HUDSON MAKUEN, M.D., Philadelphia, to Mrs. Nancy Dyer, of Chester, Pa., December 20.

WILLIAM K. MURRAY, M.D., Chicago, to Miss Gertrude Nolan of Pittsburg, Pa., December 20.

FREDERICK C. PETERSON, M.D., to Miss Sarah M. Bradford, both of Watertown, N. Y., December 31.

WILLIAM L. HAYNES, M.D., Memphis, Tenn., to Miss Clarice Hancock, of Calhoun, Ky., December 18.

CHARLES P. MARTIN, M.D., Woodstock, Ala., to Miss Willie Reid, of Russellville, Ala., December 12.

JOHN M. BLAIR, M.D., Monroe, N. C., to Miss Hannah J. SAUNDERS, of Hagood, S. C., December 27.

HIRAM D. PETERSON, M.D., Kelley's Island, Ohio, to Miss Mattie E. Cleveland, of Huron, Ohio, December 12.

MAURICE M. SCHEUER, M.D., Valley Junction, Iowa, to Miss Dora Anderson, of Des Moines, Iowa, December 11.

Deaths and Obituaries.

JOHN J. GARVER, M.D., Medical College of Ohio, Cincinnati, 1877, a member of THE AMERICAN MEDICAL ASSOCIATION, Indiana State and Marion County Medical Societies, at his home in Indianapolis, December 13, after an illness of thirteen weeks, aged 55. The Marion County Medical Society has appointed a committee to prepare resolutions on the death of Dr. Garver.

PETER F. CURLEY, M.D., Albany Medical College, Albany, N. Y., 1883, member of the State Board of Health, State Board of Medical Examiners, and of the local, state and AMERICAN MEDICAL ASSOCIATION, at his home, Newport, R. I., December 13, from Bright's disease, aged 39.

ALDEA A. GLASSCOCK, M.D., Missouri Medical College, St. Louis, 1868, at his home in Ventura, Cal., from cancer of the tongue, after an illness of several months, December 11, aged 62.

CHARLES J. O'HAGAN, M.D., New York Medical College, 1856, a member of the AMERICAN MEDICAL ASSOCIATION, at his home in Greenville, N. C., from apoplexy, December 18, aged 80.

JOHN WHEELER, M.D., Berkshire Medical College, Pittsfield, Mass., 1852, formerly president of the New Hampshire State Medical Society and a surgeon throughout the Civil War, at his

home in Pittsfield, N. H., December 21, after a year's illness from paralysis, aged 72.

THEODORE GIDDINGS, M.D., College of Physicians and Surgeons, N. Y., 1868, from apoplexy, at his home in Housatonic, Mass., December 28. He was a member of the AMERICAN MEDICAL ASSOCIATION, and served in the legislatures of 1886 and 1888.

RICHARD A. WISE, M.D., Medical College of Virginia, Richmond, 1868, representative from the second district in the present Congress, from Bright's disease, December 21, at Williamsburg, Va., aged 57.

RANDOLPH H. HALL, M.D., Rush Medical College, 1882, president of Illinois Medical College, and a member of the AMERICAN MEDICAL ASSOCIATION, at his home in Chicago, December 30, aged 56.

ULYSSES H. BROWN, M.D., a prominent oculist and a member of the New York State Medical Association and THE AMERICAN MEDICAL ASSOCIATION, probably from accident, in New York City, December 28.

DANIEL F. COLLINS, M.D., Bellevue Hospital Medical College, N. Y., 1873, formerly president of the Minnesota State Board of Medical Examiners, at St. Mary's Hospital, West Superior, Wis., December 22.

GEORGE H. ELLIOTT, M.D., Denver Medical College, 1882, of New York City, a commissioner of lunacy in New York, at his father's house in Manchester, N. H., December 17, aged 56.

JAMES C. BROWNLEE, M.D., Bellevue Hospital Medical College, 1880, at the German Hospital, Kansas City, Mo., from pneumonia, after an illness of three weeks, December 19.

JUSTUS M. TOWNSEND, M.D., Berkshire Medical College, 1880, at the German Hospital, Kansas City, Mo., from pneumonia, after an illness of three weeks, December 19.

GEORGE W. GREENLEAF, M.D., Bowdoin Medical College, Brunswick, Me., 1894, surgeon of the Southern Pacific Railroad, at Yuma, Ariz., at Yuma, December 1, aged 30.

CHARLES D. WILLIS, M.D., University of Tennessee, Nashville, 1888, after a lingering illness, from consumption, at his home, Greenville, Tenn., December 13, aged 40.

R. A. ROGERS, M.D., Cincinnati College of Medicine and Surgery, 1877, of Welton, Iowa, after an operation for appendicitis, at Davenport, Iowa, December 15.

WILLIAM H. JONES, M.D., University of Pennsylvania, 1863, U. S. Navy, retired, at Bethlehem, Pa., after several years of illness, from diabetes, December 14, aged 60.

CHARLES E. ACREE, M.D., Vanderbilt University, Nashville, 1892, at his home in Eddyville, Ky., December 23, from uremia, after a long illness, aged 50.

GEORGE W. L. HOWLAND, M.D., University of Michigan, Ann Arbor, 1870, from injuries received in a runaway accident, at Flint, Mich., December 27.

VERNER L. CHESLEY, M.D., Dartmouth Medical College, Hanover, N. H., 1899, at his home in West Swanzey, N. H., December 14, from pneumonia.

ALVIN DUVAL, M.D., University of Louisville, 1878, at the home of his mother in Frankfort, Ky., after a long illness, December 15, aged 35.

LEVI OBERLIN, M.D., who had practiced medicine in Clinton, Ohio, for nearly half a century, at his home in that place, December 8, aged 73.

ANDREW J. SMITH, M.D., Northwestern University Medical School, 1871, at his home, Wabash, Ind., from apoplexy, December 22, aged 70.

ROBERT V. R. MONTFORT, M.D., Albany Medical College, Albany, N. Y., 1856, at his home in Newburg, N. Y., December 18, aged 65.

MARY E. CHRISTY, M.D., Woman's Medical College, Philadelphia, 1894, at her home in New Castle, Pa., December 14, aged 31.

JOHN E. LOSEE, M.D., Albany Medical College, Albany, N. Y., 1852, at his home in Upper Redhook, N. Y., December 22, aged 74.

CHARLES L. GWYN, M.D., University of Maryland, 1860, at his home in Galveston, Tex., December 8, from septicemia, aged 62.

DEAN M. TYLER, M.D., University of Michigan, Ann Arbor, 1859, at his home in Ann Arbor, December 11, after a long illness.

JOHN HENRY FRUITNIGHT, M.D., Bellevue Hospital Medical College, New York, 1875, at his home in New York, December 18.

ELIJAH H. GRIGG, M.D., Medical College of Virginia, Richmond, 1860, at Sheppards, Buckingham County, Va., December 20.

FREDERICK OSBORN LLOYD, M.D., New York University, 1885, December 19, at Hamilton, N. Y., from consumption, aged 40.

WILLIAM P. GATLIN, M.D., University of Louisville, Ky., 1888, at his home in McComb City, Miss., December 18, aged 37.

LEWIS D. MARCUM, M.D., Medical College of Ohio, Cincinnati, 1888, at his home in Portsmouth, Ohio, December 16.

CHARLES C. CUNDALL, M.D., New York University, at his residence in Fair Haven, Mass., December 16, aged 66.

WILLIAM F. FARRELL, M.D., New York University, 1886, at his home in New York City, December 23, aged 42.

EDGAR H. SUGG, M.D., New York University, 1889, of Snow Hill, N. C., December 9, from dropsy, aged 33.

JOHN A. SNEED, M.D., Tulane University, New Orleans, 1879, at Fairfield, Texas, December 16.

WALTER S. BUNN, M.D., Columbus Medical College, Columbus, Ohio, 1884, at Lawrence, Kas.

Books and Pamphlets.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

BOOKS.

HAND ATLAS OF HUMAN ANATOMY. By Werner Spalteholz, Extraordinary Professor of Anatomy in the University and Custodian of the Anatomical Museum at Leipzig, With the Advice of Wilhelm His, Professor of Anatomy in the University of Leipzig. Translated from the Third German Edition by Lewellys F. Barker, Professor of Anatomy in the University of Chicago. With a Preface by Franklin P. Mall, Professor of Anatomy in the Johns Hopkins University at Baltimore. Vol. I. Bones, Joints, Ligaments. Paper; pp. 235. Price, \$3.50. Leipzig: S. Hirzel. New York: G. E. Stechert. 1900.

OBSTETRICS. A Manual for Students and Practitioners. By David James Evans, M. D., Lecturer on Obstetrics and Diseases of Infancy, McGill University. Series Edited by Bern B. Gallaudet, M.D., Demonstrator of Anatomy and Instructor in Surgery, College of Physicians and Surgeons, Columbia University, New York. Illustrated with 149 Engravings. Cloth; pp. 430. Price, \$1.75. Philadelphia and New York: Lea Brothers & Co.

MALARIA ACCORDING TO THE NEW RESEARCHES. By Professor Angelo Celli, Director of the Institute of Hygiene, University of Rome. Translated from the Second Italian Edition by John Joseph Eyre, M.R.C.P., L.R.C.S., Ire., D.P.H., Cambridge. With an introduction by Dr. Patrick Manson, Medical Adviser to the Colonial Office. With Maps and Illustrations. Cloth; pp. 275. Price, \$3.00. New York and Bombay: Longmans, Green & Co. 1900.

DISINFECTION AND DISINFECTANTS. A Treatise upon the Best Known Disinfectants. Their Use in the Destruction of Disease Germs, with Special Instruction for Their Application in the Commonly Recognized Infectious and Contagious Diseases. By H. M. Bracken, M.D., Professor of Materia Medica and Therapeutics, University of Minnesota. Cloth; pp. 85. Price, \$1.00. Chicago: Trade Periodical Co.

THE CARE OF THE CONSUMPTIVE. A Consideration of the Scientific Use of Natural Therapeutic Agencies in the Prevention and Cure of Consumption: Together with a Chapter on Colorado as a Resort for Invalids. By Charles Fox Gardner, M.D., Non-Resident Fellow of the New York Academy of Medicine. Cloth; pp. 182. Price, \$1.25. New York and London: G. P. Putnam's Sons. 1900.

A PRACTICAL TREATISE ON MEDICAL DIAGNOSIS FOR STUDENTS AND PHYSICIANS. By John H. Musser, M.D., Professor of Clinical Medicine in the University of Pennsylvania. Fourth Edition, Revised and Enlarged. Illustrated with 250 Woodcuts and 49 Colored Plates. Cloth; pp. 1105. Price, \$6.00. Philadelphia and New York: Lea Brothers & Co. 1900.

TEXT-BOOK OF PHYSIOLOGY. Edited by E. A. Schäfer, LL.D., F.R.S., Professor of Physiology, University of Edinburgh. Vol. II. Cloth; pp. 1365. Price, \$10.00. Edinburgh and London: Young J. Pentland. New York: MacMillan Co. 1900.

TERAPIA DELLE MALATTIE DELL'INFANZIA ad uso di Medici e Studenti della Dott. Prof. Cesare Gattaneo. Libero docente di Clinica Pediatrica alla R. Università di Parma. Cloth; pp. 507. Milano: Uirco Hoepli. 1901.

PROCEEDINGS OF THE KANSAS MEDICAL SOCIETY. Thirty-fourth Annual Meeting. Topeka, Kan., Wednesday, Thursday and Friday, May 2, 3 and 4, 1900. Cloth; pp. 226. Topeka, Kan.: A. D. Bauer Printing Co. 1900.

THE AUSTRALASIAN MEDICAL DIRECTORY AND HANDBOOK. Edited and Compiled by Ludwig Bruck. Fifth edition. Corrected up to August, 1900. Cloth; pp. 221. Sydney: L. Bruck. London: Baillière, Tindall & Cox. 1900.

ETHICAL MARRIAGE. A Discussion of the Relations of Sex, from the Standpoint of Social Duty. By Delos F. Wilcox, Ph.D. Cloth; pp. 231. Price, \$1.25. Ann Arbor, Mich.: Wood-Allen Publishing Company.

THE CURIOUS CASE OF GEN. DELANEY SMYTHE. By W. H. Gardner, M.D. Cloth; pp. 204. London, New York and Montreal: The Abbey Press.

TRANSACTIONS OF THE TEXAS STATE MEDICAL ASSOCIATION. Thirty-second Annual Session held at Waco, Texas, April 24, 25, 26 and 27, 1900. Cloth; pp. 400. Austin, Texas: Von Boeckmann, Schutze & Co. 1900.

REPORT OF THE COMMISSIONER OF EDUCATION FOR THE YEAR 1898-99. Vol. I. Cloth; pp. 1248. Washington: Government Printing Office. 1900.

THE PRACTICE OF MEDICINE. A Text-Book for Practitioners and Students, with Special Reference to Diagnosis and Treatment. By James Tyson, M.D., Professor of Medicine in the University of Pennsylvania and Physician to the Hospital of the University. Second Edition Thoroughly Revised and in Parts. Rewritten. With 127 Illustrations, including Colored Plates. Cloth. Pp. 1222. Price, \$5.50. Philadelphia: P. Blakiston's Son & Co. 1900.

THERAPEUTICS: ITS PRINCIPLES AND PRACTICE. By Horatio C. Wood, M.D., LL.D. (Lafayette-Yale), Professor of Materia Medica and Therapeutics, and Clinical Professor of Diseases of the Nervous System, in the University of Pennsylvania. Eleventh Edition. Remodeled and in Greater Part Rewritten. By Horatio C. Wood, and Horatio C. Wood, Jr., M.D., Demonstrator of Pharmacodynamics in the University of Pennsylvania. Cloth. Pp. 850. Price, \$5.00. Philadelphia and London: J. B. Lippincott Co. 1900.

THE MEDICAL EXAMINATION FOR LIFE INSURANCE AND ITS ASSOCIATED CLINICAL METHODS, with Chapters on the Insurance of Substandard Lives and Accident Insurance. By Charles Lyman Greene, M.D., St. Paul, Clinical Professor of Medicine and Physical Diagnosis in the University of Minnesota. With 99 Illustrations. Cloth. Pp. 426. Price, \$4.00. Philadelphia: P. Blakiston's Son & Co. 1900.

QUIZ—COMPENDS. No. 16. A COMPEND OF DISEASES OF THE SKIN. By Jay F. Schamberg, A.B., M.D., Professor of Diseases of the Skin, Philadelphia Polyclinic and College for Graduates in Medicine. Second Edition, Revised and Enlarged. With 105 Illustrations. Cloth. Pp. 291. Price, \$0.80. Philadelphia: P. Blakiston's Son & Co. 1900.

PROCEEDINGS OF THE EIGHTH ANNUAL MEETING OF THE ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES, held at Kansas City, Missouri, September 27, 28 and 29, 1900. Cloth. Pp. 376. Columbus, Ohio: Berlin Printing Co. 1900.

THE TREATMENT OF FRACTURES. By W. L. Estes, A.M., M.D., Director and Physician and Surgeon-in-Chief of St. Luke's Hospital, South Bethlehem, Pa. Cloth. Pp. 216. Price, \$2.00. New York: International Journal of Surgery Co.

DISEASES OF THE NERVOUS SYSTEM. A Text-book for Students and Practitioners of Medicine. By H. Oppenheim, M.D., Professor at the University at Berlin. Authorized Translation by Edward E. Mayer, A.M., M.D., Pittsburg, Pa. First American from the Second Revised and Enlarged German Edition. With 293 Illustrations. Cloth. Pp. 900. Price, \$5.00. Philadelphia and London: J. B. Lippincott Co. 1900.

THOMAS SYDENHAM. By Joseph Frank Payne, M.D., Oxon. Fellow and Harveian Librarian of the Royal College of Physicians. Cloth. Pp. 264. Price, \$1.25. New York: Longmans, Green & Co. 1900.

TRANSACTIONS OF THE SECOND ANNUAL SESSION OF THE TRI-STATE MEDICAL ASSOCIATION OF THE CAROLINAS AND VIRGINIA, held at The Charleston Hotel, Charleston, S. C., February 20, 21 and 22, 1900. Cloth. Pp. 315. Richmond, Va.: Williams Printing Co. 1900.

PROCEEDINGS OF THE NEBRASKA STATE MEDICAL SOCIETY. Thirty-second Annual Session, 1900. Cloth. Pp. 356. Published by the Society.

APPENDICITIS AND ITS SURGICAL TREATMENT. With a Report of One Hundred and Eighty-five Cases. By Herman Mynter, M.D. (Copenhagen), Professor of Clinical Surgery in University of Buffalo, Buffalo, N. Y. Third Revised Edition. Cloth. Pp. 231. Price, \$2.00. Philadelphia: J. B. Lippincott Co. 1900.

SEXUAL DEBILITY IN MAN. By F. R. Sturgis, M.D., Formerly Clinical Professor of Venereal Diseases in the Medical Department of the University of the City of New York. Cloth. Pp. 432. Price, \$3.00. New York: E. B. Treat & Co. 1900.

ORTHOPEDIC SURGERY. A HANDBOOK. By Charles Bell Kettley, F.R.C.S., Surgeon to the West London Hospital. Cloth. Pp. 539. Price, \$5.50 net. London: Smith, Elder & Co. 1900.

TRANSACTIONS OF THE STATE MEDICAL SOCIETY OF WISCONSIN. For the Year 1900. Constitution and By-laws and List of Members. Cloth. Pp. 480. Madison, Wis. M. J. Cantwell. 1900.

PAMPHLETS.

A NEW NASAL SPLINT. RETINITIS ALBUMINURICA WITH REPORT OF CASES. By Francis W. Alter, Toledo, Ohio. Reprints.

CEREBRAL ABSCESS FOLLOWING CHRONIC OTITIS MEDIA PURULENTA—OPERATION—RECOVERY. By William H. Dudley, M.D., Easton, Pa.

A PAPER ON ENGLISH SPELLING. By George D. Broomell. Paper; pp. 27. Price, \$0.10. Chicago: Ben Franklin Company. 1900.

IRITIS. By J. H. McCassy, M.A., M.D., Dayton, Ohio. Reprinted from Medical News.

MALADMINISTRATION OF PUBLIC MEDICAL AFFAIRS IN THE STATE OF TEXAS. By H. A. West, M.D., Galveston, Texas. Reprinted from Texas Medical Journal.

MEDICAL EDUCATION. THE DEEP FASCIA. By Dr. Edmund W. Holmes. Reprints.

PROCEEDINGS AND ADDRESSES OF THE FOURTH GENERAL CONFERENCE OF THE HEALTH OFFICERS IN MICHIGAN, Grand Rapids, Mich., Oct. 26 and 27, 1899. Paper; pp. 181. Lansing, Mich.: Wynkoop, Hallenbeck, Crawford Co.

REPORT OF A CASE OF NEPHRECTOMY FOR PYONEPHROSIS DUE TO IMPACTION OF A STONE IN THE BLADDER. REPORT OF TWO CASES OF EPITHELIOMA OF THE VULVA. By Charles P. Noble, M.D., Philadelphia. Reprints.

REPORT OF THE COMMITTEE ON A STATE BOARD OF HEALTH. TEXAS STATE MEDICAL ASSOCIATION, Waco, Texas, April 26, 1900. Reprinted from Texas Medical Journal and Transactions of Texas Medical Association.

ROENTGEN RAYS IN THE TREATMENT OF SKIN DISEASES AND FOR THE REMOVAL OF HAIR. THE PRESENT TREATMENT OF SYPHILIS. By Wm. Allen Pusey, A.M., M.D., Chicago. Reprints.

SCARLET FEVER. (Scarlatina.) Its Prevention, Restriction and Suppression. Issued by the Illinois State Board of Health, 1900. Paper; pp. 18. Springfield, Ill.: Phillips Bros. 1900.

SUPERHEATED DRY AIR IN THE TREATMENT OF RHEUMATIC AND ALLIED AFFECTIONS. By Thomas E. Satterthwaite, M.D., New York City. Reprinted from Medical Review of Reviews.

THE APPLICATION OF HEAT IN ANTICIPATION OF SURGICAL SHOCK AS A PROPHYLACTIC MEASURE. HEMOTHORAX FROM STAB-WOUND OF AN INTERCOSTAL ARTERY—OPERATION—RECOVERY. A CONTRIBUTION TO THE STUDY OF ANASTOMOSIS OF THE HOLLOW VISCERA—A MODIFIED MURPHY BUTTON. By John S. Miller, A.M., M.D., Philadelphia. Reprints.

THE MATERIA MEDICA OF PICHI. By Noah E. Aronstam, M.D., Ph.G., Detroit, Mich. Reprinted from Physician and Surgeon.

THE NEED OF HOSPITALS AND TRAINING SCHOOLS FOR COLORED PEOPLE OF THE SOUTH. By Daniel H. Williams, M.D., Chicago. Reprinted from National Hospital Record.

THE PHYSICIAN'S INFLUENCE IN RE VACATION SCHOOLS. By Helen C. Putnam, A.R., M.D., Providence, R. I. Reprinted from Bulletin of American Academy of Medicine.

THE PREVENTION OF POST-OPERATIVE HERNIA. By C. U. Collins, M.D., Peoria, Ill. Reprinted from Peoria Medical Journal.

THE PUBLIC HEALTH AND THE STATE'S DUTY TO PROTECT IT. By M. M. Smith, M.D., Austin, Texas. Reprinted from Texas Medical Journal.

TENTH ANNUAL REPORT OF THE EYE, EAR, NOSE AND THROAT HOSPITAL OF NEW ORLEANS, LA. Jan. 1, 1899 to Dec. 31, 1899. Paper: pp. 54. New Orleans: L. Graham & Son. 1900.

THE USE OF THERMOL IN TYPHOID FEVER. By George B. Miller, M.D., Philadelphia. Reprinted from Philadelphia Medical Journal.

ABSTRACT ON THE REPORT ON THE ORIGIN AND SPREAD OF TYPHOID FEVER IN U. S. MILITARY CAMPS DURING THE SPANISH WAR OF 1898. By Walter Reed, Major and Assistant-Surgeon, U. S. Army; Victor C. Vaughan, Major and Division Surgeon, U. S. V.; and Edward O. Shakespeare, Major and Brigade Surgeon, U. S. V. Paper. Pp. 239. Washington: Government Printing Office. 1900.

CLINICAL REPORT. A PIN IN THE VERMIFORM APPENDIX SIMULATING TURO-OVARIAN ABSCESS. THE PREVENTION OF PUERPERAL SEPTICEMIA. By H. G. Wetherill, Denver, Colo. Reprints.

INJURIES OF THE EYELIDS AND EYEBALLS. By L. Webster Fox, A.M., M.D., Philadelphia, Pa. Reprinted from International Clinics.

LOCOMOTOR ATAXIA. By Hugh T. Patrick, M.D., Chicago. Reprinted from International Clinics.

REPORT OF THE RESULTS OF THE EXECUTION OF THE LAW, "Regulating the Practice of Medicine and Surgery in the State," by the Medical Examining Boards, from its Passage, April 18, 1895, to December 15, 1899. Paper. Pp. 25. Dover, Del.: The Index Print.

THE GOOD NURSE. By James H. McBride, M.D., Los Angeles, Cal. Reprinted from Chicago Medical Recorder.

TRANSACTIONS OF THE ELEVENTH ANNUAL MEETING OF THE MEDICAL SOCIETY OF THE STATE OF WASHINGTON. Held at Spokane, May 8 and 9, 1900. Paper. Pp. 180. Spokane, Wash.: Shaw and Borden Co. 1900.

TRANSACTIONS OF THE MISSISSIPPI STATE MEDICAL ASSOCIATION, at its Thirty-third Annual Session held at Meridian, April 18 and 19, and May 16, 17 and 18, 1900, with the Roll of Members and Reports on Medical Topics. Published by the Association. Paper. Pp. 146. Biloxi, Miss.: Biloxi Daily Herald. 1900.

WHAT THE LAW REQUIRES OF THE SURGEON. By Dudley S. Reynolds, A.M., M.D., Louisville, Ky. Reprinted from N. Y. Med. Jour.

A CATARACT KNIFE OF EXCELLENT SHAPE AND PROPORTION DEvised A CENTURY AND A HALF AGO, BY DR. THOMAS YOUNG, OF EDINBURGH, AND THE KNIVES WHICH PRECEDED IT. By Alvin A. Hubbell, M.D., Buffalo, N. Y. Reprinted from the Ophthalmic Record.

IS INTERNAL ANTISEPSIS POSSIBLE. By Thomas E. Satterthwaite, M.D., New York. Reprinted from Post-Graduate.

LOCOMOTOR ATAXIA. Clinical Lecture Delivered at the Chicago Polyclinic. By Hugh T. Patrick, M.D., Chicago. Reprinted from International Clinics.

PUTRID GASTROENTERITIS. By S. Stevens, M.D., Dowagiac, Mich. Reprinted from The Plexus.

ROENTGEN RAYS IN THE TREATMENT OF SKIN DISEASES AND FOR THE REMOVAL OF HAIR. By William Allen Pusey, A.M., M.D., Chicago. Reprinted from Chicago Medical Recorder.

FORMALDEHYDE DISINFECTION AS PERFORMED BY THE CHICAGO HEALTH DEPARTMENT. By Charles W. Behm, M.D., Chief Medical Officer in Charge of Disinfection. September, 1900.

GASTRIC HEMORRHAGE. GASTRIC ULCER: NON-PERFORATING HEMORRHAGE. By William L. Rodman, M.D., Philadelphia. Reprinted from Philadelphia Medical Journal.

METHODS IN THE DIAGNOSIS OF DISEASES OF THE STOMACH. By Charles D. Aaron, M.D., Detroit. Reprinted from Medical Standard.

PROCEEDINGS OF THE PATHOLOGICAL SOCIETY OF PHILADELPHIA. November, 1900. Paper. Pp. 20. Published by the Society. 1900.

PHYSIOLOGY OF SEXUALISM. By N. E. Aronstam, M.D., Ph.G., Detroit. Reprinted from Medical Age.

REPORT OF THE SURGEON-GENERAL, U. S. NAVY, Chief of the Bureau of Medicine and Surgery to the Secretary of the Navy. 1900. Paper. Pp. 267. Washington: Government Printing Office. 1900.

SEVEN BRIEF MEDICAL PAPERS. FLOATING SPLEEN. FATTY CIRRHOSIS OF THE LIVER. AMYLOID DEGENERATION OF THE KIDNEY. TYPHOID FEVER WITH COMPLICATIONS. DIAGNOSIS IN THE LIGHT OF NECROPSY. EMPYEMA. INFECTIOUS DISEASES. By Stephen Smith Burt, A.M., M.D., New York. Reprinted from the Post-Graduate.

THE TREATMENT OF NOMA. By G. M. West, M.D., Eufaula, I. T. Reprinted from the Therapeutic Gazette.

THE VECTIS. By John Bartlett, M.D., Chicago. Reprinted from Clinical Review.

TRADE PAMPHLETS.

DANIEL'S CONCENTRATED TINCTURE PASSIFLORA INCARNATA. By John E. Daniel. Atlanta, Ga.

ANUSUL SUPPOSITORIES. BETA-EUCAIN. BETANAPHTHOL-BISMUTH. PHENOL-BISMUTH. TRIBROMPHENOL-BISMUTH. COLLARGOLUM AND UNGUENTUM CREDE. CREOSOTAL AND DUOTAL. FORMALIN DISINFECTION. HELTHIN. SCHERING'S GLYCERO-PHOSPHATES. STIEFFEL'S MEDICINAL SOAPS. UROTROPIN. By Schering & Glatz, New York.

DIABETES MELLITIS. Its Detection and Successful Treatment. By Heinrich Stern, Ph.D., M.D., New York. Chas. Roome Parmele Co., New York.

THE WALTER BAKER SANITARIUM. Paper. Boston, Mass.

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Assisted by H. R. M. Landis, M.D., Assistant Physician to the Out-Patient Medical Department of the Jefferson Medical College Hos-

pital. Volume IV. December, 1900. Diseases of Digestive Tract and Allied Organs, the Liver, Pancreas, and Peritoneum—Genito-Urinary Diseases and Syphilis—Fractures, Dislocations, Amputations, Surgery of the Extremities, and Orthopedics—Diseases of the Kidneys—Physiology—Hygiene—Practical Therapeutic Referendum. Cloth. Pp. 428. Price, \$2.50. Philadelphia and New York: Lea Brothers & Co. 1900.

STUDENTS' EDITION, A PRACTICAL TREATISE ON MATERIA MEDICA AND THERAPEUTICS, with Special Reference to the Clinical Application of Drugs. By John V. Shoemaker, M.D., LL.D., Professor of Materia Medica, Pharmacology, Therapeutics, and Clinical Medicine, and Clinical Professor of Diseases of the Skin in the Medico-Chirurgical College of Philadelphia. Fifth Edition. Thoroughly Revised. Cloth. Pp. 770. \$4.00 net. Philadelphia, New York and Chicago: F. A. Davis Co. 1900.

ANOMALIES OF REFRACTION AND OF THE MUSCLES OF THE EYE. By Flavel B. Tiffany, A.M., M.D., Professor of Ophthalmology and Otology of the University Medical College of Kansas City, Mo. Author's Fourth Edition. Cloth, Pp. 307. Price, \$2.40. Kansas City, Mo.: Hudson-Kimberly Publishing Co. 1900.

THE SURGICAL TREATMENT OF CONGENITAL AND PATHOLOGIC DISFIGUREMENTS OF THE FACE. Abstract of the Mutter Lectures of the College of Physicians of Philadelphia, for 1900. By John B. Roberts, A.M., M.D., Professor of Surgery in the Philadelphia Polyclinic. Cloth. Pp. 53. Price, \$1.20. Philadelphia: Philadelphia Medical Publishing Co. 1900.

AN ESSAY ON THE REDUCTION OF OBESITY. With Special Reference to the Use of Granular Effervescent Salts of Vichy and Kissingen. By William T. Cathell, A.M., M.D., Baltimore. John Wyeth & Bro., Philadelphia.

CATALOGUE OF AUTOGRAPH COLLECTIONS. The Property of William Ebbitt Mitchell, 251 West 43rd St., New York. Now offered for sale.

MICROSCOPICAL REPRODUCTIONS OF THE BLOOD AND BACTERIA. Directions for Preparing Specimens for Diagnostic Purposes, etc. Reed and Carnrick, Jersey City, N. J.

Miscellany.

Toxicity of Expired Air.—Experiments at the Hygienic Institute at Prague seemed to indicate that the air expelled from the lungs of guinea-pigs and dogs contained some toxic substance, in addition to the carbon dioxid, as the animals rapidly succumbed to its action. But further research demonstrated that the toxic action was due to the ammonia in the putrefying excreta in the cages. Formanek concludes from these experiments that the syncope and discomfort experienced in insufficiently ventilated or crowded rooms, are not due to any special toxins expired but are merely reflex disturbances in sensitive individuals, caused by the heat or disgust at the odors emanating from the crowd. Ammonia can be incriminated to a slight extent and carbon dioxid still less.—*Arch. f. Hyg.* xxxviii, 1.

Glycosuria Consecutive to Extirpation of Pituitary Gland.—Extensive experimental research on dogs has demonstrated that partial or total resection of the cerebral hypophysis produces besides the inevitable cachexia, a pronounced and persistent glycosuria, accompanied by polyuria. Caselli observes in his preliminary communication to the *Rivista Sperim. di Freniatria* xxvi, 1, that this result agrees with the clinical observation that glycosuria is frequent in case of a tumor in the pituitary gland with or without acromegaly.

Eucain Versus Cocain for Medullary Narcosis.—F. Leguen, professor agrégé at Paris, used cocain exclusively in forty-eight operations performed under intraspinal anesthesia, and then substituted eucain in the succeeding nine. His experience with the latter was very favorable. He has long employed it for local anesthesia in preference to cocain, on account of its lesser toxicity and the possibility of effectively sterilizing it by the usual methods. Whether eucain or cocain, he always uses a 2 per cent. solution. The average dose of cocain was 2 cgm., i.e., 1 c.c. of a 2 per cent. solution, but in a few cases he increased this amount to 3 cgm. and in others 1 cgm. proved sufficient. Dr. F. Engelmann reports an unfortunate experience with eucain B. in his own person, in a communication to the *Munch. Méd. Woch.* of October 30. He had 1 cgm. of eucain injected into the lumbar spinal cavity by a colleague by the usual technique; no anesthesia was induced, but symptoms of intoxication appeared in a few hours, severe sacral pains, headache, nausea and vomiting, eight to ten chills and slight temperature. The headache was unbearable at first, and persisted severe for eight to ten days, although not interfering with his duties. He found no relief from antineuralgics, but the headache ceased in the dorsal decubitus.

Societies.

Medical Association of Nevada, Reno, Jan. 7, 1901.

Pan-American Medical Congress, Havana, Cuba, Feb. 4, 1901.

Tri-State Medical Association of the Carolinas and Virginia, Richmond, Va., Feb. 26, 1901.

THE SALT LAKE (Utah) MEDICAL SOCIETY, at its meeting, December 10, elected Dr. Ira A. E. Lyons, president; Dr. Alexander C. Ewing, vice-president; Dr. Murray R. Stewart, secretary, and Dr. Augustus C. Behle, treasurer.

THE COLUMBUS (Ohio) ACADEMY OF MEDICINE held its annual meeting, December 17, at which the following officers were elected: Dr. James C. Lawrence, president; Dr. Hugh Hendrixson, vice-president; Dr. John L. Gordon, secretary, and Dr. Francis W. Blake, treasurer.

THE JEFFERSON COUNTY (Ala.) MEDICAL SOCIETY held its last meeting for the year, at Birmingham, December 17, at which the following officers were elected: Dr. W. E. B. Davis, president; Dr. Edward P. Riggs, censor, and Dr. James M. Mason, health officer.

THE BUTLER COUNTY (Ohio) MEDICAL SOCIETY, at its meeting at Hamilton, December 12, elected Dr. August Schumacher, Hamilton, president; Dr. James E. Torrence, Oxford, vice-president; Dr. Edward H. French, Hamilton, secretary, and Dr. Francis M. Fitton, Hamilton, treasurer.

THE CENTRAL DISTRICT MEDICAL ASSOCIATION OF IOWA held its twenty-sixth semi-annual meeting at Boone, December 18, and elected Dr. David N. De Tar, Boone, president; Dr. Josiah D. McVey, Lake City, vice-president, and Dr. George H. Stranger, Boone, secretary and treasurer.

THE NEW YORK ACADEMY OF MEDICINE held its annual election of officers, December 20, with the following result: Dr. Robert F. Weir, president; Dr. Charles M. Dana, vice-president; Dr. John H. Huddleston, corresponding secretary, and Dr. Louis F. Bishop, recording secretary.

THE SOUTH TEXAS MEDICAL ASSOCIATION held its semi-annual meeting at Houston and elected Dr. Robert W. Knox, Houston, president; Drs. Walter Shropshire of Yoakum, and George W. Emory of Anderson, vice-presidents, and Dr. D. Stuart Wier, Houston, secretary and treasurer.

THE LORAIN COUNTY (Ohio) MEDICAL SOCIETY, at its meeting held December 18, elected Dr. William C. Bunce, Oberlin, president; Dr. Ewan Cameron, Lorain, vice-president; Dr. A. M. Webster, Lorain, secretary, and Dr. Frank Young, Lorain, treasurer and librarian.

THE HAWAIIAN MEDICAL ASSOCIATION, at a recent meeting, changed its name to "The Hawaiian Territorial Medical Society," and elected the following officers: Dr. W. E. Taylor, president; Dr. H. C. Sloggett, vice-president, and Dr. A. G. Hodgins, secretary and treasurer.

THE MONTGOMERY COUNTY (Ohio) MEDICAL SOCIETY met for its annual session at Dayton, December 7, and elected Dr. John S. Beck, president; Dr. Francis C. Gray, vice-president; Dr. Horace Bonner, secretary; Dr. David C. Lichliter, treasurer, and Dr. Duff W. Greene, censor, all of Dayton.

THE MEDICAL AND SURGICAL SOCIETY OF MONTGOMERY COUNTY (Ala.) met at Montgomery, December 15, and elected Dr. Robert Goldthwaite, president; Dr. Frank H. M. McConico, vice-president; Dr. Charles T. Pallard, secretary; Dr. Shirley Bragg, treasurer and county health officer, and Dr. Glenn Andrews, censor.

THE BERRIEN COUNTY (Mich.) MEDICAL SOCIETY met for its third annual session at Benton Harbor, December 13, and elected Dr. Henry V. Fulton, Benton Harbor, president; Dr. Robert Henderson, Buchanan, vice-president; Dr. Wakeman Ryno, Benton Harbor, secretary, and Dr. Hattie G. Schwendener, St. Joseph, treasurer.

THE NORTHWEST ARKANSAS MEDICAL SOCIETY convened at Siloam Springs, December 11, and elected Dr. Thomas W. Blackburn, Boonsboro, president, and Dr. Joseph T. Clegg, Siloam Springs, secretary. Prairie Grove was selected as the place for the next semi-annual meeting in June, 1901.

THE TENNESSEE VALLEY MEDICAL SOCIETY met for organization at Huntsville, Ala., December 19, and elected Dr. Felix

E. Baldrige, Huntsville, president; Drs. Thaddeus A. Casey, Albertville, and F. F. Pettey, Decatur, vice-presidents; Dr. Thomas E. Dryer, Huntsville, secretary, and Dr. Edgar Rand, Leighton, treasurer.

THE NORTHWESTERN OHIO MEDICAL ASSOCIATION, held its annual meeting at Toledo, December 14. The following officers were elected: Dr. John A. Wilkins, Delta, president; Drs. Harbon B. Gibbon, Tiffin, and Manford M. Hixson, Continental, vice-presidents; Drs. Joseph P. Baker, Findlay, secretary, and Theodore M. Gehrett, treasurer, were re-elected.

THE NORTH TEXAS MEDICAL ASSOCIATION, which held its semi-annual session at Sherman, December 11, 12 and 13, decided to hold its next meeting in Paris. Dr. Robert F. Miller, Sherman, was elected president; Dr. Jesse B. Shel mire, Dallas, vice-president; Dr. Stephen A. D. Moore, Van Alstyne, secretary, and Dr. Carey A. Gray, Bonham, treasurer.

THE SOMERVILLE (Mass.) MEDICAL SOCIETY, at its annual meeting held December 13, voted to tender its co-operation to the board of health in the proposed medical inspection. The following officers were elected: Dr. George A. Miles, president; Dr. Frederick G. Smith, vice-president, and Dr. Arthur R. Perry, secretary and treasurer.

THE MORGAN COUNTY (Ill.) MEDICAL SOCIETY met at Jacksonville, December 13. The following officers were elected: Dr. John G. Franken, Chandelville, president; Dr. Alonzo F. Burnam, Jacksonville, vice-president; Dr. E. F. Baker, Jacksonville, secretary; Dr. Edward Bowe, Jacksonville, treasurer, and Dr. William C. Cole, Jacksonville, librarian.

THE SEABOARD MEDICAL ASSOCIATION OF VIRGINIA AND NORTH CAROLINA, held its annual meeting at Weldon, N. C., December 14 and 15. Norfolk, Va., was selected as the next place of meeting. Dr. J. Emmett Sebrell, Courtland, Va., was elected president; Drs. H. Turner Bass, Tarboro, N. C., Emerson Land, Oceana, Va., Joel Crawford, Yale, Va., and Albert R. Anderson, Wilson, N. C., vice-presidents; Dr. Isreal Brown, Norfolk, Va., treasurer; Dr. John R. Bagby, Newport News, Va., secretary, and Dr. A. K. Taylor, Washington, N. C., orator.

THE SALT LAKE COUNTY (Utah) MEDICAL SOCIETY met at Salt Lake City, December 10, and discussed vaccination. The general consensus of opinion was that absolute immunity from smallpox, by vaccination, could be secured only by re-vaccination every time there was an epidemic. The following officers were then elected: Dr. Ira C. E. Lyons, president; Dr. Alexander C. Ewing, vice-president; Dr. Murray R. Stewart, secretary, and Dr. Archibald A. Kerr, treasurer.

THE CALHOUN COUNTY (Mich.) MEDICAL SOCIETY, at its annual meeting held December 18, at Battle Creek adopted a resolution that it should be considered a violation of medical ethics for a physician to allow his name to be published in connection with reports of accidents or cases treated. The following officers were elected: Dr. Leon M. Gillette, Battle Creek, president; Drs. George C. Hafford, Albion, and John C. Brown, Burlington, vice-presidents; Dr. William H. Haughey, Battle Creek, secretary; Dr. Richard M. Olin, Battle Creek, treasurer.

THE MAINE ACADEMY OF MEDICINE AND SCIENCE held its forty-second stated meeting at Portland, December 10, at which the following resolution was adopted: *Resolved*, That we, the members of the Maine Academy of Medicine and Science, recognizing the necessity of a public laboratory in this state, whereby contagious and infectious diseases can be studied and the public protected, do recommend and advise the establishment of such an institution and that legislation be enacted to that effect. *Resolved*, That this resolution be forwarded to the secretary of the State Board of Health, after being signed by our president and secretary. The election of officers resulted as follows: Dr. Samuel J. Bassford, Biddeford, president; Dr. Daniel Driscoll, Portland, recording secretary; Dr. Addison S. Thayer, Portland, corresponding secretary, and Dr. Herbert F. Twitchell, Portland, treasurer.

THE DETROIT MEDICAL SOCIETY held a "centenary meeting" December 19, at which a symposium on the medical progress of the nineteenth century was offered. Dr. Victor C. Vaughan, Ann Arbor, who spoke on the progress of medicine, acknowi-

edged the great advances made that have banished the fear of smallpox, reduced the death-rate in typhoid fever from 30 to 7 per cent., discovered the causes and partial cures for tuberculosis, anthrax, cholera and the like. He said that isolation and antiseptics had more to do with reducing the danger from communicable diseases than all other agencies. He predicted that the day is coming when science will be so absolute that no man will pollute the water we drink, the food we eat, the air we breathe and the floors and pavements on which we live and walk, and that disease in large part will be utterly stamped out. Dr. Nathaniel W. Webber spoke of "The Old Doctors of Detroit and Michigan," and Dr. Henry O. Walker discussed the progress of surgery, accrediting to American surgeons the greatest and most wonderful advances of the century. Frank T. Lodge read a paper entitled "A Half Century of Medical Jurisprudence," in which he condemned the existing practice of buying expert witnesses in cases at law. He suggested possible remedies: That experts be named by the court in every case; that one be selected by each party to the case and a third by the court; that a standing commission be appointed, from which experts could be drawn; that there be an auxiliary panel of experts, a part of the jurors to be drawn from them; that there be an abolition of hypothetical interrogations; that there be a severe restriction in the way of examinations for eligibility as experts and that the payment of experts be made out of the public treasury.

THIRD PAN-AMERICAN MEDICAL CONGRESS.

SECTION OF OBSTETRICS.

Dr. E. Gustave Zinke, 13 Garfield Place, Cincinnati, Ohio, Secretary. Titles and authors of papers received up to date:

1. The Toxicity of the Urine in Pregnancy and Its Relation to Puerperal Convulsions; by Dr. John Milton Duff, Pittsburg, Pa.
2. Face Presentation; by Dr. J. A. Lyons, Chicago.
3. The Management of a Myomatous Pregnant Uterus; by Dr. W. H. Wathen, Louisville, Ky.
4. Experimental Investigation on Puerperal Sepsis; by Dr. F. Gaertner, Saginaw, Mich.
5. The Simultaneous Occurrence of Extra- and Intra-Uterine Pregnancy and a Tabulated Record of 62 Cases Collected from 1708-1901; by Dr. E. Gustav Zinke, Cincinnati, Ohio.
6. Cholemia and Hemorrhage; by Dr. David Tod Gilliam, Columbus, Ohio.
7. Renal Insufficiency in Relation to Women; by Dr. Jas. T. Jelks, Hot Springs, Ark.
8. Clinical Consideration Relating to Cancer of the Uterus; by Dr. A. T. Currier, New York City.
9. The Medication and Treatment of Uterine Fibroids; by Dr. W. B. Chase, New York City.

Philadelphia College of Physicians.

Meeting November 20, 1900.

Dr. S. D. RISLEY in the chair.

ORBITAL ABSCESS.

Dr. S. D. RISLEY exhibited a case of abscess of the orbit following injury which was associated with an opening in the ethmoid cells caused by a blow from a piece of metal on the nasal aspect of the upper eye-lid. Cold compresses were applied, but later fluctuation occurred, and after a deep incision was made a large amount of pus was evacuated. The cavity was syringed with peroxid of hydrogen and saturated solution of boracic acid. It was found that the fluid passed freely into the nostrils.

PAPILLOMA OF CARUNCLE.

Drs. W. C. POSEY and E. A. SHUMWAY had only been able to find five cases of this condition that had been accurately described microscopically, and this case was the sixth. The patient was a man aged 60 years, who exhibited a mulberry growth attached by a pedicle to the right caruncle, and two similar growths on the palpebral conjunctiva near the lid margin. The growths were incised and the loss of tissue replaced by a flap from the forehead. Microscopic examination showed a pedicle of connective tissue attached to the caruncle, from which proceeded numerous branches covered with a thick mantle of epithelium. The axial connective tissue was embryonal in character, and contained thin blood-vessel walls. There was a marked increase of lymphoid cells, and numerous goblet cells in the epithelium covering the caruncle and the mantles covering the tumor. There was no extension of the growth beneath the surface of the caruncle.

Dr. GEORGE E. DE SCHWEINITZ referred to a case of papilloma springing from the plica semilunaris which he had removed last April.

Dr. C. A. VEASEY had several years ago removed a growth which he thought was a papilloma, but which proved to be a sarcoma.

INTRAOCULAR METALLIC BODIES.

Dr. GEORGE E. DE SCHWEINITZ described two cases of intra-ocular metallic foreign bodies which had been localized with the X-rays according to Sweet's method. In one case the body was firmly imbedded in a mass of cicatricial tissue behind the ciliary body, where it had been for ten months. It could not be removed with a magnet and the eyeball was removed as sympathetic inflammation had already set in. In the second case the foreign body was of unusual size and was easily removed twenty-four hours after the accident. The eyeball was collapsed; it was filled with normal saline solution and closed with catgut sutures and there was an uninterrupted recovery. He dwelt on the uselessness of attempting to remove a foreign body by a magnet after it had become imbedded and was of long standing.

INFLUENZA AND GLAUCOMA.

The speaker also read a paper on the etiological relationship of epidemic influenza to chronic glaucoma. Some writers had stated that glaucoma was more prevalent after epidemics of influenza. He related a case of retrobulbar neuritis caused by this disease in which he had observed the formation of a cup closely simulating glaucoma, and this condition might account in some cases for this supposed relationship.

Dr. M. H. FENTON had seen a case diagnosed influenza, and on the sixth day the eye was of stony hardness, while the other eye exhibited chronic glaucoma. He believed the super-intoxication in influenza induced glaucoma in eyes predisposed to the disease.

CONJUNCTIVAL HEMORRHAGE.

Dr. HOWARD F. HANSELL reported a case of hemorrhage from the conjunctiva in an infant. The child at birth was frail, and for several days after birth there had been a purulent discharge from the conjunctiva of both lids. Two weeks later bleeding from the conjunctiva commenced and continued five days. The hemorrhage came from the entire conjunctival surface and continued day and night. The blood count showed 5,400,000 red and 5600 white corpuscles; the hemoglobin was not estimated. Death ensued at the fifth week.

Dr. DE SCHWEINITZ recalled two cases of a similar nature, one of which he had reported.

Cincinnati Academy of Medicine.

Regular Meeting, Nov. 25, 1900.

GALL-STONES.

Dr. RUFUS B. HALL presented some gall-stones, removed from a woman 37 years old, the mother of thirteen children, the youngest being but 7 weeks old. Her present illness began suddenly five weeks ago with what was at first supposed to be an attack of gastralgia; in a day or two, however, she commenced to have severe chills every day or even oftener, followed by profuse and exhausting sweats. At this time there was noted an enlargement of the upper part of the right abdomen extending downward below the free border of the ribs some three or four inches. She entered the Presbyterian Hospital one week ago; at that time she was delirious, her pulse was between 150 and 160. Soon after her entry she was taken with a chill which sent her temperature to 105. The abdominal enlargement had increased to about the size of an adult head. Suspecting a suppurating gall-bladder or an abscess of the liver, he aspirated and drew off a large quantity of pus. This he knew to be from the gall-bladder, as during the aspiration he could feel the stones therein. Within twelve hours she had improved greatly and at the end of fifty hours she could answer questions intelligently. He then operated, removing something over 850 gall-stones.

Dr. J. L. CLEVELAND narrated a case that had come under his observation a number of years ago. The patient had had an intermittent fever for a long time which could not be controlled by quinin or arsenic. There was no jaundice, no enlargement over the liver, no tenderness, only a gastro-intestinal catarrh that might have been present in any fever. The

gall-bladder could not be outlined. The patient went on from bad to worse, finally died, and on post-mortem examination the gall-bladder was found to be filled with stones.

FIBROCYSTIC TUMOR OF THE UTERUS.

DR. E. GUSTAVE ZINKE presented a specimen of fibrocystic tumor of the uterus that in some respects resembled a pregnancy. The physical characteristics of the tumor were those of a pregnant uterus, but the history of the case was of longer standing than nine months. Even on opening the abdomen the tumor at first sight greatly resembled a pregnant uterus. Tumor was removed and the woman has made an uneventful recovery. Dr. Zinke also presented a specimen of multilocular cyst of the ovary with a pedicle thirteen inches in length. There were papillomatous masses within, but he did not think there would be any recurrence on that account. Recovery uneventful.

DR. C. L. BONIFIELD presented a specimen of fibrocystic tumor of the uterus in which the uterus itself had participated in the cystic degeneration. In this case the cervix was much elongated, so much so that it protruded from the vulvar orifice. This specimen simply showed a more advanced stage of the disease than Dr. Zinke's tumor. Dr. Bonifield also presented a specimen of multilocular ovarian cyst with papillomatous ingrowths. This specimen was very much like that of Dr. Zinke's before it was opened.

LUNG WITH UPPER LOBE COLLAPSED.

DR. W. D. HAINES presented this specimen. Post-mortem examination was made some 18 to 20 hours after death; rigor mortis was absent; post-mortem staining was well marked, especially along the dorsal surfaces. Right kidney was enlarged and the kidney congested; the left kidney was normal. The liver was greatly enlarged. After the abdominal viscera had been removed there was noticed a marked bulging in the left hypochondriac region. On introducing the cannula there escaped from five to six pints of mucopurulent fluid containing numerous flocculi. The pus-sae was in all probability tubercular. There was, as shown in the specimen, complete collapse of the upper lobe of the lung.

INTESTINAL OBSTRUCTION DUE TO INTUSSUSCEPTION.

DR. LOUIS E. COOK reported this case, a girl 7 years of age, well developed and nourished. He was called first on the morning of June 28, and found her vomiting and complaining of cramps in the right side of the abdomen. The attack was sudden, as she had gone to bed the night before perfectly well. Pain was so severe that palpation of the abdomen was impossible. There was no fever. Vomitus was chiefly of mucus. A provisional diagnosis of intestinal indigestion was made, and hot applications were ordered to the abdomen and calomel and soda internally. During the day the bowels were moved by large enemata. Vomiting almost continuous, accompanied by much retching. On June 29 she passed a very bad night, pain continuous, no sleep; vomiting persisted during the day. On June 30, pain somewhat diminished, so that for the first time an examination of the abdomen could be made. Small elongated mass could be detected in the right iliac region; abdomen flat. Rectal examination was negative. Diagnosis changed to intussusception and a high enema given, with, however, no result. On July 1 she passed a restless night, better, however, than the preceding, the vomiting ceasing for about six hours. At 7 in the morning vomiting began again, becoming bilious. An enema was given at a temperature of 105 degrees, with high pressure from a fountain syringe, the patient being in the knee-elbow position. About one and one-half gallons of water were used. Vomiting was incessant during the injection. After the enema she passed some small, soft fecal masses and a large amount of gas, the first since the beginning of her illness. Vomiting stopped until evening, and it was then very slight. Mass in iliac region had disappeared. On July 2 child passed a fairly good night; vomiting stopped; bowels moved once. During the day rectal alimentation of peptonized milk was begun. She began feeding by the mouth by the 4th, and on the 8th of the month was able to take solid food. The temperature throughout the attack was seldom more than 1 degree above the normal.

Omaha Medical Society.

Regular Meeting, Nov. 27, 1900.

LEUKEMIA.

DR. B. F. CRUMMER read a paper on this affection, and presented the subject. He was 32 years of age, of good family history. He was a man of good habits and denied any venereal history; he suffered with mild malaria in 1896, with nose-bleed in 1898. During 1898 and 1899 he was very weak, had a rapid pulse and much dyspnea. He first came under observation Nov. 1, 1900. He was a basket-maker and went to the Missouri bottoms in May last to gather his material. In June he had to abandon his work and suffered with pain in the abdomen, anorexia, fever, night-sweats and loss of weight; his pulse was about 110, his temperature 101. There were mucous râles, and the inspiratory sounds were harsh; there was a soft, systolic murmur over the base. The spleen was much enlarged, notched, and reached downward to the crest of the ilium and one inch beyond the navel. The axillary, and inguinal glands were slightly enlarged; there was no tenderness of the tibia. He had been using Fowler's solution in doses of 15 or 16 drops for three or four weeks; he was now able to work a little; his temperature is still from 101 to 102 daily. There was an average of one white blood-cell to 12 or 15 red cells; hemoglobin was 45 per cent.; the myelocytes were in large proportion, about 12 per cent.; the bone-marrow was certainly involved, though the tibia was not tender. This patient was dangerously near the most grave proportions of the white and red blood-cells. The patient was doing well on the arsenic and the extract of bone-marrow. Another case, seen in 1892, showed the blood-cells in the proportion of 1 to 5 and the abdomen was entirely filled with the enlarged spleen; the patient lived two years. The Doctor had also treated a woman of 36 in 1896 who had marked pain and tenderness of the tibiae; she had the lipo-myelogenous variety of leukemia, and improved under large doses of arsenic.

ICTERUS NEONATORUM.

DR. H. M. McCLANAHAN read this paper. Jaundice in the neonati is frequently observed; usually passes away in a few days without injurious effects, and is rarely a symptom of serious import. Of these cases, there are two classes: one, with recovery, without untoward symptoms; the other, in which other symptoms of disease are shown or the patients fail in strength. The first class is usually called physiologic, benign, pseudo or hematie in origin; the other, is called hepatic in origin. The red blood-cells are rapidly reduced in number, hemoglobin is liberated, converted into biliary coloring matter and carried to the intestinal tract. If the infant is very feeble or the skin surface is chilled, this coloring matter is deposited in the skin.

Quinke's theory is that the ductus venosus remains pervious and the blood from the portal vein, laden with bile pigment, is carried into the general circulation. These infants are always unusually feeble. The other class, the fatal cases, are called pathologic, or malignant icterus. Among the causes are congenital defects, or absence of the bile-ducts. Dr. White reported 18 cases in which there was an absence of either the hepatic duct or the common duct, or the latter had become an impervious cord. Cases have also been seen at autopsy in which the cause was due to pressure upon the ducts by a neoplasm. Syphilitic hepatitis is also a cause of jaundice. Reliable authorities report cures of intense jaundice under antisyphilitic treatment. Jaundice is often associated with sepsis due to a phlebitis of the umbilical vein which has hepatitis. The practical side of the subject is that the physician shall be able to differentiate between the benign and the malignant cases: in the former there are no serious symptoms; the stools are not clay-colored, the urine does not stain the napkin, there is no fever, no loss of weight; in the latter the icterus gradually becomes more intense, the eyes and the mucous membrane of the mouth gradually become icteric, the urine is dark, often scanty, and the stools white or clay-colored; the liver is enlarged; the temperature is often subnormal. Of greatest importance, however, is the gradual loss of weight in spite of the fact that the child takes an abundance of food. Syphilitic jaundice is rare, though the

liver is often affected by syphilis; the diagnosis must be made from the history of the mother; misearriages and stillbirths strongly point to this cause; in this form the liver is enlarged from birth, whereas, in obstructive jaundice, it gradually enlarges during the course of the disease. Jaundice due to sepsis usually appears later and has with it fever, anorexia, twitchings, tonic contractions or convulsions, and gastro-intestinal trouble. In sepsis accompanied by icterus there is frequently hemorrhage from the navel or bowels.

DR. J. M. AIKIN presented a brain and gave the following very interesting history: The man, aged 50, came to him in May, 1899, after an attempt at suicide. He was under treatment two months for persistent pain in the vertex; he admitted an almost irresistible impulse to suicide; there were no delusions. He was a man of large business, neither used liquor, tobacco nor drugs. There was no history of prior sickness; he gave up his business and traveled, improved, came back and resumed business. Later the headache returned; on the 24th the suicidal impulse again overpowered him. He wrote a letter with regard to it, and sent out three messenger boys, each having 10 cents for morphin; it is supposed that he got about 7 or 8 grains. He took all the powders, closed the room tightly and turned on the gas. He was found the next morning. After vigorous efforts, he was restored. On Sunday he was rational, doing well, apparently recovering. He said there had been no business reverses, no trouble, merely a return of the awful headaches with the irresistible impulse to suicide. On the 25th preparation was made to send him to the asylum; on the 26th his temperature was 103, respiration was about normal; he became worse, and died on the morning of the 27th. An autopsy showed that death was due to hypostatic pneumonia, a late result of the gas poisoning. The brain showed the source of the headaches and the suicidal impulses; the dura was strongly adherent for 3 inches back of the fissure of Rolando; calcareous matter was present. There had been no brain hemorrhage; degeneration was shown in the region supplied by the middle cerebral artery; there had been no paralysis.

Chicago Society of Internal Medicine.

Nov. 27, 1900.

President Dr. John A. Robison in the chair.

ACQUIRED DEXTROCARDIA.

DR. HOMER M. THOMAS demonstrated a case of the above. A consideration of the general subject of heart displacement reveals two varieties—the congenital and acquired. Of acquired displacements, it is found that very considerable displacement of the apex-beat to the right may be due to retraction of the right lung from fibroid phthisis. Again, a very common cause is found in the development of pneumothorax. In cases of fibroid phthisis where dextrocardia exists, frequently the apex-beat is above the right nipple, and might be recognized by physical signs dependent upon collapse of fibrosis of the lung. The heart is pressed out of position by effusions of fluid—inflammatory, serous, or bloody—into either pleural cavity; by pneumothorax of either side; by intrathoracic tumors; by hypertrophied emphysema, or other causes of enlargement of the lung; by extensive pneumonic consolidation, or by abundant pericardial effusion of any kind. Certain conditions of the abdominal contents produce a similar effect, for example, gaseous distention of the stomach and intestines; enlargement of the liver and other solid organs; abdominal tumors of all kinds, and ascites when considerable.

In displacement of the heart toward the right, the condition is usually the result of effusion into the left pleural cavity; of contracting processes of the right lung or pleura; of left pneumothorax; and of tumors of the left side of the chest, or of the mediastinum. In extreme cases the heart may be displaced toward the right side until the impulse is found in the axillary region.

M. F. J., aged 46, a rubber-worker. His duties involved the inhalation of considerable quantities of soapstone, as well as carbon bisulphid for seven years. There is no family history

of tuberculosis, neither of his having had pneumonia or pleurisy. His only sickness of recent date was an acute rheumatism in 1895. Present condition reveals a cough, shortness of breath, which begun seven years ago. He has had much headache, and pain in the left chest throughout his illness. For two years the cough was very dry; at present expectoration is abundant, and comes in somewhat paroxysmal seizures. No tubercle bacilli have been found. The injection of tuberculin developed absolutely no reaction.

Inspection shows general anemia; some debility; dyspnea. Complexion dark; emaciation moderate. Chest bulging at costo-chondral junction; respiratory movement hurried; restricted intercostal retraction. Apex-beat, fifth space, right nipple line; upper border, upper fifth rib. Right border, anterior axillary line. Left border, right border of sternum. Lower, contiguous with the liver.

Height, 5 feet, 8 inches; weight, 124 pounds. Tape measures: Right lung, expiration, 17 1/2 inches; inspiration, 18 inches. Left lung, expiration, 16 3/4 inches; inspiration, 17 inches. Combined expiration, 34 1/4 inches; inspiration, 35 inches. Temperature in the morning 97.5; noon, 98; and evening, 98. Pulse, 92; rhythm, regular. Heart: Valvular sounds clear; moderate thickening of arteries. Upon percussion of left lung anteriorly dulness is found extending from the supraclavicular, clavicular, and infraclavicular regions. Upon the right lung anteriorly there is hyper-resonance, which extends from the lower border of the first rib down to the lower border of the third rib in a semicircular line about one inch to the right of the costosternal articulation. Posteriorly, the lower border of the right lung shows increasing dulness extending from the lower border of the eleventh rib up to the inferior border of the sixth rib posteriorly. Posteriorly, in the right lung, extending downward from the superior border of the fourth rib down to the eighth rib anteriorly, typical bronchial breathing with moist, fine bubbling râles and increased vocal fremitus are found. There is great dyspnea upon exertion in city air, less so in country air. This is aggravated after eating a hearty meal. Patient has chronic constipation, bowel movement about once in five days. This condition has resisted treatment as to curative results. The constipation is doubtless due to mechanical engorgement of the lower bowel and rectum. The author's conclusions, based upon the history as well as the present clinical findings, are that the case is one of acquired dextrocardia, due to fibroid phthisis and an antecedent attack of pleural pericarditis.

Treatment consists in removing the exciting cause of the dextrocardia, and, necessarily, the displacement would tend to correct itself. This general principle of treatment can be applied to only a limited extent in this case. The exciting cause is of too chronic a character, and the lesions resulting from the same too permanent, to admit of entire removal. Treatment is therefore mainly directed toward maintenance of the best possible physical condition, and the relief of acute symptoms as they may arise.

COMPLETE TRANSPOSITION OF VISCERA, INCLUDING LUNGS.

DR. GEORGE W. WEBSTER reported a case of this kind. He believes the lungs are transposed, for the following reason: On account of its size, and the angle at which the right bronchus is given off, and possibly for other reasons, the percussion sound on the right side in the infraclavicular space is slightly higher in pitch. In the same situation the normal respiratory murmur is slightly harsher in quality and raised in pitch, and the normal vocal resonance is increased there. In this case the normal disparity is reversed, warranting the conclusion that the lungs are transposed. Congenital anomalies and malformations of the heart are interesting. Recently Féré has demonstrated that marked modifications in development may be produced in the chick by injecting pathogenic germs and toxins into eggs undergoing incubation. These experiments show that agents which produce disease during extrauterine life, and later intrantrine existence, give rise to malformations during the earlier phase of existence. Ballantyne puts it thus: "The same causes are in action in both periods, but when influencing an embryo so far developed as to have specialized

organs, the result is disease. When, on the other hand, influencing an embryo, in which such specialization has not been carried on to the same extent, the result is a malformation. In the one case the results are pathological; in the other, teratological." Causes of congenital diseases and malformations are similar and may be identical. Among internal displacements, transposition of the viscera is perhaps the commonest. Dextrocardia may be present without transposition of the viscera, but such cases are rare.

Two hypotheses have been proposed in explanation of this anomaly. Dr. Frazier suggests that the transposition may be due to the subject having been one of twins which were developed from a single ovum, and in which dichotomy was complete. Von Baer has found that in a few instances the embryo lies with its left side directed toward the yolk, whereas the right side is normally in this position.

Dr. ROBERT H. BABCOCK stated that he was interested in the subject of dextrocardia, both congenital and acquired, and in his early practice he encountered four cases within two years. Autopsies were made in two of them. He was much interested in the manner in which the heart could become displaced so extensively to the right. There must be some rotation of the heart, and in looking up the subject he found there was great diversity of opinion expressed on that point, some maintaining that as the heart was pushed over to the right, it rotated on its long axis in such a manner as to bring the left ventricle to the front and the right chambers farther to the right and posteriorly, others maintaining again that the heart rotated on its long axis so as to bring the right chambers more to the front and the left chambers more to the rear than they are normally. In one of his cases, a boy, 3 or 4 years of age, the heart was extensively displaced to the right in consequence of retraction of the right lung and pleuro-pericardial adhesions. There were systolic murmurs over the base of the heart, and he believed them to be vascular. At the autopsy it was found that the heart had rotated so that the right chambers came well to the front and over toward the left side, and the superior vena cava and innominate were drawn across the aorta in such a way as to produce a very considerable obstruction to the arch of the aorta. This obstruction had led to extreme dilation of the left ventricle. There were also hypertrophy and dilatation of the right ventricle in consequence of tension in the pulmonary artery.

The second case of his series that came to autopsy was a young man who died of tuberculosis, in whom the left lung was found absolutely destroyed, the left half of the thorax converted into a huge pyopneumothorax, the bronchial tubes cut off and sealed, and that half of the chest containing about a pint of sweet-smelling pus, the walls being lined with cheesy material. The heart was displaced to the right side, and there were tubercles upon the pericardium. The right lung was contracted, more or less cirrhotic, drawn back and reduced in size. The heart was rotated in the opposite direction, the left chamber coming more to the front, producing considerable twist in the axis of the aorta, stretching the arteries and veins in a peculiar fashion, producing considerable tension and increase of blood-pressure, but there were no murmurs, such as are recognized in many cases of anemia, and which in those days he regarded as hemic murmurs.

The first case he happened to see of the series was a man who had a pronounced cirrhosis of the right lung; the heart lay absolutely horizontal in the right half of the thorax, and completely uncovered by lung.

The subject of congenital dextrocardia is more interesting from a pathological than a clinical standpoint. He had seen a recent statement to the effect that cases of congenital dextrocardia were apt to die of pulmonary tuberculosis. This interested him, because in the last case that came under his observation he had an opportunity to notice the development of pulmonary tuberculosis about a year after he examined the woman, although there was no tubercular history in the family. She came to him on account of heart-beat in the right side. There was no indication that that girl would develop pulmonary tuberculosis. When he saw her a year afterward she had pronounced pulmonary tuberculosis with bacilli in the sputum.

Dr. GEORGE W. WEBSTER said that in 1875 Rokitansky, of Vienna, wrote his famous monograph on congenital cardiac malformations, and in it he pointed out that these congenital malformations of the heart are very likely to lead ultimately to either general or pulmonary tuberculosis. This statement has been shown to be too broad. It is well-known that congenital lesions, where they affect the pulmonary orifice, practically always lead to either general or pulmonary tuberculosis on account of the anemia of the lungs, which is always induced as the result of the valvular lesion. The views of Rokitansky were too sweeping, and his statements applied only to cases of congenital stenosis of the pulmonary artery and not to other malformations. He had seen nothing in medical literature that he recalled at the present time, and he had gone over Peacock's work very carefully where there was any reference to complete transposition of all the viscera leading to pulmonary complications, or to the likelihood of patients dying earlier from the complication of pulmonary tuberculosis.

Dr. H. M. THOMAS, in closing the discussion, said that with reference to the exciting cause of heart displacements of the acquired type, the case he had presented appeared to have acquired the dextrocardia during his seven years' work in a rubber factory where he inhaled considerable carbon bisulphid. The man was in perfect health when he entered the Morgan and Wright factory, and after seven years' labor therein his dyspnea became so great and paroxysmal cough so marked that he had to discontinue working, so that the influence of employment was one cause, and the specific effects of the inhalation of carbon bisulphid the other.

The Kings County Medical Association.

Stated Meeting, Dec. 11, 1900.

President Dr. H. Arrowsmith in the chair.

TREATMENT OF ACUTE DYSENTERY BASED ON ITS ETIOLOGY AND PATHOLOGY, WITH SPECIAL REFERENCE TO USE OF MAGNESIUM SULPHATE.

Dr. W. J. CRUIKSHANK said that from January till December, 1897, 97,000 persons had been stricken with dysentery in Japan, and 70,000 had died. In one province there had occurred in 1890 801 cases, with 225 deaths, and in 1891, 8390 cases with 2163 deaths, or a mortality of a little over 26 per cent. Every country in Europe had paid a heavy tribute to dysentery. In the tropics this disease destroys more lives than cholera, and has been more fatal to armies than powder and shot. In France dysentery was accountable for 1/20 of the total mortality in the army, and in Algeria it represented 1/5 of the total mortality. In epidemics occurring in temperate climates the mortality varied from 7 to 15 per cent. In tropical epidemic dysentery the mortality was between 20 and 30 per cent., although even so high a mortality as 60 or 70 per cent. had been noted in certain epidemics. Military experience in the tropics showed that acclimatization had no effect on dysentery. According to Pepper, this disease was responsible for the death of 300,000 of the soldiers during our Civil War. The recent official reports from the United States army and navy did not give detailed information regarding dysentery during the late war with Spain. In the year 1898 there had been 368 deaths from dysentery in Greater New York, and in 1899, 267 deaths. The preponderance of evidence seemed to be in favor of the amebic theory as to the etiology of this disease. Bacteriologists were agreed that dysentery is the result of microbial infection, but opinion was divided as to whether it was the result of a specific micro-organism or of several bacteria.

The speaker expressed the opinion that the so-called varieties of dysentery were chiefly founded on mistaken ideas regarding the etiology and pathology of the disease. Dysentery had been frequently confounded with simple diarrhea and enteritis. One of the most misleading of these so-called varieties was that designated as malarial dysentery. Dysentery is one disease, and one only, whether observed in the tropics as endemic, or in the temperate regions as sporadic. Even so careful and conservative a writer as Flexner had expressed the opinion that the conclusions of bacteriologists which had led to the establishment of various types of the disease might not be

strictly in accordance with fact. He was of the opinion that the causative agent of dysentery might not vary in these different types.

The reader of the paper expressed the belief that the underlying principle of treatment was purgation, in spite of the many statements of medical authorities to the contrary. The remedy he recommended was magnesium sulphate used in such a way as to secure depletion of the vessels, rather than purgation. He believed that this remedy was as nearly a specific for dysentery as quinin was in malaria, or mercury and potassium iodid were in syphilis. In all cases of acute dysentery, from the beginning of the attack until there was a subsidence of the symptoms, it should be administered in dram doses every two hours, dissolved in a very little water and mixed with a little aromatic sulphuric acid. If tympanites were present, it would rapidly subside under this treatment. At the end of forty-eight hours the stools would become biliary and feculent in the vast majority of cases. When the stools had become nearly normal the medicine could be gradually withdrawn. The average duration of the disease under such treatment was from three to seven days. The practitioner was often tempted in these cases to give a hypodermic injection of morphin to relieve the pain, but his experience had taught him that almost as great relief followed the use of the magnesium sulphate. By stimulating the naturally sluggish liver to greater activity the sulphate increased the biliary secretion, and in this way acted somewhat antiseptically, he believed, though he well knew that this was a mooted question in physiology. This remedy, by abstracting water from the tissues and pouring it into the intestine, depleted the mucous membrane, diminished the inflammatory process and rid the intestinal canal of the infectious material. The physiological action of this medicine had been known and appreciated for years by gynecologists and surgeons. Dr. Cruikshank said that his attention had been directed to this method of treatment by a case which he had treated some years ago, according to the plan then in vogue, that is, the alternate administration of sulphate of magnesium and opium. He had noted the great improvement in all the symptoms following the use of the sulphate and the return of the dysenteric symptoms when opium and bismuth had been given, but he had not had the courage to depart from this approved plan of treatment, and on calling in eminent counsel it had been indorsed as the proper one. The patient had died after ten days. The author gave copious citations from a number of medical authors who had found magnesium sulphate exceedingly useful, and vastly superior to the other remedies commonly employed. His conclusions were: 1, dysentery is a disease of great gravity; 2, it is both contagious and infectious; 3, it is caused by the introduction into the system through food and drink, and also through the air, of a specific micro-organism the identity of which seemed still in doubt; 4, dysentery is one disease in whatever latitude it is found, and the only varieties are those based on the intensity of the morbid process; 5, the therapeutic agents suggested for the treatment of acute dysentery are useless and often harmful, and magnesium sulphate acts as a specific.

Dr. IRA VAN GIESON called attention to the unfortunate tendency of the present time to unduly exalt the sphere of the laboratory in the study of the science of medicine. He had personal knowledge of the patient way in which the author had elaborated this subject, and was free to say that the therapeutic discovery contained in this paper had been made independently of others and without a knowledge of what others had previously done.

Dr. E. H. BARTLEY was disposed to differ from the author in his view that all cases of dysentery are true dysentery, not excepting acute colitis with bloody discharges. Cases were cited in illustration of this point. Again, most bacterial diseases are self-limited, but statistics and all our experience showed that this was not the character of dysentery. He also doubted the possibility of communicating the disease through the air, because the amebæ do not fly, and when dried up they are no longer contagious. Perhaps the author had not dwelt sufficiently upon the hepatic stimulation which results from the treatment which he advocates. Such stimulation was pro-

duced by strong saline solutions, especially solutions of sulphate of soda and magnesium. This increases the oxidation processes of the liver, and augments the activity of this organ as a destroyer of poisons, thus assisting the system to resist the action of the poisons thrown into the circulation by the pathological process. The treatment also caused a freer portal circulation and unloaded the small intestine. Dysentery was really a constipating disease, as there is constipation in the small intestine, and this gives rise to congestion and obstructed circulation in the rectum.

Dr. JACOB FUNS said that this treatment was a rational one, which was shown not only by the results attained, but by its applicability to other infectious diseases. Nature's method of treating this disease was eminently eliminative, and it seemed strange that the profession should have fallen into the way of administering such remedies as were distinctly opposed to Nature's method. The only explanation that he could offer for this was that the great distress of patients suffering from dysentery had tempted physicians to resort to narcotics. It had been customary in the past to try to counteract the noxious effect of the narcotics by giving castor-oil: hence the popularity of the old opium and castor-oil treatment. He had found the sulphuric acid treatment useful. While he had had only a very limited experience with the treatment with magnesium sulphate, so far as it had gone it had been eminently satisfactory.

Dr. LEWIS W. PEARSON said that it had been his practice to begin the treatment of dysentery by giving a dose of magnesium sulphate or of castor-oil, and then follow this with opium, bismuth and muriatic acid. Recently he had tried another method—the giving of enemata of permanganate of potassium, using at first one quart of a 1 to 4000 solution, and later a 1 to 2000 solution. The latter strength had been kept up until the patients had nearly recovered. Recovery had been very prompt in each instance. He had been led to try this method because dysentery is a bacterial disease.

Dr. CRUIKSHANK, in closing the discussion, said that there might exist an acute colitis from other causes, but such a case was not dysentery. The so-called varieties of dysentery were simply the result of the absorption of varying quantities of toxin. Dysentery was a specific disease and required a specific plan of treatment.

Cleveland Medical Society.

Regular Meeting, November 24, 1900.

President Dr. Henry S. Upson in the chair.

PRESENTATION OF CASES.

Dr. WILLIAM E. WIRT presented a man on whom he had operated for club-foot. The deformity in this case was an extreme equinus with some degree of varus. He did a tenotomy of the Achilles tendon, following which he corrected the deformity by force. He showed that the result gave the man a fairly useful foot. He also presented a child 20 months old on whom he had successfully operated without cutting. He also presented a case of periostitis of the tibia in a boy 4 years old. He discovered that the lesion had a specific origin, and by using potassium iodid he had secured a good result.

CONGENITAL DISLOCATION OF HIP-JOINT, WITH ESPECIAL REFERENCE TO LORENZ'S BLOODLESS REDUCTION.

Dr. WALTER G. STERN said that the congenital dislocation of the hip-joint has been considered quite rare, but as the knowledge of its curability is disseminated, the number of cases treated and reported has so increased that Hoffa says "it is the most common congenital affection." It is stated that 87.8 per cent. of cases occur in females: 1/3 are bilateral. The most frequent dislocation is upward and backward upon the dorsum ilii. An acetabulum is always present, misshapen and generally filled up with connective tissue. The muscles are distorted, the pelvis flattened and tilted, sometimes enough to cause obstruction to labor.

The symptoms are limping or waddling gait—explained by Trendelenburg as an adduction gait, in which the side of the pelvis opposite to the leg bearing the weight of the body sinks

down in walking—shortening the limb, flattening of the buttocks, etc. The trochanter stands above Nélaton's line, and the head can be felt backward among the gluteal muscles. The prognosis for untreated cases is bad, as nearly all complain, later in life, of pain on walking or standing and even inability to walk. Every case treated between the ages of 4 and 10 years can be cured (freed) of the dislocation by one means or another. The safest, quickest and best method is the "bloodless reduction" of Lorenz. The most suitable age is between 4 and 8 years. The adductor muscles are torn by forcible abduction. Then the thigh is flexed, and extension made in a vertical direction with the hand or a wedge pressing on the trochanter from behind. When the head comes forward to the level of the acetabulum the leg is abducted, pressure on the trochanter being increased, when with a palpable and audible snap the head suddenly pops "over the posterior rim" of the acetabulum. The reduction can also be effected "over the upper rim" with extension made by two assistants pulling on a skein slung around the thigh. Traction by means of a screw has been given up, on account of the danger of fracture to the collum femoris. The reduced leg is placed in plaster of paris in the position of flexion, extreme abduction and slight inward rotation of the foot for four to six months. A high shoe is placed under the reduced leg to permit the patient's walking about. "Functional burdening" of this leg causes the acetabulum to become deepened, and after six months the joint is quite stable. The leg is again fixed for three months in a medium position. Then the patient is given a slightly higher shoe under the sound foot, to abduct the reduced side slightly, and gymnastics and massage complete the cure. Lorenz reports but 10 per cent. of total failures. If this fails the joint can be opened and the bloody reduction of Hoffa, in which the acetabulum is scooped out with a Volkmann spoon, performed. Should this fail, resection of the head, with bony ankylosis, will give the patient a useful joint.

DR. WILLIAM E. WIRT, in discussing the paper, said that he thought the author was a little too enthusiastic in regard to the results to be obtained by the Lorenz method. He quoted a report made by Whitman showing that, while the method secured reduction, it did little toward relieving the lameness. In a certain number of cases the bloodless method is the best. One advantage of the bloodless method is that it does no harm to the patient. He reported a case of his own in which he had tried the bloodless method and placed a plaster cast on the limb. While away for a few months another physician removed the cast and pronounced the result a cure. Within a week dislocation recurred and the work had to be done over again. Fixation must be maintained for a long time in order to obtain a cure. He showed a brace which he had used to maintain the limb in position after the cast had been removed. He said that it required a good deal of force to reduce the dislocation by the bloodless method, and that the force has to be continued for a considerable length of time.

DR. WALTER G. STERN, in closing said that if a case was taken in time it could be cured by the Lorenz method. In case of failure at the first trial, a second or third may succeed. Finally, the bloody method can be tried. The advantage of the Lorenz method is that while the results may not be perfect, yet it does secure a stable limb. He had seen 220 cases in Lorenz's clinic in which there occurred only three fractures of the femur. These fractures occurred in cases of great deformity in which several sets of assistants were tired out in pulling for extension. Lorenz uses assistants for this purpose, and has discarded all screw devices.

PRESENTATION OF SPECIMENS.

DR. AUGUSTUS F. HOUSE presented specimens of adenoma of the thyroid gland. He had removed nine during the last six months, and had operated by making a long, circular incision around the base of the neck and turning back a large flap of skin over the tumor. In this way the scar is where it will not be seen, and keloid is not so likely to follow. In the cases which were anemic he had put from one to two quarts of saline solution into one of the veins in the neck. None of the operations were done under local anesthesia.

ALBUMINURIA WITHOUT NEPHRITIS.

DR. P. MAXWELL FOSHAY reported a case in which albumin had been detected over a year ago and at the present time there is still a trace to be found. The chief point of interest is that at the end of fifteen months there are no casts or other foreign elements in the urine. There is no change in the vascular system, and no symptom of systemic disease. The patient is a young man, and the albumin had been found in an examination for life insurance. Careful search failed to reveal any cause for the albuminuria. While many such cases entirely recover, and while prognosis in the average is good, yet they are not safe risks for life insurance, because we can not yet distinguish between those cases which subsequently develop nephritis and those which do not. Therefore, in the present state of our knowledge, such cases have to be refused life insurance.

DR. HENRY W. ROGERS had seen a similar case, which, at the end of two years, developed a true nephritis. He said that the arteries should be carefully examined as well as the urine.

AORTIC ANEURYSM.

DR. FREDERICK C. HERRICK showed a specimen of a small aortic aneurysm and complete aortic insufficiency. The heart was very large, weighing 828 grains, and the ventricular walls, especially the left, were very much hypertrophied. There was absolutely no aortic closure when the case was studied before death. Several times there had been a pulsus bigeminus and pulsus alterans. The area of dulness was very large, but there was no aneurysmal bruit.

DR. W. T. HOWARD said that he had reason to think that aneurysm was very common in Cleveland and vicinity. He had seen many more cases since he came here than he had in Baltimore. Aneurysm of the aorta is not the cause of hypertrophy in the left ventricle. Dilatation of the aorta does not increase the vascular tension, nor cause cardiac hypertrophy.

Toronto Clinical Society.

Stated Meeting, held November 14, 1900.

POST-HEMIPLEGIC MOTOR APHASIA.

DR. W. H. PAPLER presented a man aged 43, who in 1891 had severe headaches lasting for a couple of weeks and followed by weakness of the right arm and leg with some difficulty of speech. From this he gradually improved. Two years thereafter he had another attack, at which time he remained in the hospital perfectly insensible for three weeks. He regained consciousness and left; there was no paralysis at that time. About six months after that he had a series of attacks of temporary insanity lasting from two days to two weeks at a time and six to eight months elapsing between the attacks. He is now the subject of these attacks. During them he can not speak voluntarily nor answer any questions. He can not repeat words and can not read aloud nor write. In most of the attacks he uses oaths and unintelligible gibberish. The attacks are now very frequent, varying from one to eight in twenty-four hours and lasting a minute or less. There is no paralysis remaining now, but there is slight rigidity of the right leg and walking is defective. Dr. Papler considers that there was originally a hemorrhage or a thrombus in the middle cerebral with serious injury to the posterior part of the third left frontal convolution. The patient has been taking a dram of potassium iodid three times a day.

TRAUMATIC PARALYSIS OF THE RIGHT RECURRENT LARYNGEAL NERVE.

DR. H. E. TREMAYNE, Lambton Mills, presented a boy of 14 years, who about ten weeks before, while going up a hoist, lying on the floor looking downward, had received a jam in the neck between the floor of the hoist and the floor above. He was seen by the Doctor a few minutes afterward, and complained of very severe pain on the slightest movement of the neck. His voice was very hoarse and there was a puffiness at the root of the right sternomastoid; but the skin was not broken anywhere. About November 7 he was again seen by the Doctor, when he complained of cough, which caused him to vomit up his food. Examination of the throat revealed the right cord immovable.

TUBERCULAR TUBES. WITH ACUTE PERITONEAL INFECTION.

DR. H. A. BRUCE read a history of this case and presented the specimens. It occurred in a young woman of 26 years, who had always been healthy and had been accustomed to heavy domestic work. Five weeks ago she suddenly was taken with severe pain in the abdomen and vomiting, with temperature, 102, and pulse 110. Her abdomen rapidly filled with fluid. There was no evidence of disease in the lungs, kidney or bladder. Her uterus was found fixed with a fulness on either side. On opening the abdomen, it was found filled with a dark greenish fluid of which several quarts were removed. The tubes were of the size of a small banana, the peritoneal surfaces soft and red, and looking like granulation tissue. They were removed, and the patient made a good recovery. It is now five months since she left the hospital and she continues in good health. Microscopic examination revealed tubercle.

ALOPECIA UNIVERSALIS.

DR. GRAHAM CHAMBERS presented a female of 20 years; she said that her hair began to fall out in patches when she was about 5 years of age, from which she subsequently fully recovered. At the age of 12 she again began to suffer in patches, and since that date has never been free from the disease. At the present time she has no hairs on the body with the single exception of two small fine hairs on the anterior portion of the scalp. In 1898 she was treated for interstitial keratitis.

ATAXIC PARAPLEGIA.

DR. GRAHAM CHAMBERS presented a girl of 17 years, with a negative family history. Menstruation began at 14, but since has been very irregular. In March last the cellar of the house where the patient was working was flooded, and not knowing that she was menstruating at the time, she took off her shoes and stockings and waded through the water, which came up to her knees. Two days later she complained of feeling tired and that her left leg was so heavy she could not lift it. A month later the disease extended to the right leg, with numbness and heaviness, but she suffered no pain in the legs or back. Both ankle and knee clonus are present in the left leg. Romberg's sign is present; and the patient can not distinguish hot from cold on the plantar surfaces of the feet and on the sides of the ankle-joints. Several patches of skin between the ankles and the knees are anesthetic. Patient is now unable to walk without aid.

HYDATID CYST OF THE PANCREAS.

DR. GEORGE A. PETERS reported this case, which occurred in the practice of Dr. MacKinnon, of Guelph, and on which Dr. Peters had been asked to operate. It occurred in a young man of 20 years of age, of Spanish birth, a resident of the Argentine Republic, who was on a short sojourn in Ontario. In May, 1900, he came under the care of Dr. MacKinnon. For two or three years the patient has suffered from attacks of pain obscurely located in the stomach and bowels, and latterly had his appendix removed, at which time a tumor could be felt in the left hypochondriac region, which at times was the seat of great pain. The cyst was first aspirated, and thirty ounces of a limpid fluid of sp. gr. 1.13 withdrawn. Much relief was experienced, but the cyst slowly filled, and the temperature and pulse showing that septic process was proceeding, it was decided to operate. On examination, a rounded tumor could be felt below the ribs on the left side, about midway between the nipple and sternal lines. Its relation to the pancreas was determined by the stomach resonance above the tumor and between it and the liver as well. Between the spleen, kidney and tumor, resonance was also present. The operation was done from behind, the incision being made along the margin of the erector spinæ, three inches long. Considerable difficulty was experienced in its removal, owing to the toughness of its walls. An examination of the fluid shows numerous daughter cysts with their attached embryos as well as many separate hooklets. The specimens were exhibited by Dr. Peters, and the hooklets were well seen under the microscope. A search of the literature so far by Dr. Peters reveals no other reported case of hydatid cyst of the pancreas.

Therapeutics.

Phenosalyl in Laryngeal Tuberculosis.

Dr. S. von Stein, in *N. Y. Med. Journal*, states that phenosalyl is a bactericide which ranks next to mercury bichlorid in efficiency. He has used it in sixteen cases of laryngeal tuberculosis with marked results, always applying a local anesthetic first. Phenosalyl is composed of:

Acidum carbolicum	9 parts
Acidum salicylicum	1 part
Acidum lacticum	2 parts
Menthol	1/10 part

He claims that under this treatment dysphagia has improved, limited or diffuse infiltrations have become smaller, and improvement when ulceration is present combined with infiltration. The dyspnea, expectoration and bacilli were reduced. He regards his treatment as positively curative.

Acute Capillary Bronchitis.

The following mixture has been recommended by Whitla, in the "Manual of Therapeutics:"

R. Vini antimonialis	
Spiritus chloroformi, āā.....	3iv 16
Spiritus ammoniæ arom.....	3i 32
Liquoris ammonii acetatis	3ii 64
Aquæ q. s. ad	3viii 256
M. Sig. A tablespoonful every two hours.	

Treatment of Postpartum Hemorrhage.

Dr. Byers, of Belfast, in the *Amer. Jour. of Obstetrics*, advocates the following treatment for hemorrhage from relaxed uterus, which should be resorted to in the order named:

1. External uterine massage.
2. Irrigations of the uterus with hot saline solution.
3. Introduction of the hand into the uterus.
4. In case of failure of the first three, bimanual compression of the uterus.
5. Gauze plugging the uterus.
6. The drawing downward of the uterus.
7. If hemorrhage comes from the lacerations of the genital tract, it is recommended to stitch if you can, and plug if you can not.

Dr. James H. Etheridge, former professor of obstetrics, Rush Medical College, always insisted on making pressure on the abdominal aorta in severe postpartum hemorrhages.

Abortive Treatment of Boils.

Dr. Jorissene, a French physician, states that a good application for aborting boils consists of:

R. Hydrarg. oxidi rubri	3i 4
Lanolini	3x 40

M. Sig. To be rubbed in well once a day, or oftener on large ones. Acne and whitlow can be subjected to the same treatment. —*Pract. Revue.*

Nerve Tonic.

As a tonic in functional nervous diseases Dr. Julius Flesch gives the following combination and states that he has obtained excellent results from its use:

R. Quininæ ferrocitratæ	gr. xlv 3
Strychninæ nitratis	gr. ii 106
Extracti kola fluidi	
Sodii glycerophosphati āā.....	3vi 24
Dissolve slowly by heat and add:	
Syrupi aurantii	3vi 192
M. Sig. One teaspoonful after each meal.	

—*N. Y. Med. Jour.*

Treatment of Thrush in Infants.

Escherich suggests a small pledget of sterile cotton thoroughly impregnated with about three grains of finely pulverized boric acid to which a little saccharin has been added. The pledget is then placed in a little bag made of silk and given to the child to suck. The saccharin being pleasant, the child is quite willing to retain the bag in the mouth, so the boric acid acts constantly on the parasite. A new sac is used each day. Cure is said to be prompt. —*Phila. Med. Jour.*

Treatment of Croup.

The following outline for the treatment of croup was published by De Guy in *Jour. des Practiciens*. He states that aside from the use of antitoxin, it is wise in many cases to use local antiseptics.

As a disinfectant, if the breath is fetid and the throat is sore the following is advised:

R. Chloral hydratis 3i-ii 4-8
Aque destil Oii 1024

M. Sig. Use with a soft catheter as a wash for the post-nasal spaces and pharynx, the child being held in such a position that the head is below the body; or:

R. Potassii permangan gr. iv 25
Aque—boiled Oii 1024

M. Sig. To be used the same as the above.

Hydrogen peroxid in the proportion of one to ten may be used for similar purposes. These washings of the postnasal spaces are continued as long as necessary to overcome the fetor and to combat the development of the false membrane or until the membrane has disappeared, in order that the Loeffler bacillus may be destroyed.

TO OVERCOME THE DEPRESSION.

For the purpose of overcoming the depression, which is frequently pronounced, the following is given as a rectal injection:

R. Caffeina
Sodii benzoatis, aa gr. x 66
Aque destil 3ss 16

M. Sig. Per rectum once or twice daily.

CARDIAC TONIC.

As a cardiac tonic by the mouth the following is recommended:

R. Caffeina 3i 4
Tinet. kola 3vi 24
Ext. cinchonae fluidi 3iii 12
Vini Oii 1024

M. Sig. Take a wineglassful several times a day.

Artificial serum may be injected in quantities varying from two to ten ounces where caffein is not sufficiently stimulating. The serum is composed as follows:

R. Sodii chloridi 3ii 8
Sodii sulphatis gr. xlv 3
Aque destil Oii 1024

M. Sig. By hypodermoclysis.

TO CONTROL NERVOUS EXCITATION.

The nervous excitation may be controlled by the following:

R. Sodii bromidi 3i 4
Antipyrini 3ii 8
Aque menthae pip. 3ii 64
Syr. aurantii 3iv 128

M. Sig. A teaspoonful, according to age every few hours.

De Guy states that sodium benzoate is a valuable remedy in case bronchitis should develop:

R. Sodii benzoatis
Aq. laurocerosi, aa 3ii 8
Syr. anrantii
Aq. menthae pip., aa 3viii 256

M. Sig. One teaspoonful two or three times a day.

DEODORIZER.

As a spray, to be used in the atomizer for the purpose of deodorizing the atmosphere of the room:

R. Eucalyptol
Essentiae thymi
Essentiae citron
Essentiae lavendulae, aa 3i 4
Alcoholis 3v 160

M. Sig. As a spray, to be used in the room.

Spasmodic Croup.

R. Ammon. carb. gr. ii 12
Syr. senegae m. x 66
Mucilag. acaciae 3ii 8

M. Sig. One such dose to be given every two hours, unless patient vomits; if vomiting occurs diminish the dose.

AS A SPRAY.

Also in a steam atomizer:

R. Sodii carbonatis 3i-3ii 4-8
Aque q. s. ad 3iv 128
M. Sig. Use every half hour. —Wharton.

IN TABLET FORM.

R. Ext. cannabis indicae gr. 1/20 003
Ext. hyoseyami gr. 1/16 004
Tinet. opii camphoratae m. v 33
Syrupi ipecacuanhae m. x 66
Ext. glycyrrhizae gr. ii 12

M. Ft. compressed tablet No. i. Sig. One such dissolved in water every twenty minutes.

R. Chloralis hydratis gr. lxxv 5
Potassii bromidi gr. xlv 3
Ammonii bromidi 3ss 2
Aque cinnamomi 3ii 64

M. Sig. A teaspoonful in water and repeat in twenty minutes. —Holt.

CALOMEL FUMIGATION.

Holt states that, leaving out antitoxin and surgical operation, the only therapeutic measure that can be said to be of much avail in treatment of membranous croup is calomel fumigations. He does not regard it as a substitute for antitoxin but is beneficial where circumstances make the use of antitoxin impossible.

In giving calomel fumigations the child should be placed in a closed tent either in a sitting posture or lying down. In emergency cases a very simple arrangement, according to Holt, can be constructed by taking a piece of tin two inches wide and ten inches long and placing it over an alcohol lamp so that the flame will come close to the tin. The lamp is lighted and placed beneath the tent. Place ten or fifteen grains of calomel on the plate and allow it to vaporize for ten to twenty minutes, and repeat every one, two, or three hours, according to the severity of the case, being careful not to have the fumes too concentrated.

Orthoform in Toothache.

Hildebrand, in *Ther. Monatsch.*, states that orthoform instantly and completely relieves severe pain due to inflammation of the pulp in decayed teeth. It should be applied in alcoholic solution on absorbent cotton.

Tinea Tonsurans (Barbers' Itch).

The *Jour. of Med. and Science* publishes the following formula, recommended by Dr. Hodara, of Constantinople, for treating barbers' itch:

R. Sulphuris 3iiss 10
Zinci oxidi 3v 20
Sacchari 3v 20
Glycerini 3iiss 10
Lanolin
Vasellini, aa 3v 20

M. Sig. Apply in thick layer night and morning until the crusts have been removed, then once a day.

Pleurisy.

The following mixture has been suggested by Matas to relieve the cough and remove the serofibrinous exudation:

R. Ammon. carb. 3ss 2
Aque laurocerasi 3ss 16
Syrupi lactucarii
Syrupi senegae aa 3i 32
Syrupi tolutani q. s. ad 3iv 128

M. Ft. mistura. Sig. One tablespoonful every two hours.

Medicolegal.

Disregarding All Medical Testimony in Case.—Where it appears, in a personal injury case, that the jury, in reaching its result, must have disregarded the whole range of the medical testimony of the plaintiff or defendant, notwithstanding the credibility of the witnesses stands unimpeached, and that their

testimony can be reconciled with the other evidence in the cause, this of itself, the Supreme Court of New Jersey holds, in *Barry vs. Pennsylvania Railroad Company*, is ground for a new trial.

Waiver of Privilege in Action for Services.—Waiver of privilege as to one or more of several attending or consulting physicians, the fourth appellate division of the Supreme Court of New York holds, in the case of *Hennesy vs. Kelly*, is not a waiver as to all, as held in the decision reported on page 451 of *THE JOURNAL* of August 18, 1900. In particular, it holds that as to two physicians called in consultation at different times there was a waiver of privilege as to the one because the patient had given evidence as to the occasion when he was present, and as to which he testified, but that the evidence of the other was not admissible because no evidence with reference to the occasion he was present had been given by the patient.

May Show Condition of Womb and Probable Sterility.—If a married woman is injured by the negligent act of another, she is entitled, the Court of Appeals of Kentucky holds, in the case of the *South Covington and Cincinnati Street Railway Company vs. Bolt*, to maintain an action for damages, and the same criterion of recovery exists as to her as to a man or a single woman. Moreover, it holds that the married woman injured in this case was entitled to show by the physician who attended her the condition of her womb, and that in his opinion she could never again bear a child, although, as the judge properly instructed the jury, the jury could not consider the question of her sterility in fixing damages. The court says that she was entitled to show the extent of her injuries, and in describing the condition of the womb, if it showed that she would probably be sterile thereafter, it was proper for it to go to the jury. It was her right to show the extent of her injuries, but, if a certain condition which appeared to exist could not enter as an element of the question of damages, it was proper for the court to tell the jury so, but the necessity for doing that could not deprive her of her right to show the extent of her injuries.

Validation of Imperfect Registration Not Retroactive.—Section 148 of Chapter 661 of the New York Laws of 1893 pertaining to the public health and regulating the registration and licensing of physicians and surgeons provides that, if there has been an "imperfect registration" through some technical or unintentional omission, the board of regents may, in the manner therein prescribed, "make valid the previous imperfect registration." But this provision, the fourth appellate division of the Supreme Court of New York holds, in the case of *Ottaway vs. Lowden*, is not retroactive in effect. This was an action to recover for medical services. When the services were rendered the plaintiff possessed no license, and had no authority to prosecute his calling. He claimed that his imperfect registration from his failure to get his diploma from a medical school in another state properly indorsed had been validated under said Section 148. This validation, however, occurred after the services in question were rendered, and the court holds it insufficient, not being retroactive, to authorize the maintenance of this action. It says that the state board cannot endue one with a cause of action where none existed before. It may do away with the necessity of any further license or registration by injecting life into papers already filed, and give one a "clean bill of health" for the future; but that under this act is the extent of its authority. This interpretation, the court admits, may operate as an injustice in a particular case, but the statutes, it goes on to say, are a safeguard both to the public and those engaging in the practice of physic and surgery, and should be rigorously enforced. During the time the services in question were rendered the plaintiff was liable to indictment and conviction for practicing physic and surgery without proper warrant. If this act were to be given a retroactive effect, there would be the anomalous condition of affairs whereby he could recover for services the rendition of which by him constituted a crime. There is no warrant in the law for the state board to determine that he in fact during all this period was licensed to practice.

Postponement of Marriage for Venereal Disease.—The principal question before the Supreme Court of Missouri, Division No. 1, in the breach of promise case of *Trammel vs. Vaughan*, was whether the defendant had a right to postpone marriage with the plaintiff upon the appearance between the date of the contract and the date for its performance, apparently without his fault at that time, of what he denominated a loathsome venereal and contagious disease; in other words, stated broadly, whether the defendant would have been justified in marrying the plaintiff, even with her consent, while he had the disease. Of course, the court says, if the defendant entered into the contract knowing of such an impediment to its consummation as a disease rendering it unsafe or improper for him to marry, it would be an aggravation of the plaintiff's damages, and she would be entitled to refuse to marry him, and to treat his condition as a breach of the contract—a fraud perpetrated upon her. But, if the thing to be performed becomes unlawful without his intervening fault, after the contract is entered into, the performance is excused by force of law. So, the court finds that, while there are few reported precedents for the conditions presented in this case, it has been held that if a party to a marriage contract develops a disease which renders it unsafe or improper for him to marry, without intervening fault on his part, between the date of the contract and the date appointed for the marriage, he is entitled to have the ceremony postponed until the result of the disease is known or he is cured. It also points out that marriage is not merely a civil contract, but one to which the state is a party and has an interest in, and one which implies that the contracting parties know of no legal or physical impediment to the contractual relation and its consequences. Then, it says that willfully to communicate a venereal disease is clearly cruelty, and is a ground for divorce, whether specifically enumerated in the statutory causes for divorce or not. It recalls, too, that it has been stated that intercourse with a woman, though she was willing thereto, by a man who was infected with a venereal disease, would constitute the act a common assault, for the fraud would vitiate the consent. Now, if these principles be correct, it must also be true, the court holds, that it is legally as well as morally wrong for a man, while infected with such a disease, to marry; and a man, for such cause, is entitled to demand a postponement of the marriage until he is cured. The idea that the ceremony should be performed, and the consummation of the marriage postponed until he is cured, it continues, is not only intolerable, but obnoxious to a proper subservience of the public interests and morals. This, too, whether the woman knows his condition, and consents to such an arrangement, or not; for, though she may be willing to waive the defect, or be indifferent to the condition or its consequences to her and her children, the third party to the contract, the state, has a right to and does object. If the disease is of a temporary character, and can be easily cured, the defendant is entitled to postpone the marriage until he is cured; and, if the disease is of a permanent character, he is not only entitled to refuse to carry out the contract, but it is his duty to do so.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.
New York Medical Journal, Dec. 22.

- 1 *The Treatment of Supra-Condylar Fracture of the Humerus. A. R. Shands.
- 2 A Case of Superimposed Uvula. Thomas A. Debiois.
- 3 *The Combination of a Plaster-of-Paris Jacket with a Brace to Correct and Retain Correction of the Kyphosis of Pott's Disease of the Spine. A. MacKenzie Forbes.
- 4 *Recrudescing Angina, Due to Friedlaender's Bacillus. Emil Mayer.
- 5 *Intraspinal Cocainization from the Anesthetist's Standpoint. S. Ormond Goldan.
- 6 *The Diagnosis of Empyema in Children. F. L. Wachenheim.
- 7 A Report Upon One Hundred and Seventy Cases of Appendicitis. Robert T. Morris.
Boston Medical and Surgical Journal, Dec. 20.
- 8 *Remarks upon Questions Arising During the Removal of Fibroids, with Especial Reference to the Technique of the Operation. Maurice H. Richardson.

- 9 *The Value of the Hot Water Immersion Bath in the Treatment of Threatening Puerperal Eclampsia. Charles M. Green.
- 10 *A Plea for Larger Doses of Antitoxin in the Treatment of Diphtheria. John H. McCollom.
- 11 Case of Myasthenia Gravis Pseudoparalytica. W. E. Paul. Philadelphia Medical Journal, Dec. 22.
- 12 *The Diagnosis of Calculous Disease of the Kidneys, Ureters and Bladder by the Roentgen Method. Charles Lester Leonard.
- 13 Acute Infective Endocarditis Following Vaccination; Recovery. Warren Coleman.
- 14 *The Use and Abuse of Zoological Names by Physicians. Ch. Wardell Stiles.
- 15 Primary Carcinoma of the Pancreas, with Reports of Four New Cases. Frederick A. Baldwin.
- 16 Angina Ludovici. G. G. Ross.
- 17 A Case of Deciduaoma Malignum. Joseph McFarland.
- 18 Composite Teratoma of the Ovary; Pathologic Report. Edgar Allen Jones.
- 19 Dermatomyecosis Tonsurans. W. B. Reid.
- 20 A New Photographometer. John Milton Garrett.

Medical Record (N. Y.), Dec. 22.

- 21 *The Neuron Doctrine: Its Present Status. Charles L. Allen.
- 22 *A Few Remarks on the Use of Medullary Narcosis in Obstetrical Cases. Hugo Ehreufest.
- 23 Perforation of a Typhoid Ulcer Without Fecal Extravasation; Operation Four Hours After the First Symptom; Recovery. E. G. Cutler and John W. Elliot.
- 24 *On the Treatment of Laryngeal Tuberculosis. Robert D. Cohn.
- 25 *Local Anesthesia in the Radical Operation for Inguinal Hernia. Leo B. Meyer.
- 26 Report of a Case of Fractured Liver. Seelye W. Little.
- 27 Fracture of the Clavicle, Resulting in Rupture of the Suprascapular Artery(?). H. T. Miller.
- 28 An Unusual Case of Nose-Bleed. G. W. Squires.
- 29 Dislocation of the Crystalline Lens in Immature Cataract. Norburne B. Jenkins.
- 30 An Epidemic of Typhoid Fever. Beujamiu K. Hays.
- 31 The Removal of Thirty-five Screw Worms from the Nose. Hal Foster.

Medical News (N. Y.), Dec. 22.

- 32 *A Rapid and Simple Operation for Gall-Stones Found by Exploring the Abdomen in the Course of a Lower Abdominal Operation. Howard A. Kelly.
- 33 *Some Notes on the Treatment of Rheumatism. Alfred Stengel.
- 34 *Report of Two Cases of Sporadic or Family Trichinosis: With Remarks on the Importance of Eosinophilia in the Peripheral Circulation as an Aid to Diagnosis. Herman C. Gordinier.
- 35 *The Surgery of the Gasserian Ganglion. Wallace Neff.
- 36 The Treatment of Bronchitis in Infants and Young Children. Samuel S. Adams.
- 37 Fatal Angina Pectoris Without Lesions of the Coronary Arteries in a Young Man. T. E. Bullard and William Osler.

Cincinnati Lancet-Clinic, Dec. 22.

- 38 *Post-Mortem Examinations. W. D. Haines.
- 39 Brain, the Chief Organ of Mind. Brooks F. Beebe.

St. Louis Medical Review Dec. 8.

- 40 *Pathogenesis of Gall-Stones. Hugo Summa.
- 41 *Parietic Dementia; Musculo-Spiral Palsy; Chorea Mollis. Charles G. Chaddock.

Medical Fortnightly (St. Louis), Dec. 10.

- 42 Medical Study in Berlin. Josephine Milligan.
- 43 *Post-Febrile Insanity and Its Treatment. Frank P. Norbury.
- 44 Diseases of the Stomach. (Continued.) J. M. G. Carter.
- 45 *Differential Leucocytosis. L. H. Warner.

Medical Age (Detroit, Mich.) Dec. 10.

- 46 Locomotor Ataxia; A Review of Some of the Recent Literature. H. R. Niles.
- 47 Professional Secrecy. Louis J. Rosenberg.

Virginia Medical Semi-Monthly (Richmond), Nov. 23.

- 48 *What Can Be Done to Enforce the New Medical Laws of Virginia. R. S. Martin.
- 49 Traumatic Popliteal Aneurysm. Hugh M. Taylor.
- 50 Some Remarks on the Use of Heroin in Phthisis, Bronchitis, Asthma, and Whooping-Cough. G. W. Mitchell.
- 51 Delayed Operations in Appendicitis. Joseph Price.
- 52 Treatment of Posterior Displacement of the Uterus. Stuart McGulre.
- 53 Remove the Special License Tax. J. Beverly Deshazo.

December 7.

- 54 *An Improved Appliance for the Treatment of Fracture of the Clavicle. J. W. Henson.
- 55 *Some Fallacies in Testing for Sugar in the Urine. M. D. Hoge, Jr.
- 56 *Drainage in Abdominal Surgery. J. W. Long.
- 57 Treatment of Compound Fractures. Southgate Leigh.
- 58 Surgical Indications in Purulent Ear Disease. A. D. McConachie.
- 59 The Rational Treatment of Hepatic Colic. H. Richardson.

Annals of Gynecology and Pediatrics (Boston), December.

- 60 *Chronic Enlargement of the Spleen in Infancy. John Lovett Morse.
- 61 *Drainage in Abdominal Surgery. J. W. Long. Cleveland Medical Journal, December.
- 62 A Case of Cretinism and Thyroid Extract. J. B. McGee.
- 63 Etiology of Appendicitis. Guy H. Fitzgerald.
- 64 Diagnosis of Appendicitis. Charles B. Parker.
- 65 The Prognosis of Appendicitis. Charles G. Foote.
- 66 Medical Treatment of Appendicitis. L. B. Tuckerman.
- 67 When Shall We Operate? Frank E. Bunts.
- 68 Operation in the Interval. N. Stone Scott.
- 69 Operation During the Attack. George W. Crile.

Brooklyn Medical Journal, December.

- 70 *Artificial Illumination. L. A. W. Allemau.
- 71 Historical and Critical Observations upon the Surgery of the Liver and Biliary Passages. George R. Fowler.
- 72 Abscess of the Liver. Walter C. Wood.
- 73 Tumors of the Liver. Russell S. Fowler.

Pennsylvania Medical Journal (Pittsburg), November.

- 74 Address in Obstetrics, Delivered at Medical Society of the State of Pennsylvania. Charles P. Noble.
- 75 Old-Time Treatment and Result of Typhoid Fever. W. H. Hartzell.
- 76 Lecturing Not Teaching. T. D. Davis.
- 77 Analogies Between Nervous and Electric Mechanisms. What is Nerve Force? J. Emmet O'Brien.
- 78 History of Typhoid Fever, with Statistics. James M. Anders.
- 79 Etiology of Typhoid Fever. Charles H. Miner.
- 80 Symptomatology and Diagnosis of Typhoid Fever. J. I. Johnston.
- 81 The Complications and Sequelæ of Typhoid Fever. H. A. Hare.
- 82 The Treatment of Typhoid Fever. Alfred Stengel.
- 83 Diet in Typhoid Fever. James Tyson.

Chicago Medical Recorder, December.

- 84 *Report on the Use of Nitrous Oxid as an Auxiliary to Ether and Chloroform Anesthesia. Fifty Cases. D. H. Galloway.
85. Skin Grafting. Edward H. Ochsner.
86. The Rational Treatment of Vesical Ulcer. F. Kreissl.
87. Abscess of Lung. Surgical Tuberculosis, Etc. Samuel L. Weber.
- 88 *New Points in the Anatomy, Histology and Pathology of the Rectum and Colon. J. Rawson Pennington.
- 89 *Case of Lupus Healed Under Treatment With Roentgen Rays. Wm. Allen Pusey.
- 90 Fracture of the Femur. W. A. Kuflewski.

Southern Medical Journal (La Grange, N. C.), November.

- 91 *Treatment of Compound Fractures. Southgate Leigh.
- 92 Report of Some Cases of La Grippe. J. W. P. Smithwick.
- 93 A Consideration of Some of the Conditions Due to an Excess of Uric Acid. J. W. P. Smithwick.

Journal of Nervous and Mental Diseases (N. Y.), December.

- 94 *A Case of So-Called Landry's Paralysis, with Autopsy. Sidney I. Schwab.
- 95 An Atypical Case of Multiple Sclerosis. Charles W. Burr and D. J. McCarthy.
- 96 *Note on the Occurrence of Multiple Neuritis and Beri-Beri in Alabama. E. D. Bondurant.

Ophthalmic Record (Chicago), December.

- 97 *The Effect of Converging Prisms on Our Notions of Size and Distance—An Experimental Study. Alexander Duane.
- 98 Listing's Plane and Listing's Law. Harold Wilson.

Medical Dial (Minneapolis), December.

- 99 On the Need of Sanatoria in the Treatment of Pulmonary Tuberculosis. J. H. Stuart.
- 100 An Unusual Accident in Intubation of the Larynx. H. A. Beaudoux.
- 101 The Physicians's Influence in re Vacation Schools. Helen C. Putnam.
- 102 Tobacco—Its Uses and Its Abuses. H. A. Minor.
- 103 One More Case of Apyretic Membranous Croup. A. E. Cordes.

Medical Bulletin (Philadelphia), December.

- 104 *Fracture of Elbow Joint—Sarcomatous Rectal Obstruction—Medullary Anesthesia. Ernest La Place.
- 105 Amyotrophic Lateral Sclerosis and Postero-Lateral Sclerosis. F. Savary Pearce.
- 106 The Treatment of Injuries and Deformities of the Bony Frame-Work of the Nose. E. B. Gleason.
- 107 Periosteal Tendon-Grafting in a Lisfranc Amputation for Gangrene. J. P. Maun.

Medical Council (Philadelphia), December.

- 108 Disorders of the Sexual Functions in Man. A. H. O. Leuf.
- 109 Clinical Cases from Practice in India. Interesting Cases of Multiple Scrofulous Glands; Guinea Worm; Ancient Multiple Dislocations; Leprosy; Insanity; Post-Partum Malarial Hemorrhage. Bertha T. Caldwell.
- 110 A Case of Central Pneumonia, Probably of Pythogenic Origin. John A. Robison.
- 111 Dilatation of the Cervix for Uncontrolled Vomiting. John E. Wilson.

- 112 The Female Bladder. A. L. Russell.
 113 Preliminary and Minor Railway Surgery. J. M. Salmon.
 114 The Prepuce: What Shall We Do With It? E. K. Macomber.
 115 The Treatment of the Lying-in Woman. E. L. Paulding.
 116 A Case of Placenta Previa Without Hemorrhage. Harriet E. Garrison.
 117 Treatment of Diseases of the Nose, Throat and Ear by the Family Physician. E. B. Gleason.
 118 Gonorrhea and Marriage. C. C. Mapes.

Archives of Pediatrics (N. Y.), December.

- 119 *Fetal and Infantile Typhoid. John Lovett Morse.
 120 *Pulmonary Tuberculosis in Infants and Children. Frank Parsons Norbury.
 121 *A Report of One Hundred and Eighty-seven Cases of Measles With Reference to Koplik's Spots and Their Value in Diagnosis. John J. Cotter.
 122 *Poisoning by Vapo-Cresolene. S. S. Adams.
 123 Fatal Intestinal Hemorrhage Without Known Cause in an Infant of Five Months. Maurice Ostheimer.

International Journal of Surgery (N. Y.), December.

- 124 The World's Debt to Surgery. Henry W. Roby.
 125 The Technique of Surgical Gynecology. (Continued.) Augustin H. Goelet.
 126 Asepsis and Antisepsis. James E. Davis.
 127 Simple Operation for Hemorrhoids—Enucleation. J. Rawson Pennington.
 128 Regional Minor Surgery. (Continued.) George G. Van Schaick.
 129 Some Surgical Methods in the Treatment of Gall-Stones, with Cases. Beverly MacMonagle.
 130 Local Treatment of the Genito-Urinary Mucous Membrane. Jacob R. Johns.

Colorado Medical Journal (Denver), November.

- 131 *Ligature of the Innominate for Aneurysm of Right Common Carotid and Subclavian. Albert L. Bennett.
 132 *Pulmonary Embolism, With Report of Cases. F. E. Waxham.
 133 *The Use of Creosotal in the Treatment of Acute Lobar Pneumonia. B. B. Frankle.
 134 *Some Pathological Conditions Characterized by the Presence of the Yeast Fungus. Clinton G. Hickey.
 135 Variola, Smallpox. W. W. Woodring.

Denver Medical Times, December.

- 136 *Diagnosis of Stone in the Kidney. H. D. Niles.
 137 *Compound Fractures of the Lower Jaw, Clavicle and Frontal Region. J. F. Spelman.
 138 Shall the Family Physician do Refraction? John A. Donovan.
 139 Variola—Smallpox. W. W. Woodring.
 140 Clinical Significance of Tremor. S. D. Hopkins.

Peoria Medical Journal, December.

- 141 The Diagnosis of Surgical Diseases of the Kidneys. James E. Coleman.
 142 The Local Medical Society. J. M. McClanahan.
 Kansas City Medical Index-Lancet, December.
 143 The Principles of Diagnosis of Lesions of the Brain. John Punton.
 144 Charity Organization. B. E. Shawhan.
 145 Proprietaries and Prescription Writing. S. H. Blakely.
 146 Two Fracture Cases With Medicolegal Aspects. George A. Boyle.

Hot Springs Medical Journal, November.

- 147 *The Philosophy of the Science and Art of Medicine. W. F. Barclay.

Texas Medical News (Austin) November.

- 148 Hyperchlorhydria. T. J. Bennett.
 149 Microscopic Technique in Relation to the Diagnosis of Urethritis. William F. Bernhart.
 150 The Treatment of Fractures of the Clavicle. G. M. Hackler.
 151 The Report of a Case of Mastoid Disease. Edgar D. Capps.

Columbus Medical Journal, November.

- 152 *The Use and Place of Caustics in the Treatment of Malignant Diseases. S. B. McGavran.
 153 Treatment of Simple Chronic Catarrh of the Nose. Daniel A. Berndt.
 154 General Paralysis of the Insane. George Stockton.
 155 The Specialist and the General Practitioner. George M. Clouse.
 156 *Traumatic Injuries of the Cranium and Insanity. E. G. Carpenter.

Memphis Medical Monthly, December.

- 157 Occupation Neuroses. B. F. Turner.
 158 Report of a Case of Diffuse Scleroderma. S. Smith Terrill.
 159 Three Cases of Intestinal Surgery. E. A. Neely.
 160 Scalp and Skull Injuries. Jere L. Crook.
 161 Some Interesting Cases Occurring in General Practice. G. H. Wood.
 162 The Care of the Perineum During and After Labor. Alfred Moore.

Atlanta Journal-Record of Medicine, December.

- 163 The Treatment of Osteo-Arthritis and Rheumatoid Arthritis of the Feet, Knees and Spine. Michael Hoke.

- 164 The Physiological Therapeutics of the Borderland of Insanity. C. A. F. Lindorpe.
 165 *Excision of the External Carotid Artery in Cases of Inoperable Malignant Diseases of the Face. William P. Nicholson.

Texas Medical Journal (Austin), December.

- 166 Modern Medical Training. H. P. Cooke.
 167 General Medicine. J. H. Joyce.
 168 Report of Chairman of Section on Obstetrics and Gynecology, Central Texas Medical Association. A. R. Kuykendall.
 169 The Preparation of the Lying-in Patient and the Management of Normal Labor. J. H. Alexander.

Medical Times (N. Y.), December.

- 170 The Value of Antiseptic Nebulae in Pulmonary Tuberculosis. Homer M. Thomas.
 171 The Treatment of Bronchopneumonia. William Fitch Cheney.
 172 Hysterical Temperature. W. F. Boggess.
 173 A Case of Acquired Cretinism Treated With Thyroid Extract. Herbert W. Foster.

AMERICAN.

1. **Supracondyloid Fracture of the Humerus.**—The prognosis of these fractures heretofore has been bad as regards motion of the joint, and Shands gives his views on the improved methods of treatment. The most important point is knowledge of the position of the fragments, and the X-ray offers us this. His method is to drill holes through the fragments and suture them in position with kangaroo tendon, excepting in cases where the fracture is oblique, where he uses a drill long enough to project through the dressing, until the end of the second week, perfect asepsis being employed. His experience and observation convinced him that this method is the correct one and the sooner it is generally adopted the fewer stiff and deformed elbows we shall meet with. He reports three cases, illustrated by skiagrams.

3. **Kyphosis.**—The apparatus here described by Forbes is practically a lever whose lower extremity is the fulcrum and upper extremity the power, but the resistance is at the kyphosis. This can be made to exert pressure at the fulcrum or at the point of kyphosis and thus tend to draw the diseased bodies of the vertebrae apart and extend the whole vertebral column above that point, transferring the superimposed weight of the bodies to the transverse processes of the vertebrae and thus reduce the kyphosis. In addition it will perfectly immobilize the vertebral column and by preventing attrition place the parts in the most favorable position for the arrest of the diseased process. The methods of its employment are given and the author states in detail what he considers to be its advantages.

4. **Recrudescing Angina.**—From a study of several cases, together with those he has found in the literature, Mayer arrives at the following conclusions: 1. That anginas due to the bacillus of Friedländer may exist in a subacute or chronic form. 2. They occasion no distress, except perhaps in the beginning of the membranous deposit. 3. They may appear in membranous form, exfoliating and recurring. 4. In the chronic form treatment seems to be of no avail, the bacilli eventually becoming much less active, and the condition ceases by limitation. 5. They are probably much more frequent than the few recorded cases seem to indicate.

5. **Intraspinal Cocainization.**—Goldan reports experience and operations of this method from the standpoint of the anesthetist. He thinks more fluid, if anything, is injected than is lost by the puncture. He sees no special advantage in obstetrics over chloroform, and thinks that it has been used needlessly in many minor cases. He notices inconvenient effects and warns against puncture of the spinal cord, which he thinks may be dangerous, and an accident of this sort should be carefully avoided. The symptom of shock is very pronounced in these cases and its intensity can only be compared with profound chloroformization. He sees no advantage in the matter of speed in the operation, and many disadvantages, and asks in conclusion whether the use of the method may not be a step backward rather than forward.

6. **Empyema in Children.**—Wachenheim reviews the special signs of this condition in children, the chronicity, the temperature curve, rapid feeble pulse, percussion and auscultation.

tion signs, and remarks that the ordinary physical methods are more or less unreliable in young children and we never can feel certain of our diagnosis after employing them alone. The most important recourse is exploratory puncture, and he considers the risks of this very slight. The danger of puncture of the lung is, he believes, imaginary.

8. Uterine Fibroids.—The questions specially noticed by Richardson are: Need of thorough preliminary examination; the condition of the kidneys; difficulties of palpation upon a conscious patient; the importance of vaginal examination before operating, which can be made aseptic if care is taken; the element of time in the operation and the need of speed and yet caution; avoidance of anything like carelessness or undue speed where caution is required; the recognition of the intestines and other organs; the condition of the ureters, the choice of operation between hysterectomy and myomectomy with special reference to the future of the patient. The technique of the operation of myomectomy is described too fully to be here reproduced.

9. Hot-Water Immersion in Puerperal Eclampsia.—The general principles on which eclampsia should be treated are attention to the conditions of toxemia, maintenance of stable nervous equilibrium, due elimination by other organs as well as kidneys, and Green advises an exclusive milk diet when the kidney is at fault, diaphoresis and cutaneous stimulation by heat. The hot-air bath is most appropriately used in the treatment of actual eclampsia, as the patient is then comatose and unable to help herself, and hot-water immersion is impracticable. The hot-water pack is often effective, but when circumstances permit, the hot-water immersion bath is most satisfactory. It not only causes profuse diaphoresis and reduces blood tension, but is a nervous sedative itself. The water should be as warm as can be borne. The patient should remain in it until profuse perspiration of the face shows that the sweat glands are in full activity, and friction with the flesh brush is also advisable. When free perspiration has been induced the patient should be rolled in a blanket, placed in a warm bed and covered with several blankets, and perhaps a rubber sheet. It should be remembered, however, that a hot bath is a powerful agent in the induction of labor. It should not be used unless labor is imminent. There should be an ample ingestion of liquids with free diaphoresis. The paper concludes with a report of three cases of this treatment with benefit.

10. Diphtheria Antitoxin.—McCollom's article shows the effect of the antitoxin treatment in several cities, the ratio of morbidity from diphtheria in Boston and the percentage of mortality by age in London and in Boston. His conclusions from the observations of nearly 8000 cases are as follows: 1. That the ratio of mortality of diphtheria per 10,000 of the living was very high in Boston previous to 1895. 2. That the ratio of mortality per 10,000 has been very materially reduced since the introduction of antitoxin. 3. That the percentage of mortality in the South department is lower than that of any of the hospitals taken for comparison. 4. That since larger doses of antitoxin have been given the death-rate has been materially reduced, this reduction having occurred in the apparently moribund cases. 5. That no injurious effect has followed the use of the serum. 6. That to arrive at the most satisfactory results in the treatment of diphtheria, antitoxin should be given at the earliest possible moment in the course of the disease.

12. Calculi.—Leonard argues for the Roentgen rays in detecting calculi, especially in the kidneys, ureters and bladder, and while detection of vesical calculus is generally easy by the ordinary methods, there are applications of this method that are especially useful. He thinks that the perfection of the technique will render this method still more valuable in diagnosis.

14. Zoologic Names.—The use and abuse of zoological names by physicians are dwelt upon by Stiles, who, while he does not claim that all physicians should be familiar with the rules of zoological nomenclature, believes that they gen-

erally take too many liberties with it; for example, the hydatid echinococcus is suffering from not less than sixty names, and the unarmed tapeworm has about forty names. He protests also against the changing of the spelling of zoological terms. This may seem trifling to the physician, but it is of importance for scientific accuracy when speaking of zoological subjects. For example, *tænia* may be another animal from *tenia*, and *tinea* is zoologically a moth and not a parasitic worm, nor is there any possible zoologic ground for the use of the term *ameba*. He concludes his paper with the following thesis: It is incumbent upon physicians to follow zoological customs in dealing with zoological subjects, as it is incumbent upon zoologists to govern themselves by the code of medical ethics in dealing with medical cases.

21. The Neuron Doctrine.—Allen concludes his article with the general statement of the findings of Golgi's method and the very apparent separation of the neuron units one from another. He says it seems to be no more proved that the Golgi and methylene-blue methods give deceptive results than do those of Apathy and Bethe, which have not had anything like so wide an application as the former, and more extended observations are required before we can throw overboard so favorable a hypothesis as the neuron doctrine. There is a great deal of difference as to just what the neuron means among authorities, and there are many who have not admitted an entire lack of continuity between the elements. Then if we should admit Apathy's view to be correct, it is not necessary for us to abandon the neuron. Its embryology is not affected. It may be necessary to modify our views somewhat, but the conception as a whole as a means of explaining certain facts is hardly to be given up.

22. Medullary Narcosis in Obstetrics.—Ehrenfest, after reviewing authorities, thinks that there is a possible future for the operation. If, however, we should be obliged to use instrumental delivery more often with it, it would seem a possible contraindication. As a substitute for other forms of narcosis it may be of value; if future work establishes the fact that these subarachnoidean injections are free from danger they may add some advantages in cases where heart failure, nephritis, etc., contraindicate the use of chloroform or ether. On the whole, however, it seems to be more than doubtful whether we are justified in recommending it as a substitute for light chloroform narcosis; the latter is always sufficient in the usual run of cases.

24. Laryngeal Tuberculosis.—Cohn would divide laryngeal tuberculosis into three stages: 1. Excepting circumscribed infiltration or ulceration, the larynx is healthy. In this stage the treatment consists in curettage if infiltration be present and in cauterization with lactic acid if ulcer exists. If the general condition including the lungs be good, these procedures are imperative, and must be repeated at intervals of one to three weeks until the diseased tissue is completely removed. In the second stage, where extensive infiltration or ulceration exists we can not expect a complete cure and our main aim is to prevent secondary infection. The mildest method is by means of antiseptic inhalation; whether we use 1 to 3 per cent. carbolic acid, 2 to 4 per cent. boracic acid, or 1 to 2 per cent. lysol, is of no consequence. If the epiglottis permit an inspection of the larynx, the antiseptic swab is still better and a 10 to 30 per cent. solution of menthol in olive oil. If we see the case in its last pitiful stage all we can do is to treat it symptomatically. Administer a morphin powder before each meal, or better still, apply a 20 per cent. solution of cocaine to the pharynx. In impending suffocation, tracheotomy, of course, is necessary. The general treatment corresponds closely to that of tuberculosis.

25. Local Anesthesia in Hernia.—Meyer thinks the advantages of this method of operating are slight as compared with the pain and discomfort produced. He does not wish to be understood as unqualifiedly condemning it, but wants to define its limitations. Its only real advantage is the removal of the element of danger of general anesthesia, and that very seriously limits its employment.

32. Gall-Stones.—The operation, here described by Kelly, is feeling for the gall-bladder through the lower incision of the abdomen, pressing out its contents and, if the stone is present, pressing it up against the abdominal wall and cutting down on it. The gall-bladder is drawn well up to the peritoneal incision and there is no danger of contamination with the bile. The pressure holds the tissues from below and keeps them anemic, and the skin, fat and muscle are separately divided. The peritoneum is easily recognized, and on reaching this layer a little nick is made and the two edges caught with mosquito forceps; as the peritoneal incision is made a little larger, the gall-bladder with the stone appears in the incision, is opened and its edges caught, as the incision is made large enough to evacuate its contents. The edges of the gall-bladder after the removal of the stone are united with fine silk sutures while held up by four of Halsted's delicate mosquito forceps, the suture beginning at one end of the incision and continuing to the other embracing all the coats but the mucosa. The same suture is then continued back to the starting-point as a quilted suture, burying the first layer when the ends are tied together. If the gall-bladder is normal he does not hesitate to drop it without a drain, but if it is diseased he closes with an interrupted suture and inserts a small drain provisionally. The abdominal wound is then closed and the operation completed within a few minutes of its commencement. Several cases are reported operated on in this manner, showing its advantages.

33. Rheumatism.—Stengel remarks, after studying the bacteriologic nature of rheumatism, that it is important to recognize several fundamental facts as regards treatment: 1. the tendency in many cases towards spontaneous recovery; 2. complications, such as endocarditis, pleurisy, pericarditis, etc., are frequent and more likely to occur in protracted cases than in those of short duration; 3. the complications are probably, as a rule, secondary to joint disease and not to the infective lesion—such as tonsillitis—that was the primary focus, consequently the severity of the local joint lesion bears a relation to the likelihood of the development of the complications. He states these facts as probable, not as absolutely proved. Of the drugs used in the treatment of rheumatism, the salicylates hold the first place, and if they are not specific in their action they at least relieve pain. He also mentions as another valuable method, fixation by splints of plaster, which he thinks is often the best method of producing rest for the parts. He has used the plaster cast considerably in gonorrheal and polyarticular types and thinks its beneficial effects are immediate. In polyarticular rheumatism it has been most useful when the knee, elbow and ankles have been affected. The wrists and smaller bones can be managed with splints and in other ways quite as satisfactorily. In some cases of rheumatism, where rebellious to treatment with the salicylates and rest and the general condition is unsatisfactory, tonics are advisable, and in a number of cases of this sort he has employed small doses of bichlorid of mercury with good result and attributes this to the tonic influence of the drug. It seems to be of value as a stimulant of hemogenesis or as a tonic, not as an antiseptic. Other tonics may be of use, such as iron; strychnia and the iodids are of undoubted value in some chronic cases. In conclusion, he mentions the serum treatment, and he has made a few trials of antistreptococcic serum in cases of obstinate rheumatism in which improvement soon followed the injection. The dose was one-third the customary amount employed in streptococcic infection and the remedy was administered every other day for a week or more, when ordinary treatment was resumed. While conclusions would be rash from this limited experience, he thinks the method deserves further trial.

34.—See abstract in *THE JOURNAL*, xxxv, p. 1105.

35. Surgery of the Gasserian Ganglion.—Neff notices the history of the operations on the Gasserian ganglion and the methods, and concludes his article as follows: 1. Trigeminal neuralgia is an ascending neuritis, peripheral in origin. The second and third branches, rather than the first, are the ones most likely to be involved. 2. If the disease persists after several months' trial with drugs, electricity, etc., surgical

intervention is indicated. 3. If only one branch is involved and the disease is not of long standing, as much as possible of the affected branch should be removed with a view of relieving pain and preventing the upward progress of the disease. 4. If more than one branch is involved, and the pain is severe and has persisted for a long time, the ganglion should be extirpated, all other means having failed. 5. The temporal route should be followed, the Hartley-Krause, or preferably, Cushing's modification of it, being the most rational procedure. 6. Pain will not recur with original severity in more than 1 or 2 per cent. of the cases operated on, or in any degree in more than 4 or 5 per cent., and is invariably due to an incomplete operation. 7. It is important to remove the ganglion and its branches intact in order to be certain of the completeness of the operation and to insure a careful and thorough microscopic examination of the specimen. 8. The present mortality is about 10 per cent. Increased experience and an improved technique will undoubtedly diminish this mortality, and dissipate the risks of this hitherto most formidable, difficult and dangerous operation.

38. Post-Mortem Examinations.—The paper by Haines insists on the importance of thorough work in the post-mortem; we must look always for everything that exists. He notices particularly the staining of the body as indicating the positions in which it has laid, as it often happens that the body has been removed before seen by the physician. The subjects of atheromatous change are especially prone to early, rapid and extensive post-mortem staining and he attaches great value to this, and mentions cases to show that it may appear even before death. Other points mentioned are the conditions of the mucous membrane of the mouth, which are of value but sometimes deceptive, post-mortem rigidity, insufflation of lungs, post-mortem vesicles, and the need of examining the pharynx and larynx for obstruction. He says the post-mortem room is the sarcophagus of snap diagnoses, the abode of disappointed expectations, but a Mecca to him who will improve his knowledge.

40. Pathogenesis of Gall-Stones.—Summa offers the following conclusions of his article: 1. The causation of gall-stones is a very manifold one. The sooner we abandon the natural desire to search for an etiology common to all gall-stones the sooner we shall approach the truth. 2. The formation of gall-stones requires a union of at least two factors. 3. Notwithstanding all the efforts made thus far, there are still a number of etiologic factors unknown to us. 4. Our knowledge of the chemical changes in the bile and of the anatomic changes in the gall-bladder in various, particularly febrile, diseases should be enlarged. 5. One, and surely a very important, group of gall-stones is apparently due to the combined effect of temporary impediments in the outflow of bile and lithogenic catarrh of the biliary system. The chief material of these gall-stones, cholesterolin and lime salts, is not derived from the bile, but from the destruction of the epithelial cells of the mucosa. 6. Such gall-stones deserve their name "gall-stone" only on account of the locality they are found in. 7. Upon the common sense the question forces itself, why do the same factors, temporary stasis and lithogenic catarrh in other places, as, for instance, salivary ducts, pancreas, pelvis of kidney and urinary bladder, not form similarly composed stones? He leaves the answer of this question to the unconditional admirers of Naunyn's theory.

43.—This article has appeared elsewhere. See *THE JOURNAL*, xxxv, p. 204.

45.—See abstract in *THE JOURNAL*, xxxv, p. 1050.

48. Virginia Medical Laws.—Martin discusses the medical laws of Virginia as compared with those of other states in relation to the question of reciprocity. He thinks the law is not sufficiently enforced, and he wrote a series of inquiries which he sent out to examining boards of twenty-five different states, and gives briefly the substance of these replies. In North Carolina there is no trouble apparently in having medical laws enforced. The profession and the laity alike are interested in their enforcement. In South Carolina the reverse is the case. In Kentucky, Colorado, New York, New Hamp-

shire and Wisconsin the enforcement of law seems to be fairly easy and thorough. In West Virginia, Maryland, Pennsylvania, Connecticut, Massachusetts, Tennessee, Indiana, Mississippi, and to some extent in Iowa, there has been more or less difficulty, due either to popular and professional apathy on the subject or to the vagaries of the courts in regard to irregular pretenders in medicine. In some of these states, however, the condition is improving. In Virginia he finds that they do have trouble and the difficulty is largely in securing prosecution of irregular practitioners and in the coöperation of the profession. There are some men who fail before the board and go home and practice, and there is another class who never take the trouble to appear. The examining board of Virginia is undoubtedly thorough and fair in its methods, but with these conditions its functions are seriously limited. He thinks the profession needs to see to not only the enforcement of the present law, but as to possible legislation which may impair it.

54. Fractured Clavicle.—Henson describes an appliance rather too elaborate in its details to be reproduced here, which he claims renders the parts immobile and uses the scapula as a factor in the management of the outer fragment better than other methods heretofore in use. It is perfectly comfortable and never slips or gets displaced without interference on the part of the patient.

55. Tests for Urine.—Hoge mentions certain past fallacies in the ordinary test for sugar, such as the use of chloral or the excess of creatinin in the urine, both of which will reduce copper and give the same reducing color. Urobilin also, when in excess, will reduce copper. In the Moore or Heller test a small quantity of sugar, less than one grain per ounce, is not detected, and if the patient is taking rhubarb or senna the urine will give a dark-brown color or cast. Certain substances in the urine, such as urea, urates, uric acid, creatinin, indican, urobilin and arsenic, tannic acid, carbolic acid, gallic acid, camphor, copaiba, salicylates, turpentine, glycerin and some alkaloids when administered internally will produce more or less reduction of copper. The objections to the Bottger test are due to the presence of albumin, pigmentation, mucin and other substances containing sulphur, which need first to be removed. Roberts' fermentation test is the surest and freest from error. The only objection to it is the length of time required. He gives the tests for creatinin, urobilin and indican.

56.—See abstract in *THE JOURNAL*, xxxv, p. 1425.

60. Splenic Enlargement in Infancy.—Acute splenic tumor occurs in infants, as in adults, in connection with acute infectious disease, and the enlargement is proportionately greater than in later life. Splenic tumor is much more common in infancy, occurring not only under the same conditions as in adults, but in many others. Not only do we have it in combination with leukemia, liver cirrhosis and malaria, all rare in children, excepting the latter, but especially in connection with rickets and hereditary syphilis. Both of these are frequently associated with anemia, and cases are reported illustrating these facts. The enlarged spleens in children reported by Morse are of interest. They disappear rapidly with improvement of the condition. His experience with hereditary syphilis has not been sufficient to warrant any conclusions, but he thinks it also disappears in this condition under treatment.

61.—See abstract in *THE JOURNAL*, xxxv, p. 1425.

70. Artificial Illumination.—The various methods of lighting are described and criticised by Alleman, who finds that the present methods are very unsatisfactory and the arc light the worst of all. He suggests as an improvement the concealment of the light itself and its reflection on the ceiling of the room, thus producing a diffusion which simulates, as far as possible, the diffusion of daylight. If it is possible to sufficiently light the room in this way, reading can be done in all parts with less fatigue and damage to the sight. He thinks that when a single light is used for reading purposes the best plan is the use of a translucent shade. An insufficient reading light is less harmful than the extreme contrast of a bright light in a dark room.

84. Nitrous Oxid Anesthesia.—Galloway reports the results of fifty cases of the combined use of nitrous oxid and ether, the former being used as a preliminary in the anesthesia. He thinks the advantages of the method entitle it to more extended use. They are: 1. That they give rise in the majority of patients to no unpleasant sensations. 2. Time required to produce unconsciousness is 50 to 60 seconds in the majority of cases and the patient is ready for the operation in two to three minutes. 3. It requires less ether by from 2 to 4 ounces. 4. Recovery is more rapid after operation, on account of the smaller quantity of ether required. Nitrous oxid alone may be used for short operations. In very few of these cases does it produce any alarming cyanosis, and with care these symptoms, should they occur, will not be serious.

88. Rectal Valves.—This paper of Pennington covers in part the same subject as that of his article published in *THE JOURNAL* xxv, p. 1520.

89.—See *THE JOURNAL*, xxxv, p. 1476.

91. Compound Fractures.—Leigh emphasizes the following points in the treatment of compound fractures: 1, free opening of the wound; 2, removal of all useless torn tissues; 3, thorough disinfection; 4, good coaptation of bones; 5, loose closing of wound; 6, firm pressure dressing; 7, constitutional treatment. He believes that attention to these points, together with good nourishing food and plenty of it and plenty of fresh water, mild cathartics, and the use of lime, which he has given in the form of syrup lactophosphate of lime, to replace the bone cells, will give good results.

94. Landry's Paralysis.—Schwab reports a case of Landry's paralysis with post-mortem in which the nerve cells were found normal, or at least the slight variations can be explained by pre-agonal or post-mortem chromatolysis. There was an absence of degeneration in the cord, and of neuritis; there was no myelitic process of softening or purulent inflammation and no meningitis. The positive findings were limited to the blood-vessels and the perivascular lymph-spaces alone, and consisted in a tremendous vascular congestion, thinning of the vessel walls due to this increased pressure, and hemorrhage with escape of free blood into the nervous structure, and possible increase in the number of vessels. There were no inflammatory products and no demonstrable disease of the vessel walls other than the thinning mentioned. Schwab suggests that possibly these hemorrhages are artefacts due to mechanical obstruction of over-full vessels while making sections, but against this is the fact that some of them show evidence of long duration and the hemorrhages are too frequent, and occur independent of the plane in which the sections were cut. There are two theories, both of which only partially account for the symptoms and neither is satisfactory. According to the first, the symptoms might be due to the effect of pressure of the free blood on the nervous structure. The number of the hemorrhages and their distribution favor this idea as well as does their prevalence in the upper portion of the cord, but against it are the great number of hemorrhages of recent date and the absence of the effect of old hemorrhages, such as fibrin, blood crystals, pigmentation, etc. The second theory is that a toxic process produces in the cord a condition very similar to that of non-purulent encephalitis affecting the nerve-cells of the anterior horns, but in such a minute way that their morphologic appearance could not be regarded as differing from the normal. In other words they were functionally affected. The absence of neuritis or degeneration would appear to strengthen this view, and the fever and constitutional symptoms can also be explained by it. The origin of the toxic process he traces possibly to old tubercular foci in the lungs. While not doubting the possibility of the parenchymatous nature of the process in certain other cases, in his he holds the preliminary change must have been an interstitial one. His view is that Landry's paralysis is not a distinct clinical type, but that it is an ascending paralysis comprising a group of symptoms depending on the most varied causes and with the most varied pathology, so that the name is only of clinically descriptive value.

96. **Beri-Beri.**—Bondurant first alludes to the epidemic of beri-beri that occurred several years ago in the State Insane Hospital of Alabama, and a similar one that occurred in 1895 in the Arkansas State Hospital at Little Rock. He has inquired among practitioners to find out whether the disease has been observed in other communities, but satisfactory evidence appears to be lacking, the cases being generally alcoholic, post-typhoid, multiple neuritis, etc. Multiple neuritis in the form of beri-beri, however, is very common in Mobile among the sailors in ships touching at that port; the Norwegian sailors seem specially affected and the port is dreaded on that account. It is noteworthy, however, that the disease is unknown among the local inhabitants and that it occurs in vessels that have been previously infected.

97. **Converging Prisms.**—Duane reports experiments on the effect on the vision of the converging prisms, especially as regards the notions of size and distance, and from it finds that in the great majority of cases—23 out of 28—the effect of converging prisms was to make the distant object appear either smaller or more remote, both in 17 cases, in 2 smaller, but not more distant, in 4 more distant, but not smaller; 2 of these last, however, were only examined with homatropin. Both apparent recession and apparent diminution increased *pari passu* with the amount of convergence. In some the recession appeared to be the primary effect, noticeable even with prisms too weak to produce any diminution in the size of the object, and in all more marked than the diminution. In other cases the diminution was primary and in only one instance, and that a dubious one, was the distant object alleged to look nearer, and in no instance was it reported as appearing larger, though there was an apparent exception in this which was corrected by further investigation. In a few cases in which there was no effect produced on the apparent size or diminution of the object across the room the amount of convergence employed was usually small, and analogy with other cases would lead us to suppose that with stronger prisms a decided effect would be produced both upon the size and distance. The effect on the apparent size and distance of objects seen through the converging prisms was less pronounced in those who from the start used little accommodation. On the other hand, the converging seemed marked to those whose sight at first was blurred by the excessive accommodation employed and cleared up afterward through relaxation of accommodation. Objects, as soon as they became distinct by relaxation of accommodation, appeared small and distant. The addition of a concave glass clearing up the sight that was blurred by the overplus of accommodation, had no effect on the apparent size and distance produced by the prisms. The effect of homatropin pushed to the point of complete relaxation of accommodation was in some cases to make the object appear farther off, but no smaller. In one case it apparently prevented the recession and diminution that had existed before. In 2 cases recession and diminution were marked both with and without homatropin. In 14 cases out of the 16 examined, the effect of looking through converging prisms at an object near by—18 to 30 inches—was to make it appear smaller, even with a very weak prism. The diminution of size was more marked than that of distance. Near objects generally looked more remote, though sometimes they looked nearer than they really were. With strong prisms the recession may be very pronounced. In all of the 6 cases examined under homatropin the near object looked either farther off or smaller, or both, and the effect was usually decided. The explanation of these facts, Duane remarks, is rather difficult, though the indications are that the accommodation, or the relaxation of an unnaturally tense accommodation, is the prominent factor in their production. He is inclined to think this disturbance of normal relations between the accommodation and convergence brought about by the use of converging prisms is chiefly responsible for the diminution in size that most persons see in this way. The relaxation that is also noticed seems apparently due to the same cause, but is considerably influenced by the effects of contrast and perspective. The psychic element must not be ignored, and accurate description is not possible to every one.

104. **Medullary Anesthesia.**—La Place reports, with other cases, one of fracture of the elbow-joint, one of spontaneous resolution of a sarcomatous tumor, and two cases in which medullary anesthesia was employed. In one, an aged man, 2 c.c. were employed. Anesthesia extended to the nipples in thirteen minutes. In the other case, however, twelve different attempts were made to reach the spinal cord with the needle and in no instance was it possible to extract any cerebrospinal fluid. There was no difficulty in introducing the needle, but there seemed to be an anomaly in the patient in this regard, nothing but blood could be withdrawn. He thinks possibly there was an obliteration of the sac in that region, due to old syphilitic infection. The patient was subsequently operated on with ether. The case is of interest on account of the failure to reach the subarachnoid space.

119. **Fetal and Infantile Typhoid.**—The possibility of fetal typhoid is discussed by Morse, who reviews the literature of the subject and sums up in the following: 1. The typhoid bacillus can traverse the abnormal, and possibly the normal, placenta from mother to fetus. Other organisms may also pass in the same way. 2. Infection of the fetus results. Because of the direct entrance of the bacilli into the circulation intra-uterine typhoid is from the first a general septicemia. For this reason, and possibly also because the intestines are not functioning, the classical lesions of intrauterine typhoid are wanting. 3. The fetus usually dies in utero, or at birth, as the result of the typhoid infection. 4. It may be born alive, but feeble and suffering from the infection. If so, death occurs in a few days without definite symptoms. 5. It is possible that the fetus may pass through the infection in utero and be born alive and well. There is, however, no proof that this happens. 6. Infection does not always occur. The pregnant woman does not necessarily transmit the disease to her child. As regards infantile typhoid, that is, typhoid occurring under 2 years, he sees no reason why it does not occur; the probability should be greater the second year than the first. Nevertheless the statistics show that this is very rare or is unrecognized when it occurs. To demonstrate if possible whether typhoid really exists or is confused with gastrointestinal disorders of infancy Thayer and he examined the blood of 50 cases for serum reaction, in the summer of 1898, and in only one obtained a positive reaction. While the series is too small for definite conclusions, it supports the theory of the rarity of infantile typhoid. He goes over the literature of this subject also and offers the following conclusions: Except for the lessened exposure in the first year through food, there seems no obvious reason why typhoid should be less frequent in infancy than in later life. Nevertheless, judging from the small number of cases reported, it is less frequent. It may be really less frequent or only apparently so because the disease is not recognized, being mistaken for other conditions. Bacteriologic examinations in a large series of autopsies on infants and the use of the Widal serum test in a large number of sick babies seem to offer the best means for determining both the frequency and the character of the disease at this age. The accuracy of the diagnosis in many of the earlier reported cases must be regarded as very doubtful, and hence no satisfactory conclusions can be drawn from them. Analyses of the more recent and certain cases seem to show that the symptoms of infantile typhoid are essentially the same as in adults, but that the course is shorter and the mortality greater. These conclusions may be inaccurate, however, as it is possible that they are based on the severe cases alone, the milder cases having escaped notice. The pathologic changes in the intestines are, as a rule, insignificant. The contrast between them and the severity of the general symptoms is striking. The probable explanation is that in the infant, as in the fetus, but to a less degree, the disease is a general rather than a local infection. As regards the serum reaction, he thinks that it occurs in the infant as in the adult. There are no data available regarding its presence or absence in fetal typhoid. As regards transmission through the placenta, he reviews the literature and finds that the agglutinating principle may be transmitted in some cases and in most, not at all. The simple explanation of its not

occurring is that the placenta acting as a filter prevents the passage of the agglutinating principle, but the data are insufficient as yet to prove any theories. The transmission of the agglutinating principle through the milk is also discussed, and his general conclusions on the subject of serum reaction are as follows: The serum reaction occurs in infantile as in adult typhoid. There are no data as to whether or not it occurs in fetal typhoid. The agglutinating power may or may not be present in the blood of infants born of women with typhoid. If present, it is transmitted from the mother to the child through the placenta. It is possible, however, that it may be formed in the child in response to toxins transmitted through the placenta. The agglutinating principle can pass through the normal placenta. Part of it, however, is arrested in the passage. Whether or not it is transmitted seems to depend on the strength of the agglutinating power in the maternal blood and in the length of time during which the placenta is exposed to it. It may be transmitted to the nursing through the milk. It may appear in the infant's blood in less than twenty-four hours. The weakening of agglutinating power is due to the obstruction to its passage in the mammary gland and in the nursing's digestive tract. The chief factor governing transmission is the intensity of the power in the maternal blood. A subordinate but important factor is some unknown condition in the digestive tract. If the power in the maternal blood is weak and the obstacles great it may not be transmitted.

120.—See abstract in *THE JOURNAL*, xxxv, p. 1049.

121. **Measles.**—Cotter has investigated an epidemic of measles, including 187 cases, to ascertain the following points regarding the presence or absence of Koplik's spots: 1, whether they appear regularly; 2, whether they appear before other pronounced diagnostic signs; 3, to estimate their value in diagnosis. He found positive occurrence of spots in 169 cases, negative in 8 and doubtful in 10. Their absence was observed in poorly nourished children of the marantic or rickety type, or with the taint of hereditary or acquired syphilis. A very small percentage of otherwise healthy children did not show the Koplik spots at any stage of the disease. Two of the 8 were of this character. As regards the time of appearance they occurred with fever and skin eruptions in 78 cases. They appeared one day before the skin eruption in 54, two days before in 25, three days in 4, four days in 3 and five days in one and in 2 cases one day after the eruption. In one case also they appeared with no skin eruption. He is inclined to think from his observations that when measles reaches the stage of appearance of this symptom exposure to other children has been great, but he admits their extreme value as a diagnostic point and knows of no other disease than measles that presents them.

122. **Vapo-Cresolene.**—Adams reports two cases of poisoning from inhalation of the fumes of a vapo-cresolene lamp and reports these because this disinfectant is often used where there is a child that has a cough, and frequently, he thinks, with great risk to it.

131. **Ligature of Innominate.**—Bennett reports an additional case to the twenty-nine already published, of which he gives a summary. His operation was made in the French Congo territory on a native, and the results seemed to be good until the third day, when secondary hemorrhage occurred, carrying the patient off.

132.—See abstract in *THE JOURNAL* xxxv, p. 448.

133. **Creosotal.**—Frankle has found in a few cases of acute lobar pneumonia, creosotal, which is simply a fanciful name for pure and modified forms of creosote carbonate, containing 92 per cent. of creosote, to give apparently valuable results. The cases were all of average severity, with the usual complications, ranging in temperature from 102 to 105. After a preliminary 10-gr. dose of calomel, creosotal was administered in dram doses night and morning and nitroglycerin given as required. The results were diminution of temperature without cardiac depression, a liquefaction of the exudate, general stimulation of all the emunctories and relief from previously exist-

ing pain. All the patients got well by gradual defervescence. He thinks the remedy is worthy of a more extended trial.

134. **Yeast Fungus.**—Three cases of apparent diphtheria are reported by Hickey in which the cultures revealed nothing but yeast cells in two; the other, occurring at the same time though less severe, was not examined. The clinical symptoms were very like those of diphtheria, but there was no very extensive glandular enlargement in any of the cases and practically none at all in two.

136.—See abstract in *THE JOURNAL*, xxxv, p. 707.

137.—Ibid.

147.—See abstract in *THE JOURNAL*, xxv, p. 1050.

152. **Caustics in Malignant Disease.**—McGavran believes that caustics have no place in the treatment of cancer of the tonsils, tongue, eyelids, scrotum, penis and rectum, nor would he use them in cancer of the breast or uterine cancer. All objections to caustic treatment disappear when we come to consider cutaneous cancer, and he reports five typical cases of facial eruptions successfully thus treated. The choice of proper escharotics is of great importance. A mild caustic should never be employed. Nitrate of silver and mineral acids should never be employed. Caustic potash, arsenous acid, and chlorid of zinc have given the best results. The one which has given him the best results is Bougard's caustic compound, as follows: Wheat flour, 60 grams; starch, 60 grams; arsenic, 1 gram; cinnabar, 5 grams; sal ammoniac, 5 grams; corrosive sublimate, 0.50 gram, solution of chlorid of zinc at 52 F. .245 grams. The first six substances are separately ground and reduced to a fine powder. They are then mixed in a mortar of glass or china, and the solution of chlorid of zinc is slowly poured in, while the contents are rapidly moved with the pestle, so that no lumps shall be formed. A thick layer is then spread on cotton and left in position from ten to twenty-four hours. If the application has been successful all the macroscopical cancer mass should appear to be necrosed completely and the tissue beyond inflamed. Warm poultices are applied until the slough separates, usually in three days. Few cases require a second application. The ulcer may be dressed with aristol ointment. All exuberant granulations are to be kept in check by the usual methods. It is important to so stimulate the ulcer as not to permit scabs to form. He has used the caustic potash a few times before using Bougard's formula. He has never used Marsden's paste. The patient must be treated energetically and pain not be a preventive. During the application of the caustic he usually gives a hypodermic of morphin every five or six hours, but some cases do not require it.

156.—This article has appeared elsewhere. See *THE JOURNAL*, xxxv, p. 616.

165.—See abstract in *THE JOURNAL*, xxxv, p. 1501.

FOREIGN.

British Medical Journal, December 8 and 15.

Parasitology of Malaria. LORD LISTER.—The author reviews the history of the discovery of the origin of malaria from Laveran's first findings of the ameba and Golgi's latter recognition of the tertiary and quartan forms, and the slightly later discovery of the estivo-autumnal parasite. He then gives an account of the deductions of Manson from the findings, and Ross's observations in India, which demonstrated the part that the mosquito plays in the infection. Although this was done, there still remained a link wanting in the chain of biologic sequence. The relation of unpigmented flagella to the pigmented corpuscle was unexplained until MacCallum's observations in this country, when he demonstrated the process of fertilization and that the flagella were nothing more nor less than spermatozoa and the granular cells were ova. The further observations of Koeh and Grassi of the life cycle of the parasite, and the observations of Bastianelli and Bignami of the development of crescents, are also noted, as well as the recognition of the anopheles as carrier of the malarial parasite that infects man. Christophers and Stephens have also investigated black-water fever and the special liability of children to be infected among the natives of malarial regions, with the practical inference from the fact of the advisability of Europeans when

settling in a malarial tropical region separating their dwellings from those of natives, the interval of one-quarter of a mile usually being sufficient to afford a suitable degree of protection.

Causes and Cure of Insomnia. JAMES SAWYER.—The hypnotic drugs are reviewed in this second lecture, and Sawyer insists on the importance of giving such only in exceptional cases and of avoiding them if possible. The risks of the administration of a powerful hypnotic are very serious and many human lives are yearly lost from this cause. He would use them only as temporary remedies when it is necessary to secure sleep at once. The patient should never be allowed to swallow chloral or any other dangerous but valuable hypnotic according to his own free will, nor should he proportionate the dose himself. He can only safely take them under medical supervision. Another important point is that an overworked individual must never be permitted to go on with his overwork and habitually secure sleep by chloral or other drugs. The sleeplessness must be attacked at its cause. Sawyer, however, advises suspicion as to accepting work as the cause of insomnia. It is mostly worry, not overwork, or if work, work under wrong conditions. The general hygienic considerations must not be overlooked. A holiday with complete change of scene and with distinct activities will often do much to cure, and if the patient is well nourished the bromids may be cautiously employed. In the anemic cases a generous diet and alcohol as a hypnotic are sometimes useful, but there is a danger in the prescription of this agent and we must not be negligent of our responsibility. The author notices the various plans of producing sleep, such as counting, thinking of monotonous subjects, taking deep inspirations. He thinks these are occasionally useful, but by no means invariably effective. Care should be taken that the bed-covering is sufficient, but not excessive. In all cases, a window should be open the year round. The head of the bed should be away from the wall. A little food taken just at the time of retiring is often effective. Sometimes a person who has been long awake will fall asleep at once after sousing his head, neck and hands in cold water, or shaking up and cooling his pillows and bedclothes and then going back to bed. In the toxic forms of insomnia we must look after a reduction in the consumption of tobacco, alcohol, tea, etc., as the case may be. The treatment of gouty insomnia and that from chronic kidney disease is too extensive a subject, involving as it does the whole question of therapeutics of the maladies on which the symptom depends, to be discussed here. In the very obstinate senile insomnia the bromids with full doses of hops or henbane are the best drugs, and less harmful methods like some of the non-medicinal measures referred to may bring about sleep.

December 15.

Polyorrhomenitis, or Combined Serous Inflammations.

FREDERICK TAYLOR.—In this article Taylor describes conditions which have been specially noticed by the Italians and have received the name of polyorrhomenitis, which include multiple serous inflammations. The name can be compared with that of polyarthrititis, by which we mean multiple inflammation of the joints, and in these cases also we have to consider what are its bacteria, or poisons that cause the condition. Polyorrhomenitis may be either acute or chronic, and the causes correspondingly different. In the acute case one cause may be pneumococcic, while the pericardium and pleura are inflamed together; another is the staphylococcic invasion, which we see in pyemia and septicemia. The tubercle bacillus is also a cause in a small number of acute cases, though it plays the greatest part in the chronic and subacute inflammation of the serous membranes, where it is the most frequent cause of all. Polyorrhomenitis is more frequent in males than females. The majority of the cases occur between the ages of 16 and 30. In any case it usually begins in one serous membrane and subsequently invades the others, according to the following three types, of which the first is the most frequent and the last mentioned the least: 1. The peritoneum is first attacked, then the pleura, beginning generally with the right pleura. 2. The pleura, then the peritoneum. 3. The pleura on one side is first in-

vaded, and then the opposite. 4. Pericarditis generally follows a pleurisy, and especially a left-sided pleurisy. 5. The inflammation may first involve one pleura, then the peritoneum, then the other pleura. The interval between the invasion of the different sacs may be weeks or months. The duration is also variable, and the result may be recovery with adhesions, or fatal. While most such cases are tuberculous, the author does not exclude the possibility of an exception and mentions a case in which there was no evidence in the post-mortem to show that tubercle had anything to do with the causation. The prognosis depends largely on the cause. The prognosis of pneumococcal polyorrhomenitis is undoubtedly much worse than the prognosis of pneumococcal pneumonia, or a pneumococcal empyema or pleurisy. An implication of the pericardium is a bad addition to the case. Streptococcal and staphylococcal cases may be fatal, but in the subacute or chronic multiple inflammation due to tubercle the prognosis is much more favorable. Tubercular peritonitis is probably fatal in more than one-half the cases; pleurisy in much less, but the associated lesion is not likely to be less fatal than the more fatal of the two operating alone. The course of tuberculous pericarditis probably renders death almost certain. In case of recovery from all the immediate inflammatory conditions there remains the risk from permanent adhesions, the risk of the development of tubercle in other organs, especially the lungs and meninges. The treatment of the condition must be conducted on the lines of treatment of the separate tuberculous lesions concerned, hygienic food, pure air, climate, relief from cares, etc. Internally as drugs, iron, creosote and cod-liver oil have been administered. As to local measures he has aspirated the left chest and applied mercurial ointment externally. Mercurial inunctions have often seemed to be valuable. Laparotomy may become desirable. Arsenic and iodine are also mentioned.

The Lancet, December 8 and 15.

Prognosis and Treatment in Pulmonary Tuberculosis.

ROBERT MAGUIRE.—In this second lecture Maguire continues the subject of the prognosis of tuberculosis. Pyrexia, he thinks, is not so significant; it may be absent, and he does not consider that tubercular poisoning itself often produces pyrexia, but rather that it is due to staphylococcal and pneumococcal poisoning. An increased morning temperature and the nearer the approach to evening temperature the worse the outlook for the patient. General weakening at the commencement of the attack greatly increases the gravity of the case. This is especially so if there is a cardiac or vasomotor weakness. Hemoptysis causes altogether too much alarm, especially in the early stages; it occurs from so many other causes that he says: "I think one may say that hemoptysis alone is most frequently not caused by lung disease." Repeated small hemoptyses are often a relief to an over-congested pulmonary area and a single large hemoptysis without fever is apparently of little importance, but if fever is present it should excite all attention. In the second stage, that of progress, a point that we should look out for is the presence of large bubbling râles indicating formation of cavities which may or may not be detected during life, indicating progress of the germ and extension of its action. Pyrexia alone is not a specially important symptom in these cases. Extension of the tubercular lesions of the lungs may take place in five ways, each of which is discussed: 1, by simple contiguity; 2, by lymphatic absorption; 3, by bronchial insuflation, a matter of greatest importance; 4, by venous conduction; 5, by arterial conduction. The lymphatic absorption undoubtedly plays a great part in the extension of contiguity and it may be carried to remote parts of the body in this way. Bronchial insuflation is much more important, and the extension from the apex to the lower lobes is largely in this way. Venous and arterial conductions are, of course, important and more serious than some of the other methods. Tuberculosis of the larynx is never, he holds, an early condition; it is always produced by infection of the larynx through the excretion of the lungs. The same is true of infection of the bowels through swallowing of sputum: both, of course, are of the gravest prognosis. As regards symptoms, there are only two which greatly help in the prognosis in

the second stage. They are pyrexia and hemoptysis. The former is always present; the higher the fever and more nearly the morning temperature approaches that of the evening, the worse the prognosis; but still worse is the so-called hectic fever, where the subnormal morning temperature is followed by an evening rise of perhaps even 8 degrees. Maguire's experience shows that no drug has any effect on this symptom. Hemoptysis is much more serious in the second stage than in the first, inasmuch as it is more usually caused by ulceration of the blood-vessels. Its dangers are: 1. loss of blood; 2. shock; 3. fright. He has seen cases where this last caused the death. In the third stage we have signs of activity and consolidation, or loss of lung tissue, dyspnea and hemoptysis, which last is a very serious matter. If copious it is most frequently caused by rupture of an aneurysm of the pulmonary artery in a cavity, and he warns against reckless percussion in this stage on account of the possible presence of these aneurysms.

December 15.

Prognosis and Treatment of Pulmonary Tuberculosis.

ROBERT MAGUIRE.—The third lecture deals with treatment. First he notices the encouraging resistance of the tissues by feeding, and the open-air treatment, which he thinks is carried to excess at the present time and should be tempered by good judgment on the part of the physician; then he passes to his experiments on producing asepsis of the lungs or destruction of the tubercular germs by injections of glycogen, yeast, cyanid of mercury, taka-diastase and nuelein with some little apparent encouragement with some of these, but the difficulties were very pronounced. He then gives a report of his own experiments with intravenous injection of a weak solution of formaldehyde, which is noticed editorially in this issue of THE JOURNAL. An unpleasant experiment on himself showed that it is dangerous to use a solution of more than 1 in 2000, and the maximum injection should not exceed more than 50 c.c. for an adult. The result of his treatment as elsewhere noticed has been encouraging, but he suggests that if unduly continued the formaldehyde will irritate the lung tissue and increase the symptoms. It is only practice and experience that can show one when to stop the treatment, but as a general rule he thinks it advisable to give up the injections for a few days when the temperature has fallen, when the sputum has become mucous and frothy, and when the cough is unduly troublesome. With regard to the latter he does not see the objection to the judicious use of opium to relieve both the excessive secretion and cough.

Bulletin de l'Academie de Med. (Paris), December.

Treatment of Fracture of Humerus. LUCAS-CHAMPIONNIERE.—As further evidence of the superiority of his method of early massage, without immobilization, Lucas-Championniere exhibited a man of 63 who had been treated for a fracture of the humerus below the deltoid impression, which had occurred a month previously. In spite of a certain degree of deformity there is no pain and the patient can already commence to use his arm. The treatment should be begun from the very first; it is impossible to attain the same results if the massage is not commenced until a few days after the traumatism. The pain and the contractions of the early stage should be prevented.

Neuropathic Hemorrhages of the Digestive Passages.

LANCEREAUX.—The mouth, stomach or intestines may be the seat of neuropathic hemorrhage. It may appear consecutive to an emotion and is rarely serious unless by its repetition. There are almost always premonitory symptoms, a sensation of pain and oppression in the epigastrium, and of pain in the lumbo-sacral region or at the anus, genital regions or in the cecum, with general oppression, anorexia, flatulency and pains in the legs. These symptoms are followed by more or less pronounced colic and fluid, blackish stools, with a depression which may terminate in melancholia or syncope. The pulse and respiration become more rapid. These symptoms sometimes increase to such an extent as to become actually threatening, but usually the hemorrhage moderates and the patient recovers his strength. Recurrences are frequent and are sometimes periodical for several years. Opiates are useful by immobilizing the alimentary canal, combined if necessary with ice on the ab-

domen, injections of ergotin, and if the hemorrhage is from the stomach by the injection of twenty drops of ferric chlorid in solution. Quinin is extremely effective in arresting neuropathic hemorrhage, in doses of from 1 to 1.5 gm. a day. A number of typical cases of neuropathic hemorrhage are described, emphasizing the absence of anatomic lesions in these cases and the neuropathic character, especially in persons with a tendency to gout or rheumatism.

Bulletin Medical (Paris), December 1.

Vasoconstricting Properties of Quinin. HUCHARD.—The lowered arterial pressure that characterizes la grippe explains the beneficial results of the administration of quinin, owing to its power of contracting the vessels. This property renders it useful in various congestive and hemorrhagic conditions, combined with ergot and digitalis in case of hemoptysis or with opium and antipyrin in metrorrhagia with lumbo-abdominal pain which does not yield to ergot. Paulesco has reported two cases of exophthalmic goiter very favorably influenced by 1 gm. of quinin a day, and Soulier has had a similar experience with two cases treated with .75 gm. a day for a month. Huehard has been treating six cases of this disease with quinin hydrobromate for several months, 1.5 gm. a day during the first week, 1 gm. during the second, and .5 gm. during the third, and then recommencing with 1.50 gm. The results attained in four of the six cases have been extremely encouraging. Quinin is also very useful in aortic insufficiency with violent pulse-beat in the arteries of the neck and with nervous symptoms. He has also derived great benefit from it in thirty cases of what he calls "orthostatic" tachycardia, the disturbances in the circulation appearing only when the subject stands, diminish as he sits, and vanish completely when he reclines. The vascular system is relaxed and the heart contracts the more rapidly the more easily it is emptied. Ergot is ineffective in these cases.

Bull. de la Soc. Med. des Hop. de Paris, November 29.

Puerperal Phlebitis. STAFFER.—A slight, persisting subfebrile condition after childbirth is a warning of approaching phlebitis. In a case described, it continued for six to seven days when the temperature rose apparently to normal for ten days. Fever then returned and phlebitis of one of the lower limbs became evident, involving later the other limbs. After fifteen days of fever and phlebitic symptoms the fever rose to 41 C. and accompanied by intense headache and nervous symptoms. A course of frequent and prolonged tepid baths gradually restored conditions to normal, the patient becoming convalescent on the fifteenth day. These prephlebitic and post-phlebitic symptoms are evidently due, like the phlebitis itself, to migration of microbes or toxins.

Revue Hebdomadaire de Laryngologie (Bordeaux), November 10 and 24.

Primary Tuberculosis of the Larynx. S. BERNHEIM.—The larynx is more frequently the seat of primary localization of tuberculous infection than is generally appreciated. Bernheim has observed twenty-nine cases of this condition, and remarks that it can be differentiated by the small milium vesicles which break and unite to form shallow, irregular flat ulcerations which invade almost the entire organ. The slow progress and the general phenomena distinguish it from primarily inflammatory laryngitis. He has sometimes injected tuberculin to aid in the diagnosis. It produces a harmless local pathognomonic reaction. The proper treatment aims to make the organism strong enough to live with the bacilli without suffering from their inroads. Fresh air, rest and food produce unexpected results and should be the base of all treatment of primary laryngeal tuberculosis. In the first stage phenic and lactic acid are the best local remedies, and in the other stages sprays or inhalation of phenic acid, repeated at least four times during the day. Senesque prescribes the following solution for the purpose: Phenic acid, 30 to 60 egm.; cherry-laurel water, 20 gm.; potassium bromid or borax, 2 to 3 gm.; neutral glycerin 30 gm.; aq. dest. 300 gm.

November 24.

Operative Treatment of Scleroma. E. DE NAVRATIL.—Scleroma is more frequent in the eastern portion of central

Europe than in the west, especially in Hungary, Roumania, etc. Navratil does not allow himself to be deterred from operating by the advanced condition of the lesion, and reports several cases completely cured without recurrence by excising all the invaded regions and far into sound tissue, with subsequent autoplasty. He also describes a case which—unoperated—progressed to fatal involvement of the upper air-passages.

Ether in Laryngeal Tuberculosis. L. VACHER.—Intratracheal injections have been found by the writer very effective in treating tuberculosis of the larynx, especially in the ulcerative stage, in which there is usually much pain, a rebellious cough and laryngeal spasm. To control these symptoms and treat the lesion, he has found the following formula most satisfactory, after innumerable trials of various substances for these intratracheal injections. Ether with iodoform to saturation, 100 c.c.; guaiacol, 5; eucalyptol, 2; and menthol, 1, injecting 2 c.c. at a time. The patients all prefer the solutions made with ether as much more agreeable than when any other vehicle is employed. There is no spasm of the glottis, probably because the gas generated in the trachea forces it open. The improvement is unmistakable, both local and general, after a course of these intratracheal injections.

Semaine Medicale (Paris), December 5.

Plastic Linitis. BRISSAUD.—In the fibrous or fibroid tissue which forms the compact mass of the hypertrophied pylorus in this affection, there are always strips of epithelioid cells whose nature is still disputed. Some insist that they are metatypical elements, others that they are cancerous or that they are merely lymphatic endothelium and that the process is therefore an inflammatory tumefaction. The affection is first manifested by dyspepsia, with characteristics resembling those attributed to chronic gastritis. The morning mucus is exceptional, however, and when vomiting occurs, the food is seen to be largely digested. The vomiting is not always of food, as long as the syndrome of stenosis of the pylorus is not complete. The general health becomes rapidly modified from the very first, in spite of the good appetite and persistence of gastric digestion. The extreme pallor without hematemesis or melena suggests the anemic form of cancer. The legs are edematous, but the debility is not proportional to the cachectic appearance. A tumor soon appears at the pylorus; this is not knobby nor definitely limited, but it feels like a simple thickening of the stomach wall. The stomach is not dilated and sometimes is even retracted, especially in total linitis accompanied by retroperitonitis. The tumor always retains its primary site. A case is described in detail, treated by pylorotomy which restored the patient as if by magic. In nineteen days he had gained 1.2 kg. In another week, 2.1 kg. additional and by the end of four or five months he had gained a total of 10.62 kg.

Berliner Klin. Wochenschrift, November 26.

Treatment of Septic Infection Proceeding from the Uterus. ABEL.—Bacteriologic examination is of great importance and should be the guide in treatment. Irrigation of the uterus is of very little value, as the fluids do not penetrate into the tissue. Atmokausis is preferable—cauterization with steam. Abel relates instances in which the temperature fell to normal after exposure of the inner surface of the uterus to the action of steam at 110 C. for thirty seconds. The eschar formed was expelled later almost entire. He advocates atmokausis always as a last resort before proceeding to extirpation, reserving the latter for cases of infection in which there are extensive lacerations of the uterus. Extirpation transforms the dangerous lesion into a smooth wound with a prospect of healing. Infusion of salt solution and inhalation of oxygen are valuable adjuvants.

Centralblatt f. Chirurgie (Leipsic), December 8.

Improved Drill. P. MEISEL.—The grooves in the ordinary drill soon fill up with bone dust. Meisel overcomes this difficulty by making his drill as if it were two cutting knives rotating above a dura protector. By holding the drill obliquely a flat bone can be cut through at any angle or in an arc. Kraske has been using this drill in resecting the jaw and trephining for two years. A trephine flap cut with sloping

edges fits back in place so perfectly that the patient can lie on it without trouble even from the first.

Cbl. f. Gyn. (Leipsic), October 27 and November 24.

Complete Rupture of the Uterus. K. J. F. BAUR.—In a case reported by Baur the spontaneous rupture was complete; fever and hemorrhage were slight, but there was considerable collapse. The dead fetus was extracted with forceps and the placenta found among the intestinal loops by following the cord with the hand. The ruptured uterus and the vagina were merely tamponed and the patient recovered without further treatment. When dismissed a month later, the uterus was in normal involution. It was retroflexed but readily straightened. No adhesions could be felt. A cicatrix extended along the posterior right vaginal wall. There was a gap in the cervix the width of the finger and it continued up in the broad ligament for 7 cm. Abstention from surgical intervention, even from local irrigation, permitted all the physical forces to be concentrated on the repair of the lesion and to this Baur attributes the favorable results of conservative treatment in such cases.

November 24.

Chorio-epithelial Vaginal Tumors. H. SCHMITT.—In the last three years cases have been reported of multiple, true chorio-epitheliomata in the vagina, lungs, liver and intestines with no primary tumor in the uterus. Schlagenhauser has recently observed a case in which a chorio-epithelioma of the vagina was removed nine months after an abortion, with complete recovery. Schmitt reports a similar case operated on at Schauta's clinic. Two malignant chorio-epitheliomata had developed in the vagina, first noticed three months after the spontaneous expulsion of a hydatid mole with only a few days of fever but considerable hemorrhage, almost continuous for six weeks and recurring twice afterward for a few hours. One tumor was the size of an egg and the other of a nut when removed two months later. The general health was good and the uterus appeared normal. As curettement disclosed only ordinary interstitial endometritis, the uterus was left undisturbed. The patient has been examined every few weeks during the past eight months and seems normal in every respect. The malignant neoplasms in the vagina probably developed secondarily from normal villi deposited at this point during delivery. It is possible that this villous tissue may be carried to other organs by the blood, but perishes there from lack of a suitable soil.

Cbl. f. Inn. Med. (Leipsic), November 17, 24, and December 1.

Bacteriology of the Blood in Pneumonia. A. PROCHASKA.—Pure cultures of the pneumococcus were derived from the blood of each of ten cases of pneumonia tested at Eichhorst's clinic. Four terminated fatally; the remainder recovered, with empyema in one case and unusually slow absorption in some of the others. Nephritis and gangrene of the lungs occurred in three of the fatal cases.

November 24.

Action of Distillate of Coffee and Tea on Respiration and Heart. C. BINZ.—From eighteen tests on man and three on dogs, Binz concludes that the distillate of roasted coffee—free from caffeine—has a marked effect, temporarily increasing the number of respirations. Muscular agitation and slight psychic excitement were also noted. The distillate of tea produced similar, but less pronounced, effects.

December 1.

Treatment of Senile Pruritus. A. JAENICKE.—Systematic brushing with a soft brush will remove the dead epithelium cells from the surface of the skin, which Jaenicke thinks is frequently the cause of senile pruritus. The skin can be moistened with alcohol to enhance the effect during the first two days, or lard or lanolin can be used for the purpose. Vaseline is less effective. Warm baths soften the epidermis and annul the effects of the brushing, which should be done for ten to twenty minutes at a time, three times a day at first, gradually diminishing to once in two days. This treatment has

always relieved the pruritus and frequently abolished it for several months at a time.

Cbl. f. Nerv. u. Psych. (Breslau), October.

Hypothermia in Epilepsy. C. CENI.—In twelve out of twenty epileptics Ceni has examined, the temperature fell to 36, 35, and even 34 C. at times, the hypothermia persisting for thirty to sixty minutes. In some cases it recurred several times during the twenty-four hours, but usually appeared after periodical intervals of a few days or weeks, but at irregular hours. In some patients, however, it reappeared with an intermittent character at about the same hour. There did not seem to be any connection between the hypothermia and the number or violence of the seizures, but in a few cases it preceded a seizure by an hour or two. He considers this hypothermia another point in favor of the autotoxic nature of epilepsy.

Deutsche Med. Wochenschrift (Leipsic), December 6.

Typhoid Bacilli in the Blood. M. AUERBACH.—By the technique described, Eberth's bacillus was discovered in the blood in seven out of ten cases of typhoid fever of varying severity. Differentiation was possible in some instances in thirty-six hours. About 300 c.c. of meat bouillon in an Erlenmeyer jar were sown with 10, 20 or 30 drops of blood from the median vein and shaken. Hanging-drop cultures made in eighteen to twenty-four hours afterward were sometimes successful, but in other cases the jars required replacing in the oven for twenty-four more hours. By this means characteristic cultures could be obtained on agar, milk, grape sugar and bouillon and the eight-hour bouillon culture proved a fine test for the agglutinating properties. In one case an uncertain diagnosis was confirmed by the results of this test of the blood. It is as simple a procedure as the agglutinating test and is decisive if positive.

Neurologisches Centralblatt (Leipsic), November 1 and 15.

Electric Stimulation After Decapitation. A. HOEHE.—Hoehe's electric tests of decapitated criminals have already been mentioned in THE JOURNAL. He has since had opportunity for research on two more subjects, commencing two minutes after the knife had fallen, and it confirms his previous views. He finds that there is no independent excitability to the faradic current on the part of the motor fibers in the tracts. The effects which follow electric stimulus are due either to stimulation of the roots or to reflex mediation. By graduating the amount of the stimulus, these latter forms can be differentiated. Weak stimulation of the anterior and lateral columns of the cord induces contraction on the same side, and stronger stimulus, symmetrical contraction on the other side. Weak stimulation of the posterior columns produces a symmetrical response in the plane of the point of excitation. The question of the localization of the ganglion cells for the nerves of the upper extremity can probably be determined by isolated stimulation of the anterior roots, which he proposes to undertake on the next occasion.

November 15.

Brachial Neurosis from Diseased Tooth. F. HESSE.—A tooth which had been filled six years before was not particularly painful and appeared sound, but both jaws were tender and violent pains radiated through the shoulder, breast and arm, with paralytic symptoms. Extraction of the tooth, which proved to have a necrosed pulp, completely cured the neurosis in the cervical and brachial plexuses which had resisted all treatment for a year.

Wiener Klinische Rundschau, November 25.

Cerebral Bladder Disturbances. E. VON CZYHLARZ AND O. MARBURG.—In this communication, based on observations at Nothnagel's medical and Obersteiner's neurologic clinics, the writers announce that bladder disturbances may exist in the course of cerebral affections with an otherwise sound nervous, muscular and glandular bladder apparatus, and without clouding of the consciousness. Unilateral lesions of the motor zone of the cortex caused disturbance of the bladder function, as was shown in an inability to voluntarily void urine. No bilateral lesions came under observation. The surprising fact was

also noted that the subcortical cerebral centers seem to have a certain influence on the bladder. In several cases of lesions of the corpus striatum, there was incontinence of urine, but in a case of bilateral, total destruction of the thalamus, there were no bladder disturbances, although the knee reflexes were abolished.

Connection Between Lithiasis and Hard Water. J. PREINDLSBERGER.—The writer has been making an extensive study of lithiasis in Bosnia and gives a map showing that all of the 176 cases of lithiasis he has been able to collect, occurred in a central district stretching through the country, corresponding to a certain geological foundation, consisting essentially of lime.

Wiener Klinische Wochenschrift, November 29.

Plea for More Extensive Operating in Carcinoma Uteri. E. WERTHEIM.—During the last two years Wertheim has been having many sections made of the glands and parametrium in every case of cancer of the uterus that came to operation, 33 in all. In 11, some of the glands in the region were found invaded by the carcinoma, including five in which the neoplasm had been supposed to be in its earliest stage. That is, in 26 cases of operable carcinoma of the cervix the glands were found involved in 20 per cent. In one case, a commencing canceroid of the portio, a cancerous gland about the size of a cherry, was found close to the right external iliac vein. No traces of cancer could be discovered in any of the other glands nor in the parametrium. In another case, a circumscribed nodule on the posterior lip of the portio vaginalis was accompanied by a cancerous gland, the size of a hen's egg, on the left external iliac vein. In the third case the cervix was entirely cancerous and a cancerous gland was found close to the right uterine vein. In the fourth, the cervix was cancerous, and the parametrium and neighboring glands were normal, but at the point where the left ureter crosses the common iliac, a cancerous gland the size of a cherry was found. In the fifth, a narrow strip of cancerous tissue in the right parametrium led to a very large cancerous gland adherent to the external iliac vein. Cancerous fibers and nests were found several times in the parametrium, when to the eye and touch it seemed perfectly normal. Wertheim considers these findings important testimony to the necessity of extirpating the glands in the vicinity and the parametrium in all cases. His technique includes exposing and liberating the ureters and the iliac blood-vessels. The glands are carefully sought for along the vessels and excised, up to the fork of the abdominal aorta, and the parametrium and paravaginal cellular tissue are extirpated with the uterus and the upper portion of the vagina. Omitting light inoperable cases, he has had three die out of 25 patients operated on, one from invagination of the small intestine, the others from peritonitis. The remainder recovered and have shown no signs of recurrence to date. The operation requires seventy-five to ninety minutes. The ureters are easily isolated unless fixed by inflammatory processes. The vessels are readily exposed. Hemostasis has to be applied to even the smallest ramification of the veins and trained assistance is necessary. Provisory ligature of the hypogastric artery was of no appreciable benefit. The extirpation of the glands is difficult only when they are adherent to the vessels. In future, he remarks, it may be possible to restrict the extirpation to those glands alone which are tumefied, as in none of his sections were traces of carcinoma to be found in the normally small glands. The general health and the state of the heart should be carefully weighed before attempting intervention. If these are favorable, unexpectedly gratifying results may be attained.

Differential Diagnosis Between Tubercular and Syphilitic Processes. P. BAUMGARTEN.—In a syphilitic process the small fibroblasts only exceptionally attain the size and the number of nuclei of the tubercular epithelioid cells. They are also regularly distributed and covered with leucocyte infiltration and the capillaries are prominent. In a tubercular process, the cells are clumped and without leucocyte infiltration and the presence of even a single giant cell tips the scale of probability. The vessels also soon disappear. Cicatrization occurs only after a caseous degeneration. In a syphilitic pro-

ess the connective-tissue metamorphosis frequently appears before the gummatous necrosis, which proceeds much more slowly to complete destruction of the parts. The contour of the original structure may be perceived through the veil of gummatous mortification, while in tubercular processes the original structure soon vanishes completely. In the testicles the syphilitic process begins in the interstitial tissue and only secondarily invades the walls of the seminiferous tubules, while the reverse course is observed in a tubercular process. It usually occurs first in the epididymis and spreads through the rete testis to the seminiferous tubules. In only two cases on record were the latter the primary site of tubercular affection. Virchow has also observed a primary interstitial tubercular process in the testis, most common in young boys with general miliary tuberculosis. Another point in differentiation is that a syphilitic process induces degenerative changes in the epithelium of the tubules, while in a tubercular there is always pathologic proliferation.

The Ganglia of the Abdominal Wall in Peritonitis. M. ASKANAZY.—The ganglia are not as usual woven closely into the tissues, but are surrounded by a space which is seen to be the dilated sheath, filled with a lymphatic fluid. The ganglia are compressed and displaced by the pressure of this fluid and this is probably a factor in the intestinal paralysis which frequently accompanies peritonitis.

Change of Address.

E. Brown, 15th and Dodge Sts., to 1026 Park Ave., Omaha, Neb.
G. P. Bearman, Symerton, Ill., to Bowbells, N. D.
H. T. Crabtree, Chicago, to 3700 California St., San Francisco, Cal.
J. H. Carpenter, 412 Cleveland Ave., to 535 Willard St., Chicago.
G. S. Darby, 661 W. Adams St., to 79 Seeley Ave., Chicago.
R. C. Dryden, Winslow, Ariz., to Capitlan, N. M.
J. W. Evinger, Paris, to Elbridge, via Paris, Ill.
E. M. Holmes, Bradyville, to Readyville, Tenn.
E. H. Hawkins, Denver, to Leadville, Colo.
H. F. Hewitt, Grand Island, Neb., to Hawarden, Iowa.
Geo. M. Kober, 1819 Q St., N. W., to 1600 T St., N. W., Washington, D. C.
Anna Lukens, La Pintoresca Hotel, to 427 Marengo Ave., Pasadena, Cal.
F. H. Lukin, Leesville, to Marysville Va.
P. E. McDonald, Fort Yates, N. D., to General Delivery, New York City.
E. J. Miller, Dickinson, N. D., to Ashton, Ill.
A. E. Miller, Boston, to Needham, Mass.
W. J. Pier, Palmyra, Wis., to 608 W. 58th St., Chicago.
G. B. Pearson, Newport News, Va., to Middletown, Del.
J. Sjoquist, Holdrege, Neb., to U. S. Consulate, Shanghai, China.
J. G. Smith, 579 E. 12th, to 519 E. 12th St., Kansas City, Mo.
Robt. Sattler, Biddeford Pool, Me., to The Groton, Cincinnati, O.
E. A. Timmons, Godwin, to Columbia, Tenn.
C. S. Venable, Carlton and Regent Sts., to Brown-Shipley & Co., Bankers, London, England.
Ben Webster, Cassopolis, to Alamo, Mich.
W. S. Whitwell, San Mateo, Cal., to Fishkill Landing-on-the-Hudson, N. Y.
A. L. Walker, Memphis, Tenn., to Plevna, Ala.
Wm. F. Wegge, 693 Cass St., to 82 Wisconsin St., Milwaukee, Wis.

Queries and Minor Notes.

MUSCLE-TRAINING OF INFANTS.

CORTLAND, N. Y., Dec. 17, 1900.

To the Editor:—Will you please give me the title of a good manual on the muscle-training of infants? What I need is for a child 3 years old that does not co-ordinate properly. F. W. H.

Ans.—We do not know of any special work on the muscle-training of infants or very young children, nor of any one dealing specially with that subject. We believe that the natural play of children is usually the best muscle-training exercise, though in special cases the treatment for imperfect co-ordination would have to be managed on different principles, recognition being taken, of course, of the underlying condition, which may be one that will effect the prognosis.

MEDICAL-PRACTICE LAW.

WAUSAUKEE, WIS., Dec. 24, 1900.

To the Editor:—Would you kindly publish, or tell me where I may find, the requirements for registration for practice in the state of Michigan, and also name and address of the secretary of the State Board of Examiners? Respectfully, R. C. A.

Ans.—The requirements in Michigan are a diploma from a recognized medical college, or examination. The board of examination is rigid in its scrutiny of medical colleges. A list of colleges recognized by the board can probably be obtained from the secretary, Dr. B. D. Harison, Sault Ste. Marie, Mich.

A HOME FOR PHYSICIANS.

BRISTOL, TENN., Dec. 11, 1900.

To the Editor:—I write for information as to a matter to which my attention has been called recently and that is to a proposition to build a physicians' home in some part of the United States in the near future. Please let me know if there is such a movement on foot and by whom the movement is projected. I have been asked to find something about the matter, and hence I make inquiry of you. G. M. P.

Ans.—We do not know of any such project being under consideration. Possibly some of our readers may be able to enlighten us.

CALL OF COURTESY.

ROANOKE, VA., Dec. 21, 1900.

To the Editor:—I desire to ascertain whether it is customary for a medical practitioner who has just recently located in a city to call on his brother medical men first as an act of courtesy, or should he wait until the first call is made by them? I do not think our Code of Ethics makes any mention of this; at least the one I have (written by Prof. Austin Flint in 1893) is silent on the subject. "The Physician Himself," by Cattell, makes some mention of the subject, but it is not quite clear. Your immediate reply will serve toward settling a lively dispute on the subject.

Fraternally yours, B. C. K.

Ans.—While there is no written law governing the subject, there is an unwritten one that a medical practitioner locating in a city shall call on the other physicians and announce that he is locating among them, and in that way intimate that he desires their recognition.

INTRA-ABDOMINAL TORSION OF THE OMENTUM.

NIAGARA FALLS, N. Y., Dec. 19, 1900.

To the Editor:—Referring to your editorial in THE JOURNAL of Dec. 15, 1900, page 1558, concerning intra-abdominal torsion of the omentum, I would ask if you could kindly give me some literature on this condition. I have now under my care a case in which I diagnosed some time ago chronic torsion of the omentum, and I hope to be able soon to confirm my diagnosis by an operation. As I intend to publish the case, owing to its interest to the profession, your kind help in collecting the literature would be greatly appreciated. C. G. LEO-WOLF, M. D.

Ans.—The following references are given by Dr. Wiener in his article in the *Annals for Surgery* for November, 1900:

Max Oberst: Zur Casuistik d. Bruchschneitens nebst Bemerkungen über Netzeinklemmungen. Centralbl. f. Chirurgie, 1882.

Maydl: Ueber Retrograde Incarceration d. Tuba u. d. Processus Vermiformis, etc. Wiener Klin. Rundschau, 1894.

Kukula: Ueber Retrograde Incarceration eines Gestielten Tumors des Dünndarms. Wiener Klin. Rundschau, 1895.

Carl Bayer: Retrograde Netzeinkarceration mit Stieltorsion über d. Bruchring. Centralbl. f. Chirurgie, February, 1900.

C. H. Peck: Specimen of Intra-abdominal Omental Torsion. Medical Record, March 3, 1900.

Hochenegg: Ein Fall Intra-abdominaler Netztorsion. Wiener Klin. Wochenschrift, March 29, 1900.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Dec. 13 to 19, 1900, inclusive:

Charles H. Andrews, acting asst.-surgeon, leave of absence from the Department of California extended.

John E. Bacon, acting asst.-surgeon, relieved from duty at Fort Du Chesne, Utah, to proceed to Fort Grant, Ariz., and report by telegraph to the surgeon-general for annulment of contract.

Lawrence C. Carr, major and surgeon, Vols., leave of absence granted.

Harold W. Cowper, acting asst.-surgeon, from Fort Ontario, N. Y., to San Francisco, Cal., for duty with troops en route to Manila, P. I., and subsequent assignment in the Division of the Philippines.

William D. Crosby, captain and asst.-surgeon, U. S. A., to report to the president of the examining board, Army Medical Museum, Washington, D. C., for examination for promotion.

Richard M. Fletcher, Jr., acting asst.-surgeon, leave of absence from the Department of Dakota extended.

Timothy P. Goulding, acting asst.-surgeon, on the expiry of his present leave of absence, to proceed from Boston, Mass., to San Francisco, Cal., for duty with troops going to Manila, P. I., and for subsequent assignment in the Division of the Philippines.

George B. Lawason, lieutenant and asst.-surgeon, Vols. (recently appointed with rank from Nov. 19, 1900), is assigned to the 11th U. S. Cav., Vols.

James H. McCall, acting asst.-surgeon, from Fort Schuyler, N. Y., to San Francisco, Cal., for duty with troops going to Manila, P. I., and for subsequent assignment in the Division of the Philippines.

Adrian S. Polhemus, captain and asst.-surgeon, U. S. A., to report to the president of the examining board, Army Medical Museum building, Washington, D. C., for examination for promotion.

Earle H. Sargent, acting asst.-surgeon, from Fort Casey, Wash., to duty at Camp William H. Osborne, Idaho.

Jesse P. Truax, acting asst.-surgeon, from Camp William H. Osborne, Idaho, to post duty at Fort Casey, Wash.

Compton Wilson, acting asst.-surgeon, from London, Ont., Canada, to San Francisco, Cal., for duty with troops en route to Manila, P. I., and for subsequent assignment in the Division of the Philippines.

Navy Changes.

Changes in the Medical Corps of the Navy for week ending Dec. 22, 1900:

Asst.-Surgeon R. E. Ledbetter, detached from the *Constellation* and assigned to the *Monongahela*.

Asst.-Surgeon J. A. Murphy, detached from the *Solace* and assigned to the *Don Juan de Austria*.

Asst.-Surgeon Jacob Stepp, detached from the *Solace* and assigned to the Cavite naval station.

Asst.-Surgeon M. V. Stone, detached from the *Yosemite* and assigned to the *Isla de Luzon*.

Asst.-Surgeon J. C. Thompson, detached from the Navy Hospital, Cavite, P. I., and assigned to the *Solace*.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended Dec. 20, 1900:

Surgeon George Purviance, to report at Washington, D. C., for temporary duty.

Surgeon H. W. Sawtelle, granted leave of absence for thirty days from Jan. 20, 1901.

Surgeon J. H. White, bureau letter of Oct. 11, 1900, granting Surgeon White leave of absence for thirty days amended so that said leave shall be for twelve days only.

Surgeon P. M. Carrington, granted leave of absence for thirty days on account of sickness. Relieved from duty at Washington, D. C., and directed to proceed to Fort Stanton, N. M., and assume command of the service, relieving P. A. Surgeon J. O. Cobb.

P. A. Surgeon J. O. Cobb, relieved from command of service at Fort Stanton, N. M., and directed to report to medical officer in command for duty.

P. A. Surgeon M. J. Rosenau, upon completion of duty at Paris, France, to rejoin station as director of Hygienic Laboratory, Washington, D. C.

Asst.-Surgeon John McMullen, relieved from duty at Tortugas quarantine, and directed to proceed to Savannah, Ga., quarantine station for temporary duty.

Asst.-Surgeon W. A. Korn, granted leave of absence for seven days from Dec. 24.

Junior Hospital Steward E. T. Olsen, granted leave of absence for ten days from Dec. 22.

APPOINTMENT.

A. C. Fraser, of Wisconsin, appointed acting asst.-surgeon for duty at the port of Manitowoc, Wis.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Dec. 21, 1900:

SMALLPOX—UNITED STATES.

District of Columbia: Dec. 15, 5 cases.
Illinois: Chicago: Dec. 8-15, 2 cases.
Kansas: Wichita, Dec. 8-15, 11 cases.
Kentucky: Lexington, Dec. 8-15, 2 cases.
Michigan: Detroit, Dec. 8-15, 2 cases.
Minnesota: Minneapolis, Dec. 8-15, 7 cases.
Nebraska: Omaha, Dec. 1-8, 3 cases.
New Hampshire: Manchester, Dec. 8-15, 22 cases.
New Jersey: Jersey City, Dec. 8-16, 1 case.
New York: New York, Dec. 15, 15 cases.
Ohio: Ashtabula, Dec. 8-15, 2 cases; Cleveland, Dec. 8-15, 37 cases; Portsmouth, Dec. 8-15, 2 cases.
Pennsylvania: Erie, Dec. 15, 5 cases.
South Carolina: Greenville, Dec. 8-15, 2 cases.
Tennessee: Memphis, Dec. 8-15, 1 case.
Texas: Houston, Dec. 15, 18 cases.
Utah: Salt Lake City, Dec. 8-15, 40 cases, 1 death.
West Virginia: Wheeling, Dec. 15, 8 cases.
Wisconsin: Milwaukee, Dec. 8-15, 1 case.

SMALLPOX—FOREIGN.

Bohemia: Prague, Nov. 24-Dec. 1, 46 cases, 1 death.
Brazil: Pernambuco, Nov. 15, 16 deaths; Rio de Janeiro, Oct. 16-31, 43 deaths.
Egypt: Alexandria, Nov. 27, 3 cases, 1 death.
England: London, Nov. 24-Dec. 1, 14 cases, 1 death; Sunderland, Dec. 1, 1 case.
France: Paris, Dec. 1, 17 deaths.
Gibraltar: Nov. 25, 1 case.
Greece: Athens, Dec. 1, 2 cases.
India: Calcutta, Nov. 3-15, 8 deaths.
Mexico: Mexico, Dec. 2, 1 case; Tuxpan, Dec. 3-10, 3 deaths.
Russia: Moscow, Nov. 17-24, 3 cases, 1 death; Odessa, Nov. 24, 62 cases, 15 deaths; St. Petersburg, Nov. 24, 5 cases, 2 deaths; Warsaw, Nov. 24, 25 deaths.
Scotland: Glasgow, Dec. 7, 45 cases, 1 death.
Spain: Corunna, Nov. 3, 2 deaths; Valencia, Dec. 2, 1 case.

YELLOW FEVER.

Brazil: Rio de Janeiro, Oct. 16-31, 2 deaths.
Mexico: Vera Cruz, Dec. 8, 2 deaths; Yucatan, Nov. 30, 1 death.

CHOLERA.

India: Bombay, Nov. 13-20, 7 deaths; Calcutta, Nov. 3-15, 35 deaths; Madras, Nov. 10-16, 2 cases, 1 death.
Straits Settlements: Singapore, Nov. 3, 6 deaths.

PLAGUE—FOREIGN AND INSULAR.

Brazil: Rio de Janeiro, Oct. 16-31, 9 deaths.
India: Bombay, Nov. 13-20, 125 deaths; Madras, Nov. 10-16, 1 death.
Philippine Islands: Manila, Nov. 3, 3 cases, 1 death.

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Original Articles.

THE DIAGNOSIS AND TREATMENT OF THE PREBACILLARY STAGE OF PULMONARY TUBERCULOSIS.*

J. M. ANDERS, M.D., LL.D.

PHILADELPHIA.

By the title of this article is meant that variable period in pulmonary tuberculosis which precedes the presence of tubercle bacilli in the sputum. It is not synonymous with the term "pretubercular stage," which has reference either to an inherited or acquired predisposition merely, or to a latent tuberculous process. The prebacillary stage, as here defined, is oftentimes of long duration. Concerning the stage of enclosure Allbutt¹ observes that an examination of the sputum can not help us decisively in tuberculous endobronchitis. In my own experience the bacilli were sometimes not found in the sputum for months, or even a year, after the apparent onset. Turban² examined the sputum in the first stage in 408 cases and failed to find tubercle bacilli in 59.8 per cent.

It may be safely affirmed, then, that an antecedent well-characterized clinical stage is often observed. Eichhorst³ forcibly remarks, "Certainly one finds off and on undoubted cases of pulmonary tuberculosis in which tubercle bacilli are missed, a daily examination of the sputum notwithstanding." It must be conceded that unless other methods of diagnosing pulmonary tuberculosis than the demonstration of tubercle bacilli in the sputum be resorted to, not a small minority of cases would go unrecognized, some for months, or even a year, and some forever.

While emphasizing this class of cases, it is not my desire to attempt to shake professional trust in the sputum-test, which in the majority of cases, perhaps, enables clinicians to form a positive diagnosis at an early stage of the disease and in cases not otherwise solvable, but on the other hand, to urge that it be repeated at short intervals in clinically suspicious cases. Percy Kidd⁴ has indicated certain clinical groups of cases in which the true nature of the complaint may be masked by a generalized bronchitis, or laryngitis and the like, in which a sputum examination yields the earliest positive information.

I am relieved of the necessity of dwelling at length on many of the more remote early manifestations of the disease by reason of the elaborate and accurate descriptive writings of Ruchle,⁵ Sée,⁶ and others. Brief attention, however, will be invited to the practical points bearing on diagnosis that have been emphasized by some

of the older writers and the value of which personal observation and experience has tended to corroborate and strengthen.

Heredity.—The influence of heredity is still incontrovertible, although less potential than was held previous to Koch's startling and revolutionizing discovery. Whilst the progeny of tuberculous parents often suffer, it is, as a rule, owing to an extrauterine or post-fetal infection, direct transmission being the exception. G. Hauser,⁷ after reviewing at length the work of previous writers on direct inheritance, reaches the conclusion that there are but 18 authentic instances on record. He declares that the theory of the bacillary inheritance of tuberculosis rests on insufficient evidence. But, though intrauterine infection is extremely rare, and though there is practically no hereditary tuberculosis, there is a hereditary predisposition which invites infection. Hence, a somewhat different rôle, although one of considerable importance, is assigned to heredity. We are not concerned at present writing with the many evident methods of infection that may be operative from the time of birth and cause so striking a similarity between post-natal and ante-natal tuberculosis. This fact, however, coupled with the long period of latency of tuberculosis in childhood, must be recollected in deciding from the appearance of an individual, first, whether he has the habitus phthisicus, and secondly, whether it is really inherited. For example, as the result of an unfavorable environment, particularly if combined with bad habits, this predisposition may be acquired. E. O. Otis⁸ pertinently affirms that heredity means poor vitality from birth and that subjects who manifest the same conditions without the influence of heredity are predisposed to a like extent. I have, however, frequently been able to satisfy myself that individuals possessing a robust build are, if they belong to affected families, more prone to the disease than apparently similar constitutions in persons who have no tuberculous family history. Indeed, I fear that in consequence of the modification of professional opinion in recent times relative to the question of heredity there is danger that too little attention is now, and will be in future, given to the family history.

The point of greatest practical importance is that the immigration and lodgment of bacilli are distinctly favored in a predisposed organism as compared with one that is perfectly normal; hence, this hereditary influence, when clearly present, is not only of etiologic but also of diagnostic importance. Allbutt¹ says: "Every physician engaged in practice among the classes in which family history can be acquired is morally convinced of the bias of many families to tuberculosis, however healthy their circumstances may appear; a bias often revealed in each of their members on the attainment of a certain age."

The personal history, however, surpasses in point of import the family history. The age of the patient is

* Presented in a Symposium on Tuberculosis, to the Section on Practice of Medicine, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

worthy of consideration, and the fact that the disease is not uncommon in middle or even advanced life must be recollected. Since the increased prevalence of influenza, dating from the winter of 1889-90, senile phthisis has become more common than it had been previously. The occupation, station, loss of weight and various details connected with the previous environment must be carefully noted and judiciously weighed. Knopf⁹ has very properly emphasized the importance of determining whether the patient ever came into direct, prolonged contact with a consumptive or a patient suffering from bronchial pulmonary disease.

Physical Examination.—The paralytic thorax is generally in evidence during the initial stage of pulmonary tuberculosis and should be looked on as the resultant of an incipient tuberculous process in the majority of cases rather than an antecedent condition. It must not, however, be confounded with an extreme emaciation nor the deformity which simulates it, due to occupation, as habitually leaning over a desk, and the like. Conversely, the flattened chest, with its short antero-posterior diameter (paralytic thorax), may be concealed in subjects of obesity during the incipient stage. I am in thorough agreement with Loomis¹⁰ that the data obtained by measuring the circumference of the chest are more important than its shape. This thoracic perimeter, which represents two measurements, one at the end of forced expiration and the other of forced inspiration, should never fall below one-half the height of the individual. It has been shown that when the thoracic perimeter is lower than this, early phthisis exists, although this may assume a latent form. In connection with the phthisical thorax and chest measurements, the vital capacity as determined by the spirometer, is of confirmatory value in diagnosis, particularly when considered in relation to the height. This method is fully described by Loomis,¹⁰ to whose article I must refer the Section for detailed information.

Preceding the finding of bacilli in the expectoration, obvious physical signs, variable in character, are quite commonly met with, and may endure for weeks, or even months, ere the diagnosis is set at absolute rest by the stage of the microscope. These abnormalities are first detected in the subapical regions, and in my cases they have occurred posteriorly in, perhaps, the majority of instances. Turban wisely remarks that "The scapula must be abducted by drawing the arm across the chest, so as to give access to the cage of the chest between its edge and the spine." He also states that light and single percussion must be used. I have for years given preference to single as compared with multiple blows in early cases in which it was desired to outline minute consolidated areas. I have also frequently convinced myself of the practical importance of percussing every inch of ground when a search for the primary lesions in the usual situation (subapical area) gives a negative result. Among the earliest and perhaps the most significant signs is the diminution or almost total loss of the normal vesicular murmur. To test the strength or weakness of the vesicular quality of the murmur, the corresponding regions on the two sides must be invariably compared, both during quiet and deep breathing. Coupled with or following on enfeeblement of the normal vesicular murmur, prolongation and sharpening of the expiration are generally noted. The tactile fremitus may also be increased, but this is often absent on account of associated pleurisy. I regard defective expansion at or a little below one apex as profoundly significant, particularly if observed in the infraclavicular

spaces, and in some of my cases "lagging" was the first and for a considerable period of time the only recognizable physical sign. It is best appreciated by palpation. The most characteristic grouping of physical signs during the first stage—sometimes in evidence prior to the discovery of tubercle bacilli—may be thus summarized: "Lagging," or defective expansion, as noted in inspection and palpation, a localized increase in the tactile fremitus, enfeeblement of the normal vesicular murmur with (at a later period) prolongation and sharpening of the expiration. To the signs mentioned above should be added a clicking r  le, which, though less commonly present, is an almost conclusive indication.

The percussion note may be impaired or deadened, but this sign is quite unreliable in the earliest period, becoming more trustworthy, however, as consolidation progresses. A pleuritic friction sound may be rarely heard in the apical area; it is usually dependent on the tuberculous process. Later crepitant and subcrepitant r  les (moist sounds) are heard, and greatly increase the probability that tuberculous infiltration has taken place. Among other suggestive, invasive symptoms and conditions are:

1. Pleurisy. This may take the form of serofibrinous pleurisy, inasmuch as about one-third of these cases terminate in chronic phthisis—Bowditch. It may also assume the guise of a dry pleurisy at the apex, either anteriorly or posteriorly.

2. Gastrointestinal symptoms, with chloro-anemia. The digestion is impaired; there is a rapid loss of flesh and strength, and an afternoon rise of temperature, with pronounced anemia. This grouping of features (chloro-anemia) is often followed by the appearance of the earlier positive indications of pulmonary tuberculosis.

3. Hemoptysis. This may be the first symptom to excite suspicion of lung disease. In many of these cases a typical picture of incipient pulmonary tuberculosis is found on examination, and they may pursue the usual course, showing that a slight tuberculous lesion was an antecedent condition. I would here throw out the caution that all other causes for the spitting of blood should be carefully excluded, unless the evidences of commencing phthisis are conclusive at the time of the occurrence of the primary hemorrhage.

4. Onset with symptoms of laryngitis. Although rare, there are cases occasionally met, characterized by hoarseness, aphonia and troublesome cough, with a slight mucopurulent expectoration. The bacilli may be found in the sputum before any lesions of the lungs are discoverable. C. N. Haskell¹¹ regards headaches and indigestion as two of the most important remote symptoms of consumption. Two cases were recently met in my own experience that tend to strengthen the view expressed by this observer.

The clinical evidences of commencing phthisis mentioned above justify a probable diagnosis; they are diagnostic aids, and if two or more are found in combination, as is usual, should be regarded as presenting the therapeutic indications of this affection. It has been argued that the physical signs furnish the basis of an assured diagnosis. While it must be conceded that the physical signs enable a keen observer to recognize with reasonable certainty the existence of phthisis—at times before all doubt is removed by the stage of the microscope—it is even more true that once these signs disclose the presence of pulmonary tuberculosis, the dis-

ease has passed beyond the incipient stage as this term is understood at present writing.

The presence of a slight afternoon rise of temperature, if associated with either local or general disturbance, should arouse strong suspicion, since it would be difficult to overestimate the diagnostic importance of this symptom.

A two-hourly thermometric record must be kept during the entire day, for several days together, or the rise of temperature may elude detection. Barlow states that if the temperature is elevated from 2 to 5 degrees p.m., or one slightly above the normal night temperature in the evening, the probabilities are greatly in favor of tuberculosis. Trudeau¹² points out that when any disturbance of health exists, and the evening temperature runs above 99.5 F., there is almost surely tuberculosis present. Turban², among recent writers, also believes frequent thermometric estimations of the temperature to be extremely helpful. He urges to test the temperature after exertion, taking between 4 and 6 o'clock in the afternoon, if doubt remains as to the presence of fever. Louis long since asserted that fever starts in a third of the cases with the first local symptoms, and even before then; in another fifth of the cases it is manifested in the course of the first period. Sydney Ringer¹³ points out that the exacerbation of fever coincides with the evening elevation which takes place normally, and that it is now characterized by an acceleration of the pulse, which makes the fever appear more intense than it is in reality.

Sée⁶ observes that the application of the thermometer permits us to distinguish this state from chlorosis, "which but rarely provokes a like excitement of the heart and never hyperthermia." Fever may be present for a long period of time before the sputum-test gives a positive result. On the other hand, as Makenzie¹⁵ asserts, in cases with a fair number of bacilli in the expectoration, the temperature may be for weeks perfectly normal. It is a matter of congratulation that from the standpoint of temperature a reasonably certain diagnosis is easily possible and also that the profession is not divided at present in regard to this question. Here may be pointed out, what is well understood, that an intermittent fever simulating that of malaria is not rarely seen in tuberculosis at its commencement. It is distinguished from malarial fever only by a careful blood examination, which shows the absence of the plasmodium. Even an elevation of temperature due to other causes, such as anemia, suppuration and the like, is also easily eliminated by a blood examination.

A quickened pulse is often present at the outset, preceding the appearance of bacilli in the sputum by weeks and even months, and it is suggestive, although less so than the brief afternoon febrile movement. On the other hand, certain observers claim that the pulse in early phthisis is characteristic. According to my observations, the heart-beat is not constantly accelerated at this period. I have, however, observed that a rapid, feeble pulse is one of the almost unvarying features of early phthisis in the very young. When at this period of life the pulse has been found rapid and feeble, it has served in my experience to corroborate strongly the diagnosis. Knopf states that taking the "arterial pressure with the aid of Potain's sphygmomanometer is a most valuable help in diagnosing an early pulmonary tuberculosis." The instrument enables one to easily determine the arterial pressure of the patient; this is usually diminished, as shown by Papillon's recent examination in Potain's service at the Charité in Paris.

E. F. Wells¹⁵ has found the arterial tension to be early and notably reduced, especially during the febrile exacerbations; he has met with no exceptions to this rule. This writer holds that "sphygmographic tracings give most valuable aid in the diagnosis of early pulmonary tuberculosis, and from these alone the scale may be turned in the great majority of doubtful cases." He illustrates with tracings which show a pulse of lower tension and infantile character. From this "typical curve there are infinite variations in both directions, approaching the normal on the one hand and reaching the most pronounced diastolicism on the other." It is precisely on account of the extreme variability of the arterial tension that I can assign merely a high confirmatory value to the pulse. On the other hand, R. Grandin¹⁶ claims that the arterial pressure varies, being sometimes increased, sometimes decreased. I have been able to verify DaCosta's original observation, that a murmur is sometimes audible over the subclavian or pulmonary artery before either physical signs referable to the lungs are detectable or fever occurs. In three of my cases, abnormal conduction of the cardiac sounds preceded the detection of the usual earliest signs of commencing consolidation—two in left-sided and one in right-sided pulmonary tuberculosis. In all of them tubercle bacilli were subsequently found in the expectoration, and since all were observed within the last year, this sign may on receiving greater attention prove to be more profoundly significant as a diagnostic factor than when, as is usual, it occurs at a later period. In one of my cases this was the only clinical indication that aroused suspicion that the disease might be developing, apart from slight, dry cough that had lasted a couple of weeks.

The Tuberculin Test.—This enables the physician to clear the nature of latent forms and dubious cases, however incipient; its value depends principally on the fact that it permits of the recognition of the disease before its presence can be otherwise determined. As showing the value of the tuberculin test for the early diagnosis of pulmonary tuberculosis, I will in the first place cite three cases that were recently met in my practice and reported elsewhere.¹⁷ The first occurred in a lad aged 14, who had always been in delicate health. The illness for which he consulted me had commenced four weeks previously with symptoms that were distinctly typhoidal in character, and later a positive Widal reaction was obtained. A physical examination at my first visit revealed only a phthisical thorax. After the fever had declined an injection of tuberculin (2 mg.) gave a positive reaction. An X-ray photograph was then taken, and showed slight, though decisive, haziness.

The second case was one of suspected acute tuberculosis. The diagnosis was confirmed by the tuberculin test. The necropsy was held six weeks later by Dr. MacFarland, who found miliary tuberculosis following Pott's disease, with beginning psoas abscess. He found, it is interesting to note, "each tubercle surrounded by a zone of hyperemic vessels, which gave it a dark bluish-purple color," and observed also that its center was softened and depressed.

My third case occurred in J. H., aged 19 years, occupation, laborer; he was admitted to the wards of the Medico-Chirurgical Hospital, Jan. 2, 1900. There was no history of family tuberculous taint, and the patient had enjoyed good health until February, 1899, when he took a severe cold, following upon which he continued to cough until the onset of the illness for which he applied. On December 30, while stooping to lift a heavy

weight, he suddenly experienced a warm saline taste, which suddenly led to cough, accompanied by the expectoration of a small amount of bright red, frothy blood. Physical examination showed nothing save a few subcrepitant râles in left scapular region. Both fluoroscopic examination of the thorax and repeated microscopic examination of the sputum gave a negative result. On the other hand, an injection of tuberculin (1 mg.) responded positively. The patient's sputum afterward showed the presence of tubercle bacilli.

There is little if any diversity of professional opinion among those who have had considerable experience with the tuberculin test as to its diagnostic value when judiciously employed. As pointed out in a previous article, "its use for diagnostic purposes has

injected with tuberculin—3638—the total number of positive reactions—2185, or 78 per cent.—and the dosage and particular preparation employed by different observers. With a view to obtaining greater accuracy of results, a consideration of the character of the cases at the time of the injections was deemed necessary, and this method was adopted in Table No. 2, which sets forth the figures indicating how many were doubtful and how many undoubted instances of the disease at the time of injection, with the percentage of reactions of each respectively.

In 1470 dubious cases, 71.89 per cent. reacted. What percentage of these cases subsequently developed a confirmed tuberculosis, or the percentage in which the diagnosis was corroborated by necropsy, can not be even ap-



CASE 1.

been condemned by writers who, almost without exception, failed to avail themselves of an opportunity to make a practical test."

I am deeply impressed with the belief, from a limited experience only, that its more general employment, with judicious care, would re-establish its superior value, in properly selected incipient cases. Among those writers who are entitled to be heard and who have spoken in no uncertain tones in favor of tuberculin as a diagnostic agent in tuberculosis are J. T. Whittaker,¹⁸ M. Beck,¹⁹ E. L. Trudeau,²⁰ F. W. White,²¹ A. C. Klebs,²² G. G. Sears,²¹ E. O. Otis,²³ Von Jaksch,²⁴ and others.

I have prepared two tables, which appear in my article (to which reference has been made above), Table No. 1 showing the total number of cases that have been

proximately told. During my collective investigations, however, I found that writers who had experience with Koch's method referred to individual cases that either came to autopsy and showed tuberculous foci or later manifested the obvious signs and symptoms of the disease. Of the three cases which I recorded above, two were similarly verified, one at the autopsy table, and the other by the detection of tubercle bacilli in the sputum. I have employed tuberculin in 12 suspicious cases, of which 7, or 58.3 per cent., reacted. Is the tuberculin test attended with any risks for the patient? It must be confessed that there is a prevalent impression that tuberculin injections facilitate the diffusion of the bacilli in the system. Virchow,²⁵ who originally promulgated this view and whose published argument based on his-

tologic and pathologic data caused tuberculin to fall into almost universal disrepute, has quite recently receded from his former position, and he now approves of Koch's method in selected cases. It is worthy of note that in not a single series of cases among the many included in the tables which I have prepared is mention made of any ill effects. At all events, I have not met a solitary authentic report of a case in which the disease has been disseminated to distant parts of the economy with ensuing acute tuberculosis.

Numerous observers have noted reactions in the so-called non-tuberculous subjects and in individuals suffering from other affections. They have been obtained in leprosy, carcinoma, syphilis, actinomycosis, chlorosis and other affections, as well as in 8 or 9 per cent. of

the back and limbs, sensation of heat and cold, followed by sweating and an elevation of temperature to 101 F., or over. The reaction usually occurs in about 12 hours, rarely as late as 24 hours, and continues from 24 to 48 hours. If no reaction follows the first injection, a larger dose—up to mg. 10—should be used, but not until after the lapse of several days. As forcibly pointed out by Wells,¹⁵ “in the tuberculin test a negative result is of great importance, because, if the observations have been carefully made, we may affirm that not only is the suspected pulmonary affection not tubercular, but that there are no latent pulmonary foci and that tuberculosis does not exist in other parts of the body.”

Among the most valuable agencies for the early diagnosis of pulmonary tuberculosis are the Roentgen rays.



CASE 2.

apparently healthy individuals. In reactive cases of this sort, however, unsuspected foci may exist.

The dose and the particular class of cases to which the tuberculin is applicable are questions that demand careful consideration. As elsewhere pointed out, “tuberculin will tend to occupy its true sphere of usefulness just in proportion as the profession will in future keep in mind two rules as a guide, to wit, moderate dosage—mg. 2 to 5—and the limitation of its use to suspicious incipient cases, or those that are unrecognizable by other means.” It is to be recollected that early, suspected cases are as a rule sensitive to the test and massive doses are not required.

The symptoms to be expected from a reaction are malaise, general depression, anorexia, headache, pain in

In phthisis these radiosopic appearances are usually observed in the subapical regions, and they sometimes show the presence of tuberculous infiltration and consolidated areas before either the physical signs are obvious or the microscopic slide demonstrates the tubercle bacilli in the sputum. It is doubtless true that reliable knowledge from the use of the Roentgen rays and fluoroscope is possible only to an expert or an experienced observer. Again, the value of this means of recognizing pulmonary tuberculosis in its first stage would be greatly increased, if the images shown by the fluoroscope could be satisfactorily photographed in all cases. Francis H. Williams²⁶ states that he has discovered radiosopic evidences of consolidation before physical signs of such change were present; also that he has found indications of the ex-

istence of tuberculosis when this disease had not been suspected previously. Stubbert²⁷ has also reported one or two instances in which "slight haziness has been observed in spots which at the time showed no other physical signs of disease, but where they subsequently developed."

The practical utility of the X-rays in the diagnosis of incipient pulmonary tuberculosis may be further illustrated by the notes of the following cases that fell under my care:

CASE 1.—S. H., female, married, age 28 years, cigar-maker, first applied at the outpatient clinic of the Medico-Chirurgical Hospital, June 6, 1899, for treatment. A brother died of acute phthisis. Patient had had some childish disease, but later in life nothing worthy of comment until the onset of the disease for which she sought medical advice. Her illness began with paroxysmal pains in pectoria, and this lasted for a considerable period of time. The day previous to her visit, she had expectorated blood, which she states was "coughed up"; quantity of blood was small, bright-red and frothy. The abnormal physical signs were impairment of percussion-note and harsh breathing, with prolonged, high-pitched expiration at right apex; and lack of vesicular quality of the breath sounds, with prolonged, high-pitched expiration at left apex; all signs, however, were less marked than at right apex. Microscopic examination of the sputum gave a negative result. Later, an X-ray examination showed an abnormal shadow or marked haziness at apex of both lungs, more marked at right, i. e., the apex that showed the abnormal signs the more pronounced. (See Fig. 1.)

CASE 2.—P. K., age 29 years, cigar-maker, applied for treatment at outpatient clinic, November 10, 1899. The family history is entirely negative as to pulmonary tuberculosis. Patient escaped childish diseases; he had had typhoid fever one and a half years previously, confining him to bed for ten weeks. Since then has been complaining of persistent gastric disturbance, as evidenced by eructations of gas and dull pains in the epigastrium after meals; there has been some dyspnea on exertion and cardiac palpitation at intervals. A few days prior to his first visit, patient began to expectorate bright-red blood; this was still present. Subsequently there was neither cough nor expectoration. The amount of blood lost did not exceed half an ounce. An examination of the throat and larynx gave a negative result, and the same was true of a physical examination of the thorax, although the chest was of the paralytic or phthisical type. After excluding all the causes of hemoptysis except pulmonary tuberculosis, an X-ray picture was made by Dr. Kassabian. This showed commencing consolidation over circumscribed areas on both sides just below the apices. (See Fig. 2.)

CASE 3.—J. O., age 14 years, errand-boy, was admitted to the wards of the Medico-Chirurgical Hospital, November 13, 1899. Father died, aged 52 years, of heart and lung disease, the precise nature of which the patient does not know. One sister is in delicate health. The lad had had the usual diseases of childhood and a severe illness of unknown character a few years since; had always been in delicate health. The present illness began about four weeks before he fell under my observation. The first symptoms complained of were malaise, headache, a slight cough in the evenings and mornings; more or less abdominal pain, associated with slight diarrhea. The evening temperature on admission was on the average about 100 F., but abdominal pain, diarrhea and cough had largely subsided. Physical examination showed a paralytic or phthisical thorax, without any other abnormal physical signs. After excluding typhoid fever, latent tuberculosis was suspected, and tuberculin was injected; this was followed by a positive reaction. An X-ray examination was also made by Dr. Kassabian and showed a slight haziness below the left clavicle. (See Fig. 3.)

Whether or not this patient will develop the more active and obvious lesions of the disease remains to be seen.

CASE 4.—M. B., female, age 17 years, colored, American, housework; fell under the care of Dr. A. E. Blackburn at the outpatient clinic of the Presbyterian Hospital, September 7, 1898. The family history was indefinite; the mother deceased, but cause of death unknown. Patient had had measles in childhood, otherwise the previous history was negative.

Present illness began three years ago with cough and expectoration; these symptoms had persisted until she applied for relief, there was no loss of flesh and no night-sweats. Physical signs at time of first visit: defective expansion, increased tactile fremitus, impaired percussion resonance and increased vocal resonance over right apex, anteriorly, and left apex normal. On November 3, no tubercle bacilli were found; they were found, however, on February 10, 1899. Dulness on percussion and prolonged expiration over right apex. March 30 moist râles at both apices, more marked at right. June 8, beginning cavity formation in right lung at third rib. August 17, signs of cavity well marked in right chest. Photograph of fluoroscopic plate shows a distinct shadow extending from right apex to fourth rib. There is no rare area or bright spot to indicate the presence of a cavity.



CASE 3.

This may have been due to the superimposed dense area occasioned by the thick cavity-wall and pleura; again the cavity may have been filled or nearly so with secretion to account for the absence of the rarer area or bright spot. I regret that the patient had not been minutely examined just prior to the use of the Roentgen rays. The last case reported above (Case 4) can not be classed as an incipient one, but is included because of its great interest, as showing a source of fallacy in skiagraphy in the stage of cavity. The agglutinative reaction is as yet without diagnostic value.

The principal object of this paper is to indicate the comparative infrequency of the presence of tubercle bacilli or of clear physical signs as keys to the situation in the commencing stage. It is obvious that physicians should more generally make use of other aids on which a diagnosis sufficiently accurate for practical pur-

poses could be made, thus affording a basis of therapeutic and climatic indications while the disease is yet amenable to treatment. Among the means previously described, I would re-enumerate points relating to causation, including heredity and the numerous circumstances that expose an individual to infection, and the varied manifestations of the disease at the very onset—embraced under the rarer modes of invasion—described above. A not uncommon association is to find in subjects hereditarily predisposed or thrown into prolonged contact with a consumptive, the later development of suspicious features, which have been grouped above under various heads. The commonest group includes those cases in which a suggestive history is combined with an unproductive, intractable cough. No matter, however, which of the numerous phases this common affection may assume at the onset, certain crucial tests should not be overlooked. I refer particularly to the systematic and persistent use of the clinical thermometer, the tuberculin test and the use of the Roentgen rays—one or all. The adoption of this method is urged, because it has been the most satisfactory for the recognition of phthisis at the earliest possible period. Personal experience enables me to speak with confidence concerning the retrospective diagnostic significance of these clinical criteria, either singly or unitedly; and they establish the existence of a well-defined clinical stage, which is quite variable in duration and presents the ordinary therapeutic indications of this disease. The importance of recognizing this stage springs from the necessity of bringing the cases under appropriate treatment before extensive destructive changes occur and efforts at treatment are hopelessly futile.

It is an accepted position that unless the cell-condition is favorable for the growth and development of the bacilli there is manifested an innate tendency to spontaneous limitation and healing. This fact explains why in more than 50 per cent. of the human family the bacilli not only gain entrance into the body but also effect a lodgment, while less than 14 per cent. of the deaths from all causes are ascribable to tuberculosis. It is true that spontaneous healing occurs most commonly in local varieties of tuberculosis—common in children—as of the lymph glands, bones and joints. I shall deal with the treatment of incipient pulmonary tuberculosis only, and desire to emphasize at the outset that medicines are unquestionably of less value than the more natural agencies, hygienic and climatic, that aim at reinforcing nature's efforts at spontaneous recovery. I have a fixed belief that a successful resistance to the invasive forces in this disease can be best accomplished by an appropriate environment including better hygienic living, better far than by the use of any known serums. The physician often finds well-marked evidences of pulmonary disease at his first examination, and under these circumstances it is clearly his duty to select a suitable climate with particular reference not only to the stage of the affection but more especially to the individual. On the other hand, highly suspicious cases, or such as show afternoon fever, or lung-involvement on fluoroscopic examination, or respond positively to the tuberculin test; even though the microscope fails to reveal bacilli, should be treated in a manner similar to typical incipient tuberculosis, or that showing the presence of tubercle bacilli, since it has been found that these cases usually become characterized soon or late if allowed to drag on without appropriate management. The profession will not awaken to the proper sense of its responsibility until this course is adopted.

The principal object of treatment in all cases is to improve the general nutritive processes, since it is in this way, and in this way only, that the natural defensive processes can gain the day. In general terms, the climatic requisites for consumptives are purity and equability of climate with an abundance of sunshine; dryness of the air and high altitude are of subsidiary value. Delafield's dictum, that that climate "is most suitable in which the patient feels well, eats well and gains in flesh and strength," is excellent. According to my experience, the Adirondack region meets the indications in incipient cases better than any other convenient resort, although I have seen excellent results also from a stay at Thomasville, Ga., Southern California, New Mexico and Colorado. Dr. P. Marvel informs me that Atlantic City gives good results in the more chronic forms of fibroid phthisis. I have found that this popular resort affords excellent advantages during the cold season for incipient cases. The stay should not, in this class of cases, exceed one month or six weeks, and then a change to the mountain resorts already mentioned should be made. Finally, I have witnessed excellent results from a sojourn in the Pocono Mountain region, Pennsylvania. In short, it will be found that an inland locality that affords a pure atmosphere and can boast of the absence of great variations of temperature will produce good results. In this connection I would emphasize the familiar fact that mountain air and that of the virgin forest are helpful, principally because they possess these prime climatic requisites. Forests, particularly pine-groves, favor atmospheric purification, since they generate ozone, which oxidizes the impurities contained in the air; they also favor to an equal extent an equable temperature by maintaining a constant humidity.²⁸

As elsewhere stated, while it is essential to send patients to suitable resorts, the most satisfactory results are obtained from the combined climatic and sanatorium treatment. If situated in a suitable climate, and if properly officered and well equipped, they show results that surpass all other known methods of treatment. The principal advantages offered are due to rigid system of hygiene under the close supervision of competent medical officers. As pointed out in a recent paper,²⁹ there are a large group of cases of incipient pulmonary tuberculosis among the middle and lower classes that require institutional treatment. For such, sanatoria conveniently located in close proximity to large municipalities, though with special reference to such factors as purity of atmosphere and protection from chilly blasts, by natural elevations or the woodland, should be selected. It is scarcely possible to obtain for them the most salutary climate.

The physician must bestow close attention on the patient's diet and on the condition of the gastrointestinal tract. A preliminary course of gastric antiseptics and stomachics, coupled with an open-air existence little short of injurious exposure, sometimes stimulates the appetite, which is usually poor or even lost, and increases digestive power. The appetite may be rendered keen by a change of air, especially to the seaside, but the patient should not be sent to the seaside during the warm season, if cough be present. I would strongly advise in favor of a rigid system of feeding, even in the early stages, and the French method of forced feeding deserves a trial if there be absolute loathing of food.

Medicinal agents in the early stages are employed to increase the bodily resistance by improving the principal nutritive functions. I would place creosote in this cate-

gory; it enjoys the confidence of the profession to a greater degree than any other remedy and its use is sometimes followed by lessened cough and expectoration, amelioration of the night sweats, lessened fever, with a gain of strength and weight. Doses no larger than can be tolerated by the stomach are to be prescribed. Indeed, any remedy that interferes in the slightest degree with the function of the stomach is to be withdrawn immediately. Among the most promising remedies employed with a view to improving the nutritive processes is cod-liver oil, when this agent does not tend to impair the appetite and digestion, but on the other hand is well borne. The hypophosphites are especially serviceable in a large proportion of early cases, and the same is true of arsenic, though, perhaps, in a smaller percentage of instances.

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THE RELATIVE IMPORTANCE OF VALVULAR AND MUSCULAR LESIONS IN DISEASES OF THE HEART.*

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PHILADELPHIA.

It would be incorrect to say that the importance of affections of the myocardium has been but recently recognized; yet it is probably true that the attention of teachers and authors has been much more actively given to these affections during the last four or five years, and that among physicians not engaged in teaching or writing, the subject, while not ignored, has not even yet received the attention it deserves.

One reason for this is that until recently, at least, in the didactic lectures, in the clinical lectures, in the ward classes, and in the quiz room, so much stress has been laid on the diagnosis of valvular lesions and the recognition of cardiac murmurs that the average student leaves college with the conception of valvular murmurs and heart disease as synonymous. In post-graduate teaching I have frequently had experienced men, as well as recent graduates, report that a patient's heart was normal because they had failed to find any valvular murmur. Furthermore, in considering the treatment of patients presenting valvular murmurs, what has seemed to have most weight with the majority of physicians, as observed in post-graduate teaching or in consultation practice, has been the name of the valvular condition—mitral regurgitation, aortic regurgitation, mitral stenosis—while comparatively little attention has been paid to the condition of the cardiac musculature or to the blood-vessels. Concerning the great importance of the vascular system in diagnosis, prognosis and treatment, I have frequently written, and in this communication shall merely allude to the matter. Attention is now directed to the importance of the condition of the musculature of the heart, which experience shows, even if *a priori* considerations did not so indicate, means more for the patient's life and comfort than does the condition of the cardiac valves. To this statement there is but one important exception, namely, the case of mitral stenosis with great narrowing; of which more hereafter.

VALVULAR LESIONS.

In many cases of valvular lesions, even of long standing, compensation is so good that under all ordinary conditions of life the function of the heart is performed almost perfectly; and it is only when extraordinary exertion, mental or physical, or extraordinary emotional strain throws an additional burden on the circulation or calls for more quick adjustment of circulatory relations, that the impairment is seriously felt. To drug such a patient because auscultation reveals an organic murmur at base or apex would be to increase his difficulties, not to lessen them. Treatment by regulation of diet and of physical and mental activities may often be judicious and tend to prolong the period of maintained compensation. For many years I used to show to my ward-classes a man past three score and ten, who had a clear history of mitral incompetence for more than thirty years, and who needed no medicine. I have watched a number of children, whose heart-valves were damaged by endocarditis of scarlet fever, grow into adolescence and manhood, even into womanhood with its duties of maternity, and still need no drugging. Sometimes the hypertrophy exceeds the needs of circulatory compensation, in which case temporary diminution of the patient's activity, purging and the judicious use of bromids and aconite will usually subserve the therapeutic indications. But whether or not the treatment outlined suffices, the point to which attention needs to be chiefly directed is distinctly the muscular condition and action, not the valve-lesion. On the other hand, when compensation has not been good, or having been good has begun to fail, the valvular lesion is, in most cases, but a secondary element in prognosis and treatment. As in all engineering problems, all the conditions need to be studied, and the measures appropriate in mitral regurgitation are often ill adapted for aortic stenosis. But it is pre-eminently the failing muscle that needs to be nourished, strengthened, stimulated or regulated. It is the failing muscle from which

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the burden needs to be lifted by reduction of physical, mental and emotional activities and by therapeutic devices. Unconsciously, however, the therapeutic lesson has become somewhat organized in the automatic motor apparatus of the profession, and physicians who follow the rules laid down in the text-books or by their teachers for the treatment of various valvular lesions, usually adopt measures which are, in the main, directed toward the indications furnished by those signs and symptoms consequent upon the good or bad condition of the cardiac muscle.

MITRAL NARROWING.

I shall, therefore, not dwell on this phase of the subject, save to direct attention toward the problem presented by cases of mitral narrowing. That this lesion is more common than the older text-books would indicate seems to be becoming the general opinion. Compensation is never fully established, for the obstacle is so placed that neither increased force of cardiac contraction nor increase in the containing capacity of the chamber behind the obstruction can succeed in forcing the due quantity of blood into the left ventricle and thence into the arteries with each systole. Perhaps nothing in cardiac semeiology is more significant than the disproportion between the great systolic energy and the weakness and smallness of the radial pulse, in cases of marked mitral obstruction. In order to permit the muscle to act as effectively as possible under the circumstances, it is necessary not only to dilate the peripheral vessels by nitroglycerin or baths or appropriate exercises, but also to diminish its own wasted and wasting exertions. For this purpose strontium bromid, and even small doses of aconite, carefully watched and regulated, have proved useful; and the apparently paradoxical, but really useful, combination of aconite and digitalis has also been of great service.

HEART DISEASE WITHOUT MURMURS.

It is, however, not in valvular lesions, but in those cases in which rational symptoms of cardiac impairment exist, without murmurs or with inconstant murmurs, that the diagnostic problem becomes most difficult and that routine treatment not only fails to do good but frequently does harm.

ACUTE DILATATION.

I can remember with what diffidence I first made the diagnosis of acute dilatation of the heart, and with how much relief I welcomed the confirmation of this diagnosis by my distinguished teacher called in consultation. Yet acute dilatation, not necessarily fatal, has seemed by later experience not common, it is true, and yet not so rare as to call for the report of isolated cases. In certain subjects it occurs more readily than in others, and the attack may be repeated more than once. I do not refer now to the cardiomyopathies of acute infectious fevers, but to the idiopathic acute dilatation, that is to say, dilatation occurring suddenly or in a comparatively short evolution, from direct strain on the heart.

The readiness with which changes in the size of cardiac chambers may occur is not generally recognized. I recall the case of a boy of 12 years in my dispensary service at the Philadelphia Polyclinic, whom, however, I saw only once, in whose case slight changes of position altered not only the position of the apex but also the transverse area of dulness, as demonstrated by the independent observation of two component diagnosticians. The phenomena of cardiac changes in the warm bath have been made familiar by the publication and

multiplication of the observations of the Nauheim school. Fright, and sometimes less severe emotion, especially in the anemic and poorly nourished, will cause acute dilatation of the heart; and this condition may often persist for some time after the cause of disturbance has been removed.

Other causes leading to acute dilatation are the effect of rarefied air at altitudes and sudden, violent, or relatively excessive exertion, as in climbing, bicycling, swimming, or in athletic contests; the general or temporary physical condition of the subject and the physical and psychic environment having much to do in the determination of a relative excess; while the quantitative effort of the skeletal muscles may be less important than its character in determining heart strain. When pericardial adhesions or valvular disease, or innutrition or even latent disease of the myocardium exists, acute dilatation is much more likely to occur.

ACUTE MYOCARDITIS.

Acute myocarditis is common in all the infectious fevers even when endocarditis and pericarditis do not occur. Perhaps rheumatism, diphtheria, typhoid fever, pneumonia and influenza give the most striking examples of this class of cardiac affections, and most physicians recognize this during the persistence of the exciting disease. It is often overlooked, however, after convalescence has begun; and many patients recovering from influenza in particular are allowed to return to active work long before the condition of the heart warrants it. A condition of myopathy is thus set up, and one frequently meets with cases presenting such symptoms of impaired circulation as dyspnea, vertigo, inability to walk rapidly or to climb, sometimes with edema of the extremities, intermittence of the pulse, and precordial distress, in which the origin of the symptoms can apparently be traced to a recent or remote attack of influenza.

CHRONIC MYOPATHIES.

Still more difficult of recognition and more frequently overlooked are the chronic myopathies which have not had distinct origin in some frank infection and which have not followed valvular disease or nephritis.

Recent works upon pathology describe many varieties of myocardial lesion, with various forms of degeneration in the muscular fibers and with varying quantities and distribution of interstitial or substitutional fibrous tissue. Huchard, among the French observers, has made a number of refinements in the nomenclature of these conditions and has described special symptoms observed during life as associated with special forms of myocardial degeneration and interstitial alteration discovered post-mortem. Much of this, however, seems to be premature. It is well that histological studies of the dead heart should be made as systematically as possible, and the utmost information concerning the character of the structural changes gathered; but it is only after a large number of cases shall have been carefully traced in their clinical histories over several years, and the intimate nature of the lesions found after death in such cases carefully collated and compared, that we shall be enabled to analyze the data and establish the signs and symptoms which, observed during life, shall warrant a diagnosis of some special affection of the myocardium. Even the term "myocarditis" as a generic designation seems to be going too far, unless we are prepared to assert that every alteration of the cardiac muscle and every form of increase of connective tissue indicates an inflammation. The French observer's term,

"myopathy," or, if we prefer to Anglicize it, "muscle disease," is better, and represents the full extent of present accurate knowledge applicable during life, to the diagnosis of the vast majority of the chronic cases which have not followed acute infectious diseases.

CAUSATION.

Among the principal causes of disease of the cardiac muscle in American men is the long-continued, even moderate, use of alcohol, and especially when this has been associated with the use of tobacco. I have not observed the same degree of impairment in those who have used alcohol alone or those who have used tobacco alone as in those, and these, of course, form the majority, who have used both. What constitutes temperate use of alcohol or tobacco varies very much with the individual. In some patients disturbance of the cardiac rhythm and irritable and weak over-action of the heart begin soon after the smoking habit has been established. In others it occurs only toward the involution period of the organism; that is, after middle life. It is probable that the changes induced by tobacco are but slight at first, so slight that we are warranted in considering them neuro-functional; but that the long and constant repetition of these disturbances finally, by exhaustion of certain qualities in the cardiac cells, brings about degenerative structural change. The same may be true of alcohol, though the well-known tendency of this drug to produce sclerotic changes in general warrants the belief that in the alcoholic myopathies structural changes are present from the first. Alcohol and tobacco usually give rise to other sclerotic changes also, in the vessels especially, which secondarily lead to impairment of cardiac nutrition by ischemia and to increase of the work placed on the heart to carry on the circulation, owing to the heightening of peripheral resistance. Thus, further changes occur in the cardiac muscle in addition to the direct effect on it of the poisons, and to exhaustion through their influence on the nerves. Gout or lithemia, grouping under this head those general conditions of toxemia associated with the overproduction of uric acid, but in which xanthin and hypoxanthin and other alloxuric products may be equally potent, is often, too, associated with the alcoholic habit; but in cases in which alcohol is used not at all or but moderately, and in which there exist hereditary tendencies to this perversion of metabolism, myopathy is not infrequent. So, too, syphilis, in association with or independent of alcohol, may give rise to changes in the heart, not necessarily gummatous, which in turn give rise to vague clinical symptoms often difficult of interpretation. Sexual excesses, mental strain, especially if worrisome, physical overwork, whether in the serious pursuits of life or in games and athletic exercises, malnutrition, lead poisoning, the abuse of tea and coffee, and, in exceptional cases, emotion, are to be added to the list of causes.

RATIONAL SYMPTOMS.

The symptoms, at first, at least, are usually vague. They are inconstant, not only as regards different cases, but as regards the same case at different times. At first, and sometimes throughout, they may be comprised under the general head of rational rather than physical signs. Death, indeed, may occur suddenly without any known history of either rational or physical signs. It is probable that in most cases, if not all, with the exception of cases of fatty infiltration and fatty degeneration, the earliest stage is one of hypertrophy—a pathologic, not a physiologic or compensatory, hypertrophy—this being followed by exhaustion of the un-

differentiated cellular elements out of which new fibers are furnished for growth and repair, and this, in consequence, by degeneration of muscle tissue and proliferation of connective tissue. Overaction, spasmodic and irritable in character, is, therefore, followed by defective and irregular action, and the progress of lesions is marked by a corresponding change in the associated semeiology. Dyspnea, constant or occurring especially on slight exertion, tinnitus aurium, headache, dilatation of the pupil, vertigo, vague sensations of cerebral and precordial distress, sometimes actual pain, not rarely angina pectoris, cervical and occipital pain, slight blueness of the lips, injection and later dulness of the conjunctiva, increased force and tension, later irregularity and intermittence of the pulse, sometimes transient edema, often digestive disturbance, unaccountable languor, drowsiness, undue readiness to fatigue, irritability of temper, sudden cardiac palpitation and occasional and increasing periods of very slow and feeble action of the heart are noted, but not all at the same time or in the same patient. Besides this, it is evident that many of these symptoms are common to a variety of affections. Many of them may result from indigestion, most may occur from anemia, many are associated with nephritis, and they are nearly all to be found in neurasthenia. Especially difficult is it at times to differentiate between the unbalanced action of the neurasthenic heart and the irritability of impaired power of the myopathic heart. One needs to be specially guarded in such a diagnosis, for the statement to a neurasthenic that he has heart disease may so frighten him as to produce it. Murmurs are perhaps more common in neurasthenia than in pure myopathies, the arrhythmia is more changeable in its type, and the general characteristics of the patient are to be taken into consideration. In gouty neurasthenics and in other gouty subjects it is easy to refer to the heart the pain of intercostal neuralgia, and in both gouty and syphilitic subjects it is easy to mistake the pain of costal periostitis for cardiac pain. Sometimes, however, genuine cardiac pain of myopathy or vascular sclerosis, intercostal neuritis and gouty or syphilitic periostitis are all present. Mistakes are only to be avoided by careful observation and weighing all the phenomena of the case.

THE COSTAL FRINGE.

Verging on the definition of physical signs, and I believe quite significant of cardiovascular alteration, are ectases of superficial veins, most marked on the face and thorax; in the latter situation sometimes forming what I have denominated the costal fringe, that is to say, a network of very fine red, pink or blue vessels following the borders of the costal arch like a fringe of embroidery. This, however, is sometimes found in patients presenting no rational or physical symptom of cardiac disease, and is not infallible. Usually the cardiopathic patients who present it show slight permanent enlargement of the liver, and are subject to attacks of engorgement of that viscus.

PHYSICAL SIGNS.

As regards percussion and auscultation, these are, in the late stages of myopathies, quite definite, but not so in the earlier stages. An increase in the precordial dulness in both directions laterally, with displacement of the apex-beat downward and to the left, gradually takes place. Sometimes the increase is irregular in outline, and one suspects localized dilatation of the heart, or cardiac aneurysm. With this at last goes feebleness, perhaps disappearance of apex impact or weakness

and diffusion of the wave. An impurity rather than a definite murmur of the systolic sound is among the early signs, as is also, and I think this is quite significant, an approximation in quality between the first and second sounds. The first sound is shortened in duration and its tone becomes more valvular. Sometimes the second sound is relatively or actually accented. Later the sounds become rather empty, resembling in rhythm and in character the muffled drum of the fetal heart. This embryocardia is easily recognized, and is significant in diagnosis. Duplication of the first or second sound may be developed. Gallop rhythm is never an early sign, but its evidence of muscle-weakness is always clear, whether in uncomplicated myopathy or in failure of compensation in cases of valvular lesion. Intermittence, even to asystole, is also significant, yet one may watch and wait for three or four minutes before he notes the dropping of a single beat, either with the finger at the wrist or with the ear over the apex, and then several beats may be dropped in a minute, sometimes as many as one beat in every four or five. Sometimes the patient himself has a sensation of stoppage of the heart, and this may or may not be accompanied with an actual intermission. It may take place frequently or but rarely. In one of my cases it was said to occur but once a day. With the patient quiet, whether recumbent or seated, or even standing, there may be neither intermittence nor irregularity; yet slight exertion, or even change of position, induce both. Among the symptoms on which I am accustomed to lay stress in the diagnosis of myopathy is undue readiness to change in the frequency or character of the pulse on slight change in the position, activity, or emotion of the patient. The volume, tension and strength of the pulse vary greatly in different cases or in the same case from day to day, and are, of course, affected by the presence or absence of concomitant disease of the arteries, the latter being usually present. They vary much, also, under medication, more, perhaps, than in uncomplicated valvular disease. Murmurs are sometimes present, constantly or inconstantly, due not so much to sclerotic changes in the valves—although these doubtless occur at times in connection with the sclerotic changes in the parenchyma of the heart—as to relative insufficiency.

For complete closure of the cardiac orifices the valves alone do not suffice. The musculature, not only of the auricular and ventricular walls, but also the papillary muscles, must act perfectly, in order to secure complete occlusion of an orifice in systole. Failure to accomplish this gives rise to adventitious sounds. Sometimes these are so marked that the incorrect diagnosis of valvular lesion is difficult to avoid.

TREATMENT.

In the treatment of these conditions, endeavor should be made to remove or mitigate the exciting causes which are usually in continuous influence. In the cases of coffee, tea, alcohol and tobacco this is extremely difficult, sometimes impossible. The reduction of the mental and physical activities of the patient is usually desirable, though this should not be pushed to excess in early cases, in the absence of such symptoms as edema, or evidence of pulmonary or visceral congestion, because the nervous worry induced may be so harmful as to overbalance the gain. It is always well, however, unless there is some counterindication, to reduce the work placed on the heart by the use of nitroglycerin in small doses; sometimes so little as 1/400 of a grain twice a day answers the purpose. The diet is, of

course, to be carefully regulated, the skin and the eliminative functions generally are to be kept in good condition, and all excesses are to be avoided. All this "goes without saying." Warm carbonated, saline baths, with massage and gently resisted movements, after the method of Schott, of Nauheim, but modified to suit the individual patient, have been of great benefit in many of my cases—so much so that the patients have often wished to continue the treatment when I have thought it best to intermit. These measures should never be kept up for too long a period consecutively, though they may be renewed from time to time. The question of exercise in some of these cases is very difficult; for with the gouty and in the early stages of their cardiopathy it is often desirable to prescribe moderate exercise. The tendency of the patient is to do nothing, or to indulge in exercise, as in other things, immoderately and spasmodically. This, therefore, becomes a question of good judgment in the individual case, not only as to the requirements of the case, but as to the trustworthiness of the patient. When severe symptoms are present, absolute rest becomes necessary.

Among drugs to strengthen the heart, improve its nutrition and regulate its action, strychnin is the most generally useful. One may also employ from time to time digitalis, of whose preparations (following Beates) I prefer Merck's German digitalin; adonis, of which a good extract or the glucosid adonidin may be used; spartein sulphate, caffein, cactus, of which last the fluid extract or a solid extract may be used, or strophanthus in the form of tincture or solid extract. Much might be said concerning their choice in different cases, but such is not the main object of this paper, nor does time permit. Whatever drugs are used, none should be used continuously, but judicious alternation should be resorted to, and sometimes combinations will in individual cases act better than single drugs. Arsenic is of service as a general nutrient, as are also iron, gold and sodium chlorid, and sometimes, in syphilitic cases, courses of mercurial inunction, with sweating by means of hot baths, followed by potassium iodid in full doses. In some cases, both of syphilitic and non-syphilitic patients with tobacco heart, potassium iodid in small doses is of service. In gouty cases the strontium salts, both iodid and bromid, have seemed of service, not only as addressed to the underlying condition, but also as soothing the cardiac action. For combination with these, when needed, strontium lactate is an excellent diuretic. In acute conditions of cardiac incompetence, whether in the course of chronic valve and muscle disease or suddenly arising without previous disease, venesection is usually indicated. The heart can not empty itself, the patient is in great danger, and blood should be drawn promptly, fearlessly, and in sufficient quantity to afford relief.

SUMMARY.

1. In the great majority of cases of chronic disease of the heart, the exact site and nature of the valvular lesion, while always to be taken into consideration in treatment, are of less importance therapeutically and prognostically than the state of the cardiac muscles.

2. The most important exception to this general rule is in the case of mitral stenosis with great narrowing. Aconite is often of use in this condition to reduce the excessive muscular effort, even when compensatory hypertrophy has not become sufficient.

3. In many cases in which no evidence of valvular lesion can be detected during life, and in some of which slight valvular alterations, in others normal valves, are

demonstrable after death, there exist rational signs of cardiac incompetency which are due to diseases of the cardiac muscle.

4. The symptoms and physical signs of cardiac myopathy are inconstant, and in the early history of the case may be slight. In the absence of valvular lesions, intermittence or irregularities of the pulse or apex-beat, disturbance of rate or rhythm by slight causes, and recurrent pain referred to the precordium, in non-hysterical and non-neurasthenic subjects, are the principal local symptoms calling attention to the disease of the cardiac muscle. Tinnitus, vertigo, dyspnea, venous ectases, visceral congestion, edema, and other evidences of circulatory disturbance may be slight and escape attention until sought for. There is usually impurity or weakness of the first sound of the heart, with approximation of the two sounds in quality or relative accentuation of the second sound; later embryocardia and gallop rhythm may develop.

5. Gout, syphilis, alcohol and tobacco, tea and coffee, sexual excesses, mental strain and physical overwork, either in serious pursuits or sports, are among the chief provocations of disease of the myocardium, apart from those lesions secondary to the acute infections or consecutive to nephritis or valvular disease. Among the acute infections, influenza is a frequent cause of cardiac muscle disease.

6. Other than the general diagnosis of disease of the myocardium, there is not yet sufficient knowledge of clinical signs to permit accurate recognition antemortem of the pathological nature of the lesion.

7. The diagnosis between neurasthenia of the heart and disease of the myocardium may be difficult.

8. The chief importance of the subject lies in the avoidance of error: *a*, in the prognosis and treatment of valvular disease which may be overtreated or undertreated through failure to estimate properly the condition of the muscle; *b*, in the recognition of serious lesion of the muscular structure of the heart in cases that have been supposed to be normal because of the absence of valvular murmurs; *c*, in the distinction between organic muscular lesions and functional disturbance, and in the realization of the fact that the latter may lead to the former.

9. In treatment, judicious regulation of diet, rest and exercise; avoidance of exciting causes and excesses of any kind; the good functional condition of the skin and eliminative organs, are of the first importance. Warm, saline, carbonated baths and, in some cases, gentle massage and resistance exercises carefully adapted to the individual case, are of great benefit. Nitroglycerin is the most useful single agent of the materia medica. Strychnin, digitalis, adonis, cactus, strophanthus and spartein have usefulness in individual cases. Arsenic, gold and sodium chlorid and iron are useful tonics. Potassium iodid and mercurials sometimes have special indication. Venesection should be made promptly and sufficiently in the case of sudden and urgent symptoms of cardiac failure.

Amalgamation of Parisian Societies.—Several of the Paris medical, surgical and therapeutic societies are seriously discussing the question of federating, to the extent of allowing the members of one society free access to the meetings of the rest, and publishing a common bulletin of the transactions, otherwise retaining autonomy. Among other arguments in favor of the plan are the increased attendance, stimulated emulation, greater publicity and, above all, the better utilization of the treasures of practical experience too often lost at present.

A CLINICAL STUDY OF MYOCARDITIS.*

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It happens in every one's experience that at particular times clinical observation is specially rich in a single direction. So it has seemed to me that during the past year there have been under observation, both in hospital and private practice, a great number of cases in which the heart muscle seemed to be primarily at fault. From the study of these cases I have come to believe that disease of the heart muscle is a greater factor in the condition of many patients than is usually believed; particularly have I been more and more impressed with the fact that the importance of valvular and arterial disease depends on the behavior of the heart muscle in connection with these lesions. A recognition of the interdependence of arterial and myocardial disease moreover gives new interest and importance to the early recognition of a tendency to an increase of arterial tension. The first indication to the patient of this condition may come through the failure of the heart after having struggled a long time with high arterial tension. The same is true of valvular disease. The lower grades of incompetency of the valves give little or no discomfort so long as the muscle of the heart is intact. These lesions only give symptoms when some disturbance of the heart muscle renders them relatively important.

The lesions of the valves are detected by auscultation. Auscultation also renders valuable aid in detecting the condition of the heart muscle, but the great test is the capacity of the muscle to respond to additional work, and if the choice were given of an examination of the heart by direct or indirect methods, I believe the most valuable information would be received by testing the heart's power under varying conditions. A man who can go up stairs rapidly without loss of breath or undue increase in the pulse-rate has certainly a fairly sound heart-muscle. Another man subjected to the same test might show marked signs of distress, yet these men, when examined quietly in bed, would perhaps give practically the same myocardial signs.

Myocarditis is eminently a clinical disease in that the gross post-mortem findings are not co-ordinate with clinical symptoms. A poor heart doing good work may give far less marked symptoms than a good heart doing poor work, and yet the hope for the future of the latter is far brighter than the former. So while there are well-marked cases that we may study and catalogue with a fair degree of confidence, there are other cases in which it must be confessed there will always be doubt as to the degree of competency of the heart-muscle. A great deal depends on the blood-vessels. A temporary anemia of a damaged heart through the spasmodic contraction of the coronary arteries may cause a fatal attack of angina, while had the patient escaped such an accident he might have lived for years in comparative comfort. We have seen in the hospital patients living for months and years with progressive degeneration of the heart, until finally when they died it was a source of wonder how a heart so degenerated could have carried on its work. Perhaps the most acute cases of myocarditis are the syphilitic ones. In some of these, par-

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ticularly the untreated cases, the disease directly attacks the heart, and we have a true syphilitic inflammation. In others it follows the type of a more chronic form. In either case the indications for active treatment are urgent.

There are two great divisions of myocarditis, which also divide the condition into two very nice clinical groups, diseases of the myocardium, due to the direct influence of infectious disease on the heart muscle, and, second, myocarditis, due to the indirect influence of disease of the blood-vessels or the participation of the muscles in the causes of this disease.

Disease of the blood-vessels acts in two ways in interfering with the integrity of the heart-muscle. It renders the work of the heart more difficult by making it necessary to overcome greater resistance on account of the inelasticity of the vessels, and it also interferes directly with the blood-supply to the muscle itself through disease of the coronary arteries.

The relation of pain to cardiac disease is worthy of study. The interior of the heart is, of course, insensitive to pain, and extensive valvulitis may exist and the patient be entirely unconscious of it. Pericarditis gives pain and tenderness on pressure over the heart. Patients with chronic cardiac disease do suffer from time to time more or less discomfort in the region of the heart, though pain in this region is so common that it is almost an axiom that most pain supposed by patients to be from the heart is of gastric origin. However, connected with chronic cardiac disease is a form of pain of extraordinary severity and terrible significance. Angina pectoris is an agonizing pain in the region of the heart shooting to the shoulders and frequently accompanied by the sense of impending death. All attacks are not so severe. No definite explanation of angina pectoris has ever been offered. True angina is invariably associated, however, with disease of the arteries of the heart and of the heart-muscle. The attacks are sudden in their onset and usually end in recovery. Death during an attack is, however, frequent, though sudden death often occurs in patients subject to angina without the definite development of an attack.

The significance of pain in the left shoulder and breast, when occurring in a severe neuralgic form, is always a topic of interest. Particularly is this so when occurring in persons with no recognized cardiac disease. From observation of such patients it seems to me that such pain is of cardiac origin in a much greater proportion of cases than we realize. Its significance is often hard to make out because these patients go on for months and years without any sensation. Their hearts sometimes act better and sometimes worse, and from time to time they have attacks of pain, but these attacks of pain do not bear any relation to the cardiac action, yet occurring as they do in these subjects we can not but believe that they are of cardiac origin. The lesson to be learned is that when persons past middle life are subject to attacks of severe pain, referring to the left breast and the left shoulder, there is reason to suspect myocardial disease and institute a careful observation. Cardiac pain has been too definitely classified, for there is no real distinction except in degree between the slighter and the most severe forms. Nor is the pain always confined to one side of the chest. The heart itself is not liable to tenderness. It is an anatomical fact that there is a connection between the nerves of various viscera and the nerves of the corresponding portions of the surface of the body. From this fact it

is possible for a disease of a viscus to cause pain and tenderness of the overlying tissues.

The chief symptom of myocarditis is a failure in the power of the heart to respond to demands of extra work, though this is not the symptom that is first developed. The earliest symptom is an irregularity in force and rhythm. The origin of this symptom is probably in the muscle itself in that it does not respond with regularity to the physiologic nervous stimuli. There is another irregularity in force and rhythm that undoubtedly has its action in irregularity of the nerves themselves. It is between these two causes of this symptom that the greatest difficulty of diagnosis arises, and there are cases in which one can only be certain of the existence of myocarditis when there is developed a deficiency in the power of the heart-muscle.

There is no element in the diagnosis of a case that is so difficult to define and yet which makes so profound an impression on the diagnostician as the quality of the pulse. The other day I saw a patient suffering from a slight cold and not supposed to be in any way seriously ill, nor could I by careful examination and questioning define any symptoms of serious disease, and yet her pulse, though not quick, was of a character that showed an incapacity of the heart to do its work. Each beat seemed to throw a mass of blood through the artery like a projectile, the tension between the beats apparently being nothing. The woman was large and not at all firm in her muscular tissue, and had suffered from an attack of pain in the left shoulder at one time recently. This made a diagnosis of myocarditis justifiable, though as yet she did not suffer any conscious symptoms of cardiac insufficiency.

Myocarditis is unusually common in colored people, possibly due to syphilitic infection and to the natural tendency of mixed races to degenerative changes. In the world at large this relative inefficiency of the heart-muscle accounts for the lack of energy, the inability to maintain continuous labor and militates most forcibly against the progress of the colored race when modified by white blood.

The following case illustrates the development of myocardial changes in a hypertrophied heart. I received an urgent call to see a woman between the ages of 60 and 70 years, and found on arriving at the house that she had been up all night suffering from marked shortness of breath and a hacking cough. At first glance the case almost suggested pneumonia, but that supposition was dispelled by the first question or two into the history. It seems that the patient had had unusually good health, never being ill in any way up to about four years ago. At that time she underwent great sorrow and worry at the time of the death of a near relative, became nervous and much run down. Since then she has not been strong. Two years ago she broke her arm, and was annoyed by this for a long time. Beginning at an indefinite time, but most marked for a year and a half, she had been short of breath on exertion, and has not felt equal to undertaking anything. During the past few months this shortness of breath has been more marked, and particularly so since a few weeks ago, when she overexerted herself in climbing the stairs of the elevated railroad and taking a prolonged and difficult trip to a neighboring borough. For the past three days since she has had a cold, her breathing has been quite short at times and she could not lie down with comfort at night.

I found her lying in bed, suffering from considerable dyspnea, with a decidedly anxious expression. The

heart apex was well outside and below the nipple line. Over the apex there was an indefinite systolic murmur, but what was most noticeable was a heaving pulsation of the heart with an accentuation of the aortic sound. Palpation gave the impression of a thick, heaving sac. From the commotion the heart was making it would seem incredible that it was not doing its work, and yet it was evident from a careful consideration of the case that the heart was not only hypertrophied but dilated so that while there was considerable muscular action there was an insufficient contraction of the cavity of the heart to carry the blood properly forward.

The effect of large doses of digitalis on myocarditis that had gone untreated, and which are seen in a late stage is interesting. The foregoing case was given 4 minims of the extract of digitalis every four hours. After taking about six doses the effect on the heart was very marked in that the beats became slower and better separated from each other; the cardiac action, which previously seemed like a peristaltic wave in a thick-walled distended sac, became more like heart beats. The cardiac area markedly diminished. With the digitalis was given iodid of sodium in 5-grain doses. Unfortunately, in the anxiety of this most desperate case the digitalis was carried a little too far, for the patient, while being entirely freed from dyspnea, suffered several attacks of faintness, during which the heart action became extremely slow. This passed over, and later on the patient was nauseated and vomited a small amount of clam broth that had been given. The subjective sensation of nausea continued for some time. During the attack of faintness an overzealous friend administered a tremendous dose of whisky, so that may have had something to do with the nausea. However, it was evident that the patient was suffering the physiologic symptoms of digitalis. This heart was so much dilated and action was so bad that we believed it justifiable to push the drug immediately to this extreme limit. Vomiting in such a case does not do any particular harm, and indeed there are theoretic advantages. Vomiting certainly does clear up pulmonary congestion, and it would seem probable that the violent contractions of the diaphragm and chest with the nervous stimulation might give the opportunity for a dilated heart to gather itself together. At any rate, in spite of the disturbance of the digitalis, the patient's heart action was infinitely improved. A gentian mixture containing the iodid of sodium was substituted for the digitalis, and 1/60 grain of strychnin and 1/100 grain of nitroglycerin given on alternating hours. One can not insist too strongly on the importance of complete physical rest in such cases.

Since beginning this paper I have had the opportunity of making a pathologic examination of a case that is so typical of a certain class, and which together with another case forms a picture of syphilitic myocarditis that was most interesting. Two patients were admitted to the hospital three or four days ago; the one a woman complaining of pains in the bones, worse at night, and presenting ulcerations and old scars in the upper tibial region. The scars were pigmented, and the ulcerations were punched out in appearance. There was no difficulty or hesitation in the diagnosis of syphilis, and as no case of syphilis had been presented recently, it was made the occasion for a brief description of this disease. While speaking the house physician informed me that after the clinic there would be an autopsy on a case that I had seen two days before. I went on to describe this case as being typical of fatal visceral

syphilis in a comparatively young person. It was a man who came to the hospital without a very clear history except that he had gradually failed in strength. He was well nourished, and had not the appearance of a very sick man as he lay quietly in bed, but an examination of the heart showed that the muscular sounds were feeble and greatly irregular in force and rhythm. The area of cardiac dulness was somewhat increased toward the left. He showed the same scars over the tibiae. At the autopsy were found in the heart areas of fatty infiltration, patches of whitish thickening and a pallor of the pericardium. The heart-muscle was flabby and there was a moderate degree of atheroma of the vessels. The other organs were fairly healthy, except that there was a moderate amount of fluid in the right pleural cavity. The man had died suddenly without warning, apparently from a failure of the action of the much diseased heart-muscle. This with the case of syphilis made a very striking and terrible picture and illustrated forcibly that type of myocarditis that occurs in comparatively young people from syphilis. It has been well taught that syphilis resembles in type the other infectious diseases, and, though covering a long course, can be compared at all points with the acuter diseases of this class.

The following case, seen in consultation, is a good illustration of myocarditis of a certain type. A man, 39 years of age, gave a history of having for a number of years had attacks of pain in the side, very severe but not very definite in location or constant in character. These attacks came unexpectedly, and between the attacks he felt perfectly well. The pain was not attributed to cardiac disease. However, for about two years he has complained of discomfort in the region of the heart, and at times of dyspnea on exertion. Still, he was not very sick, and kept on with his work as a builder. Two months ago the dyspnea gradually became much worse, so that he could not lie down, and he came under medical treatment. This dyspnea has never been entirely absent since, and he has developed a good deal of edema of the lower extremities. Physical examination shows a man of not unhealthy appearance, and fairly well nourished, but suffering from extreme shortness of breath, which is exaggerated by the slightest exertion. The heart apex is diffused, but is distinctly felt about two inches to the left and an inch below the nipple. The heart's action is rapid and fairly regular, the first sound being indistinct. In the region of the nipple, and also toward the axillary line, there is a short systolic murmur. The sounds at the base are indistinct, and no murmurs referable to the aortic valves can be made out. The pulse is rapid and feeble, the artery being badly filled. The left lung shows feeble breathing toward the base, which condition is more marked in the right, where some coarse râles are heard. The liver is markedly enlarged and tender, though there is apparently no fluid in the abdominal cavity. The legs and thighs are edematous, but there is no edema of the skin of the upper parts of the body. The urine is said to be fair in amount, contains a considerable quantity of albumin, but no casts. So we have a man 39 years old developing all the signs and symptoms of a heart that is enormously dilated, and which has lost the power of carrying on the circulation. An unusual feature of this particular case is that the heart's action, though having progressed so far toward complete failure, still remains fairly regular. The origin of myocarditis in this case is entirely obscure. The man's parents are living and well, so heredity can

be excluded. There is no history of specific disease or rheumatism and no abuse of alcohol. The man has worked hard, but apparently not in a way to impair his health. It is probable that there have been slight arterial changes, which have affected the coronary arteries out of proportion with the general arterial system.

Myocarditis is a penalty that comes to those who are intemperate, whereby the tissues of the body are either poisoned by alcohol or allowed to degenerate from disuse. It comes also to many who are intemperate in work and worry, whereby the heart is, as it were, worn out, and it comes last of all as a complication of inflammation of the endocardium or pericardium as a direct true inflammation. The exaggeration of the importance of valvular disease is only natural when it is considered that the symptoms are so plain that they are among the earliest that come to the attention of the physician and among the most striking that he ever encounters, while on the other hand the condition of the heart-muscle presents many difficulties in diagnosis and prognosis. Still, to the patient student of disease the heart-muscle will ever afford a fertile field for thought and observation.

A PLEA FOR A MORE RATIONAL PROGNOSIS IN CARDIAC AFFECTIONS.*

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The prognosis of many of the cardiac affections, both of the orifices and of the walls, is frequently given an exaggerated importance not commensurate with the real conditions present. The Father of Medicine has said: The art of physic is of great extent; life short, opportunity slippery, experience fallacious, and judgment difficult. The universal applicability of this dictum is acknowledged, but it is more truthfully applied to diseases of the heart than to any other of the many ills to which flesh is heir. There are so many factors to be considered in arriving at a definite prognosis, that the possession of excellent judgment, the use of accurate observation, and the power to survey the whole situation in a masterly manner, should be concentrated in every case of heart disease. In striving to render an accurate prognosis in this particular sphere of disease manifestation we should establish first, a true estimate of the nature and extent of the changes which have occurred; in other words, the development of the point to which we have briefly alluded, namely, a complete diagnosis. This should be based, not so much upon the physical signs, which are frequently deceptive and limited in character, but on a consideration of organs far removed from the thoracic cavity, whose relations while not intimate, yet are closely affiliated with the results arising from an interference with the circulatory system in consequence of the cardiac disease. Our thoughts should never be centralized on the heart itself to the exclusion of other considerations, which, even more than any conclusions derived from physical signs, may be of paramount importance in aiding us to arrive at a definite prognosis.

In the second place, we should obtain an accurate and comprehensive history as to the causation of the affection, whether produced by a recurrent or non-recurrent disease, the length of time it has persisted, whether

it was recognized subjectively, or became known to the patient during a cursory examination, in the line, for example, of life insurance, points which will bear further elucidation.

In the third place, make a close consideration of any special features characterizing the case in question. This last statement must always appeal to the careful diagnostician, for in the whole range of human maladies, there is probably no class in which the undefined personal equation is of so much importance, as in an accurate estimation of the prognosis of heart disease. Given two patients with, for example, a lesion of the mitral valve with exactly similar signs, and alike as to occupation and environment, and the course of the affection may be entirely different. In one the progress may be inevitably downward, despite the administration of remedies of known efficacy, while in the other, the structural integrity of the cardiac tissue may be preserved far beyond our expectations by appropriate treatment. It is stated, and with truth, that physical signs in heart disease can not, at all times, be relied on as evidence of the nature and extent of existing morbid changes and their tendencies. A too narrow reliance must not be placed on the indications afforded by close physical examination. The stethoscope will discover the "physical sign proper," the murmurs, and enable us to place them in the various classes of valvular defect from which they originate. But here its function ends; it does not inform us what is in reserve for this particular patient. Again, it is fully recognized that the quality of the murmur is no guide to the amount of valvular mischief present. The loudest murmurs frequently accompany inconsequential lesions, while at other times, the effects of a valvular defect may be too grave for the production of any murmur. A loud murmur is generally of less serious import than one which is weak and soft; for the former is indicative of force in the heart's action, while weakness of the heart constitutes the greatest of all dangers. Yet it must not be deduced that a soft or weak murmur necessarily signifies either a failing heart or a greatly damaged valve; still a diminution of the intensity of a murmur, gradual or sudden, may confirm unfavorable indications afforded by symptoms. A long murmur, except in a case of mitral or aortic stenosis, is usually an indication of early and comparatively slight disease and of efficient cardiac action, while a short murmur may be and generally is significant of impending danger. An accent at the beginning of a murmur shows that the valves still act as a check on the reflux of blood.

Each case then must be judged on its own individual merits, and this brings us back to our former contention, namely, that the intrinsic value of organs of similar structure varies in different individuals. Intrinsic strength and vitality are not simple qualities but are complex in character—so complex indeed that their consideration means the investigation not alone of the patient himself, but of his progenitors, the diseases of which they died, their power to overcome certain maladies, and to quickly succumb to others, the whole question of heredity, a topic of such immense ramifications as to be practically forbidden even in part, in a paper of the limited scope which I have the honor of presenting. Let me add in connection with this subject, that we are accustomed to note a hereditary tendency to the decay of certain external structures, such as the hair and teeth; is it not plausible to suppose that the internal and more vital organs

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follow the same course. Decay is hereditary as to cause, as to structure affected, and also, as to time. These are affected by the interaction of the constitution of parents whereby is produced either an accentuation of the tendencies in certain directions, with a diminution of vital powers in the offspring, or an increase of the vital powers, and the production of a corresponding force to maintain the system against the encroachment of disease, or when once disease has invaded the citadel of health, to fortify it against further advancement. A broad and comprehensive view then of all the factors, both recent and remote, both of health and disease, both of an acquired and hereditary character, must be taken before we can build a stable foundation on which the elements of a correct prognosis can be established. This is the only way in which the true gravity of a lesion can be measured, and we should always strive to determine, first, what has been its effect on the heart itself, then how far beyond its influence has extended. If it is found that a murmur is present, no matter at what orifice, and there is no change in that portion of the heart on which the strain is first exercised, and if it is also known that the murmur has existed a sufficient length of time for the effects of increased work to have been manifested, then it follows that the affection is stationary, and may remain so for an indefinite time. On the other hand, if hypertrophy or dilatation, or both exist, their degree is a test of the actual interference with the heart in its work. Due weight is also given to the condition of the pulse, the presence of dyspnea, or palpitation, or syncope, and to any evidence of interference with the pulmonary or systemic circulation, or of the presence of associated disease.

For the past year I have had visiting my clinic a man 25 years of age, a painter by occupation, to whom some five years ago, a most gloomy prognosis was given, after one examination, and that, from the description, not very carefully accomplished. He had been suffering previously to his coming to the clinic with palpitation, dyspnea and syncope, symptoms consequent on lessened power in the left ventricle. There was but very slight edema. The original lesion was a mitral valvulitis of a regurgitant character caused by rheumatic infection and signalized by a loud, blowing murmur heard over the apex and conveyed behind. There was present a moderate amount of dilated hypertrophy with the dilatation in excess. These symptoms had demonstrated themselves for years, and the very chronicity of the disease, combined with a careful uranalysis, and a searching investigation into his family history, led me to give a rather favorable prognosis.

Under appropriate treatment the heart has regained much of its lessening strength, the palpitation has disappeared, and his general condition so much improved that he has followed his occupation, that of a painter, for the past six months without intermission. The element of hope generated in this man's heart, by the rapidity with which his subjectively alarming symptoms were overcome, and the constant iteration of the fact that he would not "suddenly drop dead," as had been intimated to him, was not the least among the therapeutic factors which led to his partial recovery.

If at times the physical signs claim more than their share of importance, there are other occasions in which their significance is minimized, except to the skilled observer. This is particularly noted in men who have passed the meridian of life, whose general nutrition is failing, and in whom are to be found an occa-

sional attack of palpitation and syncope accompanying a feeble heart. These are dangerous symptoms and frequently portend a fatal termination from fatty degeneration. There is a third class found among those who are over-indulgent at the table, and whose systems, now and then, are swept by a wave of uric acid, and in whom gouty manifestations have not had sufficient time to develop those permanent changes associated with that disease. At the height of the attack physical examination will disclose an accentuated aortic second sound, accompanied by a passing insufficiency of the aortic valve with high tension and marked arterial pulsation. If one was to be guided solely by these signs, an inaccurate diagnosis would follow, with a very faulty prognosis; for the administration of suitable remedies rapidly divests the situation of its seriousness, and on the following day the vestiges of the storm are to be found in a headache, subsequent to the disappearance of the tension and other exaggerated symptoms.

In illustration let me briefly refer to the following case: Mrs. G., 32 years of age, with an exceptionally good personal and family history, was seized with an attack of acute indigestion, which rapidly developed into so-called "biliousness." She was a very hearty eater, and particularly fond of sauces and condiments. She had experienced previously several attacks of indigestion, but none so severe as the present. Her temperature was 104, pulse 120, bounding in character and with well-marked tension, the carotid pulsation being clearly perceptible. On auscultation, I discovered a marked insufficiency of the aortic segments, in fact a characteristic aortic regurgitation, so far as the physical signs denoted. I prescribed the usual diet and remedies and the following morning these symptoms of "pernicious activity" had entirely disappeared, and careful auscultation since, on different occasions, has failed to reveal anything abnormal about the heart.

The history of the first attack of endocarditis should always be thoroughly appreciated by the practical physician. It determines the length of time the affection has existed, as well as its tendency toward development. When the morbid condition originates in an acute specific disease, such as scarlet fever, and where a recurrence is not probable, the outlook is more favorable than when it arises from rheumatism, where each new attack may mean an extension of the endocarditis, or new foci of disease where previously none existed. It is impossible to determine during an attack of acute endocarditis what the ultimate outcome will be, whether it will rapidly disappear, and leave no recognizable traces of the acute inflammatory action, or continue for years and finally develop the sequelæ of advanced disintegration of cardiac muscular tissue. There can be no question, for it is a fact frequently confirmed by clinical experience, that resolution, with absorption of the inflammatory products, takes place with consequent disappearance of all physical signs. A murmur may persist for years, and gradually disappear, a fact that should have some weight with candidates for life insurance, who are gauged, naturally, by present conditions, the probabilities of the future disappearance of the murmur being altogether too vague, with the present standard of statistical calculation. The distinction which it is usually most important to ascertain, is between lesions originating in acute endocarditis which may be stationary, and possibly, retrogressive, and those produced by chronic, inflammatory, or degenerative changes, which are inevitably progressive.

However, I do not intend at the present moment to deal with the very interesting question of cardiac prognosis as applied to life insurance, but will postpone its consideration for some future occasion.

The more common results of endocarditis are the persistence of the inflammatory products; the young connective tissue develops into fibrous tissue, which as it develops contracts, and the valves becoming more or less thickened, their function is disabled. But while two hearts may be pathologically identical, clinically they may be widely apart. Some hearts are painfully susceptible to renewed developments of endocarditis with every fresh attack of rheumatism. There are others to which the first attack of endocarditis would appear to provide a certain safeguard, for no matter how many times the system may be involved, subsequently to the first invasion of rheumatism, the endocardium appears to be invulnerable.

In some hearts the area of endocardial inflammation involves but a small portion of the valve, and when the acute manifestations have passed away, the further progress of the disease is of an exceedingly chronic character. In others not only the endocardium, but the muscular tissue of the heart itself becomes engaged in the inflammatory process. In this connection it may be noted, that frequently in patients afflicted with inflammatory rheumatism, an increased area of cardiac dulness does not always mean pericarditis, for we have frequently a dilatation of the heart due directly to the rheumatic toxemia. This is especially noticeable in children, and often before the dilatation passes away, there is a recurrence of the rheumatism, further intensifying the original dilatation, and in time producing retrograde changes in the myocardium which gradually terminate in cardiac failure. This class of cases is frequently found with supposed lesions of the mitral valve, generally of a regurgitant character. We are apt to exaggerate its importance by ascribing the dilatation to its influence. But in all probability the greater part of the dilatation resulting from acute rheumatic attacks is not really due to the co-existing mitral regurgitation, but that both dilatation and regurgitation are persisting effects of the acute attack, the former due to its poisonous influences on the cardiac muscle, the latter to the synchronous endocarditis. I remember during my last year at the University and while on temporary service in Bellevue, having such a case come under my observation. In life there was found a loud blowing systolic murmur at the apex, accompanied by chronic dilatation. The patient finally succumbed to pneumonia. When the case came to autopsy, performed by Welch, now of Johns Hopkins, we found to our great surprise the slight damage to the valve was entirely too limited to satisfactorily explain the dilatation. The principal cause here of that condition was undoubtedly the original rheumatic attack. We should be on our guard then in attributing too much importance to the presence of a systolic apex-murmur, from the standpoint of prognosis, for more depends on the size and strength of the heart, the recognizable modification of structure to be sought for in the perversity of function, rather than in the close consideration of an individual symptom, no matter how prominent.

Let us suppose that the patient comes under observation some time after the original attack of endocarditis, it may be months or years, two, five, ten years, and that a murmur still exists indicating that at some time in the past the heart has been hampered in its

work. Prognosis, as has been said, then becomes a problem in proportion. If the heart is in a certain state at the end of a certain time, what will be its condition *ceteris paribus* in six months or in six years. The longer the interval that has elapsed since the acute inflammation, with more certainty can this be predicted. If in the same period one patient has arrived at the stage of dropsical effusion while another has a much enlarged heart which can still, however, overcome the obstacle to its work; and another is unconscious of disease, and there is but slight increase in the hypertrophy, and in yet another no change whatever has occurred, the inference can be drawn with a great amount of certainty, that as it has been in the past, so will it probably be in the future, disease that has advanced will continue to increase, that which has been quiescent will remain so still, and through the whole series the foundation of prognosis is time, and the changes it has wrought. The question as to sudden death is almost invariably asked by those who are personally aware of heart disease, and it is the duty and high privilege of the physician to be able to relieve the mind of his patient, that in all cases of valvular diseases, with one exception, that of aortic regurgitation, sudden death is a contingency which may practically be left out of consideration. Apart from this liability, aortic insufficiency is much more serious than constriction at the same orifice, because of the tendency to over-distension of the ventricle during diastole. In stenosis the arteries are scantily filled, and anemia of the brain is apt to develop on the slightest exertion. Those suffering from a single valvular lesion often do better so far as immediate relief is concerned, by having an incompetency of another valve added to that already existing. Thus in aortic regurgitation there is less liability, for the time being, to sudden death if there is a subsequent mitral incompetency developed. The regurgitation through the mitral orifice during the ventricular systole lessens the amount of blood passing into the aorta and therefore the force which distends the ventricle during the succeeding diastole.

In an analysis of 400 cases in which on post-mortem examination it was found the heart had undergone marked changes, in 151 there was definite valvular stenosis, without sudden death in a single instance, in the sense of the sufferer being overtaken by death while in apparent health; of aortic insufficiency there were 38 cases, 3 were brought to the hospital dead, a fourth died suddenly in the hospital; in 6 more the final symptoms came on abruptly and were rapidly fatal. Of 53 cases of mitral stenosis, only 1 was brought in dead. Those of mitral insufficiency or regurgitation were 49 in number; of these 2 may be said to have died suddenly, but both had serious symptoms and were under treatment in the hospital at the time, and in both the pericardium was adherent; in 3 more a sudden attack of dyspnea set in and proved rapidly fatal. Under the head of hypertrophy and dilatation only 2 sudden deaths were directly attributable to the state of the heart. When we come to fatty degeneration, the story is very different. In 9 out of 38 cases the termination was sudden; it is in effect to fatty degeneration that heart disease owes much of its terror of sudden death. It is the accumulation of years of insidious changes whose manifestations are in the beginning quite imperceptible, but they have a tendency to grow more intense from the persistence of the original cause. The nutrition of

the heart in these cases is markedly defective, and, unfortunately, in the earlier stages not recognizable, though a pulse of low tension and irregular with an occasional attack of dyspnea should put us on our guard, particularly in those who have passed the meridian of life. Of course, it is, I trust, fully understood that I do not refer to the acute manifestations of fatty degeneration, which may be found in idiopathic anemia, or in the course of phosphorous poisoning, but to cardiac degeneration of a fatty character, as we generally understand the disease. Personally, I do not believe this terrible disease exists at all in the proportion to which it attains in the mind of the physician, and I say the mind of the physician advisedly, for there it has its existence oftentimes, rather than in the heart of the patient. It is not an easy matter to make an accurate diagnosis of fatty degeneration of the cardiac muscular tissue, though it would seem as if some physicians have an intuitive perception of the changes taking place after a superficial examination. It should also be remembered that in autopsies where frequently fatty degeneration is supposed to exist, it is really rapid decomposition which produces an appearance of the pathological changes of that malady in the muscular fibers of the heart. I have dwelt on this affection at some length, because I have heard from others of its frequency. Of 255 cases of heart disease of all kinds which we have treated in our clinics in St. Joseph's Hospital, at the West Side German Dispensary of the New York School of Clinical Medicine, and in the Outdoor Department of St. Vincent's Hospital, as well as in private practice, during the past two years and a half, I find but 2 cases of fatty degeneration recorded, 1 occurring in a male, 64 years of age, the other in a man of 82; the symptoms at least would make a clinical diagnosis of the disease possible.

Of the aortic lesions there were aortic insufficiency 18, mitral insufficiency 95, aortic insufficiency and stenosis 45, mitral insufficiency and stenosis 74, 1 case of lesion of pulmonary valve, 6 of pure aortic stenosis and 14 of pure mitral constriction. Lesions of the right side of the heart are relatively rare, and they can scarcely be considered independently of affections of the heart or of the lungs.

It may be interesting in this connection to mention that mitral stenosis is much more frequently found in women than in men. Out of 53 cases, 38 were females, the balance in males. On the other hand, aortic insufficiency is more frequently met with in men. Out of 36 cases, 30 were in males, 6 females. I am also led to believe from my researches into the territory of cardiac diseases, as well as from personal observation, that pure mitral stenosis is a comparatively rare affection, and the same statement, with perhaps somewhat milder limitations, may be applied to pure aortic stenosis. In an analysis of 33 cases with pure mitral disease, the average age was 29, while the average age of 14 patients in whom the aortic valves were affected either with or without mitral disease was 41. This is a further illustration of the well-known fact that mitral lesions occur early in life as a result of endocarditis, while aortic lesions are found later, frequently the result of atheroma. In 27 out of 50 cases, there was a clear rheumatic history. In 5 cases the rheumatism was found associated with scarlet fever. In 23 cases there was no history, but this does not invalidate the supposition that rheumatism was the original factor, as we are apt to forget the diseases of infancy and early childhood.

Different affections of the valves have, inherently and mechanically, different degrees of tendency to the production of structural alteration. The time of life at which the lesion of the valve takes place is of great significance, a given valvular affection established in youth is apt to be survived with great hypertrophy, though it must not be overlooked that valvular disease appears to be more serious in early childhood than a few years later. The heart can not keep pace with the active growth of this period of life, and answer to the demands of hypertrophy, in whose development time is an important factor, as well as the mode of living.

The period after the occurrence of the valvular change, at which active exercise was undertaken, will have great influence on the condition of the cardiac walls and cavities.

In aortic obstruction there must be either increase in the propulsive power of the heart or diminished rate of circulation. The increased power is gained by hypertrophy, and I regard a direct aortic murmur accompanied by hypertrophy to be more serious than when the combination is not found, because in the former case the mechanical difficulty is sufficiently great to call for cardiac development. On the other hand, in aortic insufficiency a certain amount of blood returns into the ventricle at each systole, an increase in the force of the contracting power would not overcome this, but an increase in the capacity of the left ventricle brings about the desired result and thus helps to compensate for the regurgitation. Dilatation, which under all other conditions is injurious, is thus actually a compensatory change in aortic incompetency; it is totally different from the dilatation which is now and then met with as the result of structural weakness or degeneracy of the cardiac walls. There is also a demand for the exercise of force in the additional quantity of blood to be pumped at each systole, so in addition to the dilatation we must have hypertrophy. The case is different with mitral regurgitation. Here we do not find the same degree of dilatation or hypertrophy in the left ventricle, while in mitral stenosis there may be actual contraction. It is in aortic incompetency that the extremes of dilatation and hypertrophy of the left ventricle are met with, and they are apt to be the measure of the regurgitation in the absence of symptoms, such as breathlessness on slight exertion, faltering action of the heart, with tendency to faintness and vertigo.

In advanced life mitral regurgitation is common without actual lesions of the valves, and may come on suddenly after illness or overstrain, or approach insidiously. Mitral stenosis is the valvular affection which independently of inflammation or ulceration most frequently gives rise to arterial embolism.

Mitral stenosis is the gravest of all cardiac lesions, and especially if it develops after middle life. So far as the physiognomy of mitral stenosis is concerned, it is very deceptive, the subject of this affection frequently presenting every appearance of perfect health. Let me close with this interesting aspect of heart disease by stating, that the obliteration of the second sound is an element of pronounced gravity.

With aortic regurgitation is frequently associated angina pectoris, that terrible disease which Balfour has described, "as if a mailed hand grasped the chest in the cardiac region and squirted through its fingers flashes of excruciating agony," a disease in which the cumulative tortures of a thousand deaths are concen-

trated in one. The patient liable to such seizures is constantly walking on the edge of a precipice, not knowing the moment when he will fall into the depths below. It can not be said to be a disease-entity, as it is associated with so many conditions which give rise to abnormal distension of the cavities and consequent stretching of the nerve fibrils beneath the endocardium. The prognosis of true angina is extremely uncertain, and the wise physician will ever be chary of expressing a definite opinion.

CONCLUSIONS.

1. When a heart murmur is discovered, do not give a gloomy prognosis on that simple fact alone; consider the condition of the cardiac walls, the probable length of time the lesion has existed, the presence of dilatation or hypertrophy, or both combined. The occupation and temperament of the patient are very essential factors in the prognosis. Each individual is a law unto himself, and though certain general principles may be established as a basis on which to build a working prognosis, remember we have no real means of recognizing the strength of the individual heart except its power of resistance against the poisonous effects of alcohol and tobacco or the inroads of the acute or chronic diseases, or the stress of laborious occupations, or the debilitating influence of prolonged exposure. The diagnosis should be complete, the prognosis tentative. Or, as a distinguished English colleague has said: "Give your prognosis on the best suppositions, treat your patient on the worst." (Allbutt.)

2. Remember that murmurs do not invariably mean endocarditis, and a prognosis based simply on the presence of a murmur would be rank injustice to the patient, and demonstrate incapacity on the part of the physician. As a skilled observer has well stated: "With an apex-beat in the normal situation, and regular in rhythm, the auscultatory phenomena may be practically disregarded."

3. To those of us who are interested in life-insurance work, this is of great importance. We wish to be just to the applicant, and at the same time, do our duty toward the company. The fact that a man has a murmur at the apex, of which he is entirely unconscious, whose heart is doing its work thoroughly despite the existence of the lesion, whose occupation is not of an adversely laborious character, who has passed that period of life when acute rheumatic infection is liable to stimulate into fresh and renewed activity the latent inflammatory products of an ancient endocarditis should be factors to guide our judgment as to the probabilities of the future and prompt us in recommending for him a policy commensurate with the degree of cardiac inefficiency.

It should not be forgotten in this connection that a presystolic murmur does not always indicate the most serious of all lesions, viz., a mitral stenosis, nor has a so-called musical apex-murmur any particular significance in prognosis, indicating, as it does, the passage of a stream of blood through a small aperture in the segment of a valve.

4. From the standpoint of longevity, aortic stenosis is a favorable lesion, and the writer must differ from some authors who state that it appears for the most part after middle life. It is found at that period when a man should be at the highest point of physical capability, between 30 and 50. It is true that it is frequently present as part of a general decay, and then develops in consequence of atheromatous changes taking place throughout the system, but it is more frequently present

than has hitherto been suspected without such pathological manifestations being present.

5. Do not inform a young man between 18 and 25 that he has heart disease because you discover some hypertrophy with no complications, the result in most instances of active exercise. The writer knows of one individual whose heart is "athletic," a splendid specimen of manhood whose existence was embittered by the thought of heart disease communicated by a careless and injudicious physician. In this condition, it is, of course, understood that a careful consideration will be given to a large number of causes, independently of diseases within the heart itself, which may produce hypertrophy, for example, that typical enlargement of the heart co-existing with an interstitial nephritis.

Never hesitate to ask a patient to return for further examination, as the condition then may be entirely different from the first examination. There are more snap "diagnoses" made in the realm of cardiac affections than in the study of diseases in any other portion of the body.

DISCUSSION ON PAPERS OF DRS. SOLIS-COHEN, BISHOP AND MORRISSEY.

DR. FRANK BILLINGS, Chicago—These papers cover so much ground and there are so many who would like to discuss them that I will limit my remarks to a few subjects only. I desire to say something concerning acute endocarditis. This is a disease which is usually recognized, especially when classic. When acute in manifestation it presents many of the phenomena of the typhoid state and is accompanied by many definite anatomical lesions. But it is not always so; acute endocarditis, or subacute endocarditis, especially if of the vegetative or ulcerative kind, is not so easily recognized. All of you who have followed such cases through the hospital and to the autopsy table have recognized that fact, I believe. It has only been recently in the wards of the County Hospital that I have seen two cases of this kind. A Russian, 32 years of age, came into the ward suffering from anemia, with the consequent weakness, with an irregular type of fever. The anemia was apparently secondary and was very marked. The red cells fell as low as 2,000,000 to the cubic millimeter, and the hemoglobin to 30 per cent. Associated with this was a murmur over the heart at its base; this murmur was characteristic of aortic regurgitation. Under rest treatment, quiet in bed, the patient improved and was finally allowed to get up. In two weeks a relapse occurred; an examination showed, in addition to the murmur referred to, an aggravation of the anemia and there were microscopic amounts of blood in the urine. The spleen was palpable. The blood-pressure was low. Then for the first time I suspected the possibility of an acute endocarditis. The man died suddenly from hemiplegia. The post-mortem revealed a subdural hemorrhage and marked endocarditis involving the aortic valve. Another thing which we suspect when there is an ulcerative endocarditis, with a palpable and perhaps tender spleen, with blood in the urine, is multiple infarcts, but there was none in this instance. The hematuria and palpable spleen were due to a passive hyperemia. Recently there died in the hospital a patient who was in my care for a long time, but, who was under the care of Dr. Preble at the time of death. This patient lived for months with an ulcerative endocarditis, and emboli were constantly being sown from the heart. The patient was always clear mentally. The fever was not high and usually irregular in type. These two cases illustrate the fact that ulcerative endocarditis is not always classical in its symptomatology, and that it is sometimes difficult to recognize. In the Presbyterian Hospital recently was an Italian, unable to speak English, who came in in a typhoid state. The temperature ran on the second day to 105, but it suddenly fell to normal. The blood was examined for typhoid fever, for malaria, etc., but ordinary search did not reveal the source of the disease. The heart was weak and the blood-pressure was low. Associated with this was a murmur heard part of the time only over the heart. There was a

marked accentuation of the second aortic sound. Because of the low blood-pressure, I made a probable diagnosis of an ulcerative endocarditis. The patient died, and the post-mortem revealed an endocarditis and incompetency of the aortic valves; and yet there was an accentuation of the second aortic sound. This patient was in the typhoid state, with a low blood-pressure and had, part of the time, a murmur over the heart. Ulcerative endocarditis is a disease difficult to recognize and the general symptoms or condition are quite as important as the local signs. Among the local signs is a marked anemia, which occurs in those cases due to a toxemia. Another important sign is the low blood-pressure.

The next subject that I should like to refer to is not valvular lesions but myocarditis. This occurs in all valvular lesions sooner or later, but I shall not discuss that which occurs in valvular lesions. It also occurs in many toxemias and in all infectious disorders. It may be due to severe typhoid fever, and to pneumonia, and is recognized because of the weakness and failure of the heart. Myocarditis may be due to chronic toxemias, which are, in turn, due to gouty conditions and auto-intoxication. These cases of myocarditis present conditions which do not make the diagnosis easy. There are often no local signs. Such patients present nervous phenomena; they are very irritable. The business man changes in his disposition; instead of being earnest he may be frivolous, or he may not be able to grasp important business situations as he once did; or, instead of his mental powers being disturbed, there may be loss of digestive power. The diagnosis may be made of gastric disorder dependent on a weak heart. These things all become aggravated in a short time and the patient complains more after eating, when he has some fullness about the epigastrium, or some dyspnea. The dyspnea later increases and occurs when he is talking business or when excited. The compression then becomes actual pain. The pulse changes in its character and, perhaps, may not be more rapid, but slower. Congestions occur easily and there is associated malnutrition. Finally, dilatation occurs and associated with this all the phenomena that go with heart disease. The practical point is that, in these cases, especially of myocarditis, they require early attention. Frequently we can remove the cause and restore much of the heart power.

DR. DELANCEY ROCHESTER, Buffalo—The statement has been made by Dr. Billings, and I understood that Dr. Davis also made it, that acute ulcerative endocarditis was more frequently recognizable than not. I think it is most difficult to recognize. I think it is more frequently mistaken than any other form of infectious disease. I state this on authority and on personal experience. My personal experience has extended over fifteen years, and has occurred in three hospitals. During this time there were five cases of acute ulcerative endocarditis under different observers, that were not diagnosed until after death. The diagnoses in these patients were various. That the diagnosis may be made by careful study of each case is possible, and therefore these cases should be carefully investigated. There is one case that illustrates this fact; this patient was brought into the hospital, the General Hospital of Buffalo, on the surgical side for operation for an appendicitis. She was operated on and the appendix, although there was nothing diseased about it, was removed. The chief complaint was pain in the abdomen. There was a certain amount of fever which did not subside after the operation. She was removed to the medical side. The abdomen was distended and she still complained of pain in it. Careful manipulation and study of the case indicated a point of pain on the left side and in the upper zone, but toward the left chest; yet, nothing could be found beyond that but a distention of the bowels. This was relieved by the use of *asafetida per rectum*. The fever persisted. A careful study of the blood was made, typhoid fever having been suspected. There was no Widal reaction. There was a large amount of indican in the urine. Ehrlich's reaction was thought to be present, although there was some doubt about it. There was, however, on examination a marked leucocytosis. When we can find a very marked leucocytosis, of considerable degree, with no evidence of localized collections of pus, we should suspect the presence of ulcerative endocarditis. So far

as an examination of the heart was concerned there was no murmur whatever and no embolism occurring in any part of the body. The patient died undiagnosed, and the autopsy showed an ulceration on the ventricular side of the mitral valve, which had penetrated through into the other ventricle.

I believe that changes in the myocardium are exceedingly serious and are frequently overlooked. In chronic myocarditis we should take into consideration the general condition of the patient more than the local condition, so far as the heart is concerned; this means the condition of the pulse, the general nutrition of the patient, the condition of the arteries particularly, and also the condition of the heart, of which we may have more or less dilatation, more or less enlargement, and weakness of the sounds. So far as the various valvular lesions are concerned, two are serious, i. e., aortic insufficiency and mitral stenosis; of these aortic insufficiency is the more serious. The diagnosis of this condition depends on the diastolic murmur. Whenever I hear a diastolic murmur I feel that the case is always serious. Of course, in mitral stenosis the murmur may be decidedly diastolic. Right here, in regard to mitral stenosis, I wish to state that a presystolic murmur is less serious prognostically than a rough diastolic murmur heard in the same place. But, the conditions on which the prognostic value in these valvular diseases depends are not so much the local conditions of the heart as the condition of the general circulation. The condition of the arteries particularly is of great prognostic value; the more pronounced the changes there the worse prognosis must we give. Dr. Morrissey spoke of murmurs that had existed for a number of years; in my opinion a murmur that has existed a number of years is an organic murmur due usually to change in the ability of the valve to close the orifice; either a decided change in the valve itself, or the myocardium. If it has existed for several years and then disappears it is a much more serious matter than if it continued to exist; it shows a more marked weakening of the muscle itself.

DR. JAMES B. HERRICK, Chicago—The tendency to-day is to pay more attention to the muscle of the heart than to the valves, and I will place myself on the side of those who so practice. The time has passed also, when we make a diagnosis of lesions of the heart merely on murmurs that may exist. We have to take into consideration the secondary changes that follow each valvular lesion; the size of the heart; the alteration in the aortic and pulmonic tones; the condition of the pulse, both as to volume, tension and irregularity; the peripheral tone. All these things should be taken into consideration before determining as to the nature of the valvular lesion, whether it is organic or due to dilatation of the heart, or whether it is an accidental or functional murmur. More than that, we can not rest content with making a diagnosis of valvular lesion, but we must go further and ask what is the condition of the heart muscle. This is very important, because, as we have learned from the several papers read and the experiences related, such patients may live with apparently serious valvular lesions for years provided the muscle of the heart is capable of doing its work. This was impressed on me when I was called a few years ago to see a man, 67 years of age. As I was listening to his heart he said: "I know I have heart disease; Skoda told me so, but said with care I might live to be an old man." He had a valvular lesion which more than thirty-seven years before had been recognized by Skoda. In the clinic I recently saw and presented a case of aortic stenosis where the history dates back twenty-five years and only now is compensation beginning to fail. The principal question is how long may the muscle of the heart do its work, and what is the condition of the myocardium?

I certainly find it difficult in a case of acute rheumatism to speak positively of the condition of the myocardium. If I understood Dr. Rochester correctly, he stated that in cases of acute rheumatism he can diagnose an acute myocarditis by the endocardial murmur. It seems to me there is great difficulty in diagnosing acute myocarditis either in the course of an acute rheumatism or other acute infectious disease. Perhaps here we use different terms. What one would call myocarditis another would possibly call acute parenchymatous de-

generation of the heart. There may justly be some difference of opinion as to what is the significance of the murmur in acute articular rheumatism, whether it is a hemie or an accidental murmur, the murmur of an acute endocarditis or of a relatively incompetent valve, or of a true myocarditis.

I wish to mention, in connection with the diagnosis of chronic myocarditis, the importance of recognizing the etiological factors. And here I emphasize one fact already dwelt on, i. e., the importance of heredity. If we go back into the history of many of these cases we shall find striking instances of this, shown especially in the effects of sclerosis of the blood-vessels, in the early deaths from angina, cerebral hemorrhage, renal disease, aneurysm, etc. The symptoms in these cases of chronic myocarditis may be most pronounced, but occasionally cases are met with where, without preceding symptoms, there is sudden death. I have seen a man of 60 years die in his first attack of angina where there had been nothing previously to indicate the existence of heart disease.

In regard to the treatment of myocarditis there are two points to which I wish to call attention. Of the greatest importance is rest. And secondly, when in myocarditis dilatation has occurred, when all the evidences of marked incompetency are present, when death seems to be imminent, the patient cyanotic, with edema of the lower extremities, etc., bleeding is of great value. This treatment, with rest, will frequently restore temporarily the integrity of the heart.

DR. BERTRAM W. SIPPY, Chicago—Dr. Rochester has made the point that a leucocytosis occurring in an obscure case in which malignant endocarditis was suspected, was of great value in the diagnosis of that condition. A few years ago, it was supposed that leucocytosis occurred in all septic conditions; in the absence of an increased number of leucocytes, septicemia was not to be diagnosed. The more the condition leucocytosis is studied, the less constant appears to be its relation to the various infective processes. It is fairly well established that with the exception of typhoid fever, malaria, miliary tuberculosis and measles, leucocytosis is likely to be present in all acute infections. Sepsis is usually accompanied by a well-marked leucocytosis. Experience has shown, however, that even the severest sepsis may exist without an increase in the number of leucocytes. It has long been known that puerperal fever may be unaccompanied by leucocytosis. The same seems to be especially true of malignant endocarditis. Neusser, of Vienna, was probably the first to note that malignant endocarditis was prone to run its course without leucocytosis. Previous to 1895, he had observed six cases in which leucocytosis was absent. At that time, he was inclined to look upon the absence of leucocytosis as one of the characteristics of the disease. Since then I have observed four cases in which the leucocytes were not increased. A rapid reduction in the number of red blood-corpuscles, the presence of normoblasts and marked poikilocytosis are commonly found in malignant endocarditis.

DR. JUDSON DALAND, Philadelphia—During the winter I had the opportunity of studying a case of ulcerative endocarditis, which was also seen by Dr. Da Costa, who in this particular case, attached much importance to the presence of leucocytosis, the leucocytes numbering 40,000 to the cubic millimeter. It seems to me, however, that this sign will probably not prove to be of very great value excepting in ulcerative endocarditis unassociated with fever, as most cases show intermittent fever. The leucocytosis present could be ascribed to this cause alone, irrespective of what may have produced it. I was extremely interested in the case reported by Dr. Davis for the reason that he believed the source of infection to be through the intestinal tract. About one year ago I saw an instance where the disease had existed for a period of eight months; I saw the case about one month before death. The man was known to have been without the disease for years. Severe intestinal symptoms suddenly developed, after which the characteristic intermittent fever of ulcerative endocarditis appeared. It continued until death occurred eight months afterward. In that case we employed the antistreptococcal serum, first injecting 2.5 c.c., which was followed by a slight reduction of fever. A second

injection of 5 c.c. was followed by distinct evidence of weakness. After this 10 c.c. were used, which was followed by such marked evidences of collapse that it looked as though the man would die. The serum seems to be of value in certain cases of ulcerative endocarditis, but it should not be administered in those cases which have advanced so far that extreme weakness has developed, as the serum is itself able to bring about fatal collapse even in as small a quantity as 10 c.c. I was much impressed with the references made in regard to the prognosis in heart disease. I recall a case of aneurysm of the heart occurring in a man apparently in perfect health until twenty hours before his death. This man had no symptoms of cardiac disease and was insured by an insurance company as a good risk. The autopsy showed extensive fibroid changes occupying the interventricular septal region, covering an area about the size of a silver half dollar. Further examination showed extensive atheroma of the coronary arteries. The cause of death was a thrombus in the right coronary artery. The case reported by Dr. Billings was symptomatically a counterpart of one that occurred in the University Hospital, where there was a marked anemia, there being less than 2,000,000 red cells to the cubic millimeter and a systolic murmur over the apex; the recurring pyrexia brought up the possibility of an ulcerative endocarditis. The autopsy, however, showed no ulcerative endocarditis, but pernicious anemia.

DR. H. M. FUSSEL, Philadelphia—Other signs than cardiac murmurs are important in making a diagnosis of heart lesions. There is no question that students, and many men as soon as they leave college, believe that there can be no heart disease unless there are murmurs present; they also believe that unless there are heart murmurs present the case does not admit of any treatment. Of course, this is an error. The most common error made is that regarding the systolic murmurs at the base of the heart; it is almost invariably the case that when a student detects a systolic murmur at the base of the heart, he considers the individual suffering from an aortic stenosis. Of course, this is far from the fact. It is well known that serious heart lesions may exist without the presence of any murmur. A case occurred in my practice some years ago in which a man suffered from cardiac disease without symptoms of loss of compensation; during three or four years he was examined frequently and nothing was found in the way of a murmur. At the time of his death there was a dilatation so great that five fingers were admitted in the orifice; and yet there was no murmur.

The points in the treatment should be based on the condition of the pulse, whether regular, feeble, rapid or slow. Then one should consider the size of the heart, and I am sure many neglect to outline this organ. Any heart that extends from the sternum on the right to a point beyond the nipple on the left is certainly an abnormal size of the heart. The character of the first sound is very important. In cases of dilatation the first sound loses its muscular element and is very much like the second sound. The absence of the apex-beat frequently means loss of power in the heart muscle. Any accentuation of the first sound, a curious sharp short sound, is extremely indicative of stenosis of the mitral orifice. Regarding the point of Dr. Cohen about the so-called dilatation of the veins about the costal margins, I have often been asked by students what it means, and I always answer I do not know. I do not believe that it is a valuable sign in cardiac disease.

DR. ROBERT H. BABCOCK, Chicago—I desire to add a word concerning the importance of the myocardial changes in heart disease. The profession has paid too much attention to the mere presence of murmurs as indicative of endocardial lesions, and shows a tendency to forget the condition of the myocardium. The physician is apt also to forget the condition of the myocardium in rheumatism. The following figures are certainly very instructive in this regard. Dr. Pointon examined 154 cases of deaths occurring in children from rheumatic heart disease, and he found, among these 34 instances of myocardial changes; in 13 cases the heart muscle was soft and pale; in 4 cases there was fatty degeneration; in 8 instances the myocardium was described as fibroid in character. Furthermore, in

92 of these cases there was marked general cardiac dilatation. These figures are exceedingly important as bearing on the prognosis of rheumatic heart disease in children.

There is nothing more difficult in the line of heart disease than to make a prognosis. I often say it is like betting on a horse-race; yet by nothing so much as by his ability to make a correct prognosis is a physician's experience shown. Leaving out of consideration all extrinsic conditions and limiting ourselves to a consideration of the changes in the heart, whether in valvular disease or not, I think we must all admit that the condition of the myocardium influences the course of any given cardiac disease. Take aortic regurgitation; there is a wide difference in aortic insufficiency of atheromatous origin from that of endocardial origin, or an aortic regurgitation developing as a result of endocarditis at a period of life when myocardial degeneration is already present as shown by the condition of the peripheral arteries. It is in these cases particularly that the career is short and death is sudden. So it is with atheromatous mitral lesions. We know when the mitral disease is the result of a sclerotic process that these are the cases in which the prognosis is grave and there is little hope of re-establishing compensation when once it is broken. This is contrary to the experience found in mitral disease in the young when due to an endocarditis; in such compensation may be frequently broken and restored, in part at least. It is not so when the myocardium is diseased.

DR. JOHN A. WITHERSPOON, Nashville, Tenn.—It is extremely rare in my experience that an aortic stenosis kills by degeneration of the heart muscle itself; it is due to a degeneration in the blood-vessel walls, usually those in the brain, rupture causing death. Along with this we may have valve lesions with murmurs, but with the heart muscle little affected; nor does the condition of the valves of the heart affect the prognosis so long as the heart muscle is capable of performing its function. Regarding the treatment of organic heart lesions, unless compensation is broken, it is malpractice to treat that heart, with medicines, like digitalis. Hygienic care and strychnin are useful.

DR. S. SOLIS-COHEN, Philadelphia—Dr. Fussell doubts my explanation of the costal fringe. I distinctly said and now repeat that this sign is not infallible. I have seen it in many cases in which I could find no heart lesion. Nevertheless it is one of those signs leading one to suspect that there may be some undemonstrable disease of the myocardium. If it occur in a patient who has a persistent enlargement of the liver, or who shows a tendency to recurrent enlargement of the liver, we are certainly justified in considering the patient at least a cardiac suspect. In regard to murmurs, valvular murmurs are not the only organic ones. We may have a myocardial organic murmur, or a myocardial functional murmur. Disease of the papillary muscle, as well as disease of the muscular fibers of the ventricle or the auricle, may mechanically interfere with the closure of the valves and give rise to the phenomena of insufficiencies.

DR. LOUIS FAUGERES BISHOP, New York City—In regard to the question of loud murmurs, I wish to allude to a case of my own in which an autopsy was performed a short time ago. A patient was brought into the hospital and promptly died. There was a loud murmur present but the valves were normal; there was simply dilatation. Dr. William H. Thompson, of New York, reported a case in which there was an extraordinary murmur over the heart due to dilatation occurring in a muscular man from sudden exertion. It seems to be true that loud murmurs do occur from dilatations. It is not always possible to make a diagnosis before death in malignant endocarditis. I would refer to a case seen last winter in which diagnosis was obscure but where I believe there was septic disease in which the kidneys had participated. The conditions were very obscure. That patient had a murmur, but the symptoms were never prominent. At the autopsy I found the valves almost destroyed. This patient had been bed-ridden, kept perfectly quiet, for which reason the murmurs were not marked.

SURGICAL ASEPSIS OF THE URETHRA AND BLADDER.

WITH DEMONSTRATION OF A DEVICE FOR THE PURPOSE.*

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In view of the impossibility of scrubbing, soap-poulticing and rescrubbing the urinary tract; of the infeasibility of washing it with ether, alcohol, or antiseptics sufficiently strong to kill bacteria, it must be confessed that efforts to obtain surgical asepsis of this region remain still within the realm of remote hope. The problem, therefore, is how we may attain, as near as possible, an approach to asepsis of the field of operation. Until about seven years ago, surgeons did their best to this end with urinary diluents, with the administration of drugs by the mouth, in the hope that the antiseptics therein contained would be carried through the bladder and urethra, or that in the changes the drugs would undergo in the organism, urinary antiseptics might be evolved; and by washings of the urethra and bladder with mild antiseptics by means of capacious syringes. These methods have their evident shortcomings.

Urinary diluents and drugs per os, even if they could fully perform all that is wished of them, would no more than act intermittently, i. e., only at the moments of urination. But as they can not, except during instants, unfold the urethra, they can not at the very best exercise more than a superficial and evanescent local effect. I would not, however, proclaim them useless; on the contrary, they are valuable adjuvants to approaching asepsis, so necessary a concomitant to instrumental ingression.

The topical efforts made to cleanse the urethra by means of even large syringes, are necessarily limited by the mechanical difficulties that beset such work. The irregularities of even the normal urethra place its expansions behind normal or abnormal coarctations beyond the effective reach of flushings which can not be otherwise than of irregular force when administered by a piston syringe. Besides, the inevitable intermittence in these flushings materially curtails their effectiveness. Manifestly, then, the local endeavors required a method whereby these and other self-evident defects could be overcome.

As far as I can learn from a most thorough search in literature, it was my good fortune to be the first to propose, seven years ago, that all invasions of the urethra and bladder should be preceded and, whenever practicable, followed, by copious irrigations, at least of the urethra. It would be an insult to surgical intelligence if I claimed better asepsis for my instruments and hands than others attain, and it would be beyond the province of this effort to discuss the etiologic factors of urethral fever. The experience of the past seven years, however, during which I have never omitted irrigations after instrumentations, has fully rewarded me and those who follow the method I proposed. The conjoined experiences are not small in number and their outcome is that there has not been a single case of urethral fever to report. Among these were patients who before had been treated by men whose scientific

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attainments and skill I unhesitatingly envy. Not a few of these patients warned me that even an exploration of the anterior urethra, most delicately conducted by the finest possible instruments, was invariably followed by fever. I irrigated their urethras before and after instrumentation, and not the slightest elevation of temperature resulted.

These irrigations hitherto were performed by means of the apparatus I devised for the purpose and which several excellent authors have complicated since then. I can not but applaud the compliment so bestowed. If one or another forgot that I originated the device, I am sure the memory of my priority slipped away in the enthusiasm for good surgical work.

But the urethral and intravesical irrigator had its limitations. Although much smaller and far easier of manipulation than the irrigators employed before it was devised, its use was necessarily confined to cases treated in the office. In this regard I have no regret concerning its efficacy. But time and experience have

do not know me, that *this device is by no means intended to transfer to the patient the treatment of so dangerous a disease as gonorrhea.*

Another use in which the auto-irrigator proves convenient and effective is in those washings of the bladder and urethra which the physician may prescribe for patients who are obliged to catheterize themselves. While it would in every sense be better for the patient if this service were rendered by professional hands, it manifestly is impossible that prostatics be visited at least four times daily throughout catheter-life. These can be easily instructed to use the auto-irrigator, thus preventing the septic crimes that such patients continually commit upon themselves.¹

To sum up the salient conclusions on the subject, I submit: 1. Perfect asepsis of the urethra can not be obtained by our present methods. 2. Urinary diluents and antiseptics by the mouth are limited in their action. 3. Washings with piston syringes, however large, must



Fig. 1.—Irrigation in the standing posture.

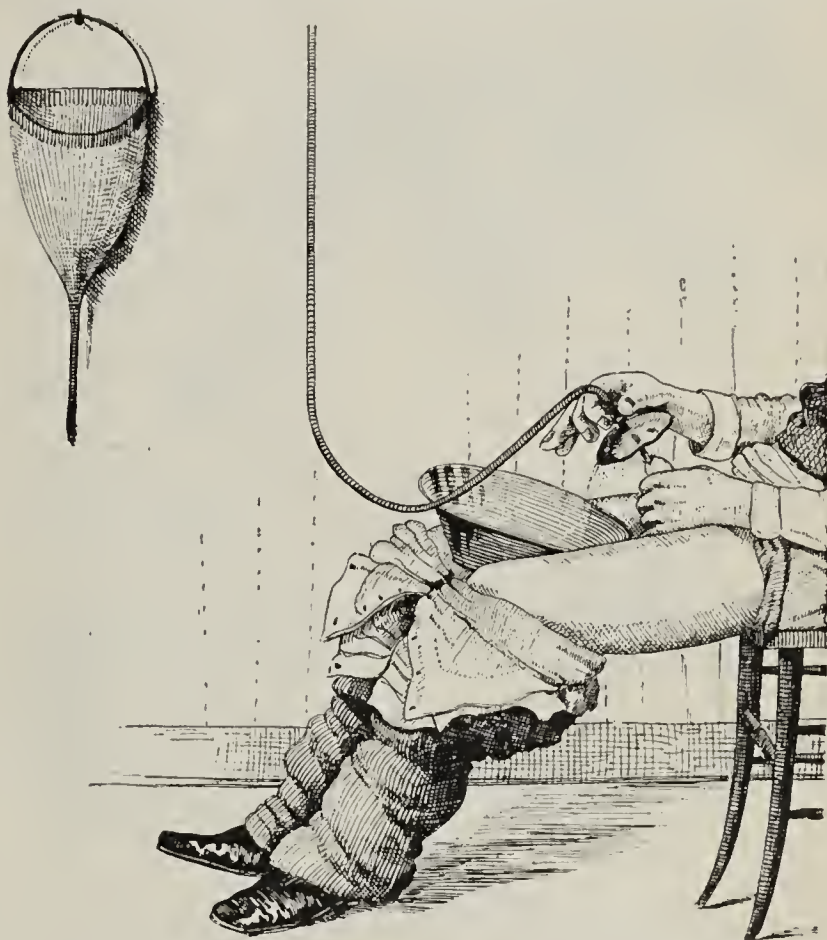


Fig. 2.—Irrigation in the sitting posture.

shown the need of another, much smaller, irrigator, that would occupy but a limited space in the instrument bag. Work, since June, 1899, on these requirements, together with those of simple construction, facile sterilization and easy manipulation, resulted in the auto-irrigator. Its essential features are a modified douche-bag, made in one piece with a tube 4 feet long, terminating in a shield and nozzle, the special finish of whose tip can not injure the most exquisitely inflamed meatus.

The device throughout is so simple that the technique of its employment can not merit even a moment's description. As it has, however, other uses, and very important ones, I shall take the privilege of adding them to this paper when presenting it for publication. I may say now, though, that besides preparation of the urethra for instrumentation, this device proves of value in the treatment of such patients with gonorrhea as can not, for any reason, visit the physician as often as is necessary for systematic irrigations. It then serves as a substitute for such office-visits as can not be made. But I insist on being correctly understood by those who

necessarily fall short of their purpose. 4. Asepsis of instruments and hands does not suffice to prevent urethral fever. 5. Urethral fever does not occur when instrumentation is preceded and followed by irrigations. 6. The irrigator I devised seven years ago and materially simplified since, effectively does the work required in the office. 7. The auto-irrigator, first exhibited before the Genito-Urinary Section of the New York Academy of Medicine at its meeting of March, 1900, and more fully demonstrated here to-day, enables the surgeon to perform urethral and intravesical irrigations anywhere. 8. The auto-irrigator is a useful adjuvant in the treatment of such gonorrheics as can not visit the physician with sufficient frequency. 9. The auto-irrigator offers the simplest method of preventing sepsis in those obliged to catheterize themselves.

The foregoing brief synopsis of the purely surgical considerations of the use of auto-irrigations, suffices to describe its purposes before the Section. For the convenience of general practitioners, I beg to submit more

¹ The auto-irrigator is made by the Miller Rubber Manufacturing Company, Akron, Ohio.

detailed discussion of the subject, especially calculated for those colleagues who have had no special training in the cases in which it is applicable.

Experience has shown that most cases of gonorrhea require irrigations twice daily for the first four days, then once daily for two or three days, and after that twice daily for three days. Those who obtain the most brilliant results owe them to the care and precision of their work. However enthusiastic they may be in consequence of such success, all must acknowledge that the necessarily frequent treatments are occasionally infeasible. Among the elements responsible for this are:

1. *The Patient's Occupation.*—Some men are prevented by their work from going to the physician's office twice daily, and some, because of their business, can not visit a physician even daily.

2. *The Patient's Means.*—Many men are unfor-



Fig. 3.—Preliminary washing.

tunately so situated financially that they can not pay for professional services twice daily, but having salaried appointments are not entitled to gratuitous services. Moreover, the hours at dispensaries are likely to be such that if men attended them they would lose their positions.

3. *The Physician's Work.*—Busy general practitioners are exposed to being called from their offices at any time and thus are prevented from keeping appointments with their gonorrheal patients. If general practitioners referred such cases, which they are perfectly competent to treat, to a colleague, even if he is a genito-urinary specialist, their reputation would suffer, unjustly certainly, but none the less truly. Moreover, if for any reason a gonorrhea is not treated at the proper intervals, the purposes of irrigation are entirely thwarted. In such cases recourse was until recently had to the little piston syringe, with all its limitations. Some practitioners, I among them, endeavored to overcome the difficulty by ordering large six or eight ounce syringes. Owing to the difficulty of their management and their inadequacy these proved disappointing.

Much of the preceding can be applied to those men whose enlarged prostate obliges them to evacuate the

bladder with a catheter. The cystitis that obtains in a majority of these cases requires bladder-washing after catheterism, before the catheter is removed. It is true that several two-way stop-cocks have been devised for the purpose, but they are somewhat complicated and their asepsis is by no means assurable.

To distinguish this little instrument from the apparatus known to the profession as the "Valentine irrigator," it is called the auto-irrigator. Its small dimensions and light weight make it unobjectionable to patients, who naturally have no desire to obtrude upon others the need of using it. Moreover, these characteristics make it an easy occupant of the instrument-bag, whenever urethral or intravesical irrigations must be performed by the physician at the patient's home.

The receptacle for the irrigating fluid has a capacity of 1500 c.c.—about three pints. Its wide top makes filling it easy, without any danger of soiling the floor with a solution that would stain, as for instance potassium permanganate. The back of the receptacle is flat, so that its contents are not likely to spill when the instrument is suspended from a wall. The outflow and shut-off are modifications of those described elsewhere.



Fig. 4.—Irrigating the meatus.

In this connection, I again call attention to the peculiar finish of the nozzle, which prevents any injury to the most sensitive meatus in anterior irrigations. Moreover, its conical shape fits any catheter, and consequently renders bladder-washings by this means very easy when required for patients obliged to catheterize themselves.

With a view of facilitating my colleagues' work, I have formulated a series of directions, which experience has shown to be needed. They are necessarily exceedingly simple, with only so much explanation added as will enable laymen to intelligently follow the physician's orders. Naturally they will often have to be modified to meet the requirements of individual cases.

DIRECTIONS TO PATIENTS FOR THE USE OF THE AUTO-IRRIGATOR IN GONORRHEA.

These directions may appear complicated and perhaps difficult of execution. They are intended as suggestions for the physician only, and he will show the patient how to follow them easily and painlessly. Their complete and correct execution, even by an awkward man, requires less than five minutes. It seems desirable to be very explicit, so that a physician with little experience in the treatment of genito-urinary diseases may have no more difficulty in imparting the necessary instruction than one who does not need these directions. They naturally can apply only to the generality of cases; special circumstances may arise that will require essential modifications. Primarily, the patient should be impressed with the fact that his interest lies in strict compliance with his physician's orders, so that recovery be expedited and the dangerous complications and sequelae of gonorrhea avoided. Quite frequently

patients will relate that they or their friends successfully used this, that, or the other preparation in gonorrhea. It should be made clear to them that two instances of the disease may appear almost identical and yet require far different drugs in their successful treatment. It will be well to write the directions for irrigations for each case in addition to drilling the patient in their performance. Those that apply generally are noted below; the magisterial tone in which they are written is adopted for brevity.

1. Direct the patient to screw a cuphook into a door or window-easing, at the point he can comfortably reach without painfully stretching his arm. If irrigations are to be performed in the standing posture; the above point is sought while the patient stands. If irrigations are to be performed while the patient sits, he should measure the height of the hook in the corresponding way, i. e., seated on the chair intended for use during irrigation.

2. Have him fill the irrigator with boiling water and hang it on the cup-hook.

3. Show him how to fasten the catch of the shut-off and place the nozzle and shield so that the hot water which will then flow out, escapes into a basin or any other convenient vessel.

4. While the hot water is escaping, prepare the solution that is to be employed (see below, "formulary").

5. Order the patient to as completely empty the bladder as he can, and explain that the purpose hereof is to prevent immediately washing away that part of the solution which is left in the urinary channel after irrigation.

6. Direct the patient to drop his trousers and drawers to below his knees, and to fold his shirt and undershirt upward, so that they will not interfere with the work or become soiled by the fluid, if he should be careless in its use. A further good precaution is to tie one towel about his waist and another around each leg, to positively prevent his body being soiled.

This can be simplified by the use of a piece of rubber sheeting twenty by thirty inches, with a tape tied to each upper corner and a hole two inches in diameter cut through the part over the penis. The penis can then be drawn through this hole, and the irrigation so performed.

7. Release the catch on the clamp, which allows the latter to close, and so shut off the rubber tube.

8. The solution to be used is then poured into the irrigator.

9. Have the patient stand or sit—as may be preferable—before the irrigator or toward its side. If the patient is to stand, have him place a tin or enameled basin on a table at such a height that his penis will comfortably rest on its margin. If irrigation is to be performed in the sitting posture, have the patient hold the basin with his thighs, at such an angle that the penis lies on its margin. If it is preferred to have the patient use the apron-shaped rubber sheeting described above (see 6), have him fold the ends of the apron so as to conduct the flow from the penis into a pot, slop-bucket or water-closet with the seat raised.

It will be well to impress on the patient that he must never use a stationary wash-basin or bath-tub for this purpose, as it may expose others to dangers to health and life, which can be prevented by a few simple precautions. Any patient who is unwilling to guard others from this unfortunate disease could be placed under a species of quarantine with more reason than sufferers from yellow fever are now subjected to restraint in this climate. It is true that many men have survived many attacks of gonorrhea, but sad experience has shown that many have died from joint, brain, heart and abdominal diseases due to this affection. Therefore, a being who directly or indirectly communicates it to another is worse than a murderer.

10. Instruct the patient to take the penis in his left hand.

11. Place the shut-off in his right hand, and lightly press its bars with the thumb and index finger. This will let a slight stream of the fluid escape.

12. Order him to direct the stream against the outer surface

of his foreskin, and to turn the penis about until all the outer part of the foreskin is thoroughly cleansed.² When this is done, have him direct a stronger stream to the opening of the foreskin, until its folds are clean. Then slowly draw back the foreskin and, as each part of its mucous (red) portion comes into view, have him wash it in the same manner. When the foreskin is entirely turned back, have him wash the glans, the coronary sulcus—depression around the head of the penis—and then the sulci—little depressions—at each side of the frenum—bridle.

13. After the foreskin and glans are cleansed, cause the patient to direct the rubber tip of the irrigator to the lips of the meatus—opening or mouth of penis—until they are entirely clean.

14. Show him how to press the left thumb and index-finger upon the upper and lower surfaces of the glans. This will open the meatus. Into the so opened meatus have him direct a gentle stream until it shows its clean, red mucous lining. Direct him to approach the rubber tip closer, as he gradually increases the force of the stream, until the soft rubber tip is within the meatus.

15. Direct the patient to continue pressing the bars of the shut-off slowly together until the full force of the stream is obtained, or if a disagreeable tension of the urethra results, have him check the force of the stream. Warn him that he must not wedge the soft rubber tip into the meatus so tightly as to prevent the outflow of the fluid.

16. With a little care the patient can be taught to so hold the tube and the penis that the fluid spurting from the meatus will be caught by the shield and directed to the pan or apron. Consequently no portion of the room, of his garments or his hands need be soiled.

17. Have him cleanse his hands thoroughly with a stiff brush, hot water and soap.

18. Show him how to soak a piece of absorbent cotton in bichlorid solution, 1 to 6000, or 1 to 10,000, and place it on the glans to cover the meatus, drawing the foreskin forward to hold the cotton. If his foreskin has been removed, or if it is too small to retain the cotton, teach him to fasten it in place with a two-inch gauze bandage. If bichlorid irritates the glans, order the patient to use a saturated solution of boric acid instead.

19. Impress on the patient that when he goes to urinate he must throw the cotton that has been on his penis into the water-closet or, better still, burn it. After each urination, he must apply fresh, clean cotton, as above directed, and wash his hands thoroughly thereafter.

20. Teach the patient to cleanse the irrigator after each irrigation, by passing boiling water through it; the shield and rubber-tip by first washing in hot water and soap, and then scrubbing them with bits of cotton soaked in strong bichlorid solution—1 to 1000. The instrument must be dried before it is put away, and the clamp should be forced open by means of the switch, so as to save the tube from wearing at the compressed point.

Throughout the foregoing instructions the patient should be especially warned that when performing any part thereof, he must not approach his hands to any portion of his face, nor use his handkerchief, lest by either means some of the discharge be carried to his eyes.

THE SOLUTIONS USED.

As circumstances may oblige the physician to instruct a patient in the preparation of irrigating solutions, I here note the directions in this regard, which are ordinarily used in such cases. Naturally the selection of the drug employed must be governed entirely by the special conditions that prevail in each case.

In the vast preponderance of cases, permanganate of potassium is as yet used in the treatment of gonorrhea. The most convenient form of using this drug is in

2. Younger practitioners will do well to avoid the use of technical terms, even toward well-educated people. The method of giving directions to patients, that seems to appeal to the majority, is to use the ordinary expressions, coupled with correct anatomic designations, when they differ from those commonly employed.

2-grain tablets.³ The necessary number of tablets may be dropped into a clean tumbler of cold water and crushed to hasten their solution. The irrigator may then be filled or half filled with water, as hot as can be comfortably borne by the finger, and the glassful of solution poured into it. Great care should be taken that no undissolved particles of permanganate remain, as they will burn the urethra.

For convenience of calculation, the following sufficiently accurate table is offered:

	Potas. Permang.	Water.
1 to 12,000.....	1 two-grain tablet	to one quart.
1 to 6,000.....	2 two-grain tablets	to one quart.
1 to 4,000.....	3 two-grain tablets	to one quart.
1 to 3,000.....	4 two-grain tablets	to one quart.
1 to 2,000.....	6 two-grain tablets	to one quart.
1 to 1,000.....	6 two-grain tablets	to one pint.
1 to 500.....	12 two-grain tablets	to one pint.

Only in very rare cases will a quart of 1 to 1000, and only most exceptionally will a quart of 1 to 500 solution be required.

OTHER SOLUTIONS FOR IRRIGATION.

Silver nitrate is used in solutions of from 1 to 10,000 up to 1 to 500.

Mercuric bichlorid is employed in solutions of from 1 to 50,000 up to 1 to 5000.

Cupric sulphate is made use of in solutions of from 100 to 1000 up to 250 to 1000.

Largin, of the new silver preparations, is the richest—11 per cent.—in silver and seems thus far the most effective while gonococci are present in the urethra. The solutions used are from .25 to 1.5 per cent. Owing to the difficulty of correctly making these solutions, and the necessity for precision, it is best to have them made by a pharmacist in double the strength required. The patient can then dilute the solution with hot water to the quantity and temperature needed. Pezzoli,⁴ who first advocated largin, recommended that it be retained at first for five, and later for fifteen, minutes. The difficulty of doing this and the use of a clamp for holding it in the urethra suffice to make this drug unpopular. If used in irrigation its ends are accomplished without this complication.

Mercuriol, the newest gonococcicide, seems to promise even better results than the silver preparations. Its use in urethral irrigations may be safely begun with a .25 per cent. solution. The results obtained by irrigations of mercuriol have been elsewhere published.⁵

As mentioned before, the selection of the drug to be employed in each case is governed by the conditions which prevail.

INTERVALS BETWEEN IRRIGATIONS.

The tables carefully worked out in "The Irrigation Treatment of Gonorrhea; its Local Complications and Sequelæ,"⁶ show the precise intervals which should elapse between each irrigation in acute and chronic gonorrhea. It therefore seems unnecessary to repeat them here in detail. It will suffice to note that experience has shown no good results from irrigating with potassium permanganate, silver nitrate, mercuric bichlorid or cupric

sulphate oftener than every twelve hours in the beginning of gonorrhea. Largin, however, does no harm if used three times daily, while mercuriol irrigations sometimes prove efficacious when used every five hours during the day.

The technique of intravesical irrigation has been so fully discussed elsewhere by the writer that it need not be repeated in connection with the auto-irrigator. Only most exceptionally can a patient be entrusted to perform it, and even then with a degree of risk which few physicians care to incur. The majority of patients can, however, be taught to properly administer urethral irrigations to themselves, provided they can not, for any reason, visit the physician to have them done. The need of intravesical irrigation obliges even the most reluctant patient who has been taught the use of the auto-irrigator to visit his physician once on the third, fourth, ninth and tenth days. In addition to assuring the proper treatment on these days, the patient has the advantage of frequent examinations, during which the inception of any complication is observed and its consequences averted before they may become serious.

When intravesical and anterior irrigations are required on the same day, the former should be administered first, lest some of the stronger irrigating fluid left in the urethra be carried into the bladder, thus possibly producing cystitis.

With some men the compressor—muscle that holds back the urine—so easily relaxes that the fluid used in anterior irrigations enters the bladder, without any effort on their part. These persons should take their anterior irrigations sitting, with a hard towel knotted under the perineum—behind the testicles. Where this does not suffice to keep the fluid from entering the bladder, the patient can not be allowed to ever attempt to irrigate himself.

Occasionally a case is seen in which the discharge and all other evidences of disease disappear after one, two or three irrigations. For safety's sake the whole ten days' course of irrigations should be continued. And even then the patient must be warned not to deem himself cured until negative results have been obtained by the tests detailed elsewhere.

Should a patient apparently have recovered from gonorrhea, and then without any cause the discharge appears again, it is due to an infection of some of the organs in connection with the urethra. All practitioners should warn their patients that if the discharge should so appear while they are traveling they should seek advice as soon as possible from another physician if they are prevented at once from reaching their own medical adviser.

ACCESSORY PRECAUTIONS.

As the greater part of this paper is written for physicians whose experience with gonorrhea is somewhat limited, the principal precautions that a gonorrheal patient should observe are, for convenience, here placed together.

Food.—The diet should be nourishing and no changes made from the patient's habitual food. Articles difficult of digestion should be avoided, as should also late suppers.

Drinks.—All alcoholic drinks—whisky, brandy, beer, wine—should be positively forbidden. So also should all carbonated drinks, such as Vichy, Seltzer, soda-water, ginger ale, sarsaparilla, etc. An exception is made in reference to people who are habituated to stimulants with their food. Lest their ability to take the

3. Patients have informed me that druggists occasionally offer for sale what they call "Valentine's tablets" for the treatment of gonorrhea. On investigation I have found these to be nothing but 2-grain permanganate of potassium tablets, distinguished only by an exorbitant price. Physicians should explain to patients that such abuse of the author's name is always unwarranted, and always springs from the cupidity and avarice of an unscrupulous dealer.

4. Pezzoli, C.: Wiener Klin. Woch., Nos. 11 and 12, 1898.

5. Phila. Med. Jour., May 12, 1900.

6. Published by Wm. Wood & Co., New York, 1900.

necessary nourishment be diminished, they may be allowed a glass or two of light claret at meals. Large quantities of water should be drunk, say a gobletful every two hours; or similar quantities of milk if patients prefer it.

Bathing.—The habitual daily bath need not be omitted because of gonorrhea. But to protect the eyes of the patient and those of other persons who may use the bathtub after him, he should, before bathing, cleanse the penis with absorbent cotton soaked in bichlorid, 1 to 6000, cover its head with cotton similarly soaked, and then draw a well-fitting condom over the entire organ.

Exercise.—While the patient should not indulge in vigorous exercise, he should walk in the open air enough to keep his general condition as good as possible. Bicycling, horseback riding or athletics in any form can not be allowed.

Suspensory bandage.—Every patient with gonorrhea should be advised to support the testicles continuously in a well-adapted suspensory bandage. It should have "back-straps" that pass between the thighs.

Stains from potassic permanganate.—Should patients, through awkwardness, stain their fingers with potassic permanganate, they will naturally desire to remove the stains. They may be instructed to use oxalic acid for this purpose, and duly warned to carefully wash the hands after its use.

AUTO-IRRIGATIONS IN PROSTATIC ENLARGEMENT.

It will at once occur to my colleagues that this apparatus must prove exceedingly useful in preventing the too frequent, sad results of self-catheterization as employed by old gentlemen with prostatic enlargement. It is perfectly true that many of these do not exercise even the precautions of ordinary cleanliness, despite which for a course of years they continue to live comfortably and are as well as is possible with such an ailment. But the many who die in consequence of infection are sufficient cause for deep regret to the physician, who was obliged to yield to their importunities to be allowed to relieve themselves.

In cases in which the feasibility of radical operative procedures is doubtful, or when the patient refuses to incur their risks, infection can be avoided by the following method of aseptic catheterization: Instruct the patient

1. To cleanse the mouth of the penis with absorbent cotton soaked in bichlorid, 1 to 6000.
2. To half fill the irrigator bag with warm 4 per cent. boric acid solution.
3. To wash out the urethra as directed above.
4. To insert the catheter.

After the bladder contents have passed off through the catheter;

5. The irrigator bag should be filled with a warm solution of boric acid, 4 per cent., silver nitrate, 1 to 2000 or 1 to 3000, or potassic permanganate, 1 to 6000—whatever solution the physician deems most desirable in the special case.

6. The nozzle of the irrigator is then to be inserted into the mouth of the catheter, the fluid is allowed to enter for a quarter of a minute, then the nozzle is removed to let the fluid escape from the catheter to cleanse it—this is repeated several times, until the fluid that comes from the catheter is quite clear.

7. Then the tip is reinserted into the mouth of the catheter and the liquid allowed to flow into the bladder

until that viscus is comfortably filled—in some cases a smaller quantity is indicated.

8. The nozzle is then removed, and the bladder contents are allowed to escape.

9. Maneuvers 7 and 8 are repeated until the liquid flowing off is quite clear and transparent—in exceptional cases this can not be attained.

10. After the last emptying of the bladder as above, the liquid is allowed to flow into the bladder continuously for half a minute, then, without removing the tip from the catheter, the latter is slowly drawn out of the channel, which is washed by the fluid as it escapes during withdrawal of the catheter.

The above general directions must necessarily suffer modification according to the individual requirements of each case.

In conclusion I beg to submit: 1, that the auto-irrigator offers a safe and convenient means of anterior urethral irrigation in gonorrhea, when the patient can not visit his physician for the purpose; 2, that the auto-irrigator furnishes a convenient addition to the instrument bag for performing ante-operative and post-operative irrigation of the urethra and bladder; 3, that it is a most convenient apparatus for aseptic catheterism.

31 West Sixty-first Street.

TREATMENT OF PROSTATIC HYPERTROPHY.*

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Prostatic hypertrophy causes misery to a large proportion of men in advanced life, and results in such serious consequences that we must welcome every effort that is made to our means of curing or relieving its unfortunate victims. Fortunately much has been accomplished in this direction of late, and the author wishes to take this opportunity to present a new device that aids in the operation for radical cure.

When the prostate gland becomes enlarged it sooner or later acts as an impediment to the emptying of the bladder. In some cases it causes but little obstruction; in others it prevents the passage of the urine till the bladder is filled and distended, when the urine may constantly overflow by dripping, which is a condition often mistaken for incontinence of urine; or the bladder may be partially emptied by the act of urination, but it can not expel the last part of its contents, which portion, known as the residual urine, remains in the bladder and becomes a source of trouble, as will be shown later. When the obstruction is established the bladder is called upon to exert an extra amount of force and the muscles become hypertrophied and the bladder-wall thickened. Later the muscles degenerate and, when the obstruction becomes more complete, the bladder becomes dilated and atonic. Finally, from the damming up of the urine, the ureters become distended and dilated and open up an avenue for infection of the pelvis of the kidneys. Infection of the residual urine and a consequent cystitis are produced after the obstruction has lasted a variable time, and it is then that the patient becomes one of the worst sufferers imaginable. Usually the cystitis will be brought about by infection through catheterization.

Until comparatively recently it was not known that hypertrophy of the prostate could be radically relieved; in fact, all attempts in that direction had failed or

* Presented to the Section on Surgery and Anatomy, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

had been found to be so dangerous that they were abandoned as recognized procedures. So the only relief offered to the patient was that which could be given by the use of the catheter, and the degree of this varies immensely. Some who are leading the catheter life suffer merely from the annoyance and discomforts of having to use a catheter. Others are wretched from start to finish, because they become readily infected and are constantly passing from one attack of cystitis to another, perhaps spending their entire time, day and night, in futile attempts to empty the bladder, and suffering pain and torture which are frequently beyond endurance. In such cases much relief can be afforded by proper surgical care, but it is only after tedious treatment, and it is only with the prospect of the patient soon passing through another acute attack of the trouble.

After prostatic hypertrophy is established nothing can afford permanent relief to the patient except some procedure which will remove the obstruction to the outflow of urine. Many useless procedures have been suggested and tried whose end was the cure of the hypertrophy of the prostate, but so far there remain but two methods which deserve favor in the minds of the profession. The first and most radical is some form of prostatectomy. The second is the prostatotomy performed by means of an electric cautery knife, known as the Bottini operation. This latter does not pretend to

gathered from reported operations, have shown for this procedure a fatality so great as to condemn the operation if this death-rate must be conceded to be the normal or necessary one. The author believes that this death-rate is not owing to the fact that the operation itself is a very dangerous one, but to the fact that the patients, when operated on, have been unfit subjects for almost any surgical procedure. When prostatectomy can be performed safely and properly it results in an absolute cure of the patient, and it is the only method for which this may be said. The author has operated on patients who were unable to obtain relief by the catheter and by bladder washing, who suffered most excruciating agony night and day, who had a number of ounces of residual urine and the highest grade of cystitis. The result invariably was complete cure of the cystitis and complete restoration of the bladder function, so that the picture would be reversed, from that of a man who every fifteen minutes or half an hour passed a small quantity of bloody, infected urine, and whose bladder had several ounces of residuum, to one of a man who could hold his urine from six to eight hours and then absolutely empty his bladder with comfort, and whose bladder was free from any evidence of infection.

The above gratifying results are certainly all that can be asked for, and it only remains that we shall be able to bring them about with a reasonable degree of



38 French Scale.



Dilated to $2\frac{1}{2}$ Inches by Water.
Parker Syms' Bladder Retractor, for Perineal Prostatectomy.

remove the hypertrophy of the prostate nor the gland itself. It is intended merely to effect a lowering of the urethral canal by dividing the prostatic portion in such manner that the bladder is able to empty itself voluntarily. The Bottini operation was devised over twenty years ago, by Enrico Bottini, of Pavia. At that time he published an account of the instrument used, and his results; the proceeding was rather extensively tried, but for some reason was abandoned. Recently it has been revived, and to-day it has many enthusiastic advocates who make great claims for it. The author has had no personal experience with this method of treatment, but it is advocated by such able men of late that he has fully determined to investigate it and try it for himself. It is an operation involving but little risk to the patient, and if it affords the relief claimed it is certainly of the greatest value. The most enthusiastic advocates of this method, however, do not claim that it will effect a cure or great improvement in all cases, and they concede that it yet remains for us to be able to distinguish just which class of cases are adapted to it and which are not. It still remains to be demonstrated how lasting or permanent the improvement may be in cases which have been benefited by the proceeding.

A line of treatment in which the author has had experience is prostatectomy, and his results have been so gratifying that he has been led to feel that this operation is one of the greatest achievements of modern surgery. Unfortunately, at the present time the statistics,

safety. It certainly is not doing justice to the patient, nor to the operation itself, if we undertake this procedure as a last resort. The author claims that the proper time to do prostatectomy is before great damage has been done to the bladder, urethra and kidneys; in other words, it should be performed as soon as it be determined that the habitual use of the catheter will be necessary. If that be the case one will be operating on a patient at his best instead of at his worst. The operation itself certainly is not a dangerous one, and in proper subjects the results should be very good and the mortality-rate low. The author would not advise operating on men who are physiologically very old, in other words, men whose arteries are markedly degenerated, whose circulation is poor, and who are decidedly feeble, but in the ordinary man of 60 or 65, whose bladder is still in good condition, the operation can probably be performed with safety.

In a paper entitled "Prostatectomy," which the author read before the New York Surgical Society, Nov. 9, 1898, he advocated the perineal prostatectomy of Alexander as the preferable method of those then in vogue, but he expressed his objections to the performance of the suprapubic cystotomy, and proposed that, instead, one should make a small opening in the abdomen above the bladder fold of the peritoneum, and through this wound he could push the prostate, bladder and all, down toward the perineum, so that, with the other hand, he could enucleate the lobes of the prostate.

Since writing that paper, he has operated through the perineum, but without making any wound above the pubis. In one case he was able to crowd the prostate down by manual pressure from above, because the abdominal wall was thin and easily impressed. In another case he succeeded in reaching the prostate and enucleating its three lobes by means of a special retractor, which he devised and now presents. It consists of a rubber tube made of the size and consistence of the ordinary perineal drainage-tube, on one end of which is cemented a thin rubber bulb; the bulbous end is inserted into the bladder through the membranous portion of the urethra, which has been opened, as after Alexander; when the bulb is well within the bladder it is dilated by being filled with sufficient water to expand it into a bulb $2\frac{1}{2}$ inches in diameter; then traction can be made on the strong rubber tube sufficiently to bring the prostate into the perineal wound within reach of the finger, enabling the operator to perforate the capsule and to remove the gland. The operator has used the straight median incision, not having found it necessary to use one of the transverse or curved incisions of Zuckerkandl, Dittel, or Rydygier, but in certain cases one of these incisions would have great advantage over the shorter ones of the median line. The point the author wishes to make is that prostatectomy can readily be done entirely through the perineum, and that it should not be combined with a suprapubic cystotomy. The author feels that the perineal drainage of the bladder is of importance when a cystitis is present, but that it is not a necessity otherwise, and if the patient presents himself for operation before cystitis has been established the operator should endeavor to remove the prostate without opening the urethra or the bladder.

In closing, the author wishes to urge upon his confrères the importance of the early recognition of obstructing prostatic hypertrophy, and also that they should submit these patients to a radical operation before the cystitis, prolonged pain, infection and fatigue have put them in a condition where they are unfit to undergo a surgical operation.

DISCUSSION ON PAPERS OF DRS. VALENTINE AND SYMS.

DR. C. C. THAYER, Clifton Springs, N. Y.—The paper on "Surgical Asepsis of Urethra and Bladder" is valuable, not only in showing how inflammatory conditions may be prevented in these organs, but cured. Cystitis is microbial in origin, and suppurative in character, the sine qua non being infection. The initiative and predisposing cause is structural change, and the provoking and perpetuating cause is inoculation with microorganisms, the vesical inflammation being instigated by bacterial infection and determined by circumstances. The urine is the medium of intelligent diagnosis of the presence as well as of the particular phase of cystitis; but considering the many pathological conditions that may affect the character of the urine after it passes the bladder the exact condition of the lining of the bladder can not be accurately diagnosed from urine passed in the normal way, or until all the parts affecting the urine after passing the bladder are free from pathological elements belonging to them.

As the pathology of cystitis may be embraced under impaired nutrition and structural change in the lining of the bladder, and bacteria of suppuration, the treatment is clearly indicated, but in reverse order, namely, to overcome the infection which produces the inflammation, the structural change which the inflammation produces and the imperfect nutrition which favors structural change; hence, local aseptic treatment is necessary in the treatment of cystitis. Milk or soft-food diet, saline laxatives as required, frequent hot sitz baths, hot poultices, hot salt bags or the Japanese stove over the bladder, and the patient kept in bed are important adjuncts in the treatment of acute cystitis. If the symptoms are not ameliorated

in two or three days, the urethra should be disinfected, a soft aseptic catheter introduced, the urine drawn, the bladder thoroughly flushed with sterilized water 105 F., in which soda benzoate or Seiler's tablets, 2 grains to the ounce, is added, after which the bladder should be filled with some antiseptic solution. As the bladder has no anatomical, but a physiological, capacity, the quantity of water must be gauged according to the comfort of the patient, and the temperature about 105 F.

My method has been to use a one pint fountain syringe with a pipette nozzle, which can be readily attached or detached from the catheter after it has been introduced, so that the bladder may be flushed several times and germicides introduced before removing the catheter. Perhaps the bichlorid 1 in 3000 is most destructive to most of the bacteria, one to four ounces being introduced and then allowed to pass out. This is repeated twice daily for three days to destroy bacteria and spores, then leaving an interval of three days. As the bladder is improved, and the patient comforted in bad cases by frequent irrigations, other remedies and reconstructives may be employed, namely, two ounces or more of the strained infusion of verbascum, calendula or balsam of Peru, with two or three drams of formaldehyde solution to prevent the ammoniacal decomposition.

Chronic cystitis is often occasioned by prostatic hypertrophy so well set forth in the second paper. This condition is tedious and not hopeful in prognosis, except when normal anatomical relations can be restored. The two reasons for this are the mechanical obstruction to the flow of urine by the hypertrophied prostate, overcoming the normal action of the detrusor urinæ muscle, and the decomposition of the residual urine. Treatment for these cases should be as suggested in the treatment of acute cases and that applied to the hypertrophied prostate surgically, as well set forth in the paper, or by forcible dilatation of the urethra by warm bougies.

In acute attacks of the prostate, occluding the urethra, the condition becomes serious, because of the difficulty of introducing the catheter and emptying the bladder. Nearly a year ago, and after vain attempts by several to pass a catheter past a hypertrophied prostate, and after the parts were quite lacerated, a metallic catheter was finally introduced through the stricture, and fearing lest it could not be introduced again if removed, I kept it in place for sixteen days, through which the chronic cystitis was successfully treated, the urethra satisfactorily dilated, and since which the patient has had no further trouble.

DR. GEORGE CHISMORE, San Francisco—Dr. Valentine has presented a very ingenious instrument to prevent sepsis in washing out the bladder. Anything that will diminish the danger of irrigation must be accepted with pleasure. I am sure that much mischief often follows the introduction of germicidal solutions into the bladder. I do not believe any one can devise a germicide that will destroy injurious germs in the bladder and leave the organ unharmed. Of the last paper, in reference to the removal of the prostate gland through a median perineal incision, the method recommended seems a good one. Any means that will give permanent relief to the evils that arise from senile hypertrophy of the prostate gland deserves the greatest consideration at our hands.

On the whole, prostatic surgery has been disappointing; the future of this operation seems more hopeful. I have lately had the pleasure of witnessing a median perineal prostatectomy by Dr. George Goodfellow, after a method he has been using for several years with gratifying results. He places the patient on the back with the thighs very strongly flexed on the chest. This position gives the surgeon such a command of the prostate region that he can readily enucleate the entire gland through a very moderate incision.

DR. CARL BECK, New York City—The antiseptic, or rather aseptic, efforts of Dr. Valentine have my warm sympathy and I do not believe that too much antisepsis or asepsis can be practiced. Every introduction of an instrument into the urethra is virtually a surgical operation, and should be preceded by the same care. If we do an operation on the outer surface of the body we do not content ourselves with pouring

a little boric acid on it, but we are contented only after scrubbing with soap and water and subsequent application of alcohol and bichlorid of mercury or a similar antiseptic. Even then there is another surreptitious enemy of asepsis, intrautaneous bacteria, which should not be underrated. These can not be reached by any disinfecting process. They are set free as soon as there is an injury of the integument, and it is only by protecting the skin-margins of the wound with sterile compresses, after the skin is dissected that they can be kept in check. No precaution of this kind can be taken in the urethra, which moreover is a much more congenial resting-place for bacteria than the skin-surface of the body, the follicles offering microbial shelter, which can not be reached by intraurethral injection. If there is an injury, be it caused by a cutting instrument or by the friction of a catheter, not only bacteria of the intraurethral surface but also those sheltered by the follicles have a good opportunity to infect the adjacent tissues. This finds its simple clinical illustration in the fact that whenever blood shows after catheterization, there will be a chill, the instruments having opened an avenue for infection. Thorough prophylactic disinfection of the urethra is still a pious wish. This, however, should not encourage any sins of omission. As our active antiseptic drugs, like bichlorid of mercury, etc., can not display their valuable properties as fully in the urethra, we would better rely on a passive bacterial destroyer, like iodoform, which, while powerless where there is no injury, displays its unequalled properties in the presence of a lesion. Therefore, I advocate the prophylactic injection of 5 per cent. in glycerin before the introduction of an instrument in the urethra. If an abrasion is caused, the iodoform will come in contact with the wound-serum at its stadium nascendi. Iodin is set free, and during this chemical process bacteria are destroyed or their development at least is arrested.

DR. F. W. ROBBINS, Detroit—I am surprised to hear the continual repetition of so many drugs as internal antiseptics. I have been interested in treating the urethra and bladder as recommended by Dr. Valentine for years, but I am not as enthusiastic as he has been. I am sure that irrigation of the urethra and bladder is of great importance. We find people among the laity who seem to think that they can irrigate the bladder just as well as we can, and they do not get the good results Dr. Valentine does. People feeling this way tend to throw the method of irrigation into disrepute, and any instrument which will become to the laity an easy one to use is going to still further increase the opposition to irrigation. The bag is very soft, easily broken and destroyed. I see no advantage over the ordinary fountain syringe with the exception of the arrangement at the nozzle. If the Doctor would throw aside all the rest of his instruments he will have a method which can be used in all cases where special treatment is necessary. Personally I consider urotropin to be the only internal urinary antiseptic of any value.

DR. J. RILUS EASTMAN, Indianapolis—There can be no question that Dr. Valentine deserves great credit for having perpetuated and championed in America the useful principles of urethral irrigation as enunciated by Janet. Valentine has shown us that very often the catheter introduced for irrigation produces in mechanical irritation more trouble than is relieved by its flushing. Janet and Valentine emphasize four points in the potassium permanganate irrigation treatment of gonorrhea, namely that the solution should be injected hot, often copiously and under pressure. These are indisputably the cardinal points to be kept in mind. It is a question, however, whether all this can not be accomplished by a safer and simpler method than that of Dr. Valentine; whether the author's object can not be brought into execution as effectively and more conveniently with a large blunt-nosed metallic syringe provided with a protective shield. I believe that when the thumb pressing the piston becomes educated to the syringe, the pressure can be gauged as accurately and controlled as well as with the apparatus of Valentine. The large syringe is more easily sterilizable. When it is used the solution is taken from the top of the container by withdrawing the piston. The solution is, therefore not apt to contain irritating crystals. When the

permanganate solution is emptied into the jar of the Valentine irrigator the crystals, if any be present, precipitate at once to the bottom of the jar and are first to enter the urethra. It may be said that care will obviate the danger of introducing the crystals with the irrigator, but is it not after all a constant menace? The nozzle which Dr. Valentine has shown us this afternoon is too long and too pointed. It will certainly pass clear into the fossa navicularis of the average urethra and produce much irritation. It is made of soft porous rubber and will hardly be easily susceptible of perfect sterilization.

DR. J. B. BULLITT, Louisville—The principles that Dr. Valentine stands for are certainly proper and right, but it seems to me that an apparatus such as he has exhibited to-day is unnecessary. Progress should always be toward the simple, rather than the complex, and, as one man has said, there certainly is no need of anything more for carrying out the procedure than an ordinary fountain syringe and a properly-shaped nozzle. The sheath is certainly of value, but I should say that the most important part of his apparatus is the little clip whereby the stream can be turned on or off. This is needed in many operating-rooms, and I shall adopt it. I do not think you can well gauge the pressure of a stream of water by the ordinary piston syringe, but you can gauge the amount of resistance, and that is all. I do not believe that this syringe is more easily cleansed than a fountain syringe. I do not know of any class of cases that tries the surgeon's patience, if not his skill, so much as an old man who has reached catheter life. Draining by suprapubic operations in some cases will work admirably, but many of the bladders become infected and contraction with thickening of the walls results.

DR. F. D. GRAY, Jersey City—I wish to assert my belief in the superiority of enucleation over the Bottini operation. I have not done the latter operation, but I see theoretical disadvantages in it. An operation, however, such as enucleation, which the average general surgeon like myself can do without having first witnessed it, simply having read the technique, and which he can perform with comparative ease and with a good result both as to recovery and as to the function of the bladder, is not an operation to be ignored. The invention of Dr. Syms is a good one, but I see some advantages in doing the old operation, comprising the suprapubic cystotomy. It is important to be able to have the tip of the finger inside the bladder on the prostate gland to make counter-pressure during the work of enucleation, and the device of Dr. Syms, while very ingenious, can not, in my opinion, take the place of the finger. I have also wondered why in place of suprapubic cystotomy it is not sufficient to force down the prostate with one or two fingers in the rectum, hooked over the prostate or against it, particularly while enucleation is being done with the other hand, thus avoiding opening of the bladder either above or below. In case the fingers can not reach sufficiently to produce counter-pressure in the rectum a proper modification of Syms' rectal speculum could certainly serve the purpose.

DR. RAMON GUIERAS, New York City—Washing out the urethra and bladder always improves their condition even if you use simple water or a saline solution, and the use of a mild saline solution enhances the value of the irrigation. Practice makes perfect in all cases. Dr. Valentine can irrigate patients much better than they can do it themselves, but if the Doctor is absent then the patient can be taught to irrigate himself sufficiently well to improve his condition. I do not think, however, that the patient should be allowed to irrigate when he has obstruction, as when the cystitis is dependent on a stricture, or an enlarged prostate. In employing this auto-irrigation method a certain amount might remain in the bladder and cause irritation. I do not believe there is any comparison between a piston syringe and a fountain syringe. A piston syringe can occasionally be employed, but in a majority of cases you can not be guided by the amount of pressure. A patient who is being irrigated always knows when his bladder is full and can tell you when he has sufficient fluid in the bladder to cause him discomfort; then the inflow should cease. All further distention may do harm and will certainly cause bladder strain.

As to the treatment of prostatic hypertrophy, it is still in its infancy, and when you come to consider the various methods

of treatment of the day there are really only three or four: the catheter, enucleation and Bottini, with perhaps a palliative method with the formation of a permanent fistula. The question is when shall we do enucleation and when shall we do a Bottini? We should never do an enucleation in cases where there is a pyelonephritis, or very much damaged kidneys, or where there is a great amount of arterial disease. The class of cases on which to do an enucleation, as a general thing, can be determined by any one who has a good genito-urinary touch. He will find that the prostatic urethra is elongated and will be able to feel that bump or pillow, as you may call that projection of the middle lobe into the urethra. By rectal touch he can determine the size of the prostate, but very often simple manipulation of the finger is not sufficient in order to feel the prostate because the bladder prostate sometimes differs from the rectal prostate. A man may feel the prostate by the rectum and it may not seem to be large, but the middle lobe will extend up into the rectum and you will have a much larger prostate than you have any idea of. All these large prostates which feel like door-knobs when felt through the rectum are cases for enucleation. Lateral-lobe prostates are better enucleated by the perineal method, while if there is an enormous middle-lobe hypertrophy it is just as easy to enucleate by the suprapubic incision. In most prostatectomies there is a double incision. There is a certain class of prostatic hypertrophies where the Bottini operation is not very much needed, but it is indicated where there is a small middle-lobe enlargement causing sufficient impediment in the prostatic urethra to give rise to a large amount of residual urine. Such cases may be immensely improved by this operation, and it is not so dangerous as enucleation. In the case of a man who has a good genito-urinary touch and who selects his cases I do not think that the mortality from the Bottini operation should be more than 5 per cent., but in the hands of a novice who has simply read a description of the operation, there would be a mortality of not less than 15 per cent. In the most favorable cases enucleation would give a mortality of not less than 20 per cent. in the hands of the most experienced genito-urinary surgeon. There is no more difficult operation and it requires the greatest familiarity with the parts and the best surgical skill.

DR. F. C. VALENTINE, closing—Dr. Syms expresses preference for enucleation in confirmed prostatism. In this, I am convinced, the majority of surgeons agree, owing to the necessarily great hazards that still beset searing the prostate in the dark, as is done by the Bottini instrument. This operation, however, is likely to receive a new impetus, and become the less dangerous one, from the new incision-cystoscope recently devised by H. R. Wossidlo, of Berlin. By its means the obstruction can be seared under the guidance of the eye. As concerns my paper, I deem that our thanks are due Dr. Thayer for giving us, in his discussion, the benefit of his ripe experience. It is perfectly true that a number of colleagues have advocated the ordinary fountain syringes for urethral and intravesical irrigations. I need not call attention to the dangers to others of a household instrument being used for this purpose, nor the difficulties which its thick material imposes on the patient who for any reason can not be irrigated by his physician whenever necessary. Moreover the fountain syringe is of questionable sterilizability, while the little device I have shown can be boiled in its entirety and so rendered perfectly safe. In the treatment of enlarged prostate, when it is certainly impossible for the physician to relieve the patient's bladder and to wash it as often as necessary, the patient can be easily instructed to insert the soft conical nozzle of this auto-irrigator into the catheter, and to withdraw the nozzle as soon as he experiences a slight vesical tension. The fluid used for cleansing the bladder then escapes, as did the urine, through the catheter. With a little more instruction such patients can be taught, by the same means, to leave within the cleansed bladder, such a quantity of the antiseptic liquid as the physician may direct, and to further irrigate the urethra during the withdrawal of the catheter. I certainly agree, as must all others, who have had much to do with gonorrheal patients, that elap is entirely too dangerous a disease to allow any part of its treatment to

be relegated to the patient. But there are circumstances in which the patient can not visit the physician with regularity. Moreover, there are men who discover their misfortune on the eve of a journey by rail or by sea and who must be helped to at least control the propagation of gonococci, as well as may be. The least intelligent of these patients needs but one lesson to perfectly accomplish anterior irrigation with the auto-irrigator. Such patients are more prone to avail themselves of their physician's advice, when its employment is rendered easy, as it can be with this device. Another consideration, and one of undeniable importance, is in the dimensions of the apparatus, which is so small that it can be concealed; this conserves the natural privacy which every patient desires to maintain regarding his infection. But I must emphasize the fact that I would never relegate the treatment of gonorrhea to a patient, unless when uncontrollable circumstances compel a makeshift.

All must quite agree that when there is no urethral discharge and when the urine is aseptic, and when careful asepsis is observed, the need of irrigating the urethra before and after instrumentation is not always imperative. I would add that this implies a degree of manual dexterity that all practitioners may not have acquired. We have all doubtless seen cases of urethral fever, with all its dangers, in patients who had been treated by others. Our obligation as teachers, it seems to me, embraces the advocacy of especially post-operative irrigation, which we know to be harmless and which, in the experience of those who employ it, has saved patients from urethral fever.

Dr. Chismore says that he does not appreciate how any remedies can destroy germs. I assume that he refers to those to whom infections of the lower genito-urinary apparatus is due. The Doctor voices the views and experience of all other learned men. But he will agree with me, when by a ready, easy and safe method of irrigation infection can be prevented, it is our duty to employ it, and that when an organ is infected it is equally our duty to strive to the mitigation of that infection by all means in our power.

Dr. Carl Beck reminds us of the bacteria which inhabit the normal urethra and which can be doubtless stirred into noxious activity by even the gentlest instrumentation. It is to Dr. Beck's credit that he suggested filling the urethra with sterilized oil containing 5 per cent. of iodoform, so that in the presence of those microscopic lesions which the gentlest instrumentation produces, the iodine which is then liberated exercises its bactericidal effect. The only modification that I would offer to this procedure, so in keeping with the behests of modern science, is the substitution of sterilized glycerin for the oil, because the glycerin being hydroscopic, permits effective irrigation, which would have but little, if any, effect on the urethra coated with oil. Let me repeat here that the results from irrigation can be best explained, in my opinion, by the artificial edema that it produces, rendering the mucosa an unfavorable culture-medium for bacterial propagation.

I regret that I must agree, in a measure, with Dr. Robbins in the danger of such an instrument as I advocate, becoming the property of the laity. But I must ask Dr. Robbins whether he would not prefer that his patients learned to appreciate the dangers of gonorrhea, by such means, rather than to continue to deem it trifling, and amenable to the little "P" syringe and the quack's or druggist's injections. It is just such scientists as himself who will be helped by the little device I have shown.

Dr. Eastman told us that the thumb could be educated to more intelligently gauge the pressure employed in copious urethral washings by means of a syringe, than by the stop-cock of the irrigator. While dexterity may go very far in employing a syringe as a manometer, allowance will always have to be made for the differences in individual syringes, as well as in individual urethrae. With the auto-irrigator there is no element of chance; the hydrostatic pressure is graded at will and easily fitted to circumstances and conditions as they vary in each case and in the same case at different times.

DR. P. SYMS, closing—Some misunderstanding must have arisen in reference to the instrument mentioned, which is intended to be inserted into the bladder through an incision in the membranous urethra.

TREATMENT OF TUBERCULOSIS OF THE KNEE-JOINT.*

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The treatment of tuberculosis of the knee-joint may be conveniently discussed under two heads: 1. Constitutional. 2. Local.

CONSTITUTIONAL TREATMENT.

The constitutional treatment, as a rule, is much neglected by most surgeons, although we admit that no specific drug has been found that will cure or arrest the progress of the disease in every case. Yet as it is not only often a severe drain on the general health, and chronic in nature, special attention should be paid to strengthening the individual and, by proper attention to diet and to his general health, placing him in the best possible condition to resist the attack.¹ As in pulmonary tuberculosis, much benefit is often derived from climatic treatment and from out-of-door life, so in bone tuberculosis the patient should be encouraged to be out of doors as much as possible, and, where the means permit, sent to such climates as have proved specially desirable in the treatment of such conditions. While some do best in high altitudes, others are better at lower elevations, but the crowded city, and the confining life of a hospital are not favorable to the best results. In addition, any organ of the body not in perfect condition should be looked after rather than all our efforts concentrated on the mechanical or surgical treatment of the knee-joint. Complete rest in bed rather than ambulatory treatment is indicated where the patient's joint is tender and where exercise seems to do harm rather than good.

LOCAL TREATMENT.

Local treatment should have in view: 1, the proper protection of the articulation; 2, perfect rest of the joint; 3, the prevention or correction of deformity; 4, the removal of the tuberculous process; 5, the treatment of complications.

The proper protection of the articulation means not only that it should be saved from ordinary trauma, but that even the slight jar produced in walking should be avoided and every possible attention paid to keeping the diseased joint at perfect rest. This can not be accomplished if the patient is allowed to walk and bear the weight on the leg. Crutches are necessary in adults and should be used whenever possible in children. The sound limb should be raised by means of a high shoe or patten, so that the affected side may at no time touch the ground. The particular form of brace used may perhaps not be of great importance provided rest and protection are secured.

At the Hospital for Ruptured and Crippled, New York City, the most convenient apparatus has been found to be the Thomas knee-splint. It consists of two bars of steel fastened at the upper end to a ring which passes around the upper portion of the thigh, the inner portion of the ring being just under the tuberosity of the ischium, the patient thus sitting on it and transmitting the weight of that side of the body to the ground through the bars, one passing down the inner, the other on the outer side of the leg to a foot-piece 2 to 4 inches

below the foot, covered with leather or rubber. A leather trough posterior to the limb prevents its slipping back and, by straps passing across the front, the entire leg is firmly held in the splint. Over the shoulders is placed a suspender fastened to the ring, which thus holds it up. If desired, adhesive straps can be fastened to the leg, and by means of straps on the foot-piece extension can be made on the lower leg and the knee-joint surfaces separated and slight deformities due to contraction of the hamstring muscles thus overcome.

To prevent deformity of the knee, plaster of paris, leather, silicate of soda or other materials may be used, but great care must be taken to see that they are made sufficiently long, if we wish to accomplish anything. As ordinarily applied deformity either occurs under the dressing or increases because the soft part of the



Thomas' Knee Brace.

thigh prevents the dressing being applied snugly. To firmly hold the knee and prevent flexion a spica bandage may be necessary; as it does not slip down and as the femur is controlled at both its upper and lower articulation, no deformity can occur. With the knowledge that flexion and other deformities usually occur, they should be prevented, but if they are already present steps must be taken to overcome them. Many methods are in use, the most common being by weight and pulley applied to the lower limb, by traction on the leg with adhesive strips and straps on the brace, the use of slight force and a retentive dressing, with or without a general anesthetic, local anesthetics being of no value, brisement forc  under anesthesia with or without tenotomy of the hamstrings, forcible correction by apparatus, osteoclasis, osteotomy, excision and amputation.

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1. The use of creosote or guaiacol, so strongly recommended by some authorities, can certainly do no harm when properly administered.

The choice of one of the above methods suitable for a given case should not be a very difficult matter. During active disease no violence should be permitted, and even if anesthetics are employed, cutting operations are preferable to the use of great force manually applied, and a safe rule would be to exclude brisement force from our list. In all cases we must remember that once deformity has occurred it will remain, unless we correct it, and this should be done early, not only that the limb may be kept in proper position if, unfortunately, a cure is to result with a limitation of motion, but that the muscles, ligaments, etc., about the joint may not be unduly shortened or lengthened, as must occur if the joint is held in a faulty position. The use of an anesthetic and slight manual force with a retentive dressing is a rapid and safe method if properly applied. Extreme degrees of deformity may require osteoclasis or osteotomy if the leg is in knock-knee or bow-leg, and extreme flexion deformities may require excision or amputation.

When we come to consider the removal of the local tuberculosis, we find that many methods have been employed and abandoned, and that in the knee the use of tuberculin, iodiform emulsions, carbolic acid, chlorid of zinc, etc., have not been of great benefit, except in rare instances. The Biers method of passive congestion, much lauded some years ago, has gradually fallen into disuse, and we have to consider whether to do an arthrectomy, an excision or an amputation in a given case. We should, however, lay down the rule that the more perfect our mechanical treatment the less frequent will it be necessary to operate. Arthrectomy or arthrotomy is the most desirable operation in early life, where the soft parts about the joint are much involved. If properly done, all diseased tissue may be removed, both of the soft parts and the bone, and a useful limb, with good motion can be secured, but to be successful it must be done before the joint is destroyed. Excision should rarely be done in children, because it is not indicated in the mild cases and is not radical enough in the severe. The great objection to it, however, is that, by the removal of the diseased bone, the epiphysis is destroyed and the subsequent growth of the limb seriously impaired. The removal of half an inch at the age of 2 years may mean a shortening of 9 or 10 inches at the age of 18. After excision in children prothetic apparatus should be used to prevent subsequent deformities.² In adults excision is indicated in a large number of cases, and the mechanical treatment should not be kept up too long and is not followed by as good results as in early life. We might say: in childhood excise only in exceptional, in adult life in the majority of cases.

Amputation may be indicated for the correction of very severe deformities and in cases where the local process is so extensive that arthrotomy or excision are not sufficiently radical.

The complications requiring treatment are abscesses, sepsis and tubercular sinuses. The first two may seem to be similar conditions, but most pathologists recognize a difference. The cold abscess in the beginning is simply a chronic inflammatory condition typical of tuberculosis, but may at any time become septic. The treatment of the two conditions, however, should be the same—perfect and complete evacuation, thorough drainage and, where possible, the closure of the abscess and the obliteration of its cavity. When it is found to

communicate with the bone, the local focus may also be removed at the same time. The treatment of septic knee-joints should be most thorough; if drainage is not perfect with the openings on either side, the joint should be thoroughly exposed and no "pocketing of pus" allowed. Excision in rare instances may be necessary, and where the local sepsis has caused grave constitutional symptoms amputation should be promptly resorted to.

The treatment of sinuses is a difficult problem: nearly every drug or chemical compound known to the profession has been tried, and **each surgeon** has his favorite prescription. Dissecting them out from the bottom, thoroughly cleansing and closing them, or the use of carbolic acid and alcohol, iodoform emulsions, balsam of Peru, hydrogen peroxid or silver nitrate solutions will generally effect a cure. In uncomplicated cases the general opinion is that complete protection should be given the articulation for a period of from two to three years, and in cases complicated by abscesses or deformity longer treatment will be necessary.

Attention to the general health, proper protection and rest to the joint, the intelligent prevention or correction of deformities, aided by proper surgical procedures, when indicated, will prove that tuberculosis of the knee-joint is a disease in which surgeons may accomplish much, and the results will fully justify the expenditure of our best thought and time.

In this paper statistics have been purposely omitted and an attempt made to simply call attention to the broad principles that should guide us in the treatment of this disease.

DISCUSSION.

DR. J. M. BARTON, Philadelphia—In the earlier stages of cold abscess, before any secondary infection has taken place, I prefer, instead of opening and draining, to entirely remove the broken-down tubercular material if this can be done, and then tightly close the cavity. When secondary infection has taken place, of course, drainage would have to be used.

DR. A. J. OCHSNER, Chicago—I agree with Dr. Townsend as regards the treatment of this condition and especially in reference to the first portion of his paper in which he speaks of the general treatment. In large cities there are certain neighborhoods from which we get our tubercular joints and we have such a place in Chicago which we call "Little Hell." If I succeed, in cases from this region, in removing or treating the joint in whatever manner may be indicated in the given case and obtain a good result, and the child returns to this same vicinity, it will certainly come back to the hospital in a year or two with the same joint involved or with tubercular glands of the neck or tuberculosis somewhere. Three miles from "Little Hell" is a section of the city called "Lake View," which is high and dry, where the soil is sandy and the houses are built of wood. There are no basements and all the houses have small yards. If during the time the child is at the hospital I can remove the family to Lake View so that the child can go there instead of back to "Little Hell" the child will gradually return to a healthy condition. Lake View is also occupied by the working classes the same as the other place, but the surroundings are much more favorable for this condition. I have succeeded in moving a number of the families from one of these places to the other, and I believe this portion of my treatment has done more good than a surgical operation. We must remember that these children belong to a nationality which depends very much on others for advice in these matters.

DR. J. B. BULLITT, Louisville—I think the paper is sound throughout, and I desire to call attention to the fact that the protective treatment in these cases has been more universally followed by good results than the operative treatment. Dr. Gibney took the trouble to follow up all the cases which were treated in the Hospital for Ruptured and Crippled in New

2. The Prevention of Deformity after Excision of the Knee in Children, N. Y. Med. Jour., April 1, 1899.

York up to 1890. A great many of these cases had been treated by his predecessor, and the plan of treatment had been one of masterful inactivity and many of these cases have practically perfect functional joints. Many of the joints have good motion and are as good as other limbs. The comparison, therefore, as far as function is concerned, was very much in favor of the protective treatment. With the modern protection, such as Dr. Townsend employs, there would be a still greater comparison in favor of this method. That much good is to be accomplished along the line mentioned is unquestionable. The results which I spoke of as being obtained by Dr. Gibney were in cases treated in a large orthopedic hospital where the conditions were not nearly so good for recovery as they would be in private practice in smaller cities.

Dr. T. J. SULLIVAN, Chicago—In Chicago, where we have many such cases, the great trouble all along has been with the general practitioner who does not recognize the conditions nor properly and promptly make the diagnosis, so that when the case comes for treatment a great amount of destruction has already taken place, and a great advantage has been lost. The diagnosis frequently made is that of rheumatism, but we may have a secondary mixed infection and great destructive processes can follow. If the profession can do anything in the way of prevention it is by an early diagnosis. Perhaps Dr. Mayo's operation, mentioned some time ago, of making an incision clear across the knee-joint and opening the joint thoroughly, may enable us to avoid amputation in many cases. Children are frequently surrounded by very bad hygienic conditions and tubercular processes go ahead with great rapidity, so that the most important point is the early diagnosis.

Dr. W. TOWNSEND, closing—As to Dr. Barton's criticisms concerning the closing of the abscess before it becomes infected. I would refer to the portion of my paper dealing with that point.

THE EDUCATION OF THE SENSE OF TOUCH IN FEEBLE-MINDED CHILDREN AND ITS CONNECTION WITH MANUAL AND INDUSTRIAL TRAINING.*

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Dr. Seguin long ago pointed out that the proper way to educate feeble-minded children was by education of the senses, and that the more thoroughly this education was conducted, the better would be the training which could be afterward given. On this occasion I intend to concern myself more especially with the sense of touch, only alluding to the sense of sight when it may be necessary to do so. Mr. Herbert Spencer has shown how by evolution and specialization the other senses, smell, hearing, sound and taste, could have sprung from touch, and how touch is a universal language into which the other senses which are special languages would have to be translated in order to be understood. Thus we know that the vibrations of ether which strike on the retina stimulate the fibers of the optic nerve, and these fibers, when excited, have the power of awakening the sensation of light in the brain. This is one variety of touch. Another variety is that connected with the auditory apparatus. It is well known that bodies which produce sound are themselves in a state of vibration, and this vibration is communicated to the air with which they are in contact and so throw that air into waves in the same way as a stick waved backward and forward in the water throws the water into waves. These aerial waves

entering the ear impinge on the drum of the ear and set it vibrating. This vibration is, by means of delicate structures contained in the ear, communicated to the branches of the auditory nerve in the ear. These being excited produce in the brain the sensation of hearing. It is therefore clear that the sense of touch is a very important one.

But in order that the sense of touch should be well developed it is important that the nervous structures of the skin should be in a normal condition, and that common sensation, as it is called, should be developed to the full amount.

Now, sensation in feeble-minded children is much more dull than in ordinary children, and they do not suffer pain to the same extent. Instances have been known in which the extraction of a tooth seemed to cause little inconvenience and patients occasionally pull out their hair when annoyed. I had a little girl under my care at Darenth, and she at times gave way to violent passion, and would bang her head against a wall or bedstead if not prevented. Dr. Grabham says that he has more than once or twice seen a comparatively intelligent feeble-minded boy sit quietly in a chair while his toe-nail was removed, requiring no one to hold him, and uttering no exclamation, but looking on as if interested, and stating that the operation did not hurt him. He also mentions the case of a child who had severely burned his hand by holding it in a gas flame, and yet he took the first opportunity after recovery to endeavor to renew an experience which did not appear painful to him.

I think the case that impressed on me the idea that feeble-minded patients do not suffer pain to the same extent as sane patients was that of a woman whom I saw in the dining-hall at Darenth Schools. As she was sitting down to dinner I noticed that she looked pale, and made inquiries of the nurse if there was anything the matter with her. Not being satisfied, I asked her to walk upstairs to her bedroom above. On examining her, to my great astonishment, I found that she had fractured her fibula, and yet she was able to walk downstairs and upstairs again, and did not complain of pain. Another sign that sensation is more dull in these feeble-minded children than in ordinary children is that many of them are quite indifferent to cold or heat. Without manifesting the least sensation or apparent inconvenience they will in some cases remain, if allowed, exposed to the heat of the sun in summer and to extreme cold in winter. They have chilblains in winter, owing to their weak circulation, and in summer may get slight sunstroke, but they do not appear to notice either. The skin in chilblains, though attacked, does not give rise to perception, that is, the child does not perceive anything wrong. The sensation of touch exists, but sensation is dulled, either because the perceptive center is wanting, or because the peripheral organ, that is, the skin, can not be relied on to transmit a sensation.

From what has been stated, it is quite clear that common sensation is defective and that the sense of touch must be cultivated. This may be done by making the child grasp hard and soft objects, and by passing his hand over various substances, such as marble, velvet, cloth, silk, etc., so that he may learn to distinguish the different impressions produced by smooth and rough objects. So sensibility to heat and cold may be discriminated by putting the hands into hot and cold water, or by handling bottles or other objects filled with water of different degrees of warmth.

* Presented to the Section on Diseases of Children, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

Having educated the sense of touch, we can pass on to the training of the hand, or manual training, as it is called. In ordinary kindergarten schools great attention is paid to the training of the hand, but previously to the time when this was first brought into use Seguin was at work training the hands of the feeble-minded, and his methods have to a great extent been incorporated with those which are now in use. If we notice a feeble-minded child who has had no education, we shall find there is a great want of co-ordinating power in the muscles, so that the hands with difficulty perform simple acts, such as picking up a pin or buttoning a coat. In the ordinary child this power is acquired early in life, but in feeble-minded children, especially if they have had no previous education, this power is not acquired until late, and if the education is stopped too soon, it is never acquired at all. Thus, I have seen boys and girls, even at the age of 15 years, unable to dress themselves because their manual training had been completely neglected. Parents have an idea that our only object is to teach their feeble-minded children to read, to write, to count, and to paint, etc., and the idea that manual training is required never enters their mind. No doubt this is due to the fact that ordinary children acquire this manual training almost instinctively, whereas feeble-minded children do not acquire it without being specially instructed in it. If you examine a hand of one of these children you will often find it soft and supple, but in directing the child to use the fingers you will see that the movements are badly directed, because the co-ordinating power which directs these movements is not properly developed. Now, how are we to develop this co-ordinating power? The answer is, by manual training. Of course in every case there must be some will power to put into use, for without a will there never can be anything executed. The training of the hand to useful occupation is simply a later stage of the cultivation of purposive movements aided by the progressive development of the senses and the intelligence. If you notice a baby, you will see a number of spontaneous movements, which are, however, quite purposeless, but as age and intelligence begin to dawn, these spontaneous movements are intuitively, or under the care of the mother, brought into co-ordination and by degrees are made use of for useful purposes. This is what is meant by purposive movements, that is to say, movements which have some purpose in view. In some low-class idiots you will notice quite purposeless, or automatic movements, as they are sometimes called, such as rocking the body to and fro, flicking the fingers before the eyes, and so on, and these movements have to be replaced by purposive movements. Again, you may observe children who suffer from spasmodic or choreiform movements. There are some children who suffer from athetosis, an affection producing constant slow, irregular movements, and in such cases it is necessary to produce a proper co-ordination of the muscular movements. A child suffering from this athetosis should be set to pick up and place in their proper cavities the marbles on a solitaire board. Afterward, what is called a peg-board will be found useful: it is simply a piece of wood with holes in it, in which metallic or wooden pegs have to be placed. The pegs have first to be grasped by the thumb and forefinger and then inserted into the holes in which they fit quite tightly. Then come exercises in threading beads and perforating picture cards, and the building bricks into various forms. All these exercises are exceedingly useful for children suffering from athetosis, as well as for

the restless children who are often met with in this class. In all these exercises the hand is supplemented by the eye, and as a rule the hand and eye always work together. This is clearly recognized to the extent that there is a periodical published monthly called *Hand and Eye*.

Many of the exercises mentioned as useful for promoting co-ordination, such as building bricks, threading beads, perforating picture cards, etc., are useful in promoting manual training.

Size and form boards will also be found useful in cultivating accuracy in grasping objects. The size-board is a flat piece of wood in which are rounded cavities of various sizes, into which circular pieces of wood have to be placed, so that the small piece of wood goes into the small cavity and so on. The form-board is also a flat piece of wood with circular, triangular, square, oblong, etc., cavities, into which the corresponding pieces of wood of circular, triangular, square and oblong shape have to be placed. At first you will notice that the child will endeavor to put the square into the round hole, but as time goes on he will distinguish the varieties of shape and place the square into the square hole, the triangular into the triangular hole, etc.

Another method is to have a cushion covered with spots into which the child sticks pins; this will be found useful for training the hand in fine muscular movements.

Easy drawing lessons, painting and making pictures with colored chalks are also useful. Dressing lessons may be given with advantage, not only individually, but as a class exercise, in order to assist children to put on their clothes. Buttoning and unbuttoning clothes, lacing boots and tying bows or knots not only effect this, but ensure fine adjustments of the fingers, which is so necessary to be learned by the feeble-minded. In some cases it may be necessary to teach the use of the spoon and the knife and fork.

As regards industrial training, many of the kindergarten occupations will prove serviceable preliminaries to handicraft. Paper-weaving is an excellent preparation for sewing and darning, and the instrument which pricks perforated pictures will, in the hands of a skilful pupil, often lead to his employment in the shoemaker's shop; sloyd work, too, may in time lead on to carpentering. It must be remembered that these exercises do not merely train the fingers, but also through them the intelligence as well. Clay modeling, variegated paper mats and bead necklaces not only train the fingers, but excite a spirit of emulation which is useful as a stimulant to the feeble-minded child. There are many children who learn more with their hands than their head, and in these industrial training has an advantage over book-learning, such as reading and writing. Of course, the employment to which the child is put must depend to a great extent on his liking or disliking it. Some, for instance, will prefer carpentering, others gardening, and others cane-making or brush-making. Out-door is, of course, preferable to in-door work, but in this variable climate, especially in winter, it may be difficult to continue it, but where there is a farm this objection does not hold good, as the children or boys are under cover, and as they are generally fond of animals, they will be found to take great interest in the cows, pigs, fowls, etc., which are usually placed there.

For children who live in towns, these occupations can not of course be made use of, so that the country in this respect has a great advantage over the town. For those who live in towns, however, there are many kinds of

work which will be found useful for the employment of manual training. Cane-weaving and basket-making are easily learned, and so are Macramé work; and wood-carving of a simple character may be even learned by advanced cases. Knitting, crochet and darning should of course be learned, as these occupations will come in very useful, not only for the institution, but for the home, if the child should improve sufficiently to be discharged. In the cases of the rich, there is a great range of employment open, but for those who are children of working men much can be done. Work on the farm or in the garden will be of use in the country, and, if in a town, cobbling, tailoring, basket-making and mat-making should be taught. Girls should be trained in domestic work and in the laundry and also in making garments.

I am aware of the somewhat fragmentary nature of these observations, but they have been put together in the course of a busy life. Such as they are, I hope they may be of use to the audience to whom they are addressed.

EUTHANASIA—A MEDICOLEGAL STUDY.

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The last moments of our earthly career, the moments of transition from life to death, present a solemn and direful spectacle. To employ means to keep the dying individual a little longer on life's shore, or to hasten his "shuffling off this mortal coil," is a question which frequently confronts the physician. We are aware that death does not always come gently, "as light winds, wandering through groves of bloom, detach the delicate blossoms from the tree." Most men die from violence or disease; euthanasia is a rarity. Indeed, it is so rare that the afflictions of only a few organs or structures may bring about this kind of dissolution. We refer to organic cardiac diseases and cerebral apoplexy.

The term "euthanasia" has been variously defined, and is still a word of considerable controversy; so much so that "euphoria" was taken to be its synonym, and in a measure, perhaps, rightly so, as we shall see later. Euthanasia is originally derived from the Greek prefix *eu*, meaning well, and *thanatos*, death, or, in other words, "a painless death." This is the etymological signification of the word. There is also another meaning to it, to-wit: "a means for producing an easy death." It is with euthanasia, as expressed in the latter definition, that we shall deal in this paper.

The application of euthanasia is quite ancient. Egypt is, perhaps, its cradle. There it was extensively practiced among its priests, and to a certain extent among the military caste. To these chosen castes, stoicism was unknown; pain, degrading. The priests took upon themselves the solemn oath to alleviate pain whenever it existed, by any means whatsoever. Their medical armamentarium was deficient. Some of the important narcotics and anodynes were absolutely unknown to them. When remedial agents had proved inefficacious, and when death seemed inevitable, euthanasia was the only and last resort. Asia, especially the Orient, follows Egypt in this particular quite closely. The Bible tells us of the easy deaths of Abraham and Moses, namely, that the soul was kissed away by the breath of the Omnipotent. (See Rashi, Bible Commentator.) In fact, the ancient Hebrew considered an easy death to be an earthly reward from Heaven, to which only the

righteous one could lay claim. Of the peaceful departure of Buddha, the Veda and Sanscrit furnish us with a beautiful picture. There it is stated, that on Buddha's command, the most venomous of serpents, the cobra, inserted its fangs in the locality of the forearm, and that Buddha thus died away in ecstasy. This and other methods of producing euthanasia are still in vogue in many parts of India. Rome and Greece offer us traditions of a similar nature. In these two countries the most prevalent method of producing euthanasia was to sever the radial artery. Another favorable mode was a goblet of hemlock. Even in modern times, the Mussulman, and, to some extent, the wily ecclesiastical, induce euthanasia by inhaling the fumes of the great somnifer, opium, and roll into everlasting dreams of enchanting houris or extensive rice fields.

What these semi-barbarians do unconsciously many civilized nations do as a result of ripe consideration and scientific decision. In this respect France ranks foremost. Whether those conclusions, however, are compatible with the highest principles of ethics, is the question to be discussed in the present paper.

Judge Simeon E. Baldwin, of New Haven, Conn., in the course of an address delivered before the American Science Association, of which he is president, made the following remarks:

"Of late years, it has become the pride of many of the medical profession to prolong such lives [meaning the lives of patients incurable] at any cost, discomfort and pain to the sufferer, or of suspense or exhaustion to his family. The patient has come to a point where he can not bear the thought of eating. The throat declines to swallow what the stomach is no longer able to digest. He craves nothing but to be let alone. A few hours, and Nature will come to his release. She is already, perhaps, fast throwing him into that happy unconsciousness of pain which we call lethargy. The vital forces have been spent. The mainspring is broken and the watch has run down. It can be made to tick feebly for a minute or two by shaking it hard enough; but *cui bono*? Only another mainspring can mend it. Only another soul, another world, can give value to this human life that is ready to flicker out because it is worn out. . . . Nature has kindly smoothed the sufferer's pillow by leading the way to that gradual exhaustion of the vital powers which follows the refusal of the stomach to receive or to digest food. To force nutriment into the system in such a case through other channels is simply to prolong a useless struggle at the cost of misery to the patient and to the profit of no one but the doctor and the nurse. In determining the nature of a disease, we look for the cause to the symptoms. Nature has so ordered it that symptoms are observed at that time of life when life is most worth saving. A lesion of one organ may then be expected to produce a reaction throughout the system. There is a general sympathy of the parts. On the other hand, in old age, the outward manifestations of an interior lesion seldom indicate that more than one organ is affected, and are often hardly noticeable at all. The patient does not know that he is a patient. There is no occasion that he should. The weakest part of his bodily mechanism has broken down. Why patch it up? Another is hardly less weak, and must soon succumb. Better for him and for his friends that his last days should be unclouded by the apprehension of coming death, and the change come to him quietly as a dream in sleep."

It is evident from what we have cited that Judge Baldwin holds that the physician's duty to save life is

only applicable in cases where there is a life to be saved. Where "the mainspring is broken and the watch has run down" there is no use of repairing. Under such circumstances it is best for the patient himself, as well as for his friends, that his life should uninterruptedly pass. By no means would the Judge tolerate the patient to suffer. He also suggests that death "come to him quietly as a dream in sleep." In a word, he favors euthanasia, only in a limited sense, however. At no time during his entire address does he state that physicians should directly hasten death; though should the physician act on Mr. Baldwin's advice, he would really do so indirectly.

Prof. L. F. Barker, of the University of Illinois, at the conclusion of an address delivered before the Ontario Medical Association, Toronto, June 6, 1900, remarked: "If radical cure be impossible, he will not forget the palliative; if at last the exitus letalis can not be prevented, he will at least see that the end is euthanasic."

The French Academy of Medicine, at one of its meetings, after listening to many cons and pros concerning euthanasia, conclusively asserted that its application is justifiable whenever death is extremely agonizing and only a question of hours. But it was Dr. Bach who advocated euthanasia—in the sense of being a means to produce death—determinately. In 1895, at the Medico-legal Congress, the learned Doctor said: "Physicians have the moral right to end life when the disease is incurable, painful and agonizing." In this country, however, we are not favorably inclined to the dicta expressed above.

To administer drugs with the knowledge that it will produce euthanasia would not only amount to an indictable crime at law, but it would also be regarded as an incongruity to the ethics of the medical profession and to public morals at large.

"Euphoria" is what the physicians in this country will sometimes apply. The term euphoria means the aptitude to bear pain. It also signifies "causing comfort." That is why euphoria is frequently used synonymously with euthanasia, and that is the utmost that our physicians here will accede to. In no case will they directly hasten death.

As a matter of law, it is well settled that euthanasia—in the sense of being a means of producing an easy death—is prohibited. It is an old legal principle that the taking of a life is only excused if it is so done to save a life. In cases of abortion, for instance, the fetus may be sacrificed, if it is necessary, for the purpose of saving the life of the mother. Of course, it may be argued, that a person can only be guilty of homicide if his conduct was the direct cause of death. Hence, if the patient was suffering from a mortal wound he would have died anyway; euthanasia only hastened his end. But such reasoning is fallacious, and not recognized in law. According to law, "causing death and hastening death are the same thing, for all men must die some time." This doctrine is well recognized, and was upheld in *Com. vs. Fox*, 7 Gray, 585; *State vs. Costello*, 62 Iowa, 404; *State vs. Scates*, 5 Jones (N. C.), 420.

In the case of *People vs. Ah Fat*, 48 Cal., 61, it was held that if one suffering with advanced pulmonary tuberculosis, of which patient would have succumbed within a month, and a person knowing the patient's condition, should intentionally drench him "with cold water, by reason of which death supervenes immediately, he is as much guilty of murder as though he had stabbed him with a knife."

In cases where the physician has no actual knowledge of the danger of his treatment, on account of his own ignorance, so much so that it will amount to gross and reckless carelessness, he is guilty of homicide. (See *State vs. Center*, 35 Ver., 378; *Commonwealth vs. Pierce*, 138 Mass., 165.) In connection with this, it should be remarked that if a physician administers a certain drug, fully believing that the drug so administered will not do harm, but that it will benefit his patient, and contrary to his anticipations, it kills him, the physician is not indictable; i. e., providing the physician exercised ordinary care and prudence. (See 6 Mass., 141.)

In England, also, it is well established that the physician is liable for careless conduct. (See *Rex vs. Williamson*, C & P., 635; *Tessymond's case*, 1 Lewin, 169; *Ferguson's*, 1 Lewin, 181; *Rex vs. Long*, 4 C. & P., 398; *Rex vs. Senior*, 1 Moody, 346; *Regina vs. Whitehead*, 3 C. & K., 202; *Regina vs. Chamberlain*, 10 Cox, C. C., 486.)

From the foregoing it is obvious that the inability of the physician to foresee the evil consequences of his treatment has no weight with the courts of England and America. The question is always, whether the court found "the evil consequences" obvious. And this responsibility of the physician is binding on him independent of the consent of the patient. (See *Commonwealth vs. Collberg*, 119 Mass., 350.)

Should a case occur where it would be imperative to administer the maximum dose of a remedy, with the intention of assuaging pain and suffering, and should the attending physician anticipate that such quantity is apt to produce simultaneously cessation of the vital functions, and thus anticipating, should he still run the risk and administer that dose, what would be his liability? The law in such cases implies malice. He would, therefore, be guilty of homicide. (See *People vs. Sanchez*, 24 Cal., 17; *State vs. Wells*, 61 Ia., 629; *Tooney vs. State*, 5 Tex., 163.)

Thus far we have shown the consensus of opinion of the medical profession, and the decisions of the courts. This, however, by no means solves the problem. Whether euthanasia shall be practiced or not still remains an open question.

We know that in many cases euthanasia would indeed be a godsend. Let us illustrate it by the following case which occurred in the practice of one of the leading physicians of this city: A man aged 70, German by nationality, received a paralytic stroke disabling him of voluntary locomotion. In consequence of this, he became confined to bed. Improvement set in very gradually. Contrary to the advice of the physician, he began to indulge in walking. He stumbled, fell and contracted an intracapsular fracture of the hip-joint. The same was reduced, but on account of his advanced age union did not take place. Chronic invalidism was his share. He could never leave his bed. Due to degenerative changes, decubitus set in, producing much distress and agonizing pain. In spite of good care, feeding and proper medication, he grew worse. The ulcer extended peripherally and into the deeper structures, laying bare the tuberosity of the ischium. The discharge was fetid and cadaverous, necessitating frequent dressings. He was an incessant menace to himself and his family. He lamented bitterly and implored the physician to induce death. Even the family could not endure the suffering of the old man, and corroborated his plea. To change the dressings meant disgust and malaise on the part of the members of the family and the physician. Half a grain of morphin was given hypodermically for the

pain thrice daily, but without avail. Piecemeal, that man rotted away, a source of horror to himself and his surroundings. Such a case is but one of the instances that occur not infrequently in the physician's practice. Would it not be an act of mercy to practice anesthesia to its fullest extent and allow death to "come to him quietly, as a dream in sleep?" On the other hand, should the portals to the application of euthanasia be open, there is hard telling at what stage they would close.

Human beings are presumptuous. Make no restrictions and matters will run riot. Society, in order to maintain and protect itself, can not rely on the judgment of certain individuals. The law, therefore, laid down hard and fast rules, which every one, without exception, must obey. Human beings are weak; temptations are great. Should law be silenced on this point? Some physicians might, under the pretense of doing a merciful act, really commit a deed of felony. Let us illustrate. An old man, very wealthy, is suffering from an acute attack of peritonitis. He has an unlawful child to whom he thinks to bequeath his estate. He also has a nephew who is nursing him, and who is aware of that fact. This nephew is very anxious to possess himself of this old man's estate. Something must be done to prevent the old man from carrying out his intentions. The attending physician is a poor man. The nephew offers him a thousand dollars to apply euthanasia. The physician yields to the temptation. He hastens the old man's ascent to Heaven, and a double wrong is thus committed, to-wit: a life is taken and a rightful heir deprived. It is thus seen that the permission of the application of euthanasia would not infrequently be a paving of the way to injustice and crime. What, then, should we do?

Having considered both sides of the issue, our conviction is that, after all, it is far better for the welfare of society to let a few suffer, and not run the risk of creating crime and criminals. It appears to us that there is ample reason to dread that the practice of euthanasia would, in the long run, cause more harm than good. That is why the law, laboring as it always does for the good of the majority, has logically prohibited it. The working principle of jurisprudence is still the celebrated adage of the great utilitarian, Jeremiah Benton, the greatest happiness to the greatest number.

In no case, therefore, should the physician intentionally or directly cause death. "Causa causæ est causa causati" should be his warning. In other words, whenever the treatment of the physician is the direct cause, he should be considered as having created the cause; hence, he should be held responsible for its effects.

The physician is always under a great responsibility. At no time can he ever exercise too much caution. Due to the variety of circumstances, and the complexity of human nature, no ironclad rules can be laid down. But as a general proposition, it might be stated that he should at all times do his utmost to alleviate pain, and make the pangs of death as void of agony as possible. By doing so he will have complied with the highest standard of ethics, and will earn the gratitude of humanity.

Large Child.

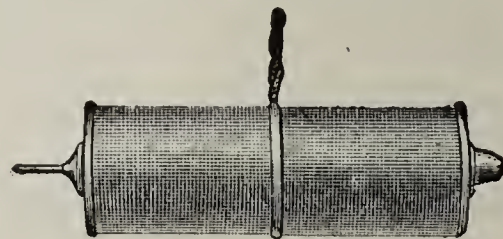
Dr. J. Pfeiffer reports in the *Orvosi Hetilap*, No. 34, what he considers the largest child born in good health and spontaneously. As quoted in the *Bull Méd.*, the child weighed 6600 gm., or about 14.1 pounds. It was 55.5 cm. in length, and the head measured 37 cm. in circumference. The placenta weighed 2150 gm. and the cord was 53 cm. long.

REMOVAL OF A PIECE OF STEEL FROM THE GLOBE BY ELECTROMAGNET.

WALTER B. JOHNSON, M.D.

PATERSON, N. J.

James Andrews, 35 years of age, was presented to me by Dr. William S. Colfax, of Pompton, N. J. March 24, 1900. The patient had received an injury of the eye. While nicking bars with a steel chisel, a chip flew from the bar and struck him in the left eye. The foreign body punctured the globe at the upper third of the cornea, inflicting an oblique wound which extended entirely across the cornea in the superonasal quadrant from limbus to limbus. It passed into the globe through the iris and lens and into the vitreous chamber. The iris was prolapsed and the globe apparently filled with blood. The eye was cocainized and approached with the small end of the magnet devised by the writer; the piece of steel located and as it was engaged by the point of the magnet it was gradually withdrawn, the resistance being very slight. The prolapsed iris was then snipped off and the edges of the wound coapted.



The removed steel was crescent-shaped, $\frac{3}{8}$ inch in length, over $\frac{1}{8}$ in width and $\frac{1}{16}$ in thickness.

The eyes were bandaged and the patient sent to the Paterson General Hospital. He remained in the hospital four weeks; during the first two weeks the eyes were kept bandaged. He made a slow recovery, but never had any pain. During the next two weeks the eye was protected by London-smoke glasses. The only symptom which annoyed him was lachrymation on exposure to the light. There was considerable injection, which persisted. The pupil was distended and the lens cataractous. On May 19, there is very little redness of the eyeball remaining; there is no pain; the patient's health is good. He has been working for the past week; he still has some lachrymation in the left eye in the morning. The tension of the eyeball is normal; the patient can see shadows; the cataractous lens prevents ophthalmoscopic inspection. The appearances indicate the preservation of the eyeball and possible subsequent operative procedure for visual effect.

Medical Testimonials to New Remedies.—This was one of the chief questions discussed at the German Congress of Physicians and Naturalists held at Aix-le-Chapelle in September. Prof. His stated in his address that the creation of a central official laboratory for the testing of new remedies was an urgent necessity. No physician should write a testimonial in favor of a new remedy unless he has exceptional opportunities for testing it in hospitals or clinics. It should only be addressed to the profession and no one should be allowed to use it for advertising purposes in the daily press nor for general distribution. Physicians whose inventions are commercially exploited are responsible for the manner in which the advertising is conducted. Kober insisted that before a remedy can even be advertised in the medical press it should be subjected to thorough theoretical tests in the chemical, bacteriologic, pharmacologic and physiologic laboratories and then tested on animals.

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THE USE OF INTRA-ABDOMINAL CULTURES IN COLLODION SACS IN THE STUDY OF BACTERIA.

The method of research recently introduced by the successful cultivation, by Nocard, of organisms enclosed in collodion sacs and placed in the abdominal cavity of living animals, has been used by Vincent¹ in the study of the pathogenic adaptability of saprophytic bacteria. He found that by this method harmless varieties of saprophytes, such as *B. megaterium* and the potato bacillus, could be changed into virulent organisms capable of producing toxins and causing general infection. As pointed out by Noeard, the walls of the collodion sacs permit of a ready change in the composition of the fluid within them, thus preventing auto-intoxication of the bacteria and at the same time the body fluids enter gradually and furnish sufficient food for the germs, which thus become exposed to the influences of growth under the new conditions.

The bacillus *megaterium* became virulent after four passages, of six or seven days each, through the bodies of animals into which the bacilli were introduced in collodion sacs partly filled with bouillon; intermediate cultures were made on ordinary media between each passage. It now killed mice, guinea-pigs, and rabbits, by producing a general hemorrhagic septicemia. At the same time changes in its growth form were observed. Grown under ordinary conditions the newly acquired virulence was lost again in three months. While virulent, vaccination, with the production of immunity, could be made.

The potato bacillus acquired pronounced virulence after four to seven passages. Spores heated to 100 F. and reultivated did not lose their virulence, but transmitted it to their descendants. The bacillus became pathogenic by virtue of production of toxin and by causing general infection. In this case also the appearances of the cultures were changed.

These interesting experiments demonstrate the plasticity of microbes; it appears possible to subject saprophytic organisms to a progressive education, as it were, adaptation to parasitic life being acquired by cultivation in living media. As would be expected, the saprophytes thus treated have a tendency to recover their hereditary characteristics, but the fact remains that they have been shown to be able to elaborate toxic diastatic products and destroy cells while the bacteria multiply

in the ruins. It appears that the distinction between saprophytic and pathogenic microbes is rather an artificial one.

Centani attempted to cultivate the virus of rabies in collodion sacs, but without success. Noeard,² however, apparently succeeded in securing pure cultures of the microbe of contagious pleuro-pneumonia of cattle by inoculating some of the material from the lesion into collodion sacs filled with bouillon; he then inserted them into the abdominal cavity of guinea-pigs and other animals. After a time the fluid became turbid and, although the smear preparations did not reveal any microorganisms of such size as to be recognizable with our present powers of magnification, yet the inoculation into cattle of the contents of the sacs, incubated in the animal organism, produced the disease in typical form. Noeard concludes that the organism is so small that we are not now able to see it.

As pointed out by Trudeau,³ the collodion-sac method of experimentation offers broad fields for the study of the influence upon the germs, their virulence and products, of the growth under such conditions, and for the study of the effect of freshly and continuously elaborated toxins on the living organism while the latter is protected from the direct pathogenic consequences of the spread of the microbe throughout the system at large. The method also seems to open new possibilities in attempts at successful production of artificial immunity and the obtaining of antitoxic substances for the treatment of diseases.

CAN PYOGENIC BACTERIA PENETRATE THE NORMAL GASTRO-INTESTINAL MUCOUS MEMBRANE?

This question has been variously answered by different investigators who have studied it experimentally and otherwise. Bacteria have been found in the chyle of normal animals by some investigators, while others have not been able to demonstrate bacteria in the chyle. Similar contradictory statements are made in regard to the presence of bacteria in the fluid in the hernial sacs. The passage of bacteria through the intestinal walls is held by some to be cause of peritonitis in intestinal paralysis, but even this is denied by others. Kocher was the first to call attention to the gastrointestinal canal as an entrance point of pyogenic infection, e. g., in osteomyelitis. His experiments, made as long ago as 1879, are hardly convincing in the light of accumulated knowledge, and later experiments of others have given contradictory results—Karlinski obtaining positive results from feeding experiments, Alapy and Neisser negative results. This contradiction is probably explainable, at least in part, by the use in some of the experiments of material of but little virulence, and on the other hand by infection from the pharynx, which Lexer has shown recently may follow the introduction of a few drops of culture of virulent streptococci into the throat.

² Ibid., pp. 561-568.

³ Bull. of Johns Hopkins Hospital, 1899, x, 121.

¹ Ann. de l'Institut Pasteur, 1898, xii, 785-798.

Bail¹ has studied the question again. The experiments were made on rabbits. Five to six cubic centimeters of a highly virulent streptococcus suspension in bouillon were introduced into the stomach of rabbits by means of a soft-rubber tube, great care being exercised to prevent the escape of streptococci into the pharynx. Of 40 animals 7 died from a general streptococcus infection. By means of culture experiments and of microscopic sections it was found that the cocci made their way through the intact mucous membrane of the small intestine and into the blood-vessels of the mesentery. Ribbert and Bizzozzero found bacteria in the normal lymph-follicles in the vermiform appendix of rabbits, and Bail also found bacilli and cocci in these follicles but also streptococci in the walls of the small intestine—where bacteria are normally absent—in 5 of the 7 rabbits that died. Presumably a local superficial enteritis induced by the streptococci prepared the way for their entrance. Bail concludes that intensely virulent streptococci may penetrate the normal intestinal wall and cause a general infection. These results are opposed to those of Buchbinder, who introduced bacteria into the intestinal canal, portions of which he then compressed by means of rubber rings; but it seems according to Bail that the bacteria used were not shown to be highly virulent, and furthermore that the methods used for demonstrating the bacteria in the intestinal walls are open to criticism. Bail's results indicate that virulent streptococci may invade the organism from the lumen of the normal intestine.

The only possible objection to this conclusion would be that infection after all took its point of departure in some other region, such as the pharynx, and that the streptococci found in the intestinal walls were there by virtue of a hematogenous transportation—a sort of elimination—and not as the result of entrance from the lumen. This objection, however, seems somewhat far fetched.

BLASTOMYCETIC DERMATITIS.

The number of cases of this form of cutaneous infection is increasing constantly. Up to this time it seems that typical blastomycetic dermatitis has been recognized and studied by Americans solely. There are now about twenty recorded cases in which the diagnosis is satisfactorily established by the study of the microscopic character of the lesions and the characteristic, budding, doubly-contoured organisms usually present in the little abscesses that form such a prominent feature of the clinical as well as the anatomical picture. And yet it is to be remembered that absolute demonstration of the etiologial rôle of the organisms is still wanting. No one has produced blastomycetic dermatitis by experimental inoculation of human beings with pure cultures, and in the ordinary laboratory animals the convincing cutaneous lesions do not follow local infection. But the clinical picture, the histopathology, and the presence

of the organisms, which are often easily isolated, at other times with great difficulty or not at all, have left no doubt as to the entity of the disease in the minds of those who have had occasion to actually study it.

Dyer,¹ of New Orleans, describes an instance involving the hands, face and leg of a woman of the better class; he compares the disease with yaws, a widespread cutaneous affection of unknown nature of the West Indies, but without reaching any definite conclusions as to the identity or difference of blastomycetic dermatitis and yaws. Montgomery and Ricketts² describe three new cases of blastomycetic infection of the skin, giving full histopathological and mycological details. One case is especially interesting, because the lesion, situated on the lip, much resembled squamous-celled carcinoma. It developed in a man who worked in grain elevators and who had handled grain affected with "dry-rot"—fungous disease. Hyde and Ricketts³ also describe fully two new instances. In this article is brought out well the peculiar action of potassic iodid in this disease. Given in drop doses of a saturated solution and increased up to the limit of toleration, the iodid in many cases produces a marked improvement of the lesions, but as yet no complete cure has been secured. Here is seen a means of great aid in differentiating blastomycetic dermatitis from cutaneous syphilis on one hand and verrucous tuberculosis on the other. There is no good evidence at all that any of the cases of blastomycetic dermatitis so far observed were in reality examples of other diseases, e. g., carcinoma or syphilis with accidental implantation of blastomycetes. The increased knowledge of blastomycetic dermatitis will lead to the accumulation of observations and as previously emphasized in these columns⁴ there is good reason to believe that many instances of this affection have been, and probably are being, mistaken for carcinoma and tuberculosis.

LAY COMMENT ON PATIENT'S INGRATITUDE.

A physician was recently stamped to death in Oklahoma by an ex-patient from whom he was trying to collect a bill for medical attendance. As a lay journal remarks, this appears "to be only a little more exaggerated example of the ingratitude which is manifested every day by a world in which billions of people are very quick to call physicians and very slow to pay them." It is refreshing to note this comment, indicating as it does a correct appreciation of facts in a quarter where it is not always looked for.

NEWSPAPER ENTERPRISE.

The Seattle (Wash.) *Times* of December 26, announces the opening of the Pan-American Medical Congress on that date. The news comes to it by special dispatch; the number of physicians in attendance is given at about 1000, of whom 300 were Cubans, and a large

¹ Jour. Cutaneous and Genito-Urinary Diseases, 1901, xix, 14-25.

² Ibid., 26-43.

³ Ibid., 44-59.

⁴ THE JOURNAL A. M. A., Aug. 20, 1898, and Dec. 2, 1899.

number of Mexican delegates had arrived on a Mexican warship. Few, it says, were in attendance from South America, the distance being too great for any large representation. As an example of newspaper enterprise of a certain kind this special dispatch is rather interesting.

NEW YORK STATE JOURNAL OF MEDICINE.

Number 1, Volume I, of this new journal is before us. It is published monthly by the New York State Medical Association and takes the place of the annual volume of transactions. The journal consists of twenty-four large double-column pages of reading matter, with eight advertising pages. It makes a good appearance and the committee in charge is to be congratulated on its efforts. This makes the third state body to publish a monthly journal in place of an annual volume, the other two being the Medical Society of the State of Pennsylvania and the Illinois State Medical Society. In each of these states the enterprise is giving satisfaction. It is certainly better to have a monthly journal go to each member than to have an annual volume and this to be placed on the shelf and soon covered with dust. Such a monthly journal gives an opportunity for the members of the medical profession of the state to exchange views on various topics of interest. We note that the new journal opens its pages to advertisers; this is sensible. There is no reason why respectable advertising should not be admitted to a medical journal, and we believe that it is common sense and business-like to accept such. Legitimate advertising is a benefit to the physician, as well as to those who supply him with the many things he needs in his work.

THE SAN FRANCISCO PRESS AND THE QUARANTINE OFFICIALS.

A portion of the San Francisco press has continually and consistently demanded the removal of the quarantine officer of that port, Dr. Kinyoun, because he has not, in the performance of his duty, met their wishes in denying or suppressing facts in regard to plague cases. They have even gone so far as to want him dismissed from the Marine-Hospital Service altogether, though for present purposes his removal to another sphere of action would be most welcome. The latest utterances, however, go farther and charge the head of the bureau with malfeasance in office in not mentioning the cases occurring as "reported as bubonic plague but the diagnosis disputed by the medical profession of San Francisco." The paper that contains the above, charges that the chief of the Marine-Hospital Bureau has deliberately falsified an official record, and suggests a Congressional inquiry. It is questionable whether the results of such a measure itself would be perfectly satisfactory; it might only extend the list of those whose acts and opinions are so offensive to a portion at least of the San Francisco press and public. If that city escapes a serious visitation of the plague, as it is hoped and trusted it may, it will not be due to the hysterical organs like those quoted and to the worried commercial interests backing them, but to the health and quarantine officials who are the subjects of their abuse.

MICHIGAN BOARD OF REGISTRATION AND LOW-GRADE MEDICAL COLLEGES.

The Michigan Board of Registration is making a praiseworthy effort to render efficient a rather imperfect medical-practice act. The Michigan law accepts diplomas from recognized colleges as a qualification for practice, but leaves the recognition to the Board, which, using its authorized discretion has thus far "recognized" some thirty odd institutions out of the two hundred, more or less, in the country. This discrimination is not an arbitrary one, but is based upon personal knowledge derived from inspection of these institutions. The committee of the board to which this duty was assigned, in its recent report, says in regard to some of the medical colleges that have come under its purview: "We regret to say that the printed announcements and catalogues of some of the schools do not represent the facts of the case as shown by investigation. A medical college on paper seems to be one thing and its genuine conditions and requirements as applied to students decidedly another." This is the official statement of a fact well known to every one in the profession and even a stricter scrutiny than that of the Michigan Board would not be amiss. If, however, its methods were universally or even generally adopted it would be greatly to the benefit of the standing of American medicine.

THE BELLEVUE HOSPITAL SCANDAL.

The recent scandal in Bellevue Hospital where certain male nurses were held to the grand jury by the coroner's findings for the killing of an insane alcoholic patient, illustrates a fact that is not always fully appreciated by the medical profession or the public. It is that ordinary nurses' training alone is insufficient to make anyone fitted for the care of the insane, especially the violent cases, a duty that requires special natural as well as acquired qualifications entirely different from those demanded of any ordinary nurse. In view of the general outcry of late years for trained nurses in hospitals for the insane, this fact is important; what may be called the essential moral qualifications of an ideal asylum attendant are not essential in the trained nurse, who is a much more easily manufactured product. This difficulty of obtaining ideal attendants is the most troublesome problem in asylum management, and not infrequently the cause of trouble and scandals. The discipline and morale, however, of a well-conducted asylum are such that fewer abuses occur than might reasonably be feared. Similar discipline is not readily applicable in a general hospital and might easily be lacking in an insane ward attached to it, especially if the ordinary training of nurses is depended on to qualify its attendants. The moral of the recent event in Bellevue is not "abolish the male nurse," as a New York paper puts it, but that trained attendants, not mere trained nurses, are required in a ward for the insane.

THE MEDICAL DEPARTMENT OF THE ARMY.

In this issue there appears a communication from the President of THE AMERICAN MEDICAL ASSOCIATION in regard to the pending bill for reorganization of the army in so far as it involves the medical department.

Dr. Reed shows how the proposed change in the original bill will affect the standing of the medical corps and through it the welfare of the army. It is a fact, but one only beginning to be occasionally appreciated and quickly forgotten again, that the medical department is the most important one in the army in time of war; it is practically the first line of defense and a most indispensable adjunct in offensive operations. In modern war disease is the worst enemy to be met, and it is only exceptionally that it is not responsible for the greatest mortality and combatant inefficiency. An insufficient, untrained or demoralized medical corps means uncontrolled disease and possible disaster, in any case a positive increase of inefficiency of the army as a fighting machine. We had ample illustration of this fact in our late war with Spain, where a trained medical force adapted to an army of 25,000 was called on to do duty for an army of ten times that size, the deficiency of medical force being made up by civil surgeons untrained in military needs. The British experience in South Africa is similar, and both furnish ample proof of the need of well-organized and duly-recognized medical corps. Dr. Reed points out clearly this need and how the proposed legislation will affect it. It remains for the medical profession to use its influence in behalf of the army surgeons and to secure for them proper recognition and treatment in the reorganization.

BLUE GLASS REDIVIVUS.

Many of our readers will recall the blue-glass fad of the late 70's which had a brief career. While it lasted many popular articles appeared upon it, and a book was written which is still occasionally to be seen in second-hand book stalls and elsewhere. While some individual experimentation was undertaken at the time the subject was not considered seriously by the medical profession. It scarcely made any impression on medical literature of the day, at least we can recall no articles of note; it was generally dropped as a popular craze and quickly passed out of fashion. Judging from present developments in phototherapy in which the violet end of the spectrum is mainly used, it may be that there was a neglected germ of truth in the craze after all. We knew nothing then of the Roentgen or the Becquerel rays, nor do we yet know all their possibilities. Now, however, a Russian physician, A. V. Minin,¹ reports remarkable therapeutic effects from the use of electric light passed through blue glass in arresting pain, in some forms of which, intercostal neuralgia for example, there is, he says, nothing like it "for effectiveness and rapidity of action." Its influence, also, in hastening the absorption of blood or effusion is likewise remarkable as he claims, and a number of cases are reported in which these and other advantageous effects were observed. Nothing in this is attributed by the author to other agencies than the blue light, though the question naturally arises whether the influence of suggestion was not in play. With the results reported, however, the experiments are worthy of a test, especially since nothing more than an ordinary 16-candle light from a 100-volt current, passed through blue glass, is required. The exposures varied in number and length in different cases, but were usually

ten or fifteen minutes in duration and repeated as required, according to the case. It is hard to see how the applications can do any harm and if there is anything in it, which can not be absolutely denied *a priori*, it is worth a trial.

BACTERIAL TRANSMUTATION.

At a recent meeting of the Société de Biologie, Paris, Dr. Caldas, a Brazilian bacteriologist, reported experiments on the colon bacillus of the rat. By cultivating the organism with a certain mold derived from rice, *Aspergillus orizæ*, and passing it from rat to rat, he finally obtained a bacillus closely resembling the typical plague germ, in great numbers from the glands, spleen, stomach and intestines of the infected animals, which produced, when injected into rats, similar clinical symptoms and was always rapidly fatal. The biologic characters of this organism throughout were the same as those of Kitasato's bacillus pestis and he has no doubt as to their equivalence. He claims, moreover, to have succeeded in rendering a horse immune by venous injections of at first very diluted cultures of the germ, followed by more virulent ones, and with this horse's serum has been able to save rats that had previously been inoculated with the virulent cultures. He gives it as his opinion that the plague in its origin is a colon bacillosis of rats caused by the ingestion of rice containing a mold, *Aspergillus orizæ*, and that the colon bacillus by successive passages from rat to rat takes on the characters of the plague bacillus. Dr. Caldas' experiments do not appear as yet to have attracted much attention, but they are certainly suggestive. Our methods in the study of bacteria are not yet perfect and their taxonomic distinctions are far from being yet fully established. It may be difficult or even impossible to fully determine all the specific characters of these minute organisms, but until we do we can not be altogether positive as to their possible varieties and transformations. The identity of the Sanarelli bacillus of yellow fever is a case in point, and it may be mentioned in this connection also that Caldas claims this germ to be likewise a modification of the bacillus coli, the special virulence of which is due to the presence of a mold.

THE BACTERIAL SELF-PURIFICATION OF STREAMS.

Streams may purify themselves in two ways: of the chemical constituents of sewage and of sewage bacteria. The latter mode of self-purification is discussed by Jordan¹ on the basis of observations made during a study of the water of the Illinois river in connection with the newly constructed drainage canal connecting the Chicago river with the Desplaines river. This—a stupendous piece of sanitary engineering—was recently completed at an expenditure of about \$35,000,000, and it conducts the sewage of Chicago into the Desplaines and Illinois rivers and finally into the Mississippi. In order to determine the condition of the water of the Illinois river a series of chemical and bacterial analyses of the water of this river and its tributaries was undertaken and carried on regularly during a period of about eight months. Throughout this period about 85 to 90 per cent. of the total sewage of Chicago passed into the

¹ Wretch, Dec. 1 (Nov. 18, old style), 1900.

¹ Jour. Exp. Med., 1900, v, 271-314. See abstract No. 29, p. 138, THE JOURNAL A. M. A.

Illinois river. Among other results it was found that at a certain point in the Illinois river—between Morris and Ottawa—a change occurred that might properly be regarded as self-purification, because during a stretch of twenty-four miles the river was nearly freed from the mass of sewage bacteria with which it was originally laden, the bacterial content being not greatly in excess of that of the local tributary streams. The cause of this disappearance of sewage bacteria is of interest. Mechanical agitation and aëration, dilution, the action of sunlight, the influence of the plankton, sedimentation and exhaustion of food-supply are discussed in the light of the facts at hand bearing on this particular case. Sedimentation and diminution of food-supply are settled on as the most important factors in the process of self-purification. At the point mentioned the conditions are very favorable for sedimentation, and the chemical analyses show also a marked decrease of albuminous substances, probably through bacterial agency, because there is accumulation at the bottom of foul black mud. Decomposition of large quantities of albuminous substance is first followed by great bacterial multiplication and then “speedy and extreme mortality of bacteria.” Bacterial self-purification of streams may be attributed mainly to insufficient or unsuitable food-supply.

THE RELATIONS BETWEEN EPILEPSY AND ACUTE INFECTIOUS DISEASES.

It is a matter of common observation that the occurrence of the seizures in an epileptic is inhibited by acute intercurrent, febrile disease, although, on the other hand, it is equally recognized that, in children especially, eclamptic attacks are frequently observed with the onset of acute illnesses. It will not be maintained that the inhibitory influence in the one instance is more than temporary, while, on the other hand, it seems not impossible that both the frequency and the severity of the seizures in a case of epilepsy may be greater after than before the intercurrent disease, and occasionally acute disease appears to be the starting-point of the epilepsy in a predisposed individual. In harmony with the views expressed, is the experience of Clark and Sharp,¹ who report a series of cases of measles and erysipelas in epileptics in which the convulsive disorder was in no instance favorably modified for any great length of time, but, on the contrary, the progress of the disease was, in a few instances, accelerated by the intercurrent disease, and in one the epileptic status was induced, while in those cases in which the epilepsy appeared to be favorably modified the temporary improvement was slight and of short duration. A notion has prevailed in the past, and its influence has not yet entirely disappeared, that inasmuch as all individuals are likely to suffer from the exanthemata at some time in life they had better be exposed in childhood to mild attacks, but it has been shown that not a few remain immune, while at times the anticipated mild attack proved directly or indirectly disastrous. In view, therefore, of the failure of acute disease to exert a permanently favorable influence on epilepsy, and the possibility that such disease may excite the convulsive disorder or aggravate it if already present, it is the part of wisdom to avoid all risk of the infective dis-

eases on the part of epileptics as well as on that of others. It may be set up as an axiom that no form of disease—with the possible exception of vaccinia—can be safely induced for prophylactic or curative purposes.

Medical News.

CALIFORNIA.

DR. CHARLES D. LOCKWOOD, Chicago, has moved to Pasadena and has opened an office at Los Angeles.

DR. FRANK H. PAYNE, Berkeley, was thrown from his buggy on December 27, and sustained a fracture of the thigh.

DR. J. ELLIS RODNEY, Chico, who was convicted of perjury, sentenced to serve twelve years in the penitentiary, and who appealed to the supreme court, must serve his time, as the court affirmed the decision.

A HOSPITAL, equipped with all modern appliances, will be erected in Ventura by Dr. Cephas L. Bard and his brother, United States Senator Thomas R. Bard, in memory of their mother, Elizabeth Bard. The building will cost about \$15,000, and when completed will be presented to the city.

DISTRICT OF COLUMBIA.

THE SITE for the new Municipal Hospital, Washington, which comprises thirty-three acres, has been purchased for \$65,000 by the commissioners.

DR. WALTER REED, surgeon U. S. A., has been detailed as the representative of the medical department of the army at the Pan-American Medical Congress at Havana.

ALTERATIONS in the laws of the District are suggested by the District Medical Society to better protect the people of the District against disclosure of confidential information necessarily imparted to their physicians in order to receive proper medical treatment, and to render the general treatment of the office of coroner complete, harmonious and compatible with modern ideas.

ILLINOIS.

CHARLESTON PHYSICIANS have organized a club for mutual benefit and protection, with Dr. Lemuel L. Silverthorn, president, and Dr. Joseph A. Perkins, secretary.

DR. FRANK PARSONS NORBURY, who for the past four years has had charge of the medical department of Oak Lawn Sanatorium, Jacksonville, has resigned. Dr. Norbury will soon open under his own control and management, at Jacksonville, an institution for the private care and treatment of diseases of the brain and nervous system.

THE COMMISSIONERS of the Asylum for the Incurable Insane, at Bartonville, near Peoria, recommend in their annual report appropriations aggregating \$669,000 from the legislature at its coming session. Of this, \$200,000 is to be used for completing the work now under way, \$225,000 for the erection of ten more cottages, and \$139,000 for other additions to the institution.

Chicago.

BY THE WILL of the late Charles Higgins, St. Luke's Hospital will receive a bequest of \$10,000.

DURING the last week 11 new cases of smallpox have been seen by the Health Department officials, in 8 distinct locations. There are now 15 smallpox patients at the Isolation Hospital.

DURING 1900 the patients of Cook County Hospital numbered 17,429, or 10 per cent. more than in 1899, with a mortality of 1287, or 7.38 per cent. The cost of maintaining the hospital was \$268,825.

DR. W. F. ARNOLD, U. S. N., of the local naval recruiting depot, has gone to New York to take examination for promotion. Medical Inspector Ezra Z. Derr, Portsmouth, N. H., is attending to Dr. Arnold's duties during his absence.

THE DETENTION HOSPITAL examined 1727 patients during 1900, 770 of whom were sent to the hospital at Dunning, 113 to Elgin, 179 to Kankakee, 346 were discharged, 18 had escaped from the asylum, and 13 died at the hospital.

THE HEALTH DEPARTMENT claims Chicago as pre-eminently the city of good health, and substantiates its claim by statistics. The death-rate per 1000 per annum in New York City was 21; in Greater New York, 20.57; in Brooklyn, 20.11; in Philadelphia, 19.86, and in Chicago, 14.56.

THE HEALTH COMMISSIONER, in his recent report concerning smallpox, says that vaccination, repeated until it will no longer “take,” is an absolute protection against smallpox, and nothing else is; and that the modern practice of vaccination, with sterilized vaccinia lymph, under simple precautions of cleanliness, is positively harmless.

1. Medical News, Dec. 1, 1900, p. 853.

A SHARP RISE in mortality marked the closing days of 1900. For the week ended December 29, 554 deaths were reported, 74 more than for the week previous and 100 more than in the corresponding week of 1899. There were 122 deaths from pneumonia, 9 from influenza, which is seriously complicating many other maladies; 47 from consumption, and 34 from violence.

ON JANUARY 7, a society was organized by the faculty of Rush Medical College and will be known as the Medical Society of Rush Medical College. The secretary is Dr. J. B. Herrick, the presiding officer to be selected each evening. The executive committee consists of Drs. Frank Billings, L. Hektoen, J. Clarence Webster, L. F. Barker and the secretary. Meetings will be held monthly.

INDIANA.

THE NEW QUARANTINE HOSPITAL at Indianapolis was opened January 7. The building and equipment cost about \$15,000.

LOMAX HALL is to be the name of the \$25,000 addition to the Medical College of Indiana, in honor of Dr. Lomax, of Marion, who donated his estate to the college ten years ago.

THE EASTERN INDIANA HOSPITAL FOR THE INSANE at Richmond asks from the legislature an appropriation of \$301,000 for the next two years, \$62,000 of which is to be used for the erection of two cottages.

IOWA.

DRS. L. W. LITTIG, of Iowa City, William Jepson, of Sioux City and N. C. Morse, of Eldora, have been appointed by Governor Shaw, as commissioners to represent the state at the Pan-American Congress at Havana.

THE OFFICE of Dr. E. H. King, Museatine, was recently burglarized and an emergency grip taken, containing a roll of surgical instruments, Kelly cushion, operating robes, trays, etc. The following night Dr. Olliver's office was entered and swept bare of instruments. Any parties offering second-hand, or other instruments for sale cheap should be regarded with suspicion.

KENTUCKY.

DR. JOHN L. EVANS, Louisville, is critically ill with abscess of the lungs at Spring Hill, Ala.

THE RESIDENCE of Dr. William Bowman, Toleboro, late consul at Tien-Tsin, China, and state representative and senator, was burned December 12.

THE SUIT for damages of \$45,000 for criminal assault, filed December 19 against Dr. William Cheatham, has been dismissed. It was apparently an attempt to obtain hush-money from a reputable physician.

THE QUARANTINE against Greenup County, which was put in force December 23, was raised two days later, the action of the State Board of Health having roused the delinquent fiscal court to action. On Christmas day it held an extraordinary session and adopted a resolution to pay all legitimate bills for physicians' services, nurses, guards, etc., and telegraphed its decision to the State Board of Health, which thereupon raised the quarantine.

MARYLAND.

DR. GRAFTON M. BOSLEY, Towson, one of the oldest physicians in the state, is seriously ill and has been removed to the Church Home and Infirmary, Baltimore.

DR. THOMAS C. BUSSEY, Texas, has been appointed physician to the almshouse and Dr. Richard C. Massenburg, Towson, physician to the jail of Baltimore County.

THE THIRD ANNUAL REPORT of the Peninsula General Hospital, Salisbury, shows that during the year 110 patients were received for treatment, 70 of whom were free patients, and 5 of whom died.

DR. W. S. RICHARDSON, Williamsport, was assaulted in the Traver Hotel, Downsville, by the proprietor for an alleged insult to his wife, December 24. The Doctor's nose was broken, other injuries inflicted and his condition is critical.

THE ANNEX to the Western Maryland Hospital at Cumberland was opened December 28. The expense of this annex was met by the appropriation made last winter of \$4000 by the legislature. It consists of a wide corridor connecting it with the main buildings, a large operating room, a sterilizing room, a bathroom, an elevator and four recovery rooms. The operating room is 18x20 feet, is lighted by six windows and by a large skylight. This is the only hospital in Western Maryland and draws from the neighboring parts of Maryland, West Virginia and Pennsylvania.

Baltimore.

HEALTH COMMISSIONER BOSLEY says that a complete sewerage system and infectious diseases hospital are absolute and

urgent necessities for the health of this city, and he will use every effort to secure both. The mayor is backing him heartily.

DR. ALFRED R. DOHME has been appointed lecturer on pharmacy at the Johns Hopkins Medical School. Dr. Dohme is an A.B. of the Johns Hopkins University, and after his graduation went to Germany and there graduated as Doctor of Philosophy.

A BOARD, consisting of Col. John M. T. Finney, chief surgeon, 1st Brigade; Major William H. Crim, surgeon, 5th Infantry, and Major S. S. Ullrich, surgeon, 4th Infantry, met at brigade headquarters December 28 to establish a standard of medical examination for recruits for the organized militia, as required by section 14a, militia laws, acts of 1900. The standard of examination will be modeled after that of the United States army.

THE FOLLOWING OFFICERS were elected in the national societies recently meeting here: American Psychological Association: Prof. Josiah Royce, president; Dr. Livingston Farrant, secretary. Society for Plant Morphology and Physiology: Dr. Edward F. Smith, president; Profs. F. C. Newcombe and L. M. Underwood, vice-presidents; Prof. W. F. Young, secretary and treasurer. American Morphological Society: Prof. J. S. Kingsley, president; Prof. E. A. Andrews, vice-president; Prof. T. H. Montgomery, Jr., secretary. American Association of Bacteriologists: Prof. William H. Welch, president; Prof. E. O. Jorden, vice-president; Prof. H. W. Conn, secretary and treasurer.

MINNESOTA.

DAILY INSPECTION of the Minneapolis public schools is assured, as 75 physicians have volunteered their services to the board of education for this work. From these the requisite number will be appointed.

A ST. PAUL undertaker has been arraigned in the police court charged with presenting a death certificate to the board of health which had not been signed by the attending physician, Dr. James S. Gilfillan. The certificate bore the doctor's signature, but he claimed to have no knowledge of the matter.

THE WINONA city council, on December 22, accepted the resignation of Dr. Donald B. Pritchard as a member of the local board of health, and elected Dr. Darwin A. Stewart to fill the unexpired term. A week later Dr. Stewart's resignation was accepted and Dr. Pritchard elected to fill a vacancy in the board.

THE NEW QUARANTINE HOSPITAL at Minneapolis, which has just been opened, is said to be the most complete institution of its kind west of New York. It has accommodation for 48 patients, half in wards and half in private rooms, in addition to the building used for the reception of patients and the use of the hospital staff. The hospital has cost about \$16,000.

HEALTH OFFICER FRANKLIN STAPLES writes: In your Minnesota news of last week's JOURNAL, you notice an epidemic of smallpox at Winona. For the next number of THE JOURNAL the revision of the notice should be as follows: Disease decidedly on the decrease. Number of cases reduced is nearly 50 per cent. The disease is of a very mild type, a kind of anomalous smallpox, such as has been prevalent lately in many places and in different parts of the country. Instead of "a few deaths" as erroneously reported, the correct statement is that no deaths have occurred from this cause.

MISSOURI.

CHARLESTON has passed an ordinance prohibiting the sale of cocaine and similar drugs.

FREE VACCINATION to all who apply has been volunteered by 12 Kansas City physicians.

THREE CHINESE "DOCTORS" in Kansas City, Wong Sang, Lee Coon Hung and Wong Hay Shine, have been arrested for practicing medicine without a license. The prosecutions were instituted by the State Board of Health.

THE CITY COUNCIL of Louisiana, on account of the prevalence of smallpox, has issued a proclamation prohibiting public gatherings of all kinds and closing the public schools. The health officer, Dr. T. Guy Hetherlin, has resigned on account of the lack of heed paid to his warnings and advice, and Dr. Ira Miller, of Ashburn, has been appointed his successor.

"THE WORLD'S HEALTH INSTITUTE AND COLLEGE OF MEDICINE, SURGERY AND SCIENCE" has been incorporated at St. Louis by a homeopathic physician, two laymen and a physician whose name is not to be found in the directory, with a capital of \$50,000, to conduct a health institute, a college of medicine, surgery and science, and incidentally to buy, sell and rent real estate.

THE ST. JOSEPH MEDICAL SOCIETY held a fin de siècle meeting and banquet December 31. About 50 guests were present. Dr. Jacob Geiger presided as toastmaster; Dr. Thomas H. Doyle spoke on "St. Joseph's Pioneers in Medicine"; Dr. Pierre I. Leonard, on "Medicine of the Future"; Dr. John M. Bell reviewed the history of the St. Joseph Medical Society, and Dr. Charles Wood Fassett responded to the toast, "The Medical Press."

MONTANA.

POST-SURGEON GIBSON and his wife were injured while driving near Fort Harrison, Helena, December 24. Dr. Gibson was badly bruised and had his shoulder dislocated, and Mrs. Gibson had a dislocation of the elbow.

DR. DANIEL L. CARMICHAEL, Helena, has renewed his contract as physician of Lewis and Clarke County at a salary of \$1800 per annum. In consideration of this he agrees to attend the sick at the poor farm, county jail, all sick poor within two miles of the city and all smallpox patients.

THE COMMISSIONERS of Silver Bow County have adopted a sure way of forfeiting the respect and losing the co-operation of the physicians of the county. In reply to the protest of the county medical association against the lax methods employed in dealing with smallpox, which is epidemic there, the commissioners admit that the sanitary conditions are bad, but charge the physicians with being partially responsible for the prevalence of the disease, in that they have ignored the health laws and treated smallpox patients in secret. About the same time that this reply was being formulated, a request was made to the board to put an infected house in a thickly populated district under quarantine, but the board refused to do so.

NEW MEXICO.

COAL MINERS are bringing influence to bear to locate the hospital for miners at Gallup. The hospital tax on miners, which began October 1, will amount to \$1000 per month.

DR. PERCY G. CORNISH, surgeon-in-charge of the Santa Fe Pacific railroad hospital at Albuquerque for the last four years, has resigned and has been succeeded by his assistant, Dr. John M. Elder, whose place will be filled by Dr. Raymond Russ, of Los Angeles, Cal.

THE SANATORIA for consumptive seamen at Fort Stanton has been a success thus far. In the first eighteen months of its existence 92 patients were admitted from the various marine hospitals, 12 of whom were discharged as recovered, and 15 as improved. Eleven patients died.

NEW YORK.

THE SUPERVISORS of Albany County have elected Drs. Arthur Sautter and Mark S. Lavy, Albany, Edward M. Bell, Cohoes, and Martin S. Reid, Coeymans, coroner's physicians at a salary of \$600 a year.

ON OCTOBER 1, 1900, there were 22,088 inmates in the various state hospitals, an increase of 653 over 1899. The average increase has been about the same for the past five or six years. The expenditure per capita was \$165.38.

THE PHYSICIANS of Schenectady objected so strenuously to the action of the General Electric Company in securing a physician from Albany to vaccinate the 5000 employees of the company, that the Albany physician asked to be relieved, and a Schenectady physician was employed.

HEALTH OFFICER GOLER, of Rochester, announces that for the past two months there has been, on an average, one new case of rabies in dogs reported each day, and the situation is becoming alarming. Autopsies and laboratory experiments have proved beyond all doubt that it is true rabies.

CORTLAND is the center of an epidemic of typhoid fever. The city hospital is full of patients and the management is compelled to turn applicants away. Many factories and business houses are crippled because of the illness of the employees. The cause of the epidemic has not yet been determined.

THE CHAIRMAN of the Senate Committee on Finance held a conference in Buffalo recently with Senator Henry W. Hill and Dr. John H. Pryor, concerning the completion of the state consumption hospital in the Adirondacks. The result of the conference was that the committee will add the item of \$200,000 necessary to complete the building, to the annual appropriation bill. The trustees of the hospital have selected a second site for the institution at Raybrook, between Saranac Lake and Lake Placid, and not far from the Lake Clear site, which was first selected.

GOVERNOR ODELL, in his first message to the state legislature, calls attention to the state board of health, which consists of three commissioners appointed by the governor. The duties are such that one competent man, giving his entire time thereto, he thinks, might easily perform them, provided that the supervision of tuberculosis and glanders in cattle were transferred to the department of agriculture, where it properly be-

longs, thereby removing the necessity for a large office force at corresponding expense. This change is suggested with a recommendation of affirmation by the legislature.

Buffalo.

DR. FREDERICK H. MILLS, of this city, has been appointed acting assistant-surgeon in the army, and has been ordered to the Philippines.

OF THE thirty physicians in New York whose names appear on the list of those eligible for positions in state institutions, nine reside in Buffalo.

INFLUENZA is prevalent in Buffalo. The disease is characterized by a high range of temperature, and is principally of the respiratory type. Many pupils are prostrated and between fifty and sixty school teachers are unable to attend to their duties. In some instances entire families have been attacked.

New York City.

IT IS ESTIMATED that a million persons have been vaccinated in Greater New York since an epidemic of smallpox threatened.

BY THE WILL of the late Henry Villard, Dobbs' Ferry Hospital Association receives a bequest of \$50,000, and New York Infirmary for Women and Children, \$5000.

THE HEALTH BOARD has recommended to Commissioner of Charities Keller that a new ward be established at Randall's Island solely for the accommodation of children with contagious diseases.

THE REPORT of the committee on the library of the New York Academy of Medicine shows that on Nov. 30, 1900, the library contained 89,000 volumes. During the year, 3649 volumes were added; 971 books and 832 journals were issued to 194 readers. There were registered 11,520 readers during the year.

THE EXTREMELY high mortality among the infant charges of the city has engaged the attention of the commissioner. The mortality among the children on Randall's Island for 1899 was 45.05 per cent., and for the first nine months of 1900, 46.67 per cent.

A FEW CASES of smallpox continue to develop in widely separated sections of the city. So far, there have been 84 cases in the Borough of Manhattan, 2 in Brooklyn, and 5 in the Bronx, and of this number 3 have terminated fatally. There are now 61 cases isolated on North Brother Island.

OHIO.

YOUNGSTOWN is to have a new hospital, to cost from \$150,000 to \$200,000, the entire cost being defrayed by Myron C. Wick and his family.

DR. OLIVER W. LINDSAY, Columbus, has resigned as secretary of the Health Department, and taken up his work as coroner of Franklin county.

THE CINCINNATI ACADEMY OF MEDICINE has presented to Congress a protest against any reduction in the Medical Department of the army, below the other staff corps.

DR. ALBERT E. WARREN, Youngstown, is reported critically ill at Hot Springs, Ark., the result of an infected wound received during an operation several months before.

THE CHARGES against five women and one man in Cincinnati, of unlawfully practicing medicine, have been withdrawn, as the accused have complied with the law, registered with the state board of examination, and have been granted permission to practice.

PENNSYLVANIA.

LANCASTER is to have medical inspection of the public-school children.

THE TRUSTEES of the State Hospital for the Insane at Norristown met January 4, cast 21 ballots without result, for a successor to Dr. Tabor and adjourned till January 18.

AN EPIDEMIC of typhoid fever prevails at North Bend, near Renovo, where 11 cases have been found. It was discovered that these persons had used water from a spring near which there had been a case of typhoid fever.

Philadelphia.

DR. CHARLES S. TURNBULL has been appointed major and surgeon of the First Regiment of Pennsylvania.

THROUGH THE WILL of Mrs. Anna Stickler of Camden, N. J., the Methodist Hospital of this city has been left \$5000.

A BEQUEST of \$15,000 has been made to the Orthopedic Hospital through the will of Ruth Anna Cope, and \$1000 was given to the Germantown Hospital.

AT A RECENT meeting of the College of Physicians a life-size oil painting of the late Dr. Joseph Leidy was presented to the college by Mrs. Joseph Leidy, Jr. An autograph letter to Dr. Leidy from Professor T. H. Huxley was also presented to the college. The gifts were received on the part of the college by Dr. S. Weir Mitchell.

IN A RECENT letter to a member of the common council, Dr. John V. Shoemaker presents the needs of the Philadelphia Hospital in rather strong terms. He stated that in one instance 88 children were housed in the hospital together with adults, a condition which is to be deplored from a moral standpoint if for no other. Dr. Shoemaker also made an earnest plea for the erection of a children's hospital in connection with the Philadelphia hospital.

A DETERMINED EFFORT is being made by the Philadelphia County Medical Society, the Society for the Prevention of Tuberculosis, and other organizations, to have tuberculosis placed under the compulsory registration law. Looking toward this end, committees of the above societies have appeared before the board of health for the purpose of urging immediate action. What is mainly desired is to know just where the infected houses are located, so that the proper literature and instruction may be sent to the persons affected.

CORONER DUGAN states that 2679 inquests were made during the last year, of which 1605 were on white males, 831 on white females, 129 on colored males, and 117 on colored females; 4 were on Mongolians. This is an increase of 120 over the previous year. The principal causes of death were: Injuries, 650; scalds and burns, 160; heart disease, 317; drowning, 92; electric shock, 9; falling or jumping from windows, 18; heat stroke, 61; suffocation from illuminating gas, 43; accidental poisoning, 21; homicides, 35; 173 persons committed suicide. The principal agencies were as follows: hanging, 34; shooting, 40; illuminating gas, 31; laudanum, 15; carbolic acid, 21; cutting and stabbing, 15; drowning, 13; jumping from windows, 5; corrosive and arsenical poisoning, 12. There were 133 deaths from injuries due to steam cars, and 35 deaths from trolley cars.

TENNESSEE.

THE SEWANEE MEDICAL SCHOOL, on December 21, graduated 101 students in medicine.

THE HOUSE of Dr. Goleman D. Sullivan, at Sullivan, Mason county, was burned December 26.

DR. JOHN H. HARRIS, Gadsden, sustained a loss of \$800 by a fire December 24, which destroyed his office, medicines and instruments.

LYNCHBURG has elected Dr. Edward M. Dance, a member and ex-officio president of the board of health, and Dr. Thomas H. Woods, alternate member of the board and ex-officio president pro tempore.

DR. JAMES A. ALBRIGHT, Nashville, secretary of the State Board of Health, has issued a circular letter to county health-officers stating the smallpox situation, urging vaccination and suggesting that negroes be vaccinated with the hypodermic needle in order that the virus may not be wiped off or the vaccination otherwise rendered ineffectual.

TEXAS.

DR. ALEXANDER H. DAVIDSON, Boerne, has been appointed physician of Kendall county, and Dr. Arthur F. Newberry, Hallettsville, re-appointed health officer of Lavaca county.

THE DEMOCRATIC CONVENTION at Waco passed the following resolution: "Resolved, That we favor the creation of a State Board of Health with the provision for the collection of vital statistics of the State, as provided for by the Constitution, Article 16, Section 32, and the enactment of laws to distribute the expenses of improvements of quarantine equitably between the State, counties and municipalities."

WISCONSIN.

RIVERSIDE HOSPITAL, Wausau, was damaged by fire, December 26, to the extent of \$6000. The patients were all removed in safety.

AN ADDITION to St. Luke's Hospital, Racine, is to be erected by Mr. and Mrs. William Horlick, in memory of their daughter, which will be known as the "Alice Horlick Memorial." The proposed building will nearly treble the capacity of the hospital.

THE STATE BOARD OF MEDICAL EXAMINERS has submitted its biennial report to the governor. During the last two years the receipts from licenses, registrations and examinations were \$8772.52, and the expenses, \$7909.21, leaving a balance of \$863.31, which has been deposited in the state treasury.

UTAH.

DR. OLIVER S. ORMSBY, Logan, has resigned as a member of the State Board of Medical Examiners, on account of removal from the state.

THE ATTORNEY-GENERAL holds that the State Board of Health has power to enforce the order excluding unvaccinated pupils from public schools in the state.

THE ORDER requiring vaccination of children or their exclusion from school has been made operative in nineteen towns in the state, including Salt Lake City and Ogden.

A PHRENOLOGIST of Salt Lake City, charged with practicing medicine without a license, was found not guilty, although evidence was presented that he had prescribed medicine. He, however, claimed that he had made no charge for the medicine, but had charged \$10 for a phrenological chart.

GENERAL.

HAVANA reported last week that no case of yellow fever existed among the Americans, and that there were in Luas Guaymas Hospital only 10 persons, all Spaniards, suffering from the disease.

DR. J. A. NYDEGGER, passed asst.-surgeon, has arrived at San Francisco from the Philippines, where he has been on quarantine duty. He was taken ill and has been ordered to report to the Chicago Marine-Hospital for duty.

THE AUTHORITIES at Dawson, Yukon, have telegraphed to the outside for 10,000 more vaccin points for use in enforcing the compulsory vaccination ordinance passed recently, to have effect throughout Yukon territory. There are now 2500 points on the way there, making a total of 12,500 ordered.

DR. J. H. RAYMOND, formerly an instructor at Rush Medical College, has been appointed president of the Honolulu Board of Health in place of C. B. Wood, M.D., resigned. After about a year's absence in Chicago and San Francisco, he has resumed practice in partnership with Dr. W. J. Galbraith, formerly of Omaha.

THE SURGEON-GENERAL of the Marine-Hospital Service has caused to be prepared by one of the medical officers of the service a new edition of the handbook of the ships' medicine chest, a small volume written in as plain language as possible for the use of shipmasters and others on board vessels not carrying medical officers. The book is also used at United States life-saving stations.

THE CHICAGO MEDICAL SOCIETY, at a meeting held Jan. 2, 1901, adopted the following resolutions: Resolved, that it is the sense of this society that pathological specimens, which are now taxed at 20 per cent. on the cost of their production, should be admitted duty free, as they are used exclusively for scientific purposes and are of no commercial value. Resolved, further, that a copy of this resolution be transmitted to each senator from this state and to each member of Congress from this city.

GOVERNMENT PROVIDES AGAINST DISEASE EPIDEMIC IN THE SOUTH.

The United States Government has just equipped in Florida and placed in readiness for any emergency the largest detention camp in this country. Surgeon-General Wyman states that the camp ground consists of 100 acres of land located on a high bluff on the south side of St. Mary's river, 2½ miles from Boulogne, Fla., and some four or five miles from Folkstone, Ga. On the grounds are a disinfection and warehouse building, two dining-rooms with a seating capacity of 600 people each, a kitchen and storeroom. In the shape of permanent constructions there are officers' quarters. Stored in the now unused dining-rooms are 500 tents, which are capable of easily accommodating 2000 people, should such an emergency arise. Arrangements have been made for the disinfection of all sewage from camps before it is discharged into the river, so that there will be no danger of an outbreak among people drinking the river water below.

PAN-AMERICAN MEDICAL CONGRESS.

The sessions of the sections of the congress will begin on the morning of February 4, in the halls of the University and Institute. In the evening the formal opening ceremonies of the entire Congress, a general session, will take place at the Tacon theater, at which the various representatives of the different countries will be introduced, and speeches of welcome will be made by the officers of the Congress, as well as by the civil authorities. On the second day, scientific sessions of sections will take place; in the evening there will be an entertainment given to the delegates and their families by the City Council of Havana. On the third day, scientific sessions of sections will be in the morning as usual; in the evening a general session dedicated to scientific discourses. On the fourth day, session meetings will be held; in the evening a closing general session in which the officers of the Congress will participate. General Wood, the governor-general of Cuba, formerly surgeon in the U. S. Army, will give a reception to the delegates, probably the day before the opening of the Congress. He will also give orders that the fortifications of the island be shown to the delegates. The insignia or medal of the delegation will be made of silver. On one side will be written, "Third

Pan-American Medical Congress, Havana, 1901." on the other side, will be the coat of arms of Cuba, beneath which the word Cuba is written.

FOREIGN.

DR. EDWIN KLEBS, for the last four years professor at Rush, Chicago, has settled at Munich since his return to Germany.

THE *Muench. Med. Woch.* states that the German Medical Tribunal of Honor has decided that continuous advertising in the lay press is unworthy of the profession, and has consequently imposed a heavy fine on a number thus advertising.

DR. CHAPOT PREVOST, who performed the operation on the xiphopagus monster, has been awarded 40,000 milreis by the Brazilian government as a prize bestowed by the nation and to defray the expenses of his trip to Europe to demonstrate the surviving twin in scientific circles. This sum is normally equivalent to \$21,900, and even in the depreciated condition of the currency amounts to about \$4000.

A PRESS dispatch from Vienna states that the entire corps of physicians connected with the Lemberg and Cracow hospitals threaten to strike January 12. They demand an increase of salary. At present they are paid on the scale fixed in the reign of Maria Theresa, in 1760. These salaries include such old-fashioned and obsolete perquisites as ten tallow candles monthly.

THE *Bibliographia Medica* has commenced the publication of special editions restricted to a single branch of science, six in all. The first contains the bibliography of anatomy, physiology and the veterinary art, to cost ten francs or \$2 a year. The others include medicine, general and special, thirty francs; surgery, general and special, twenty francs; gynecology, obstetrics and pediatrics, fifteen francs, and therapeutics, pharmacy and materia medica, ten francs. The complete edition costs fifty to sixty francs. A complete alphabetical index will be furnished with each special edition for two francs extra, at the end of the year.

THE ANNUAL distribution of prizes at the Paris *Academie de Médecine* occurred December 18. No papers were received from an American author and no articles from any source for five of the prizes. Pagano, of Palermo, was awarded a prize of 1200 francs for his work on the "Sensibility of the Heart and Vessels," and an Alexandria physician received a portion of another prize for his study of the plague in 1899 at his city. The Japanese author whose study of immunity to tuberculosis was reviewed in THE JOURNAL, December 29, p. 1690, and Heresco of Bucharest each received a portion of a prize, the latter for his work on "Surgical Intervention for Tumors of the Kidney." With these exceptions all the prizes were awarded to French authors, which includes Dr. Matignon at Pekin. An hour or two before the session fire broke out in the famous library adjoining the hall, but was soon controlled.

Correspondence.

Foreign Bodies in the Ear.

BINGHAMTON, N. Y., Jan. 5, 1901.

To the Editor:—I write to add my experience in the management of the above cases. A boy was brought to me with a grain of corn in his ear, which had defied all the efforts at removal made by his parents and friends. It had been lodged there for several days. The external ear was swollen to perhaps double its normal size, and the tumefaction of the tissues was such that the auditory canal was nearly closed. Only a small portion of the surface of the grain of corn could be seen. The parts were much inflamed and the tenderness was so acute, that no manipulations or instrumental efforts could be made without an anesthetic. I was, however, able to achieve a most gratifying success by the use of a continuous jet of warm water thrown gently against the ear by a Davidson's syringe, until at last, under these measures the tissues relaxed to such an extent that some of the water ultimately passed behind the kernel of corn, and it was carried out by the returning current.

I have always regarded the use of water poured in the ear as the best mode of removing a live insect. On one occasion during my army service I was called at night to see a soldier into whose ear a hard-shelled beetle had crawled. The insect was so large that its body filled the auditory canal. I seized its outer extremity with a dressing forceps, but they slipped

off; the insect's movements made the soldier scream with pain. Close by was the soldier's canteen of water; from it I poured some water into the ear and the invader immediately retreated rear-foremost.

J. M. FARRINGTON, M.D.

Goat Lymph.

WESTBORO, Mass., Dec. 24, 1900.

To the Editor: I send herewith a letter recently received which may be interesting to your readers. I thought this communication would inform the medical profession that if there is anything of value in goat-blood serum it can be obtained through regular channels and at a moderate price. By reference to Abbott's "Bacteriology" any physician can prepare his own serum very readily. The expense of a healthy young goat is only about three dollars.

W. T. PARKER, M.D.

W. T. Parker, M.D., Westboro:—We have before us your esteemed communication of the 26th inst., advising us to place a goat-blood serum upon the market as a substitute for the goat lymph which is being so extensively advertised as a remedy for chronic diseases. In reply we beg to say that while we do not mention in our catalogue a serum of this kind, we are prepared to supply it upon special requisition, at the rate of \$1 per bulb of 10 c.c., or \$2.75 per ounce. The serum has been available to the medical profession about a year now; and while we do not make any therapeutic claims in its behalf we think it probable that it will accomplish as much as the lymph to which you refer. We do not consider this a very extravagant claim, for the reason that we have little or no faith in the virtues of the "lymph." Physicians who are interested in experiments on the goat as a therapeutic resource, will find our serum suited to their purpose, at least for a time; they will have the satisfaction of knowing what they are using, as the preparation can be duplicated by any competent biologist who has a healthy goat in his possession. Thanking you sincerely for your suggestion and offer of assistance, and trusting that if you decide to experiment with goat serum you will specify our product and obtain results worthy of publication, we remain, with best regards, very truly yours,

PARKE, DAVIS & Co.

Higher Medical Education and the State University of Iowa.

IOWA CITY, Jan. 7, 1901.

To the Editor:—Knowing your efforts for the advancement of medical education, I believe that you will be interested in hearing that the faculty of the College of Medicine of the State University of Iowa has decided to extend the course to four years of nine months each, the length of the session to be thirty-eight weeks, or thirty-six weeks exclusive of vacations. Last year the Board of Regents granted permission to make such a change in 1902, but by a unanimous vote the medical faculty requested that it might go into effect a year earlier. It has not been the experience of the faculty that an increase in work is followed by a decrease in attendance, as the places of such students as are frightened away are filled by the more desirable material which goes, not where a diploma is the easiest to be obtained, but where the fullest instruction appears to be offered; nevertheless the opinion fully prevails that quality is preferable to quantity and that the college must be kept among the leaders even if the enrollment suffers. The requirements for admission have for some time been the same as for entrance to the College of Liberal Arts of the University, and all preliminary examinations are conducted by the University Examiner, whose certificate alone can give admission. Yours very truly,

E. W. ROCKWOOD, M.D.

Association News.

Proposed Legislation Affecting Medical Corps of the U. S. Army.

To the Members of the AMERICAN MEDICAL ASSOCIATION: Your attention is called to the fact that there is at present pending in Congress certain proposed legislation that seriously disturbs the present status and efficiency of the medical corps of the United States army.

The proposed law is entitled: "An Act to Increase the Efficiency of the Military Establishment of the United States"—Senate Bill 4300—and in a general way modifies the existing organization of the army, while at the same time it provides for a damaging and offensively invidious discrimination against

the medical corps. This fact is shown in the following particulars, viz:

1. It decreases the percentage composition of the corps in the grades of colonel from 3.1 per cent. to 2.4 per cent.
2. It changes the percentage composition of the corps in the grade of lieutenant-colonel from 5.2 to 5.7 per cent.
3. It decreases the percentage of composition of the corps in the grade of major from 26 per cent. to 18.6 per cent.
4. It increases the percentage composition of the corps in the grade of assistant-surgeon with the ranks of captain and first lieutenant from 65 per cent. to 74.7 per cent.

The significance of these proposed changes can be understood when it is remembered that even under the existing law it requires more than eighteen years to reach the grade of surgeon with the rank of major, while under the proposed law it will require at least twenty-five years to reach the same grade and rank. With this fact reduced to a mathematical demonstration, the inevitable result will be: 1, that the more worthy young men will not apply for commission, and 2, that the relatively less worthy men who do enter the service, discouraged by the certain impossibility of reasonably prompt promotion, will resign, leaving their places to be filled by untrained and consequently less efficient men. The ultimate disaster from this contemplated change, however, will consist not alone in a lowered status of the medical service, but in 1. increased disease and death-rate among the men, 2, a diminished and otherwise weakened force on the firing line, and 3, a material augmentation of the pension roll.

In view of the foregoing facts, and in view of the fact that every other corps of the army is better graded than is the medical, every member of the AMERICAN MEDICAL ASSOCIATION and every member of the medical profession is hereby earnestly solicited to send at once to his United States senator and congressman an urgent and emphatic protest against provisions in Senate Bill 4300, relative to the medical corps of the United States army. [Signed]

CHAS. A. L. REED,

President of the AMERICAN MEDICAL ASSOCIATION.

Cincinnati, Dec. 29, 1900.

New Members.

The following is a list of new members of the A. M. A. for December, 1900:

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| ALABAMA.
Hixon, Frank P., Perote.
Lewis, C. Morris, Birmingham.
Bennett, Benj. F., Louisville.
Stovall, Andrew McA., Jasper. | DOUGLASS, W. W., Hillsboro.
LOVELL, Frank B., Gibson City.
MILLER, Andrew D., Sullivan.
MARKLEY, P. L., Rockford. |
| ARIZONA.
Claypool, S. Barclay, Globe. | IOWA.
Dyer, Benj. G., Gilbert Sta.
Fuller, Q. C., Milford.
Cleaves, J. H., Council Bluffs.
Carpenter, M. C., Fairfield. |
| ARKANSAS.
Canfield, Herbert H., Siloam Springs.
Hankison, O. C., Pine Bluff.
Ellis, G. S., Helena. | DERWENT, Albert E., Lamoni.
HARRISON, E. W., Winfield.
GARVER, John E., Storm Lake.
COOK, Clarence P., Otley.
WEDER, J. R., Vincennes.
WILLIAMS, Cora B., Marshalltown.
GRIMES, W. S., Wapello.
STONER, A. P., Des Moines.
ENGLE, Theo., State Center.
KINCARD, Geo. E., Muscatine. |
| CONNECTICUT.
Crossfield, Frederick S., Hartford.
Dickerman, Wilton E., Hartford.
Bunce, Philip D., Hartford.
McKee, Robt. S., New Haven. | INDIAN TERRITORY.
Reeder, C. L., Tulsa. |
| CALIFORNIA.
Vogel, C. W., San Francisco.
Dial, E. A., San Luis Obispo.
Colliver, John A., San Francisco. | IDAHO.
Loder, Wm. F., Salubria. |
| COLORADO.
Grissom, Eugene, Pueblo. | INDIANA.
Stout, O. L., Upland.
Davidson, J. F., Crawfordsville.
Butterworth, Chas. M., South Bend.
Ferguson, Frank C., Indianapolis.
Sharrer, H. E., Hammond. |
| FLORIDA.
Mitchell, Neal, Jacksonville. | KANSAS.
Schenberger, S. W., Industry.
Meade, R. H., Great Bend. |
| DISTRICT OF COLUMBIA.
Savage, L. S., Benning.
Dowling, Thos., Washington. | KENTUCKY.
Robbins, Felicia V., Olive Hill. |
| GEORGIA.
Coile, Frank W., Winterville.
Eberhardt, L. Pope, Elberton. | LOUISIANA.
Thornhill, Francis M., Arcadia.
Lawton, W. B., Mira, Caddo Parish. |
| ILLINOIS.
Archer, I. J., Chicago.
Freer, Otto P., Chicago.
Jacobs, John M., Chicago.
Lacy, Hattie E., Chicago.
Kunz, Sylvan, Chicago.
Strueth, Carl, Chicago.
Knoblauch, Jos. I., Metamora.
Smith, J. W., Chicago.
Sargent, Edw. E., LeRoy.
DeSilva, Jos., Rock Island.
Adams, W. W., Atkinson. | MARYLAND.
Broadup, G. L., Cumberland.
Micheau, Ellis, Baltimore.
Fisher, S. G., Pt. Deposit. |

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| MASSACHUSETTS.
Walker, Augustus C., Greenfield.
Shores, Harvey T., Northampton.
Nicolla, C. C., So. Lancaster.
McNair, R. H., Longmeadow.
Tallman, A. L., East Boston.
Houston, J. A., Northampton.
Jackson, Henry, Boston.
Elmore, J. Alfred, Boston.
Hewitt, C. E., Springfield.
Dolan, Wm. A., Fall River.
Melgs, J. V., Lowell.
Bowditch, Vincent Y., Boston.
Twombly, Edw. L., Boston.
Whitmore, Albert S., Suffolk.
Howland, Joseph B., Tewkesbury.
Abbe, Frederick R., Dorchester, Boston.
Porter, Chas. A., Boston.
McCollom, John H., Boston.
Daly, Timothy J., Lawrence.
Cahill, J. T., Lawrence | GULICK, Luther, New York City.
DENNIS, Frederic S., New York City.
HARVIE, John B., Troy.
KLINNEAR, Beverley, O., Clifton Springs.
DWYER, John, New York City.
SHEEHAN, Daniel J., New York City.
SIEFORT, Carl F., New York City. |
| MICHIGAN.
Jones, Bernard W., Vulcan.
Jenks, Nathan, Detroit.
Conner, Samuel E., Port Huron. | NORTH CAROLINA.
Egerton, Jas. L., Hendersonville.
Purefoy, G. W., Asheville. |
| MINNESOTA.
Chambers, Carlos L., Kasson.
Lum, Clarence E., Duluth.
Sullivan, M., Adrian.
Heiberg, Adolph O., Rushford.
James, John H., Mankato.
Swartz, W. J., Minneapolis.
Knickerbocker, Frank H., Staples.
Hill, Arthur L., Monticello.
Burnside, Foster, St. Paul.
Workman, H. E., Tracy. | NORTH DAKOTA.
Bacharach, Harvey, Finley. |
| MISSISSIPPI.
Wissinger, W. S., Hernando.
Robertson, Wm. W., McComb City.
Thomason, J. W., Arkabutla. | OHIO.
Bliss, T. F., Springfield.
McCoy, Jos. J., Steubenville.
Slagle, Chas. D., Centerville.
Pontius, Maria G., Canton. |
| MISSOURI.
Underhill, W. W., St. Louis.
Chowning, Thos., Hannibal.
Cole, R. King, Sedalia. | PENNSYLVANIA.
Read, A. H., Norristown.
Seiple, W. G. M., Leighton.
Summerville, H. B., Rimersburg.
Hutchinson, H. A., Dixmont.
Disque, T. L., Pittsburg.
Johnston, Jas., Bradford.
Rocap, Wm. A., Olney, Philadelphia.
Stein, Charles J., Pittsburg.
Rice, Daniel S., Hastings.
Burkhart, E. J., Johnstown.
Shank, O. J., Windber.
Carlisle, H. L., Windber.
Alter, Jos. G., New Kensington.
Kelso, J. S., Woodland.
Hunter, W. L., Turtle Creek.
Shupe, M. B., Connellsville.
Armstrong, Wm. J., Kane.
Noeson, F. T., Bear Lake.
Thompson, Benjamin, Landenberg.
Hall, George B., Cartwright.
Bower, Ernest Z., Scranton.
Price, B. Frank, Braddock.
Feldt, W. W., Williamstown.
Bilheimer, John J., Priceburg.
Brown, John W., Pittsburg.
Staller, Max, Philadelphia.
Essig, Chas. J., Philadelphia.
Wilson, Richard, Philadelphia. |
| NEBRASKA.
Hoover, Jonas, Bennet. | RHODE ISLAND.
Akers, J. H., Providence.
Jewett, Fred B., Howard.
Morrison, Wm. F., Providence. |
| NEVADA.
Mangan, Patrick J., Cortez. | SOUTH DAKOTA.
Tufts, Arthur H., Sioux Falls. |
| NEW HAMPSHIRE.
Williamson, W. D., Gorham.
Axtell, John F., Newton.
Cain, Wm. G., Epping. | TENNESSEE.
Francis, Elmer E., Memphis.
Reeve, Nathan H., Bristol. |
| NEW JERSEY.
Brouwer, Frank, Toms River. | TEXAS.
Zvesper, John S., Ammannsville.
Shell, W. T., Corsicana. |
| NEW YORK.
Moore, Richard M., Rochester.
Seifert, Carl F., New York City.
Brannan, John W., New York City.
Pederson, V. C., New York City.
Fuller, Eugene, New York City.
Murray, Francis W., New York City.
McGinnis, E. L'H., New York City.
LeBoutillier, W. G., New York City.
Butts, H. H., New York City.
Foote, S. K., New York City.
Lambert, Alex., New York City.
Hofheimer, J. A., New York City.
Wallin, Mathilda K., New York City.
Beaudoin-Bennett, Mortimer R., New York City.
Robinson, Wm. J., New York City.
Zwisohn, L. W., New York City. | VERMONT.
McSweeney, Patrick E., Burlington.
Maynard, Samuel E., Burlington. |
| | VIRGINIA.
Hancock, F. H., Planners Point.
Rucker, E. T., Manchester.
Starkweather, C. L., Occoquan.
Cooke, Geo. W., Danville. |
| | WISCONSIN.
Hedback, Azel E., Barron.
Nott, Geo. W., Racine.
White, Adam G., Milwaukee.
Stevens, Frank E., Bristol.
Hebard, Chas., Mondovi. |

Marriages.

- J. GEORGE DEMPSEY, M.D., to Miss Le Besque, both of New Orleans, December 12.
- HARRY R. SPICKERMAN, M.D., to Miss Fay Ogle, both of Muncie, Ind., December 25.
- DULANIA S. WIGGINS, M.D., Losantville, Ind., to Miss Koons, Moreland, Ind., December 24.
- J. N. POER, M.D., West Point, Ga., to Miss May Belle Bonnell, Oxford, Ga., January 2.
- JOHN W. MAGUIRE, M.D., to Mrs. Bianca St. John, both of Hutchinson, Kas., December 24.
- R. PERCY SMITH, M.D., Baltimore, Md., to Miss Martha E. Elliott, Towson, Md., January 8.
- FRANK ROGERS RICH, M.D., to Miss Francis Louise Yellott, both of Towson, Md., January 1.

SANDERS L. SWYGERT, M.D., Phoenix, S. C., to Miss Myrtis Wells, of Greenwood, S.C., December 20.

AUGUSTUS JEROME THOMAS, M.D., to Miss Edith Lee Diamond, both of New Orleans, December 19.

WILLIAM W. WHITNEY, M.D., Union, N. Y., to Miss Bertha L. Robinson, of Binghamton, December 27.

B. W. TOOTHAKER, M.D., Westmoreland, Kas., to Miss Esther A. Schroer, of St. Joseph, Mo., December 26.

WILLIAM J. HODGES, M.D., to Miss Helen Asher, both of Pineville, Ky., at Jellico, Tenn., December 28.

WILLIAM IVAN SENKLER, M.D., Vancouver, B.C., to Miss Leila Mackay, of Toronto, Ont., December 19.

R. B. LAYMAN, M.D., South Knoxville, Tenn., to Miss Margaret Pitner, Trundle's Cross Roads, Sevier county, Tenn., December 25.

Deaths and Obituaries.

LOUIS SCHNEIDER, M.D., Kentucky School of Medicine, Louisville, 1865, a prominent physician of Williamsport, Pa., president of the Lycoming county medical society in 1888, at his home, from pneumonia, December 29, aged 56.

WILLIAM H. BEHLE, M.D., College of Physicians and Surgeons, Keokuk, Iowa, 1881, a member of THE AMERICAN MEDICAL ASSOCIATION, from blood-poisoning, December 28, at his home in Salt Lake City, Utah, aged 52.

AUGUSTINE R. BOOTH, M.D., University of Louisville, 1874, surgeon in the United States Marine-Hospital Service, at Shreveport, La., after a lingering illness, December 27, aged 56.

ALPHARIS E. RUNDELL, M.D., Medical College of Evansville, Ind., 1874, formerly of Center Point, at his home in Brazil, Ind., from Bright's disease, December 28, aged 50.

JOHN DELAMATER, M. D., Castleton Medical College, Castleton, Vt., for many years a practitioner at Brooklyn, Mich., suddenly, at Jackson, Mich., December 30, aged 80.

B. RICHARDS, M.D., Jefferson Medical College, Philadelphia, 1850, at his home "Tuckoman," King William County, Va., from cancer of the face, December 25, aged 78.

MORTIMER L. SLEEPER, M.D., Dartmouth Medical College, Hanover, N. H., 1876, at his home, West Burke, Vt., from diabetes mellitus, December 24, aged 48.

WILLIAM A. PALMER, M.D., St. Louis College of Physicians and Surgeons, 1879, after a protracted illness at his home in Russell, Iowa, December 20, aged 50.

WILLIAM DUNCAN, M.D., Savannah Medical College, 1861, a member of THE AMERICAN MEDICAL ASSOCIATION, at his residence, Savannah, Ga., December 27.

WILLIAM C. JONES, M.D., Bellevue Hospital Medical College, New York, 1870, at his home in Grass Valley, Cal., from paralysis, December 28, aged 67.

A. B. DENISON, M.D., Starling Medical College, Columbus, Ohio, 1867, of Shauck, Morrow County, Ohio, December 28, after a long illness, aged 63.

SAMUEL W. COLLINS, M.D., University College of Medicine, Richmond, Va., 1898, of Varina, Va., suddenly from heart disease, December 26, aged 30.

JOSEPH W. PUGH, M.D., Kentucky School of Medicine, Louisville, 1880, at his home in Alexandria, Ind., after a long illness, December 28.

BYRON B. LOUGHEAD, M.D., Western Reserve University, Cleveland, Ohio, 1877, at his home, Ravenna, Ohio, December 25, aged 53.

ISAAC MAYFIELD, M.D., Medical College of Ohio, Cincinnati, 1870, at his home, Randolph, Kas., from paralysis, December 25, aged 86.

JOHN WHITTAKER, M.D., Washington University, St. Louis, 1862, at his home, Camden, Ohio, from paralysis, December 24, aged 73.

CHARLES MCKILLEN, M.D., Medical College of Indiana, Indianapolis, 1873, from apoplexy, at his home in Camden, Mich., aged 51.

HARVEY H. BUHRMAN, M.D., University of Maryland, 1862, at Foxville, Frederick County, Md., January 2, aged 61.

CHARLES CARROLL, M.D., Memphis University Medical College, 1889, at his home, Riverside, Texas, December 27.

THOMAS O. WALTON, M.D., New York University, 1862, at Annapolis, Md., suddenly, December 21.

HIRAM C. CURE, M.D., for 40 years a practitioner at Martinsville, Ind., December 30.

Book Notices.

BACTERIOLOGY AND SURGICAL TECHNIQUE FOR NURSES. By Emily A. M. Stoney, Superintendent of the Training School for Nurses, St. Anthony's Hospital, Rock Island, Ill. Illustrated. Cloth; pp. 190. Price, \$1.25. Philadelphia and London: W. B. Saunders & Co. 1900.

The modern nurse is a product of modern medicine. She, or occasionally he, is a necessity of the conditions produced by the present methods of scientific and humane management of the sick and suffering. The modern nurse, if she be successful, must be an intelligent being, not an automaton or a machine to go mechanically through certain routine duties. She should not only know how, but also why, she does certain things, so that she can do them intelligently. This book is intended to teach the nurse the reason why, so that she may know how, to enter into the details of the scientific nursing of surgical cases. The first chapter on History of Bacteriology places before the reader in a simple manner an account of the growth of the science of bacteriology from its beginning. Following this are chapters on Bacteria as a Cause of Disease, in which the various bacteria of importance and their nature are considered; the Theory of Antitoxins; Antiseptics, Disinfectants and Deodorants, in which are described the various germicidal agents, their nature, uses, etc. In the second part are considered the care of the operating-room, sterilization, care of instruments, keeping of charts, anesthetics, surgical dressings, use of the thermocautery, manner of making saline infusions, etc., preparation and care of sutures, ligatures, drainage-tubes, etc., complications following operations, and their management. In fact, all that a surgical nurse, as such, ought to know is discussed in a sensible manner, the author keeping in mind the fact that she is writing for the nurse, not for the operating surgeon. The book is to be commended.

MODERN SURGERY, GENERAL AND OPERATIVE. By John Chalmers Da Costa, M.D., Professor of Principles of Surgery and of Clinical Surgery, Jefferson Medical College. With 493 Illustrations. Third Edition, Revised and Enlarged. Cloth: pp. 1117. Price, \$5.00 net. Philadelphia and London: W. B. Saunders & Co. 1900.

In this edition Da Costa has brought his well-known work thoroughly up to date, making it, as its name indicates, a "modern" surgery. The general plan of former editions has been retained.

A REFERENCE HANDBOOK OF THE MEDICAL SCIENCES. Embracing the Entire Range of Scientific and Practical Medicine and Allied Science. By Various Writers. A New Edition. Completely Revised and Rewritten. Edited by Albert H. Buck, M.D., New York City. Volume I. Illustrated by Numerous Chromolithographs and 498 fine Half-Tone and Wood Engravings. Cloth. Pp. 799. Price, \$7.00. New York: Wm. Wood & Co. 1900.

The "Reference Hand-Book of the Medical Sciences," one of the great encyclopedic works on medicine, is being revised, and the first volume of the new edition is before us. The first volume of the original work was issued in the fall of 1885, and the last in 1887, thirteen years ago. To bring out a revised edition of such a work is no small undertaking, but if it is to continue to fill the place it occupied, the re-writing of the book is necessary. The changes and the advancement of the last decade and a half have made the greater part of the work obsolete. Comparing the first volume of the new with the first volume of the old, one realizes that most of the matter has been re-written. While occasionally the same article is reproduced, this is exceptional, and not only is the new re-written, but, as a rule, by a different author. The changes that have taken place in medicine in the short fifteen years

is graphically depicted when the two are compared. The article on "Antiseptics in Surgery"—contributed by Surgeon-General Sternberg—is entirely new. In the former edition this was illustrated with cuts showing the memorable spray which Lawson Tait ridiculed so much; another showed an operation with the operator and his assistants in ordinary street apparel, which certainly looks strange nowadays. Another noticeable difference is that the word "appendicitis" is not to be found in the old, but the subject in the new occupies thirteen columns. Autointoxication was not considered fifteen years ago, but now it takes up six full pages. The subject "bacteria" in the old was worthy of only a half column, in the new it claims no less than forty-four pages. This is, by the way, a most excellent monograph of itself, written by Arthur R. Guerard, and beautifully illustrated, showing the various pathogenic bacteria. This large amount of new matter has made it necessary to omit much that appeared in the first edition. But the articles for omission have been carefully selected so that little that is of importance has been expunged. The subject of balneo-therapeutics, which occupied eight pages in the former edition, is omitted entirely, which will be regretted by but few. The illustrations in the new show the advancement made in the illustrator's art. The paper and press-work are both of better quality. If the succeeding volumes take up as much proportionate space as this one, the complete work will be much larger than its predecessor. The new volume only gets as far as "bladder," while the former first volume reached the word "cataract."

ATLAS AND EPITOME OF GYNECOLOGY. By Dr. Oskar Schaeffer, Privat-Docent of Obstetrics and Gynecology in the University of Heidelberg. Authorized Translation from the Second Revised and Enlarged German Edition. Edited by Richard C. Norris, A.M., M.D., Surgeon-in-charge, Preston Retreat, Philadelphia. With 207 Colored Illustrations on 90 Plates, and 62 Illustrations in the Text. Cloth; pp. 272. Price, \$3.50. W. B. Saunders & Co. 1900.

This compact little work, which is very full of illustrations, is hardly in the usual form of an atlas, though fully deserving of that name. Its value to the medical student will be found, as the editor states, specially in the illustrations. The concise explanatory descriptions are, of course, a valuable feature, and the translation has been well done. The editor has also inserted here and there an editorial comment where it would seem necessary to harmonize and point out the difference between the author's teaching and the usual American practice. The work promises for itself a wide sale and to be of much value to the American student and practitioner.

HERNIA: Its Etiology, Symptoms and Treatment. By W. McAdam Eccles, M.S. (Lond.), F.R.C.S. (Eng.). Assistant Surgeon West London Hospital. Cloth. Pp. 231. Price, \$2.50. New York: Wm. Wood & Co. 1900.

The aim of this book, as stated in the preface, is "to submit a short account of the origin, symptoms and treatment of a lesion which, by its very frequency, is of considerable importance and one that teems with practical suggestions." The subject is not exhaustively handled, and some of the rarer conditions, such as double sacs, hernia "par glissement;" femoral hernia external to the vessels, pectineal hernia, tuberculosis of the hernial sac, the very large herniæ, etc., are scarcely mentioned. The statement that a direct inguinal hernia is, strictly speaking, a hernia of the linea semilunaris at its lowest part finds no justification in anatomic facts, and it is very doubtful indeed if the conjoined tendon ever actually forms a covering to these herniæ as stated. The indications for the radical operation are too closely drawn. Owing to the very low mortality and the excellent results which follow the modern operation for hernia, it might be said that the presence of a hernia is sufficient indication for operation and that it is only necessary to point out the contraindications or reasons why an operation should not be performed. On account of the fact that late supuration with extrusion of buried non-absorbable sutures so frequently occurs, the use of the buried silk sutures, as recommended by the author, will find few, if any, adherents on this side of the water.

The treatment of hernia by means of trusses is very well

detailed and the illustrations in this connection are unusually good. Many valuable points on the selection and fitting of trusses will be found which show a large and practical experience in this line of work. The author's style is clear, brief and concise, and the volume neatly and well put up.

A PRACTICAL TREATISE ON FRACTURES AND DISLOCATIONS. By Lewis A. Stimson, B.A., M.D., LL.D. (Yale), Professor of Surgery in Cornell University Medical College, New York. Third Edition, Revised and Enlarged. With 336 Illustrations and 32 Plates in Monotint. Cloth Pp. 842. Price, \$5.00. New York and Philadelphia: Lea Bros. & Co. 1900.

Only a year has elapsed since the second edition of this book was reviewed in these columns. That a third edition should become necessary in the short space of one year is a recommendation of which few books can boast. Nor is this simply a re-issue. The work has been considerably enlarged by the addition of much new matter and many new plates. The experience of the author with fractures and dislocations has been unusually extensive and, while the work of others has been only noted and recorded, his conclusions are nearly all based on the large amount of material which has been under his personal care. In considering the ambulatory treatment of fractures, the dangers, as well as the advantages, are clearly defined and the cases in which it is advisable to employ the method pointed out. The operative treatment of acute fractures, such as of the patella and olecranon, is conservatively and judiciously discussed, and advice given to the general practitioner as well as to the experienced hospital surgeon. The author still maintains, as in his former edition, that "thus far, in my experience, the X-rays have rarely given practically important information in fractures which could not have been obtained without their aid." He adds, however, "but there is reason to anticipate that with increasing knowledge and experience much good will yet come from their use." Notwithstanding this rather depreciative estimate of the value of the X-ray, the work is extensively illustrated with excellent X-ray views of nearly all the principal fractures and dislocations. The work is a standard one and can be recommended to all who have to deal with these troublesome cases.

BALLINGER AND WIPPERN ON THE EYE, EAR, NOSE AND THROAT. A Pocket Text-Book of Diseases of the Eye, Ear, Nose and Throat, for Students and Practitioners. By William L. Ballinger, M.D., Assistant Professor of Otology, Rhinology and Laryngology in the College of Physicians and Surgeons, Chicago, etc., and A. G. Wipperrn, M.D., Professor of Ophthalmology and Otology in the Chicago Eye, Ear, Nose and Throat College. In one handsome 12mo. Pp. 525, with 150 engravings and 6 full-page plates. Cloth, \$2.00. Philadelphia and New York: Lea Brothers & Co. 1900.

This compact little volume of related subjects will unquestionably be found useful by the student and the general practitioner. There are in it some magnificent plates descriptive of ocular anatomy. The physiologic tests used by aurists in locating deviations of hearing are dwelt upon at some length. The type and paper are excellent.

VENEREAL DISEASES: THEIR COMPLICATIONS AND SEQUELAE. By Edward L. Keyes, A.M., M.D., Late Professor of Dermatology and Genito-Urinary Surgery in the Bellevue Hospital Medical College, and Charles H. Chetwood, M.D., Professor of Genito-Urinary Surgery in the New York Polyclinic College and Hospital. Illustrated by 8 Full-Page Plates in Black and Colors, and 107 Engravings. Cloth. Pp. 356. Price, \$2.75. New York: Wm. Wood & Co. 1900.

Although a former work of identical title by the senior author of this volume appeared some twenty years ago, this is in no sense a subsequent edition of the work. Dr. Keyes holds his old views, which have been largely accepted by the profession, as to the treatment of syphilis, and he makes no radical change in this presentation of his subject. As regards the teachings of urethral diseases, however, the older work has, he says, long ceased to be a safe guide, and here the work of the junior author is more to the front. The chapter on nervous syphilis has been contributed by Dr. Pearce Bailey, which is duly acknowledged by the authors. The illustrations are numerous, and the more recent views of the different subjects are, we believe, fairly and fully set forth. The compass of

the work is sufficient to give a very fair idea of its subject, and while we make no special criticisms or commendations we would say that as a whole it is a very valuable treatise and addition to the literature.

FOOD AND THE PRINCIPLES OF DIETETICS. By Robert Hutchinson, M.D. Edin., M.R.C.P., Assistant Physician to the London Hospital. With Plates and Diagrams. Cloth. Pp. 548. Price, \$5.00. New York: Wm. Wood & Co. 1901.

This volume contains a course of lectures to the students of the London Hospital, recast for publication with a considerable amount of additional matter. It is an excellent manual of dietetics in a form that ought to render it one of the most popular text-books on its subject in our language. Although it is written somewhat from the English rather than the American standpoint, this is not a defect, as the differences that would exist in a purely American work would be slight. The author acknowledges his indebtedness to the American school of investigators in this department, more especially to Prof. Atwater and his colleagues, who have done as much as other recent investigators in any part of the world to advance the science of dietetics. The style of the work is taking, and it is certainly easy reading, which is an advantage; we can safely say that the volume should be of value to the practitioner.

DISEASES OF THE GENITO-URINARY SYSTEM. A Thorough Treatise on Urinary and Sexual Surgery. By Eugene Fuller, M.D., Professor of Genito-Urinary and Venereal Diseases in the New York Post-Graduate Medical School. Cloth. Pp. 774. Price, \$5.00. New York: The MacMillan Co. 1900.

This is a treatise on the genito-urinary diseases, largely in their more practical surgical aspects. As they are usually considered surgical diseases this is probably the natural treatment of the subject. The volume covers its ground fairly well. While on some points there may be a difference of opinion as to special methods and ideas described or inculcated, as a whole it is one of the most valuable of the recent contributions to the literature on the subject.

A TEXT-BOOK OF HISTOLOGY, INCLUDING MICROSCOPIC TECHNIC. By A. A. Böhm, M.D., and M. von Davidoff, M.D., of the Anatomical Institute in Munich. Edited, with Extensive Additions to both Text and Illustrations, by G. Carl Huber, M.D., Junior Professor of Anatomy and Director of the Histologie Laboratory, University of Michigan. Authorized Translation from the Second Revised German Edition by Herbert H. Cushing, M.D., Demonstrator of Histology and Embryology, Jefferson Medical College, Philadelphia. With 351 Illustrations. Cloth. Pp. 501. Price \$3.50. Philadelphia: W. B. Saunders & Co. 1900.

This important volume is one of the numerous additions to English medical literature by the translation of standard German and other foreign works. In this case it is the authorized translation from the second revised German edition edited by Prof. Huber, of the University of Michigan. The substance of the book is the special matter of the lectures and courses in histology given at the University of Munich, and is retained in its English form with certain minor changes and numerous additions by the editor. These are more particularly notable in the portion on the nervous system and the glands of internal secretion. Over 100 illustrations, most of which are from original drawings, have been added to this volume which were not contained in the German editions, making the work as it stands a decided improvement over the original. The translation appears to be admirably done, and the publisher's part is beyond criticism.

DISEASES OF THE NERVOUS SYSTEM. A Text-Book for Students and Practitioners of Medicine. By H. Oppenheim, M.D., Professor at the University of Berlin. Authorized Translation by Edward E. Mayer, A.M., M.D., Pittsburg, Pa. First American from the Second Revised and Enlarged German Edition. With 293 Illustrations. Cloth. Pp. 899. Price \$5.00. Philadelphia and London: J. B. Lippincott Co. 1900.

Oppenheim's work has acquired a reputation as a text-book in Germany, and the present translation into English is a service to the American profession. As a text-book it is brief in its treatment of many subjects, but its arrangement and its subject-matter are such that it will undoubtedly take its place

among other well-known and excellent treatises on nervous diseases that already exist in our language. We do not say that it has special advantages over all of these, but it certainly will be useful and valuable to the student and practitioner as giving the later German views on this important class of disorders.

TROPICAL DISEASES. A Manual of the Diseases of Warm Climates. By Patrick Manson, C.M.G., M.D., LL.D. (Aberd.), Lecturer on Tropical Diseases at St. George's Hospital, Charing Cross Hospital Medical Schools, Lecturer in the London School of Tropical Medicine, Medical Adviser to the Colonial Office, etc. With 114 Illustrations and 2 Colored Plates. Revised and Enlarged Edition. Cloth. Pp. 684. Price \$3.50. London, Paris, New York and Melbourne: Cassell & Co., Ltd. 1900.

This manual of diseases of warm climates is handy, compact and concise, and yet appears to contain everything essential for an efficient working knowledge of the diseases of our warmer regions. The chapters on malaria are clear and lucid, and moreover interesting from the fact that Manson first formulated the mosquito-malaria theory, subsequently apparently demonstrated by Ross and MacCallum. The author's scientific turn of mind is apparent in every chapter.

A TEXT-BOOK OF THE PRACTICE OF MEDICINE. By James M. Anders, M.D., Ph.D., LL.D., Professor of Practice of Medicine and Clinical Medicine in the Medico-Chirurgical College, Philadelphia. Illustrated. Fourth Edition, Thoroughly Revised. Cloth. Pp. 1292. Price, \$5.50 net. Philadelphia and London: W. B. Saunders & Co. 1900.

The fourth edition of this well-known text-book appears only a year later than the previous one, and shows how well it has taken with the medical profession and the student. The changes that have been made are particularly in the parts on diseases of the digestive system and on certain other disorders, together with more or less revision in the text of the remaining portions. As a whole, the present edition is much improved, and there is no question that it will continue to maintain the favor with which it has been heretofore received.

Miscellany.

Proposed Legislation Affecting Army Medical Corps.

The Committee on National Legislation has been in conference with the military committee of the senate and house of representatives considering the army efficiency bill, S. 4300, and has recommended a substitute for Medical Section 18, in the interest of the civilian physicians of the United States and of the surgeon-general. The committee on national legislation appeals to every member of the AMERICAN MEDICAL ASSOCIATION requesting him to write or telegraph at once to both chairmen, Senator Hawley and Representative Hull, or his individual senator and congressman, urging them to vote for and favor the passage of the substitute presented by the committee. The original bill is highly objectionable. The substitute proposed by the surgeon-general to Section 18 of the Bill, S. 4300, and approved by the Committee on National Legislation of the AMERICAN MEDICAL ASSOCIATION was printed in THE JOURNAL of December 29, p. 1684. We also direct attention to the letter from Dr. C. A. L. Reed in this issue. The substituted section is recommended for the following reasons: The number of medical officers proposed by S. 4300 is 8 colonels, 12 lieutenant-colonels, 60 majors, and 240 captains and lieutenants; a total of 320. This gives a proportion of officers in each grade of 1 colonel, 1½ lieutenant colonels, 7½ majors, 30 captains and lieutenants; a total of 40. The number proposed in the section heretofore appended is 10 colonels, 20 lieutenant-colonels, 80 majors, 200 captains and lieutenants; a total of 310, the proportion of officers in each grade being 1 colonel, 2 lieutenant-colonels, 8 majors, 20 captains and lieutenants; a total of 31. The total number asked for, 310, is desired for the reason that it is the absolute minimum number required to properly care for an army of 58,000 men in time of peace. The number of officers in each grade is arrived at for three reasons: 1. That the number of officers in the higher grades is the minimum number required in these grades to properly administer the affairs of the Medical Department. 2. That the number of officers in each grade is within a fraction of the relative number in each grade in the Medical Department at the present time, the

present proportion being 1, 1 2/3, 8 1/3, and 20; the proposed proportion being 1, 2, 8 and 20. From this it will be seen that the proportionate rank in the number proposed in this section is within a fraction of the proportionate rank as it now exists in the Medical Department, and that, consequently, no injustice will be done the Medical Department by substituting the proposed numbers for those which now obtain.

3. The efficiency of the Medical Department depends upon the quality of the men who enter this department, and the quality of the men depends upon the inducements offered them to enter upon a life career in the military service. The efficiency of the Medical Department in the past has been maintained by the rank and pay secured by the grading of the officers, which now obtains, and this depends upon the relative number of officers in each grade. It has been shown that the relative number in each grade is practically similar in the proposed section to that which now obtains in the Medical Department. This proportion is much changed by S. 4300, for while the present proportion is 1, 1 2/3, 8 1/3, and 20, total 31, the proportion in S. 4300 is 1, 1 1/2, 7 1/2 and 30—a total of 40; while S. 4300 gives a slightly higher proportion in the higher grades it gives a much lower proportion in the lower grades, the difference in the lower grades being in proportion of 20 to 30, and if S. 4300 becomes a law the consequence will be that while officers in the upper grades will pass through these grades as rapidly as they did before, promotion for officers in the lower grades will be much slower. As at present constituted a majority in the Medical Department is reached after from 18 to 19 years' service, while if S. 4300 is adopted it will take over 25 years for an officer to reach the same grade. For this reason the adoption of S. 4300 could not but seriously impair the future efficiency of the corps, in that by materially reducing the emoluments, it would in the future offer too small an inducement to that class of professional men whose entry to the corps maintains its efficiency. It is believed that the adoption of the numbers in the section proposed will not only give the extreme minimum total number required for the Medical Department in time of peace, and the minimum number of officers of each grade necessary to perform the administrative work of the corps, but by giving practically the same proportion in each grade will enable the medical corps to maintain its present degree of efficiency, in that the same emoluments will be offered in the future as have been offered in the past. The continuance in service for a limited time of a certain number of volunteer surgeons is also recommended. This, for the reason that the exigencies of the service as they now exist in the Philippine Islands can not be met unless more medical officers are allowed than these give for the regular Medical Department. The exigencies of the service demand that these officers shall have the rank of major and colonel, as they have important and arduous duties to perform. Their period of service is limited, in that they are to be retained only so long as their services are necessary and in no case beyond two years after the passage of the act. The appointment of these officers serves a triple purpose in that it allows the retention in service of officers now holding important positions, allows a certain reward to those volunteer medical officers whose services have been of value in the past and gives them time and opportunity to prepare for the examination necessary for entry to the regular medical corps or to adjust their affairs prior to return to civil life. Another provision in the appended section follows the same lines. It provides that in emergency the President is authorized to appoint as many surgeons of volunteers with the rank of first lieutenant as may be necessary, subject to discharge whenever their services are no longer required. This proviso is important in that it allows the President to give an honorable title and position to contract surgeons of long service or special merit. This allows in large part the doing away with the contract surgeon system, using contract surgeons only for brief emergencies, and substituting for civilian quasi-officers a body of men who have the real military rank which is so necessary to a proper performance of the duties of a medical officer in the army. In no other staff corps or branch of the army are civilians employed to occupy the places and perform the duties properly belonging to commissioned officers, and medical men when occupying such positions in the army should have the rank to which their position entitles them and the efficient performance of their duties demands. The volunteer surgeons will act as "feeders" for the regular Medical Department in that their military training will stand them in good stead when they appear before an examining board should they desire to enter the regular medical corps; while, should they return to civil life, they will have the prestige of having been officers in the United States Army should they desire to do duty in the National Guard, or return to the

service in time of war. Nor will the cost to the United States be thereby increased. A sufficient number of properly qualified surgeons can not be obtained unless commissions are offered, and every appointment of an inefficient surgeon is a source of expense to the government through the pension claims of his patients and their dependents. The proposed change will also result in large immediate economies to the government. A contract surgeon is not under military rules to the extent of a commissioned officer, and consequently he can and does leave the service before he has more than fairly learned his duties. This results in a constant change of personnel at a heavy direct cost for their pay and expenses while traveling, and also an indirect cost resulting from their military inexperience. The giving of commissions to these surgeons would not change their pay except that when serving in the United States it would be reduced about \$300 a year. There would be no difference in the matter of pensions, as the contract surgeon now receives by law the same pension as if he held the commission herein proposed. For these reasons, namely, on the score of efficiency, economy, and justice to men occupying important positions in the medical department, these men should be given the rank and position of officers. The necessity for appointment of such officers whenever necessary is apparent. The officers of the regular Medical Department are only sufficient in number to care for an army of 58,000 men when on a peace footing. In consequence provision must be made to establish an elastic medical corps. This is effected by this proviso, in that in sudden emergency or while the army is above its minimum strength it makes provision for a suitable number of medical officers who are to be retained only for the time when their services are necessary. The substitution of the proposed section for Section 18 and its amendment as it now stands in S. 4300 is, therefore, strongly advocated in that it will give a proper and efficient Medical Department with a properly proportioned minimum number of medical officers for duty with an army of 58,000 men in time of peace and an elastic Medical Department by which emergencies may be met.

H. L. E. JOHNSON,

Chairman of Committee on National Legislation.

Koch's Report on Malaria.—Koch publishes in the *Den. Med. Woch.* of December 6 and 13, a summary of the results accomplished by his malaria expedition. He reiterates that examination of the children is the best means to determine the presence and character of malarial infection in a place. In the peculiarly isolated aboriginal villages he visited in eastern Africa, he found it almost universal among the small children. A certain proportion succumb, but the remainder as they grow up seem to acquire a natural immunity by the fifth to tenth year and after that age develop into remarkably fine physique and health, even in the most intensely malarial localities. The children are never treated for malaria; quinin is never given them, and consequently the immunity attained can not be compared with other regions where the natural course of the disease and the process of immunization are interfered with by medicinal measures. He found among the islands of the Bismarek archipelago that some of the islands were entirely free from malaria while others had only one or all three forms. The immunity acquired in an island where only the quartan variety prevailed, for instance, did not protect against the tertian or tropical fever or vice versa. He is convinced that man and mosquitoes are the only hosts of the parasites, and that by curing the infected children and all, even the deceptive, latent cases in adults, malaria can be exterminated. He recommended 1 gm. quinin in solution, taken on a nearly empty stomach in the morning, every tenth and also eleventh day. If fever still persists, the dose can be increased to 1.5 gm., reducing the interval to one and two days. He warns that quinin is not absorbed unless the gastric reaction is acid.

Technique of Transfusion of Blood.—Weintraud described his method of blood transfusion as an improvement over those generally in vogue. He applies a ligature to the arm tight enough to arrest the venous but not the arterial circulation. The pressure is sufficient to send the blood through a tube into the elbow vein of the patient. A second tube at right angles to the first brings salt solution to mix with the blood. The process is so simple that it can be repeated indefinitely. Experiments on animals and clinical experiences show that about 150 to 200 c.c. of blood is transfused in six to ten minutes by this technique.

Societies.

COMING MEETINGS.

Pan-American Medical Congress, Havana, Cuba, Feb. 4, 1901.

Tri-State Medical Association of the Carolinas and Virginia, Richmond, Va., Feb. 26, 1901.

THE BROOKLYN (N. Y.) SOCIETY FOR NEUROLOGY held its annual meeting December 27. Dr. William H. Haynes was elected president and Dr. Bronislaw Onuf secretary.

THE MAINE STATE SANATORIUM ASSOCIATION was organized at Augusta, December 29, with Dr. John F. Hill, as president, and Dr. Albion G. Young, secretary, both of Augusta.

THE WARREN COUNTY (N. Y.) MEDICAL ASSOCIATION has been organized at Glens Falls, with Dr. Godfred R. Martine, president; Dr. David J. FitzGerald, vice-president, and Dr. Fred G. Fielding, secretary and treasurer.

THE ATLANTA (Ga.) SOCIETY OF MEDICINE held its annual meeting, December 20, and elected Dr. T. Virgil Hubbard, president; Dr. Bernard Wolff, vice-president; Dr. Claude A. Smith, secretary, and Dr. Emil Van Goidsthoven, treasurer.

THE MEMPHIS (Tenn.) MEDICAL SOCIETY met December 28 and elected Dr. Frank A. Jones president; Dr. Alfred Moore, vice-president; Dr. James L. Andrews, secretary, and Dr. Richmond McKinney, reporter.

THE GERMAN MEDICAL SOCIETY, Cleveland, O., held its second annual meeting December 20, and elected Dr. Caspar Schmitz, president; Dr. Isidor Belkowsky, vice-president; Dr. Max Kahn, secretary, and Dr. Leo Reich, corresponding secretary.

THE MINNESOTA ASSOCIATION OF MILITARY SURGEONS met for organization at St. Paul, December 29, adopted a constitution and by-laws, and elected Lt.-Col. Reynaldo J. Fitzgerald, Minneapolis, president; Major William Jacoby, Wells, vice-president, and Capt. Geo. M. Coon, secretary and treasurer.

THE CLINTON COUNTY (Pa.) MEDICAL SOCIETY, at its meeting, December 21, nominated Dr. John K. Gilmore, Westport, for president; Dr. Robert B. Watson, Lock Haven, for secretary; Dr. Luther M. Holloway, Salona, for treasurer, and also named its delegates to the State Medical Society and THE AMERICAN MEDICAL ASSOCIATION.

THE LOS ANGELES COUNTY (Cal.) MEDICAL ASSOCIATION, at its annual meeting held December 21, elected Dr. H. Bert Ellis, Los Angeles, president; Dr. George E. Abbott, Pasadena, vice-president; Dr. Charles G. Stivers, Los Angeles, secretary; Dr. Kate Wilde, Los Angeles, assistant secretary; and Dr. John C. Ferbert, Los Angeles, treasurer.

THE INDIANA ACADEMY OF SCIENCE held its sixteenth annual meeting at Indianapolis, in December. Dr. Robert Hessler, Logansport, read a paper in which he reviewed from the standpoint of the biologist questions connected with malarial fever. He then described the plasmodium malariae, its life history and action on the human body.

THE COLLEGE OF PHYSICIANS OF PHILADELPHIA elected on January 2 the following officers: Dr. W. W. Keen, president; Dr. H. C. Wood, vice-president; Drs. W. F. Norris, R. A. Cleeman, A. V. Meigs and S. Weir Mitchell, censors; Dr. Thomas R. Neilson, secretary; Dr. R. H. Harte, treasurer; Drs. F. A. Taggart and E. J. Norris, councillors.

THE ERIE COUNTY MEDICAL ASSOCIATION held a meeting for organization December 20. This organization is in affiliation with the New York State Medical Association and THE AMERICAN MEDICAL ASSOCIATION. It will hold stated meetings four times a year. The following officers were elected: Dr. DeLancey Rochester, Buffalo, president; Dr. William H. Jackson, Springville, vice-president; Dr. Arthur G. Bennett, Buffalo, secretary, and Dr. Charles A. Wall, Buffalo, treasurer.

THE ST. LOUIS DISTRICT MEDICAL SOCIETY held a meeting at St. Louis, December 19 and 20. The report of the committee on legislation was read by Dr. Frank Tainter, Warrenton. A bill to regulate the practice of medicine in the state of Missouri, modeled after the New York state law, is ready and now being revised. It requires that all applicants for a license to practice medicine in Missouri pass an examination before the state board. No diploma will be recognized in lieu of the state board examination. The following officers were chosen: Dr. Frank J. Tainter, Warrenton, president; Dr. A. H. Ohmann-Dumesnil, St. Louis, secretary, and Dr. J. P. Dunigan, Sullivan, treasurer.

THE AMERICAN SOCIETY OF NATURALISTS held its nineteenth annual session in the different buildings of the Johns Hopkins

University and Hospital, on Dec. 27 and 28. A large number of representatives of universities, colleges, biological and marine laboratories, health departments, etc., were in attendance. Among matters of medical interest are the following: Dr. Norman Harris demonstrated a hitherto undescribed pathogenic anaerobic bacillus, found in the case of a man who died of abscess of the liver. Dr. Ross G. Harrison showed a tail which had been removed from a child by surgical operation; this tail contained muscular fibers and could be moved by the child at will. Dr. L. K. Hirschberg spoke of the distribution of the bacillus aerogenes capsulatus found in the stomach of man and other animals. Dr. Simon Flexner described his researches on the bacillus of dysentery. Dr. W. H. Park, of New York, spoke of the duration of typhoid bacilli in ice and showed that these organisms could live for two or three months in ice without losing their virulence. Drs. G. W. Fitz and F. W. Hutchings showed that the seasons have great influence on the weight and growth of children. There was a discussion regarding the establishment and publication of an American bacteriological journal, but no decision reached. Drs. G. A. Fried and W. J. Gies attempted to prove that the muscles of man and many animals contain mucin. Dr. E. C. Spitzka, of New York, read a paper on his studies of the brains of the two Drs. Sequin—father and son—both eminent neurologists and psychologists, and contrasted their anatomy. It was the first time the brains of such near relatives had been thus subjected to minute study and comparison, and the results were exceedingly interesting, particularly the selection of the opposite hemisphere in the son for traits inherited from the father. A discussion was held before a general meeting of all the societies on "The Attitude of the State Toward Scientific Investigation." Prof. W. T. Sedgwick was elected president of the American Society of Naturalists.

Western Surgical and Gynecological Society.

Tenth Annual Meeting, Minneapolis, Dec. 27 and 28, 1900.

President Dr. O. Beverly Campbell, St. Joseph, Mo., in the chair.

A brief address of welcome, on behalf of the local medical profession, was delivered by Dr. James E. Moore, which was responded to by Dr. A. C. Bernays, of St. Louis, Mo.

INSANITY IN WOMEN ASSOCIATED WITH PELVIC DISEASE.

DR. W. O. HENRY, Omaha, Neb., after briefly reviewing the current literature, stated that he believed a large majority of all insane women have some pelvic disturbance as an important, if not a chief, causative factor. He urged the bringing before the profession the testimony of all who had been giving this subject special study, so that the real truth might be arrived at. He reviewed briefly 16 cases from his own experience, of which 10 were cured mentally and physically; 3 were improved; 2 were no better, and 1 died. He held that these all might have been saved by earlier and more radical local measures. He drew the following deductions:

1. Many cases operated on, but not cured, have failed of relief, either because attention to the local disease was not given early enough, or was not sufficiently radical.

2. Every insane woman should be given the benefit of a thorough and painstaking pelvic examination, and all pelvic disturbances quickly cured as an essential element in permanent restoration of the mind.

3. In some cases, where lacerations have been repaired and endometritis cured, there still remains enough reflex trouble from the uterus and ovaries, not perceptible until their removal, to continue the mental disturbance and demand their entire removal.

4. The general practitioner, as well as the laity, should be more fully alive to the connection between pelvic and mental diseases in women.

5. Many cases of insanity in women would be wholly prevented if the pelvic lesions were easily repaired.

6. It is the duty of the profession, and especially of the general practitioner, into whose hands these cases first come, to urge on women the importance of keeping their procreative organs in absolute health, and of having all injuries repaired early, and diseases cured at once.

DR. C. H. MAYO, Rochester, Minn., followed with a paper entitled "Hypospadias," which will appear in THE JOURNAL.

THE CHOICE OF OPERATIONS FOR STONE IN THE BLADDER.

DR. BYRON B. DAVIS, Omaha, said the best operation for stone in the bladder is one which the most nearly answers the following conditions: 1, has the lowest operative mortality; 2, is followed by the smallest percentage of recurrence, and 3, most nearly restores the urinary apparatus to a normal condition. The operation of lithotripsy has a small mortality, chiefly because it is only used in the comparatively simple and uncomplicated cases. In the hands of lithotritists the serious cases are treated by one of the cutting operations, and of course their results show a large mortality. It is also shown that men who practice consistently the suprapubic method in all cases as they present themselves, have a mortality which bears comparison with the results of the most skilled lithotritists. The number of recurrences, when the cutting operations are practiced, followed by drainage, are few. Quoting from men with large experience, it is shown that after lithotripsy, recurrences are very frequent, one in seven cases or oftener. In giving a reason for these numerous recurrences, the author finds that after lithotripsy the conditions which lead to the formation of stone in the first place, are not removed by the operation of lithotripsy. The condition most frequent is stagnation combined with the presence of micro-organisms. Furthermore, it is asserted that no man can be sure he has emptied the bladder of all fragments and particles of sand, and these, if left behind, will serve as nuclei for fresh stones. On the other hand, when drainage is used after a cutting operation, until all infection has passed away, one of the chief factors in the production of recurrence is eliminated. Through an incision, all fragments can be easily removed; if the prostate obstructs, it can be dealt with in such a manner as to insure complete emptying of the bladder in the future.

COCAINIZATION OF THE SPINAL CORD, ITS USE AND LIMITATION.

DR. JOHN B. MURPHY, Chicago, read a paper on this subject. Analgesia is produced from the effect of the cocaine upon the sensory roots and ganglia within the spinal cord. The affinity of cocaine for the sensory nerve tracts was noted in the first experiments with this method. The speaker has been able to collect from recent literature 592 cases. Of this number, there were 4 partial failures, and 25 complete failures. Of the 592 cases there was only one death, this being partially attributed to the use of the drug, and was reported as having occurred in the clinic of Tuffier. Of the 5 deaths said to have occurred in Tuffier's clinic, the first four patients died from other causes.

The dosage ranges from 1/20 to 1/10 of a grain for children. Even the 1/20 of a grain has been used in a child two and a half years of age. In adults the dose ranges from 1/6 to 1/2 a grain. In his personal work the speaker has not used more than 15 minims of a 2 per cent. solution. Usually he uses 12, many times 11, and very frequently 10 minims for operations on the cervix, the vagina, hemorrhoids, and for operations on the foot 10 minims is sufficient of the solution to use.

POST-OPERATIVE FISTULA.

DR. J. R. HOLLOWBUSH, Rock Island, Ill., said that appendicular fistula may be external or internal; the material which escapes from the external type of fistula may be pus from an unhealed abscess cavity, or fecal matter from either the small or large intestine. The internal type of fistula is caused by the rupture of an abscess into one of the hollow viscera. The author reported cases of fistulae following operations for appendicitis, biliary fistulae, etc., and described a method of closing them.

CARCINOMA OF THE THYROID GLAND.

DR. A. E. HALSTEAD, Chicago, went exhaustively into the literature of the subject, saying that the study of primary carcinoma of the thyroid gland dated from a comparatively recent time. The results of operative treatment are not encouraging. Morris quotes Kuster concerning the outcome of 50 cases treated by complete or partial thyroidectomy. In 8, death followed within twenty-four hours after the operation; in 5, within a week; in 8, within two weeks. Four remained free from recurrence for six months. Only one was known to be well at the end of four years. In the cases not operated upon, death results in most instances within one and one-half years.

either from suffocation, hemorrhage, thrombosis, or cachexia. In the cases reported by Poumet, Oser and Lebers, death resulted from rupture of the carotid artery. In the case of Franque the immediate cause of death was thrombosis extending from the internal jugular to the heart.

PATHOLOGY OF FRACTURES.

DR. LEWIS SCHOOLER, Des Moines, Iowa, said that each case should be treated on its merits. The difference in the length and tension of muscles in the flexed and extended position of limbs is easily ascertained, and may be studied by any one. The difficulty with text-books and with legal requirements is a too strict adherence to former customs. These, in the eyes of the law, and of many surgeons, are wisely and firmly established. Experience, however, shows their difficulties and their inability to meet the requirements in many cases. Even physiological causes may intervene and cause delayed union, as in the case of pregnancy, etc.

TREATMENT OF FRACTURES OF THE NECK OF THE FEMUR.

DR. JOHN P. LORD, Omaha, is of opinion that no one method of treating these fractures can be adhered to, because various indications must be met. All are agreed in regard to the maintenance of efficient extension. It should be the aim of surgeons to reduce the deformity and to apply a dressing which will retain the fragments in constant apposition. The only exception to this dictum should be in those cases where extreme age or enfeeblement enforces relaxation of this vigilance. The writer will resort to Ollier's apparatus, or a modified Phelps' fixation appliance, as is done in orthopedic practice, when the next case presents its need, which will enable the attendants to place the patient in the upright position daily, or, as desired. Absolute fixation does not require so long a period of confinement as in the days of sandbags, with extension of equally uncertain efficiency.

OBSERVATIONS ON COMPOUND FRACTURES.

DR. D. S. FAIRCHILD, Clinton, Iowa, said these fractures come almost entirely under the head of emergency work and often occur under the most unfavorable circumstances. The prognosis of an open fracture depends on certain pathological conditions present, the chief of which is infection. The great majority of open fractures are made so by the traumatism which produces a solution in the continuity of the bone, or the fracture is made compound from within out by the sharp point of a fragment of bone when the opening may be very minute, or the fracture may be made an open one in a few days by the separation of a slough due to the devitalizing influence of an external contusion with consecutive pressure from within or from without, or both. Compound fractures caused by direct crushing violence are much more serious, in that the blood-vessels and nerves are liable to be involved, and the soft parts in general more seriously damaged.

AMBULATORY TREATMENT OF FRACTURES.

DR. FREDERICK RUSTIN, Omaha, stated that in selected cases, confined principally to fractures of the fibula, Pott's fracture, fracture of the malleolus and tarsal bones, the ambulatory treatment is not only rational, but gives the patient the advantages claimed by this practice. Ambulatory treatment need not necessarily be immediate, but may be applied any time before the fragments are held in relatively firm position by the new growth which leads to the callus formation, so that a period of seven to fourteen days may elapse after the injury, and yet the ambulatory treatment may be applied. The advantages of the ambulatory treatment are: 1. The time which the patient saves, in some cases the period of incarceration being but a few days. 2. The swelling and edema are less, owing to muscular action, and there is less apt to be stiffness of the neighboring joints, less muscular atrophy, and union is apt to be hastened, owing to the fact that immobilization is not perfect, and irritation of the fragments stimulates a more hasty repair. The disadvantages are: the callus formation is much enlarged, owing to imperfect immobilization; embolic processes either of fat or blood are relatively encouraged; immobilization is insecure, owing to muscular action, and finally, non-union is not uncommon, particularly in people of advanced years.

The author does not advocate the ambulatory treatment in all fractures, but believes there are certain cases where it should be tried in justice to the patient.

TREATMENT OF FRACTURES OF THE SKULL.

DR. JAMES H. DUNN, Minneapolis, said the treatment of these fractures is essentially that of injuries to the cranial contents. Aside from the general management and care due to all serious head injuries, it consists of prevention of infection, the control of hemorrhage, removal of foreign bodies and displaced fragments, and the relief or prevention of irritating lesions of the cortex. The ends to be reached are generally understood, namely, to trephine in compound and depressed fractures, and to open the skull on the development of focal brain symptoms following suspected or recognized fracture, and under all circumstances to observe the utmost possible asepsis in the presence of an external wound or fissure of the base, and to avoid operative intervention in the absence of clear indications may be accepted as axiomatic. The X-ray is of no practical value except where metallic bodies were lodged within the skull.

DR. C. C. ALLISON, Omaha, read a paper in which he discussed "Hernia of the bladder."

DR. J. CLARENCE WEBSTER, Chicago, read a paper on "Three Interesting Cases of Cesarean Section."

A CONSIDERATION OF THE DIFFERENT OPERATIVE PROCEDURES IN THE TREATMENT OF RETRODISPLACEMENTS OF THE UTERUS.

DR. O. BEVERLY CAMPBELL, St. Joseph, Mo., delivered the "President's Address," selecting the above for his subject.

In selecting a successful method of treatment for retrodisplacements of the uterus, it is necessary to note in each individual case of presence or absence of pathology in the adnexa, as well as the mobility of the organ. Adhesions between the uterus and rectum in retrodisplacements are invariably the result of pelvic inflammation, which will have usually produced pathological changes in the adnexa. The author classified retrodisplacements of the uterus. Operative treatment should not be resorted to until after reasonable trial of simpler methods of treatment. After mentioning the various methods of shortening the round ligaments, Dr. Campbell described one which he had devised himself. An anterior colpotomy after Martin's method is performed and the fundus is delivered into the vagina. Each round ligament in its turn is drawn out of its peritoneal covering through an incision near its uterine attachment and held with forceps. An incision is made anteriorly through the peritoneal coat of the uterus equidistant from the cornua and at a level with the attachment of the round ligaments. A pair of Spence's forceps is now passed beneath the peritoneal coat of the uterus and made to emerge at the uterine attachment of the round ligament. The drawn-out round ligament is fastened in the grasp of the forceps thus introduced, and drawn beneath the peritoneal coat of the uterus. The opposite ligament is treated in the same way. Chromicized catgut sutures, three in number to each ligament, are passed deep into the muscular tissue of the uterus and made to include the ligament. The rents in the peritoneal covering of the ligaments and uterus are closed with fine catgut sutures. In completing the operation after his method of treating the round ligaments, no attachment is made of the peritoneum. The vaginal wound is closed with chromicized catgut sutures. Convalescence after anterior colpotomy is very rapid. The majority of his cases are allowed to sit up out of bed the twelfth day after operation, and given the freedom of the halls the fourteenth day. This is certainly not the case where ventrofixation or Alexander's operation has been performed. His operation is applicable to both the vaginal and suprapubic routes.

DR. F. GREGORY CONNELL, Chicago, described a "New Intestinal Suture, with all the Knots Inside." See THE JOURNAL XXXV, p. 1151.

TRAUMATIC INJURIES OF THE URETER.

DR. J. W. MACDONALD, Minneapolis, stated that ureteral injuries were divided into: 1. subparietal injuries, or those in which no open wound communicates with the injured ureter; 2. penetrating wounds, or those in which an open wound com-

municates with the injured ureter; 3. surgical wounds, accidentally or intentionally inflicted.

The most common causes of rupture of the ureter were pointed out; and the symptoms, diagnosis, prognosis, and treatment dwelt upon. Dr. Macdonald reported a case, and presented the patient; a girl aged 9 years, who was dragged by a heavily loaded sled. Examination revealed a painful bruise on the right side. No hemorrhage from any internal organ occurred at the time of injury or subsequently. Patient improved rapidly for four days and was discharged. She was operated on three months afterward. The tissues were found infiltrated to a considerable extent with pus, and exposure of the ureter was rendered difficult and in some places impossible by necrotic and cicatricial tissues. The ureter was healthy for about three inches by the kidney, but here sloughing had taken place, and for several inches it was lost in a mass of cicatricial tissue. After a most tedious search, in which the writer opened into and closed the peritoneum at three different places, he considered further dissection was useless and removed the kidney. The patient made an uninterrupted recovery, and is now in excellent health.

ETIOLOGY AND PATHOLOGY OF SURGICAL INFECTIONS OF THE KIDNEYS AND OF THE CYSTONEPHROSES.

DR. M. L. HARRIS, Chicago, considered the manner in which the microbes reached the kidneys; the concomitant conditions which favor the lodgement and development of microorganisms after they reach these organs, and the varieties of the microbe. He said there are four routes by which microbes may reach the kidneys, namely, through the blood-stream; along the urinary tract; through the lymphatics by contiguity, and directly from without by trauma. The pathologic changes, which vary according to the nature of the infecting microbe, were discussed, as well as the particular part of the kidney chiefly affected. Pyelitis, pyelonephritis, tuberculosis of the kidney, cystonephrosis, pyonephrosis, etc., were dwelt upon at considerable length.

DR. W. H. ALLPORT, Chicago, followed with remarks on the surgical infections and cystic enlargements of the kidney, their symptomatology and diagnosis.

TREATMENT OF SEPTIC INFECTIONS OF THE KIDNEYS AND CYSTONEPHROSES.

DR. L. L. MCARTHUR, Chicago, for convenience of consideration, subdivided the treatment into: 1. internal medication; 2. local applications (ureteral lavage and antiseptics); 3. surgical interference, either nephrostomy, or nephrectomy. Having determined the nature of the infection, by bacteriological examination, and the involvement of one or both kidneys, efforts should be made to remove the source of infection; to destroy or inhibit the organism in question, and to provide free exit to the products of infection. If the infection has been by extension from a corresponding cystitis, vigorous and systematic treatment of that must be at once instituted. The choice of medicaments is not of as much moment as the systematic carrying out of a rigid hygiene of the bladder. 1. If the urine be acid, especially so with the gonococcus and bacillus coli communis, to render the urine alkaline and ensure the elimination from the kidneys of much fluid. 2. Give some of the better antiseptics. Assist the kidneys by lightening their labors through good elimination from the bowels. As the bacillus coli communis is the most frequent cause of renal infection, it will be well to inhibit its multiplication in the intestinal antiseptics. 3. When, after a reasonable trial of these remedies, and the use of ureteral lavage à la Caspar, Albarran and Kelly, the case progresses unfavorably, as the majority perhaps will, there remains nephrostomy. Every renal operation which can be done without opening the peritoneal cavity is a safer operation, especially so with septic kidney; hence the selection of a retroperitoneal route.

DR. J. E. SUMMERS, JR., Omaha, narrated a case of adenoma of the tongue.

DR. ALEXANDER HUGH FERGUSON, Chicago, spoke of the various methods adopted by eminent surgeons for the excision of the superior maxilla, and then described a method which he had devised for removing the superior maxilla through the mouth.

OPERATIVE MANAGEMENT OF RETROPERITONEAL ABSCESS OF APPENDICULAR ORIGIN.

DR. GILBERT G. COTTAM, of Rock Rapids, Iowa, read a paper with this title in which he gave the following explanations of the occurrence of retroperitoneal abscess of appendicular origin: 1. Inflammatory attachment of the tip of the appendix to either fold of the mesocolon, followed by perforation into the post-colonic space. 2. Transmission of the infection from an acutely inflamed appendix, situated anteriorly, along the lymphatics of the appendix and cecum to the mesocolic glands. 3. Abnormalities of the peritoneal investment of the appendix. In about 75 per cent. of cases the meso-appendix is lacking, rendering the appendix an extraperitoneal organ, in contact with the peritoneum only on its anterior aspect. This type may be termed the retroperitoneal appendix and demonstrates its proximal relations to the post-colonic space. The various procedures available for reaching, evacuating and draining retroperitoneal abscesses were given. After treating all of these in detail and describing illustrative cases, the author concluded by advocating the posterior incision in all cases where a retroperitoneal abscess is suspected, or where there is doubt as to whether the abscess is in front of or behind the posterior parietal peritoneum, for the following reasons: It does not open the general peritoneum; it allows drainage by gravity; it disposes of the hernia problem, and if the abscess should prove to be anterior, the iliac incision can still be used and drainage instituted through both openings, the lumbar incision then corresponding to the counter-incision as now ordinarily used.

ANATOMICAL AND SURGICAL OBSERVATIONS ON APPENDICULAR ABSCESS.

DR. A. C. BERNAYS, St. Louis, said that the earliest operation of appendectomy in which he has found pus in the cavity of Douglas was done on the morning of the third day, about fifty hours after the attack, and the amount of pus was over a pint. The large majority of cases were operated between the eighth and fifteenth days, i. e., during the second week. He believes the most reliable sign of Douglas' abscess is the appearance of abdominal distension early in an attack of appendicitis. The drainage per rectum in men and per vaginam in women of typical Douglas' abscesses is an easy and successful treatment in uncomplicated cases. In cases in which Douglas' abscess is complicated by iliac, lumbar, or some other abscesses, or in which the Douglas abscess reaches so high, that it can be felt above Poupart's ligament, it has often been opened and drained from the anterior abdominal parietes.

DR. VAN BUREN KNOTT, Sioux City, Iowa, gave a further report of a case of cerebral cyst on which he had operated some three and a half years ago.

OPERATIVE MANAGEMENT OF HIP-JOINT DISEASES: A CRITIQUE.

DR. A. F. JONAS, Omaha, drew the following conclusions: 1. The aim of the surgeons should be radical in the removal of all affected structures and the preservation of all healthy bone. 2. To preserve the greatest amount of healthy bone and consequently to insure the best possible joint function, makes early incision imperative. 3. To insure the best possible function means not only the early evacuation of intra-articular tubercular products, and the removal of diseased structures, but implies a most thorough disinfection. 4. The most effective disinfection method known at the present time is pure carbolic acid and alcohol. 5. To insure the retention of the femoral extremity in the cotyloid cavity, which is necessary to insure good function, requires the greatest possible obliquity of the upper end of the bone. This can be done only by preserving as much of the neck as possible. Where a portion of the neck is destroyed or must be removed, a certain obliquity can be obtained by removal of the trochanter major. 6. To insure permanent usefulness of the hip-joint, long-continued mechanical correction by means of portable extension brace must be insisted upon. 7. Excision of femoral head, neck and trochanter must be avoided when possible.

SYMPOSIUM ON SURGICAL TUBERCULOSIS.

DR. J. CLARK STEWART, Minneapolis, discussed tuberculosis of the fascia; Dr. Rollin E. Cutts, Minneapolis, tuberculosis

of tubes, ovaries and peritoneum, and Dr. Knute Hoegh, Minneapolis, tuberculosis of bones and joints.

TREATMENT OF TUBERCULOSIS OF BONES AND JOINTS.

DR. JAMES E. MOORE, Minneapolis, said the treatment of tuberculosis of bones and joints is almost inseparable because the disease usually begins in the epiphysis of long bones and the neighboring joint soon becomes affected. Tuberculosis of the shaft of long bones is so rare that some surgeons have never seen a case. When it does occur, the only treatment to be considered is the complete removal with hammer and chisel, and in the absence of a mixed infection allowing the wound to fill with blood-clots. Bone chips, iodoform, and boracic acid are not as good as the blood-clot. Orthopedists have arrived at great perfection in their methods and know just about what they can accomplish, but they are too well content with their methods and do not resort to operative measures soon enough. Their results are slow and unsatisfactory, but are better than the surgeon can offer at present.

Every case of joint tuberculosis is best treated for a short time by rest in bed, with extension by weight and pulley. An apparatus applied later should afford rest and protection to the joint, and should hold the limb in proper position, since a tubercular joint once cured in a faulty position can not be broken up safely. Plaster of Paris will yield better results in inexperienced hands than complicated braces. It should be applied just tight enough, not too heavy, and should extend far enough above and below the joint to prevent motion. When joints of the lower limbs are affected, crutches with a high shoe on the well foot should supplement the plaster bandage. The injection method of treatment is not recommended. When a joint is growing worse, in spite of good mechanical treatment, it should be operated on without delay. Pure carbolic acid and the actual cautery are recommended as valuable aids in operative cases. Whether the disease be primary or secondary, it can be cured by complete removal. The surgeon should be as careful to remove all diseased tissue as if he were operating upon malignant disease.

TOPICAL APPLICATIONS IN GYNECOLOGICAL PRACTICE; THEIR USE AND ABUSE.

DR. J. W. ANDREWS, Mankato, Minn., expressed himself as having very little confidence in the utility of pessaries, and in topical applications in gynecological practice. In a large majority of cases of retroversion or retroflexion of the uterus with tenderness in Douglas' pouch, he believes there is some disease of the ovaries and tubes on one or both sides, and this can only be cured by surgical measures. In concluding his paper he expressed the belief that there is no longer a legitimate field for the gynecologist. There is no reason why a good surgeon who can operate well on the abdominal organs should not operate equally well on the pelvic organs. There is no reason why the general practitioner can not treat catarrh of the cervix, when it exists, as well as he can a catarrh of the throat. He hoped that the routine topical applications in gynecological practice would be relegated to the mistakes of the nineteenth century.

A CALCAREOUS UTERINE FIBROMA.

DR. H. G. WETHERHILL, Denver, reported a fibroid tumor of the uterus, one nodule of which had undergone complete calcareous degeneration. The tumor was a true fibromyoma in all its parts, except this particular nodule, which was quite symmetrical, entirely interstitial, and so infiltrated with lime salts as to appear like a mass of uncalcined limestone, and so dense as to require the use of a bone saw for making a section. Its diameters were 4 and 3 inches. The clinical history of the patient was like that of others with fibroid tumor, except for a notable record as to cancer. Her father, mother, two maternal aunts and one paternal aunt had died of that disease. Patient recovered from the operation.

FIBROMYOMA OF THE URETHRA.

Dr. Wetherhill also reported an operation for the removal of a tumor of the urethra and anterior vaginal wall, the tumor being a myofibroma and having its origin in the muscular coats of the urethra and completely enveloping that canal. The

tumor was $3\frac{1}{2}$ inches long by 2 inches wide, and was first noticed twenty years before removal. It was reducible, but was not retained within the vagina unless resort to packing was had. The specimen is interesting chiefly on account of its rarity, the only other myoma of the urethra found reported by the author being one quoted in Kelly's "Operative Gynecology." Examination of the tumor by a pathologist showed it to consist almost entirely of fibrous tissue, a few unstriated muscular fibers being scattered through the tumor.

The following officers were elected for the ensuing year: President, Dr. A. F. Jonas, Omaha; vice-presidents, Dr. A. W. Abbott, Minneapolis, and Dr. C. E. Ruth, Keokuk, Iowa; secretary-treasurer, Dr. George H. Simmons, Chicago; executive council, Drs. O. B. Campbell, St. Joseph, Mo.; H. C. Crowell, Kansas City, Mo.; John P. Lord, Omaha; James E. Moore, Minneapolis, and M. L. Harris, Chicago. Next place of meeting, Chicago. Chairman of committee of arrangements, Dr. John B. Murphy.

California Academy of Medicine.

Monthly Meeting, Nov. 27, 1900.

DR. W. W. MONTGOMERY in the chair.

LEPROSY.

DR. HOWARD MORROW exhibited a man aged 50, suffering from leprosy. He was born in Germany, but for the past fifteen years had lived in the Hawaiian Islands. He roomed with a male leper for one year in Honolulu. Six months ago he noticed a white area on the ulnar side of the wrist of the right hand, with slight traction of the little finger and shooting pains in it. Four months ago several brownish-red nodules developed on this whitened area, and others appeared in the skin on the back of the left hand, two on the forearm, one on the shoulder, two on the abdomen, and one on the right thigh. The nodules on the hand were confluent and anesthetic to pain, heat, and touch. Other nodules were seen, slightly indistinct. The case was of interest, because no bacilli had been demonstrated on sections taken from the nodule on the shoulder, also because there was no fever with the development of the nodules, and from the fact that no nodules had developed since the patient came to this country two months ago. Histological examination showed areas of plasma-cell infiltration in the corium, and a few larger cells, probably "lepra cells," but no bacilli could be found in them.

DR. D. W. MONTGOMERY said this case was particularly interesting on account of its resemblance to either leprosy or syphilis. When he first saw the case he had thought it was syphilis, but the anesthesia threw doubt on such a diagnosis. He found some places on the body where he had expected to find lepra bacilli, but they were not found. Dr. Morrow did find some bacilli which stained with methylene blue, were grouped, and resembled very much the lepra bacillus. These bacilli were very short. The fact of there being anesthetic areas over several of the infiltrations, and of his coming from a leprosy country, and living with a leper, certainly pointed to a diagnosis of leprosy. He was put on syphilitic treatment simply because no lepra bacilli were found, and not because results were really expected from such treatment. There were some points also in the histology which pointed to leprosy and not to syphilis.

CARCINOMA OF STOMACH AND PYLORUS.

DR. T. W. HUNTINGTON exhibited a case with the following history. A man aged 65, native of Ireland, entered the City and County Hospital about Aug. 1, 1899. For the past year his health had gradually failed; he had suffered from pain in epigastrium, anorexia, occasional emesis, constipation, and gradual loss of weight. On entrance he was very weak, refused solid food, and would take only limited quantities of milk. He was pale, anemic and cachectic. Pressure below ensiform cartilage elicited pain. Examination of stomach contents showed absence of hydrochloric and excess of lactic acid. Stomach was greatly dilated. Diagnosis was carcinoma at or near pylorus. Operation took place Aug. 5, 1900. Median line incision was made below ensiform cartilage. Upon exposing pyloric end of

stomach there was discovered an induration occupying the pylorus and extending along lesser curvature of stomach for four or five inches. The upper part of duodenum was thickened but not distinctly indurated; adjacent organs free from metastases. The upper portion of the duodenum, the pylorus and lower segment of stomach were removed. The stomach was closed by a double row of Lembert sutures, and the upper end of duodenum was attached to posterior wall of stomach by a Murphy button. The parietal wound, owing to exhausted condition of patient, was hastily closed by through-and-through silkworm-gut sutures. For five days the patient was fed per rectum. After that time food was given in small amount by the mouth. The patient made a fairly quick recovery, and the button was recovered on the thirteenth day. Prof. A. E. Taylor reported the specimen to be one of carcinoma of stomach and pylorus. There were evidences of malignancy at or near the upper margin of the stomach wall. After the first three weeks solid food was ingested and digested with comfort. He gained weight and strength slowly; was free from pain; appetite was good. On October 1, the supraclavicular glands were found to be enlarged and indurated. At the present time the glands above noted are apparent, but not so large as when first observed. There is a well-marked ventral hernia at site of incision. Patient's appetite remains good and digestion excellent. There is a suspicious feeling of resistance below ensiform cartilage, but no tenderness, and the inference is that if there be a recurrence of the growth in the stomach wall, it is remote from the anastomotic orifice, and non-obstructive. He is able to be about and seems to enjoy an altogether comfortable existence. The ventral hernia will be repaired in the near future and the case carefully watched with reference to final outcome.

DR. DUDLEY TAIT said there were several interesting features in Dr. Huntington's case. The extent of the involved area was remarkable. He had never seen a pyloric growth extending in the direction of the duodenum. In one specimen of pyloric cancer seen at the dead table, he noted an infiltration of the submucosa of the duodenum. The serous and mucous layers were apparently intact. The usual ocular inspection in an operation on such a case would have proved useless. In a growth like that described by Dr. Huntington, involving one-third of the duodenum the pylorus and a portion of the stomach, one would expect to find several glands, especially in the retro-pyloric region. All operations are useless unless these glands are completely removed. The supraclavicular glands found in carcinoma of the abdominal viscera are not always malignant. In two cases of cancer of the stomach, under observation at the French Hospital, Dr. Tait had removed a large gland from the neck, which proved to be tuberculous. In both of these cases all radical measures had been considered useless on account of the presence of the enlarged supraclavicular glands.

DR. HUNTINGTON said that he had been in doubt regarding the condition of the duodenum, and removed a portion of it because it looked suspicious. He was aware that it was not usually involved. The retro-pyloric glands seemed normal, though no doubt if he had gone up the lesser curvature to the cardiac orifice he would have found some enlarged. The patient improved wonderfully after the operation. He now ingests and digests food well, and gains in strength. While he thinks he did not remove enough of the stomach, the operation has certainly been justified by the comfort of the patient following it. Recurrence, if there had been any, had been through the glandular system.

MYXEDEMA.

DR. HERBERT C. MOFFITT reported three cases of myxedema in children, and exhibited two of the patients before the academy.

DR. T. W. HUNTINGTON said that some years ago he had removed an entire thyroid and the patient had developed myxedema within a year. He is a bookkeeper, holds a responsible position in Sacramento, and remains in very good condition, but has to resort to thyroid treatment for about a month at a time three or four times a year. He had not seen him now for several years, but understands he is living a useful life.

DR. WM. W. KERR, in discussing the treatment with the thyroid extract, said that the dosage necessarily varies and depends largely on what preparation is used. A patient he had was taking 15 grains a day of the preparation of a certain manufacturer. This patient went east and was referred to Starr, who put him on an English preparation, and he improved remarkably on 5 grains, first twice, and then once a day. Another patient takes 5 grains of this preparation once a week. He had consulted cattlemen for an explanation as to this difference in American and English preparations, and believed it is due to the fact that in this country the thyroid gland in the sheep atrophies after the first year. Regarding the duration of the treatment, if the gland has been removed, or there is deficient secretion, the patient will always have to use the extract.

Philadelphia County Medical Society.

Meeting Nov. 28, 1900.

Dr. George Erety Shoemaker, in the chair.

CUTANEOUS SYPHILIS.

DR. JAY F. SCHAMBERG reported a case of refractory cutaneous syphilis and exhibited the patient, a woman aged 39 years, who had, in 1892, been inoculated with syphilis, the disease having been contracted from her husband. Later a number of reddish and elevated rounded patches appeared on the arms and legs. A large reddish scar also existed in the palmar surface of the right hand, and painful paronychia was also present on one of the digits. The patient had gained in weight during the past year. One physician had given hypodermics of bichlorid together with mercurial inunctions. She had lately been taking iodids, but without much benefit.

DR. M. B. HARTZELL stated that in many of these cases he had seen good follow the administration of the potassium iodid in very large doses and he had in one instance given as much as half an ounce daily.

TREATMENT OF GONORRHEA.

DR. EDWARD MARTIN spoke on the treatment of gonorrhea. His remarks were confined to the line of treatment which he had found most efficacious during the past few years. The results had been compared with that obtained in the treatment of about 80 cases of the old plans of treatment. Of these 80 cases some had taken in the late stages of the disease, oil of cubebs, oil of sandalwood, and oleoresin copaiba. He had found that oil of cubebs was practically useless; salol, oil of sandalwood and copaiba did good. A combination of salol, oil of sandalwood and copaiba was best for internal use. Some patients had been for a time treated on the expectant plan, and the results had not been good. His present plan of treatment is as follows: When the case is first seen, if it be within the first few hours, or first twenty-four hours from the onset of the symptoms, the patient is to use an injection of a solution of protargol 6 grains to 3 ounces every two or three hours during the day. Before inserting the rubber nozzle in the meatus one or two drops of the solution should be dropped on the parts so as to wash away any debris or septic material. The rubber nozzle should then be inserted and the fluid injected and retained in the usual manner for about three minutes. On the following day the urethra should be irrigated with a solution of potassium permanganate 1 in 6000. The fluid should be placed in a fountain syringe and the parts irrigated daily by means of a short—about half an inch—blunt hard rubber nozzle made to fit the parts. About one and a half pints of the fluid should be used. After a few days the permanganate and protargol solutions might be increased in strength. Internally salol and lithium citrate might be given. Each night a prolonged hot bath should be given, since this tends to lessen the amount of congestion, and prevents priapism. He had frequently been able to cure patients of gonorrhea by this method within fifteen days. It should however be remembered that there are some cases refractory to every line of treatment. After six weeks a bougie or dilatable urethrotome might be used to determine the tender spots

which might receive local treatment. He had lately almost discarded the use of the cystoscope in the treatment of gonorrhea.

DR. HELLER CHRISTIAN stated that the protargol solution was the best drug he had tried in the treatment of gonorrhea. He used a solution of protargol 10 grains to 4 ounces; and a solution of potassium permanganate $\frac{1}{2}$ grain to 8 ounces. He believed the protargol solution should be retained as long as fifteen minutes, since it required this length of time to obtain the best local effect. About the second week the strength of the medicines should be doubled. About the fourth week copaiba and sandalwood oil should be given. He believed most failures had resulted from the fact that physicians had not determined whether the disease had been an anterior or posterior one. If posterior urethritis existed irrigation should be done every day. The diagnosis could be told by having the patient first urinate in one glass and the latter portion in another similar vessel. The part showing the mucus or sediment would give the clue. In chronic gonorrhea or when the prostate is involved, massage of this organ should be done through the rectum.

CYSTOSCOPY IN WOMEN.

DR. JOHN G. CLARK spoke on this subject and exhibited the instruments necessary. The speaker stated that when abroad he had observed that in many of the clinics the operators did not seem to be familiar with all the technique of carrying out cystoscopy as practiced by Howard Kelly. In one clinic a failure had resulted from the fact that the operator had placed the patient in the Sims position instead of the knee-chest posture. The latter position is always necessary, since the bladder is drawn forward, and is dilated more on account of the atmospheric pressure. In cystitis it should be remembered that the inflammation is not usually diffused over the entire organ. As a rule the part most affected is simply the vesical trigone. The diagnosis is best made by the Nitze instrument, and the treatment by the Kelly urethroscope of the later pattern, which gives a better view of the field.

DR. B. ALEXANDER RANDALL offered a resolution that it was the sense of the Society that the best interests demanded the payment by the Board of Education of a salary (\$500) to each medical inspector (100) of the public schools. Carried unanimously.

New York Academy of Medicine.

Section on Obstetrics and Gynecology, Nov. 22, 1900.

ABDOMINAL VERSUS VAGINAL HYSTERECTOMY FOR CANCER OF THE UTERUS.

DR. WILLIAM R. PRYOR, in opening the discussion on this subject, said that a successful operation for cancer of the uterus must comprise the removal of the uterus, the adnexa, a considerable portion of the vagina, and certain glands. The most important of the latter, in this connection, were the obturator, though perhaps the most commonly overlooked. Other glands requiring attention were those at the bifurcation of the common iliac and those at the uterosacral folds. Vaginal hysterectomy was, of necessity, only an incomplete operation for uterine cancer, except in a few cases. Statistics from abroad, founded on 3155 vaginal operations, gave a mortality of 9 per cent.; his own collation of American statistics gave the mortality from the abdominal operation as 11.8 per cent. A fundamental principle in these cases should be, that in the removal all possibility of infecting the wound with either cancer cells or with the very septic contents of a cancerous uterus must be avoided. Another principle was that as little violence should be inflicted on the growth and the surrounding structures at the operation. While the vaginal operation was preferable as a purely palliative measure, he believed that the abdominal operation alone met the requirements for the radical operation.

DR. H. J. BOLDT said that, in the present state of our knowledge, he thought it was only exceptionally that abdominal hysterectomy should be done for uterine cancer. Vaginal hysterectomy allows of a smaller opening of the peritoneal cavity, takes less time to perform and is followed by a much more

rapid convalescence; moreover, there was no abdominal wound with its occasional bad consequences. The one advantage of the abdominal operation was the opportunity it afforded for extensive removal of infected glands, yet it was now generally conceded that the blood-vessels and glands were often not involved until late in the disease.

DR. J. E. JANVRIN stated that, looking back 18 years, he could point with pleasure to fully one-third of his operative cases of uterine cancer as having been permanently cured. Of course, it was only in very early cases that such results could be expected, yet he was in favor of operating in even advanced cases, as he was of the opinion that the patient was made more comfortable thereby.

DR. WILLIAM M. POLK said that while preferring the abdominal route he could only look on these cases with horror, as only one of his cases had survived without recurrence.

DR. W. GILL WYLIE said that in cases occurring in older women it was possible by an early and radical operation to effect many cures. It was most important that an interval of several weeks should not be allowed to elapse between the removal of a fragment of tissue for examination and the performance of the radical operation, should the diagnosis justify such a course.

DR. RAMSAY, of Yale, thought the surgeon should not adhere to one operation for all cases of uterine cancer. He preferred the suprapubic method for most cases, but was inclined to think that the operation of the future would be the combined method.

DR. A. PALMER DUDLEY heartily endorsed the view that the combined method was the best of all.

Therapeutics.

Exophthalmic Goiter.

M. A. Starr, in *Med. News*, advises rest, careful diet, mercury inunctions to the neck, especially the red iodid of mercury, tincture of iodine—minims five three times a day—and belladonna, are sometimes of use. The use of iron and arsenic as blood-builders are of use. Injections of iodine and other irritants are dangerous. Digitalis, strophanthus and counter-irritation are of little benefit, when there are pressure symptoms partial extirpation must be performed. He administers sodium glycerophosphate to counteract the poison in the blood:

R. Sodii glycerophosphati 3i 32

M. Ft. chartulæ No. xxxii. Sig. One powder after each meal in water.

This preparation is miscible in water and is of use in all cases where the system needs phosphorus. It can be given hypodermically.

Treatment of Compound Fractures.

Dr. S. Leigh, in the *Southern Medical Journal*, emphasizes the following important points in the treatment of compound fractures:

1. Free opening of the wound.
2. Removal of all useless torn tissues.
3. Thorough disinfection.
4. Good coaptation of bones.
5. Loose closing of the wound.
6. Firm pressure dressing.
7. Constitutional treatment.

He places special stress on the constitutional treatment, so that the tissues, both soft and bony, will unite quickly and thoroughly—such as good food, plenty of pure water, mild cathartics, strong doses of strychnin and iron with cod-liver oil, iodids in appropriate cases, and lime in the form of syrup lactophosphate.

Chronic Bronchitis.

R. Eucalyptol 3i 4
Tinct. opii camph. 3iv 16
Syr. tolutani 3i 32
Syr. simplicis, q. s. ad 3iv 128

M. Sig. One teaspoonful every four hours.

Association of Trional and Paraldehyde.

According to the *Phila. Med Journal*, Rapiteau states that trional is freely soluble in paraldehyde and that the mixture is four or five times as active as trional alone when used as a hypnotic. He recommends, in *Thèse de Paris*, the following formulæ:

R. Trional gr. xv 1
Paraldehyde gr. xxx 2
Ol. amygdalæ dulcis 3iv 16

M. Sig. At one dose.

AS AN ENEMA.

R. Trional,
Paraldehyde, āā 3ss 2
Yolk of one egg.
Lactis 3iv 128

M. Sig. Use in the form of an enema.

AS A SUPPOSITORY.

R. Trional gr. iii 2
Paraldehyde gr. viiss 4
Olei theobromatis 3i 4

M. Sig. Use as a suppository.

For the Pains in Tabes Dorsalis.

R. Phenacetini gr. xx 1
Caffeinæ citratæ gr. x 66
Salol gr. x 66
Acetanilidi gr. xv 1
Sodii bicarb gr. x 66

M. Ft. capsulæ No. x. Sig. One capsule every three hours until the pain is relieved.

[Phenacetin and acetanilid act particularly upon the spinal cord and its sensory tracts, and consequently can take the place of the opium preparations a great many times in relieving patients subject to these attacks].

Ohlemann, in *Ocular Therapeutics*, gives the following formulæ for local applications when indicated in diseases of the eyelids, such as stytes, etc.:

R. Hydrarg. chloridi corros. gr. 3/20 01
Vasellini 3i 32

M. fiat unguentum. Sig. As an ointment to the eyelids.

R. Sulphuris sublim. gr. xlv 3
Ammon. chloridi gr. xv 1
Aque rosæ 3iiss 48
Spts. camphoræ 3iiss 6

M. Sig. For local use on the lids.

R. Hydrarg. oxidi flavi gr. iiss 1
Lanolini 3iiss 48
Glycerini, q. s.

M. Ft. unguentum. Sig. As an ointment for the eye.

Treatment of Abortion.

H. B. Stehman, in *Medicine*, states the following principles in treatment of abortion and its complications:

1. The rendering of the vulva, vagina, and uterus aseptic and as far as possible maintaining them in that condition.
2. Arresting hemorrhage, either by the use of the tampon in the cervix or vagina, or by directly emptying the uterus.
3. In inevitable abortion, the ovum, or any part of the product of conception should be removed as early as possible.
4. That intelligent curettage is invariably indicated whenever a vestige of placental decidua remains or any suspicion of infection is evident and that a bacteriologic differentiation is necessary both from the standpoint of prognosis and treatment.

5. When circumscribed local infection is a complication, evacuate the pus as early as possible and by the shortest route.

Psoriasis.

Dublitz, in *Jour. de Med. de Paris*, recommends the following:

R. Olei cadini—cade 3ii 8
Zinci oxidi 3iii 12
Vasellini 3i 32

M. Sig. For local application.

Chronic Ulcers of the Leg.

In the *Trained Nurse*, L. B. Fisher outlines the method of dealing with chronic ulcers which had been developing for several years and have never entirely healed during the time.

1. Use aseptic methods, as for any wound.
2. Spray with hydrogen peroxid thoroughly.
3. Make the ulcers perfectly dry with absorbent cotton.
4. Dust with acetanilid, one part mixed with boracic acid four parts.
5. Use strips of dry antiseptic gauze, an inch wide and a yard long over each ulcer. Lay them on loosely so as to be effective absorbents.
6. Place antiseptic cotton on top of the gauze.
7. Bandage from toes to knee with firm cotton bandage.
8. Bandage with a starch bandage when the patient is inclined to meddle with the bandage.

When the ulcer is deep, cut a disc of pasteboard large enough to extend half an inch beyond the edge of the ulcer and cut a hole a little smaller than the ulcer in the center of the disc. Bandage this over the ulcer. This will aid granulations.

Powdered charcoal should be used on ulcers that are gangrenous before using the acetanilid mixture. The legs must be freed from dead tissue by use of alcohol.

Palatable Expectorants for Children.

H. B. Sheffield states that creosote is of great value in protracted coughs, and prescribes it in the following manner:

R. Creosoti—beechwood	.....gtt. viii-xvi	5
Glycerini	.....3iv	16
Vini xerici, q. s. ad	.....3ii	64

M. Sig. One teaspoonful as necessary.

He also enumerates other expectorants which are palatable, such as liq. ammonii anisat., syr. scillæ comp., vinum ipecacuanhæ, syrupus senegæ, tinct. cubebæ, mistura glycyrrhizæ comp.—Brown's mixture—syrupus pruni virginianæ, syrupus tolutani, syrupus althææ; the last four are also excellent adjuvants.

Frostbite—Congelatio.

Allen Gihon, in the "Twentieth Century Practice of Medicine," states that the proper course of treatment is to endeavor to restore the circulation. If the part which is frozen is exposed to high temperature before the circulation is restored, its death will necessarily follow.

For the purpose of restoring the circulation ice, snow or iced water, which may be gradually raised in temperature, must be depended on. The patient should not be placed in a warm room or brought near a fire until the normal circulation is established; otherwise the inflammation may end in gangrene.

FOR LOCAL APPLICATION.

A local application, which seems to do most good is:

R. Ichthyoli	.....3ii	8
Lanolini	.....3vi	24

M. Sig. Local application as necessary.

Gihon states that this ointment almost immediately relieves the pain.

FOR RAW FROSTBITES.

When the parts become raw and exposed, the following has been found of service:

R. Acetanilidi	.....gr. xlvi	3
Lanolini, q. s. ad	.....3i	32

M. Sig. Apply locally.

When ulceration occurs, his statistics show that the acetanilid ointment will best prevent suppuration and promote granulation and cicatrization. When sloughing occurs treat same as when due to other causes—by warm boracic-acid dressings, hot fomentations.

FOR MILD FROSTBITES.

In the treatment of the milder forms of frostbite rub the part well with snow or ice-water and afterward apply iodine, of which the tincture or compound tincture is most frequently used:

R. Argenti nitratis	.....gr. v	33
Aquæ destil	.....3i	32

M. Sig. Paint the affected part frequently with this solution and then wrap the part in raw cotton.

Solutions containing resorcin, tannic acid, carbolic acid and camphor have been used with benefit.

The following is recommended by Boeck:

R. Ichthyoli		
Resorcin		
Acidi tannici, āā	.....3i	4
Aquæ	.....3v	20

M. Sig. Apply with a brush at night.

As a rule, iodine should be used only when the skin remains unbroken:

R. Tinct. iodi3ss	16
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Sig. Apply with a brush once or twice daily; or:

R. Ichthyoli3iii	12
Olei terebinthinæ3i	4
Adipis lanæ hydrosi, q. s. ad	.....3ii	64

M. Sig. Spread on a piece of sterilized gauze and apply when the skin remains unbroken.

Hydrous wool fat is a yellowish white unctuous mass, containing about 25 per cent. of water. It freely takes up water and aqueous solutions. It is emollient and serves well as a base for ointments.

SOZOIODOLE-POTASSIUM IN FROSTBITES.

Soziodole-potassium is deserving of its reputation in frostbites as in other skin troubles. It should be prescribed in the following form:

R. Soziodole-potassii	.....3ii	8
Lanolini, q. s.	.....3i	32

M. Ft. unguentum. Sig. For local application.

[Soziodole is a white, odorless, crystalline powder, containing:

Iodin	.....52.8 per cent.
Phenol	.....20 per cent.
Sulphur	.....7 per cent.

and is usually prescribed in ointments of 10 to 25 per cent. strength.]

ULCERATED FROSTBITES.

Bulkley has used the following on frosted fingers and toes with ulceration with good results:

R. Acidi carbol	.....gr. xx	1
Vasellini	.....3i	32

M. Sig. Apply locally.

The pain will quickly subside and rapid healing will follow. Lassar, in "Handbook of Local Therapy," gives the following:

R. Acidi carbol	.....gr. xvss	1
Unguenti plumbi		
Lanolini, āā	.....3v	20
Ol. amygdalæ	.....3iiss	10
Ol. lavendulæ	.....gtt. xx	1

M. Sig. For local application.

THIOL.

Dillon, *Am. Jour. Med. Sci.*, states that thiol, which is practically an artificial ichthyol, differs from ichthyol in that it has no disagreeable odor. It is said to be of great benefit in treatment of frostbites when applied as follows:

R. Thioli—liquidi		
Glycerini, āā	.....3i	32

M. Sig. Apply locally on a piece of gauze.

[Thiol is a hydrocarbon obtained by the destructive distillation of peat. It can be prescribed either in the form of dusting powder or as a brownish liquid containing 25 per cent. of the dry residue. When prescribed dry as a dusting powder it can be mixed with starch.]

CHILBLAINS.

According to Hyde the treatment of chilblains should consist in stimulating applications which tend to restore the activity of the circulation. He advises tincture of iodine reduced one-half in strength, or one part of aqua ammonia and tincture of iodine reduced one-half; tincture of camphor; and ointments of iodine, boracic acid, and tar. Camphorated soap liniments and lotions containing sodium bicarbonate are also recommended.

The severer forms of frostbite are treated by surgical measures suitable in cases of gangrene and suppuration of slough.

Fetid Bronchitis.

Progrès Medical recommends the following combination in fetid bronchitis:

R. Plumbi acetatis
Terpin, āā gr. ii 12
Pulv. opii et ipecacuanhæ gr. iss 09
M. Ft. pil. No. i. Sig. One such pill three or four times daily for children from 8 to 12 years of age.

Nerve Tonic.

Eucalyptol is also considered by T. Republica, in *Merck's Archives*, as a valuable nerve tonic, which in his hands has proved very reliable. In all neurasthenic conditions, especially those arising from mental overwork, he finds its action satisfactory, especially if it is combined with synergistic agents, such as strychnin and phosphorus. As the effects of the drug are produced slowly he recommends that the administration in these cases be continued for three months.

Treatment of Breasts.

Brodhead, in the *Post-Graduate*, recommends in the case of women who do not expect to nurse, from any cause, the use of a tight breast-binder. The nipples should be protected with gauze; cotton should be placed in the axillæ, around and between the breasts and the binder applied as tightly as it can be worn with comfort. If it becomes loosened it should be tightened; it should not be removed except for purposes of cleanliness, until breasts are soft and painless. It is best applied when the patient is in the horizontal position. In many cases the binder alone is sufficient to dry up the milk; in other cases it will be necessary to limit the amount of fluids taken. When the breasts become caked and tender it is a good plan to administer large doses of salts, the Rochelle being as pleasant and efficacious as any. —*Med. Standard*.

Antipyretic and Antineuralgic.

Eron, in *Gaz. des Hôp.*, states that citrophen is rapidly absorbed, and for this reason it is worthy of consideration. He states that when given hypodermically it can be detected in the urine in twenty minutes. Citrophen is a compound of citric acid and parphenetidin. It is a white crystalline powder, acidulous taste, soluble in about forty parts of cold water, and can be administered in doses ranging from 8 to 15 grains—.5 to 1 gm. Homberger, Ehrendorffer and Freudenberg report good results.

Administration of Chloralamid.

Chloralamid is a hypnotic which ranks among the best in treatment of the insomnia of neurasthenia and mild forms of insanity. Dr. S. Clevenger, in *Medical News*, gives the following formula for its administration:

R. Chloralamid 3ii 8
Spts. frumenti
Syrupi idæi, āā 3i 32
M. Sig. One-half teaspoonful at a dose. Two or three times this sized dose can be given if necessary.

Lettow gives it as an enema as follows:

R. Chloralamid gr. xlv 3
Acidi hydrochlorici m. ii 12
Alcoholis m. xv. 1
Aque 3iii 96
M. Sig. To be given per rectum. *N. Y. Med. Jour.*

Removal of Ear-Wax.

Hardened wax in the external ear can often be removed readily by injections of warm water and soap, soda or ammonia. Many cases resist this, and require the softening effects of glycerin or sweet-oil for a day or two before syringing. Do not bother with these long processes, but use a half-strength solution of hydrogen dioxid in the ear for about five minutes. This will disintegrate the hardest plugs, and they can be removed with very little syringing. This process never causes irritation or inflammation. Do not use too much force with the syringe; wipe the ear perfectly dry with absorbent cotton and apply petrolatum; wear a small piece of cotton in the ear for a day or two after removal. —*Phila. Med. Jour.*

Medicolegal.**Jury Not Supposed to Know Value of Medical Services.**

—To leave to a jury to determine the value of the professional services of a physician as an element of damages in a personal injury case, the number of his calls and consultations at his office alone being put in evidence, the fourth appellate division of the Supreme Court of New York holds, in the case of *Carter vs. the village of Nunda*, is error. At the most, it holds, the recovery for medical attendance should, under such circumstances, be limited to nominal damages. There is, it says, no fixed and definite schedule of charges of which a jury may take judicial notice by which the value of professional services may be determined, and their value is not a matter of such common knowledge that jurors may be permitted to appraise the same unaided by other evidence, even though such evidence would be advisory, and not necessarily controlling upon their judgment.

Admissibility of Mortality Tables.—The Supreme Court of Michigan says, in the case of *Sax vs. the Detroit, Grand Haven and Milwaukee Railway Company*, that it has been held in some cases that mortality tables are not admissible in negligence cases in which the injury does not result in death or permanent disability. And it says that in Texas it is held that the disability must be not only permanent, but, total, to admit of such proof, it having been stated there that, when the disability is only partial, such evidence would tend to confuse the jury. But the Supreme Court of Michigan holds here that the tables of mortality are admissible wherever the expectancy of life comes in controversy, though they are not conclusive. For example, upon the theory that the plaintiff had contracted for employment for life, and that the defendant had wrongfully refused him further employment after the expiration of four months, the court says that the jury might take into consideration the probable period of his ability to perform services; and the probable duration of his life would, in such case, be an element in that problem. However, in this case there were other elements to be considered than the duration of his life. The contract was, in effect, merely a contract to employ him so long as his service should prove satisfactory. On that account, the mortality tables, the court holds, should have been excluded, even if he was wrongfully discharged for another reason than failure to give satisfaction. The discussion in this case the court makes do also for the case of *Leach vs. the Detroit Electric Railway*, where it holds, and refers to as being the doctrine of this—the *Sax*—case, that mortality tables are not admissible in a personal injury case where it is not shown that the injuries of a permanent character.

Mandamusing Board of Examiners.—*Dean vs. Campbell* and others was an action for mandamus that was brought to compel the board of pharmaceutical examiners of the twenty-sixth judicial district of the state of Texas to issue to the plaintiff a certificate to follow the business and occupation of a pharmacist. The district court sustained demurrers to the petition. But its judgment is reversed by the Court of Civil Appeals of Texas. The latter is of the opinion that if the averments of the petition were true, the plaintiff was entitled to the writ of mandamus. It says that the court is lacking in power to control the discretion of the board of examiners, but the averments of the petition in this case reached beyond the point of discretion. They were to the effect that the plaintiff passed the requisite examination according to the standard prescribed by the board, and that he was adjudged by the board as entitled to his certificate, but that the board wilfully and maliciously refused to issue it to him. If as a fact in his examination he stood the test required by the board, and it was the latter determined that he was entitled to his certificate, the issuance of the certificate, the court holds, then became a ministerial act, and the wilful failure and refusal to issue it would be a wrong perpetrated upon the plaintiff, for which his remedy would lie as prayed for. To this the court adds that it has examined the statutes and the decisions on the question of jurisdiction of the trial court in

actions of this character, and the conclusion reached is that, if the proper case is made by the petition, the district court has jurisdiction to issue its mandamus to require the board of examiners to perform a ministerial duty.

Medicine and Testamentary Capacity.—One of the alleged grounds upon which was based the contest of a will which the Supreme Court of Missouri, Division No. 1, was called to pass on in the case of *Martin vs. Bowdern*, was that the testator's mental condition had been weakened and changed by the medicines he had taken to alleviate his sufferings so that he was entirely incapacitated to make a will. He had been sick with consumption or some like affliction and had been confined to his bed from the 8th until the 23d of the month, when he died. On the evening of the 20th, he made his will. On the 8th, it appeared, he was given aromatic spirits of ammonia, to be taken in doses of 15 drops, in water, every hour. suppositories of quinin sulphate, to be used every four hours. On the 10th a prescription of carbonate of ammonia, syrup of ipecac, distilled water, and syrup of tolu was given him, to be taken in doses of a dessertspoonful every two hours. On the 14th, he was given a prescription of carbonate of creosote, spiritus frumenti, and syrup of tolu, to be taken in doses of a teaspoonful every three hours. These medicines were prescribed by his attending physician, and, *prima facie*, the court declares, must be held to be insufficient to impair his capacity to make a will. And as there was no testimony in the case controverting this *prima facie* showing, it must, therefore, it holds, be taken as conclusive that the medicines did not impair his mind. Great stress, the court adds, was laid upon the fact that the prescription of the 14th contained whisky—an ounce and a half—and that this was given to him in teaspoonful doses every three hours. But no evidence was adduced that even whisky administered in such doses at such intervals would impair, in six days, a man's mental capacity to make a will, and the court declines to so hold as a matter of law. Wherefore, the court holds that the testimony wholly failed to support this ground of contest.

Injury from Apprehension of Personal Injury.—The basis of the plaintiff's claim for damages in the case of *Ward vs. the West Jersey and Seashore Railroad Company* was that he was by a gatekeeper carelessly and improperly shut in on a railroad crossing while driving over same and thereby subjected to great danger of being run down and killed by an approaching train, and that by reason of the danger to which he was thus exposed, he was shocked, paralyzed, and otherwise injured. The railroad company demurred. This presented to the Supreme Court of New Jersey the question of whether, in an action for negligence, the mere apprehension of personal injuries, which are not in fact received, will support an action, when physical suffering follows as a consequence of the mental disturbance. Up to the present time, this question seems not to have been settled in New Jersey. Now, however, the Supreme Court thinks that a wise public policy requires it to hold such injuries to be nonactionable. It says that it seems to be universally conceded that mere fright from which no subsequent physical suffering results, affords no ground for action. Where personal injury as well as fright is produced by the wrongful act, the rule is also entirely settled that the jury is entitled, in fixing the damages, to consider the mental agitation as well as the physical injury. But in cases where physical injuries follow from fright, the decisions are not harmonious. Among the courts which hold that there can be no recovery for such injuries, those of Maine, Pennsylvania, New York and Massachusetts, as well as those of England, are mentioned as being prominent. The ground upon which the doctrine of nonliability rests, as stated in opinions rendered by them, is said to be that a person is responsible only for the natural and proximate results of his negligent act; that physical suffering is not the probable or natural consequence of fright, in the case of a person of ordinary physical and mental vigor; that, in the general conduct of business and the ordinary affairs of life, we are bound to anticipate and guard against the probable consequences to those who are liable to be affected thereby, but that in doing so we have a right to assume, in the absence of knowl-

edge to the contrary, that such persons are of average strength, both of body and mind.

Examination by Unfriendly Doctor.—The Supreme Judicial Court of Massachusetts says that, in the personal injury case of *Stack vs. the New York, New Haven and Hartford Railroad Company*, where the defendant denied the injuries, it was permitted, two days before the trial, to send two doctors, who made a thorough examination of the plaintiff, in company with the doctors employed by him. Nevertheless, after he had closed his case, and after it had called its two doctors as witnesses, the defendant asked the trial judge to order the plaintiff to submit to an examination by another doctor named by it. The plaintiff objected on the ground that his relations with that doctor were unfriendly, but offered to allow an examination by any other physician whom the defendant might select. The defendant declined the offer, and thereupon the judge refused to make the order, ruling that he had not power or right to make it under the circumstances. Commenting on this, the supreme judicial court says that perhaps the words "under the circumstances" so far cut down the seemingly absolute denial of power in the first part of the ruling that it meant only to state emphatically the plain injustice and outrage which it would have been to make the order proposed. The judge probably was justified in assuming the truth of the plaintiff's statement that his relations with the doctor were hostile. He certainly was justified in assuming that the plaintiff had personal objections to him. When the plaintiff coupled with his objection an offer to accept any other doctor whom the defendant might choose to send, bearing in mind the large possibilities that were open by telegraph and rail, he had a plain right to have his personality respected to the small extent that he asked. So, if that was all that ruling meant, as it certainly was all that was needed to dispose of the matter, the court says that in its opinion it was right. Nor does it stop there. But it declares that if the ruling required the decision of a broader question, it agrees with the Supreme Court of the United States, the New York Court of Appeals, and some other able courts, that the power does not exist. The need of the power, it thinks may easily be exaggerated, because, if, contrary to usual experience, a plaintiff should dare to refuse a reasonable examination, it would be the subject of just comment to the jury. And, if the power should be deemed needful to a more perfect administration of justice, the remedy, the court suggests, should be furnished by the legislature. A statute empowering the court to order a view of any place in question, or of "any property, matter, or thing relating to the controversy between the parties," it holds, does not extend to the ordering of an interference with the person of a party by some one out of court, in order to enable him to qualify himself to be called as a witness by the opposing party if the latter sees fit. Moreover, the court says that it can not doubt that, as a matter of history, the power it was asked to assert was a kind rarely claimed or exercised by common-law courts. And, in conclusion, it puts decision, not upon the impolicy of admitting such a power, but on the ground that it would be too great a step of judicial legislation to be justified by the necessities of the case.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

New York Medical Journal, Dec. 29, 1900.

- 1 *The Treatment of Tuberculosis in Sanatoria. P. H. Bryce.
- 2 *Hyperidrosis of the Axilla: Its Treatment with the Thermocautery. Louis Kolpinski.
- 3 *The Eustachian Bougie. Lorenzo B. Lockard.
- 4 *The Ear as a Factor in Causing Systemic Disturbance. James L. Minor.
- 5 *The Importance of Post-operative Treatment After Removing Spurs of the Nasal Septum. E. F. Snyder.
- 6 *Observations on Nitrogenous Metabolism in a Case of Nephritis. Walter C. Klotz.

Medical Record (N. Y.), Dec. 29, 1900.

- 7 *Some Remarks on Medicine in 1800. George K. Welch.
- 8 A Case of Gonorrheal Endocarditis with Congenital Malformation of Mitral Valves. G. W. McCaskey.

- 9 *The Operative Treatment of Varicose Veins of the Lower Extremities. W. C. Borden.
 10 *Two Unusual Cases of Aphasia with Special Reference to the So-called Naming Center. Graeme M. Hammond.

Medical News (N. Y.), Dec. 29, 1900.

- 11 *The Nitrite Treatment in Syphilis. William Browning.
 12 *The Failure of the Consensus Judgment with Reference to Tuberculosis. Charles Denison.
 13 *The Value of the Schumberg Method of Purification of Water for Military Purposes. John H. Huddleston.
 14 *A Theory of the Physiology of Spinal Anesthesia. H. H. Stoner.

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- 15 Operative Treatment of Goiter. J. Collins Warren.
 16 Statistics of Operative Treatment of Thyroid Tumors. Lincoln Davis.
 17 *Neoplasms of the Thyroid Gland. Charles G. Cumston.
 18 The Practical Use of Vital Statistics. Frederick L. Hoffman.
 19 Two Cases of Perforating Duodenal Ulcer with Subphrenic Abscess. J. C. Pegram, Jr.

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- 25 Hernia of the Bladder: With Report of Case. W. O. Roberts.
 26 Treatment of Typhoid Fever. Harding K. Osburn.
 27 Trephining for Head Injury. Thomas L. Butler.

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- 28 *A Comparative Study of the Biologic Characters and Pathogenesis of Bacillus X (Sternberg), Bacillus Icteroides (Sanarelli), and the Hog-Cholera Bacillus (Salmon and Smith). Walter Reed and James Carroll.
 29 *Some Observations upon the Bacterial Self-Purification of Streams. Edwin O. Jordan.
 30 On the Toxicity of Normal Urine. Melvin Dresback.

Bulletin of the American Academy of Medicine (Easton, Pa.), December, 1900.

- 31 Neglected Clinical Opportunities in American Medical Centers. S. A. Knopf.
 32 Psychology an Essential Factor in Medical Education. William J. Herman.
 33 A Few Notes Concerning the Relation of the Academic to the Medical Course. Howard F. Hansell.
 34 Some Experiences of a Volunteer Surgeon in the Philippines. Harry P. Ritchie.
 35 The Necessity of Expert Supervision of Medical Items Printed in the Daily Newspapers. Walter L. Pyle.
 36 Physician vs. Medicine Proprietors and Medicine Patentees. A. Ravogli.
 37 The Mission and Duties of the True Physician. C. F. Ulrich.
 38 "Good Form" in Professional Cards. Charles McIntire.

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 40 *Paroxysmal Delirium: A Short Study in Autoinfection. W. C. Hollopeter.
 41 Types of Cases Illustrating the Action of Heroin Hydrochlorid. S. L. Gifford.
 42 *The Treatment of Superfluous Hair Growth. Jay F. Schamberg.
 43 Indican and Ethereal Sulphates. A. Robin.

Post-Graduate (N. Y.), December, 1900.

- 44 Clinical Considerations upon Chancre and Cancer. Charles W. Allen.
 45 The Etiology and Rational Treatment of Renal Diseases Commonly Classed as "Bright's Disease." William H. Porter.
 46 The Electrostatic Treatment of Neurasthenia. William B. Snow.
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 68 Chronic Intestinal Obstruction: Report of Case. George M. Gray.
 69 Aphasia. H. O. Hanawalt.
 70 Something About Gangrene and Mortification, Traumatic and Pathologic, of the Extremities. Thomas H. Manley.

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- 76 *Diffuse Punctate Condition of the Fundus. Edward A. Shumway.
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- 82 *The Unofficial Gynecologic Treatment of the Insane in British Columbia. Ernest Hall.
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- 84 *Phototherapy in Cutaneous Medicine—An Account of a Visit to Professor Plinsen's Light Institute at Copenhagen. Henry W. Stelwagon.
 85 *Successful Removal of Cataracts in Insane Subjects, with Recovery of Mind Attending the Restoration of Sight. William C. Posey.
 86 *Diet in Typhoid Fever. James Tyson.
 87 Thirty-five Cases of Diphtheria in Private Practice Treated with Antitoxin. Richard A. Clemann.
 88 *The Various Rings in Heller's Nitric Acid Test for Albumin. M. H. Fussell.
 89 Recent Advances in the Bacterial Treatment of Sewage. D. H. Bergey.
 90 A Brief Report of a Series of Interesting Cases Recently Seen. (Shock, Internal Lesions, etc.) Alexander Marcy, Jr.

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- 91 Subarachnoid Anesthesia. A. N. Cokenower.

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- 92 *Spontaneous Dislocation of the Hip Occurring During Typhoid Fever. L. A. Weigel.

- 93 *Early Recognition of Uterine Cancer. H. S. Crossen.
- 94 A Case of Latent Puerperal Convulsions, Occurring Three Weeks after Delivery, and Presenting no Premonitory Symptoms of Uremic Poisoning. T. A. Martin.
- 95 An Interesting Case of Extrauterine Pregnancy. Roland Hill.
- 96 A Case of Pseudo or Myosclerotic Paralysis. T. A. Martin.
- 97 Pseudo-Diphtheria Apparently Due to Micrococcus Tetrigenus. Joseph Grindon.
- 98 Report of a Case of Malignant Jaundice. Icterus Gravis or Acute Yellow Atrophy. T. A. Martin.
- 99 Pus Tubes: the Abdominal Route for Their Removal, and Vaginal Route for Drainage. G. Wiley Broome.

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- 100 Ueber angeborene Hornhauttrübungen. A. Schapring.
- 101 Beschreibung eines durch Laparotomie gewonnenen Uterus-Myoms, nebst Bemerkungen über das Verhältniss der Blase zur Vorderfläche von Beckengeschwülsten. J. Schmitt.

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- 103 *The Commoner Affections of the Hands and Feet, and Their Treatment. Isadore Dyer.
- 104 Unusual Behavior of Cornual Placental Implantation. J. G. Bouvier.
- 105 A Case of Rhinoplasty. G. H. Lee.
- 106 For ingrown Toe-Nails. B. A. Colomb.

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- 107 Cremation. A. S. Bower.
- 108 *The Unofficial Gynecologic Treatment of the Insane in British Columbia. Ernest Hall.

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- 109 Tonsillitis. (To be continued.) A. Sandner.
- 110 Puerperal Septicemia. A. J. Mann.
- 111 Remarks on Gleet. Monroe Manges.
- 112 Preventing the Dispensary Abuse. C. Fletcher Souder.
- 113 Treatment of Tonsillitis. E. W. Ritter.
- 114 Varicocele. W. T. Parker.
- 115 Good Health. Geo. J. Monroe.
- 116 Sulphur Compounds in Chills. Benj. H. Brodnax.

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- 117 Report on the Production of Anesthesia by Intraspinal Injection of Cocain. George R. Shepherd.
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- 121 The Prognosis of Various Types of Albuminuria. Talbot Jones.

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- 122 *Some Thoughts on the Alleged Deterioration of the Human Female as a Factor in Reproduction. Park L. Myers.
- 123 The Sexual Phases and Crises of Women. Byron Robinson.
- 124 The Value of Petroleum in Wasting Diseases. D. E. Bowman.

Medical Standard (Chicago), December, 1900.

- 125 Myelogenic and Lymphatic Leukemia. Arthur R. Edwards.
- 126 Acute Respiratory Diseases. W. F. Wangh.
- 127 Acquired and Inherited Syphilis. Wm. S. Gottheil.
- 128 Pathology and Symptomatology of Typhoid Fever. J. T. Moore.
- 129 Inveterate Insomnia Physiologically Considered. Wm. D. H. Brown.
- 130 Intestinal Surgery in Middle Ages and Modern Times. Adolfo Luria.

Pacific Medical Journal (San Francisco), December, 1900.

- 131 The Relation Between the Anemia of Youths and Young Adults and Hyperchlorhydria. Alfred W. Perry.
- 132 The Subarachnoid Injection of Cocain with Report of Cases. A. W. Morton.
- 133 Hysteria. Geo. Adam.

Hot Springs Medical Journal, December, 1900.

- 134 Some Observations upon the Ocular Symptoms in Locomotor Ataxia. Paul T. Vaughan.

AMERICAN.

1. **Sanatorium Treatment in Tuberculosis.**—The importance of early diagnosis of the disease is first mentioned by Bryce, who gives statistics showing the presence of sputum in the different stages of tuberculosis. In the sanatorium treatment two ideas are to be kept in view: the cure of the disease, and failing this, the prolongation of life, and he also divides sanatoria into the private, for well-to-do patients, and the municipal, for the poor. The points on which he specially dwells are discipline, the prohibition of discussion between pa-

tients of their cases; provision of mental employment of a suitable character; the taking of detailed family histories; the preliminary treatment of pyrexia; exercise; baths; diet, on which he remarks at some length, maintaining that the increased use of more palatable fats is advisable; the cautious use of alcohol, if at all, the use of proteids such as milk, meat, eggs, etc., up to their limit of assimilation, and massage to stimulate metabolism. Other points mentioned are the effects of reduced air-pressure, dress, symptomatic treatment, personal hygiene, and, of course, care of the sputum, etc. The most important part that the sanatoria will play in lessening the fatalities of tuberculosis is, he thinks, in their being educational centers from which persons will return to their homes and there preach the gospel of cleanliness.

2. **Axillary Hyperidrosis.**—This condition, which is sometimes obstinate and annoying, has been treated by Kolipinski by cauterization of the parts so as to limit secretion by destroying the excretory ducts. In producing these scar tissues he says a local or general anesthetic is unnecessary unless the patient is irrationally timid. The axillary base is washed and shaved. The thermocautery at a bright red heat is applied, with its flat side, from ten to twenty times to the space from which the sweat is seen to ooze, namely, the area covered by hair in the adult; the triangular groove below, when the arm is elevated, for about two inches; the posterior border of the armpit, especially at its middle, and the upper external border near the hairy center. One-half or more of the surfaces is turned into burns of the second and third degrees. The cauterizing is done in a very few minutes. A dry bismuth or zinc-oxid dressing is applied, and the patient may resume his ordinary occupation in a few days.

3. **Eustachian Bougie.**—The utility of the eustachian bougie in special conditions is maintained by Lockard, and its dangers are, he thinks, very remote. Infection can be produced as easily as by catheterization. Attention to cleanliness is essential and wounding of the membrane can be avoided by due gentleness; emphysema is likely to be trifling and not important if it occurs. Perforation of the drum can occur only if great force has been used. The most serious objection is the possibility of increase in the trouble, but if, at the first sign of such an aggravation, the treatment is discontinued, no permanent harm can be done. He sums up his conclusions as follows: The bougie, except when used as an electrode, is applicable in two conditions only: stenosis and tinnitus. The therapeutic effects are uncertain; sometimes harmful, frequently beneficial. It effects its purpose in two ways; by pressure upon contracted tissue and by reflex influences upon the auditory center. It should be given a thorough trial in all cases that have resisted other procedures. Its use must be stopped upon the first sign of increase in the local trouble. If care is taken, the dangers said to attend its application will be accidents of the greatest rarity. It has a definite field in aural surgery.

4. **Systemic Disturbances of Ear Disease.**—Minor reports cases in which symptoms of meningitis, intestinal derangements, septic fever, and recurrent attacks of biliary fever were connected with aural disease and relieved by treatment of the latter. He calls attention particularly to the importance of this factor in some obscure general systemic symptoms which usually occur in cases where pus is retained in the middle-ear cavity.

5. **After-Treatment in the Removal of Septal Spurs.**—The importance of subsequent care after removal of septal projections is insisted on by Snyder, who maintains that no one should attempt to remove a spur from the septum without explaining this necessity, and in cases where after-treatment can not be carried out the operation should not be performed.

6. **Nitrogenous Metabolism in Nephritis.**—Klotz here reports experiments on cases of nephritis to determine the effects of nitrogenous metabolism in such cases. The experiments were made in two periods of five days each, in which the results were rather inconclusive, as he admits. The loss of nitrogen was high in both, the figures for uric acid were well above the normal, and nitrogen and phosphorus showed nothing characteristic.

7. **Medicine in 1800.**—Welch reviews the condition in medicine in the beginning of the century showing the contrast with the present time. He notices particularly the death of Washington and the alleged recommendation by Dr. Dick, of tracheotomy, which was not adopted, and says that the almshouse patients of to-day have more rational treatment than the President of the United States had in 1800. He also reviews the *Medical Repository*, the medical journal of the country in 1800, and especially the paper on improvement and progress of medicine during the eighteenth century, which was contained in its fourth volume. In concluding his paper, he refers to A. R. Wallace's remark as to the progress of the nineteenth century as compared not with the preceding one but with all previous time, which is the only just comparison according to that authority. Wallace enumerates twenty-five discoveries of first rank in the nineteenth century against only fifteen previously in the world's history. Of these twenty-five, four at least were medical, and of the previous fifteen, only one—Harvey's circulation of the blood—can be included in this category.

9. **Varicose Veins.**—The subject of varicose veins, anatomy and histology of the saphenous veins, etiology of varix, which the author attributes to congenital weakness, sex and age, to exciting causes, such as organic disease of the heart, pressure, occupation, etc., the pathologic anatomy and the operative treatment are reviewed in succession by Borden. Arguing from the pathologic condition of varicose veins he advises complete excision in all cases where no contraindications are present, and following this multiple ligation, or excision combined with multiple ligation. In cases where these measures are contraindicated and the entire saphenous is dilated, he recommends the trial of the high ligation of Remi and Trendelenburg. Also arguing from the etiology, pathology, and proneness of varix to extend, he recommends early operation. There is too much tendency toward palliative treatment in this disease, under which it often extends until serious complications occur or serious operations are demanded. By early operation, while the area is small, a complete cure may be obtained, and we would then see fewer extreme cases in later life.

10. **Aphasia.**—Hammond reports two cases in which lesions in the superior and middle temporal convolutions were combined with word-blindness and inability to name objects to a certain extent. From these he concludes that the presence of word-blindness or word-deafness, whether alone or in combination, does not always imply that the lesion is to be found in the higher visual or higher auditory centers or in both, but that a lesion in any part of the speech area may so alter the mechanism of the associated speech centers that any or all the symptoms of sensory aphasia may be induced. The naming sense, he says, is yet to be found. At present it lies in the dreamlands of theory.

11. **Nitrite Treatment in Syphilis.**—Browning notices first the method by subcutaneous injection of nitrites for syphilis, and then refers to his own method based on the theory that vasodilation is required and the need of more permanent, though possibly slower action than is obtained by subcutaneous administration. He says that the nitrites are indicated in all syphilitic diseases of the arteries, as a rule in all specific affections attended by pain, in all syphilitic brain troubles, and especially in the later and hereditary forms of syphilitic disorder—cerebral, spinal, peripheral. This lumps clinical indications rather than differentiates them, but for present and practical purposes it may suffice. With these indications goes the mandate to immediately employ such other and more directly specific agents as the case demands. The title of this paper is intentionally made "Use in Syphilis," not for syphilis. It is understood that the glycerin and erythrol preparations are nitrates. But what is known physiologically as the nitrite action is developed and hence that term is used in this article. In administration he finds that the nitrites produce gastric disturbances which prevent their employment for a prolonged period and the desideratum at present is for more vasodilators at least as slow and prolonged in action as the erythrol salt and at the same time as free from gastric disorders as nitro-

glycerin. Administration by the mouth answered best. All these drugs are highly explosive if improperly managed, and this fact should be kept in mind when mixing, a practice not to be recommended when dealing with the nitrites. The sodium salt should be given in solution, while the sugar preparation is available in the tablet form.

12. **Tuberculosis.**—The motive of Denison's article is to point out the fallacies of the consensus of opinion of physicians as to the treatment of tuberculosis and the incorrectness of present tendencies toward home treatment. The climate treatment has its advantages, which can not well be supplied by a substitute. Another disadvantage of the consensus of opinion is the tendency to magnify the germ element and neglect the predisposing conditions. What we need is reform in the causes of human degeneration without which the germ can not act.

13. **Drinking Water.**—Huddleston reports experiments with the Schumburg method of purifying drinking water by bromin subsequently neutralized by ammonia, and finds that it is effective. He thinks that it is rapid, practicable and inexpensive, as a pound of bromin retails at from 65c to 75c, and as the amount contained in an orderly pouch, weighing only 4 pounds, can be used to purify the drinking water for a day for a regiment of 1200 men.

14. **Spinal Anesthesia.**—The theory of spinal anesthesia is first explained by Stoner, who accepts the non-continuity of the neurons and their mobility, and holds that the injection of cocaine into the cerebrospinal fluid paralyzes the peripheral neuron by gaining access directly to the cell bodies. The motor neurons escape, not because their cells escape, but owing to the direction of the motor conduction and the relation of the endplates to the muscle fibers. They can not retract their function through the muscle as can the peripheral sensory neuron, through its center organ; of course, the cortical neurons are not affected. This also, he thinks, explains the suppression of the reflexes.

17. **Thyroid Neoplasms.**—Cumston reports his experiments with thyroid neoplasms and their operative treatment, reporting briefly a number of cases. He thinks that enucleation is advisable only in those rare cases of congenital formation, and simple colloid foci, and in cases of recurrence after total extirpation of one lobe. In a large majority of cases, total extirpation is the better plan, its one drawback being the possibility of wounding the recurrent laryngeal nerve. This may occur, though apparently all precautions are taken against it. In his future operations he will follow Kocher's advice to leave a bit of thyroid tissue at this point in order to avoid the nerve. He mentions in conclusion Jaboulay's treatment of desiccation of goiter after exposing it to air through an incision, reports of which would lead him to try it in those cases where extirpation or enucleation is contraindicated.

22. **Resinol Dermatitis.**—Resinol is a proprietary or rather secret remedy used for all sorts of cutaneous diseases and extensively sold. Its effects, however, are sometimes unfortunate, as shown by Heidingsfeld's paper. He reports three cases of dermatitis traced by him to the use of this application and concludes that resinol "possesses dangerous antiseptic and anodyne properties which under favorable circumstances, be it a special idiosyncrasy of the patient or impaired vitality of the tissues, are capable of inducing severe dermatitis, if not actual necrosis of the cutis and obtunding the sensibilities to such a degree that a habit is formed so strong in nature as to cause its constant and exclusive use."

28. **Yellow-Fever Bacilli.**—Reed and Carroll report the investigations which they have been making for the past year or more in regard to the identity and character of the bacillus of Sternberg and the bacillus ieteroides of Sanarelli. Their experiments and observations are given in detail and the conclusions at which they arrive are stated as follows: 1. Bacillus X (Sternberg) belongs to the colon group. 2. Bacillus ieteroides (Sanarelli) is a member of the hog-cholera group. 3. The various channels of infection, the duration of the disease and the gross and microscopic lesions in mice, guinea-pigs and rabbits are the same for bacillus ieteroides and the hog-cholera bacillus. 4. The clinical symptoms and the lesions observed

in dogs inoculated intravenously with bacillus *icteroides*, are reproduced in these animals by infection with the hog-cholera bacillus. 5. Bacillus *icteroides*, when fed to the domestic pig causes fatal infection, accompanied by diphtheritic, necrotic and ulcerative lesions in the digestive tract, such as are seen in hogs when infected with the hog-cholera bacillus. 6. This disease may be acquired by exposing swine in pens already infected with bacillus *icteroides* or by feeding them with viscera of infected pigs. 7. Guinea-pigs may be immunized with sterilized cultures of bacillus *icteroides* from a fatal dose of the hog-cholera bacillus and vice versa. 8. Rabbits may be rendered immune by gradually increasing doses of a living culture of bacillus *icteroides* of weak virulence from a fatal dose of a virulent culture of the hog-cholera bacillus. 9. The sera of animals immunized with bacillus *icteroides* and with the hog-cholera bacillus, respectively, show a marked reciprocal agglutinative reaction. The article is illustrated with photomicrographs and cuts showing the pathologic changes from injection of the bacillus *icteroides*, and in yellow fever. [See THE JOURNAL, XXXVI, p. 40]

29. **Bacterial Self-Purification of Streams.**—Jordan gives the results of a study of the chemical and bacterial conditions of the Illinois River and its tributaries, undertaken in behalf of the Sanitary District of Chicago. The results of samples taken under varying conditions at various points along the course of the Chicago Drainage Canal to the Desplaines and Illinois Rivers are also given with some observations made on some of the more important tributaries before their junction, and in the Mississippi River below the confluence with the Illinois. The tables show a very marked reduction of bacteria in specimens taken within comparatively short distances. For example in the flow of twenty-four miles between Morris and Ottawa, the river freed itself from a great mass of sewage bacteria with which it was originally laden and at Ottawa this was not greatly in excess of that found in the flow of tributary streams. The character of the Illinois river is such that mechanical agitation and aeration of the water could play but a small part in causing this effect and dilution apparently was unappreciable in this way. Nothing very definite, he thinks, can be stated as regards the action of sunlight, and such evidence as he has gathered does not warrant attaching any great importance to this factor. The influence of the plankton, or the marine life of the surface of the stream, is also still questionable, perhaps more so than that of sunlight, and reasons for this are given. In fact there was a conspicuous lack of abundant plankton life in the stretch of river between Morris and Ottawa where such notable purification occurred. More importance is attached to sedimentation, the conditions for which were nearly ideal, the fall of the river in its lower 225 miles being only 30 feet and the sedimentation still further accentuated by the presence of several dams. This settling out of suspended matter and the entanglement of bacteria in the same must have been an important agency in the reduction of the latter. Jordan remarks also that all the instances recorded in the literature where marked bacterial purification have been observed are precisely those where the conditions for sedimentation have been most favorable. The limitation of food-supply for bacterial life, however, is an element which he thinks has received insufficient consideration in the past, and in this he thinks is the most reason for the bacterial self-purification of streams. The excessive removal of bacterial food from the water probably is due largely to the bacteria themselves, and they explain this fact. There is no accumulation of foul mud in the bottom of the river, notwithstanding the fact that sewage has been poured into it for 35 years. The solid matter, therefore, is destroyed either in suspension or after sedimentation. The river as a whole can be considered a great septic tank for bacterial purification. [See editorial pages.]

39. **Suprarenal Gland.**—According to Bates the extract of the suprarenal gland is the best hemostatic known, and while powerful is not objectionable in any way. It is the most powerful known astringent; the only one which can be instilled in all diseases of the eye without injury. It is the most valuable remedy for ear inflammation and improves the

hearing when applied to the Eustachian tubes after other treatment has failed. For the nose and throat there is hardly any substance that we are acquainted with which has so many beneficial, and so few deleterious effects. Its use in hay-fever, edema, Graves' disease, edema of the glottis, acute and chronic bronchitis, asthma, pulmonary congestion and edema, hemoptysis, etc., are mentioned at length and he claims that it is the most powerful known heart stimulant. In three minutes after 5 grains of the dried gland have been swallowed, the weak pulse of organic heart disease becomes stronger and the high-tension pulse of the laboring heart becomes regular. The normal heart is not embarrassed by an ounce of the powder. He says in conclusion: "Let me repeat that the suprarenal extract is the most powerful astringent, hemostatic and heart stimulant known. The field of its usefulness is rapidly widening. It is a safe remedy, and the reason why no bad effects have followed its administration is because we are using as a drug one of the secretions of the body which is necessary to life."

40. **Paroxysmal Delirium.**—Under this head Hollopeter reports several cases of delirium apparently due to autointoxication from the intestinal tract in children, and offers the following as a brief summary of his views. 1. The fever incident to intestinal autointoxication has no classified train of symptoms, varying in intensity and regularity according to the nervous mechanism and heredity of the child. 2. The symptoms manifested by autointoxication affect the nervous system so variously, that it is a question whether a classification based on the localization of the seat of intestinal irritation can ever be brought about. 3. The symptoms manifested by intestinal ptomaines express themselves in symptoms suggestive of typhoid fever, meningitis, and malarial fever, so frequently, that without differential diagnosis, many cases are thus treated.

42. **Depilation.**—The use of the electric current to remove superfluous or misplaced hairs is described by Schamberg, who makes one or two suggestions. He advises against the use of the steel needle, as reversal of current may produce a deposition causing a tattoo mark. He uses the iodo-platinum needle, as a reverse would not make any difference. He also considers that it is not advisable to attempt to remove a fine growth of dark hair from the upper lip of young brunettes, but instead to prescribe some bleaching agent such as hydrogen dioxide which causes the hair to lose its color and become less conspicuous. There is also some reason to believe that the continued use of this agent may ultimately weaken the hairy development.

49. **Oxycamphor.**—This preparation, which is oxidized camphor, in which one of the hydrogen atoms has been replaced by the hydroxyl molecule OH, was first prepared by Manasse, of Munich, who found that its physiologic action was quite different from pure camphor, as it was an excitant, did not alter the blood-pressure, but decidedly influenced the respiration. Hirschfelder found it beneficial in the treatment of asthma, though in some unsuitable cases it has failed to have the slightest effect in spite of vigorous dosage. In one case it seemed to bring on the attack. The preparation which is sent out by the manufacturer as oxyphor contains 50 per cent. of oxycamphor, and this may be given in doses from $\frac{1}{2}$ to 2 drams. He has been in the habit of prescribing it dissolved in simple elixir in the strength of 1 to 7. He has reports from Dr. Graves that it has been decidedly beneficial in whooping cough of children in doses of 5 to 30 minims of oxyphor. He says, "To sum up our experience with the drug, it is safe to say that we have in it a valuable addition to our pharmacopeia, one that we can safely use to take the place of various narcotics in the treatment of different forms of dyspnea."

58. **Diabetes.**—According to Vaughan, diabetes mellitus is a name used to designate the fact that the body has lost more or less its function of normally metabolizing carbohydrates. According to this definition, diabetes and glycosuria are by no means synonymous. The capability of the individual for the utilization of carbohydrates is limited. A healthy working adult thrives best upon from 18 to 20 ounces of carbohydrates daily, while he may dispose of two to three times this amount, for a time at least. It is not probable that the healthy man

can take enough starch to cause sugar to appear in his urine, but with less complex carbohydrates, the facts are otherwise and a temporary glycosuria can be induced by an excess of sugar. This, however, does not occur very often. The tests for sugar are reviewed and the necessity of the greatest care in making these emphasized. The class of foods, proteids, fats and carbohydrates and the proportion of each required by a normal man are enumerated and Vaughan lays down the diet tables for a case of diabetes, which differ from those usually given in that they contain relatively more fat and less proteid. He thinks that proteid feeding is overdone in this disease and it frequently happens that the sugar decreases by cutting down the proteids. The diet is arranged for a regular progressive course of seven days, and when the fully non-carbohydrate bill of fare of the last day is reached it should be continued for at least five days, the urine being tested during the last two. If the sugar disappears under the non-carbohydrate diet the case belongs under the head of mild glycosuria, but if it persists, the severe form may be said to be present. If it is the former, we must determine to what extent the patient has lost the power of utilizing carbohydrates in his food and try the tables given in inverse order for five days and test the urine regularly until the sugar reappears. Having thus ascertained the amount of carbohydrates he can utilize, a steady diet is fixed. In those cases which continue to excrete sugar under non-carbohydrate diet, after the last days of the series, the dieting becomes a very serious matter and Vaughan thinks it best to insist that a non-carbohydrate diet should be followed one week out of every four. The short and frequent periods are more easily borne by the patient and are more beneficial to him. During the interval from 100 to 120 gm. of white bread or its equivalent should be allowed daily. These cases are incurable with present means, and the best we can do is to prolong life.

59.—See abstract in *THE JOURNAL*, XXXV, p. 1046.

65. **Problems in Pediatrics.**—In this address the subjects taken up by Holt are the present status of diphtheria antitoxin, in which he shows the advance and great success in the treatment since the introduction of this agent; next Koplik's sign in measles, which he finds to be characteristic of this disorder and valuable in diagnosis, though not sufficient to enable us to recognize the disease before the possibility of infection to others. Milk sterilization and infant feeding, with the milk-supply of various cities are also discussed at considerable length. He believes that we need to educate parents in the conditions that are essential to life and the normal development of their children and to reduce susceptibility by increasing resistance.

71. **Antero-Posterior Subdivision of the Bladder.**—Fuller reports a case of transverse division or contraction of the bladder anteriorly to the urethral openings, dividing it into two parts. Two cases were observed by him, in both of which uncomfortable symptoms of increasing difficulty of urination began in early life and finally ended in retention. In both cases, it is true, urethral stricture existed, the cause for it in the first case being obscure, and possibly due, as he says, to long-continued vesical tenesmus. In both instances, however, it appeared to be insufficient to account for the retention. The first case was relieved by cutting through the vesical portion of the lower margin of the aperture opening between the two chambers down to the vesical floor, the assistant holding his finger in the rectum and maintaining steady upward pressure under the partition, while a pair of heavy serrated scissors were introduced through a suprapubic opening, dividing the partition wall down to within a quarter of an inch of the assistant's finger. After dissecting apart the cut edges of the partition as much as possible with the finger introduced from above, a large peritoneal drainage-tube was inserted and maintained between the cut edges. Temporary suprapubic drainage was also established. The recovery was uneventful and cure complete.

76.—See abstract in *THE JOURNAL*, XXXIV, p. 688.

80. **Visual Defects as Affecting the Earning Capacity.**—

The conclusions at which Hansell arrives from his discussion of the amount of injury to the earning capacity of the individual by visual defects are stated as follows: Blindness is that degree of loss of vision that incapacitates one from earning his living in any occupation requiring the use of the sense of sight, the degree varying according to the demands of the occupation. Vision of less than one-half diminishes the earning power and the less the vision the greater the loss of the earning power. Monocular blindness is not incompatible with full earning capacity. The loss of earning power owing to defective vision may be computed according to a simple system based upon the ratio of the loss of vision to the full earning capacity at any age and in most occupations.

82.—See also title 108.

84. **Phototherapy.**—Stelwagon describes his personal observations of Finsen's method of treatment. The results are good; of this, he says, there can be no question. There are some disadvantages in the treatment of cutaneous tuberculosis, which is the form of disease there treated, the chief one being the duration of the treatment and the cost of apparatus, expense of treatment and close attention required. The principal criticism, however, made by those who have visited the institute and studied the method is that, in the mild and moderate cases at least, as rapid results can be obtained by other plans which have long been in vogue and are less expensive. His experience in the treatment of lupus in Philadelphia justifies this criticism. He thinks, however, there may be a difference in the type of disease to some extent. American skins do not seem to be so easy a prey to tubercle infection and the disease is here milder and more amenable to treatment than most of the European cases seem to be. It is probable, moreover, that, with further improvements, the light treatment may be made simpler and less protracted and expensive.

85. **Cataract Operations and Insanity.**—Posey reports two cases in which removal of a cataract in chronic insanity produced a rapid and complete cure of the mental disease. In both cases there seemed to be, from the history, a direct relation between the mental disease and the visual failure, and this may account for the success.

86. **Diet in Typhoid.**—In the majority of typhoid cases milk is the safest and most satisfactory diet, and Tyson does not favor the use of the soft foods which have been advocated by certain authorities. He does not, of course, hold exclusive opinions on this subject. He admits that under certain conditions animal broths and albumin water, consisting of the white of an egg mixed with water, may be used as a substitute. The objection to animal broths that they are specially favorable culture-media is, he thinks, overestimated. If given fresh they should be sterilized by heat, and it is doubtful whether any food does not become a culture-medium in the stomach. In case of hemorrhage, an immediate reduction in the amount of food should be made. It is better for some time to give no food at all, though in an uncomplicated case he gives from 4 to 8 ounces of milk every two hours. In case of peritonitis the indication for the arrest of peristalsis exceeds all others and this can be secured in no better way than by total omission of the food. Where total cessation does not seem necessary, the quantity can be very much reduced—one-half ounce or one ounce every two hours until the danger is passed. In convalescence he lays down an arbitrary rule which he thinks is on the safe side, namely, adherence to liquid food until the temperature has been normal for a week. After that he allows soft boiled eggs, and in two or three days soft milk toast and other soft foods are added from time to time until a reasonable mixed diet is taken. Chicken is one of the foods last allowed.

88. **Heller's Albumin Test.**—Fussell describes the various rings observed in Heller's nitric-acid test for albumin and concludes his article as follows: It would seem after these observations and the demonstrations that in making Heller's test three rings are formed: 1. The color ring. This ring forms in practically all urines, whether there is albumin present or not. It is specially marked in concentrated urines rich in

coloring matter, and in the urine of patients taking iodid of potassium or salol, or indeed any of the coal-tar products. It is at the point of contact between the acid and urine. 2. The white zone of albumin which forms at the line of contact between the urine and the acid, but always above the dark, constant, color ring. This ring is of a densely opaque white, and I think this is especially the fact when there is but little coloring matter in the urine. If there is a small amount of albumin present, however, as in urine containing pus, the ring is less dense, but nevertheless in close contact with the layer of acid and immediately above the color ring. 3. The urate ring, which forms high above the albumin ring, if albumin is present. The color ring forms at the line of contact of the acid and urine, and the color usually disseminates into the acid below and sometimes into the white albumin ring above. It is always below the albumin ring. The white albumin ring also forms at the point of contact of the acid and the urine; it is wholly in the urine and always above the color ring, though later on it may be somewhat discolored by it. The urate ring, a white thin zone, quickly forms, is far above, sometimes one-quarter or one-half inch above, the albumin ring, and is easily dissipated by heat.

92. Hip-Dislocation in Typhoid.—Spontaneous dislocation of the hip in typhoid fever, though comparatively rare, has some literature and has been noticed at length by Keen in his "Surgical Complications and Sequels of Typhoid Fever." Weigel reports a case in a girl 8 years of age, which caused considerable difficulty in its treatment, and still remains dislocated. He thinks the recurrence of luxation can not be attributed entirely, if at all, to relaxation and distension of the tissues and lack of suction power of the joint. He is inclined to think rather that the gradual lengthening of the ligament and distension of the joint-capsule permitted the head of the femur to slip out of the acetabulum without producing a rupture of the structures, which were simply carried upward, and when the joint was restored, the capsular ligament became folded on itself and prevented a perfect replacement. He has had a partial improvement in the case reported, the limb is better and stronger and more useful in every way than if nothing had been done.

93. Uterine Cancer.—After remarks on the diagnosis of malignant uterine disease, Crossen gives the report of a number of questions which he submitted to Dr. Carl Fisch, the pathologist, and their answers. 1. As to whether a positive diagnosis of carcinoma or sarcoma can be made from uterine scrapings, which is answered in the affirmative, though difficulties may arise in malignant adenoma. 2. Can malarial disease be excluded by such examination? Also answered in the affirmative. 3. Does malignant disease from the body of the uterus always involve the endometrium in the early stage so that a diagnosis can be made of the scrapings before the tumor has passed beyond the reach of radical operation? The reply to this question was that unless there is a degeneration of the myometrium without involvement of the mucosa or settling of a metastasis from another tumor, and in cases of carcinomatous degeneration of fibromatous uterus, the scraping should reveal the condition. As regards the early diagnosis of these exceptional conditions, the examinations of scrapings would, of course, yield only negative results. 4. Do fibromata really undergo malignant degeneration, and if so, is it carcinomatous or sarcomatous, and at what age does it occur and how may we know of the occurrence of the change? The reply to this was that fibromyomata frequently undergo malignant degeneration, the result being nearly always sarcomatous, though myxomata and even chondromata forming metastases are often observed. These changes are most frequent at the menopause, though they may occur earlier, with great thickening and enlargement of the uterus in some cases and marked thinning and dilatation in others, sometimes with the formation of pyometra or concomitant signs. The early stages can not be reached by direct examination except where a tumor is removed for other reasons. This sarcomatous change may remain latent for a long time, to light up with great intensity after some injury.

103. Hands and Feet Affections.—A patient suffering from the commoner affections of the hands and feet is hardly likely to think of a medical practitioner as a resource for relief. The average layman, or laywoman, gets the idea that the physician's work does not go beyond a bad complexion and similar affections. Barbers, druggists and especially chiropodists and manicurists have become specialists in this line, to the damage of their clients, and in this article Dyer directs attention to what we call the commoner affections of the hands and feet, viz., corns, bunions, warts and diseases due to the sweat-glands. In the summer many people complain of the hands and feet perspiring, and this may often result in a chronic condition of hyperidrosis and is often complicated with a tendency to inflammation, causing much pain and possibly confining the patient to bed. The condition is apparently easy to treat. 1. Advise the use of white castile soap and restrict excessive drink. Give a small dose of strychnia internally for a long period, about six weeks. For the hands, the use of a 3 to 5 per cent. alcoholic solution of salicylic acid frequently during the day; for the feet, a like remedy in powdered form, viz., salicylic acid, $\frac{1}{2}$ dram; tannin, 1 dram; powdered arrowroot and rice starch, of each half an ounce, dusted in the stockings every day. Where the feet are inflamed and not blistered, simple bathing for 20 to 30 minutes in hot water with 4 ounces of laundry starch to the gallon should be of service before the use of powder. In the more chronic condition lead water may be used on cloths applied at bedtime, and if the blisters suppurate, nothing relieves better than a 5 to 10 per cent. solution of ichthyol. The commoner conditions of the nails of the hands and feet are: ingrown nails, run-arounds, hangnails, horn-nail and felon. The hang-nail often causes paronychia, and as often the felon. It should be held in place and collodion painted over it. When infection occurs, touch the spot with carbolic acid and mop afterward with alcohol, or touch it with nitrite of silver. If the infection goes further, nothing is so good as a 1 to 1000 bichlorid dressing kept constantly wet, which often aborts felons and is much better than the soap and sugar and other compounds of household practice. The ingrown nail can be treated by scraping a notch and clip to keep the flesh away from the nail. In severe cases it may require the removal of a portion of the nail and redundant skin. Warts will almost always disappear under daily painting with salicylic acid in collodion (5 per cent.) solution, excepting in the acuminate type. Other remedies which he uses are formalin solution, corrosive sublimate, and sulphur. Corns and bunions are sacrifices to civilization and the original conditions are relieved by the wearing of properly adjusted shoes and protecting the part with a simple cotton and collodion dressing. A useful and convenient remedy is tincture of iodine. Bathing in starch water is also advisable and should be practiced twice a day. He speaks in condemnation of the commoner practice of letting chiropodists work on the feet with a knife that is always unclean, helping only to promote disease and the practice of the operator. For the soft corn between the toes, ordinary greasing and putting a film of cotton over it usually will suffice. Salicylic acid plaster, 10 per cent., is useful for flat corns not especially painful. Most of the local applications are suitable, but the above seem to be the ones here specially recommended.

108.—See also title 82.

118. Dissection Wounds.—Bacon discusses the etiology of dissection and operation wounds, considering first the nature of the infecting microbe, and second the effect upon the virulence of the source from which it comes. The foremost place as an infecting agent must be assigned to the streptococcus pyogenes and the next to staphylococcus pyogenes aureus. It is probable that all the well-recognized pyogenic germs may, under favorable circumstances, give rise to more or less virulent septic processes when inoculated, but the author does not have at hand the reference to such cases. The anthrax bacillus is one that might be likely to produce a condition that would probably come under the title of his paper, also the bacillus of malignant edema. The tubercle bacillus is notoriously the cause of infection in the so-called "anatomical tubercle," and

while he has not found records of general tubercular infection from these causes, he thinks they are possibly not uncommon. Other germs mentioned are the diphtheria bacillus, the virus of syphilis, etc. The effect upon the virulence of the infecting germ of the source from which it is derived is discussed at some length and he points out that there is a comparative difference as regards the danger of the wound at a recent, with one received at a delayed, autopsy, which is due to the bodily warmth and the lack of development of defensive proteids in the dead subject. The chilling of the body and the beginning decomposition of the tissues and struggle for existence with saprophytic bacteria probably so affect the environment as to make it a less suitable culture-medium for the virulent pyogenic germs.

122. Female Deterioration.—The question whether the alleged deterioration of the human female as a factor in reproduction is a fact, is treated by Myers, who says that the toiling woman, with her interfering muscularity, may show equal deterioration with her overstrained sister of leisure. The intellectual woman need not fear maternity if she is able to let her intellect lie fallow long enough for her system to be stored with the necessary commissary supplies. But he thinks there is a constant tendency to mend matters in the natural processes of nature. The question of clothing, habits, education, etc., are also mentioned in their alleged effect upon deterioration.

FOREIGN.

British Medical Journal, December 22, 1900.

Quantitative Color-Tests. KARL GROSSMAN.—The defects of the Holmgren test are pointed out by Grossman, who shows how central scotoma may affect the quantity of color-perception according to the area of scotoma. Vision may be perfectly good at short distances, but, for this reason, fails at greater ones and a serious accident might follow. For the purpose of detecting such defects he has devised an instrument consisting of colored glasses used with transmitted light of varying power, thus putting the individual under conditions such as he meets in his occupation as seaman or railway employee. The rotating disc contains plates of clear and colored glass with an arrangement for varying apertures and size from 10 mm. to pin-point and intensity from light to dark, thus offering an unlimited variety of lights, both colored and white. The apparatus may serve as the basis for the adoption of a standard for the quantitative measure of color-perception, as by it the smallest central scotoma can be detected.

Remarks on Chronic Enlargement of the Pancreas in Association With Or Producing Attacks Simulating Biliary Colic. GILBERT BARLING.—Three cases are reported by Barling, which had the common feature of enlargement of the head of the pancreas with attacks of colic and more or less complete blocking of the biliary duct. On account of the thickening of the head of the pancreas, it was impossible to say with certainty that pancreatic calculus did not exist, though none could be detected. In two of the cases there was an ill-founded diagnosis of gall-stones. In the other, two gall-stones existed and possibly, by inflicting damage on the common duct in their passage, directly induced the pancreatic inflammation. It is impossible, at present, he thinks, to make a positive diagnosis between certain affections of the biliary apparatus and chronic inflammation of the pancreas. If operation is required, however, it is fortunate that the same steps have to be taken in either condition. If the situation calls for operative interference with pancreatic enlargement of this kind, two methods of treatment offer themselves: very prolonged drainage of the gall-bladder is the method usually employed after cholecystectomy, or anastomosis between the gall-bladder and duodenum. In the second case reported drainage was employed and seems to have acted beneficially on the pancreas. In the fourth case the gall-bladder was joined to the duodenum, with resulting cure of jaundice and other symptoms complained of, though there was still some enlargement of the pancreas. He thinks that these cases suggest a more hopeful explanation of the occurrence of thickening of the head of the pancreas with jaundice than has hitherto been held possible.

Some Points in the Treatment of Spinal Abscesses. A. H. TUBBY.—The following points of treatment in cases of spinal abscess are emphasized by Tubby: 1. Do not wait to open a spinal abscess until the skin is reddened and involved. 2. As far as possible open the abscess at certain "seats of election," the places of evacuation to be decided by the direction taken by the abscess and by the surgeon. 3. Wherever evacuation is decided on, let it be done as far as possible away from the groin, and in such a position that more than one opening can be made into the abscess cavity. 4. Carefully cleanse the cavity and rub the interior thoroughly with menthol or iodoform solution. 5. Avoid drains of all kinds. 6. Be careful to carry out perfect aseptic measures from first to last. He enlarges upon these respectively. As regards the "seat of election" he mentions a case where by waiting, the abscess enlarged in its femoral portion and outward from the abdomen, under treatment by prolonged rest. This multiple opening was employed, with recovery. The importance of making more than one opening of the abscess and sac away from the groin as a cardinal point, is emphasized in the treatment of these cases. Evacuation is likely to be more complete, pockets of pus not so likely to remain, and all parts of the cavity can be brought within reach of the sharp spoon, the irrigator and the cleansing sponge. Applications to the sac-wall are also rendered more easy, and the greater the number of incisions that can be made without risk, provided they are all sewn up after the operation, the better will be the result.

The Lancet, December 22, 1900.

Pulmonary Tuberculosis in Early Childhood. ARTHUR LATHAM.—Latham holds that the majority of cases of tuberculosis in infancy are more probably due to infection through the digestive tract by milk than to air infection, and he says in support of this view that the whole picture of pulmonary tuberculosis in children differs from that in adults. In children the process is usually acute, the seat of infection and the breaking down of tissue is comparatively seldom reached. We often find tuberculosis in the bronchial glands while the lungs are practically unaffected, which is hardly ever seen in adults. He, therefore, holds that the disease is communicated through the lymph-glands in infants, though in the adult aerial infection is undoubtedly most common. The clinical varieties of pulmonary tuberculosis in children are numerous. Until the child is 3½ years of age it is a common development from infection of the bronchial glands and spreads from these glands to the lungs rather than from the lungs to the glands. After the age of 4 years the lesion found becomes more and more comparable with those in adults. The conditions which he found up to the fourth year he classified as follows: 1. Tuberculosis of the bronchial glands, which may lead to no special symptoms, and the diagnosis of this condition is described, especially the cough, alteration in the voice, venous hum, pressure symptoms, etc. Similar enlargements from other causes are much less frequent than from tuberculosis and these points will enable us to differentiate. 2. Miliary tuberculosis is rare in children excepting in cases of general tuberculosis. The general symptoms always precede the localizing ones; the latter may be absent. The child gradually wastes and this is followed by general malaise, anemia and anorexia. In most of these, however, digestive disorder is not prominent. The progressive wasting with slight fever arouses suspicion and this becomes assured by definite localizing symptoms as the time progresses. The differences between marasmus, typhoid fever, congenital syphilis, etc., are described. 3. Tuberculous bronchopneumonia, which may be either acute or chronic. In the acute cases there may be nothing to justify the diagnosis of tuberculosis, but in many cases, toward the end, we have evidence of meningitis. In the more chronic form, we have the initial stage with general symptoms followed by development of pulmonary signs and symptoms. Hemoptysis is rare, as are also signs of associated pleurisy. The disease is rarely arrested, but generally proves fatal in from one to six months. Diagnosis from simple bronchopneumonia is always difficult. The insidious onset is one of the special symptoms. If the attack begins with acute symptoms in previously healthy children bronchopneumonia is nine times out of ten non-tubercu-

lous. The appearance of the child may help us, but Latham remarks on a copious crop of downy hair being frequently found on the back of children who become tuberculous. The family history and associated enlargement of the bronchial glands or tuberculous disease elsewhere is of importance, and if we can get the sputum, all difficulties may be solved. Children mostly swallow their sputum, and in children under 6 years of age, if expectoration is profuse, it is probably tuberculous. Sometimes a gentle emetic may aid us in obtaining a small mass of purulent matter which reveals definite evidences. After the fourth year, and still more after the sixth, the type conforms more to that of the adult, but there are some differences. There is not the same tendency to begin at the apices and extend downward nor to form fibrous tissue. Extensive excavation is less common; hemoptysis and laryngeal complications are rare; pneumothorax is rare and not infrequently meningitis ends the scene. The physical signs are of less importance in children than in adults; a cracked-pot sound may be of no importance whatever. The prognosis in any form of tuberculosis is grave. Tuberculosis of the bronchial glands with marked pressure is also serious and the same is true in tuberculous form of general bronchopneumonia. The cases where the processes start during acute stages of measles or whooping cough are unfavorable, but when the tubercle bacilli are grafted on to the ordinary bronchial pneumonia which follows these diseases, the chances are better. The prognosis should be guarded, as many patients who seem hopelessly ill, get well, and sometimes where the disease appears to be quiescent, they succumb to a trifling ailment. In the adult type occurring in children, the prognosis is more favorable and frequently when taken early these patients do remarkably well. The aim in the treatment is to prevent further infection. Other measures to be adopted must follow the general lines of treatment of the disease in the adult. Fresh air, sunlight, precautions against cold and fatigue, equal temperature, a small amount of stimulants sometimes, cod-liver oil and small doses of other ordinary drugs, such as quinin, creosote, etc., are also occasionally of value. The symptoms can be treated as they arise.

Observations on Compressed-Air Illness. FREDERICK R. WAINWRIGHT.—The writer reports his experience with caisson disease in the Waterloo tunnel works of London, where, considering the pressures employed and the length of shifts, there were remarkably few cases of illness. The men were carefully examined before allowing them to work, the average age being just over 30. During a period of over five months, only 47 cases of illness due to the work came under treatment, in 40 men out of the 120, two having three attacks each and three having two. These figures include only cases of sufficient severity to call for treatment. Most of the men were free users of alcohol. The symptoms are described: Pain in the ears, joints, epigastric pain, vomiting, headache, dizziness and paralysis in one case, with no fatalities. The most important points in the diagnosis are the time and manner of the onset. He would not admit a case to be due to compressed air where more than twelve hours had elapsed between the time of leaving work until the onset of symptoms. Rheumatism and osteoarthritis are not likely to be mistaken for joint pain of compressed-air illness. The absence of any rise of temperature in the latter, together with the sudden onset and the freedom from physical signs, serves to define it. He considers ventilation an important preventive agent, the amount of carbonic acid present being a prime factor in the etiology of the disease. Of the pathologic theories, he accepts that which attributes the condition to supersaturation of the blood with gases due to compression, and he thinks that carbonic-acid gas is observed in the greatest amount. He has never been able to discover any remote effects. In one man, 42 years of age, who had worked in compressed air for varying periods during several years, there was marked arteriosclerosis apart from any cardiac or renal disease which could be discovered. Whether this was due to the occupation or not he could not say. In the great majority of cases only one treatment is necessary, and that is recompression with slow locking-out or reduction of pressure. For this purpose a medical air-lock was erected and utilized. The amount of pressure needed for relief depends more on the

severity of the case than on the original pressure which produced the symptom. Decompression must be slow. He would not reduce pressure quicker than at the rate of 1 pound in three minutes. In his experience this never failed to stop the pain, though there are exceptional cases where the latter returns. This, he thinks is due to the creation by the first attack of a *locus minoris resistentie* which renders the passage of air into the tissues easier than escape by way of the respiratory system. In these cases he uses morphin hypodermically in fairly large doses.

Presse Medicale (Paris), December 12 and 15.

Mechanism of Spinal Cocainization. TUFFIER AND HAL-LION.—Extensive research on dogs has demonstrated that the anesthetic action of subarachnoid injections of cocaine is due exclusively to the cocaine. This specific action affects the spinal roots, and is almost exclusively confined to them. This refers solely to the anesthetic action. Certain by-effects may possibly be due to the diffusion of minute amounts of the cocaine to the nerve cells of the cerebrospinal axis.

Cultivation of the Microbe of Soft Chancre. BEZAN-COX.—The writer announces that Ducrey's bacillus grows readily on gelosed blood.

December 15.

Localization of the Lepra Bacillus. E. JEANSELME.—The writer has returned from a special expedition in the Orient, undertaken for the purpose of studying leprosy. He is convinced that bacteriologic examination will prove of great assistance in dubious diagnoses of leprosy, but warns that the bacilli, after having invaded the entire organism, may disappear completely, merely leaving a sclerosis in their track. The chief localizations are the nasal and bucco-pharyngeal mucosa, but all the secretions and even the excretions may be virulent, except the urine, which does not contain bacilli. Prophylactic measures should therefore aim to sterilize the nose, mouth and skin, with occlusion of all ulcerations and compulsory disinfection of garments, linen and all vessels, etc., used. The child of a leprosy woman should be taken away from her immediately after birth and never given to another woman to nurse.

Sodium Bicarbonate for Dressing Wounds. J. CASTERET.—In all cases in which the vitality of the tissues requires to be stimulated, the bicarbonate has proved the best of all dressings in Casteret's experience with 300 patients during the past two years. In case of moderate suppuration and superficial traumatism it is more effective associated with antiseptics. In severe suppuration or mortified tissues the bicarbonate should yield place to antiseptics, but when the process of repair commences it becomes useful again. The purulent focus is copiously irrigated with an antiseptic solution, after which the bicarbonate dressing is applied. This antiseptic irrigation is repeated each time the dressings are changed. The solution used is 20 to 60 gm. per 1000, and the dressings kept moist. An abscess heals in ten to fifteen days under this treatment and the effect is surprisingly satisfactory in superficial traumatisms, varicose ulcers and burns, lymphangitis and certain dermatoses in which the indication is merely for a stimulation of the vitality of the tissues.

Revue de Gynecologie (Paris), iv, 5.

Treatment of Metritis. POZZI.—Acute or chronic metritis of the cervix may occur independently of any lesion of the fundus, but it is rare. If it persists it is liable to compromise the nutrition of the entire genital apparatus. Medical treatment may be sufficient in the early stages, and should certainly be tried, but surgical intervention should be sought before the lesion has become propagated by the mucosa and lymphatics. The most prominent symptom is the persistent subinvolution of the uterus and dilatations in the venous system from the chronic congestion of the organ. The ovaries frequently become affected in turn, small cysts developing in the follicles, with hypertrophy and apoplexy of the corpus luteum and pain in the lumbar region. This condition resists all medical treatment and even amputation of the cervix has little effect on the ovaritis at this stage. Pozzi considers laceration of the cervix almost the rule even in normal ac-

couchements. Any lesion of the cervix acts like a thorn in the flesh, irritating the trophic nerves and entailing vasomotor disturbances. Removing the thorn by amputating the cervix puts an end to the congestion and pain. Since lesions of the cervix have such serious and far-reaching consequences, it is imperative to cure them in the early stages. The first indication is asepsis of the vagina with a dressing over the cervix to isolate it from the remainder of the region in case of gonorrheal infection, and collect the secretions. Antiseptic injections are also necessary, and if indicated, application of silver nitrate, iodine or creosotal to the ulcerated surface, or possibly yeast. The thermocautery and curette are inadequate and unreliable. Excision is the only treatment for an inveterate lesion of the cervix, followed by immediate occlusion of the wound by suturing the flaps over it. He prefers biconical amputation with complementary *évidement* or scooping out of the commissures. Sclerogenic lacerations especially indicate operation and the fibrous irradiations should all be followed and removed. By suturing the commissures afterward, the external to the internal mucosa, all tendency to stricture is obviated. This operation not only removes the cause, but acts indirectly on the involution of the fundus and on the ovulation. Backache and dysmenorrhea gradually subside. Another variety of metritis occurs in nulliparæ from narrowness of the orifice of the cervix interfering with the drainage. It requires stomatoplasty by *évidement* of the commissures with consecutive asepsis, antisepsis and exeresis as outlined above. In case of very mild infection and hyaline catarrh it is unnecessary to excise tissues only slightly altered.

Semaine Medicale (Paris), December 12.

Spinal Cocain Analgesia. T. TUFFIER.—An experience of thirteen months with this method of analgesia, which Tuffier has applied in 252 operations, has established that there are no symptoms of shock and that the patients return more rapidly to the physiologic condition than after general anesthesia. The analgesia is complete and sufficiently durable, while careful study of the patients during and after the operation shows that there is no injury to the medullary system, either immediate or remote, nor local operative complication. From the moral point of view he has always found the most complete indifference to the operation, especially in men and in private practice. As he has mentioned in his previous reports, one patient died during the day following an operation for eventration. The autopsy disclosed old and severe cardiac lesions, with congestion and edema of the lungs, rendering the fatal termination inevitable. This is the only death that has occurred in his experience. In 20 per cent. of his cases the analgesia proceeded without the slightest subjective or objective symptoms. In 40 per cent. nausea occurred, and he has remarked that this is most liable to happen in cases with slight tension of the cerebrospinal fluid. When the fluid escapes like an ejaculation there is a minimum of incidents, but when it merely trickles, the analgesia will be as complete, but is liable to be accompanied by some annoyances. Nausea is much more frequent after large doses, 25 to 30 mg. A general slight malaise is sometimes observed, commencing about five minutes after the injection and never lasting more than fifteen minutes. Vomiting occurs from five to fifteen minutes after injection in 20 per cent. It is more frequent in men than in women and much more frequent in urgency operations when the subject has not been prepared. Tuffier is hopeful that research will suggest a means to abolish the vomiting in these cases. The subject rarely vomits more than three or four times, but in three cases vomiting recurred a number of times, including one case in which cocaine had been used. He now rejects all substitutes for cocaine. The brain is not affected and the muscles are completely relaxed, as in chloroform anesthesia, although the power of movement is retained, but the movements are less precise than in the normal condition. The rhythm of the heart is not altered, but the pulsations sometimes become more frequent. In 30 patients the pulse was 80 at the close of the operation and it has been known to reach 120. The respiration continues physiologic, there is no hypersecretion nor congestion in the bronchi, but the inspirations are sometimes

deeper. In 5 per cent. of his cases there was incontinence of gases or fecal matter. As the mucosa of the rectum becomes insensible the anus misses the reflex tonicity and is liable to relax under the influence of a violent effort, pressure on the rectum during the ablation of a retrouterine tumor for instance. The urethrovesical apparatus is not affected in the least. The patients are completely tranquil and in perfect condition during the day following the operation. The only incident is an exceptional vomiting, which may occur three or four times, about four hours after the intervention. During the afternoon or evening the most disagreeable and frequent incident, the headache, is liable to appear. Tuffier has observed it in 40 per cent. of his patients. It resembles migraine in character, but does not coincide with the vomiting, and in 90 per cent. was almost completely gone by the next morning. In 2 per cent. it was very severe and continued for two to four days, progressively subsiding. No remedy seems to control it, and he now merely applies a compress of cold water to the brow. In three patients a tardy cephalalgia appeared after two to five days of complete tranquillity, more annoying than strictly painful, gradually subsiding in the course of seven days. It is difficult to understand this cephalalgia, as the cocaine disappears so rapidly from the cerebrospinal fluid that not a trace can be discovered an hour after the operation. There is no chemical irritation of the pia-arachnoid membrane; cytologic examination and tests of its permeability with iodine have demonstrated its integrity. The temperature rose in 45 per cent. to 37.8, 38 and 38.5, and exceptionally to 39 and 39.5 C. The curve in 50 patients was well defined and constant, commencing about four to six hours after the analgesia, attaining the maximum the eighth to tenth and returning to normal by the twelfth to fourteenth. It never persisted beyond the twentieth hour. The urine does not suggest in any respect the urine-formula of fever. The blood shows no alteration resembling the leucocytosis of fever. The elevation of temperature is probably due to the action of the cocaine on the thermogenic centers. The subjective and other symptoms were never so severe as to cause any alarm. The age of his patients ranged from 10 to 79, but as a general thing he prefers not to use this method of analgesia on children and hysterics. Children bear the cocaine very well, but are liable to become frightened. He believes that persons with heart affections or arteriosclerosis have nothing to fear from it, as he has cocaineized a large number. For all extraperitoneal operations analgesia by the spinal route bears comparison with general anesthesia—the future will show whether it ought not to supplant the latter. In operations on the lung and pleura in the two lower-thirds of the thorax it is the method of election, as chloroform and ether have serious disadvantages in these conditions. In regard to intraperitoneal operations, he would not recommend the method unless the surgeon is thoroughly familiar with abdominal surgery. Everything is all right as long as no incidents happen—and this is the rule—but if vomiting or nausea occurs the operator must wait for it to subside, and thus be hindered. In simple interventions, such as vaginal hysterectomy, ablation of the appendix or herniotomy, a little nausea is of no importance, but it may prove serious in operations on the liver, stomach or intestine, or in tedious interventions on the annexes or uterus.

Berliner Klinische Wochenschrift, December 3 and 10.

Treatment of Fractures of the Jaw. WARNEKROS.—For severe fractures of the jaw Warnekros has devised a splint which holds the parts in the correct position in the simplest manner, and can be removed for daily disinfection. It is merely a rubber plate made to fit over the jaw, allowing the teeth to protrude, such as dentists apply to correct the position of a tooth on the other jaw. It is small, light, aseptic, does not interfere with chewing or talking, and can be removed every day for disinfection of the plate and region after the third day. In one case the fracture was in the ascending branch of the lower jaw. A broad loop of stout gold wire projecting from the end of the rubber plate-cap supported the fractured portion to counteract the action of the external pterygoid muscle on the other side. In another case the

upper jaw was fractured in three places and the lower jaw in one. The splints were taken out and disinfected every day and the fractures healed with no deformity.

December 10.

Cure of Hernia of the Lung. O. VULPIUS.—Hernia of the lung developed consecutive to an unhealed fracture of the right third rib on a man of 42. He was able to reduce the hernia at first, but the frequent relapses caused irritation, catarrhal conditions and a cough. By the end of a year the hernia had become the size of two fists and operative intervention was imperative. Vulpius planned to slit the second and fourth ribs and fasten the outer half to the stump of the third rib, leaving the bone-flap still attached to the rib at its root. He accomplished this with the second rib, fastening the flap in a convex position, but the adhesions were too extensive for the operation to be completed on the fourth rib. The results were extremely satisfactory, even with this partial intervention.

Centralblatt f. Bakteriologie (Jena), November 30.

Diphtheria in the Horse. L. CORBETT.—The genuine diphtheria bacillus was found in the secretions of a sick pony, the only source for the infection of a little girl that could be discovered. When diphtheria antitoxin is found in the serum of horses, therefore, it evidently has the same significance as when found in man.

The Filaria in the Mosquito. B. GRASSI.—The fact that the filaria sanguinis is transferred to man exclusively by the mosquito seems to be established by the results of Grassi's research, which has determined that the larvæ of the filaria immitis enter the Malpighian bodies and there complete their development. In ten days they pass into the abdominal cavity and up to the head, accumulating in the prolongation of the cavity in the labium. From the labium they pass into the body of the animal stung. The filaria nocturna develops in the thoracic muscles. Both were found in several varieties of the anopheles and the immitis also in the eulex penicillaris and pipiens.

Deutsche Med. Wochenschrift, (Leipsic), December 6 and 13.

Athyreosis in Children. H. QUINCKE.—Two cases are described in detail to sustain Quinke's assertions that we are still far from knowing all the variations of the clinical picture induced by defective and disturbed functioning of the thyroid gland. He thinks this condition should be classed with uremia and diabetes as an auto-intoxication, possibly multiple. In puzzling cases of tardy development, mental or physical, the possibility of an affection of the thyroid gland should not be overlooked, even when the typical symptoms of cretinism and myxedema are absent. These rudimentary and abortive cases are not only the most interesting, but they are the most amenable to thyroid treatment. In one of the cases described the growth was normal, although the other symptoms indicated sporadic cretinism, and the autopsy showed that the thyroid gland, which had been the size of a bean during the first year of life, had completely disappeared by the fourth year. In the second case the cretinism commenced to develop insidiously in an apparently normal child 15 months old. A peculiar feature of this case was that all the teeth but two dropped out. The symptoms suggested an organic cerebral lesion, but a few months of thyroid treatment cured the condition completely. He suggests the term "athyreosis subacuta" for these rudimentary cases.

December 13.

Testing for Knee-Jerk. WALBAUM.—In testing dubious cases it is possible to detect even the slightest reflex action by placing the hand on the patient's knee, the fingers on the ligamentum patellæ inferius, while the thumb and tip of the little finger rest on the upper edge of the patella, the latter thus enclosed between the fingers and the palm. If the hand is then struck lightly with the other fist the fingers feel the ligament spring up if the knee-jerk is still present.

Finsen's Radiotherapy. S. BANG.—The ultraviolet rays are not absorbed in Finsen's radiotherapy, on the contrary they are exceptionally numerous and effective. He has succeeded in killing cultures of bacteria in one second, and Bang

announces that with an ordinary, unconcentrated arc light it is possible to kill the prodigious in one minute or less, with a current of 34 amperes and 50 volts, at a distance of 38 cm.

Mitteilungen a. d. Grenzgeb. (Jena), vii, Nos. 2 and 3.

Anatomy of Hypertrophied Prostate. S. CIECHANOVSKI.—Twenty-six pages of this extensive article are devoted to the bibliography of the subject, including many works by Slavonian writers. The author concludes that the hypertrophy is usually due to some inflammatory process which may have caused no symptoms at the time, and in the largest majority of cases, if not all, is of gonorrheal origin. A convincing argument in favor of this assumption would be the discovery that gonorrhea is restricted to man and dogs, as the hypertrophy of the prostate seems to be limited to them.

Influence of Artificially Induced Hyperemia on the Brain. A. BIER.—Constricting the neck with a rubber band hooked tight induces hyperemia of the brain, and Bier has established that it is not a dangerous procedure. He wore the band himself for five nights and, except for headache the first day, experienced no ill effects beyond the sleeplessness caused by the unusual sensation of the band. It was also tried on a number of patients in hopeless stages of tubercular meningitis in the attempt to supply the artificial congestion which Bier has found beneficial in other forms of tubercular affections. The effect of the constriction was also studied on a few patients with a defect in the skull, allowing the pulsation to be watched. He has established that abrupt application and removal of the band produces remarkable variations in the intracranial circulation. The next step was to apply these data to the treatment of epilepsy, and he reports ten cases thus treated. He found that the constriction was borne remarkably well by epileptics. When the band was applied so tight as to have caused throbbing and headache in Bier and others, the epileptics did not seem to experience anything of the kind and merely complained of the interference with swallowing. In six the seizures were diminished in number and intensity, including one patient who had had one or more every day for a year, and had no recurrence for six days after wearing the band for four. Several patients stated that the band arrested the distressing sensation of pressure and vertigo in the head. Three other patients were unaffected and in another the seizures seemed to last a little longer. In no case was a seizure ever induced by the constriction. It has proved effectual in warding off nervous headaches in another patient during the past year, applied at the premonitory symptoms. It also demonstrated an unmistakably beneficial influence on one of three cases of severe chorea thus treated. He observed that possibly the benefits attained by craniectomy in epilepsy are due merely to the hyperemia induced by the operation as in cases of tubercular peritonitis. Lumbar puncture may also induce hyperemia in the brain as the blood rushes into the vacuum left by the removal of the cerebrospinal fluid.

Operative Treatment of Pericarditis. REICHARD.—The prognosis depends upon the etiology, Reichard concludes from study of thirty-three cases. The favorable termination in two exceptionally severe cases of purulent traumatic pericarditis speaks emphatically in favor of operative intervention in such circumstances. The majority also recover in other cases of primary affection and pericarditis consecutive to pleuritis and empyema, but after influenza, pneumonia and severe osteomyelitis it is nearly always fatal.

Total Necrosis of the Testicle from Mumps. A. STOLZ.—A very slight attack of mumps in a young man of 18 was followed by painful swelling of the left testicle, terminating in total, isolated necrosis.

Muenchener Med. Wochenschrift, December 11.

Relations Between Rhodan in Saliva and Iodin Intoxication. O. MUCK.—The writer has been making a study of the results of injury of the innervation of the salivary gland from chronic otitis of the middle ear. In the course of the research he has discovered that persons with an unusual amount of rhodan in the saliva are exceptionally liable to acute iodism in consequence of ingestion of even moderate amount

of potassium iodid. Almost invariably symptoms of iodism appeared, varying from iodine aene to general nausea, while patients with a transient or permanent lack of rhodan in the saliva bore the potassium iodid without disturbance.

Chloral and Hemorrhages. A. MODEL.—The writer suffered for years from threatening hemorrhages from stomach, intestines, lungs and nose, which were finally traced to the moderate use of chloral for insomnia, and have ceased since the drug has been completely abandoned. The case is not pure, as latent atheromatosis exists and father and brother also manifest a slight hemorrhagic diathesis.

Wiener Klinische Wochenschrift, December 13.

Schleich's Local Anesthesia. F. V. FRIEDLAENDER.—This communication from the late Professor Albert's clinic summarizes the indications for this method of anesthesia as deduced from long experience: all operations on the skin, even protracted plastic operations, and all operations for which general narcosis is contraindicated. It is relatively indicated also in the so-called typical operations on the extremities if the intervention can be completed without toxic doses of cocaine, and also for operations on the intestines when they can be performed without pulling, when there is no inflammation of the peritoneum and when palpation of the abdominal cavity can be dispensed with.

Dietetic Treatment of Hyperacidity. E. V. SOHLERN.—In the writer's long experience at Kissingen he has found that the majority of persons with hyperacidity not only tolerate certain carbohydrates, but that the latter are important factors in the cure. They must be easily digestible, non-stimulating to the secretions, soft like porridge and not too concentrated. Potato, for example, can be eaten by nearly every hyperacid person without disturbance if mashed, put through a sieve and then stewed with milk.

Gazzetta Degli Ospedali (Milan), December 9.

The Blood in Animals After Ablation of Thymus. A. COSENTINO.—A marked and progressive hyperleucocytosis was noted in rabbits and dogs after removal of the thymus and, parallel with it, an increasing bactericidal power of the serum, reducing the number of colonies from 155 and 552, for instance, to zero in forty-eight hours.

The Blood of Subjects With Carcinoma. DARIO MARAGLIANO.—Careful tests and experiments with the blood of thirty-three persons with carcinoma of the uterus, mammae, stomach or other organs failed to reveal any blastomycetes or parasites such as have been described by Bra, Chevalier and others, although the conditions of the tests were scrupulously identical.

Intraspinal Resection of the Posterior Roots for the Cure of Rebellious Sciatica. D. GIORDANO.—A man of 26 with recurring sciatica of such severity that work was impossible, and the patient could not use his limb, was temporarily cured by stretching the nerve. When the neuralgia recurred Giordano yielded to the patient's appeals for relief and resected the posterior roots of the nerve, after exposing the eleventh and twelfth dorsal and first lumbar vertebrae. The dura was sutured with catgut and the flap replaced, leaving a small drain. All sensibility in the member was abolished and the patient could use his limb at once as he had not been able to use it for months. The second day acute pain was felt along the internal saphenous nerve, which proved rebellious to treatment and was finally cured by resecting this nerve below the tuberosity of the tibia, eight days after the primary operation. During the months that have elapsed since there have been no traces of pain. No trophic disturbances have been noted and the member is gradually recovering the sense of contact and pain on external irritation.

St. Petersburg Med. Wochenschrift, December 8.

Spontaneous Evacuation of Extrauterine Pregnancy. A. KUPFFER.—In the case described a woman of 53 evacuated per anum the bones of a fetus from an extrauterine pregnancy ten years before. The bones accumulated twice in the rectum, causing intense pain. Eleven cases are on record of a similar spontaneous irruption of remains of the extrauterine fetus into the intestines.

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F. F. Bryan, Georgetown, Ky., to Newberry Hotel, Chicago.
J. H. Coughlin, 303, to 307 E. Broadway, New York City.
H. M. Farney, Kansas City, Mo., to Mound City, Kan.
D. F. Grasse, Dickey, N. D., to Garrison, Iowa.
C. E. Hillis, 66 N. 2nd St., to 108 N. 3rd St., Memphis, Tenn.
C. P. Hough, Salt Lake City, Utah, to 224 Miller St., Jefferson City, Mo.
M. J. Levitt, 253 E. 105th St., to 1757 Madison Ave., New York City.
Lydia H. LaBaume, Rockford, to Batavia, Ill.
T. B. Morrissey, Chicago, to 126 N. Avon St., Rockford, Ill.
J. J. Minot, Mattapan, Mass., in care Mrs. Doulton, Box 1606 Santa Barbara, Cal.
A. D. Van Dyke, Baltimore, Md., to Marysville, Pa.
E. H. Moore, New York City, to Whitehouse Station, N. J.
F. H. Martin, Milwaukee, to Edgerton, Wis.
B. W. Macfarland, Bordentown, to Trenton, N. J.
G. Maxwell, Haldane, Ill., to Watonga, O. T.
H. J. Prentiss, 852 W. End Ave., to 239 W. 103rd St., New York City.
J. G. Pope, Rockwood, to Coleman, Tex.
M. Pritchard, Sierra Valley, to Sierraville, Cal.
Rev. J. A. Rudolph, 214 E. Randall St., to 209 E. Fort Ave., Baltimore, Md.
H. Rees, Preston, Minn., to Walcott, N. D.
M. W. Richardson, 10 Exeter St., to Equitable Bldg., Boston, Mass.
A. B. Richardson, Massillon, Ohio, to Government Hospital for Insane, Washington, D. C.
F. P. Shelby, Shelby, to Deeson, Miss.
S. C. Sims, 56 N. 3rd St., to 50 N. 4th St., Memphis, Tenn.
W. F. Seymour, Reedsburg, Wis., to 458 W. Adams St., Chicago.
F. L. Wilcox, Albert Lea, to Walker, Minn.
B. J. Wadey, Belleville, to 218 W. Madison St., Belvidere, Wis.
J. P. Welch, Aultman, Ariz., in care Dr. R. J. Rowland, Troupe, Texas.

Queries and Minor Notes.

CALL OF COURTESY.

SANDY, UTAH, Dec. 28, 1900.

To the Editor:—Should a new physician, just locating, call first upon brother practitioners, or is it the other way? DR. C. E. B.

ANS.—See reply to B. C. K., page 71, THE JOURNAL, of last week.

COST OF A COURSE IN EDINBURGH.

PORT TAMPA CITY, FLA., Dec. 18, 1900.

To the Editor:—Will you please inform me what would be the approximate expenses of a trip to Europe—with taking a course of lectures. I desire to go to Edinburgh, and if you can put me in communication with the University I would be glad. Yours very truly,

J. M. G.

ANS.—The fare across the Atlantic can be made comparatively low on some lines, the American Line from Philadelphia to Liverpool for example, which gives a comfortable passage for \$38 over, in the winter, and \$31 returning at same season of year. The additional expense of railroad fare to Edinburgh and return to Liverpool would be \$10 or less. About \$5 to \$10 per week will pay for comfortable board and lodging, and the fees for lectures are from \$5 to \$20 per class or course. If the passage over or back is in the summer season the rates are higher, perhaps \$10 more. A letter addressed to the Dean of the Faculty of Medicine, University of Edinburgh, would obtain the further details needed.

MEDICAL PRACTICE ACTS.

PHOENIX CITY, ALA., Dec. 28, 1900.

To the Editor:—What are the regulations governing the practice of medicine in the State of Florida? W. L. M.

ANS.—A diploma and examination are required. The examining boards are separate for each judicial district of the state.

RICHMOND, IND., Dec. 29, 1900.

To the Editor:—Will you please inform me through THE JOURNAL what the laws are in Missouri, Arkansas and Texas for the practice of medicine, and oblige. J. B. L.

ANS.—Arkansas requires an examination before the county board of examiners. The license given is good as long as residence in that county continues. The fee is \$6. In Missouri a diploma properly verified is required. In Texas an examination by special examining boards in the different judicial districts is provided for, but the law, however, is very lax, and a diploma is said to be practically all that is required; one diploma is as good as another, according to a decision of the Supreme Court. It is likely there will soon be some further legislation rendering conditions more strict.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Dec. 20 to 26, 1900, inclusive:

Frederick S. Dewey, captain and asst.-surgeon, 38th Vol. Infantry, honorably discharged from the service of the United States, to take effect February 20, 1901.

Gerry S. Driver, acting asst.-surgeon, from Washington, D. C., to Chicago, Ill., for temporary duty as examiner of recruits.

William R. S. George, acting asst.-surgeon, from Washington, D. C., to Governor's Island, N. Y., for assignment to duty at San Juan, P. R.

Thomas W. Jackson, acting asst.-surgeon, from temporary duty at the U. S. Military Academy at West Point, N. Y., to San Francisco, Cal., for duty with troops going to Manila and subsequent assignment in the Division of the Philippines.

William C. LeCompte, acting asst.-surgeon, from San Juan, P. R., to Washington, D. C., to report to the Surgeon-General for instructions.

Joseph C. Reifsnnyder, acting asst.-surgeon, relieved from further duty in the Division of the Philippines and assigned to duty at the U. S. Military Academy at West Point, N. Y.

Henry A. Webber, lieutenant and asst.-surgeon, U. S. A., leave of absence from the Department of Eastern Cuba extended.

Navy Changes.

Changes in the Medical Corps of the Navy for week ending Dec. 29, 1900:

Asst.-Surgeon R. E. Ledbetter, detached from the *Monongahela* and ordered to the *Constellation*.

Asst.-Surgeon C. R. Burr, orders of Dec. 19 revoked, and to resume duties on the *Monongahela*.

Medical Director G. P. Bradley, commissioned medical director from May 31, 1900.

Medical Director P. Fitzsimons, commissioned medical director from Nov. 19, 1900.

Surgeon G. H. Barber, commissioned surgeon from June 7, 1900.

Asst.-Surgeons S. S. Rodman and J. M. Brister, appointed from Dec. 14, 1900.

DIED.

Medical Inspector W. H. Jones, retired, died at Bethlehem, Pa., Dec. 13, 1900.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service, for the seven days ended Dec. 27, 1900:

Surgeon W. P. McIntosh, to proceed to Columbus, Georgia, for special temporary duty.

Asst.-Surgeon C. E. Decker, granted leave of absence for 14 days on account of sickness.

Asst.-Surgeon L. P. H. Bahrenburg, relieved from duty at the Immigration Depot, New York City, and directed to proceed to Manila, P. I., and report to the chief quarantine officer for duty.

Acting Asst.-Surgeon Francis Duffy, granted leave of absence for six days from December 29.

Acting Asst.-Surgeon W. J. Linley, granted leave of absence for thirty days.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Dec. 28, 1900:

SMALLPOX—UNITED STATES.

Florida: Jacksonville, Dec. 2, 1 case.

Kansas: Wichita, Dec. 15-22, 10 cases.

Kentucky: Lexington, Dec. 22, 1 case.

Maryland: Baltimore, Dec. 22, 1 case.

Minnesota: Dec. 15-22, Minneapolis, 12 cases; Winona, 120

cases.

New Hampshire: Manchester, Dec. 15-22, 14 cases.

New Jersey: Jersey City, Dec. 16-23, 7 cases.

New York: New York, Dec. 15-22, 21 cases.

Ohio: Ashtabula, Dec. 15-22, 15 cases; Cleveland, Dec. 15-22,

25 cases; Portsmouth, Dec. 22, 1 case.

Tennessee: Memphis, Dec. 22, 1 case.

Texas: Houston, Dec. 15-22, 22 cases, 1 death.

Utah: Salt Lake City, Dec. 15-22, 31 cases.

Washington: Tacoma, Dec. 15, 1 case.

Wisconsin: Milwaukee, Dec. 22, 1 case.

SMALLPOX—FOREIGN.

Argentina: Buenos Ayres, Sept. 30, 7 cases, 6 deaths.

Bohemia: Prague, Nov. 24-Dec. 1, 43 cases.

Brazil: Pernambuco, Oct. 1-15, 26 deaths; Rio de Janeiro,

Oct. 1-31, 69 deaths.

Egypt: Alexandria, Nov. 27, 3 cases 1 death.

England: London, Dec. 1-8, 1 case.

France: Paris, Dec. 1-8, 14 deaths.

India: Calcutta, Nov. 17, 6 deaths.

Mexico: Mexico, Dec. 16, 1 case, 2 deaths; Progreso, Dec. 9-

15, 3 cases.

Russia: Nov. 24-Dec. 1, 9 cases; Warsaw, 36 deaths.

Scotland: Glasgow, Dec. 7-14, 58 cases, 1 death.

YELLOW FEVER.

Brazil: Rio de Janeiro, Oct. 1-31, 31 cases, 6 deaths.

Mexico: Vera Cruz, Dec. 14, 2 deaths.

CHOLERA.

India: Bombay, Nov. 13-20, 3 deaths; Calcutta, Nov. 10-17,

26 deaths; Madras, Nov. 9-16, 7 deaths.

Straits Settlements: Singapore, Nov. 10-13, 5 cases, 5 deaths.

PLAGUE.

Brazil: Petropolis, Dec. 10, 1 death; Rio de Janeiro, Oct. 1-

31, 31 cases, 20 deaths.

India: Calcutta, Nov. 17, 2 deaths.

Japan: Osaka, Nov. 2-27, 8 cases, 8 deaths.

Madagascar: Tamatave, Nov. 11, 1 case.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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No. 3.

Original Articles.

A CLINICAL STUDY OF ONE HUNDRED AND FIFTY CASES OF HYPERPHORIA.*

WENDELL REBER, M.D.,
PHILADELPHIA.

When this paper was first thought of, I went over all my records with a view of finding in what percentage of cases hyperphoria had been noted; also what lessons were to be derived from the study of these cases. After much examination I decided to limit myself to my last 700 cases, throughout which there has been almost absolute uniformity of study. The statistics resulting from any study of these 700 records will therefore be of much greater interest and more faithful to the facts than had I included my preceding 1700 records, many of which are more or less incomplete as to the muscular status.

In every case painstaking correction of all refractive errors was made, the tests for hyperphoria preceding and following the refraction. Out of these 700 records 525 were refraction cases, in every one of which the muscular status was carefully estimated with the Maddox rod—and sometimes with supplementary methods—before giving the prescription. It is my conviction that without full knowledge of the muscular status, it is absolutely impossible to come to an intelligent conclusion as to what lenses ought to be ordered in any given case of ametropia.

Hyperphoria is spurious or intrinsic. The former is almost invariably an outward expression of perverted accommodation. In such cases where the ciliary muscle has been cured of its bad habits by a mydriatic or the wearing of proper correcting lenses, the vertical deviation usually disappears. Particularly is this true when oblique astigmatism has been the fault. Moreover, lithemia, gout, neurasthenia and, I have sometimes thought, early tabes, will at times produce a transient hyperphoria which might easily lead the examiner astray if the general economy and the patient's life habits are not kept constantly in view.

Intrinsic hyperphoria, on the other hand, is uninfluenced by a mydriatic. Indeed in some cases I have seen a small but gradual daily increase under prolonged cycloplegia. This is no less true after wearing a proper correction, for, as far as my experience goes, intrinsic hyperphorias are little if any influenced by curing the ciliary muscle of its vicious habits. True, many such patients will be entirely relieved of all their symptoms by assuming the proper correcting glasses, in which case treatment directed to any coincident muscular imbalance is meddling ophthalmology. But, on the

other hand, I have known people to wear perfect corrections for some years, going from one to another ophthalmologist, still seeking relief, only to find it when a vertical prism had been combined with their curvature correction.

Whether a patient shall or shall not receive a prism correction should be entirely a matter of symptoms. Some people carry a vertical imbalance of 1 to 2 degrees all through a life of high tension and large usefulness without the slightest discomfort, while in others .5 to .75 degree is sufficient to make life an almost intolerable burden. Into this phase of the question enter such factors as heredity, temperament, life habits, worry, and all the rest of that intricate aggregation of facts that go to make up the personality of our patients.

But there seems a degree of hyperphoria below which it is trivial to go, and this I would fix at .5 degree—tentatively at least. Nothing less than this was recognized in the 700 records studied.

In the early part of my muscle work the diplopia test was unfailingly applied, either by means of a single rotary prism or the Stevens phorometer. But I soon found myself relying on the Maddox rod, and for the very good reason—shown by my colleague, Dr. Hansell—that any test that compared the behavior of a foveal image of one eye with a perifoveal image of the other eye could not but often lead the surgeon into false conclusions; this is because of the stimulation of non-corresponding points in the two retinas. The test that would so deform one image as to temporarily set aside the fusion impulse, and at the same time allow a certain portion of this deformed image to fall on the fovea of the eye seeing that image, certainly seems the best test so far at our command—hence the great value of the Maddox rod. On this test I have rested the diagnosis in these 150 cases.

There is a diplopia test that is of signal value in the detection of hyperphoria, namely, the use of a colored glass to detect, if possible, spontaneous diplopia, which if found is of great significance. But this is natural diplopia conforming to the proposition that a test must concern both foveæ centrales; hence this diplopia test is free from the objections made against those tests based on artificially produced diplopia.

Latent Hyperphoria.—An interesting feature in connection with this study is that out of the 150 times in which hyperphoria was found, it was partially or wholly latent in 49—or practically 33 per cent.—of the times it occurred. In glancing over the methods of various workers for the unmasking of latent hyperphoria, I find that all of them are some manner of modification of the "blinder" test. It is now a fairly well accepted fact that in a certain number of cases, if a blinder is worn before one eye for fifteen to thirty minutes, a hyperphoria varying from .5 to 1 degree will often show itself for a few minutes after uncovering the eye.

* Presented to the Section on Ophthalmology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

Some surgeons still resort to this method for the detection of supposed latent hyperphoria. Posey has modified this method by first working out the correction of the right eye and then with the correction still before that eye placing in front of it a blank disc. The left eye is now examined, and when the proper correction has been worked out, the Maddox rod is placed before the left eye. He now lifts the blank disc from in front of the right eye which has thus been under cover for from five to ten minutes. If latent hyperphoria exists, it is likely to show itself wholly or in part by this unveiling test.

My own maneuver differs but slightly from Posey's method. After the right eye has been corrected, I place in front of the correction the Maddox rod. When the left eye has been corrected, I immediately direct the patient's attention to the streak of light and after carrying the streak several times from the vertical to the horizontal position, have them tell me its relation to the point of light. I believe that by having the patients fix their attention on the streak in the vertical position and then suddenly swinging it into the horizontal position, the higher cerebral centers are taken by surprise and the detection of latent hyperphoria made relatively easy. The rod should be reversed a dozen times or more, each time questioning the patient as to the relative positions of the streak and light. The purpose is twofold: 1, by continually throwing the higher centers off their guard to unveil more of the hyperphoria; 2, frequent repetitions of the maneuver to educate the patient to assist in the determination by relaxing the impulse to binocular fixation as we relax the accommodation.

Any method that takes the higher centers off their guard will reveal the deviation. Binocular single vision is one of the brain's most complicated automatic functions. It concerns a cerebral—or governing—and a peripheral—or executing—apparatus in the most intimate association. The unconscious preservation of binocular single vision is so deeply rooted a thing in the human automatism that something, some trick, is needed that will temporarily set aside the dominating influence of the cortical centers over the eyeballs and their muscles. Only in this way can latent deviation tendencies in the peripheral portion—the eyeballs—of the binocular vision apparatus be revealed in many cases—and especially in young subjects.

Age seems to play no small part in this matter, for hyperphoria is much more commonly manifest after 40 years of age than before that time. It is difficult to put down the thought that along with the loss of ciliary elasticity there goes a similar loss of compensating elasticity in the extraocular musculature, that favors the easier detection of any previously existing lateral or vertical deviations. Certain it is that in presbyopes, hyperphoria is much more easily shown and vertical prisms are much more comfortably worn than by the generality of young people. In only 7 cases out of these 150 was hyperphoria found before the 20th year.

Between the 20th and 30th years hyperphoria occurred in 34 cases; 30th and 40th years, 50 cases; 40th and 50th years 29 cases; 50th and 60th years, 27 cases; after the 60th year 3 cases. These figures refer to true hyperphorias only, in whom binocular vision was invariably present. No instance of actual vertical squint was allowed to creep in.

As to the refraction conditions with which hyperphoria is associated, it was encountered 117 times out of

150 in hypermetropia and hypermetropic astigmatism; 17 times in myopia and its allied states; 8 times in mixed astigmatism; 6 times in antimetropia—commonly termed anisometropia—and twice in emmetropia. Anisometropia has not in my experience furnished the large percentage of hyperphorias noted by some other workers in this field. Perhaps this is because I found actual vertical squint not infrequent among this class—in other words the findings do not differ in kind but in degree.

In its relation to lateral muscular deviations, the hyperphoria in these 150 cases was associated with esophoria 86 times, with exophoria 55 times, and with lateral balance 9 times. This too is easily explainable on the basis of the predominance of hypermetropia as above shown.

In 73 cases the upward deviation occurred in the right eye and in 77 in the left, so that there is practically no difference in the frequency with which either eye deviates.

	No. of times found.	Corrected with prism.	No prism correc.
Hyperphoria.			
½ degree	40	12	28
¾ degree	31	20	11
1 degree	43	35	8
1¼ degrees.....	3	3	—
1½ degrees.....	10	8	2
2 degrees.....	10	8	2
3 degrees.....	4	2	2
4 degrees.....	5	5	—
5 degrees.....	4	4	—
	150	96	54

The results of prism correction were the following: Number of cases, 96; good, 78; improved, 6; no change, 6; unknown, 6. In the 54 cases in which no prism correction was ordered the results were fairly good. Prism corrections were not ordered in these 54 cases, 1, because, notwithstanding the existence of unmistakable hyperphoria, the patient had been previously wearing either no correction or a wrong one; 2, because convergence-training or repression dissipated the symptoms; or 3, because the patient took such high power plus or minus lenses as to make inadvisable the incorporation of any vertical prism. Such patients learn readily but unconsciously to correct their hyperphorias, generally by tilting one lens a little higher than the other. In prescribing these 96 vertical prisms, full corrections were ordered in 20 cases, three-quarter corrections in 60 cases, and half of the deviation was corrected in 16 cases. Full corrections were made only in glasses for near work, because hyperphoria is generally greater for the occupation distance than for infinity, and experience has shown that the prism that fully corrects the deviation for infinity can often be comfortably worn in all near work. This observation is almost invariably true for hyperphoria of .75 degree or more.

My figures show further that in 40 cases which I have been enabled to follow, the hyperphoria has increased from 33 to 50 per cent. after six-months wear of a vertical prism. I have no explanation to offer for this increase, or rather unmasking of a latent hyperphoria. I can but point to what seems to me a perfect parallel; i. e., the uncovering of a latent hypermetropia by age. When some member of this Section has discovered and made practical the use of a myoplegic that will paralyze the extraocular muscles as a mydriatic does the intraocular muscles, we shall have made a giant stride toward solving the physiology of the extraocular muscles in particular and the act of binocular vision in

general. True, it would probably upset many of our pet notions of to-day and require us to build up new standards, but it would certainly give us some precious information as to the anatomic and functional positions of rest of the eyes.

The principal symptoms of vertical deviation tendencies are one-sided supraorbital, temporal and occipital neuralgias, photophobia, drowsiness, and tremendously exaggerated general fatigue after prolonged near work. I have been especially impressed with this last symptom in many cases. Too, hyperphoria stands in close relation, etiologically, to migraine; quite as close, I am sure, as oblique astigmatism.

In the effort to make hyperphorias comfortable without vertical prisms or tenotomies, too much attention can not be given to convergence deficiency or excess, the former to be met with convergence training after the method popularized by Gould, the latter with convergence-repression treatment by crowding on excessively strong convex lenses for ten-minute periods of work at the near point three or four times a day. These measures often suffice to wipe out all the symptoms. Moreover, as pointed out by Oliver,¹ sleep and exercise are splendid adjuncts in relieving the conditions of asthenopic hyperphorias. A few additional hours of sleep daily often rid a patient of much eyestrain that lenses, prisms, or tenotomies never fully reach. The benefit of exercise in the open is too patent for comment.

Tenotomy.—Out of the 150 cases studied, tenotomy was resorted to in only 5, all of which presented hyperphoria of 3 degrees or more. In no one of these 5 cases was there any marked difference in the refraction of the two eyes. Two were epileptics. One of them—a young man with left hyperphoria of 4.5 degrees—has been entirely free of epileptic manifestations for six months, whereas he had been having seizures daily. For three years he had worn a perfect correction of his low-grade ametropia without any effect on his minor epilepsy. In his case, I tenotomized the left superior and the right inferior rectus at the same sitting, securing 1 degree of overcorrection, which righted itself in four or five days. He has now absolute muscle balance.

The other, a 31-year-old married woman, has had but three epileptic seizures in four months, as against bi-weekly and sometimes tri-weekly attacks prior to operation. Her hyperphoria was 4 degrees.

The three remaining cases all presented distressing head symptoms not relieved by vertical prisms, but markedly benefited by free tenotomy of the superior rectus of the eye with the higher visual axis.

From the foregoing, the rational treatment of hyperphoria would seem to resolve itself into: *a*, wearing a proper correction four to six months; *b*, exclusion of causative diathesis or central nervous disease; *c*, convergence-training, if convergence be weak; *d*, convergence-repression, if convergence be excessive; *e*, if the hyperphoria is still annoying, prism correction of one-half to two-thirds of the vertical deviation for distance, and two-thirds to all of the deviation for near work; *f*, if the hyperphoria continues to produce urgent symptoms in spite of the preceding measures, tenotomy of the overacting elevators of one eye or the depressors of the other eye finally becomes justifiable.

Much more could be said in comment on the facts growing out of this study, but I shall have to content myself with recording the following convictions:

1. Hyperphoria occurs in about 1 out of 6 patients who seek counsel of the ophthalmologist.

2. It is present to the extent of .5 degree or more in 1 out of 3 refraction cases.

3. It becomes worthy of special attention in about 1 out of 5 refraction cases.

4. It is more likely to be latent before the 30th year—33 per cent. of all cases—and manifest after that time.

5. It occurs most frequently to the extent of about 1 degree.

6. The most frequent symptoms are supraorbital, temporal, and occipital neuralgias, photophobia, drowsiness, and abnormal physical tire after prolonged near work.

7. A full quota of sleep, daily open-air exercise, and a well-regulated life are all highly important factors in trying to make hyperphorias comfortable.

8. Hyperphoria is found a little oftener associated with esophoria—57 per cent.—than with exophoria—37 per cent. This is probably because compound hyperopic astigmatism with its associated convergence-excess outnumbers all other anomalies of refraction.

9. Convergence-training—if convergence be insufficient—and convergence-repression—if convergence be excessive—frequently relieve hyperphoric symptoms entirely.

10. *The vertical prism has a field of pronounced usefulness.*

11. Prism corrections will be of service in about 50 per cent. of all cases. One-half to two-thirds of the hyperphoria may be corrected for infinity and two-thirds to the full amount for work at the occupation distance.

12. When all these means have been exhausted, section of some one of the vertical muscles may be thought of. About 1 out of 20 hyperphorias whose deviation is 2 degrees or more will profit more by tenotomy than by any other treatment. Two or three degrees is likely to be the amount permanently obtained by vertical tenotomy.

13. The only fruit that can be borne of the attempt at hospital or dispensary treatment of hyperphoria—or for that matter any but the simplest muscular anomalies—is vanity and vexation of spirit.

1212 Spruce Street.

DISCUSSION.

DR. H. F. HANSELL, Philadelphia—Dr. Reber's paper is a conclusive one based on experience and is a most conservative expression of opinion founded upon a careful, thorough, clinical investigation. The subject is a very large one and open to discussion in various ways, but the part that seems to me to have the greatest weight is the diagnosis of hyperphoria. The paper is valuable, too, in that the author has carefully excluded hypertropia. Many writings on this subject are complicated and rendered less valuable because there has not been a close line drawn between hyperphoria and hypertropia. The conditions are different; in the one case we are exercising our brain, muscular force and all the nerve energy we can to cancel the defect, and in the other case we have yielded to this defect, and the main symptom we get is diplopia, readily corrected by simply covering one eye, whereas the mental symptoms of hyperphoria, which make it such an important part of our practice, can only be relieved by a careful study and a great deal of practical clinical experience.

DR. MARK D. STEVENSON, Akron, Ohio—Like most ophthalmologists I used to test for hyperphoria with the Maddox rod and prisms immediately after the patient had left the dark room, but now I not only make these tests before finding the refraction of the eye, but also with the proper lenses before the eyes and a Maddox rod before one: then by alternately covering and uncovering the eye which does not have the Maddox rod before it I can discover many cases of hyperphoria. Many cases of latent hyperphoria can be discovered by simply rotating the

1. Norris and Oliver: System of Diseases of the Eye.

Maddox rod from the vertical to the horizontal positions as suggested by Dr. Reber.

DR. G. C. SAVAGE, Nashville—Any muscle test that places the false images within the area of binocular fixation is full of error. The false image should be thrown entirely out of the area of binocular fixation and then we can at once get at the true condition. Monocular tests alone are trustworthy. Let me say that the hyperphoria which is corrected by convex lenses is a hyperphoria that is not due to any trouble in the superior or inferior recti, but is caused by error of attachment of the internal recti; the one muscle is simply attached too high, and the other too low. The esophoria you find in such cases is not an intrinsic esophoria, but a pseudo-esophoria. You correct the hypermetropia and at the same time cure the pseudo-esophoria and the hyperphoria disappears. Again the hyperphoria that is relieved by cylindrical correction is not due to any trouble in the superior or inferior recti. In such cases of astigmatism the meridians of greater curvatures are leaning in the same direction, but not parallel, and the leaning is toward the nose and greater in the hyperphoric eye. Correct this astigmatism and the hyperphoria vanishes like mist before the morning sun.

There was a very interesting case here yesterday in a man with less than 1 degree of right hyperphoria, whose eyes are subjected to 2 degrees of vertical prismatic effect. He gets more relief from that than from weaker prisms. This case was investigated first by an eminent ophthalmologist, who found no hyperphoria at all and who was later induced to operate on the internal rectus of the left eye for esophoria. (If he had divided the lower fibers of the internal rectus of the right eye I believe he would have corrected the trouble.) On examining this case yesterday I found he had a well-marked plus cyclophoria; and I found this to explain the relief he gets from those prisms. I tried first a 1-degree prism before each eye with no comfort; and then a 1½-degree prism, base down, before right eye and a ½-degree base up before the left; that combination gives him the most relief. He thus allows the eye to turn up and is getting relief, not because of any hyperphoria primarily, but because the prism thus placed enables the superior rectus of the right eye to torsion the eye in and help the weak superior oblique, while the prism before left eye causes it to slightly torsion out, but leaving the vertical meridians parallel. I will close with this remark, that I never operate on a case of hyperphoria without knowing where the cause resides and the conditions that complicate it, and never on a case of less than 2 degrees. If a man operates on the superior muscle for hyperphoria and divides more fibers on the outer side than the inner he will lead to more suffering than if he had done nothing. As a rule it is better to divide all the internal fibers of a superior muscle than even the central fibers, and if the outer fibers are divided the patient will be worse in the end than if he had never been touched.

DR. C. F. CLARK, Columbus—I can not help feeling that most of us are mystified by this muscle question. I have enjoyed Dr. Reber's paper very much and feel that it is deserving of credit, but that we need some foundation principles to base our study upon.

DR. JOHN T. CARPENTER, Philadelphia—I think Dr. Reber deserves credit for bringing forward, at this time, a paper dealing with the treatment of defects of the ocular muscles. I have been impressed by the manner in which any reference to this subject is met by many ophthalmologists. There is complete contempt for the question of the surgical treatment of muscular abnormalities. As an instance of extreme opposition I was lately told by a man well known in our special line, when speaking of a patient whom I had cured by tenotomy of the superior rectus, that I ought to have been prosecuted for doing the tenotomy. Dr. Reber has handled this subject in a calm, judicious manner, and we should all try to help clear up this "dark region" in ophthalmic science.

DR. WENDELL REBER, Philadelphia—I am gratified at this expression of opinion. Dr. Stevenson's modification of the cover test is one I have employed for a long time, and I am not sure that he and I have not talked about it. I think the Maddox rod test the most trustworthy yet offered. We know very

little about the physiology of the ocular muscles. When we reflect that there are six pairs of muscles, that no one is concerned alone in any movement of the eyes; and that according to Volkmann there are something near 200 possible combinations of these movements, we will perhaps realize how empirical our present knowledge is.

As to Dr. Thompson's question whether I cut all the muscle, I would say that I do not do partial tenotomies, but complete ones. I shall do partial ones only when clinical evidence of a convincing nature has been produced.

DR. SAVAGE—Do I understand that you do a complete tenotomy on the superior rectus for 2 degrees of hyperphoria?

DR. REBER—Yes.

DR. WILLIAM THOMPSON—Have you had many occasions requiring a restricting stitch?

DR. REBER—I have had overcorrection in one case and I preferred to trust the re-establishment of normal conditions to the patient's brain, believing that the brain can take better care of such temporary apparent overcorrections than the surgeon can.

OCULAR COMPLICATIONS OF INJURIES TO THE HEAD.*

JOHN T. CARPENTER, M.D.

PHILADELPHIA.

The clinical fact that blindness may follow blows on the head is by no means new, but until Berlin, in 1879, cleared up the pathology of these cases, their etiology was clouded in vague conjecture. Beer attributed the amaurosis following head injuries to the reflex influence of the supraorbital nerve. The result of anatomic studies, however, by Berlin, Leber, and Von Hölder, proved that direct damage to the optic nerve or its sheath in the foramen opticum by fracture of the orbital wall frequently occurred. Von Hölder, in his cases studied post-mortem, found fracture of the orbital vault in 90 per cent., while the optic canal was implicated in about 60 per cent. There were hemorrhages into the nerve sheath in about 48 per cent. of the 88 cases. The line of fracture in some instances passed through both foramina. In Treves' "System of Surgery," illustrations show the line of fracture in two cases passing through both optic foramina, so that the blindness may be bilateral; indeed, it may even be on the opposite side to the injury by the contre coup.

Following Berlin's communication at the German Congress in 1879, there appeared reports of optic neuritis, of atrophy, and of hemianopsia resulting from blows or falls on the head. Most of the reported cases were of monocular blindness, caused by such blows or falls, the subsequent optic atrophy showing that the nerve had been severed or compressed, producing descending degeneration, with the ophthalmoscopic signs of simple atrophy, in about three weeks. Ocular complications have been recognized by surgical authors as of important corroborative value in fracture of the base of the skull; and conjunctival ecchymosis appearing some hours or days after the injury is one of the classic signs of these fractures. Emphysema of the orbit or lids proved the existence of a fracture of the orbital walls communicating with the air cells in the neighborhood of the orbit. In 1882, Von Bergmann called attention to the fact that rapidly increasing hemorrhage into the cranial cavity produced the same disturbance in intracranial pressure that was found in brain tumors; and thus a "choked disc" might accompany cerebral hemorrhage, as well as tumor of the brain. Optic neu-

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ritis might, however, be due to direct damage to the foramen by fracture or laceration, and not to increase of the intracranial pressure. The grave and even fatal nature of the injury may completely overshadow the ocular symptoms, but interesting instances are recorded in which, with almost no general disturbance, complete and permanent blindness ensued. Knies relates the history of a railroad official who, while riding in a train, "struck the orbital rim lightly against some obstruction. The patient was not unconscious for a moment, but from that time on he was blind on the side of the injury."

Head injuries may be perforating or non-perforating in character. The eye or its appendages may be directly injured by a bullet, a sharp implement, or a fall on a pointed stick; but in these instances the injury is an obvious one, and the case presents interest only in the light of its clinical symptoms. The eye-ball may be ruptured and destroyed or the optic nerve may be severed or torn, and the extraocular muscles may be paralyzed by damage done to their nerve supply or to the muscles themselves. Of these cases I shall not treat further. So, also, in non-perforating injury, there may be ocular complications, such as intraocular hemorrhage, dislocation of the lens—at times producing secondary glaucoma—traumatic mydriasis, or even rupture of the iris. The deeper ocular tunics may be damaged, or there may be enophthalmos or exophthalmos with pulsation. These various conditions, while presenting interesting features, can not be included in a short paper, but must be studied separately from their clinical point of view. I shall confine myself to those obscure ocular lesions following head injuries, in which the optic nerve or some of the other cranial nerves are affected.

Blows or falls on the head produce ocular symptoms by extension of fracture into the orbit; by *contre coup*; by hemorrhage into the nerves or their sheaths; by meningitis at the base of the brain; by localized injury to the optic chiasm or to the neighborhood of the visual centers, producing hemianopsia. This subject is interesting from its medicolegal standpoint, and in the first case reported in this paper heavy damages were secured by establishing the relation between the injury to the head and neuritis and partial atrophy of the optic nerve which resulted. Gowers treats the subject of injuries to the head under four divisions:

1. Impairment or loss of sight without ophthalmoscopic signs. In some of these cases he thinks the mischief is direct concussion of the retina.

2. Optic neuritis following at an interval of from a few days to several weeks. In these cases he thinks that the neuritis is due to meningitis; or less commonly to traumatic inflammatory softening of the brain.

3. Simple atrophy. In such cases sight often fails, while the atrophy develops ophthalmoscopic signs later.

4. Gradual failure of sight, with slight and stationary papillitis, probably due to chronic interstitial neuritis in the nerve trunk. The first case which I shall report is best included in the fourth class, as the nature of the lesion, while necessarily somewhat uncertain, is best explained as a partial degeneration of the optic nerve following an interstitial neuritis of the nerve trunk.

CASE 1.—Philip L., aged 36, consulted me Jan. 22, 1896, because of rapidly failing vision. He gave the following history: Five weeks before seeking advice, while driving a team of horses, the pole of the carriage was struck by a rapidly moving trolley car. He was thrown to the ground, striking the right side of his head. For a few minutes he was dazed, but considered himself little hurt and was able to walk home with one of the horses, which survived the wreck. He worked as usual

for four days, but was then compelled to give up because of headache, vomiting and pain in his back. Ten days after the accident he first noticed dimness of vision. There seemed to be a "mist in front of objects," and he was unable to read his instructions or to distinguish the numbers over the front doors. Two weeks after the accident, when his vision was so much reduced that he "could hardly get around," his eyes were examined by a very competent ophthalmic surgeon, who found very poor vision, dilated pupils, and negative ophthalmoscopic appearances. He thinks that his vision began to improve about four weeks after the injury, and now—five weeks later—he can read large letters by looking at them sidewise.

On examination I noted: Pupils dilated and fixed; amaurotic expression; moves his eyes rapidly to and fro, which, he affirms, enables him to distinguish objects more clearly. Right vision is 4/60; left vision, 1/60. He is unable to read any type. Field shows absolute central scotoma in each eye, about $25^\circ \times 20^\circ$ in extent. Peripheral fields are normal. The ophthalmoscopic examination showed almost emmetropic refractive condition, low-grade optic neuritis with one or two small fresh hemorrhages on and near the nerve-head. The retinal veins are swollen and tortuous; the nerve-head is slightly swollen, of dirty, reddish-gray color, especially dense on nasal edge. The temporal edge is clearer, and the outer fourth of disc is pallid looking. Both direct and indirect methods show complete veiling of the upper, lower, and inner nerve edges, and the swollen portion is seen to be composed of striated nerve fibers, with small red points like minute hemorrhages mingled with gray inflammatory exudate.

There was no evidence of syphilis. He was married and had healthy children. He had never suffered from any illness whatever; his habits were most temperate, and he was apparently in vigorous health. Urine was 1018; negative tests for albumin and sugar; no sediment. The diagnosis of descending neuritis from localized traumatic meningitis at the base of brain, involving the optic nerves, was made. The treatment was heroic in view of the serious nature of the lesion. Mercury was pushed by inunction and iodid of mercury in pill form until marked symptoms of ptyalism developed. In about three weeks he was placed on ascending doses of potassium iodid until his daily dose reached 120 grs.; his vision improved but little, and the nerves passed slowly into an atrophic state. Three months afterward, his vision and scotoma remaining about the same, he was given strychnin in increasing doses and pilocarpin $\frac{1}{8}$ gr. hypodermically, three times a week.

Slight improvement resulted, but the final vision gained was 4/60 for each eye, in December, 1896. When last seen, January, 1900, his vision was 10/200, and the ophthalmoscope showed apparently complete atrophy of the discs. The peripheral field remains excellent; and owing to this fact he is able to go around without difficulty. There is still an absolute central scotoma surrounding the fixation point.

We have here a comparatively slight injury to the head, after which the patient, though dazed, was not unconscious. He was able to walk to his home and reported for work the next day, being inconvenienced only by a general bruising of his body. For a week after the injury he suffered severely from headache and pains in the back. On about the tenth day he first complained of visual symptoms. Both pupils were widely dilated and fixed, and the optic nerves, examined by a confrère, presented nothing abnormal. In from three to four weeks after the injury, a low-grade optic neuritis manifested itself. Central vision was greatly reduced and an absolute central scotoma was then mapped out, which has remained permanent. The eyes passed into a condition of partial atrophy and his final central vision nearly five years after the accident is 10/200 with absolute central scotoma and a normal peripheral field.

In the trial which followed, the medical testimony for the defense included an attempt to attribute the

neuritis to some general systemic cause, but as there was an entire absence of any constitutional disease, the patient enjoying vigorous health both before and since the accident, and in the light of previously reported cases, similar injury was shown to have produced like results, damages were justly given in favor of my patient, for partial loss of eyesight. Toxic neuritis was excluded after most careful investigation.

We are concerned here with the difficulty of explaining the exact nature of the damage evidently inflicted on the optic nerve at some distance behind the eye-ball. There was probably an axial neuritis, producing almost complete central blindness, with intact peripheral field. This is not the usual picture of fracture of the orbit passing through the optic foramen. The injury was bilateral and the visual fields singularly affected in the central portion only.

Our present anatomic knowledge of the course of the macular fibers behind the eye-ball places them in a position apparently inaccessible to injury, without affecting the fibers supplying the periphery of the retina; but after a careful study of the clinical facts, I am inclined to believe the bilateral injury affected the axial fibers in each optic nerve, as a result of traumatic shock. Gowers says, in his work on "Medical Ophthalmoscopy": "Blows on the head commonly produce atrophy by direct injury to the nerve, but it is probable that they occasionally cause, by the effect of the shock, a gradual degeneration." He lays stress on the early loss of vision in these cases, with later ophthalmoscopic findings. He states that in some cases an injury to the head may be followed by a gradual failure of sight, with slight, stationary papillitis, probably a chronic interstitial neuritis in the nerve trunk.

There were no marked symptoms in my patient's case of traumatic meningitis, although he suffered from severe headache, some vomiting, and backache. In the discussion of Callan's article, "Transactions of American Ophthalmological Society," 1891, Dr. Myles Standish reported two cases of great medicolegal interest. Two individuals claimed damages for blindness said to have been caused by a blow on the head. Pupils reacted to light, and there was no ophthalmoscopic change, so that he reported malingering; but to his chagrin, both cases showed complete monocular atrophy and absolute blindness when examined three months later. Dr. Lippincott, at the recent meeting of the American Ophthalmological Society, related a similar experience.

CASE 2.—John H. P., aged 10, was seen in consultation with Dr. F. A. Packard, April 9, 1894. The following history was obtained: Four days ago, without warning, he awoke with severe frontal pain and fever. Temperature was 101; pulse, 100. There was slight stupor, but the patient could be easily aroused. Light caused irritation and complaint, and yesterday he first noticed diplopia. Dr. Packard reported that there had been no marked strabismus. Today there is intense frontal headache and some occipital pain; slight retraction of the head; and on sitting up, he complains of pain in the back. The left ear shows a bluish discoloration from a blow on the left side of the head, received five days before by being pushed against a lamp-post by a playmate. I noted the following ocular conditions: Marked convergent strabismus, homonymous diplopia, except when candle was held directly in front. Each eye can be moved outward, so that the cornea touches the outer canthus; but it can not be held there, as the eye, after a series of jerks, is carried inward. There is evidently paresis of the externi, or spasm of the interni. Left outward rotation seems to be more defective and accomplished with greater difficulty than on the right side. Pupils are "large medium," but responsive, slightly less so on the left side. Some pain is

felt in the left eye when it is pushed back into the orbit.

The ophthalmoscope shows in the left eye marked optic neuritis. Nerve edges swollen and obscured by retinal striation; veins swollen and tortuous; arteries not reduced in size, but the vessels are partly hidden near the disc by retinal edema. The summit of swollen disc is seen with + 5 D.; macular pigment, with + 2½ D. Right eye shows media clear; hypermetropia, 2 D.; nerve head not swollen; no retinal haze. The fundus presents usual changes of hypermetropia. On the following day, convergent strabismus was more marked. He closed one eye, usually the right, to get rid of the annoying diplopia. Temperature was 99; patient bright and cheerful. Vision roughly tested with small type, seems to be unaffected. The treatment instituted was calomel, gr. 1/6 every hour. Mercurial inunctions night and morning.

April 13: Now fixes constantly with the right eye, closing the left. Left-sided ptosis appeared to-day. Ophthalmoscope shows no alterations in fundus since last examined.

April 14: Mercurial inunctions stopped, patient being pyralized. Ophthalmoscope shows less marked venous stasis, but no nerve edges are yet made out. Atropin is ordered for each eye. Four days later there was continued improvement in both the general and local symptoms. Convergent strabismus was less marked. Summit of nerve +5 D., and its edges hidden to both direct and indirect methods. One week later, and almost three weeks after the accident, the ptosis had almost disappeared; there was no strabismus. Diplopia was noticed only in the extreme outer field.

April 22: Ophthalmoscope now shows temporal edge beginning to appear. Disc, dull-red, as seen through a fog, and slightly swollen. One week later there were no signs of ocular paralysis and the nerve-head had almost regained its normal condition. By the middle of May, atropin was stopped, glasses correcting his refractive error having previously been ordered. The patient has had no further symptoms of the ocular trouble. His vision and eye grounds are normal.

The interesting points in the case are the irritative symptoms, namely, spasm of convergence and photophobia, due to traumatic meningitis of the anterior portion of the skull, followed by paresis of the left external rectus and levator palpebræ superioris, with left optic neuritis. The association of paralysis of a branch of the third, with paralysis of the sixth nerves, and optic neuritis on the same side, make it possible to locate the intracranial lesion at or near the sphenoidal fissure.

Cases of traumatic paralysis of the ocular muscles are by no means rare, the external rectus suffering most frequently; but the association of no less than three of the cranial nerves, as occurred in this case, seemed, in my opinion, to justify this report.

DISCUSSION.

DR. H. F. HANSELL, Philadelphia—I had the opportunity of seeing the first case reported by Dr. Carpenter and the pain of having to testify in court as to the nature of the injury. I thought at the time that it was a fracture of the sphenoid bone, producing an injury to the meninges directly over the optic nerve, and that this meningitis produced later a central degeneration of the optic nerve. I was led to that conclusion by an experience I had in a case of purulent disease of the accessory sinuses of the eye in which the seotoma was just as pronounced and incurable as it was in this case. The seotomas were exactly alike in both eyes, and that seems to exclude direct injury to the optic foramen, and to the nerves passing through it. In that case the sphenoidal sinuses were filled with pus. The patient lost his sight over night, probably by the acute and rapid extension of inflammation to the membranes lying on the body of the sphenoid bone.

In connection with this case I would like to report a case studied very carefully with Dr. Spiller. R. T., aged 30, railroad employee, brought to the Polyclinic Hospital on July 7, 1898. While intoxicated received a punctured transverse wound in the lower lid of the right eye from the thrust of an umbrella ferule. When he was brought to the hospital he was unconscious.

his muscles were relaxed, the skin was blanched, the extremities were cold, and the heart's action was weak—results of the injury and partly, perhaps, of alcohol. A few minutes after his reception he could be roused sufficiently to answer questions. He was put to bed and to quiet his extreme restlessness and complaints of pain, morphia and bromids were given. The ragged linear wound in the lids was just above the margin of the floor of the right orbit. No fracture of the bony floor or walls could be detected. The left side of the face was paralyzed. Ptosis was complete on the right side, the right eye was slightly prominent and immovable by any voluntary effort. He had absolute ophthalmoplegia of all the external and internal muscles of the right side. The pupil was moderately dilated and irresponsive to the stimulus of light or convergence. Accommodation was abolished. There was indistinctness of outline of the margin of the disc; otherwise the fundus had undergone no change. Subsequent examinations made while the patient was in the hospital showed no improvement in the ocular conditions excepting a subsidence of the edema. About 6 months after the accident, the muscles of the exterior and interior of the eye had regained to a great extent their normal power. Some restriction of movement in all directions, a partially dilated and sluggish iris, and inability to read fine print were still evident. Diplopia, the eye symptom that was prominent from the first, continued in all parts of the binocular field, although the separation of the false and true images was less marked. Shortly after the accident the left side of the face and the left arm were noticed to be paralyzed and the left leg paretic. Paroxysms of severe pain in the distribution of the ophthalmic branch of the right 5th nerve occurred several times daily during the first two weeks, and perhaps a little longer. A consideration of the history and symptoms of this case in which we have paralysis of the 3d, 4th, the ophthalmic division of the 5th and 6th nerve, with a transitory perversion of the function of the 2d, leads inevitably to the conclusion that the umbrella tip penetrated the right orbit and injured these nerves at the point where they lie close together, namely, the sphenoidal fissure. The escape of the optic nerve from injury shows that its site, above and to the inner side of the sphenoidal opening, was not invaded. We can hardly imagine a lesion that would produce complete paralysis of all the orbital nerves except the optic, unless it were situated at the sphenoidal fissure, where these nerves are close together. The exophthalmos, noticed at first, was probably produced by the complete paralysis of all the external ocular muscles and the loss thereby of the muscular tonicity. After the muscular power was in a measure regained the exophthalmos entirely disappeared.

DR. W. L. DAYTON, Lincoln Neb.—In connection with Dr. Carpenter's paper, I wish to mention two cases that came under my observation in the latter part of 1898. One was a case of a railroad engineer who, in getting on his cab with the long nozzle oil-can in his hand, slipped and fell upon the curved extremity of the nozzle so that it penetrated the orbit and evidently injured the optic nerve directly. At least I thought this was the case on account of the condition of the circulation that existed for months afterward. I saw him within two hours after the accident and there were negative ophthalmoscopic signs. He was perfectly blind, but there was no hemorrhage apparent from the cut, which I stitched together, and it healed kindly. Although we kept him under treatment for prudential reasons for some time, he had, when discharged, a divergent strabismus and the ophthalmoscope showed a progressive atrophy. The vascular condition was remarkable, the veins being full, arteries large and there was not a great amount of tortuosity.

Five or six weeks after that a little boy 7 years old, while playing Indian, had the pointed extremity of a wooden sword jammed into his eye in the same position as in the former case, namely, the inferior sulcus, without injuring the eyeball. There was almost immediate total blindness without ophthalmoscopic signs, and now there is a divergent squint.

DR. H. W. SEABROOK, New York City—Dr. Dayton's remark about the hopelessness of the prognosis in these cases leads me to report a case of injury to the eyeball occurring in January last. Two men were fencing in the theater when one received

an injury by the other's foil penetrating the orbit; the tissues at the inner side of the eyeball were torn through, including the internal rectus; he had complete paralysis of all the muscles supplied by the 3d nerve, and though there was no trouble with the retinal circulation as yet, there was total blindness. On the fifth day the man began to see light and at the end of ten days had vision of 20/200, with the upper part of the field cut off. There was some divergence left when I saw him three or four weeks after the injury. It would seem as if the unbroken end of the foil had carried the eyeball upward and outward, pulling upon the optic nerve at the foramen and bruising or lacerating its lower and inner fibers only.

THE SILVER-INJECTION TREATMENT OF PULMONARY CONSUMPTION.*

THOMAS J. MAYS, A.M., M.D.

PHILADELPHIA.

That the nervous system is generally, and the pneumogastric nerves are especially, implicated in pulmonary consumption, and that any therapeutic agent which affects this disease favorably and permanently either appeals directly or indirectly to the pulmonary organs through the nervous system, have been regarded by me as cardinal truths for more than a dozen years. This is clearly confirmed on its pathologic side. For, it may be said, that any influence or agent that has the power of undermining the integrity of the nervous system also has the power of generating pulmonary consumption, or some other form of pulmonary disease. Herein lies the reason why the insane, the idiotic, the epileptic, the hysteric, the asthmatic, the neurotic; why those who are subject to great grief, worry, mental overwork, disappointment, etc., and why those whose nervous systems suffer from the chronic intoxication of alcohol, syphilis, lead, mercury, etc., are much more prone to die of phthisis than others differently situated. On the other hand, when we review the therapeutic history of phthisis it will be found that those agents which have the greatest staying power against the ravages of this disease act almost exclusively by the support which they give to the nervous system. This is true of strychnin, the hypophosphites, atropin, cod-liver oil, cayenne pepper, arsenic, electricity, and other drugs and agents that are constantly employed in the treatment of this disease.

In keeping with this theory I made an effort some years ago to reach the lung condition of this disease through the pneumogastric nerves by massaging, kneading and compressing them through the overlying textures in the neck. This benefited the cough and expectoration and improved the patients in other ways, but it became evident after a while that the influence of this measure did not possess sufficient stimulating power to make it of decided value. I then had in mind to stimulate these nerves by stretching them according to the methods of M. Jaboulay,¹ who had obtained good results from this operation in severe cough associated with exophthalmic goiter, when it appeared to me that the subcutaneous introduction of some well-known conservative irritant, like nitrate of silver, immediately over the course of the nerves in the neck might furnish the stimulus necessary to modify the morbid condition of the lungs. That counter-irritation over the trunk of a nerve serves to enhance the tone and resistance of the

* Presented in a Symposium on Tuberculosis, to the Section on Practice of Medicine, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

1. Stretching the Pneumogastric Nerve, M. Jaboulay, N. Y. Medical Journal, May 7, 1898, abstracted from Lyon Medical, April 17, 1898.

region to which the latter is distributed is a well-recognized therapeutic principle in other fields of disease. Thus, the influence of acupuncture, and of stretching the sciatic nerve in sciatica, the application of a blister over the root of a spinal nerve in herpes-zoster, or an intercostal neuralgia, are well-known examples of this class of remedies.

Nitrate of silver was selected for this purpose, not because it was believed to be the only agent that could furnish the requisite degree of stimulation, but because more was known concerning its hypodermic use and action than of some others that might have been employed. In searching for the proper dose to be injected it was found, after many trials, that 5 minims of a 2.5 per cent. solution of this agent answered the purpose best in the greatest number of cases, preceded by a cocain solution of the same strength and dose—the latter being used to abate the pain which would be produced by the former when given alone. The point of introduction is immediately over, or slightly behind, the pulsating carotid artery in the neck, between the angle of the lower jaw and the clavicle. In order to avoid puncturing the underlying blood-vessels it was important to lift the skin between the thumb and the forefinger of the left hand and to push the needle just through the skin. To introduce these agents the following is a very practical plan: Inject the cocain solution, detach the syringe from the needle, and let the latter remain in the puncture. Wash out the syringe with water, draw the silver solution into the syringe, attach the latter to the needle and throw in the required amount. Or a double-barreled syringe containing a single nozzle, to which is attached the needle, may be used. One barrel is filled with the silver and the other with the cocain solution, and the required quantity of each may be injected without detaching the syringe from the needle. The cocain solution should be renewed once a week.

The side of the neck in which the injections are administered is of considerable importance. As a rule, the first injection, and most of its successors, should be given on that side below which the involved lung is located; for it will be found that the vagus on the side of the affected lung is in many phthisical persons more sensitive to pressure than the one on the other side—indicating that the lung and the nerve of that side are simultaneously involved.

The number of injections which are necessary depends on circumstances. The first injection is repeated in a week or ten days, unless there remains too much local irritation. The same interval should elapse between all the successive ones. In urgent cases due to excessive cough I have repeated the injection in three or four days. When both lungs are involved I have in a number of instances given an injection on each side at the same time. There is no special limit to the number of injections that may be given. Twenty-one is the highest number I gave to one patient.

The local effects of the injections show themselves in a nodular, sometimes in a diffuse swelling, and in redness and pain, but in no instance have they become extremely pronounced. Small abscesses do occur occasionally, and in more than two thousand injections, sloughs have occurred twice; but the latter result was probably due to the fact that two successive injections were made in too close proximity to one another. This is to be avoided. So far as my experience extends, the abscesses do no harm, and may do good, inasmuch as they prolong the counterirritant effect.

I have used the silver injections in more than a hundred and fifty cases of pulmonary consumption—extending over a period of twenty-one months—and I now take the liberty of analyzing this therapeutic experience in so far as it has any bearing on the symptoms of this disease. This experience is based partly on that obtained in 40 cases of phthisis, treated with the silver injections since September, 1898,² and partly on over a hundred cases treated since in the same way. The results of treatment in the above-named 40 cases after the lapse of about a year and a half is as follows: There were 7 incipient cases. All of these are well and at work, except one. He had a slight relapse during last winter, but responded to the injections a second time, and is well again. Eighteen were in the second or advanced stage. Of these, 5 died, 2 continue invalids and 11 are well and at work. Of the 15 in the third or far-advanced stage, 12 are dead, and 3 alive, 2 of whom are able to be about and do light work. In regard to the high death-rate among the far-advanced class, it may be said that 7 of these were certain to die when the injections were begun—the latter having been given merely for the purpose of ascertaining their influence on such cases. Taking it altogether, therefore, there remains a little over 50 per cent. of the patients of all stages of the disease who are practically well at the end of a year and six months.

The influence of the injections on the symptoms of phthisis may be summed up as follows:

Cough and Expectoration.—Most patients testify that the cough, and especially the expectoration, are increased during the first and sometimes the second day subsequent to the injections, and then gradually diminish. I have seen both cough and expectoration practically relieved by one or two injections in some incipient as well as in some advanced cases. In far-advanced cases their action on these symptoms is less marked, although on the whole it is beneficial. Besides their beneficial influence on the cough and expectoration, the injections also relieve dyspnea and oppression in the chest. This property is well shown in the alleviation which they give to the symptoms of asthma. One consumptive patient, who spent over a year in the Rocky mountains, and who has received a number of injections since his return, stated that “the injections seem to have an effect on respiration similar to that which is produced by a high altitude, inasmuch as I must breathe stronger, deeper and quicker for a day, and sometimes longer, after each insertion.” In a paper published in the *Philadelphia Medical Journal* of June 2, 1900, Dr. Richard B. Faulkner, of Pittsburg, stated that in the *New York Medical Record*, of September 25, 1880, he reported a case of a lady, aged 50, a life-long asthmatic, who suffered continuously for 40 days with an attack, and in which morphin, nauseants, antispasmodics, and everything had failed. At the end of this time he applied counterirritation over the course of the vagus, and relief followed so rapidly and absolutely that ever since he considered this one of the most important of all therapeutic measures. In a number of cases I have seen similar relief follow in the symptoms of asthma from the counterirritation which is caused by the injection of the silver nitrate over the vagus in the cervical region.

Vomiting.—This is one of the most annoying symptoms of phthisis in its lesser stages. It commonly occurs after meals, and is nearly always preceded by cough. The injections measurably control it. A female with

2. *Philadelphia Medical Journal*, Feb. 11, 1899.

incipient infiltration of the right apex, and who is now in her fifth month of pregnancy, was at once relieved of her nausea and vomiting incidental to her pregnant condition after the first injection, which she received over a month ago. This may be a mere coincidence, but it deserves mention since the gastric disorder ceased after the silver was administered.

Appetite.—The power of eating is frequently increased, and sometimes to a remarkable degree. This was, of course, most noticeable in the incipient and advanced, although it also held true in some of the far-advanced cases.

General Strength.—This was greatly benefited in most of the incipient and advanced cases, and also in a number of the far-advanced cases, especially if the injections were combined with regular systematic rest. How to account for the improvement in this respect, which sometimes follows immediately after an injection, is perhaps difficult to explain, but the fact exists and forces itself too often on one's attention to escape notice.

Physical Signs.—In many of the incipient, in some of the advanced, and in a few of the far-advanced cases, there was noticed a pronounced betterment in the physical signs.

Fever.—A reduction of temperature has been observed frequently by the writer. This has also been noticed by others.

Night-Sweats.—In a number of cases night-sweats have ceased.

Weight.—The gain in flesh is principally confined to incipient and advanced cases, but it has also been noted to some extent in far-advanced cases. Indeed, this phenomenon, as it has shown itself in some instances, is really surprising, since it seems barely possible that an almost insignificant quantity of nitrate of silver thrown into the neck once a week should, as I have observed in a number of cases, increase the weight from 4 to 6 pounds a week. Thus, of five patients who have gained most, one gained 5 pounds the first week after the injections were begun, 6 pounds the second, 4 pounds the third, and 3 pounds the fourth week. Another lost 1 pound in two days immediately preceding the first injection, gained 1 pound first week after injection, 4 pounds in second, 3 pounds in third, and 4 pounds in fourth week. Another lost 3 pounds in the five days immediately preceding the first injection, gained 2 pounds in first week after injection, 3 pounds in second, 2 pounds in third, and 4 pounds in fourth week. Another lost 1 pound during week preceding first injection, gained 3 pounds in week after first injection, 4 pounds in second week, and 2 pounds in third week. Another gained 7 pounds in six days after first injection, 3 pounds in second, and 2 pounds in third week. Not all the patients who were benefited by the injections gained in flesh, however, for some lost in weight, or remained at a standstill while improving in every other respect. In regard to other treatment which my patients received, it may be said that some took quinine, strychnin and the hypophosphites, while a number of them in the very early history of the introduction of the treatment, received nothing but peppermint water, or some other placebo. So far as food is concerned, it may be stated that some were nourished well in their homes and in a hospital, yet a number were dispensary visitors, and were naturally subject to the vicissitudes of food-supply that are incidental to the poorer classes of society.

Herewith is given an abstract of the history of 10 cases which were treated with the silver injections.

INCIPIENT CASES.

CASE 1.—C. F., colored, age 25, married, was seen first January 5, 1899, when she said she coughed since 1898. Her cough was constant and she suffered a good deal from dyspnea. There were impaired percussion resonance in left supraclavicular fossa, roughened respiration and sonorous râles in same area and extending to a point below the clavicle and into the supra-scapular fossa, on same side. Her weight was 119½ pounds. Five minims of a 2.5 per cent. solution of silver nitrate was injected into the left side of her neck, and she was given a teaspoonful of peppermint water three times a day. January 7 she presented herself and reported that cough and expectoration were very much improved. January 12, she was better in every respect. Physical signs were much improved; weight, 122 pounds. March 7, physical signs gone, except impaired percussion resonance; coughs scarcely any; weight 125½ pounds.

CASE 2.—L., Male, aged 27, colored and married, was first seen Dec. 23, 1898, when he said that he coughed and expectorated a great deal during the last eight or nine years. Has anal fistula of some months' duration. His physical signs consisted of dulness, and moist râles in the left apex, extending to the middle of the chest in front on same side, also of dulness and a few moist râles in the left supra-scapular fossa; his weight was 120 pounds. Tubercle bacilli were found in his sputum. He had, under the direction of another physician, been taking half-teaspoonful doses of equal parts of comp. tincture of cinchona, and of syrup of the hypophosphites four times a day, for several weeks. December 27, his weight was 119 pounds, and his general condition the same. Injected 5 minims of a 2.5 per cent. solution of silver nitrate into the left side of his neck. No other internal medicine except that which he took before. December 31, weight, 120¼ pounds. January 2, 1899, weight, 121½ pounds. January 6, weight, 124 pounds. He felt much better, and his cough and expectoration were almost entirely gone. Injected 5 minims of silver nitrate into left side of his neck. January 11, weight, 126¼ pounds; injected 5 minims into left side. January 13, weight 129 pounds. Same internal treatment as before. Physical signs improved. March 10, weight, 132 pounds; injected 5 minims into left side. January 20, weight, 133 pounds. He now went to work and continued at it until November 20, when his weight had sunk to 127 pounds, and as he said he "caught a cold." On January 16, 1900, his weight was 128 pounds, and he felt good. At present writing, May 25, he weighs 130 pounds, is working, and feels strong and good. There are some dry, but no moist râles in his chest, and the dulness remains about the same as it was. His evening temperature is normal. When we consider that phthisis in the colored race always offers a very stubborn resistance to treatment the results in this one particular case may, perhaps, be regarded rather favorably.

CASE 3.—J., male, aged 25, colored, was seen first May 5, 1899. Had lost two brothers, and one sister of phthisis, and had been sick for three months with cough, expectoration, loss of flesh, poor appetite and sleep, chills, dyspnea and great weakness. There were dulness in lower half of left lung anteriorly and posteriorly, and moist râles in same area. Weight, 166 pounds. Injected 5 minims 2.5 per cent. solution into left side of neck, and gave internally the syrup of hypophosphites and strychnin. May 11, weight was 167 pounds. Injected 5 minims of silver solution on right side of neck. May 18, weight was 171½ pounds. May 25, weight was 174 pounds. Injected 5 minims on right side. June 1, weight was 177½ pounds. Injected 5 minims on left side. June 9, weight was 176 pounds. Injected 5 minims on left side. June 15, weight was 180. June 22, weight was 180. Injected 5 minims into right side. June 29, weight was 182½ pounds; temperature, pulse, physical signs normal.

When last seen, six months ago, this patient was in good health. How he is at present I am unable to say.

CASE 4.—P., aged 47, white, came under observation July 7, 1899. Had lost in flesh: dyspnea, poor appetite and cough and expectoration since previous January. No family history of lung disease was present. There were lessened respiratory movement in right chest, impaired percussion resonance in right apex and subcrepitation in latter area. Weight, 125 pounds. Injected 5 minims of silver solution into right side of neck, and internally he received syrup of the hypophosphites and strychnin. July 14, weight, 130 pounds. July 21, weight, 136 pounds. Injected 5 minims into left side. July 28, weight, 140 pounds. September 4, weight, 143 pounds. September 7, injected 5 minims on right side. September 12, weight, 145 pounds. September 19, weight 147 pounds. Injected 5 minims on right side. September 26, weight, 148 pounds.

This patient is doing well now.

ADVANCED CASES.

CASE 5.—L., age 35, female, with a family history of phthisis: came under my observation September 12, 1898. She was among the first of those who received the injections. She had been sick for three years, and at this time she coughed and expectorated a great deal, felt tired and weak, had lost in flesh, had a poor appetite, and occasionally spat blood. Tubercle bacilli were found in her sputum. Her weight was 96¾ pounds. There were dulness and moist and sibilant râles in supra and infraclavicular regions on right side. On this date she received 3 minims of a 10 per cent. solution of silver nitrate, without cocain, in the right side of her neck—a dose which produced more irritation than necessary. She had been taking the syrup of the hypophosphites and strychnin, and these were continued. She began to improve in general strength, cough, expectoration and wheezing in the chest, and in a week had gained a pound, and was eating better. In two weeks an abscess had formed at the seat of injection, which discharged, and she weighed 100 pounds. She continued to improve, and altogether received eight injections. She gradually gained in flesh until now she weighs 112 pounds and is practically free from all cough and expectoration. The physical signs, except the dulness, have disappeared.

While this patient did not gather much in flesh, I think it is difficult to make her gain in this respect, for in the early period of her invalidism I treated her in the hospital for four months, and with all the best food and nursing that the hospital could give her she only gained 4 pounds—from 102 to 106—in that time. On the other hand, she gained more readily under the silver-nitrate injections, although she was not receiving the good care and the nourishing food that she obtained in the hospital.

CASE 6.—C., aged 69, laborer, was first seen September 1, 1898, when he said he had been coughing for eight months and had very profuse yellow and thick expectoration, dyspnea, palpitation, vertigo and a poor appetite, but was without a family history of phthisis. There were dulness in left supra- and infra-clavicular regions and sibilant and crepitant râles over the whole chest. On September 27, he received 5 minims of a 1 per cent. solution of silver nitrate into the left side of his neck. October 4 he weighed 132¼ pounds. October 11, he weighed 132½ pounds, and received 5 minims of a 2.5 per cent. solution of silver nitrate into the left side of his neck. November 5, he was very much improved, his weight was 139 pounds, and 5 minims of the silver solution were injected into the right side of his neck. November 17, he coughed very little, had no expectoration and weighed 142 pounds: 5 minims of a 2.5 per cent. solution were injected into the right side. December 3, he weighed 142 pounds, and received 5 minims of a 2.5 per cent. solution into the right side. January 10, 1900, he weighed 143 pounds, and received same dose of silver on right side.

CASE 7.—H., male, aged 42, came under treatment October 4, 1898. He coughed and expectorated for ten years. During the last two years his condition became much aggravated. He

was tired, had much dyspnea, and spat blood occasionally. There were dulness in the upper and middle parts of his left chest anteriorly, and mucous râles in the same area. Weight was 133 pounds. Injected 5 minims of a 2.5 per cent solution of silver nitrate into left side of his neck. October 25, same injection; weight, 138 pounds. November 12, same injection; weight, 140¼ pounds. May 12, 1900, weight, 146 pounds. Feels well and has been working for a year. Physical signs, except dulness, have disappeared.

CASE 8.—R., aged 43, blacksmith, married, and sick for one year, was seen first December 20, 1898. He then had a great deal of cough, profuse expectoration, chills, fever and night-sweats, and also spat some blood: morning temperature was 101.6. He had lost about thirty pounds in flesh, and weighed 137 pounds. He had pleurisy in the right lung, and partial infiltration of the whole of the lung on the same side.

He received the usual quantity of silver solution, and gained 7 pounds in six days after the first injection. He received no other medicine. He was very poor, on account of his protracted sickness, and lived on the charity of his friends. In six weeks after the first injection was given he went to work at his trade, and has remained at it ever since. He had not been able to work for eight months before he came under my care. He received altogether 18 injections, at the usual intervals, and gained altogether 28 pounds. All his physical signs cleared up and his symptoms disappeared.

FAR-ADVANCED CASES.

CASE 9.—M., male, aged 47, chronic alcoholic, came under my care May 19, 1899. No family history of phthisis. He coughed a great deal and had profuse expectoration. His appetite was poor, bowels loose, and his breathing embarrassed, and he had lost a good deal of flesh. His weight then was 145 pounds. There was dulness in left apex extending to second intercostal space in front and to spine of scapula. In this area there were numerous moist râles and a small excavation below the clavicle. Tubercle bacilli were found in the sputum. He received nine silver injections altogether, together with strychnin, quinin and salicylate of soda, internally, and he gradually lost flesh for a month, when he weighed 137½ pounds. After this he gained, and two months later he weighed 142½ pounds.

A short time after this he went to work at his trade, and has been engaged at it steadily since. He now weighs 145 pounds, and has a normal pulse, respiration, and temperature. The physical signs have all disappeared, except the dulness, which still remains, although in a less pronounced degree, and the location of the cavity can scarcely be made out.

CASE 10.—S. C., male, aged 25, clothier, came under observation September 8, 1899, when he stated that he had been coughing and expectorating for two years, also had night-sweats, much dyspnea, poor appetite; frequently vomited, and had lost flesh. He weighed 117½ pounds. There was dulness in the left supra- and infra-clavicular regions, together with moist râles over this area, and a good-sized cavity below the clavicle. Tubercle bacilli were found in his sputum. He began to improve in cough, expectoration, vomiting, dyspnea, night-sweats and physical signs after the first injection. He gained 12½ pounds in flesh and has followed his vocation for four months. The physical signs are very much improved, and he received altogether fifteen injections.

The deductions which may be drawn from the above-described action of the silver nitrate injections are—

1. That their best results are obtained in incipient cases, both in regard to the symptoms and physical signs.
2. That in most of the advanced cases they have a beneficial and, in some instances, an exceptional influence on the symptoms and physical signs.
3. That in the great majority of the far-advanced cases they ameliorate cough, expectoration, and other

symptoms temporarily, while in some instances their effects are apparently lasting.

In conclusion, it may be urged that the injections are too simple—too insignificant—to be of service in the treatment of phthisis, but any one who takes a broad and impartial view of the whole field of phthisiology must feel that the essential method of alleviating phthisis does not and can not consist of a complicated mechanism. This must be true, or in what other manner can we account for the so-called spontaneous cures—the healed phthisical lesions found in many lungs on the post-mortem table or in the dissecting-room, in which death did not result from phthisis? The cure in these instances—for cure it undoubtedly is—was simple; was not brought about by the administration of formidable doses of refined remedies, or was not the outcome of special treatment administered through complicated machinery and expensive paraphernalia; but in all probability it was the sequence of some change of habit, or was effected by calling into play some new influence of a terrestrial, social, psychic, or moral character, which diverted the abnormal movement into a channel of health so gradually and so imperceptibly as to elude, perhaps, even the consciousness of the patient. By this I do not wish to convey the idea that the cure of the disease is always readily and easily accomplished by art, but that this is possible in many instances does not admit of doubt; and if we are not able to do as well or better than nature, we ought to follow the example of the immortal Sims, who, in his despondency after the loss of his two first patients, tore his shingle off the window, threw it into the well, and vacated the town.

TUBERCULOSIS OF THE LUNGS TREATED BY COMPRESSION WITH NITROGEN AFTER THE METHOD OF MURPHY.

WITH FURTHER REMARKS ON THE RATIONALE OF THE PROCEDURE AND A RECORD OF EXPERIMENTS ON DOGS.*

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More than two years have elapsed since the idea of artificially compressing a tuberculous lung was put into extensive practice. During this time the pathology of compressed tuberculous lungs has been carefully studied, the literature has been more thoroughly searched for the expressions of clinicians and pathologists as to the value of compression of tuberculous lungs, such as results from pleurisy with effusion, either serous or purulent, and a series of experiments on dogs has been made to determine the effect compression has upon healthy lung tissue and to observe what changes, if any, are to be found in the pleura as the result of the prolonged contact with these membranes of agents used for compression, such as nitrogen and normal-salt solution. At the Columbus meeting of the AMERICAN MEDICAL ASSOCIATION I reported in detail 53 cases of pulmonary tuberculosis, in its various stages, that had been treated by means of intrapleural injections of nitrogen. Many other cases were reported more briefly. Since that time about 100 new cases have been treated. Time and space will not permit a careful record of these cases, and I shall direct your attention to those cases in particular that illustrate some of the points I wish to emphasize.

Furthermore the results are of little practical value at this time.

It will not be a waste of time to refer again to the overwhelming evidence, clinical and pathological, bearing on this point that is to be found in medical literature. I will direct your attention to the paragraph which appears in Stoke's work on "Diseases of the Chest," published in 1844, in which he says: "In many cases, where the disease—speaking of pulmonary tuberculosis complicated by pneumothorax—becomes chronic, we may observe a singular suspension of the usual symptoms of phthisis; the sweats cease; the pulse I have known in some cases to become quiet and the patient may gain flesh and strength to a surprising degree." Blakiston, in his work published in 1848, in the chapter on the termination of phthisis, cites several cases of recovery that bear on this question. In the works of Jaccoud, Williams, Cornet, Fowler and Godlee, Paget and a number of older as well as more recent writers,



Fig. 1.—Normal right lung of dog.

may be found cases of pulmonary tuberculosis either very much improved or cured as the result of some such complication as pneumothorax or pleurisy with effusion which kept up for some time a more or less thorough compression of the organ.

You are all familiar with the very interesting chapter in the history of medicine that deals with the development of the operation of paracentesis of the thorax for pleurisy with effusion. You know how often this operation has been urged only to be condemned sooner or later by some one driven to do so by adverse experiences. Almost a constant warfare was kept up until Trousseau pointed out the indications for the operation that you are all familiar with. Since Trousseau's time some changes have been made in the indications, and I may say, without fear of contradiction, that at the present time, knowing, as we do from the experiments of Eichhorst and others, that more than one-half of the cases of pleurisy with effusion are tuberculous, the disease being secondary very frequently to tuberculosis of

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the lung, the tendency is to allow the fluid to remain, unless special indications arise to make its removal imperative. This question of the etiology of the ordinary pleurisy with effusion and the indications for the removal of the fluid has an important bearing on the question under discussion, but it is too complicated to be carefully considered at this time. I may mention, as briefly as possible, a case of pulmonary tuberculosis, complicated with pleurisy with effusion, that occurred in the practice of Dr. Murphy eight years ago, and that was largely responsible, I believe, for the ideas that led to his original experiment of injecting nitrogen into the pleural cavity to compress tuberculous lungs. The case was that of a middle-aged woman from LaSalle, Ill., who consulted him for pulmonary disease, which proved to be tuberculosis. Physical signs were detected over the entire left upper lobe and tubercle bacilli were demonstrated in the sputum. The woman was very much emaciated, the pulmonary disease rather widespread, and an unfavorable prognosis was made. Within a few weeks of her visit she developed left pleurisy with effusion, resulting in thorough compression of the lung.



Fig. 2.—Compressed left lung of dog.

with a gradual improvement of pulmonary symptoms and finally a complete recovery from both pulmonary and pleural diseases. I had an opportunity of examining this patient two and one-half years ago, and the only evidence remaining of an old pulmonary tuberculosis was harsh, rough breathing over the left upper lobe. Symptomatically, she was perfectly well.

Last year Pinquet, of France, emphasized the desirability of maintaining pulmonary compression in pleurisy with effusion secondary to tuberculosis of the lung, and reported a case of tuberculization of the lung following thoracocentesis.

It has been urged that, if pleurisy with effusion is frequently, if not usually, secondary to tuberculosis of the lung, and even though many cases of pulmonary tuberculosis improve, or apparently recover, as a result of such compression, this change, it would seem, is only temporary, as is evidenced by the subsequent development of symptoms of active pulmonary disease. In this country we have the valuable statistics of Bowditch, who investigated the cases of pleurisy that occurred in his father's practice, and those of Osler, who reported, in his Shattuck lectures in 1893, that of 56 cases of pleu-

risy admitted to Johns Hopkins Hospital during the four years prior to his report, only four cases were known to have developed tuberculosis of the lungs subsequently. Späth¹ in an article, "Ueber Die Beziehungen der Lungeneompression zur Lungentuberculose," cites a very interesting case to show the good effect of pleural effusion in preventing the dissemination of the infection into the compressed portion of the lung.

Observations on the favorable effect of compression of tuberculous lungs have not been limited to clinicians. Rokitsky made the observation that in spinal curvatures or other distortions of the thorax resulting in more or less compression of one or the other lung, tuberculosis of the organ so affected never occurred. In speaking of the effects of compression by pleural effusion, he said: "We may here further adduce the fact that the compression exercised by pleural effusion and a consecutive abiding increase of compactness of one lung as denoted by a sinking in of the thorax, in like manner extinguishes the tendency to tuberculosis."

It is a common observation in the dead-house that lungs that have been for some time tuberculous usually

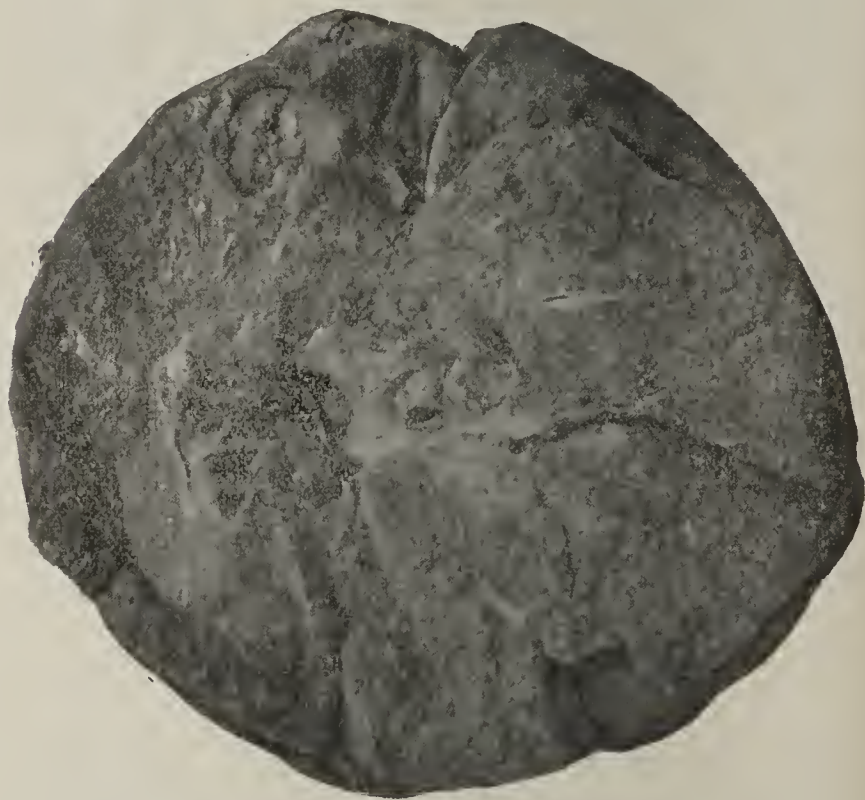


Figure 3a.

show considerable fibrosis in the neighborhood of the affected areas, and this is particularly true of diseased lungs that have been subjected to pressure such as pertains to empyema, in pleurisy with serous effusion, pneumothorax, etc. Knowing as we do that tuberculosis of the lung heals, and we know there is always a tendency in that direction, it is of prime importance to determine how such healing is brought about. It is by a process of cicatrization, as we are forced to admit by studying tuberculous lungs. This is true, at least of the ordinary productive lesions of the disease. It is barely possible that some of the purely exudative lesions may undergo a complete resolution. The rational procedure in attacking tuberculosis would seem to be by some means best suited to favor the fibrosis, which is recognized as an essential in the healing process of all pulmonary tuberculous lesions. A second and important point to be borne in mind is that a patient's life is not in great danger from the mere existence within his lung of a few localized tuberculous lesions, but of a dissemination of the infection throughout the lungs, and the question very naturally arises how, under ordinary conditions, it is brought about. The majority of cases

of pulmonary tuberculosis unquestionably begin with a single or with a few localized lesions usually in the apex nearer the posterior than the anterior surface, or, as Birch-Hirschfeld puts it, in the territory of the posterior apical bronchus. From this point the dissemination goes on more or less slowly through the bronchi and air cells, the lymph-vessels, and the blood-vessels. The two most important points to be considered in the local treatment of tuberculosis are: 1, how can we favor the fibrosis or cicatrization which constitutes the healing process of tuberculous lesions? and 2, how shall we prevent a dissemination of the infection that already exists? In answer to the first, let me call attention again to the pathological observations that an unusual degree of fibrosis is seen in tuberculous lungs that have been for some time subjected to pressure. Dunin² demonstrated, by a series of experiments on dogs that were made to determine the effect of compression upon the lung parenchyma, that in the neighborhood of small bronchi where slight infection had occurred there was a marked tendency to an overgrowth of fibrous tissue. When we stop to think of the mechanical condition of the lung we can readily understand that when this organ is subjected to a considerable pressure the various avenues by which infection is disseminated are occluded. The movements of the lung are diminished or absent and it is impossible for the softened material from foci that are breaking down to be aspirated into adjacent healthy portions of the organ. That compression must also exert a considerable inhibitory effect upon the lymph circulation in the lung is quite evident when we consider the physical state of the organ. Further than this, it is a well-known law of physiology that whenever an organ is put out of function its lymph circulation is impeded or abolished. Better than these theories, which explain in a very satisfactory way the imperviousness of a compressed lung to a dissemination of tuberculosis, are the findings in the dead-house, which show that whatever there may be in a compressed lung in the way of solitary or multiple tubercles, these lesions always bear evidence of age and of having antedated the condition which brought about the compression. Indeed, the question has been raised: Can fresh tubercles develop in a thoroughly compressed lung? For some time I have searched for material that will determine this question and I have never been able to find anything that might be looked upon as a recent tubercle in lungs that have been compressed for a considerable period. Relative to the same point, Fowler and Godlee³ say: "It would indeed be strange if tubercular disease could make rapid progress in a lung which is bloodless and airless and in which, therefore, all the ordinary channels through which the virus of the disease is spread, viz., bronchi, vessels and lymphatics, are more or less obstructed." Rokitsky⁴, again speaking of the curability of tuberculosis, says: "Tuberculous pulmonary consumption is unquestionably curable, as we may infer from the appearances not infrequently observed in the dead bodies of persons who formerly had more or less suspicious thoracic affections and subsequently recovered. It is only by an investigation of the conditions under which these natural cures take place that we can hope to arrive at a truly rational mode of treatment." And further, "If the abscess (tuberculous cavity) be not too large it closes by a gradual approximation of its walls, which finally come in contact and coalesce. We then find in place of the previous cavern a cellulofibrous mass in which the bronchi end in blind sacs. This is of most frequent occurrence in the apices of the

lungs, where the coexistence of open caverns and the presence of obsolete and cretified tubercles indicate the nature of the process that is here going on. The obliteration of a cavity of considerable size always occasions a corresponding depression of the surrounding parenchyma and a cicatrix-like folding and puckering of the pulmonary pleura, which is most frequently and distinctly observed in the case of those cavities which are often superficially situated quite in the apices of the lungs. The thorax is also depressed to an extent corresponding with the size and number of the closing vomicae, as is obvious from the flattening and slight depression so frequently observed in the clavicular region. This process is undoubtedly favored very essentially by certain circumstances, amongst which we may enumerate the local depression of the thorax, the contraction of the cavity in consequence of the diaphragm abnormally pressed upward by the contents of the abdomen, the development of the emphysema in the parenchyma surrounding the cavern and bronchial dilatation."

Aside from the fact that compression exerts a favorable influence over the healing process in tuberculosis by favoring fibrosis and by limiting the infection, that is, occluding the avenues by which the tuberculosis may become disseminated through the lung, we must consider the mechanical condition of a tuberculous lung from yet another standpoint, and I can do no better than to quote the remarks of Tidey:⁵ "In health the respiratory capacity of the lung is commensurate with the semi-circumference of the thorax. The diseased lung may be regarded as decreased in bulk, so far as function is concerned, by the amount of lung tissue involved, and it follows that the best mechanical condition of respiration would be secured by reducing the thoracic cavity in proportion to the reduced bulk of lung. Natural processes of repair tend to secure these conditions, but only lead to complete cicatrization when the disease is of a limited extent. We find, then, clinically, a flattening of the chest wall, dislocation of adjacent organs or hypertrophy of the opposite lung. In so far as the inflammatory element in phthisis is concerned, rest and relaxation of the inflamed tissues seem indicated and essential to the healing process. The English schools aim at developing the latent resources of the lung so as to compensate for the loss of the respiratory surface." Tidey sums up the advantages of mechanical support as follows: 1, in early stages, to give comparative rest and relaxation to lung tissue; 2, in the stage of consolidation, to secure the same results, thereby limiting the risks of extension; 3, in the stage of cavitation, to promote the closure of cavities by directing healthy lung to encroach upon diseased areas, instead of relying entirely upon natural process of cicatrization; 4, diminished tendency to hemorrhage by reduced tension on vessel and cicatricial traction on walls; 5, the ultimate object is to obtain a smaller thoracic cavity filled with healthy lung instead of an enlarged thoracic cavity partly filled with diseased lung.

In a previous communication many references were made to the writings of some of the older authors on the subjects of pleurisy with effusion, pneumothorax, etc., complicating pulmonary tuberculosis. These it is useless to repeat. Many of the modern writers realize the advantage of compression in pulmonary tuberculosis. Cornet⁶ says: "In fact, we find as the result of the development of pleurisy with effusion or of pneumothorax, not so seldom an improvement, even if temporary, of the condition (of the tuberculous lung) that is hardly to be explained other than that it is the result

of the compression of tissues in the neighborhood of the tubercle."

The general proposition that compression exerted upon a tuberculous lung favors cicatrization, and therefore the healing process, and that, so far as we know, tuberculosis of the lungs always heals by fibrosis or cicatrization, can not be lost sight of. That there is an enormous tendency for tuberculous lesions in the lung to heal is apparent from the great quantity of statistics that have been gathered bearing upon this point. Some of the most valuable of these observations are those made by Harris,⁷ who found that 39 per cent.



Figure 3b.

of all individuals who died from causes other than tuberculosis gave evidence of healed or latent pulmonary tuberculosis. Schlenker⁸ found the same in 44 per cent. of the cases he examined. Birch-Hirschfeld⁹ found, in an examination of 196 bodies dead from accidents, that 21.4 per cent gave evidence of healed or latent pulmonary tuberculosis. With this as a basis, we must conclude that, as far as local treatment is concerned, we have two important indications to be met. Both of these are pointed out to us when we study the pathology of the healing of tuberculosis in the lung. Given focus of tuberculosis in the lung, we must accomplish what nature always endeavors to do, first, to promote the development of scar tissue in and about the diseased area, and, until this is completed, to prevent the dissemination of the disease by occluding the various avenues that make this possible. Kurlow and Green (quoted by Cornet) demonstrated that in areas of healed tuberculosis, made up entirely of scar tissue or of scar tissue enclosing calcareous material, no virulent bacilli were found. As long as the center of the focus is caseous, virulent bacilli are present and are capable of renewing the disease the moment the barrier is broken.

While there is no doubt that in the majority of cases the areas of healed tuberculosis consist of scars enclosing caseous or calcareous material, we may find as the only remnant of a tuberculous infection one or more thick-walled cavities, from which tubercle bacilli have disappeared. This may gradually and slowly heal as a result of contraction of its fibrous capsule, but much more commonly the mechanical conditions are such that definitive healing is impossible. In such cases these cavities may be a constant source of annoyance to patients, in that they have an active secreting surface which keeps up a continuous cough with expectoration. Case 5 of our first report¹⁰ illustrates this condition very well. The patient was a strong, rugged man of 30, who had had tuberculosis of the right lung five years. During the first two years of his illness he coughed violently, expectorated freely and had several attacks of hemoptysis. His weight had been reduced from 160 to 117 pounds. During the third year he coughed and expectorated less and his weight reached 135 pounds. During the fourth year there was a gradual improvement. At the time of our first examination, September 5, 1898, he complained of having paroxysms of cough with much expectoration; he had no fever; his weight was normal, and he was able to be at work. There were no physical signs in the lung except scattered crepitant

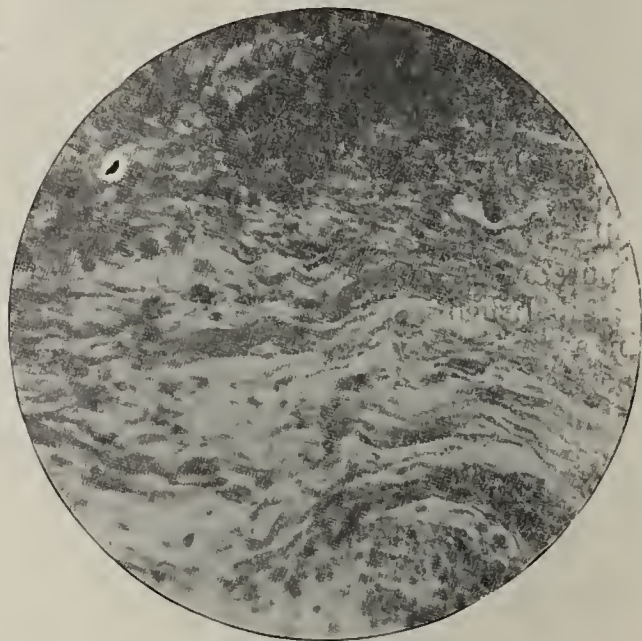


Fig. 4. Fibroid area from compressed lung—high power. Section through a healed tubercle.

râles in the right lower lobe. Tubercle bacilli were demonstrated in the sputum. On September 7, 171 cubic inches of nitrogen were injected into the right pleural cavity. In this case we had supposed, on account of the paroxysms of cough with free expectoration, that a cavity existed which was more or less centrally located and which, therefore, gave rise to no physical signs. The compression was so thorough that the cavity was evidently emptied of its secretions, as the patient expectorated very freely immediately after the operation. He has been examined repeatedly since that time and every evidence of the disease in the lung had disappeared. There is no more cough or expectoration, and the patient even insists that the drum-stick finger ends and the curved nails are becoming less and less pronounced.

In our first publication on this subject, it was pointed out that pulmonary hemorrhage, the result of tuberculous disease, might readily be controlled by injecting nitrogen into the pleural cavity and thus thoroughly compressing the affected lung. Five cases of hemoptysis due to tuberculosis have been injected within the last year and in each instance it was possible to check the

hemorrhage almost immediately. One of these, Mr. H. S., a very pale, anemic individual, consulted us for repeated attacks of blood-spitting. At the time of his first examination he was expectorating a bloody material, which upon microscopic examination contained great quantities of tubercle bacilli. There were physical signs over the entire upper lobe and a few scattered râles over the left apex. His weight was 147 pounds, a loss of ten pounds since the onset of the disease. The physical signs were so much more widespread over the right lung that it was concluded the hemorrhage had its origin there, and it was decided to inject the right pleural cavity with nitrogen and check the hemorrhage by thoroughly compressing the lung. The operation was repeated at intervals of one to three weeks until four injections had been made, when the physical signs had practically disappeared from both lungs; he had gained 23 pounds in weight, which was 12 pounds in excess of his normal weight, and all symptoms of disease had subsided. The hemorrhage was checked immediately after the first injection and has never recurred. In the other cases there was no difficulty in controlling the hemorrhage when it was possible to compress the lung thoroughly. At the last meeting of the American Climatological Society, H. P. Loomis, of New York, reported some cases of pulmonary hemorrhage treated by intrapleural injections of nitrogen and stated that he had never failed to control the hemorrhage absolutely. As early as 1885 Cayley¹¹ induced an artificial pneumothorax on the left side to check pulmonary hemorrhage. He simply made an incision in the thoracic wall, introduced a double tube and in that way created an ordinary open pneumothorax. During the night following Cayley's operation his patient had two attacks of hemoptysis, spitting up four ounces and two ounces of blood. This is the earliest record that I have been able to find of an attempt to check pulmonary hemorrhage by the induction of pneumothorax. The method of Cayley, it is very evident, gives rise only to a pulmonary collapse and is much more difficult and dangerous than the simple procedure of injecting the pleural cavity with nitrogen until an actual positive pressure is obtained and the lung not only collapsed but considerably compressed. Williams, in his work on pulmonary consumption, advised the introduction of a styptic solution—tannic acid—directly into the bleeding cavity. The objection to this procedure is that the exact point of bleeding can not usually be determined and that the method involves much more risk than the simple intrapleural injection of nitrogen. These cases of pulmonary tuberculosis associated with hemoptysis not infrequently develop a considerable fever and other symptoms indicating increased absorption at the site of disease or perhaps more or less acute dissemination of the infection, and it is interesting to note the rapid diminution of fever following the injections, indicating in all probability that the absorption of toxic substances is interfered with as the result of the thorough compression of the diseased organ.

One of the greatest dangers that confronts a patient who has pulmonary tuberculosis is the infection of his respiratory tract with organisms that give rise to what is ordinarily known as a secondary or mixed infection. The important part played by this secondary infection, such as the production of bronchitis, in that way favoring a dissemination of tuberculosis, and aiding in the softening and breaking down of tubercular foci is too well known to be considered in detail at this time. The avenues by which this secondary infection is carried into the various parts of the lung are occluded, thus

favoring the chances of healing of the tuberculous lesion. Subsequent to the compression of tuberculous lungs, the fever and expectoration diminish so markedly that we are forced to conclude that the rôle of the secondary infections has been reduced to a minimum. Furthermore, it is known that so long as tissues infected with tuberculosis are also exposed to the action of pathogenic micro-organisms the healing process can not be completed. Whatever there is in the direction of cicatrization is undone by the pyogenic organisms, when they are present in sufficient quantities. This is very well illustrated by the work of Prudden, who demonstrated by experiments upon rabbits that the mixed infection is largely responsible for the exudative phenomena and the cavitation in lungs previously infected with tuberculosis. The tissue changes so essential to the process of healing of tuberculosis are very much interfered with by the mixed infection, and in the general hygienic treatment of tuberculosis of the lungs one of the first indications has been to get rid of the secondary element of the infection. As Cornet puts it, healing of a focus of tuberculosis in the lung is probably always altogether the result of tissue changes which diminish or inhibit the absorptions of proteins derived from the bodies of tubercle bacilli.

One of the most difficult propositions in connection with this work has been the selection of cases suitable for the injections. In connection with our earlier cases we made it a rule to inject only those in which the lesions were unilateral and in which but one lobe was involved. A great number of our cases, however, have been operated upon in spite of the presence of the disease on both sides and the two questions rather difficult to decide in these cases are first, will the remaining area of respiration after compression of one lung be sufficient to maintain life when the opposite lung is also more or less involved? and, second, will there be a disposition on the part of the functioning lung in the direction of rapid spreading of the disease already existing? Within the last year a considerable proportion of the cases operated upon have had bilateral lesions and in many of them there has been a marked general improvement in spite of the widespread distribution of the disease. It has been suggested that the increase of function called for in one lung when its fellow is compressed will tend to disseminate the infection; that the increase in the pulmonary excursions would favor an aspiration of infective material and that if compression and complete suspension of function in one lung will favor the healing of tuberculous lesions, a vicarious emphysema or hyper-function will have the opposite effect. This assumption is incorrect both in theory and in practice. It must be remembered that the lung is inclosed in a bony cage that makes it impossible for its excursions to be much increased beyond the normal. A number of the cases included in the first report show conclusively that there is no tendency to an increased activity of the disease in the functioning lung when its fellow is compressed. One of our cases (No. 49 of the first report) who developed a tuberculosis of the left upper lobe, some time after he had been injected for a tuberculosis of the right lung, has had eight injections on the left side without the slightest tendency in the way of a relighting of the disease in the right lung. At a recent examination both lungs were found entirely free from physical signs, except a pleural rub on the left side, and two months have elapsed since his last operation. In this case one lung or the other has been compressed at different times for a period of twenty months and at

his last examination the patient was found nearly free from cough; his temperature and pulse normal and for the present at least he may be considered as having recovered from a bilateral tuberculosis that involved both upper lobes and the apex of the lower lobe on the right side. Forlanini, of Italy, in a personal communication to us about a year ago stated that he did not consider a bilateral distribution of the disease a contra-indication to the compression treatment.

In several cases of very acute tuberculosis involving an entire lobe or the greater part of a lung, I have been called upon to compress the affected lung to stay the infection until the patient's general condition might improve sufficiently to admit of a change of climate and a continuation of treatment in the ordinary way. At the last meeting of the American Climatological Association, Dr. R. H. Babcock, of Chicago, for whom I have made a number of injections, stated that the compression seemed to him "to start the patients in the right direction."

On account of the frequency with which we meet pleural adhesions in the dead-house in bodies dead of tuberculosis of the lungs, it was believed that the ma-

a considerable pulmonary excursion can be demonstrated by percussion over the lower border of the lung, or when Litten's diaphragm phenomenon is present there is no doubt as to the absence of adhesions that will interfere with compression. There are many cases, however, in which these signs are absent, perhaps on account of the extensive infiltration of the lung, in which no adhesions are present and therefore it is impossible to determine whether or not the lung can be compressed until the needle has been introduced. On account of the danger of puncturing the lung and injecting the gas directly into the lung parenchyma, or perhaps into a vein, it is wise to determine whether or not the point of the needle is in the pleural cavity before attaching the tube. This can usually be very readily accomplished by instructing the patient to take a series of deep breaths as the needle is being introduced, when, if the point of the needle be within the free pleural cavity, a current of air can be heard to rush through the needle. In this way it is almost always possible to ascertain when the point of the needle is in the free pleural cavity. It is advisable to determine this point definitely, because of the slight danger from gas embolism in the event that the needle

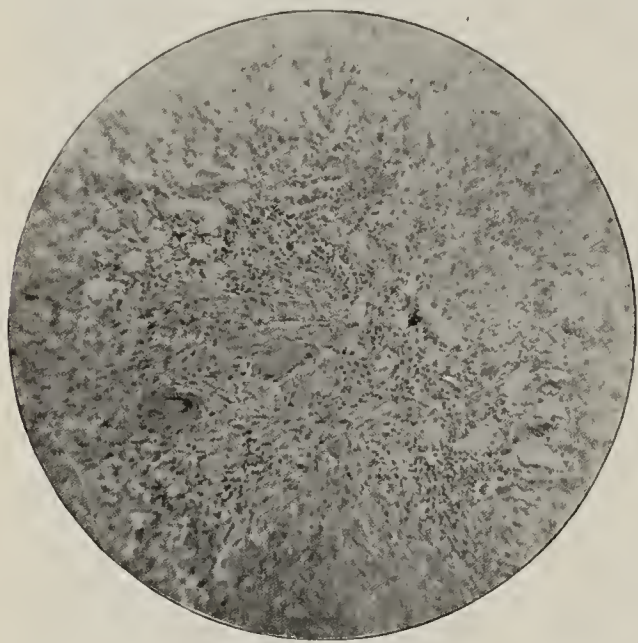


Fig. 5.—Section through acute tuberculous area in uncompressed lung.

jority of the cases that might apply for treatment would show pleural adhesions to such an extent as to make a compression impossible. In practice, however, we are forced to abandon the operation in only about 5 or 6 per cent. of the cases on account of pleural adhesions. It must be remembered that adhesions may be present here and there over the surface of a lung without interfering in any way with a thorough compression. Occasionally adhesions may be present anteriorly or laterally so that the needle must be introduced posteriorly and the lung compressed against the anterior thoracic wall. Mohr¹² studied the mode of displacement of the lungs in pleurisy with adhesion. In 23 cases in which there were no adhesions the lung was compressed in the usual manner against the vertebral column and mediastinum. Thirteen times it was compressed from below upward; 4 times from within outward; 4 times from behind forward; 4 times from before backward, and once from above downward. In some of our cases it has been necessary to puncture the thoracic wall at several points in order to find an area free from adhesions, and frequently we have in this way been able to bring about a considerable degree of compression in spite of circumscribed areas of adhesions.

It is impossible to determine by the usual methods of physical diagnosis whether or not adhesions exist. When

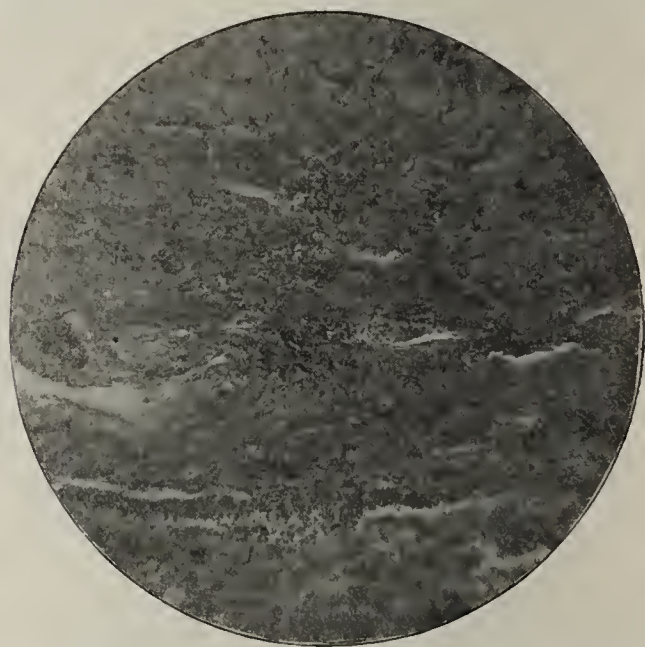


Fig. 6.—Section through old tubercle in compressed lung. Low power.

has been inserted into the lung and perhaps into a vein. With the exception of this point the technique of the procedure need not be repeated at this time. (See *THE JOURNAL*, Oct. 14, 21 and 28, 1899.)

As regards the possible accidents of the operation I may state here that there have been no unpleasant symptoms in any of the cases operated upon since the one referred to in the first communication, and since the adoption of the intercostal compress no cases of subcutaneous emphysema have been observed to follow the operation.

The hemiplegia that is known to develop occasionally in connection with diseases of the lung or pleura, or during and after various operative procedures upon the thorax that involve the lung or pleura, can not always be explained readily, and is not always due to the same cause. It is possible that a small clot may be dislodged from a thrombosed vessel and carried to the brain, and may cause a temporary or permanent hemiplegia. In some cases undoubtedly the hemiplegia is to be explained on the assumption that a gas embolism has occurred. Some observers believe that the paralysis is due to a local metastatic encephalitis, and still others believe the pleural irritation in some obscure, reflex way is responsible for the transient or permanent paralysis that ensues. The possibility of this accident should al-

ways be borne in mind, but its actual occurrence is too rare to be considered a serious objection to the operation. In a few cases patients have complained of numbness and tingling in the hand or the entire arm on the side of the operation, but this has always disappeared very promptly. The danger of hemorrhage from puncture of an intercostal vessel is scarcely to be given a serious thought, as no instance of it has occurred in the more than 600 thoracic punctures that we have made in connection with this work.

The danger of infecting the pleural cavity with the ordinary aseptic and antiseptic precautions taken is scarcely to be considered, as in all of the cases that have been injected there have been but two instances of pleurisy with serous effusion, and it is certainly unfair to conclude that these were due in any way to the injection of nitrogen.

During the past year we have been in the habit of making the injections somewhat more frequently than we did previously in order to keep the pleural cavity at all times well filled with gas and thus keep up a continuous compression of the lung for a period of several months, depending largely upon the patient's general

lung is hyperemic or anemic. Some observers believe that the good effect of compression in pulmonary tuberculosis is due to the hyperemia and edema to which the lung tissue is subjected in its compressed state. Fütterer¹⁴ reports a case in which the pneumothorax was due to rupture of the pleura pulmonalis of a tuberculous lung, and states that he "decided to wait some weeks to allow the patient to recover somewhat from the severe nervous shock he had experienced and to gain some strength as well as to permit the perforation to heal up, if the healing process could be established, and to put the supposed tubercular changes of the lung under the beneficial influence of edema and hyperemia, which are both present to a high degree in a collapsed lung, and which no doubt are powerful means of destroying the tubercle bacilli." In this connection it may not seem amiss if we refer again to the immunity from tuberculosis of individuals who suffer from valvular disease of the heart, giving rise to more or less passive congestion of the lung tissue. Eichhorst¹⁵ says that a combination of pulmonary tuberculosis with valvular lesions of the heart is not so uncommon as was supposed. Statistics of Frommelt and Kidd show that from 7.2 to 8

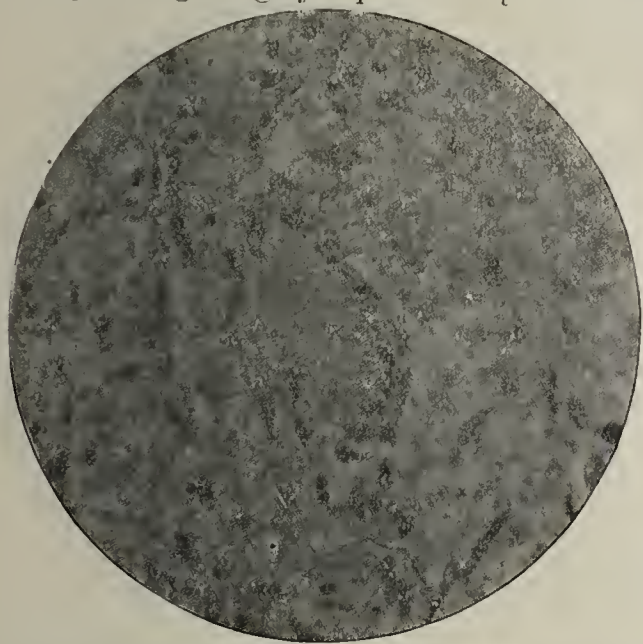


Fig. 7.—Section through acute tuberculous area in uncompressed lung. Low power.

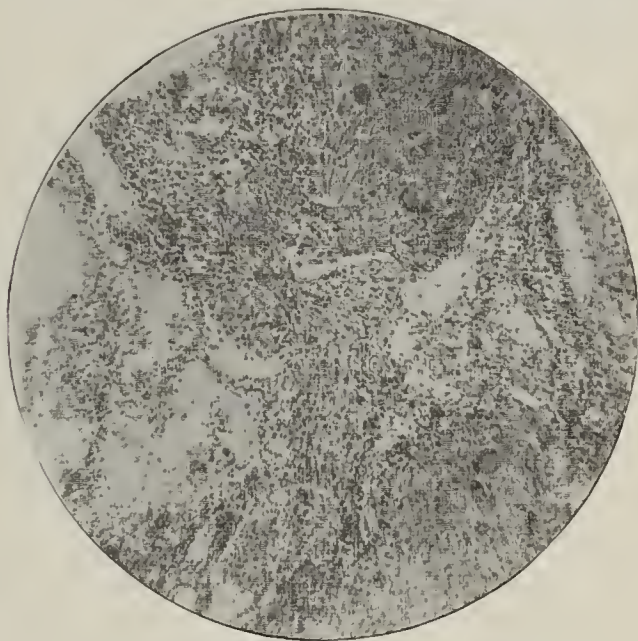


Fig. 8.—Acute tuberculous area in uncompressed lung. Low power.

condition and the physical signs detected in the lung when once the gas has been allowed to be absorbed.

The only objections that have been made to the procedure, so far as I am aware, are those of Samuel West,¹³ who does not think that the rationale of the procedure is based on conclusive evidence. He believes that recent tubercle may be found in a collapsed lung, all evidence going to show that it developed after collapse, and that collapse of one lung is frequently followed by development of tubercle in the other lung.

In the Transactions of Clinical Society of London, Vol. xviii., West collected 24 cases of pneumothorax which recovered. The probable cause is specified in 18 cases. He states that 4 were certainly and 4 more probably due to phthisis; the others were due to emphysema, overexertion and injuries. West's own case was one of a young man who for some weeks had been an outpatient of the Royal Free Hospital and was thought to be phthisical. West says that "The cause of the pneumothorax we may assume to be phthisis, and the effusion of air appears to have acted in this case as the effusion of fluid often does, and for the time to have checked the progress of the disease."

The effect of compression upon the blood-supply of the lung has been the subject of considerable dispute and there seems to be some doubt as to whether a compressed

per cent. of cases of valvular heart disease have tuberculosis of the lung. Potain found that 16.4 per cent. of cases of mitral stenosis are complicated with tuberculosis of the lung, and it is to be remembered that mitral stenosis, above all other valve lesions, gives rise to the greatest degree of pulmonary stasis, and therefore might be expected to give the greatest immunity to this disease. In Eichhorst's clinic 2 per cent. of the cases of tuberculosis of the lungs had valvular heart disease. On the other hand, there can be no doubt that in congenital stenosis of the pulmonary artery tuberculosis of the lungs is the rule. These statistics force us to the conclusion that in congenital pulmonary stenosis tuberculosis of the lung almost always supervenes sooner or later, but that mitral valve lesions do not by any means afford the degree of immunity to tuberculosis of the lungs that we formerly ascribed to them. That a lung thoroughly compressed must be comparatively anemic seems reasonable when we consider the mechanical change alone. The difference in weight between an atelectatic lung of a stillborn infant and that of an infant after a few respirations have been made would seem to be satisfactory proof of this. Schäfer and Symington¹⁶ state, for example, that the lungs before birth weigh about one ounce and a half, but after com-

plete expansion by respiration they weigh as much as two and one-half ounces.

During the past year we have made a series of experiments on dogs to determine the effect of compression upon healthy lung tissue, particularly the effect upon individual air cells. It has been urged that when compression of a lung has been maintained for a period of months, or perhaps a year, some of the air vesicles must be permanently damaged to the extent of partial or complete obliteration from prolonged contact of the opposing intra-alveolar surfaces. Clinically, from a consideration of cases of pleurisy with effusion and empyema in which the lung tissue is reduced to a compact mass and held in that position for a considerable period of time, we know that no great damage is done in the direction of alveolar obliteration. Even in empyema, in spite of pleural adhesions that are present wherever the lung is forced against the parietal pleura, expansion follows gradually and slowly as soon as the pressure is removed. In the majority of these cases the lung expands almost entirely, and would always expand completely but for the limiting adhesions. In the cases of pulmonary tuberculosis that have been treated by

press the lung so thoroughly as was the case with the nitrogen injections. Eight months from the time of the first injections the dogs were killed, the trachea clamped and both pleural cavities freely opened. The pleural surfaces were smooth and shining everywhere and, in fact, altogether free from changes, with the exception of a slight thickening of the pleura pulmonalis over a limited area in the sulcus interlobaris. The left lung was almost completely compressed, although it still crepitated slightly and floated in water. (Fig. 1.) In four instances the lungs were separated, a canula was tied into the left bronchus and inflation attempted. Over some of the dark, thoroughly atelectatic areas some little force was necessary, but at no point was it impossible to inflate the air cells thoroughly. The bronchi were then tied, the lung immersed in 5 per cent. formalin solution in water for twenty-four hours and then cut into small pieces for imbedding. Aside from slight epithelial desquamation, which was also found in the opposite non-compressed lung, no changes of any kind could be detected in the tissues. From the other four lungs pieces were prepared in their compressed state, and here also no changes could be detected.

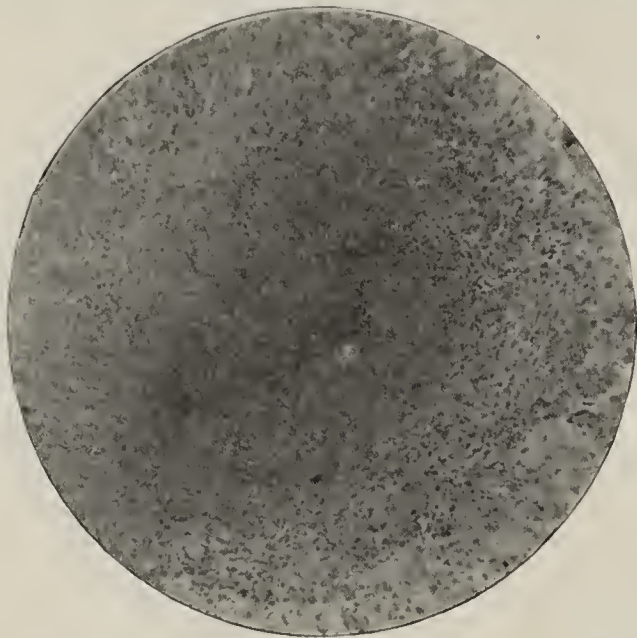


Fig. 9.—Acute tuberculous area in uncompressed lung. Low power. Marked necrosis.

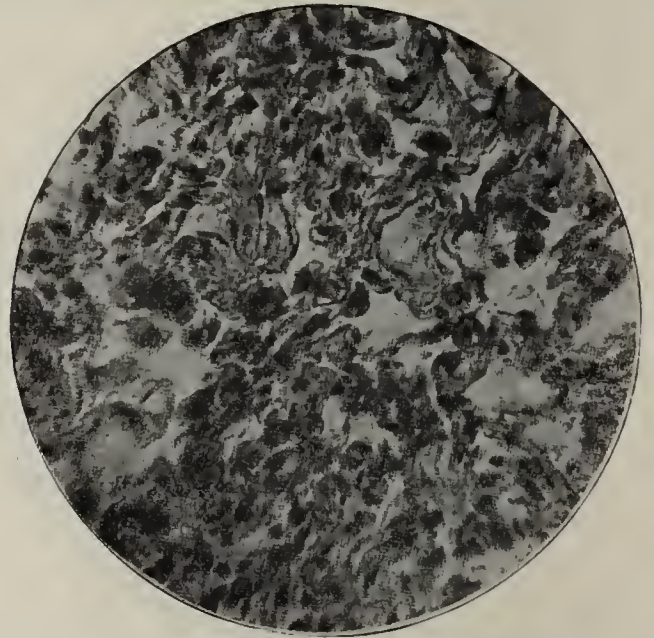


Fig. 10.—Area of compressed lung. High power. No tubercles. Air vesicles completely compressed.

compression there has never been any doubt as to the re-expansion of the lung after the gas has been allowed to become absorbed, even when the compression has been maintained as long as six to eight months.

To enable us to study the histologic changes in healthy lung tissue subjected to compression and to determine the effect upon the pleural surfaces, eight dogs were selected, the thoracic wall was prepared aseptically and nitrogen gas injected at intervals of from one to two weeks for a period of eight months. In four dogs normal-salt solution was substituted for the nitrogen. The gas was injected until the dogs became thoroughly dyspneic and until the respiratory sounds were altogether obliterated. I shall not repeat the records of these experiments in detail at this time, but limit myself to those findings that deal directly with the matter under discussion. No difficulty whatever was experienced in making the injections except that the mediastinum was ruptured in the second dog operated upon. This is an accident likely to occur in the dog, on account of the very thin mediastinal membrane. In the human subject the possibility of this accident need not be considered, as the membranes are very much thicker. The normal-salt solution was absorbed with greater rapidity, and, on account of its greater weight, it could not be injected in quantities sufficient to com-

These experiments merely proved, first, that nitrogen gas or normal-salt solution could be injected into the pleural cavity frequently and at short intervals without giving rise to infection or in any way causing untoward effects, and second, that healthy lung tissue may be kept in a state of thorough compression for a period of at least eight months without causing obliteration of air cells or in any way interfering with the re-expansion of the lung as soon as the cause of compression is removed.

At the last meeting of the Association I exhibited a specimen of tuberculous lung from a case of long-standing pleurisy with effusion which finally became purulent. The patient, Mr. M. A., aged 46, died as the result of his pulmonary tuberculosis soon after an operation for the empyema. He was admitted to Alexian Brothers' Hospital, Chicago, on Jan. 19, 1900. Eight years before, he had developed a pleurisy with effusion on the left side, which was aspirated several times, but in each instance recurred. His attack of pleurisy had been preceded by severe cough with expectoration, the result of a tuberculosis of the left lung. In spite of the fact that the effusion persisted, he remained in good health for a number of years, and in fact was feeling well until three weeks before his admission to the hospital, when he developed a severe cough

with profuse expectoration, great shortness of breath and extreme weakness. It is noted on the history that he expectorated much mucus and very little purulent material. The physical examination showed the signs of the presence of fluid on the left side, an aspirating needle was introduced and the purulent nature of the fluid demonstrated. On account of the extreme shortness of breath it was decided to operate in spite of the fact that the physical signs on the right side denoted a diffuse acute tuberculous infection of that lung. The patient died twenty-four hours after the operation. At the post-mortem the left lung was found reduced to about the size of the fist and thoroughly bound down by adhesions; the right lung was literally studded with fresh, grayish tubercles, varying in size from a millet seed to that of a pea, with an old thick-walled cavity in the apex. (Fig. 2.)

It is interesting to note in this case that the few scattered tubercles in the left (compressed) lung are made up of thick scars enclosing calcareous material, all evidence going to show that they are old, and in all probability antedated the pleurisy with effusion that brought about the compression. In the opposite lung there is an acute diffuse miliary tuberculosis. This further bears out the view that tubercles can not develop in a thoroughly compressed lung, because of the fact that the avenues by which the infection is disseminated are occluded.

CONCLUSIONS.

1. Tuberculous lungs after compression show much fibrosis in and about the foci of disease; hence, extension from these foci is less likely to occur.
2. Tuberculous lesions probably never heal by resolution, always by cicatrization—this is particularly true of lung tuberculosis. Hence, in attacking them it is rational to further the natural tendency to cicatrization.
3. The danger of pulmonary tuberculosis does not lie in the presence of one or more foci of the disease, but in a dissemination of the infection throughout the lungs or the body generally.
4. Healing is probably, as Cornet puts it, altogether the result of tissue changes which inhibit or diminish the absorption of proteins derived from the bodies of tubercle bacilli.
5. Areas of healed tuberculosis may consist of: Scars, perhaps enclosing caseous or calcareous material, or of cavities lined with a thick wall. Kurlow and Green (Cornet) have demonstrated that in areas of healed tuberculosis made up entirely of scar tissue or of scar tissue enclosing calcareous material no virulent bacilli exist.
6. Tuberculosis in the lungs spreads either by continuity and contiguity or by dissemination of the virus through, 1, the air-channels; 2, lymph-vessels; 3, blood-vessels.
7. Good effects of compression, locally, are brought about by the limitation of areas of disease already existing, by favoring fibrosis in and about these areas; by occluding the avenues of dissemination of the virus, and by compressing cavities to enable them, mechanically, to heal.
8. Other effects of compression are due to rest to the organ as a whole, emptying of secretions, prevention or diminution of absorption of toxic bodies, prevention of secondary infections, the diminished tendency to hemorrhage.
9. There is no evidence that fresh tubercles can develop in a compressed lung.

10. Pleural adhesions are less common than might be supposed from a study of material in the dead-house. The lung may retract in various directions on account of circumscribed areas of adhesion.

11. Healthy lung tissue may be compressed for a year or longer and retain its capacity for expansion upon removal of pressure.

12. The actual risk of the operation of intrapleural injections of nitrogen is very slight. No accidents have occurred since the first report was made.

13. Subcutaneous emphysema may easily be avoided by using the intercostal compress.

14. Uses of intrapleural injections of nitrogen: 1, curative in pulmonary tuberculosis for reasons mentioned above; 2, palliative—to prolong life for weeks or months, though the disease be too extensive to make recovery probable; to diminish fever and expectoration; 3, to check pulmonary hemorrhage; 4, to compress cavities, tuberculous and others, and establish mechanical conditions that will permit their healing; 5, to compress the lung just prior to surgical operations in which the pleural cavity is to be freely opened and to determine presence or absence of pleural adhesions before opening pleural cavity to drain abscesses or bronchiectatic cavities, cysts, etc.

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DISCUSSION ON PAPERS OF DRs. FREUDENTHAL, ANDERS, EDSON, AMBLER, MAYS AND LEMKE.*

Dr. VICTOR C. VAUGHAN, Ann Arbor, Mich.—I listened to the papers read with interest and with profit. The diagnosis of the prebacillary stage of tuberculosis is important, because that is the time when it should be diagnosed if we wish to accomplish anything in the way of treatment. I am much interested in the remarks made in reference to temperature as a means of diagnosing tuberculosis. I believe that the temperature curve in tuberculosis is much more typical than it is in typhoid fever, although there may be various conditions which affect the temperature curve, such as exercise, which influences it very much. I almost invariably have the patients take it at 8 a.m., at 12 m., and at 4 and 8 p.m. When the temperatures are taken at these hours the highest temperature will be found almost invariably at 4 p.m.

As to the possibility of complete recovery from tuberculosis, it is no doubt a question of *restitutio ad integrum*. In cases of peritoneal tuberculosis, where a laparotomy had been performed for that condition, and where, years afterward, another laparotomy was done for a hernia or something else, it has been found that the tubercular lesions had disappeared. Two years ago I took a large number of rabbits and inoculated them with virulent cultures of the tubercle bacilli; after a lapse of six weeks one-half that number had their abdominal cavities opened; in these cases we saw tubercular nodules, some of which were cut out and subjected to a microscopical examination, showing conclusively the presence of the tubercle

*Dr. Anders' paper was published last week; those of Drs. Freudenthal, Edson and Ambler were published elsewhere.

bacilli, not only in the instances where there were tubercular lesions in the omentum and peritoneum, but also over the liver, which was dotted with tubercles. All these that were operated on lived, while the control animals all, or nearly all, died. Of course, statistics show us, as well as the observations, that tuberculosis is most easily curable. Rest, I am sure, is a great factor in the treatment of tuberculosis, and this is the reason why great benefit is obtained from sanatoria treatment. The question as to the amount of exercise and to what extent the patient should rest must be decided by each individual case. Where there is much temperature there must be complete rest. When the patient is not in a febrile condition, or the temperature is not above 100.5 or 101, considerable out-door exercise may be indulged in. Out-door life in the Western part of the United States or in Colorado is a good thing, but we do not utilize it enough in the treatment of tuberculosis—as we should. I recall a severe case of tuberculosis occurring in a patient who lived several miles from my office; this patient came every day to my office for treatment, rain or shine, cold or warm; the cough disappeared, the bacilli disappeared and the patient was apparently well. Out-door exercise is not as much utilized as it should be.

Dr. Mays' paper is certainly an interesting one. I had occasion some time ago to write an article on argyria, and I was surprised in looking up cases to find so many had developed tuberculosis when they were saturated with nitrate of silver. It does not seem to me that it is curative under these conditions.

DR. DELANCEY ROCHESTER, Buffalo—Regarding the paper of Dr. Freudenthal, showing the effect of occupation, he mentions tailors particularly. It struck me that one of the chief dangers in tailors suffering from tuberculosis was from the dissemination of the disease. It is their habit to bite and wet the thread and then to go on sewing; in this way they can get the tubercle bacilli distributed widely. The tailor-shop is a marked factor in the spread of tuberculosis. I am also glad he spoke of the common occurrence of the disease of the upper air-passages associated with tuberculosis. In almost all cases of tuberculosis we find more or less disease of the nose and, particularly of the nasopharynx, and sometimes of the tonsils. The nasopharynx is particularly a nidus for the micro-organisms. I have many cases in which a careful examination showed a secretion flowing in large amounts, quite persistent, and the washing away of the secretions resulted in disclosing other symptoms of pulmonary tuberculosis.

Dr. Anders referred to the prebacillary stage of tuberculosis; in this stage the temperature should be carefully watched. There is another point to which I wish to refer, the temperature as it occurs in the healthy. Observations show that there is a normal temperature curve, the lowest point being reached between the hours of 12 and 6 a.m., and the highest between 12 and 6 p.m. But these observations are not numerous enough to make statements absolutely reliable.

Dr. Edson has brought out the very great importance of rest. The index in regard to the question of rest is to be found in the pulse, the temperature, as well as the physical signs. To place a person at active exercise when he has a marked elevation of temperature, and other evidences of an active inflammatory process, or evidences of softening or a bronchitis, with danger of breathing scattered tubercle bacilli into the lungs and exciting the pneumonia, tubercular in origin, would be a great mistake. Rest is of great importance in the presence of numerous râles.

In regard to the case of Dr. Ambler, that of serum-therapy, it is not such a remarkable one when we consider that these cases are treated in a sanatorium, in a climate where cases recover without any other treatment at all, and where they naturally get well. So, I hardly think one can lay the good results obtained to any serum, particularly when we believe they will get well without it. The sanatoria treatment of tuberculosis is the best treatment these patients can get. At Saranac Lake these patients get nothing in the way of medicine except cod-liver oil, and nearly all cases get well. Rest and out-door exercise is the treatment.

Dr. Lemke's report is interesting as bearing on rest. His statement shows remarkable improvement in cases where there was a chronic pneumothorax. This year I had two cases under observation. In one the pneumothorax had persisted for several months. This case, after the development of the pneumothorax, progressed badly, became decidedly worse, the patient lost flesh rapidly, etc. In the other case, operated on without benefit, except some relief from the dyspnea, there was no pus present until after the operation. Neither of these cases improved by the spontaneous recurrence of pneumothorax, which persisted for several months. In one case at the General Hospital, the local lesion was a very slight one indeed.

Dr. Vaughan referred to cases that were saturated with nitrate of silver. I think he has mistaken Dr. Mays' meaning entirely. In Dr. Mays' treatment the silver nitrate is injected to prevent irritation of the vagus, and so affect the innervation of the lung, that was the point. The case was certainly interesting and instructive. He stated, however, that the cases were practically well. I wish he would tell me what he means by practically well. We know perfectly well that a large number of cases of tuberculosis improve under any treatment instituted. We should remember to treat the patient and not the tuberculosis simply: each individual case requires special study: some cases require one thing and some cases another. There was one case in Buffalo where there was an excavation at the apex, with infiltration at the other apex and at the base, and that case recovered without any specific treatment beyond out-door life and guaiacol in moderate doses.

DR. S. SOLIS-COHEN, Philadelphia—My views on the causation of tuberculosis have been quoted. I have slightly modified them since that article was written. My present position is this: First, there is a fundamental trophic failure, congenital or acquired through privation, depression or excess. Then the invasion of Koch's bacillus—in rare instances another microbe, perhaps warranting a separate category for such cases—accompanied by definite histological changes and toxemia comparatively mild; then, with the invasion of pus organisms and similar microbes, a breaking down of tissue and a severe toxemia, with the phenomena properly called phthisis. As the trophic failure is fundamental in pathology it gives the clue to fundamental treatment. The patient's nutrition must be improved to the highest possible point. Rest may be necessary in some cases, and usually is when there is tendency to persistent elevation of temperature to or beyond 100 F.; but even rest should be in the open air when possible. Out-door exercise in proper cases is of the greatest value. In this connection I may recall attention to a case of recovery which I reported at the meeting of THE AMERICAN MEDICAL ASSOCIATION at Newport, to illustrate the benefit of compressed air: that patient has remained well these thirteen years since that meeting, and keeps her health, I believe, by being out doors in all weathers. But I don't wish to go over the whole subject; I desire merely to speak of a few points omitted by others. One of these, and very important, is the early recognition of the tuberculous origin of indefinite attacks in young people and children. In many cases healed tuberculous lesions being found at autopsy, it is stated that there were no symptoms during life. It is possible that inquiry might elicit the fact that the patient, when a child, had had recurrent attacks with pronounced or vague chills, a sudden development of fever, and perhaps pectoral signs which were thought to be the symptoms of bronchitis or influenza or malaria or something else. I have seen many such patients, who will go free for months or years, when there will be a repetition of the same phenomena. They are not cases of influenza or malaria or typhoid fever, and while bronchitis or perhaps catarrhal pneumonia is manifest by physical signs, this is but a part of the morbid complexus. I am inclined to believe that these are cases of tuberculosis chiefly localized in the bronchial glands, and my experience indicates that some patients recover entirely and some later develop pulmonary tuberculosis. Regarding the diagnostic value of temperature, I lay particular stress on the rise which occurs between noon and 2 p.m. Often a temperature course, seemingly normal at all other periods, shows a dis-

tinct elevation during these hours. As a matter of convenience I select 1 p.m. for the first test. There is one exception; namely, patients who present an inverse temperature, i. e., higher in the morning than in the evening. The temperature of patients with tuberculosis is mostly affected by external surroundings. The heat of summer will sometimes send the temperature of such a one up one, two or three degrees.

In estimating the value of new methods of treatment reporting many recoveries, the element of time must be taken into consideration. Reports of recovery in six weeks may be thrown into the waste-basket; reports of patients remaining well six months need little attention; reports after one year or two years do not mean very much. I do not know just when to report cases of tuberculous as well. I used to say four or five years was a sufficient time, but one patient reported well at four years died four years later of pulmonary tuberculosis. I have one patient now who has been well for seventeen years—my first case—treated by compressed air, iodoform, iron, raw-meat diet, etc. This I may report now to illustrate one line of treatment which has been successful in a certain proportion of cases.

Finally, I would ask members to read old books as well as new journals. Rush, in his classic on the treatment of consumption, calls attention to the value of rest and the value of regulated exercise in a way that impressed me greatly. He says: "I desire to call attention to the care with which exercise should be applied in cases of consumption in order that I may in some measure atone for the evil done by neglect of these precautions in my early practice."

Beginning with the slightest exercise, conformable to the ability of the patients and the stage of the disease, he advises that it should be gradually increased until they could be kept out of doors on horse-back. The stages were slow carriage-riding, faster carriage-riding, walking, running, horse-back. Sydenham, before this, had called attention to horse-back exercise as one of the best means of treating phthisis; while Beddoes, more than a hundred years ago, gave the hygienic regimen which is now so enthusiastically exploited by those "who only heard it yesterday."

DR. S. A. KNOFF, New York—I did not come here to speak, but simply to listen and learn. However, I gladly avail myself of the privilege to say a few words on the invitation of your honored Chairman. In listening to the many interesting papers on tuberculosis I have indeed learned much. The most important thing which the papers and discussions show is the advance we have made in phthisiotherapy, so that we no longer treat consumption, but the consumptive, and we no longer believe in a specific climate for pulmonary invalids. My time is too limited to discuss all the interesting points in the various papers presented here this afternoon.

To Dr. Freudenthal's experience with the sweatshop tailors as a class much exposed to consumption, let me add that I have observed two other classes of laborers also very frequently attacked by this disease, namely, assorters of dirty linen in laundries and Italian rag-sorters. I have not seen any statistics to confirm my observations, but it would be interesting to know the real extent of the disease among these classes of laborers. That I may not be misunderstood, I wish to say that I refer to the rag sorters who live and work often in the damp, dark, crowded basements of tenements, and not to the rag-pickers, who work all day outdoors and are much less exposed to tuberculosis.

Concerning exercise and rest-cure, I would say that both are valuable in the treatment of the disease in question, but that neither should be carried to excess. To have a patient lie for from five to ten hours on his back on a reclining-chair, with almost no interruption, as is sometimes practiced in German sanatoria, even if out-of-doors, I consider dangerous to the patient, for it may produce a pulmonary hypostatic congestion. The rest-cure is most valuable when alternated with short walks and breathing exercises, providing the patient has little or no fever. A temperature of 100 F. and over is an indication for quiet, and the less active exercise the patient gets the better. When the fever has become chronic gentle massage is

well indicated, thus counteracting the disadvantages of a too-prolonged rest.

Dr. Mays' paper was certainly very interesting, but I fear we can not get the full value of his statistics as long as he does not tell us which of his patients had and which did not have the hygienic and dietetic treatment in addition to the nitrate of silver injections. We must admit that some patients' coughs improve and some get entirely well without any medicinal treatment. It may be interesting to recall in connection with this that Landonzy, of Paris, injects sterilized water into the supraclavicular region as cough remedy, and reports good success. My own favorite remedy for cough without expectoration is discipline. I tell the patient, in the language of my venerable teacher, Professor Dettweiler, that to cough in public simply because the throat tickles is impolite, like scratching the head in the presence of others when it itches; also that useless coughing only irritates the throat. At times I employ dry cupping to relieve cough and pleuritic pains. Of course, there are cases where the cough becomes distressing and where expectorants are necessary.

Before closing, may I come back to the cause of consumption among the toilers? Whatever we may do in the line of therapy or prevention by the sanatorium treatment, of which I am glad to say such favorable mention has been made by Dr. Rochester, let me tell you that as long as the law will permit tenements to exist, or to be constructed, which, owing to the lack of air and light and want of cleanliness constitute veritable hotbeds of tuberculosis, so long will sanatoria and special hospitals serve only as recipients of the supply of tuberculous patients daily created anew.

Before you leave this meeting let me beseech you to do your duty as physicians and citizens. You have a right to demand from your municipal government that the poor shall be better housed and shall no longer constitute a danger to their fellow-men. You have a right to demand that the hopeless, poor consumptive shall be isolated in a special hospital and the curable treated in a sanatorium near by. There is hardly a region in the United States where the climate would not permit a consumptive to be cured by the hygienic and dietetic treatment under careful medical supervision. It is no longer necessary to send our patients thousands of miles away. In our combat against this bitter foe of mankind we must not forget that consumption must be treated as much in its social as in its medical aspect.

DR. R. C. NEWTON, Montclair, N. J.—I wish to relate a case which has proved interesting to me, and I think supplements some of the remarks just made. About two months ago a young lady, of 19 or 20 years, was referred to me with the following history: She had suffered from loss of vigor and from depression of spirits for some months; during this period her menses had been entirely absent. She had lost flesh and had shown an afternoon temperature of 101 to 102 F. The temperature had been taken at variable intervals. But I have no doubt that she had experienced a daily rise during at least a considerable portion of the time mentioned. She had not suffered markedly from anorexia or constipation. Her elder sister hinted vaguely at some love affair, which might have affected her health.

When I first saw her she was pallid, had some acne and complained of being listless and tired. Her family history was strongly tuberculous, so far as her grandparents, uncles and aunts were concerned. The history of her immediate family is very good. She complained of more or less dry cough every morning, but no expectoration. A careful swabbing of her throat produced a little mucus, which was examined in vain for tubercle bacilli. The blood was examined microscopically and showed some leucocytosis, the polymorphonuclear leucocytes being well marked. The red cells were comparatively healthy, showing only a few endoglobular changes. There were no malarial plasmodia. A careful auscultation and percussion of the chest seemed to reveal slight congestion at the right apex; so a tentative diagnosis of incipient phthisis pulmonalis was made. I referred the patient to Dr. James, of New York City, for further examination and for advice as to whether she

should be sent to the Adirondack Sanatorium or not. Dr. James was disposed to regard the case as purely one of anemia and recommended large doses of tartrate of iron and potash, the patient to be carefully watched and her progress noted.

How this case may turn out is, of course, too early to assert. But there seems to be little doubt that a moderate diurnal fever may arise in chlorotic young girls from nutritional or metabolic irregularities and may subside without sequelæ, and very probably without treatment.

DR. C. P. AMBLER, Asheville, N. C.—Dr. Rochester is laboring under the impression that I am connected with a sanatorium in Asheville, and have read this paper as a report from such institution. Allow me to state that I have no connection with the sanatorium, and that these patients reported were not treated in a sanatorium. He probably has this impression from the fact that I was formerly connected with an institution in Asheville, but my connection with that institution was severed four years ago. Dr. Rochester has also stated that I make it appear that patients do not recover under creosote treatment. I did not say that. I stated that "where patients recovered under serotherapy they were not so liable to relapse as those treated by creosote and other allied drugs."

Dr. Knopf, in discussing my paper, has implied that I claim the results obtained were due entirely to medication. I distinctly stated that medication occupied third place. First, comes the hygienic supervision of the patient; second, good climate; third, medication. If all three of these methods can not be applied in a case, then the best thing the patient can do is to drop his doctor first, climate next, but under every circumstance hygienic supervision of the patient is absolutely necessary.

I am not here posing as a serum champion. I presented this report simply as a supplement to the report of the 106 cases presented last year, at which time my paper on sero-medication was read. I have shown that now, after the lapse of two years, 31 of the 106 cases were all back at their former employment.

DR. THOMAS J. MAYS, Philadelphia—I think it is of great importance that we look on a new therapeutic question with leniency, for under the most favorable circumstances it is difficult to establish the correctness of any theory, and nowhere does this obtain more firmly than in the field of therapeutics, where the factors on which the theory is founded are so inconstant and variable. Some of the objections raised by Dr. Vaughan are that nitrate of silver may produce argyria, and be provocative of phthisis. I do not believe, however, that the small doses of 1/10 or 1/8 grain given once a week have the least perceptible general effect on the patient, and if my recollection serves me right, it appears that much larger doses of this drug are required to be given continually and for a long time before the symptoms of argyria are produced. Nitrate of silver is frequently given in daily grain doses for months in intestinal diseases without deleterious effect. That nitrate of silver may predispose to phthisis I believe, but the same may be said of lead, mercury, arsenic and other drugs. This is only true, however, when administered in large and toxic doses, and for long periods, as happens in the arts and manufactures. Indeed, I believe that anything which disintegrates, or diminishes the integrity of, the nervous system, as the above-named agents do in maximum doses, will predispose to pulmonary consumption. In small doses they stimulate, while in large doses they intoxicate.

Dr. Rochester asks me to define the meaning of patients getting practically well. This is a hard question to answer. Precisely, I believe that no tuberculous or phthisical patient will be entirely free and secure from the development of the disease if he lives a thousand years. The same may be said of many of us who carry inherited burden of this disease in our bodies and who, under prolonged physical or mental oppression, show a proclivity to the disease by the symptoms of a light cough, loss of flesh, impairment of appetite, etc. Therefore, I believe that a person who has been subject to this disease and recovers is never free absolutely from a subsequent outbreak, although he may be said to be practically well, espe-

cially if he is capable of performing work for six months, a year, or longer, provided he maintains his appetite, flesh, etc. The same is, however, also true of perhaps all chronic diseases.

Dr. Cohen referred to healed lesions of early tuberculosis usually occurring in children. I think it is true in many instances that children show a proclivity toward cure. I think they make quicker recovery than adults. I think in the "Medical and Surgical History of the War of the Rebellion" many cases of healed cavities and cicatrized phthisical lesions were noted in the lungs of soldiers who had died of other causes than phthisis.

DR. A. F. LEMKE, Chicago—I have but a few words to say in closing. In reference to the remarks of Dr. Rochester, I would say that I think every one is aware of the fact that a great majority of cases which develop pneumothorax in connection with tuberculosis result fatally: I believe that I am perfectly safe in saying that 90 per cent. or more of these cases of pneumothorax result fatally. There are two reasons: 1. On account of the valve-like formation at the point of rupture, so much air is forced into the pleural cavity that the patient dies of shock. 2. A more or less virulent infection of the pleura. Dr. Rochester states that in his case there was no pus, but this does not indicate that there was no infection.

It seems to me that the only practical way of getting at the question of the treatment of tuberculosis—not including prophylaxis—and the only rational way, is to consider how tuberculosis heals in a natural way. The great majority of lesions of tuberculosis, particularly those occurring in the lungs, heal by the process of cicatrization. In my synopsis, with which you are supplied, I have made a note regarding the statistics referring to the curability of tuberculosis. Every one is aware that Harris, of England, reported that 38 per cent. of individuals who died of causes other than tuberculosis showed healed tuberculous lesions in the lungs.

Fibrosis is the all-important factor in the healing of tuberculosis of the lungs. That compression will favor fibrosis can no longer be disputed. Furthermore, the danger from tuberculosis lies in the dissemination of the disease throughout the lungs. There are certain well-organized avenues by which this dissemination takes place, and these avenues are the air-channels, the lymph-vessels, and the blood-vessels. When compression takes place it occludes the avenues of dissemination of the virus and limits the disease to the parts originally infected. In that way the process of fibrosis circumscribes and permeates the original focus, which is transformed into a scar, and these scars are simply masses of fibrous tissue, or scars enclosing calcareous or caseous material. Our work, which has been carried on extensively for two years, has convinced me that pulmonary compression has an important place in the treatment of tuberculosis and that is based on unimpeachable clinical and pathological evidence.

ANGINA EPIGLOTTIDEA ANTERIOR.

REPORT OF THREE CASES.*

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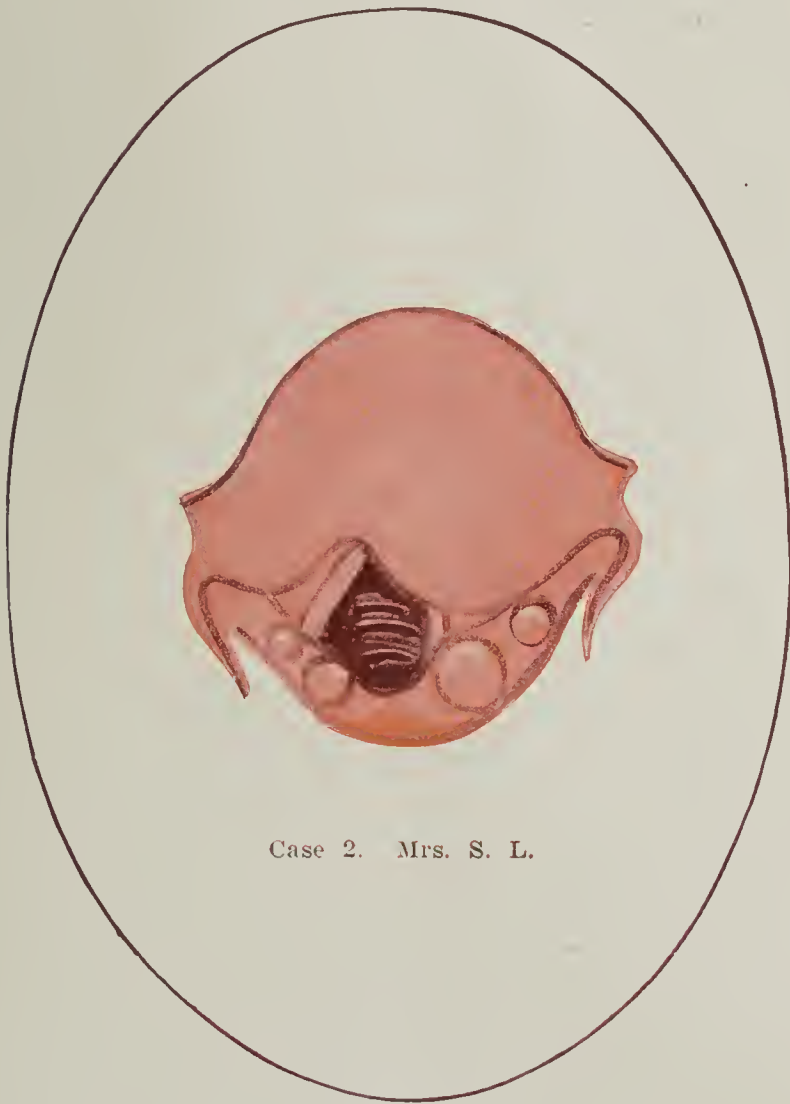
The name "angina epiglottidea anterior" was given to this interesting condition by Michel, in 1878. It is an inflammatory process involving the anterior surface of the epiglottis, as a rule confined to it, and accompanied by more or less edema, which is the characteristic feature of this affection. The larynx itself may be affected to a certain extent.

True angina epiglottidea anterior occurs quite often as a primary affection, and is a separate and distinct condition. This statement will, I think, be proved by

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Case 1. Mr. W. B.



Case 2. Mrs. S. L.

the report of the following cases. An inflammation of the anterior surface of the epiglottis, of course, sometimes follows an acute inflammation of the tonsils, acute pharyngitis and affections of the lingual tonsil. But in these cases the epiglottitis is merely a part of a general acute inflammation of the fauces, and must be distinguished from the primary or idiopathic epiglottitis. It must also be distinguished from a series of cases described by Arnold—30—in Burnett's "System of Diseases of the Nose, Throat and Ear," to which the term "acute miasmatic epiglottitis" was given. This will be fully considered after the report of cases.

CASE 1.—Mr. W. B., aged 36. Was called to see him on the second day of his illness. He had been perfectly well before present attack, and in fact had always enjoyed the best possible health. His physician had carefully examined his pharynx, but could find nothing to explain the symptoms. When seen by the writer, the patient was sitting in a chair, with an anxious countenance, and presented the appearance of being quite ill. He complained of a very severe sharp sticking pain about the base of the tongue when he attempted to swallow. Attempts to swallow even a few drops of water brought on severe attacks of choking and coughing; there was pain on attempting to move the tongue; severe headache, restlessness, no appetite; voice was clear and there was no particular difficulty in breathing. The nose, nasopharynx and pharynx presented a normal appearance. The pharyngeal mucous membrane was not reddened. When the larynx was examined, however, the cause of the trouble was at once apparent. The anterior surface of the epiglottis was intensely inflamed, of a uniform bright-red color, and edematous. (See illustration, Case 1.) The larynx itself was not involved. Temperature 101 F., pulse 110. The patient was given an iced ichthyol spray, .5 per cent. solution, which was used every 20 minutes, and an ice pack was applied around the neck. Cracked ice was also frequently dissolved on the tongue. The next day his condition had considerably improved, although there was still pain and difficulty in swallowing. The inflammation of the anterior surface of epiglottis had subsided considerably and he felt better generally. The iced ichthyol spray was continued at half-hour intervals during the day, and was used at longer intervals as the acute inflammation subsided. On the fifth day he was practically well, although the redness and swelling of the epiglottis did not entirely disappear for several days more. A culture was not taken from the epiglottis in this case. He had not inhaled any irritating vapors, nor had he been exposed to cold.

CASE 2.—Mrs. S. L., aged 40. Attack came on very suddenly, patient being in the best general health. She had not been exposed in any way and had not had a cold. Did not have a sore throat or even coryza before attack came on. First saw the patient morning of Jan. 4, 1900. Night before had been very restless and feverish, with headache, and great pain and choking when she attempted to swallow. She had also experienced much difficulty in breathing when lying down, and had to sit up in bed. On examination, nose and nasopharynx were normal and there was no evidence of any pharyngeal trouble. Mucous membrane of posterior wall, tonsils and faucial pillars was not reddened. Anterior surface of epiglottis was much reddened and so edematous that the laryngeal entrance was partly closed. Vocal cords were very slightly reddened and there was some swelling of the left aryepiglottic fold. (See illustration, Case 2.) Temperature 102 F., pulse 120. Calomel was given, and an iced ichthyol spray, .5 per cent. solution was used every 20 minutes, with an ice pack around the neck. Patient was also told to dissolve ice on the tongue frequently. Later in the day, as breathing was not much easier, I scarified freely, which gave her some relief. Next day patient was somewhat better and had not suffered as much during the night. Temperature 101.5. Epiglottis much less edematous and not as red. The laryngeal surface of the epiglottis was not swollen. The iced ichthyol spray was con-

tinued—every half-hour during the day—and, as in Case 1, at longer intervals for several succeeding days. She had been able to take absolutely no nourishment the first two days, but on the third could take some milk, as the difficulty in swallowing was much less. Epiglottis still very red, but edema both of that and left aryepiglottic fold had practically subsided. Temperature 101 F. third day. Her condition improved from day to day and in a week she was feeling almost as well as ever, although the epiglottis did not get back to the normal condition for several days more. Immediately after scarification, cultures were taken from the epiglottis and examined by Dr. A. W. Elting, of the Bender Laboratory. The cultures showed a mixed infection of the staphylococcus albus and the pneumococcus. In the one culture the pneumococcus predominated. Examinations of the urine and heart were negative in this case. Patient had had no infectious diseases of any kind previous to her attack, nor had she ever had malaria. Injuries to the throat and the inhalation of irritating vapors could also be excluded as possible etiologic factors.

CASE 3.—I am indebted for the following preliminary history of this case to Dr. MacFarlane, of Albany, by whom I was called in to examine the patient's throat. "Mr. D. F., aged 59, widower. Iron-worker; born in England. Has always been perfectly well except for injuries received in his work. About three weeks before present attack, had a general cold with muscular pains and headache. On May 11, 1900, he seemed perfectly well except for some slight pain in the back of the head. This became worse, and late in the night seemed to be more in the throat—left side. Tongue appeared to patient to be swollen and hard, and could be only slightly protruded. The jaws could not be fully separated and there was a marked sensation of choking, although at this time patient was able to swallow. Absolutely nothing abnormal was seen by ordinary pharyngeal examination. May 12. Throat more sore. Speech natural and voice clear. Tongue could not be well protruded. Temperature 102, pulse 96."

On May 13, the author was sent for. Patient's condition quite serious. Had been unable to sleep the night before and complained of severe pain around base of tongue. He could swallow absolutely nothing, as even the attempt to swallow a few drops of water brought on the most violent paroxysms of choking and coughing. Temperature, 102. On inspection of the throat, the nasopharynx and pharynx were found to be absolutely normal. There was not the slightest evidence of inflammation. When laryngoscope was used, however, the epiglottis was seen to be enormously swollen and of a uniform redness. The left aryepiglottic fold was somewhat edematous with also some swelling of the right. An iced ichthyol spray .5 per cent solution, was used every 20 minutes, and an ice pack round the neck. Calomel and salines had also been administered.

May 14. Patient not much better. Pain in throat somewhat better but could still not swallow anything. Epiglottis was scarified, some of the serous effusion from the deeper tissues obtained, and four cultures taken.

May 15. Patient had had much better night and could begin to take a little cold milk. Edema of epiglottis much less. Temperature 101. The iced spray was continued at longer intervals. His condition improved from day to day and on May 18, a week after the onset of the attack, the epiglottis was not longer edematous, but still reddened and slightly thickened. The cervical lymphatic glands on both sides of the neck as well as the submaxillary glands had become swollen quite suddenly, and were tender to the touch. He made a good recovery, but had rather a slow convalescence. The cultures were examined by Dr. George Blumer, of the Bender Laboratory, and showed a mixed infection of the streptococcus aureus and pneumococcus. There were numerous colonies, and about an equal number of both organisms.

Etiology.—In considering the etiology of this rare affection, several important facts must first be mentioned. It must be remembered that one of the main reasons why an edematous condition of the anterior surface

of the epiglottis does not involve the larynx itself, is, that the anatomical structure of the parts makes an extension of the edematous process very improbable. In other words it depends on the nature of the submucous cellular tissue. Hayek,²³ by his valuable experiments, has beautifully demonstrated this. The submucosa of the interior surface is abundant and the mucosa not tightly adherent, while on the laryngeal surface the mucous membrane is tightly adherent to the cartilage, and, with the exception of in the region of the nodulus, there is no loose submucous tissue. Hence, in cases of true angina epiglottidea, only the anterior surface of the epiglottis is involved. But, although the edema is usually limited strictly to the anterior surface, it may extend, when the edema is very great, by way of the thin submucous tissue of the pharyngo-epiglottic ligament, to the aryepiglottic folds. In mild cases, however, the pharyngo-epiglottic ligament is an effectual barrier, separating posteriorly, the cellular tissue of the epiglottis from that of the sinus pyriformis and aryepiglottic fold, and, as a rule, preventing the extension of the edema from the anterior surface. The laryngeal surface is not involved in cases of pure unmixed epiglottidea anterior; so that cases of acute miasmatic epiglottitis—as the six described by Arnold—must not be confused with the condition under discussion. Their etiology is also different. These cases are probably due to some vegetable or chemical poison present in the exhalations of marshes. This was so in Arnold's cases. In all his patients, young male adults, the attack came on after they had been punting for ducks on mud flats off the California coast. In all there was severe inflammation of the epiglottis—anterior surface—but swelling of the laryngeal surface as well, and in one, glottis edema was a complication necessitating tracheotomy. In one case too, there was edema of the uvula. For the sake of convenience in considering the etiology, angina epiglottidea anterior will be spoken of as acute epiglottitis or simply epiglottitis, which are really very good names for it, because, as before mentioned, an inflammatory process beginning on the anterior surface of the epiglottis, can not easily be accounted anything but a case of angina epiglottidea anterior, on account of the anatomical reasons already given. There is, of course, no doubt that an acute edematous epiglottitis may be secondary to inflammation of the tonsils, anterior faucial pillars or inflammation of the lingual tonsil.

Injury to the lingual tonsil or epiglottis itself, caused by swallowing any sharp or irritating substances or the inhalation of pungent chemical vapors, might also cause it. The swallowing of raw spirits, or very hot or sharply spiced drinks, or exposure to cold are also causes to be thought of. It is also a possible complication of Ludwig's angina or Massei's "acute infectious follicular glossitis." It may be part of a general edema of the fauces resulting from large doses of potassium iodid—as in several cases observed by the author. It may occur during the course of certain infectious diseases, such as measles, variola, scarlet fever, erysipelas, septicemia, pyemia, etc. Malaria might also be an etiologic factor. It may occur very suddenly with perichondritis, carcinoma or ulcerative processes due to syphilis and tuberculosis. Angioneurotic edema need not be considered, as the symptoms of acute epiglottitis are those of an acute infectious disorder, and fever is a constant symptom. In order to consider the etiology of primary epiglottitis, it will be necessary to review briefly the cases reported by different writers. In the

opinion of the author, anterior epiglottitis is very often primary, and is an acute infectious process. A study of the following cases—which are nearly all the authentic cases on record—including the author's cases as well, will show that this must have been the case in the majority of the reported cases, although in most of them, there was no mention of a bacteriological examination. First, however, an error must be corrected. Meyjes,³⁴ who has reported an interesting case, makes the statement that Michel, of Cologne, was the first to report cases of this kind. He was probably the first to give the affection its present name, "angina epiglottidea anterior," but his cases are certainly not the first on record. Marsh⁴ reported three cases of acute inflammation of the epiglottis in which the inflammation was undoubtedly confined to its lingual surface, and although he did not give it the name under which we describe the condition to-day, he nevertheless gave a most admirable description, which in all essential details, corresponds almost exactly with the disease as we recognize it. In his cases the attacks came on suddenly. Pharynx in all was entirely normal, while the epiglottis was greatly reddened and edematous. The epiglottis could be easily seen in the one case when the tongue was depressed. Patients were feverish. His accurate description and recognition of the condition are all the more remarkable when we consider that it was long before laryngology became an exact science. Long before this, however, in 1791, Mainwaring¹ described a case which is one of the first on record. A man, 40 years old, after exposure, was suddenly attacked at night with violent pain in the throat and complete inability to swallow. The pharynx was entirely normal. The epiglottis was greatly swollen and edematous.

Three cases were reported by Sir Everhard Home,² in 1808. These cases too came on suddenly. The epiglottis was greatly swollen, while the tonsils and surrounding parts were practically normal. Burne's³ two cases were probably also of the same nature, one having a fatal ending. The pharynx was unaffected. Kesteven⁷ reported two cases of epiglottitis, in 1849, and claimed that the disease was not met with except in connection with, or as a result of, inflammation of the fauces, tonsils or larynx. One case has been reported by Windsor¹¹ and four by Larsen.⁸ Three of Larsen's cases were acute and one chronic. Two of the acute cases were primary and the chronic case was of syphilitic origin. This subject has also been alluded to by Wunderlich⁹—1856. A case that had a sudden and fatal termination has been reported by Tomkins⁵—1841. After death, the epiglottis was found to be greatly swollen. Other cases have been reported by Louis,⁶ and Gibbs.¹⁰ Another case that ended in death has been reported by Crisp.¹² A boy, 8 years old, after having been ill three or four days, died suddenly, apparently of suffocation. The autopsy revealed a swelling of the epiglottis, which was also very red. No other lesion was discernible in any part. Peculiarities of this case were the sudden invasion of the symptoms and the circumscribed form of the inflammation, which was confined to the epiglottis. Author considered death to be due to spasm of the glottis. No irritant had been taken. Fredet¹⁶ has reported the case of a young man of 20. He returned home one night after a debauch and suddenly developed great difficulty in breathing. Symptoms rapidly increased in severity and suffocation ensued in a short time. Autopsy showed great edema of the epiglottis and aryepiglottic folds. When superior part of epiglottis was cut into, a large amount of

pus was evacuated. There was no fracture nor necrosis of the cartilage. The suppurative epiglottitis was primary, followed by the edema, and glottis edema that caused death. Now, when we come to the more recently reported cases we find also a great similarity in nearly all, in the rapid development of the symptoms, and the almost constant presence of fever. This was particularly the case in the second one, that of a medical man, aged 38, reported by Milligan.³⁵ This case was considered to be of septic origin, as the drains in his house were in bad condition. The inflammation of the anterior surface of the epiglottis was probably not primary in Milligan's two cases, as in both the faucial pillars were congested, which is not typical of acute anterior epiglottitis.

In Meyjes' case the anterior surface of the epiglottis was greatly swollen and there was some redness of the right palatine arch. This case is a very good example of the disease. Michel¹⁴ did not find the pharynx particularly affected in the six cases reported by him. Two of his cases were associated with swelling of the aryepiglottic folds; in one there was inflammation of a vocal cord, and two were complicated with Ludwig's angina. Moll¹⁹ has reported a characteristic case in which there was redness and swelling of the anterior surface of the epiglottis, dysphagia and fever. Pel¹³ has called attention to the condition, and also Wessler.¹⁴ Ruault²⁰ has recognized the existence of a primary circumscribed edema of the epiglottis. In some cases observed by Gottstein²² no distinct cause could be ascertained. He questions whether edema of the anterior surface of the epiglottis is ever primary. Schmidt was³¹ and still is³² of the opinion that it is practically always secondary to injury or inflammation of the lingual tonsil. Kyle³⁶ states that "acute epiglottitis is not a separate condition." Störk,¹⁸ on the other hand, twenty years ago recognized the fact that an "idiopathic epiglottitis" does occur under certain conditions. It is surprising that most of the prominent text-books on the nose and throat do not mention this at all or settle the entire question of the etiology of epiglottitis with a few lines to the effect that it is very rarely if ever primary. Browne³³ makes no mention of angina epiglottidea anterior as a separate condition, but believes that acute edematous laryngitis is quite frequently primary. As acute epiglottitis must be considered as perhaps a form of laryngeal edema, and has some of the same etiologic factors, there is no reason why it may not very often occur as a primary condition. Moure¹⁵ too has mentioned the occurrence of primary edema. Out of 6062 autopsies held at the Charité, Berlin, 33 cases of edema of the larynx were found, 10 of which were primary. Bayliss²⁹ gives particular importance to malaria as an etiological factor in acute edema. Kuttner,²⁶ Semon and Hajek have done much to clear up the vexed question of the etiology of laryngeal edema in general, although both Kuttner and Semon are of the opinion that edema should not always be classified as a distinct condition.

Semon²⁷ claims that many of these conditions that have been classified in the past as separate and distinct pathological conditions, have a pathological identity. I certainly believe that the whole chapter of laryngeal edema will have to be rewritten some day. To dwell again briefly on my own three cases, we find that in each the attack came on very suddenly, with fairly high temperature, and symptoms of an acute infectious process. This is the evidence we gather too from the other cases that have already been discussed. While this is

a most important point it still does not clear up the etiology, as in most of the later cases no mention was made of bacteriological examinations. And while it is true that in a very careful search of the literature absolutely nothing was found about the bacteriology, I believe that the cultures taken in two of my cases will help to clear up the etiology. We found that the result of the culture examinations was a mixed infection in both cases. In the one a staphylococcus and pneumococcus, and in the other a streptococcus and pneumococcus infection. It will be said at once that this does not prove anything, that all these organisms, particularly the pneumococcus, are found in the mouth quite frequently, both under normal conditions, according to Park,²⁴ who has often found the streptococcus, and also in cases of simple angina—Veillou.²⁵ This is, of course, well known, but one important fact must not be overlooked: The cultures taken in cases of simple acute angina, in which the streptococcus is nearly always found, are from surface swabbings. The swab is usually simply brushed over the surface of the mucous membrane. In my own cases, the cultures were taken immediately after scarifications—after the infiltrated submucosa had been cut into—and some of the serous effusion obtained from the deeper tissues. Then, too, the colonies were very numerous, and there were large numbers of the organisms. This gives the question quite a different aspect, and so far as these cases are concerned, they must be regarded as examples of "acute primary infectious epiglottitis." This is a reasonable deduction, and from a study of some of the other recorded cases, I believe we may come to the conclusion, with a fair degree of certainty, that the majority of them were also cases of the same nature, that is, acute infectious epiglottitis. It is, of course, a question, in the writer's cases, as to which organism was mainly responsible for the edema. It is known that the pneumococcus, when some of the lower animals are inoculated with it, will sometimes produce local edema. Welch,³⁷ in his interesting article on the "micrococcus lanceolatus," has brought this out. He quotes Foa, who distinguished a special variety of this organism. His pneumococcus he called diplococcus lanceolatus of the edematogenic variety. This edematogenic variety of the pneumococcus often produces, after subcutaneous inoculation in the subcutaneous tissue of some of the lower animals, widely spreading or local edema. Welch has also obtained cultures, which when injected subcutaneously, produced uniformly extensive local subcutaneous edema. So it is quite possible that in the two cases, the pneumococcus had something to do with the production of the edema. At any rate, it is quite clear that the edema was an acute infectious one, and that it was primary. In a case of primary edema of the epiglottis and larynx, reported by Levy and Laurens,²⁸ the edema was also considered to be of an infectious nature.

Diagnosis.—The diagnosis has been sufficiently discussed in considering the etiology, so that it need only be said that the condition can not be well mistaken for anything else. The uniform redness and swelling of the anterior surface of the epiglottis is quite characteristic. The author would enter a most earnest plea for the employment of the laryngoscope in all cases where patients complain of severe pain in the throat and inability to swallow, with a normal pharynx. It is, of course, not necessary to say this to a society of throat specialists, and it is only meant for the general practitioner. If the affection is not recognized early the

patient's condition may become very grave and serious complications arise.

Treatment.—The treatment has been largely considered in the report of my cases. I would emphasize, however, the value of early scarifications. I thoroughly agree with Meyjes, in regard to the value of an iced ichthyol spray. It certainly relieves the acute pain and reduces the inflammation very promptly. If for any reason ice, or iced sprays can not be used, steam inhalations—medicated—would be of service.

CONCLUSIONS.

1. Angina epiglottidea anterior is very often primary and is an acute infectious process.

2. The term "acute infectious epiglottitis" is suggested for this condition as being more scientific, and more fully explaining its probable nature. It is, of course, understood that the inflammation and edema involve only the anterior surface of the epiglottis.

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DISCUSSION.

DR. EMIL MAYER, New York City—I believe these conditions are really not so rare. I have seen cases and have scarified them with satisfactory results. They probably occur much more frequently than the presentation the Doctor has made would indicate.

DR. E. T. DICKERMAN, Chicago—I remember two cases that may be of some interest in this connection, in which the inflammation, swelling and edema were limited to the anterior

surface of the epiglottis. Both cases occurred in men who had been on prolonged sprees. It seemed to me that the edema was due entirely to the retention of imbibed liquids.

DR. JOHN F. CULP, Harrisburg, Pa.—I am inclined to think that these cases, as Dr. Mayer says, are not very infrequent. Two years ago, while working in the Vienna Polyelinie, I had a case referred to me. The man had been drinking and I found an inflammation of the epiglottis, with much edema of the anterior surface. I made an attempt to use scarification, but, probably due to my own unskilfulness, I was not successful, and I made an application of a 3 per cent. solution of nitrate of silver, brushing over the epiglottis very lightly. Knowing the prevalence of syphilis in these clinics, I thought I would give him potassium iodid. I prescribed 30 grains, three times a day, and advised that ice should be taken into the mouth as often as possible. I know he took the potassium iodid. Three days afterward he came back; he was still pretty drunk, but the inflammation of the epiglottis had almost disappeared.

DR. JOHN N. MACKENZIE, Baltimore—I do not see how these cases differ from ordinary edema of the larynx. The causes of this condition we all know are as multitudinous as the stars. The result of the microscopical examination will depend entirely on the primary cause of infection and will differ very greatly according to that cause. This edematous condition of the epiglottis has been familiar almost in all times. The writers, long prior to the discovery of the laryngoscope, described hydatids of the larynx, especially affecting the epiglottis, and these hydatid formations, so-called hydatid tumors of the larynx, have been shown to be nothing but cases of edema of the epiglottis. Edema is very common in this situation on account of the loose anatomical structure of the parts. These growths attracted the attention chiefly of the writers of the early part of the century in France. Since that time the literature has been enormous. I think, with one of the speakers, that the cases are often due to too much whisky; the conditions are such then as to readily produce edema of the larynx. A famous case of which we all know is that of Washington.

DR. CORWIN—I wish to call attention to a case in which edema limited, so far as the larynx goes, to the anterior face of the epiglottis, occurred very recently in my practice. There was pharyngitis and stomatitis, and the condition was attended with considerable fever. There was some difficulty in speaking, owing to the swollen condition of the tongue. But the prominent condition which the patient complained of, and which I think was referable to the condition of the epiglottis, was that he was unable to swallow any food or liquid practically for several days. This might be interesting in connection with the subject presented.

DR. JOHN O. ROE, Rochester, N. Y.—As Dr. Mackenzie has clearly stated edema of the epiglottis may arise from an infinite variety of causes. A number of cases have come under my observation. In some that I recall, the condition followed the excessive use of alcohol, in some cases it was associated with diabetes, and in others it followed directly on acute inflammation of the fauces, caused by taking cold. I have observed it in many cases in conjunction with inflammation of the lingual tonsil. Many cases of edema of the epiglottis doubtless occur unobserved, and on careful examination of the epiglottis we will find some edema of the epiglottis in many cases of quinsy. We often have a follicular inflammation of the lingual tonsil at the same time that we have a follicular inflammation of the faucial tonsil, and the reason why it may be considered an infectious trouble is because of the readiness with which the tonsils form a feeding-ground or place for germs to propagate. If a bacteriological examination were made in the majority of these cases, I have no doubt we would find it a germ infection. The diagnosis is readily made with the laryngoscope; but in many cases by depressing the tongue with a curved or Kirstein depressor the epiglottis is plainly seen. The treatment of this condition is that employed in cases of edema of the larynx of an infectious nature, with special reference to the specific cause of the infection.

DR. C. F. THEISEN—In closing the discussion I would say

that I am sorry most of the gentlemen seem to have missed one of the main points in my paper. They have been discussing general laryngeal edema and secondary epiglottitis, which is often merely part of a general inflammation of the fauces. These are not identical conditions with the one I have attempted to describe. The point I intended to bring out in my paper was that the cases I have reported were those of acute primary epiglottitis or angina epiglottidea anterior, with no involvement of the pharynx; that in secondary epiglottitis there is, as a rule, a general acute angina. Dr. Mackenzie said in his discussion that the "condition had been known almost for all time." This may be true to a certain extent, although, of course, an absolutely accurate diagnosis could not be made in these cases before the discovery of the laryngoscope. I did not make any particular claim for its rarity, although I will say again that primary epiglottitis is rare. A good many of the cases reported by the earlier French, German and English writers were probably cases of secondary epiglottitis, or of edematous laryngitis. Dr. Mackenzie also spoke of Washington's case. I did not mention it because it does not strictly belong in a paper with this title, and then, too, it has been a disputed point what Washington died of. At the time of his death the cause was given as quinsy, and this is mentioned by Henry Cabot Lodge in "American Statesmen." The consensus of opinion seems to be that his death was due to acute edematous laryngitis. This is mentioned by Marsh in his article, and also by Lodge.

ATHREPSIA INFANTUM—MARASMUS. OR WASTING DISEASE—ATROPHY—MAL- ASSIMILATION OF FOOD.

ITS CAUSE AND TREATMENT—PROPER INFANT-FEEDING.*

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If infants, when a few months old, suffer with vomiting or diarrhea, and this condition is allowed to become chronic, then colic and flatulence associated with constipation supervene, and result in a gastrointestinal catarrh. Neglect of this condition means the development of the condition known as athrepsia. The infant does not thrive, commences to waste, and unless we realize the condition and give the baby proper treatment, such a child will die of exhaustion from inanition. When these cases linger for months they develop rickets. Recovery without treatment is impossible. Parrott was the first to define this disease, and classified it into three stages:

1. The infant suffers from a simple diarrhea or looseness of the bowels. The stools, instead of being bright yellow, and homogeneous, are liquid, curdy, often of a green color, and contain an excessive quantity of mucus. The abdomen is distended with gas and remains constantly in this condition; the tongue is coated and the patches of a stomatitis appear in the mouth. The infant is restless, constantly whining, and will not sleep at night. The milk being retained, curdles; the tissues become flabby, and wasting commences.

2. The symptoms are intensified and the characteristic wasting becomes manifest. The stools for the most part are loose and frequent, and consist of undigested food; they are often pale and putty-like, with a peculiar odor. At other times they are of a dark brown, from the presence of altered bile. The infant is most voracious, liquid food does not seem to satisfy it, and by the mistaken kindness of its friends it is fed with some thick food, like soft bread, a diet which has the

great advantage in their eyes of keeping it quiet for a longer time than liquid food or diluted milk. At times it can hardly be made to sleep, or only dozes for a short time, unless under the influence of a soothing-syrup applied by its nurse. The mouth becomes the seat of a parasitic stomatitis; the skin is harsh and dry; small boils or a lichenous rash makes its appearance. The buttocks and genitals are raw and excoriated. Its temperature is below normal; the feet and hands are congested, the face has a pallid, earthy tint, and a sickly lactic-acid smell is given out from the body, especially the abdomen. The wasting is extreme, the face being shriveled, the skin wrinkled and hanging in folds about the thighs and arms.

3. The third stage brings the child into a moribund state. It is too feeble to cry, becomes heavy and drowsy, taking little notice of anything. Death then ensues, probably preceded by a muscular twitching, strabismus or general . . .

Henoch does not like the term "athrepsia," introduced by Parrott, but prefers "atrophy." The first symptom that this author noticed is that the child's weight does not increase, and hence he emphasizes the importance of frequently weighing children. He regards the weight taken once a week as sufficient, so that it can be a determining factor as to the progress made by an infant. Henoch says that at the end of the first month the weight is increased one-third, at the end of the fifth month it is double, and at the end of the twelfth month it should be three times the weight at birth. Weaning, dentition and all other pathological conditions interfere with a proper increase in weight.

By far the greatest number of cases of athrepsia are found in bottle-fed children. There are, however, a great many cases to be seen among breast-fed children. We can then be positive that the breast milk is lacking in some of its chemical constituents, and frequently we find that it is the proteids that are deficient in quantity. If, therefore, we meet with a case of athrepsia in a breast-fed child the thing to do is to have a chemical examination made of the breast milk. If the latter is found deficient in quality, then we must withdraw it.

A great many children will be found to thrive at once after having been removed from the breasts and changed to some artificial mode of feeding, whereas the reverse is also true. If, therefore, we wish to do away with its own mother's milk, for some positive reason, it is advisable to secure a wet nurse having a child as near the age of the one she is to suckle as possible. The hereditary history of a nurse is of great importance, as is also the quantity and quality of her milk, which should be thoroughly examined before she is given this foster child.

The treatment of this disease is one which resolves itself into removing the cause, and if bad hygienic surroundings, as impure air, crowded apartments and improper diet are the cause, then these must be remedied at once. Medication amounts to nothing in the treatment of this disease.

With hand-fed or bottle-fed children we can easily regulate the condition of their bowels and also easily regulate the quality and quantity of the food given them. The blandest and least irritating food must be selected, while frequent weighing of the infants should be resorted to in order to ascertain the progress that is being made.

Where there is much diarrhea, milk must be used sparingly or altogether omitted for a while, as the hard

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curds formed in the stomach are beyond the weak digestive powers of the weakened stomach and intestines. Small quantities of whey and barley-water, white of egg and barley-water, or the juice of a rare chop or steak may be given at short intervals during the day and night.

As soon as the child improves in respect to the diarrhea, milk in some form may be allowed. Peptonized milk is often of much value in these diseases when made by mixing three ounces of cold milk, adding two teaspoonfuls of cream, with one-half of a peptonizing powder to sweeten it, and giving it to the infant after it has stood for fifteen minutes.

The cream mixtures are often of much service, such as one ounce of cream, three ounces barley-water, one teaspoonful of sugar. Every care must be taken that the feeding-bottle is clean, and the food prepared with the most scrupulous neatness.

The great difference between cow's milk and human milk is the fact that human milk is persistently alkaline, whereas cow's milk is usually acid; that there is more nitrogenous material in cow's milk; that there is a much smaller percentage of milk-sugar in cow's milk, and finally, that the nitrogenous constituents of the milk of the cow are affected by rennet in a manner different from those of mother's milk.

In order, therefore, to feed cow's milk to infants, these differences must be corrected, and the correction of them causes further differences, which have in turn also to be corrected; the process, therefore, is a complicated one.

Before considering the means adopted to alter the chemical composition of cow's milk, it would be proper to state that there is a common but false belief that milk from one cow is the best for infants' use. The principle that underlies this belief is perfectly right. It is, that it is desirable to obtain milk of uniform composition, but it has been found experimentally that milk of the same cow varies in its composition during twenty-four hours, and that it is in reality more likely that a mixture of the milk from several cows will show a more constant analytic result than that from one single animal. Jacobi and others have stated that the chances of infection from tuberculosis through the medium of milk can only be lessened by feeding from a large number of cows.

In order to render the character of cows' milk similar to that of human milk, it is necessary to reduce the amount of casein in cows' milk. This is usually done by treating the milk with water, thus diluting it; but sometimes lime-water is used, for the reason to be stated immediately.

Second, the proportion of fat in cows' milk is less than in human milk, and it has been still further reduced by dilution. Therefore, it is necessary to add to it fat in some form or other, and this is commonly done by adding cream.

Thirdly, sugar must be added to cows' milk in order to bring the lactose up to the proper level. It has been held by some that it is necessary to use milk-sugar for this purpose, but there seems to be little doubt that cane-sugar will serve the purpose quite well, or even better.

In the fourth place, according to Jacobi, it is necessary to prevent as far as possible the great coagulating effect that the ferment of the infants' gastric juice has on the casein of cows' milk, and this is satisfactorily accomplished by adding an alkali, such as lime-water, or some mucilaginous material, such as barley water.

In this way the casein curd is rendered loose and flocculent and more like that of human milk.

Dr. Meigs, of Philadelphia, advises the preparation of the following mixture: Cream, 2 oz.; milk, 1 oz.; lime-water, 2 oz.; sugar-water, 3 oz.; the latter is made by dissolving about $2\frac{1}{4}$ oz. of milk-sugar in a pint of water.

Condensed cows' milk is simply cows' milk that has been evaporated to one-fourth of its volume and sterilized, nothing at all being added to it. Then again, there is a form in which the milk is not only condensed, but has also the addition made to it of about 50 per cent. of cane-sugar. When it is also borne in mind that the composition of condensed milk varies with the season of the year, great fluctuations must occur in its chemical constitution.

Condensed milk must also be diluted with water before it is fit for use, and this dilution may entirely disarrange the proportion of the component parts of the fluid. For this reason it is found that even where infants appear to thrive on condensed milk, their apparent good health is due to an excessive deposit of fat, and not to a sufficient supply of albuminoids; and they are in the long run more prone to disease than babies fed on the breast, or on cows' milk properly prepared.

The above remarks apply with less force to that variety of condensed milk which is made from sterilized fluid and then sweetened, but even this preparation requires for digestibility to be diluted some ten times, and this reduces its nutritive value to a dangerous degree.

At times we must resort to various methods of feeding, until we find the proper method upon which a baby will thrive, and so it is that we have: 1, humanized milk; 2, sterilized milk; 3, pasteurized milk; 4, peptonized milk.

1. Humanized milk is simply cows' milk diluted with a certain amount of whey and with some cream. It is prepared in the following way: A pint of milk is set aside in a cool place until the cream rises to the surface. This is skimmed off and kept, and to the milk remaining is added enough rennet to curdle it thoroughly. The whey is strained off from the curd and added with the cream, previously separated, to a pint of fresh cows' milk, and the mixture is known as humanized milk. It is distinctly more digestible than ordinary diluted milk, and often agrees well with young infants, being given without any further dilution, in quantities suitable to the age of the infant. It may be employed exclusively during the first three months of the infant's life, and after that age may be used in combination with some farinaceous food.

2. Sterilized milk is that in which all germs tending to decompose it have been destroyed by exposure to a boiling heat at a temperature of 212 F. for a short period of time, from 15 to 45 minutes. Fresh cows' milk always contains impurities received from the cow or the atmosphere or from the vessels in which it is contained, though much care may have been taken to maintain absolute cleanliness. The milk is usually exposed to the action of steam or in a boiling heat from 5 to 45 minutes, and will keep about 24 hours. A fresh bottle must always be opened for each meal; if anything is left in the bottle after the baby has finished, it must be thrown out.

3. Pasteurized milk is simply steamed at a temperature of 167 to 170, for about 30 minutes, in other words, it is really sterilized milk at a lower temperature.

4. Peptonized milk, the fourth substitute for ordin-

any diluted milk, is as simple a preparation as sterilized milk. It consists of milk which has previously been partially digested by the addition of some preparation of a digestive ferment, among the best known of which are Benger's liquor pancreaticus, Fairchild's peptonizing powders, etc. The milk should be diluted to some extent before being peptonized; but it is not necessary to dilute to such an extent as has been recommended for ordinary cows' milk. Generally, even for an infant two or three days old, the addition of an even quantity of barley water will be sufficient, and when a baby is two or three months old, a dilution of two parts of milk, with one part of water, will be digested with comfort.

In France there is a law forbidding any one to give solid food of any kind to infants under a year without the written authority of a qualified medical man.

Jacobi says, whatever I have here brought forward, is certainly not to disparage the boiling of the milk; it is to prove the danger of relying on a single preventive when the causes of intestinal disorders are so many. It is true, however, that the large majority of the latter depends on causes which may be met by sterilization; but not by sterilization only; also by pasteurization, that is, heating the milk to 70 C., or 165 F., and keeping it at that uniform temperature for 30 minutes, a procedure which destroys the same germs that are killed by a more elevated temperature, without much change in flavor and taste.

One of the questions connected with the employment of sterilized or pasteurized milk is this, whether the milk to be used for a child ought to be prepared at home, or whether the supply may be procured from an establishment where large quantities of milk believed to become immutable by sterilization for an indefinite period, are kept for sale. In regard to this problem Flugge plainly expresses his regrets that "we have allowed ourselves to be guided by people who are neither hygienists nor physicians, but chemists, farmers or apothecaries, and whose actions have been based on three false beliefs. Of these the first is that boiling for three-quarters of an hour destroys germs; the second that whatever bacteria remain undestroyed are innocuous, and the third, that proliferating bacteria can always be recognized by symptoms of decomposition." Nothing is more erroneous. Soxhlet himself, the German originator of sterilization, knew at an early time, that the fermenting process is now and then but partially interrupted by boiling, that butyric acid may be found in place of lactic acid, that a strong evolution of gas may be caused after such boiling, and that such milk may give rise to flatulency. Aye, milk which happens to contain the resistant spores of bacteria becomes a better breeding-ground for them by the very elimination of lactic acid, and the longer such sterilized milk is preserved and offered for sale, the worse is its condition. It may be true that these conditions are not met with very frequently, but an occasional single death in a family caused by poisonous milk will be more than enough. Therefore, the daily home sterilization is by far preferable to the risky purchase from wholesale manufacturers who can not guarantee, because in the nature of things they can not know the condition of their wares.

Another alteration of a less dangerous character, but far from being desirable, is the separation of cream from sterilized milk which is preserved for sale. Renk¹ found it to take place to a slight extent during the very first weeks, but later to such a degree that 43.5 per cent.

of all the cream contained in the milk was eliminated.

Sterilization has been claimed to be no unmixed boon, because of its changing the chemical constitution of milk. Still, the opinions on that subject vary to a great extent, the occurrence of changes being both asserted and denied by apparently competent judges. But what I have said a hundred times is still true and borne out by facts, viz. that no matter how beneficial boiling, or sterilization, or pasteurization may be, they can not transform cow's milk into woman's milk, and that it is a mistake to believe that the former, by mere sterilization, is a full substitute for the latter. It is true, that when we can not have woman's milk we can not do without cow's milk. There is no alleged substitute that can be had with equal facility or in sufficient quantity. But after all it is not woman's milk. Babies may not succumb from using it, and may seldom appear to suffer from it; indeed, they will mostly appear to thrive on it, but it is a makeshift after all, and requires modifications. Hammarsten was the first to prove the chemical difference between the casein of cow's and woman's milk. Whatever was known on that subject at that time I collated in Gerhard's "Handb. d. Kind," vol. i, 1875, (2 ed. 1882). But lately Wroblewski demonstrated the difference in solubility of the two milks. Woman's casein retains, during pepsin digestion, its nuclein—proteid rich in phosphorus—in solution, it is fully digested; in cow's casein the nuclein is not fully digested, a "paranuclein" is deposited undissolved and undigested.

Henry A. Bunker, in an article on the modification of cows' milk, says that the difficulty of the digestion of the casein of cows' milk in some children has seemed to be the resistance to the infant's digestive powers, even after the partial hydration supposed to be brought about by hydrochloric acid and heat. In all such cases the fecal evacuations were white, hard and dry, such as so often occur on a plain sterilized milk diet. In many of these cases, these dry, scybalous masses would frequently set up mucous diarrhea giving rise to severe colicky pains.

The only evidence of partial hydration by the acid and heat would seem to be the fact of increased nutrition in spite of these difficulties. Professor Chittenden² maintains and proves, by a beautiful laboratory experiment, that the products of gastric digestion have the power of combining with more hydrochloric acid than the original proteid, for as soon as proteolysis commences, the products so formed begin to show their greater affinity for acid by withdrawing acid from its combination with the native proteid, a supposition which is necessary to account for even the starting of the proteolytic process. Further, it is evident that proteoses and peptones combine with a far larger equivalent of acid than the native proteid-albumin, in the experiment, is capable of. This, doubtless, depends upon the cleavage of the large proteid molecule into a number of smaller or simpler molecules, each of the latter, perhaps, combining with a like number of hydrochloric-acid molecules. However this may be, it is evident that the products of pepsin-proteolysis combine with a larger amount of hydrochloric acid than the mother proteid, and that the transformation of the latter, at least under the conditions of the experiment, is a slow and gradual process.

It will be remembered that the original method proposed the hydration of the milk-proteids by hydrochloric acid and a rather prolonged boiling. Twenty drops of a 10 per cent. hydrochloric-acid solution were

1. Arch. f. Hyg., xvii.

2. Cartwright Lectures on Digestive Proteolysis, 1894.

added to one pint of water and one quart of milk, and this mixture was to be kept at boiling temperature for about twenty minutes. The addition of a larger amount of the acid, unless the milk was quite fresh, was found to result quite frequently in curdling the milk. It was also found that the acid so added, up to the point of saturation or breaking, exists as combined acid, as was evident from the failure of reagents to show free hydrochloric acid in the completed mixture.

The indications that the hydration secured by this method is not always sufficient to meet the requirements of certain infantile stomachs and the fact that usually in such cases the nutrition is increased in spite of incomplete and painful digestion, seemed so strongly confirmatory of the results of Prof. Chittenden's researches, that I determined to copy, in part, his experiments on HCl saturation, as applied to the proteids of milk.

To this end, milk was prepared in the original way, except that the twenty drops of dilute hydrochloric acid were added in a one-half, instead of one, pint, watery solution, and slowly but intimately mixed with one quart of milk. This mixture was brought as rapidly as possible to the boiling temperature and then set aside until another half pint of water was prepared with twenty drops more of the acid. This was added to the previously boiled milk and acid, stirred thoroughly and again brought to the boiling-point. The result thus obtained was a thoroughly palatable milk, with no taste of having been boiled, and gave no indication of free hydrochloric acid with Gunzberg's reagent. Rudisch's plan is similar to the latter.

Proteids in excess are indicated by the presence of curds in the stools. This is the most frequent cause of colic in infants. Sometimes there is diarrhea, more often constipation when the proteids are in excess. The excess of proteids frequently causes vomiting and so does an excess of both fat or sugar. If, therefore, after reducing the percentage of proteids, fat or sugar, vomiting still persists, then we must feed the baby with smaller quantities. Thus, we may have to give a four-ounce bottle where a six-ounce or a five-ounce feeding causes vomiting. Certain rules can be laid down; if an infant does not thrive, that is, does not gain in weight without showing any signs of indigestion, then the proportions, i. e., percentages of all ingredients, should be gradually increased, chiefly the proteids, however, for the latter is the most important element in an infant's food. An infant soon after birth was put on modified milk, containing:

Fat	2.00
Milk-Sugar	5.00
Albuminoids	0.75
Lime-water	1/16

I ordered eight feedings, two ounces in each. As the child was constipated, soon after we increased the formula to the following percentages:

Fat	2.50
Milk-sugar	6.00
Albuminoids	1.00
Lime-water	1/16

As the stools did not change, the fat was increased to 3 per cent., other ingredients the same. The child gained but three ounces in weight in five weeks, had greenish, curded stools, and had distinct evidence of intestinal indigestion. It also vomited curds. The general condition of the child was one of extreme irritability, with very little sleep. Hand-feeding was stopped. The child's alimentary tract was thoroughly

cleaned, and a wet-nurse secured. This was when the baby was six weeks old; the child nursed well, gained six ounces the first week, eight ounces the second, and weighed fourteen pounds when it was four and a half months old. The child improved until it was seven months old, when suddenly the weight remained stationary. A specimen of breast milk was sent to John S. Adriance, the chemist of the Nursery and Child's Hospital, who found the following percentages:

Fat	2.0
Sugar	7.431
Proteids .....	.882
Ash .....	.162
Specific gravity 1031; reaction, alkalin.	

It is very evident that the deficiency in albuminoids or proteids is accountable for the stationary weight. The child did not gain an ounce in one month. We discharged the wet-nurse, and resorted to hand-feeding, when the child's general condition changed, and she is bright and well to-day.

In another instance, a child had been nursed by its own mother for three months, and had gained in weight regularly at the rate of six and seven ounces per week: the stools were normal in quantity and quality, when suddenly the child appeared to be colicky, was restless at night, had green stools, and did not appear to thrive. For two consecutive weeks the child did not gain in weight, and a specimen of breast milk was sent to the Pediatrics Laboratory. Mr. R. W. Bailey, the chemist, examined the specimen with the following result.

Fat	2.43
Proteids	1.25
Sugar	6.51
Ash .....	.20
<hr/>	
Total solids	10.39
Specific gravity, 1027. reaction, slightly alkaline.	

The percentage of fat and proteids is so low, that it was very plain to me why this child did not increase in weight. On putting the child on an oatmeal and top-milk mixture, the digestion improved, the child's sleep was better, and the weight increased.

Another case was that of a nursling, brought to me with a history of excessive crying, greenish stools, cheesy curd in the stools, vomiting, restlessness, and a general condition of malassimilation; I asked for a specimen of breast milk, which Mr. Bailey kindly examined, with the following result:

Fat	4.32
Sugar	6.22
Proteids	1.80
Ash .....	.19
<hr/>	
Total solids	12.53
Reaction, neutral.	

The general history of the case showed that the child was fed every time it cried, and thus it was evident that overfeeding was the real cause of the trouble in this case, for I learned that the child frequently nursed for hours at the breast, and was also allowed to go to sleep with the nipple in its mouth. Whenever the child cried it was fed, frequently as often as every half hour, so that in this case, whilst the quality of the breast milk was absolutely normal, as demonstrated by the chemical examination, it required only the judicious interval for feeding to give the child's stomach proper time for the assimilation of its food.

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LIGHT AND SEATING IN THE SCHOOL.*

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Although we know that our vision very closely depends in its acuity on the degree of illumination, we have not arrived at establishing a definite law as to the relation of sight and intensity of light which might be formulated in mathematical terms. Experiments were made in that direction as early as 1754, by the celebrated astronomer, Tobias Mayer, of Goettingen. He changed the distances of a candle from $\frac{1}{2}$ to 13 feet from certain systems of lines, and ascertained the distances in which he still could see them. From this he calculated the visual angles and found them, that is, the vision, at an inverted ratio to the sixth roots of the intensities of light. One hundred years later Aubert found that vision increases at a little faster rate than the logarithms of the intensities of light. Another method, adopted by Schmidt-Rimpler, Carp and Cohn, was to note the decrease of sight by putting smoke-colored glasses—the numbers 1 to 6—before the eyes of school-children. They observed great individual differences. The sight was relatively more impaired by decreasing illumination with increasing age, and in short-sighted than in normal eyes. More recently Uhthoff,¹ on the suggestion of von Helmholtz, made investigations, in von Helmholtz's laboratory, in Berlin, on the dependence of vision on the intensity of illumination in the different portions of the spectrum, and from his observations he constructed curves with the acuity of vision as ordinate axes, and the illumination as abscissas. The curves show great analogies in the different kinds of light from green toward red. At first they ascend very steeply, which means in the smaller intensities of illumination an enormously rapid increase of the acuity of vision with growing intensity of illumination. But, after a certain amount of the latter is reached, the curve turns rather fast and rises very slowly until it runs parallel with the abscissa. This signifies that, after a certain objective intensity of illumination is passed, a constantly decreasing ascendance of vision occurs, which finally reaches its limit although the intensity of illumination waxes more and more. Even a decrease of vision took place from glaring when the intensity of light became too high. From green toward violet a much greater variation of intensity is required for the same rise of vision than from green toward red. Uhthoff explains this from the predominance of yellow and green light in the artificial illumination. A visual power = 1.25, also decreases faster from green toward red with diminishing intensity of light than in blue light, and the difference is greater on the one side the nearer to the yellow portion of the spectrum, and on the other the nearer to the violet. This is in concordance with the phenomenon of Purkinje, namely, that after a blue and red area appear to the eye of the same illumination, the blue seems to reflect more light than the red, if the intensity of illumination is lowered, and less light than the red if the intensity of illumination is raised. The intensity of perception is a function of the intensity of illumination, which varies in the different kinds of light. The intensity of perception increases more slowly, and de-

creases more slowly for blue than for red at the same variation of the objective intensity of light.

Last year H. Cohn published the visual results obtained from the examination of 50,000 school-children in Breslau, made out of doors. They were much higher than hitherto supposed. Almost one-half of all the pupils had normal vision, and more than one-third of all between twice and thrice the normal vision out of doors. The former was noted more frequently in girls, the latter in boys. Only 10 per cent. had vision below the normal. This shows the immense preponderance of intensity of light emanating from the open sky over the illumination in the room, and calls for a distinction of the true acuity of light in the open air from that in the schoolroom.

Practically it suffices to know that, if the illumination sinks we can not see as well, and, if we want to continue our work, we have to bring the book nearer to our eyes, so that the visual angle and the retinal images become larger. This, however, brings about a strain of the eyes by increased accommodation and convergence, which again causes congestion of the eyeballs and head. The latter is still augmented by interference with circulation and respiration, in consequence of the stooping position, by which the blood-vessels of the neck are compressed and the venous outflow from the head impeded. If this faulty position and strain of the eyes become habitual, spasm of accommodation, stagnation of blood in the eyeball, tension of the tunics and elongation of the eyeball will follow and myopia develop.

The question arises, how can we ascertain the right illumination, below which no school work ought to be allowed? For that purpose, H. Cohn, of Breslau, devised text types, on cards of a certain tint, which ought to be easily read by a healthy eye at six meters distant in sufficient daylight. Another test is the ability of a normal eye to read diamond type—D. = 0.50—at one-third of a meter—12 inches. If not, the schoolroom requires artificial light.

A new era in the investigations for illumination in the schoolrooms was advanced in 1883, by the invention of the photometer, by L. Weber, of Breslau, which allows an exact and rapid determination of the illumination on any seat of the room in daytime, and also for artificial light. The intensity of light is given in numbers of meter-candles, the intensity of one meter-candle being the illumination of a sheet of paper which is placed one meter distant from a normal candle—of stearine, of which six weigh a pound.

As mentioned above, the best illumination is furnished by the sky, and it is desirable that each desk receive as much sky-light as possible. The quantity of the latter can be ascertained by an instrument constructed by L. Weber, which he called *Raumwinkelmesser*, a meter of bodily angles. The *Raumwinkel* of a certain point of an illuminated desk is the solid angle formed by these lines or rays which are drawn from this point to the edges of the window and impinge on the sky. If this angle equals 0° , that is, if no sky-light falls on a certain place, the illumination of the latter will be—on cloudy days—1 to 3 meter-candles, reflected from the walls of the room. If it rises to 50° —with medium elevation angle—it corresponds to 10 meter-candles, an illumination which is considered as the minimum for a working place; this, however, allows only of three-quarters of the regular vision.

There can not be too much light in a school-room; it ought to be flooded with light, that the darkest place

* Read before the Principals and Teachers of the Public Schools of Milwaukee.

1. Von Graefe's Arch., 32 and 36.

will have sufficient illumination on a dark day. The quantity of light depends on the size and number of windows, their relation to the space covered by the room, their exposure to the cardinal points and the situation of the schoolhouse with regard to its surroundings. The best arrangement would be if one wall of the schoolroom were entirely taken up by glass, like an atelier. Under all circumstances the windows ought to be as large as possible and reach up to the ceiling, since the upper part which admits the sky-light is the most important. They ought to be so large that at least 30 square inches of glass correspond to 1 square foot of floor, that is, 1 glass to 5 floor. Many older schoolhouses fall below this proportion, but some of the more modern ones exceed it. Architectonic ornaments must not encroach on surfaces which ought to be occupied by glass, and the jambs and piers between them must be as small as possible; these are made advantageously of iron, to insure the stability of the wall. The piers ought to be beveled toward the room, and the lower sill must not be less than 1 meter distant from the floor, so that the light does not glare from below.

With regard to the situation, sky-light from the ceiling would be the best. This, of course, is only attainable in the top floor and is best utilized for drawing. In the lower stories the windows ought to be on the left side of the room, so that in writing there is no shadow from the hand. In addition to these, windows may also be in the rear, which, however, would disturb the teacher at his desk. If the room is very large the illumination will be increased if windows are also on the right side. These, however, must be placed high up, near the ceiling, and must not extend downward as far as on the left side, in order to avoid perverse illumination, which has an annoying effect on the retina and causes contraction of the pupils, associated with a strain of accommodation. The consequence of the latter is, that the objects have to be brought nearer to the eyes, which again creates a tendency to myopia.

The width of the schoolroom, that is, the distance of the windows from the opposite wall, must not exceed twice the distance between desk and upper window-sill. The situation of a schoolhouse at a free place without any surroundings is most advantageous. In large cities this, of course, is not always possible. But it ought to be a rule that the distance of surrounding buildings from the schoolhouse be twice as long as their height. The lowest point of the sky which sends light into the room lies immediately above the edge of the roof of the opposite house. The light from this point penetrates farthest into the room. Every other point of the sky illuminates only portions of the room nearer to the window, so that the whole area of the sky-light which illuminates the room is bordered by lines drawn from this point to the upper and lower window-sills toward the desk. All portions of the room outside these lines are illuminated by the walls of the opposite buildings, and are, therefore, darker. It will readily be conceived that the higher the story the more sky-light it will receive.

The exposure of the windows toward the east and south gives the most intense light, some, however, prefer the north, to avoid annoyance by the sun. To obviate the latter, gray curtains are the best, one from above and one from below, or with the pole fixed in the middle of the window, so that it will not be necessary to darken the whole window. The tint of the walls ought to be light-gray.

As the school hours fall in the daytime, the question of artificial light is of minor importance. If it is used it must have no glaring effect, must not fall below 10 meter-candles, must be steady and not be hot. In that respect the incandescent light is preferable, as it does not consume the oxygen of the air and vitiate it. The glass of the lamps ought to be lightly ground, to remove the glaring effects of the wire. A group of lamps may be placed in the center of the ceiling, with a porcelain reflector above them, and a sufficient number of them distributed over the remainder of the ceiling and along the cornices.

Next to good light, the most important reform in school hygiene is the correct seating of the pupils. Not only from an orthopedic standpoint it deserves especial attention in order to prevent curvatures of the spine, but also with regard to the prevention of short-sightedness, by maintaining the proper distance of the eyes from the reading and writing objects. Besides that, the position must be the most natural one in which the body is most at ease, and which, therefore, can be endured for continuous work. The body can only remain at rest in a sitting posture, if the point of gravity, which lies in front of the tenth chest-vertebra, is in a perpendicular line above a base drawn through both seat-bones, which form the lower part of the pelvis and are the rotation points of the trunk. Any deviation of the point of gravity forward or backward requires a third point of support as a guard against the unstable equilibrium thus brought about. In the forward inclination this will be the front edge of the seat, but the muscles of the pelvis which will help to support the body in that position will soon tire, and, for relief, the chest and elbows will lean on the desk. The falling backward must be prevented by a back-rest, which ought not to be higher than the lower lumbar vertebra. If there is positive horizontal distance between desk and seat, the more will the trunk fall forward and deviate from the correct upright position. We have positive distance when a perpendicular line from the posterior edge of the desk falls some horizontal distance forward from the perpendicular line dropped from the front edge of the seat. In the construction of desks positive distance must, under all circumstances, be avoided, and must be converted into negative distance, that is, the front edge of the seat must reach under the desk, namely, 3 to 5 cm. forward from the perpendicular line dropped from the back edge of the desk. The vertical distance between desk and seat must be adapted to the individual in such a way that in the erect position the eyes remain 40 cm. distant from the desk, which is also about the distance of the eyes from the elbow, when hanging down. The distance of the latter from the seat-bone is one-eighth of the length of the whole body. From this the difference between desk and seat will be found if 4 to 9 cm. are added to one-eighth the height of the pupil. The feet must rest on the floor, from which it follows that the seat must be as high as the leg, measured from the sole to the inner bend of the knee, and as long as the thigh is long, from the inner bend of the knee to the back, with a width of at least 33 cm., to secure a sufficient support of the seat-bones and the thighs. It should be slightly concave, to prevent sliding forward. Reading a book lying horizontally, requires rolling of the eyes downward, which soon becomes tiresome, or stooping of the head forward, which is also faulty. Thus an inclination of the top of the desk of 45° would be best for reading, but not for writing;

to facilitate the latter an inclination of 1 to 6, or 10° is preferable. To meet the requirements of different individuals for correct sitting according to the principles set forth, desks and seats only which permit of ready and separate adjustment will give satisfaction. The best forms are those of the Chandler Adjustable Chair and Desk Company, of Boston. If the adjustment is once made it can not be altered by the pupil, if the key to it is withheld from him, and the desk and chair are screwed firmly to the floor. The Chandler desk leaves free space for the feet of the pupil, while the single standard desk presents some obstruction. In the back of the Chandler chair the central support is curved forward at the proper height to furnish the requisite support to the sacrum and the lower lumbar vertebrae, and thus counteracts the tendency of the pelvis to rock backward.

A table of dimensions and measurements is given as a guide for the arrangement of the desk and seat, based upon the tables of Erismann and Fahrner, and similar to that of Priestly-Smith. The directions for using the table are: Measure the height of the scholar; then find in the table the number that most nearly corresponds to it, and directly under it in the same column will be found the figures required for the different adjustment. The top of the desk can be made adjustable, allowing the pupil to stand between the desk and the seat when standing. It complicates, however, the mechanism, causes noise, requires time for adjustment, and is not necessary, since the pupil may rather step into the aisle, which allows him a better and less encumbered position.

Even the best constructed seats and desks can not prevent children assuming faulty positions, if not carefully watched. Thus the duty of the teacher will remain to admonish his scholars to sit erect.

SOME REMARKS ON THE PLANTAR REFLEX, WITH ESPECIAL REFERENCE TO THE BABINSKI PHENOMENON.*

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Believing that the duty of the specialist in this association, working in a special line other than surgical, is to bring forward for discussion, observations and recent discoveries on mooted points that will aid the railroad surgeon and physician in the diagnosis of certain diseased conditions, I shall attempt to give the generally accepted views, of neurologists at least, on the value of the "Babinski sign," the pathological plantar reflex; or, better yet, slow extension of the great toe, with or without extension and separation of the other toes, as an aid in diagnosing disease in certain portions of the central nervous system.

My observations have been made on 830 cases, 380 in hospital and 450 in private and consulting work. Besides, 2550 cases taken from my old records, I have utilized for the purpose of determining the frequency of the plantar reflex in nervous diseases in general. I wish to express my indebtedness to Drs. Delahanty, Hall, Sewall and Freeman for the privilege of investigating the plantar reflex in their cases in the Arapahoe County Hospital, and to the resident physicians of that

institution for the intelligent assistance freely rendered me by them; also to Dr. Hopkins for permitting me to observe cases under his care in St. Anthony Hospital; likewise to Dr. Lemen for allowing me to utilize the U. P. patients in St. Joseph's Hospital. I wish to thank the nurses in training in St. Luke's and Arapahoe County hospitals and some of the graduate nurses of these institutions for permitting me to investigate their plantar reflexes.

The Babinski sign is a comparatively new one, even in neurological diagnosis, and I do not fear of being accused of bringing a subject worn threadbare before an association composed mainly of railroad surgeons and physicians.

I wish to state, before going further, that I do not intend to discuss theories in this paper. My object will be to present facts and draw conclusions that I hope may aid in the diagnosis of disease in certain portions of the central nervous system.

The Normal Plantar Reflex in the Adult and the Method of Eliciting It.—If I were to include the whole phenomena of the plantar reflex I should have to note the contraction of several of the thigh muscles and some of the leg muscles which usually contract before the toes are flexed. My remarks are for railroad surgeons and physicians, and not for the neurologist. I shall, therefore, limit, for the most part, what I have to say to the movements of the toes. With this limitation, the normal plantar reflex consists in flexion of one or of all the smaller toes and frequently of the great toe on moderate stimulation of the plantar surface of the foot. The flexion sometimes delayed for a brief moment after stroking the foot is rapid, usually most marked in the outer toes, may be limited to these, but is often accompanied by flexion of the great toe. As a rule, a little firmer stroking of the plantar surface of the foot is necessary to cause flexion of the great toe than of the smaller toes. It must be remembered that flexion of the toes is usually accompanied or immediately followed by inversion and dorsal flexion of the foot at the ankle. Care must be taken not to mistake this for extension of the toes. Strange as it may seem, I have seen this error made on more than one occasion.

Precautions Necessary in Eliciting the Plantar Reflex.—In the first place the leg must be in a comfortable position, and so placed as to prevent any of the muscles of the leg or foot being put on the stretch. If the patient is nervous, and apprehensive of being hurt, it is wise to distract his attention from your investigations by engaging him in conversation. The same object may be accomplished by covering his eyes and beginning the examination by testing his tactile sensation with a camel-hair pencil. After his attention becomes concentrated on this method of procedure, the plantar surface of the foot may be gently stroked, and in the majority of instances the patient, not suspecting the object of the physician, will answer: "I feel that." The stroking should be the lightest that will elicit the reflex, but at the same time if the gentle stroking fails to cause any plantar reflex, the irritation should be increased in vigor until one is satisfied that there is no plantar reflex present. The plantar surface may be irritated on the outer or middle portions, stroking from the heel toward the ball of the foot, or from the outer to the inner surface just posteriorly to the ball of the foot. Stroking the inner side of the plantar surface often causes the most contraction of the toes, but it has the disadvantage of giving rise to greater movement of the foot, inversion and dorsal flexion at

* Read in abstract at the Seventh Annual Meeting of the Academy of Railway Surgeons held in St. Paul, Minn., Sept. 5-6, 1900.

the ankle. The finger-nail, or what I have found better, the quill holder of a camel-hair pencil, answers every purpose for an object with which to stroke the foot. If the patient's attention is not directed to what one is doing when he is testing the plantar reflex, voluntary and semi-voluntary movements of the foot and leg are least likely to complicate the results. The plantar surface of the foot should be dry and warm when the reflex is tested.

The normal plantar reflex may be modified by age, sleep and stupor or coma, especially in children, mental development, the condition of the plantar surface, dropsy of the feet and legs, trophic changes in the feet from old nervous lesions and by ankylosis of the toes.

Age.—In the healthy adult the plantar reflex, if present, may be lessened during sleep and other unconscious states, but it is probably always attended by flexion of the toes. In infants, before they begin to walk, the plantar reflex, while brisk as in the adult, is somewhat irregular, and may be attended by contraction, or by extension and separation of the toes. Collier¹ states that in infants the extension of the toes continues in healthy subjects up to the end of the first or second year; in the weakly until the fourth year, and is occasionally found up to the sixth or twelfth year when the child is asleep. In the latter group of cases the adult reflex returns as soon as the child is awakened. Personal experience in examining the plantar reflex in infants has proved very unsatisfactory to me. The feet of infants when exposed are always in constant motion, especially while under examination. The movements consist in extension and separation of the toes, followed by rapid flexion. It has often been very difficult for me to determine whether the toe movements were more extension than flexion. I have not been able to examine the plantar reflex of infants while they were asleep in a sufficient number of cases to enable me to draw any conclusions. In one I found the reflex absent so far as the toes were concerned, in two there was flexion of the toes followed by extension, and in three the toes quickly extended and separated, followed a few seconds later by flexion.

Cohn, Schüller, Watson, Paul, Sachs and others have apparently met with equally unsatisfactory results in examining children in health.

Delayed or arrested development is often attended by an irregular plantar reflex. I have recently seen a case of idiocy in a boy of 6 years in whom the infantile type was preserved, and another in a girl of 20 years in whom the infantile type was present when the patient was asleep, but the irregular adult type appeared on arousing the girl.

The plantar reflex may be lessened or abolished by anything that lessens the sensibility in the plantar surface, such as lesions in the nerves, cold and dampness, dropsy and trophic changes of the feet and also by ankylosis of the toes.

Variations of the Plantar Reflex in Apparently Healthy Adults.—Is the plantar reflex ever continuously absent in healthy adults, and may it be absent in one foot and present in the other under such circumstances, even when all the necessary precautions are taken in testing for the reflex?

Collier says: "If the preceding points are taken into consideration, I think that the common statement that the plantar reflex is not rarely found completely absent in healthy subjects will not be confirmed."¹ Fraenkel and Collins say: "We have never found it

absent without adequate attributable cause, such as peripheral neuritis."² Knapp and Langdon hold the same view."

On the other hand, Blocq and Onahoff think it is frequently absent.³ Schüller, Cohn, Walton and Paul found the plantar reflex absent in 10 per cent. of healthy subjects.⁴

I have records of 100 healthy subjects in whom I carefully investigated the plantar reflex and found it absent on both sides in 9 per cent., after excluding a series of 7 subjects whose cases will be referred to presently. In the 100 subjects I endeavored to take every necessary precaution. If the feet were cool or moist I had them rubbed with a coarse towel until the plantar surfaces were dry and red. Then after waiting a few minutes I covered their eyes and carefully tested the plantar reflex. Fearing that the vigorous rubbing with a coarse towel might have abolished the plantar reflex for the time being, I re-tested the cases some hours later, and still the results remained the same.

The most remarkable results were obtained on testing the plantar reflex in 7 healthy, strong and vigorous nurses while on duty in the wards of the Arapahoe County Hospital. The feet of all were warm and dry. In 1 only was the plantar reflex present in both feet; in 1 it was absent in one foot and present in the other—flexion—in 5 the reflex was absent on both sides. These tests were made at about 5 p.m., after the nurses had been on their feet all day. Thinking, possibly standing on the feet for so many hours might have something to do with abolishing the plantar reflex, I visited the hospital the following morning at 7:25 a.m., before the nurses had gone on duty, and re-investigated the reflex, but to my surprise there was no change to record in the results that I had obtained the previous afternoon, except that in the one with normal reflex in one foot, the reflex was found absent in both feet. These results would lead one to suspect that occupation has something to do with modifying the plantar reflex in health and possibly in disease.

I should remind you that these observations had to do with the toe movements alone. The curious results that I obtained on examining the plantar reflex in 7 nurses determined me to examine the plantar reflex in as many nurses as I should be able to obtain for investigating the reflex under consideration. I shall have, therefore, some 47 other nurses in whom I have to report the condition of the plantar reflex before I close this paper.

It is well known that the plantar reflex may soon be exhausted in many healthy subjects, that it may be present at one time and absent in another, but that it may be absent without any appreciable cause is important to bear in mind.

In answer to the second inquiry: "May the plantar reflex be absent in one foot and present in the other in healthy subjects, even when all necessary precautions are used in testing the reflex?" Dr. Knapp is of the opinion that such a condition is not found unless there is some disease of the nervous system. Drs. G. L. Walton and W. E. Paul, in their excellent article in the June number of the *Journal of Mental and Nervous Disease*, of the present year, give the results of their examinations of the plantar reflex in 100 normal subjects as follows: "All, or some, toes—generally the outer—of both feet flexed in 75 per cent.; no movement, 10 per cent.; flexion on one side, no movement on the other, 15 per cent." In the 100 apparently normal subjects of which I have notes

plantar reflex was present on one side and absent on the other in 5 cases.

It seems to me that if one will investigate the plantar reflex in a number of healthy subjects he will have to admit that this reflex may be absent in one or both feet in a small percentage, probably from 8 to 12 per cent.

The Babinski Phenomenon or Pathological Plantar Reflex.—This consists in rather slow and deliberate extension of the great toe with or without extension and separation of some or all of the other toes on stroking the plantar surface, as is done in attempting to test the normal plantar reflex. The pathological reflex differs from the normal reflex in three ways. 1. The great toe makes the greatest and sometimes the only movement. 2. The movement is one of extension and separation, the latter most marked in the smaller toes. 3. The movement, especially well marked in the great toe, is much slower than in normal flexion and gives rise to the impression of deliberation. I can best illustrate the difference by testing the normal and pathological reflex in the subjects whom our president, Dr. Wheaton, has kindly arranged to have present at this session of the Academy.

In 1896, Babinski first called our attention to the extensor movement of the great toe with or without extension or separation of the other toes in connection with lesions of the pyramidal tract. His first paper seems not to have attracted much attention, as it was apparently overlooked in the proceedings of a biological society.⁵ He continued to investigate the subject, and two years later described certain characteristics of the pathological movement, namely, that extension is slower than flexion, and that while flexion is stronger in healthy subjects when the inner side of the plantar surface is stroked, the reverse of what holds true in extension of the toes. The second communication⁶ attracted a great deal of attention, especially on the continent of Europe and to a much less extent in England. I have been unable to find any records of an American investigating the pathological reflex of Babinski, prior to the publication of Dr. James Collier's paper on the plantar reflex—both physiological and pathological. This paper appears in *Brain*, vol. xxii, part 85, p. 71, for 1899.

In the *Journal of Mental and Nervous Disease* for June, 1900, p. 307, Drs. G. L. Walton and W. E. Paul give a rather long list of investigators who have studied the plantar reflex in health and in various diseases.

Two papers, one by Walton and Paul,⁴ devoted to the consideration of the plantar reflex, and one by Fraenkel and Collins,² giving a short consideration to this reflex, were read before the recent meeting of the American Neurological Association. In the discussion that followed a number of the prominent members participated. You see that the pathological or Babinski plantar reflex has not been prominent before the medical profession for more than two years, yet it has received general attention from the neurologists, both in Europe and America, as a diagnostic sign.

A résumé of the results obtained by various investigators of the pathological plantar reflex may be summed up in a few paragraphs. I must thank Drs. G. L. Walton and W. E. Paul for making this easy for me, as I shall still further condense their condensed summary.

Babinski in his first report—1896—simply called attention to the fact observed by him that in pyramidal

disease, stimulation of the plantar surface of the foot on the affected side was followed by extension of the great toe, and often by extension and separation of the smaller toes. He termed this *le phénomène des orteils*. Two years later—1898—he called attention to further particulars, the most important of which was, that the extensor movement of the toes is slower than flexion, and that flexion is stronger when the inner side of the plantar surface is stroked, the converse being true of extension. He reported mixed varieties which he thought were pathological and physiological, as stroking one part of the foot would cause flexion and another part extension, the first part of the reaction being flexion, followed by extension. Again, he noted in some cases extension of the inner toes and flexion of the outer ones resulting from the same stroke. His observations were confirmed by fourteen observers, including Collier, of England, and Langdon, of America. There seemed to be a unanimity between the fourteen observers, in that the toes, especially the great toe, would be slowly extended on stroking the plantar surface of the affected foot in diseases of the pyramidal tract.

Collier, while he maintained that the toes extended in pyramidal disease in the adult on stroking the plantar surface, that the movement is slow, that the great-toe movement preceded the movement of the smaller toes, found a similar movement in infants, except that it is quicker. He also found that extension of the toes is the only reflex movement in total transverse lesion of the cord. He was able to obtain the extensor plantar reflex in a case of tetanus and in a case to which he had given large doses of strychnin. Babinski reported a case of strychnin poisoning in which the extensor plantar reflex was present.

"Cestan and Le Sourde found the extensor reflex in 92 per cent. of the 68 hemiplegiacs examined, and in all the 35 cases of spinal disease implicating the pyramidal tract—except one case of neuritis also—in all the 6 cases of syringomyelia, and in all the 30 cases of infantile hemiplegia and diplegia."⁴

Dr. F. W. Langdon says: "The constancy of 'extensor' plantar reflex on the paralyzed side in organic cerebral hemiplegias is such as to render the Babinski sign here a very valuable diagnostic aid, especially in the unconscious patient. The sign is present in recent and old hemiplegias, appearing usually within a few hours after the stroke and before the knee-jerks return."⁷

In looking over Langdon's 110 tabulated cases in which the plantar reflex was tested, I find in one case of right hemiplegia the right plantar reflex was irregular, or absent, and left absent. In a case of left hemiplegia, right plantar reflex was flexion, left, slight extension or absent. In another case of left hemiplegia the plantar reflex on both sides was flexion, but the paralysis had nearly all passed away. In one case of left hemiplegia, complicated by meningitis and gumma, the plantar reflex was flexion, most pronounced in the left. He also reports one case of hysterical contracture, with hemiplegia of the entire left side—face, arm and leg. The plantar reflex in this case was right, flexion; left, extensor. He states that the affection of the left side could be made to disappear on hypnosis. If this case, No. 58 in his table, was hysterical in character, the extensor reflex did not mean organic disease in this case, at least. Personally, I do not believe that a paralysis and contracture which disappear under hypnosis must necessarily be functional in character.

On the other hand, let me give the views of three

other observers who are less inclined to accord to the extensor plantar reflex so great a value in diagnosis. Giudiciandrea states that he found plantar extension in hysteria and in normal individuals. Schüller found extension plantar reflex—notably of the great toe—in 8 per cent. of the men examined, in 10 per cent. reflex was absent, and in two indeterminate; in normal women 4 per cent. extension, in 10 per cent. absent, and in 6 per cent. doubtful. In 8 cases of pyramidal-tract disease extension was present and pronounced. In children the reflex was either absent or rather unsatisfactory. Cohn found flexion in 60 per cent. of healthy persons; extension of the great toe, with either extension or flexion of the others, in 20 per cent.; absent reflex in 10 per cent.; and variable movements in 10 per cent. He found the plantar reflex generally absent in infants, but when present it was usually extension; usually extension in recent cases of apoplexy; in 4 cases of spinal spastic disease, extensor reflex in 2. In one case of hysterical hemiplegia he found extension on the paralyzed side.⁴

Schwab gives Cohn's conclusions as follows: "In the majority of all persons an irritation of the sole of the foot is followed by flexion of the toes. In lesions of the lateral tract of the spinal cord of an organic character, an extension reflex is to be observed. In no way, however, can this phenomenon be regarded as a certain pathognomonic symptom for the recognition of such disease."⁸

In the two recent papers which treat of the plantar reflex in disease of the pyramidal tract, Collins and Fraenkel state: "From our observations, we have corroborated the findings of Babinski, Van Gehuchten, Collier and others, that this type of plantar reflex—the extensor—is not found in normal individuals, and that when carefully examined with the precautions mentioned above, it is found only in cases in which there is unmistakable evidence of disease of the pyramidal tract."

In paragraphs numbered 3 and 4 of Walton and Paul's conclusions, we read as follows: "3. The Babinski reflex obtains in about 70 per cent. of hemiplegics and diplegics, and in approximately the same percentage of cases with disease involving the pyramidal tract in the spinal cord." "4. The Babinski reflex—deliberate and constant extension of the great toe, with or without extension and separation of other toes—is never present in health, and our observations lead us to doubt its existence in either functional or organic nervous or other disease not implicating the pyramidal tract."⁴

Personal Observations on the Plantar Reflex, both in Health and in Disease.—From 1878, when I first began to pay especial attention to the diseases of the nervous system, till the spring of 1899, the time when I first became familiar with Babinski's investigations, results and conclusions, I paid strict attention to the plantar reflex, but failed to observe the important points to which Babinski has so recently called our attention. During the past eighteen months, or since the spring of 1899, I have investigated the Babinski phenomenon in nearly every case that I have seen at my office, in consultation, or in St. Luke's Hospital. It was not until a few weeks ago that I utilized any of my cases seen and studied prior to my becoming acquainted with the Babinski phenomenon and the methods and precautions necessary in investigating it. In looking over my records from 1878 till 1898, I find the plantar reflex was registered as follows: Plantar reflex R. present or absent; L. present or absent, with

a note as to whether the foot was flexed toward the dorsal or plantar surface.

It will be seen that I can utilize my old material only as to whether the plantar reflex was absent or present.

I have been unable to look up the records of all my old cases of nervous and mental diseases, but have been able to ascertain whether the plantar reflex was absent or present in 2550 recorded cases. In the hospitals I have studied the plantar reflex with especial reference to the Babinski phenomenon in 380 cases. In office and consultation practice and in private work in St. Luke's Hospital I have studied the plantar reflex in 450 patients suffering from organic or functional nervous diseases, or from insanity, a total of 3380, 2550 of which are of little importance in the study of the Babinski phenomenon. I shall first give a short analysis of the 2550 old cases of nervous and mental diseases.

Tumor of the brain, 100 cases: In 40 cases the pyramidal fibers were involved either directly or indirectly, and the plantar reflex was present in all on the affected side until just before death, when on account of exhaustion they disappeared. On the unaffected side of the plantar reflex was present in 38 cases and absent in 2. When the patients became greatly exhausted just before death the reflex disappeared on both sides. In the 60 in which the pyramidal tracts were not affected the plantar reflex was present in 54 cases; in 3 absent and in 3 the reflex was present on one side and absent on the other.

Intradural tumors of the cord, 5 cases: Plantar reflex was present in 3, absent late in the disease in one and present on one side and absent on the other in one.

Abscesses of brain, 12 cases: In all, the pyramidal fibers escaped: 4 of the cases were seen early in the disease and the plantar reflex was present in these; 8 cases were seen when the patients were becoming exhausted; the plantar reflex was present in 6 and absent in 2.

Cerebral meningitis, 75 cases: Sixty of these were tubercular, 50 in children, 10 in adults, 7 syphilitic and 8 from suppuration of the middle ear. In the 50 tubercular cases in children from a few months to 12 or 13 years of age the plantar reflex was absent in all after coma set in. In the 10 tubercular cases in adults the plantar reflex was absent in 8 and present in 2. Patients greatly exhausted. In the 7 syphilitic the plantar reflex was present in 4, absent in 2 and irregular in one. In the 8 from suppuration of the ear the plantar reflex was present in 4 and absent in 4.

Syphilis of the brain and cord, 100 cases: In 56 plantar reflex was present, in 30 absent and in 14 irregular.

Hemiplegia from vascular lesions, 150 cases: On the paralyzed side plantar reflex was present in 130 cases, absent in 10 and irregular in 10.

Bilateral thrombosis, 2 cases: Plantar reflex was present in both.

Posterior spinal sclerosis, 100 cases: Plantar reflex, although in some cases it was feeble, was present in 35, absent in both feet in 48, absent in one foot and present in the other 17.

Multiple neuritis, 20 cases: Plantar reflex present in 8, absent in 12.

Anterior poliomyelitis, 40 cases: Plantar reflex present in 24 cases, absent in 16 in which changes were well marked.

Neuritis of the sciatic nerve, 10 cases: Plantar reflex was present in all.

Pressure neuritis of the sciatic nerve, 20 cases: Plantar reflex present in 18 cases and absent in 2.

Pressure neuritis of the nerves of one or both legs, 12 cases: Plantar reflex present in 8, absent in 4 cases.

Myelitis, 60 cases: In 10, cervical, plantar reflex was present in all. In 20 dorsal, plantar reflex was present in all. In 30 dorso-lumbar plantar reflex was absent in all.

Complete transverse lesion of the cord, 6 cases: No plantar reflex was present.

Spinal caries, 50 cases: Plantar reflex was found in all above the lumbar region, absent in all cases of the dorsolumbar region with distinct cord symptoms.

Friedreich's disease, 8 cases: Plantar reflex was present in all.

Paralysis agitans, 8 cases: Plantar reflex was sluggish in all.

Hysteria, 50 cases: Plantar reflex was present in 29 cases, absent in 21.

Neurasthenia, 100 cases: Plantar reflex was present in 90 cases and absent in 10.

Nervous irritability—commonly known as simple nervousness, 93 cases: Plantar reflex was present in 85 cases and absent in 8.

Chorea, 50 cases: As far as I could determine, the plantar reflex was present in all, but the wild movements of the feet made in some cases accurate observation impossible.

Epilepsy, 100 cases: Plantar reflex was present in 93 and absent in 7.

Traumatism to the head, 60 cases: Plantar reflex was manifest in 40 and absent in 20.

Traumatism to spine and cord, 40 cases: Plantar reflex was present after the shock was over in all cases in which the injury was above the dorsolumbar region, provided the cord was not completely severed.

Deaf-mutes, 25 cases: Plantar reflex was present in 22, absent in 3.

MENTAL DISEASES.

Dementia, 200 cases: Plantar reflex was present in 80, absent in 104, present in one foot and absent in the other in 16.

Paretic dementia, 200 cases: Plantar reflex was present in 120, absent in 50 and irregular in 30.

Mania, 200 cases: Plantar reflex was present in 190, absent or irregular in 10.

Melancholia, 200 cases: Plantar reflex was present in 60, absent in 120, and irregular or absent in 20.

Paranoia, 250 cases: Plantar reflex was present in 200 cases, absent in 20, irregular in regard to the two sides in 30.

Feigning, 30 cases: Plantar reflex was present in 26 cases, absent in 2, present on one side and absent on the other in 2.

Stuporous melancholia, 20 cases: Plantar reflex was absent in all.

Melancholia attonita, 10 cases: Plantar reflex was present in 6 cases and absent in 4.

Weak-minded children, varying in age from 8 to 15 years: Plantar reflex was present in 40 cases, absent or irregular in 10.

Imbecility, 75 cases: Plantar reflex was present in 60 cases, absent or irregular in 15.

Idiocy, 25 cases: Plantar reflex was present in 19, absent or irregular in 6.

The average percentage of the presence or absence of the plantar reflex in each of the above individual nervous diseases is approximately as follows:

Tumor of the brain, present 85, absent 15; intradural spinal tumors, present 100; the plantar reflex was lost in all before death.

Abcess of the brain, present 83.3, absent 16.7; meningitis in stage of coma, present 13.3, absent, 86.7; syphilis of the brain, present 70, absent 30; hemiplegia from vascular lesions present 90, absent 10; bilateral thrombosis, present 100; posterior spinal sclerosis, present 52, absent 48; lateral sclerosis, present 100; anterior poliomyelitis, early present 90, absent 10; multiple neuritis, present 40, absent 60; in inflammation of the sciatic nerve, present 100; pressure neuritis affecting the sciatic nerve, present 90, absent 10; pressure on several nerves of one or of both legs, present 66.7, absent 33.3; myelitis, present 50, absent 50; complete destruction of cord, absent 100; caries of spine above dorsal region, present plantar reflex, 100; in dorsolumbar with involvement of cord, absent plantar reflex 100; Friedreich's disease, present 100; hysteria, present 58, absent 42; neurasthenia, present 90, absent 10; nervousness, present 91.5, absent 8.5; chorea, present 100; epilepsy, present 93, absent 7; traumatism to head, present 66.7, absent 33.3; traumatism to spine, present 70, absent 30; deaf-mutes, present 88, absent 12; dementia, present 48, absent 52; paretic dementia, present 60, absent 40; mania, present 95, absent 5; melancholia, present 33.3, absent 66.7; paranoia, present 90, absent 16; feigning, present 93.3, absent

6.7; stuporous melancholia, absent 100; melancholia attonita, present 60, absent 40; weakmindedness, present 80, absent 20; imbecility, present 85.7, absent 14.3; idiocy, present 76, absent 24.

The average percentage in which the plantar reflex was present or absent in the 2550 old recorded cases is as follows: The plantar reflex was present in one or both feet in 77.8 per cent; it was absent in both feet in 22.2 per cent.

I have found from observation that the simple presence or absence of the plantar reflex in organic nervous disease especially, but sometimes in the functional, depends largely on the vigor or physical exhaustion of the patient at the time the test is made. For instance, vigorous physical exercise for fifteen or twenty minutes in the gymnasium apparently does not modify the plantar reflex, but, on the other hand, laborious work carried to the point of almost complete exhaustion will abolish the reflex. In the case of multiple neuritis the plantar reflex is present and vigorous extremely early in the disease. In nearly all severe cases, at the height of the disease, especially if there are great physical exhaustion and trophic changes in the feet, the plantar reflex is almost invariably absent. After diphtheria, if the plantar reflex becomes excessive, I have learned to fear multiple neuritis.

Tumor and abscess of the brain are no exception to the general rule, that in complete exhaustion preceding death the plantar reflex usually disappears.

Since my attention was called to Babinski's observation on the plantar reflex, which was about eighteen months ago, I have carefully examined the reflex with especial reference to this phenomenon.

I examined 100 patients in the hospital, apparently free from any nervous or other trouble that should affect the plantar reflex, using every necessary precaution, and I obtained the following results: Plantar reflex present, 86; absent, 9; absent on one side and present on the other, 5. There was no Babinski phenomenon in any of these.

The above percentage of absent plantar reflex in the normal subject is in line with the results of Walton and Paul, and with those of several other investigators, but contrary to the views of Knapp, Langdon, Collier, and Collins and Fraenkel. The number of cases in which I found the plantar reflex in one foot and absent in the other is less than the results obtained by Drs. Walton and Paul.

(To be continued.)

COSTA RICA, ITS PHYSICIANS AND MEDICAL INSTITUTIONS.

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CHICAGO.

The short midwinter vacation I am spending in Costa Rica has afforded me an excellent opportunity to study the diseases of this little republic and to become acquainted with its leading medical men and its most important institutions devoted to the care of the sick. Costa Rica is the smallest of the Central American republics. Its present population does not exceed 300,000, and is made up largely of Indians, Jamaica negroes and Spaniards, with a small sprinkling of whites from the United States and the different European countries. The coast on both sides is low and swampy to the base of the mountains. The low lands supply the world with bananas, and the mountain sides are covered with coffee plantations. The interior is mountainous and picturesque, a Switzerland plus the tropical forests and impenetrable jungles. Along the coast the heat is depressing, being greatly aggravated by the ever-present atmospheric humidity. At an elevation of from

3000 to 4000 feet the climate is delightful, the temperature ranging from 70 to 80 F. throughout the year. The nights are always cool. San José, the capital, is located in a beautiful and fertile valley at an elevation of nearly 4000 feet above the level of the sea. Its present population is 20,000. It is lighted by electricity and has an efficient telephone system and an electric tramway. Cartago is the next largest city, with a population of 13,000. Port Limon is the most important seaport town and is connected with San José by a narrow-gauge railroad, constructed by Mr. Keith, an American capitalist, at an expense of \$15,000,000. Nearly all of the large business firms and plantations are owned by foreigners, who have contributed largely to the rapid development of the resources of the country. The government and laws of the country are modeled after those of the United States.

THE COSTA RICA PHYSICIANS.

There are at the present time few parts of the civilized world which are not amply supplied with medical men who are able and willing to serve the sick. Costa Rica is well supplied with doctors, native and foreigners. I take this occasion to warn our recent graduates not to come to this country with the expectation of gaining fame and amassing a fortune in a few years. Those who have done so have, in the majority of cases, been sorely disappointed. There are very few rich people in this country and even the well-to-do are far apart. A man with \$200,000 is considered wealthy, and \$10,000 is looked upon as sufficient to place a family in easy circumstances. More than 75 per cent. of the population are poor, and at the end of the year have little, if anything, left with which to pay for medical services. There are about sixty doctors in Costa Rica, most of whom live in the larger cities. There are over thirty physicians in San José, with a population of less than 25,000. Then, too, the fees are very small. The average charge for a visit in this city does not exceed \$1.00, and nearly every doctor finds at the end of the year when he collects his bills that nearly one-half of them are worthless. The poor are often content with one visit, even in grave and prolonged cases, more especially those who expect to pay their bills.

Surgical work is estimated on the same scale. One hundred dollars for any kind of an operation is regarded by surgeon and patient a handsome fee. Fortunately Costa Rica has no medical college. A number of years ago some efforts were made in this direction, but the best elements in the profession vetoed the project. For some reason that even the native doctors do not comprehend, Madrid is not selected as the place to obtain a medical education, as we would naturally take for granted, considering language and the fact that the best families are of Spanish descent. Most of the Costa Rican physicians received their medical education and training in the United States and England, only a very few have visited the universities of Germany and France. The prominent doctors occupy a high social position and command a powerful political influence. Dr. Duran served as vice-president and, when the president was forced to resign, filled the highest position in the gift of the people. Cabinet positions have been repeatedly occupied by the ablest and most popular physicians. As a rule, the professional relations are harmonious. The spirit of progress and advancement is manifest by occasional visits to the great medical centers of the United States. There can be no doubt that the projected construction of the Nicaragua canal will be one of the many means to establish a closer relationship between the medical profession of our country and that of Costa Rica.

ACADEMY OF MEDICINE OF COSTA RICA.

The only medical society in Costa Rica is the National Academy of Medicine. The president for 1900 is Dr. Bonnefil. The weekly meetings are held in the capital city. It is a source of regret that a few of the very best men have not seen their way clear to become members. The excuse offered that the transactions lack in scientific work is hardly tenable, because those that can not learn should consider it a great privilege to teach. The Academy is invested with certain rights granted by the government; for instance, the members nominate and elect the Board of Medical Examiners. Every physician who

intends to practice his profession must pass a satisfactory examination before this board. No one is admitted to these examinations without a diploma from a medical college in good standing.

HOSPITALS.

Hospitals have been established in all of the larger cities. There are two small hospitals in Port Limon. An effort is now being made to consolidate them into one, a move in the right direction. One of these little hospitals is maintained by the United Fruit Company and the other by the railroad, and both are in charge of Dr. Steggall, the most prominent practitioner on the coast. There is only one hospital in San José to which the sick poor of the city and district are admitted. It is built on the pavilion plan and has a capacity for one hundred patients. It is in charge of the Sisters of Charity Saint Vincent de Paul, with Sister Josephine at the head. The ample surrounding grounds have been appropriately beautified by skillful gardening. Dr. Nunez, the most prominent physician in the city, is medical superintendent; Dr. Duran, chief surgeon. The remaining medical staff consists of: Dr. Th. M. Calneek, consulting surgeon; Dr. M. Bonnefil, consulting physician; Drs. F. Zumbado and G. Jimenez, assistant surgeons; Drs. E. Rojas and J. M. Soto, medical attendants.

Dr. Nunez is a leader in politics as well as in his profession and everything pertaining to the public welfare. Dr. Duran, his classmate and partner, is an expert and successful operator. The morning I visited the hospital he had commenced the difficult task of entering the bladder without a guide, in a case of impermeable stricture of the urethra. The patient, a young man, was greatly debilitated by the secondary consequences of the stricture, septic cystitis and phlegmonous inflammation of perineum and scrotum; the latter had resulted in numerous fistulae. It was, as he said, the most difficult case he ever encountered. His skill, patience and perseverance were finally rewarded by success, when he emptied the bladder of a large quantity of ammoniacal urine and established free drainage. The operating room is modern and furnished with a good instrument supply and the necessary facilities for aseptic and antiseptic work.

Recently a very much-needed addition has been made in the form of a maternity ward and it was my pleasure to see two babies which first saw light in the great room which is destined to become a refuge for many an anxious, homeless mother. The institution, like all those in charge of the Sisters of Charity, is scrupulously clean. The food is plain, but palatable and substantial. It is time that the sisters, like those of the same order in the United States, should establish and maintain a training-school for lay nurses. I made a strong plea to accomplish this most desirable object and trust that it made a sufficient impression on Sister Josephine to at least seriously consider the propriety of such a change in the nursing of the sick inside and outside of the hospital. There is only one ward set aside for private patients, who pay from \$7 to \$14 per week, including medical attendance. The pharmacy is in charge of one of the sisters.

LEPER COLONY.

Costa Rica, like all Central and South American states, harbors its full quota of lepers. It is estimated that at the present time there are scattered throughout the state about 150 to 200 lepers. The adjoining United States of Colombia, with a population of 2,000,000 has 35,000 lepers. The disease invaded Costa Rica from that source about fifty years ago, and since that time it has become diffused over the entire state. On paper, segregation has become a law, but like many other laws it has never been carried into effect. The leper home consists of a number of old buildings on an eighteen-acre lot near the western limits of the city, and contains 30 inmates. It is in charge of Dr. Toledo, who is at the same time the sanitary inspector of the city. The sexes are about equally represented. It is a noteworthy fact that all Costa Rican lepers are the subjects of the nervous form of the disease, while the three Jamaica negroes are suffering from the advanced stages of the tubercular variety. Dr. Toledo is now testing the therapeutic value of a new vegetable remedy, but so far no positive results have been observed.

INSANE ASYLUM.

The insane asylum is a state institution to which the poor insane from all districts are admitted. It can accommodate 150 patients, and at the present time contains 135 inmates. Ample provision has also been made for private patients of the first, second and third class, who at a comparatively small expense can avail themselves of all the advantages of a private asylum. This institution is known by the euphonious name of Asilo Chapui in memory of a saintly priest who died one hundred years ago, and who donated a large tract of land to the city. For the last eleven years the asylum has been under the care of Dr. Maximilian Carl Bansen, a German physician of more than national repute. To the great learning, executive abilities and enthusiasm of Dr. Bansen must be attributed the great success of this institution. The hospital is surrounded by a magnificent flower and vegetable garden. The floral wealth of this garden can be approximately estimated from the fact that it contains 160 varieties of roses. The remaining part of the grounds supply the asylum with coffee, bananas and other tropical fruits. According to the statistics, including many years, 50 per cent. of those admitted recover their mental equilibrium, and of those discharged cured only 2 per cent. have been known to suffer from relapse. This marvelous result is secured by the methods employed in the treatment. Dr. Bansen places the greatest stress on abstracting the patient's mind by giving him employment which does not tax the mental faculties, that is, physical exercise and mental rest. About 40 per cent. of his patients are thus employed. Dr. Bansen regards the excessive use of the strong alcoholic native liquor as the most important etiologic influence in provoking the disease. He looks upon coffee and all stimulants as harmful in its treatment. The asylum is a model of cleanliness and its entire management bears testimony to the great executive abilities of its director. Although the physicians in every part of the state send patients to the asylum, practically it is left for Dr. Bansen to determine their mental condition and reject or admit them.

PREVAILING DISEASES.

The two diseases which afflict this country the most and which intimidate the foreigner as well as the native, are malaria and yellow fever. Malaria of the most malignant form prevails throughout the entire year in the banana districts, along both coasts, but the physicians here are willing to admit that no part of the state is entirely free from it. The pernicious form of malaria is often mistaken for yellow fever, and vice versa, something that has given rise to a great deal of confusion at the seaport towns under quarantine regulations. The Jamaica negro possesses the greatest intrinsic resistance to malarial infection and he is the one upon whom the banana grower must rely almost exclusively in tilling his lands. The negro knows this only too well, hence, his haughty demeanor and sense of independence. The physician's here do not look upon the mosquito as the sole carrier of the disease, as they are frequently called upon to treat malaria in localities where there are no mosquitoes. In pernicious malaria they rely almost entirely on deep subcutaneous injections of bisulphate of quinin in 40-grain doses.

Colon and Panama are the hotbeds of yellow fever and the free communications between these places and the seaport towns of Costa Rica are responsible for frequent outbreaks of the disease. Segregation and disinfection are not observed to the extent they should be in preventing the spread of yellow fever. Port Limon has gained an unenviable reputation as a focus of infection, largely by mistaken diagnoses. That the disease frequently makes its appearance at that point there can be no question, but that many cases of malarial fever have often closed the doors of commerce is equally true. Isolated cases of yellow fever occasionally have been seen in the mountainous regions and it is not always easy and sometimes impossible to trace the source of infection. Goitre is very common among women, young and old. Gonorrhea and syphilis are prevalent to an alarming extent and are by no means limited to the lower classes, although the negroes furnish the largest percentage. Pulmonary tuberculosis and tuberculosis of the lymphatic glands, bones and joints appear to be quite rare. Rheumatism

is very common and affects the inhabitants of the low lands as well as of the mountainous regions. Barbadoes leg is quite frequently seen, but is more common in the South American countries. Cholera infantum claims many victims throughout the entire year, and it is said that less than 50 per cent. of the infants reach childhood. Faulty feeding is the cause of this enormous infantile mortality.

QUARANTINE.

There is certainly something wrong with the quarantine regulations between the ports of New Orleans and Limon. The health authorities of the port of New Orleans enforce quarantine against the port of Limon seven out of twelve months every year, to the great detriment of the shipping interests. The fact is the New Orleans authorities have no faith in the health officer of the port of Limon and the doctors employed by the United Fruit Company. To a certain extent the action of the Board of Health of Louisiana is justifiable, as formerly the United Fruit Company usually employed recent graduates in medicine, who often have never seen a case of yellow fever and who are not competent to differentiate between this disease and grave attacks of malaria. The same can be said of most of the physicians sent by the board of health of other states to the seaports of Central America. The quarantine system at the port of New Orleans is, however, too complicated. There are two quarantine stations under the jurisdiction of the State Board of Health which often at a distance decides whether or not a vessel should be detained, which often gives rise to great confusion and not infrequently enforces unnecessary quarantine. The best solution of this important and difficult question would be to place the port of New Orleans under the jurisdiction of the Marine-Hospital service, which has done such excellent work in other states in guarding our country against invasion of yellow fever and other infectious diseases from foreign ports.

In conclusion I desire to recommend to my colleagues who are in need of midwinter vacation the hospitable shores and beautiful climate of Costa Rica. The cool nights in the mountainous region can not fail in securing rest for the brain as well as the body, and in restoring the nervous energies which are so heavily taxed by an onerous and exacting practice. They will meet in San José and elsewhere a cordial reception on the part of their colleagues and will leave the country, as I shall do in a week or two, with many regrets and the most pleasant memories, fully satisfied that the time was well spent.

San José, Dec. 30, 1900.

Surgical Treatment of Bubonic Plague.—In a report to the Surgeon-General of the Marine-Hospital Service, Acting Asst.-Surgeon W. Havelburg, of Rio Janeiro, Brazil, states that the clinical registry at the Paula Candido Hospital during the period from June 1 till August 31 shows that there were 221 plague patients treated by extirpation of the infected glands, of whom 45 died, giving a death-rate of about 20.8 per cent. And of 143 patients with solitary infected buboes, treated in the same manner, 23 died, showing a death-rate of about 16 per cent. The diagnosis in all the above cases was confirmed by two bacteriological examinations, one before removal to the hospital and the other after admission to the wards. Serotherapeutic treatment was instituted in a number of other cases, but the effects of operating displayed such favorable results that injection of serum in the others was deemed unnecessary. The necropsy reports in the cases that died showed buboes that were inaccessible to operations, being scattered in the mesentery or deeply situated in other tissues.

Sero-Agglutination in Tuberculous Effusions.—Courmont announces that sero-agglutination does not occur in any effusion except those of tuberculous origin and that it is inversely proportional to the virulence and rapidity of the infection. He noted it in 74 per cent. of all cases of tubercular pleurisy, in a proportion of 1 to 5 or to 20 or even higher, but it was absent in all cases of tubercular miliary pleurisy, peritonitis or meningitis. The effusion in experimental tuberculosis does not agglutinate if the culture inoculated was virulent, but with an attenuated culture it was very pronounced, as much as 1 to 600 in the dog, for instance.—*Sem. Méd.*, November 28.

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MALARIAL FEVER.

Malarial fever prevails especially where heat, moisture and decomposing vegetation are present because these are favorable to the existence of mosquitoes. Malarial infection occurs most commonly after sunset, because mosquitoes, after remaining in hiding during the day, set out upon their depredations after dark. The infection is not widely diffused in a horizontal, oblique or vertical direction because mosquitoes do not fly far from their place of origin, and especially not to a great height. The infection is not conveyed, but rather hindered, by winds, because the insects do not leave their hiding-places when the wind blows. Woods, instead of preventing, may be foci of malarial infection, because the mosquitoes make their hiding places in damp woods and trees.

A great advance was made when, in 1880, Laveran, a French army surgeon at Algiers, discovered the parasite of malarial fever, but it was not till fifteen years later that their complete life-cycle was demonstrated by Ross, a British army surgeon in India. The observations of Laveran were soon confirmed and elaborated by others, particularly in Italy and America. It has been shown that the malarial parasites are protozoan organisms belonging to the order of sporozoa and, by reason of their living at the expense of the red blood-corpuscles belonging to a special suborder known as hemosporidia. Members of this group, though not necessarily of the same genera and species, have been found in batrachia and reptiles, in birds and in mammals.

For a long time a warm discussion was waged as to whether the parasites were polymorphous varieties of a single organism or so many different and distinct organisms, but the consensus of opinion is at present in favor of the latter view. According to Celli there are in man at least three species: Two for the mild fevers—spring quartan and tertian—and one for the severe or estivo-autumnal fevers—tertian and quotidian. The individual identity of the several varieties of malarial parasites has been demonstrated by inoculations from man to man, the same febrile type only being reproduced in every instance. Of course, mixed infection is impossible, and may give rise to anomalous or atypical forms of fever.

It has been shown that in man, as in birds, the hemosporidia have two life-cycles: an asexual cycle in the

blood of malarial animals, and a sexual cycle in the bodies of special mosquitoes.

For centuries it has been a popular belief that mosquitoes have something to do with malarial fever, and Koch found that a similar notion prevailed among the natives in South Africa. In 1848, Nott, an American, suggested that both yellow fever and malarial fever were conveyed through mosquitoes. A similar view was put forward by Allesandrini in 1870, by King in 1883, by Laveran in 1884, by Flügge in 1889, and by Pfeiffer and Koch in 1892. In 1894, and again in 1896, Manson proposed the view that the malarial parasites, in order to maintain their existence, must pass from man to another host, and he concluded that inasmuch as they are incapable of leaving the body through their own efforts and are not extruded in the excreta, they must be removed by some blood-sucking animal, which he believed to be a particular species of mosquito. Ross, then, in 1895 and 1897, was able to demonstrate the parasite in the stomach-wall of particular mosquitoes fed on malarial blood, and he was able also to convey the parasite through the mosquito to birds and to man. Ross' observations were at once verified and elaborated by Italian investigators and others and the evidence is now so complete that there can be no further doubt as to the part played by mosquitoes in the propagation and transference of malaria. If additional confirmatory evidence be wanting it can be found in the development of malarial fever in healthy individuals, in London, inoculated with malarial mosquitoes brought from Italy. Further, the disease did not develop in a number of observers who lived during the malarial season in an intensely malarial district of Italy, but merely protected themselves against the bites of mosquitoes, while the disease prevailed as usual among others in the same locality but not protected against mosquitoes. Not all varieties of mosquito, however, act as the definitive host of the malarial parasite, of which man is considered the temporary host. It is especially insects of the genus *Anopheles*, and particularly *Anopheles claviger*, also called *maculipennis*, although other varieties are capable of playing the same rôle. It is not known with certainty whether, apart from the intermediation of man, the malarial parasite may be transmitted from one mosquito directly to another, either from a parent mosquito to its offspring or from the body of a dead mosquito eaten in stagnant water by larvæ.

It may be conceived that certain conditions predispose to malarial infection apart from those that favor the existence of the infecting mosquitoes. Chilling of the surface of the body seems to be the most important of these, probably by lowering the bodily resistance. The spring is generally the season for mild cases and the autumn that for severe cases.

THE Michigan Board of Examination and Registration has thus far put 43 American medical colleges on its list of reputable schools.

THE PRESENCE OF BACILLUS TUBERCULOSIS IN THE HEALTHY NASAL CAVITY.

Cornet's experimental work led him to state that infected dust is an important and dangerous factor especially to those in attendance on tuberculous patients, and that this danger lies first and foremost in tuberculous sputum that has become dry. In one of his series of experiments he collected 149 samples of dust from various places frequented by tuberculous patients, as hospital wards, private dwellings, streets, etc., and made inoculations into 392 animals. Fifty-nine animals became tuberculous, representing 40 samples of the dust, or a percentage of 26.8, while on the other hand 29 animals which were inoculated with dust from non-infected places, remained healthy.

An interesting series of experiments has recently been made by Flügge and his associates in Breslau with the object of showing, 1. the infectiousness of dust bearing dry powdered sputum, and 2, the infectiousness of fine droplets of mucus expelled by talking, sneezing, coughing, etc., when laden with tubercle bacilli. In the first series, carried out by R. Sticker, infected dust was blown into the faces of guinea-pigs and compared with like tests in which sterilized dust was employed. In the infected cases seven of the eleven animals became tuberculous, while those inoculated with sterile dust remained healthy. But he found the infectiousness of such dust to depend directly on the strength of the air current employed and the absence of moisture. The finest, lightest dust, when perfectly dry, was able to produce an inhalation tuberculosis under the influence of very weak currents of air.

Concerning the infectiousness of fine droplets of mucus laden with tubercle bacilli, uniformly positive results were obtained by Laschtschenko, Beninde and Heymann, each experimenting in a different way. In these experiments phthisical patients were made to cough or speak into the faces of guinea-pigs directly, or they were allowed to cough or speak near sterile plates or dishes containing sterilized salt solution, and this in turn was used for inoculation. It was found that the elements of distance and duration of exposure play most important parts in the dissemination of the germs, for only a few positive results were obtained from exposures made more than 1.5 meters away from the patient and then only after a considerable time. That the conditions in these experiments are actually present in hospitals, factories, counting-rooms, workshops and the like, where the occupants are at all crowded, there is no doubt; it would seem, as urged by Flügge, that this method of infection might largely be done away with if prophylactic measures were instituted.

Strauss first demonstrated in 1894 the presence of virulent tubercle bacilli in the nasal cavities of those who, being non-tuberculous themselves, were in more or less constant attendance on tuberculous patients. His experiments were made on house-physicians, nurses and non-tuberculous patients, and resulted in his finding the

micro-organism in 9 of 29 persons examined, or approximately 41 per cent.

This work suggested the question of the presence of tubercle bacilli in the nasal cavities of healthy persons who did not have the care of the tuberculous at all, and were subjected to only the ordinary amount of infection to which every one living in a large city, especially, must submit. In carrying out this work Jones¹ examined 29 men all in good health, no tuberculous lesions being discovered on physical examination. The contents of the nasal cavities of each, consisting of mucus, solid particles, dirt, etc., were removed by sterile cotton swabs, from the nasopharynx outward, and washed into a test-tube containing 10 c. c. of a sterilized normal salt solution. This solution was then injected, under aseptic precautions, into the abdomen of a guinea-pig, the wound closed by collodion dressing, and the animal allowed to live until it died either from the effects of the inoculation or from other causes. Of the 30 animals inoculated death occurred in times varying from a few hours to eighty-six days. Each animal was examined carefully post-mortem and in the series 3 revealed a generalized tuberculosis of the viscera. This is approximately 10 per cent. of the cases.

In general, this series of experiments goes to show that virulent tubercle bacilli may be present in the nasal cavities of healthy persons in the ordinary walks of life, but not so frequently as in those who have the care of the tuberculous.

THE PURIFICATION OF SURFACE WATER-SUPPLIES.

The Committee on the District of Columbia of the United States Senate is investigating the relative merits of slow filtration through sand beds and rapid filtration in connection with the use of coagulants as applied to surface waters for their purification. The Engineer Department of the Army made experiments on the Potomac river water during the past year and recommended for the water-supply of Washington the adoption of a system of mechanical filtration with alum as a coagulant. The District Medical Society took exception to this recommendation and urged the construction of sand beds for slow filtration as giving better sanitary results.

From the hygienic standpoint the subject before the senate committee is not a difficult one. There is no question as to the efficiency of slow sand-bed filtration in removing bacteria from a polluted water and lessening the prevalence of typhoid fever among the communities using the filtered water. There is, on the contrary, a question as to the efficiency of mechanical filtration, particularly as to the removal of typhoid bacilli, for the installation of mechanical filtration plants in cities has not been followed by that marked diminution in the mortality from this disease which has been recorded in communities which have adopted the sand-bed filters. The mechanical filter is still in the experimental stage

1. Medical Record, Aug. 25, 1900, xlviii, 285-289.

so far as concerns typhoid fever. Its effluent is clear and transparent, but this, from the sanitary point of view, is relatively a minor consideration, the object being to prevent disease and lessen the death-rate.

The efficiency of the sand-bed depends on a slow and regulated filtration; that of the mechanical filter on the addition of alum to the water to clarify it. Carbonates in the water decompose the alum, precipitating the gelatinous aluminum hydrate which entangles clay and other particles constituting the turbidity, together with the bacteria which may be present. These are strained off by the passage of the water through the mechanical filter. It is the alum, not the filtration, which is actively concerned in the removal of the bacteria. If enough alum is added the effluent is clear and gives satisfactory results on bacteriological examination. If an insufficient quantity is added the effluent may be turbid and charged with bacteria. If too much is added or more than can be decomposed by the carbonates present, alum will remain in solution in the effluent as a most undesirable accidental constituent. With care at the water-works alum may no doubt be added to effect its purpose without a trace of it appearing in the effluent, but it will be conceded by all medical men that chemicals which would be injurious in excess should not be added to a water-supply if a satisfactory purification can be effected without their use; and the experiments of the Engineer Department on turbid Potomac river water have shown that such purification can be accomplished by slow sand-bed filtration.

A BAD SUPERSTITION.

According to a Toledo (Ohio) physician, some people in that city have a superstition against paying doctors' bills. They think if they pay him in full they will have to pay him again. "It may be all right," he says, "as a superstition but it is pretty tough on the doctors." This must be a very widespread superstition, and its existence must have been in the mind of the celebrated medical writer who dedicated his works "to all men who are free from superstition." A certain amount of superstition is excusable, in fact it seems almost unavoidable, and the above dedication hits a very limited number of individuals, if indeed any at all, if the term is taken in its widest sense. But the particular form of superstition mentioned above will not be encouraged by the medical profession.

THE SMALLPOX EPIDEMIC.

One of the most afflicted places in the United States appears to be the town of Decatur, Neb., with a population of 625, in which, and its near vicinity, there were reported in the health reports of the Marine-Hospital Bureau, 451 cases of smallpox between April 1 and December 14, 1900. It would seem that the antivaccinationists must have had full sway there, at least as regards revaccination. The small mortality—only four in all—reported would indicate a mild type of the disease, what is usually called varioloid, but does not lessen the peculiarity of the situation. It is a pity that

so salutary a hygienic resource as vaccination has to be defended at the present time, and the epidemic of smallpox the country is now experiencing may have a good effect in reinstating it in popular favor. With "Christian Science" and Dowieism in the field, and with individual and organized antivaccinationists, there is still "chance for a pretty fight" in some communities before the public health is fully protected by compulsory vaccination.

TOO MUCH QUALIFIED.

It appears from an editorial note in the *Medical Press and Circular* that it is possible to be too well fitted for a medical position in Great Britain. In a recent competition for the position of resident house physician at Cardiff, Wales, the rejected candidate showed higher qualifications than his successful rival. When the selection was challenged it was argued on the part of the medical board who made the choice, "that when a man who was head and shoulders above his commanding officer was appointed to a subordinate post there could be no discipline." In other words, the lack of medical qualification of the superior officer should deprive the institution of the services of any better-qualified employees, the better qualified the worse fitted for the place. The plea that discipline would suffer under such conditions is an admission of executive incompetency or a slur on the loyalty and good faith of the better-qualified candidate, and is contemptible in either case. The fact that the resignation of the medical board was threatened when the directors overruled their rejection of the candidate does not speak well for their professional or scientific morals. Moderation in all things is sometimes good advice, but we never knew it applied especially to professional qualifications before.

A NEW YORK "AUNTIE."

A Brooklyn (N. Y.) homeopath, one Dr. Montague Leverson, is reported to have advised antivaccinationists to shoot down any one trying to vaccinate them or any member of their families. While the individual seems to be a general "auntie," and his influence is lessened to some extent as this fact is commonly appreciated, yet such advice is liable to create trouble when given to ignorant and fanatical people and can not therefore be condoned on any claims of the giver's irresponsibility. A still more serious matter, if true, is his statement publicly made that he had attended thirty cases of smallpox, some of them of the most virulent nature, without reporting them to the board of health. If he did this he is more than a blatant nuisance, he is a living danger to the community and needs the earliest possible attention on the part of the criminal courts. A man who goes about endangering the lives of those who come in contact with him by carrying the infection of a loathsome and fatal disease, who by his concealment of facts prevents the individuals and the community from protecting themselves from the same, and who further does all he can to advocate the neglect of all precautions, is a public enemy. We may perhaps try to consider him a fanatic and therefore only a dangerous fool, but if the criminal law can not touch him the lunacy law should; in any case, his mischief-making should be stopped. There are too many such individuals extant and it is

possible that a dose of the criminal law would be the best prophylactic, if not cure, for this kind of lunacy.

THE EPIDEMIC OF INFLUENZA.

The epidemic of influenza that is now spreading over the country rivals, if it does not exceed, in extent and virulence that of 1890 and 1891. Indeed, there are some reasons to think that it may be attended with even a greater increase over the average mortality than was observed in that epidemic. The bacillus was detected by the Chicago Health Department as early as October, but it is only lately that the disease has taken on an especially severe type and it is probable that the same is true in other cities. In New York it was reported that the number of cases during the second week in January exceeded a hundred thousand, and similar reports of its frequency come from other sections all the way from the Atlantic to the Pacific. Cases of grip pneumonia seem to be particularly frequent with this epidemic and a very perceptible figure of direct mortality from influenza is noticeable in the death statistics. The mortality from other diseases following and directly induced or prepared for by influenza can hardly be calculated, but is likely to seriously affect the death figures, especially in the large cities. There will, in all probability, be very much lessening in the dividends of life-insurance companies for the present year on account of the epidemic. The infectiousness of grip does not appear to be thoroughly realized by the public and the chances of exposure are so great that it is possible that if it were, the spread of the disorder would be very little affected. This is no reason, however, why unnecessary chances should be taken and it might be well if people were generally warned that there are possibilities of its communicability. It is of still more importance that they should be instructed as to the risks of exposure during and shortly after an attack. Influenza is the young David among epidemics; while cholera and ordinary pestilences slay their thousands, it slays its tens of thousands through the other disorders it directly favors and incites.

AGGLUTINATION OF THE TUBERCLE BACILLUS BY TUBERCULOUS EXUDATES.

As previously noted in these columns considerable work is being done on the value in diagnosis of the agglutination of the tubercle bacillus by the serum of tuberculous patients. Arloing and Courmont have been interested especially in this subject, and Arloing has developed a special method for obtaining homogeneous cultures of the bacillus suitable for the agglutination test. Recently Courmont¹ published a summary of his observations during the past two years on the agglutination of the tubercle bacillus by various exudates, tuberculous as well as non-tuberculous. He believes that this method of serum diagnosis may be of great practical importance. The reaction is easily and rapidly obtained in the positive cases. Non-tuberculous exudates do not agglutinate the tubercle bacillus when diluted 1:5, while the majority of tuberculous exudates agglutinate the bacillus in dilutions of from 1:5 to 1:20. Exudates in especially virulent cases of tuberculosis sometimes do not

give the reaction, and in certain benign cases of tuberculous pleuritis the reaction may be absent in the beginning but it may appear later on toward the period for recovery. There is no constant relationship between the agglutinating power of the blood-serum and the exudate in these cases—the serum may be agglutinating while the exudate is not, and vice versa. The agglutinating properties of tuberculous exudates of experimental origin correspond closely to those observed in human serosities. Hence a serous fluid that gives the reaction at a dilution of 1:5 is in all probability of tuberculous origin; absence of the serum reaction is merely presumptive evidence against tuberculosis. Further studies are desirable in order that material may accumulate from which desirable conclusions may be drawn. A comparative study of the agglutinating powers of the blood-serum and of the pleural tuberculous exudates would probably be of considerable value.

OCCURRENCE OF TYPHOID BACILLI IN EXUDATIVE AND SUPPURATIVE PROCESSES AND IN THE FETUS.

The careful study by modern exact methods of the various inflammatory complications and sequelæ of typhoid fever has shown that bacillus typhosus may be the only micro-organism present. Its etiologic relationship in some of the processes here referred to seems firmly established. Pleurisy, a not common complication of typhoid fever, has been shown to occasionally depend upon the presence of the typhoid bacillus. Gordinier and Lartigau¹ describe a case of this kind. A purulent exudate had to be removed from the right pleural cavity by aspiration on three conditions. This fluid contained the bacillus in pure culture. The third week seems to be the favorite time of onset of typhoid pleuritis, the fluid in the majority of cases being purulent. Hemorrhagic and serofibrinous exudates also occur. Oscar Richardson² describes an instance of typhoid abscess of the mammary gland, developing during convalescence from typhoid fever; also a typhoid suppurative periostitis of the tibia under similar circumstances. He furthermore describes typhoid suppurative prostatitis and a pelvic abscess containing typhoid bacilli in two cases which came to autopsy. The typhoid pelvic abscess occurred in a tuberculous woman who had both typhoid and tuberculous ulcers in the intestines and also tuberculous salpingitis. These examples show that the pyogenic activities of the typhoid bacillus may unfold themselves in all possible localities. Richardson also describes two fetuses expelled prematurely in the course of typhoid fever in the mothers; in one typhoid bacilli were found in the liver, in the second they were more widely distributed. In all the cases mentioned in the foregoing the bacilli were agglutinated by typhoid serum in marked dilutions.

THE BACTERIOLOGY OF ACUTE APPENDICITIS.

It has long been the general opinion that the colon bacillus is the essential micro-organism in acute appendicitis. The presence of this bacillus in the intestinal contents and the frequency with which it has been found in acute appendicitis in pure culture have left little

1. Arch. de Med. Exp. l'Anat. Path., 1900, xii, 697-732.

2. American Journal of the Medical Sciences, 1901, cxxi, 43-45.
Boston Journal Society of Medical Sciences, 1900, 116-121.

room for any other opinion. There has been an idea current for a long time, however, that possibly the colon bacillus is the result of a secondary infection and that its profuse growth rapidly kills off the principal pathogenic bacteria, namely the pyogenic cocci. This idea receives strong support in the recent study of the bacteriology of 100 cases of acute appendicitis by H. C. Low.¹ He made his cultures on Löffler's blood-serum. Agar plates, commonly used by many previous investigators, were found to be unreliable because they did not show cultures of all the organisms present. *Streptococcus pyogenes* or *micrococcus lanceolatus* was present in 79 per cent. of the cases, the colon bacillus occurred in 81 per cent. In cases under three days' duration the streptococcus was present in 81 per cent. and the colon bacillus in 62 per cent. In chronic cases the colon bacillus becomes more common, suggesting that its presence means secondary infection. It therefore seems probable that the streptococcus and allied pyogenic organisms are the essential factor in acute appendicular abscess and that the profuse growth of colon bacilli and other intestinal bacilli outgrow the cocci. One reason why other observers have found colon bacilli only in such large percentages of the cases is very likely the exclusive use of agar and bouillon media, which do not permit the growth of streptococci as well, by far, as blood-serum.

THE TONSILS AS A PORTAL FOR RHEUMATIC INFECTION.

Although a specific etiologic factor has not yet been isolated, it is generally agreed that acute rheumatism is an infectious disease, and it has of late more especially been pointed out that the tonsils often constitute the portal of entry. Whether any etiologic relation exists between acute, subacute and chronic rheumatism is a matter concerning which more doubt exists. It is possible that acute rheumatism proper, apart from various forms of infective arthritis, is a specific disease of uniform etiology, although it is held by some that it is really a variety of mild, attenuated pyemia. The other varieties of so-called rheumatism, it is suggested, may be due to a modification of the same infective process: or, at times, at least, they may not be rheumatic at all in the specific sense. The tonsils seem to have been the portal of entry not only for the articular infection, but also for myocardial infection; and possibly other apparently cryptogenetic processes owe their origin to this source. Nor is it necessary, as it appears, for the intermediating tonsils to be the seat of macroscopic or even microscopic disease. Further, the tonsillar affection may be some days old, and even recovered from, before the secondary complicating conditions make their appearance. At times the rheumatic manifestations proper may be so slight or transient as not especially to attract attention. Bruck² points out that an analogous mechanism may explain some of the cutaneous exanthems believed to be of rheumatic character, such as nodose erythema, multiform exudative erythema, and rheumatic purpura or peliosis, and he reports four cases in which rheumatic purpura was observed in association with ton-

sillitis. In all, the symptoms of the former followed almost immediately on those of the latter, although the difficulty in swallowing in three was so slight as to be almost unnoticed. In the remaining case the anginal symptoms were pronounced and articular effusion and petechiae were observed to develop as the former subsided. In two cases there was also articular and muscular pain in the neck, the back and the upper extremities.

THE RELATIONS BETWEEN ACUTE AND CHRONIC ARTICULAR RHEUMATISM.

While arthritis confined to a single joint, or involving a greater or lesser number of joints in varying distribution, may be due to a number of causes, acute articular rheumatism is to be looked on as a specific infectious arthritis whose etiologic factor, however, has not yet been positively identified. In the same way chronic rheumatism may be due to a multiplicity of causes and the question has been raised whether there is really any relation between the acute and the chronic articular disorder. Finally, subacute rheumatism occupies a scarcely less anomalous position. There seems to be a growing belief that often the three disorders named are unrelated, although agreeing clinically in some respects. Weisz,¹ on the other hand, contends not only that the acute and chronic articular forms possess certain features in common, but also that there is no material anatomic, clinical or etiologic distinction between chronic articular rheumatism and deforming arthritis. In the opinion of this observer, the commencement of chronic articular rheumatism can often be traced to an attack of acute polyarthritis. Although bacteria have been found in the joints in cases of both acute and chronic articular rheumatism, no one has, as yet, been agreed on as the exciting agent in either disease. Further, while fever is more commonly present and is more marked in cases of acute than in cases of chronic rheumatism, exceptions to and reversals of this rule occur. In addition, acute rheumatism is the more frequent in the young, chronic rheumatism in the old, and the former are the more susceptible to influences that cause elevation of temperature. As a rule, there is no essential difference between the anatomic alterations attending acute and chronic rheumatism. It appears that in the young, in whom acute rheumatism is the more common, the endocardium especially exhibits a tendency to permanent disease; while in the old, in whom chronic rheumatism is the more common, the articular capsule exhibits such a tendency; and the opinion is expressed that such differences as exist between acute and chronic rheumatism are of degree and not of kind, and are related in part to variations in age. This fact may explain the greater frequency with which chorea is associated with acute rheumatism. Among less common symptoms it is pointed out that cutaneous edema, rheumatic nodules, rheumatic perineuritis, changes in the cartilages and bones, attend both the acute and the chronic disease.

1. Deutsches Archiv f. klin. Med., lxxviii, H. 1 u. 2, p. 95.

1. Medical and Surgical Reports of Boston City Hospital, 1900, 11th ser., 173-178.

2. Berliner Klin. Woch., 1900, No. 45, p. 1005.

CURABILITY OF SCOLIOSIS.—K. Port says that when the growth of the bones has ceased any attempt at correction of curvature of the spine is absolutely hopeless.

Medical News.

ALABAMA.

DR. J. W. WILLIAMS, of the Wooley Springs region, was shot and seriously wounded December 10, but is now expected to recover.

THE BILL appropriating \$25,000 to the Alabama-Bryce Insane Hospital at Tuscaloosa for the purpose of completing the department for negroes at Mount Vernon, referred to in a recent issue of THE JOURNAL, was passed by the senate without a dissenting vote.

SIX MOBILE PHYSICIANS, Drs. Charles A. Mohr, James G. Thomas, Vivian P. Gaines, Rhett Goode, city health officer; Paul J. M. Acker, county health officer, and L. Van Es, members of the board of health, at the request of the Mobile city council, have visited New Orleans and investigated the methods employed in that city for the inspection of meats and milk.

REPRESENTATIVE S. J. GRIFFIN, of Cullman county, has introduced in the Legislature a bill which seeks to regulate the practice of medicine in the state. The bill makes it a misdemeanor for any person to treat disease without having a license from a board of medical examiners authorized by law, and fixes the penalty at not less than \$100 nor more than \$500.

CALIFORNIA.

IN BAKERSFIELD, 8 new cases of smallpox from two foci were discovered December 31.

DR. WILLIAM B. LEWITT has been named as member of the San Francisco Board of Health, vice Dr. Louis Bazet, resigned.

THE CLASS TOWEL in schools has been tabooed by Health Officer Todd, of Oakland, who insists on individual towels for school children.

DR. LELAND E. COFER, U. S. M.-H. Service, who has served as quarantine officer at Port Los Angeles for some time, has been assigned to the charge of the marine-hospital at Honolulu, H. I.

ASSISTANT SURGEON-GENERAL J. H. WHITE, U. S. M.-H. Service, is in San Francisco investigating the charges made by certain newspapers of the city against Quarantine Officer Kinyoun.

DR. H. B. STEHMAN, Los Angeles, has received a handsomely engrossed, morocco bound, copy of resolutions recently adopted by the board of managers of the Presbyterian Hospital, Chicago, in accepting his resignation as superintendent after fourteen years' service in that position.

GEORGIA.

THE DEATH-RATE of Atlanta for 1900 was 14.73 per 1000; for 1899, 17.13 per 1000. Violence caused 8.57 per cent. of the 1930 deaths during the year.

"DR." C. R. KING, of the "New Medicine Company" of Atlanta, has been fined \$100 and costs by Judge W. T. Newman, of the United States Court for sending obscene matter through the mails.

COUNCILMAN DR. THOMAS D. LONGINO, Atlanta, proposes to substitute for the present system of seven ward physicians at a salary of \$50 per month each, a health officer with the requisite number of assistants.

ILLINOIS.

THE CITY PHYSICIAN of Springfield, Dr. Archie W. Barker, reports that during the last year he had prescribed for more than 1500 patients and had made more than 600 visits.

AN INFERNAL MACHINE addressed to Dr. Sylvester A. Coffman, Hume, was received by his brother a few days ago. Fortunately the mechanism had become disarranged and no explosion occurred when the box was opened.

THE GOVERNOR in his message recommends the enactment of a law making boards of county commissioners boards of health in their respective counties. He also recommends legislation for the establishment of a sanitarium for the treatment of tuberculosis.

SMALLPOX is reported at Fountain Green, Hancock county, 3 cases; Granite City, Madison county, 12 cases with 3 deaths; Collinsville, Madison county, 3 cases; and Bellaire, Crawford county, 1 case. Bloomington is combating an invasion of the disease, which is said to have been brought to the city from Missouri by the colored crew of a work-train.

Chicago.

SECRETARY GAGE has sent to Congress a request for \$20,000 to be used for improvements at the United States Marine-Hospital.

BY THE WILL of Mrs. Aurelia R. King, relict of Henry W. King, which was filed for probate, January 7, the Presbyterian Hospital receives \$1000.

ABOUT 75 applicants for certificates to practice medicine or midwifery in Illinois were examined by the State Board of Health, January 9, 10, 11 and 12 at the Great Northern Hotel.

THE Commissioner of Health desires to secure reports of the Chicago Health Department for the following years: 1870-3, 1876, 1877, 1879, 1880, 1886, 1889, 1890. Address Dr. Arthur R. Reynolds, Room 2, City Hall, Chicago.

INVESTIGATION by the health department has disclosed that St. Anthony's Hospital, a private institution on Frankfort street, is being operated without a license. It was at this place that two patients died January 3 from asphyxiation by gas.

DR. CHARLES EERLEIN, of the county asylum at Dunning, was fined \$10 for contempt of court by Judge Baker, January 12, because he did not remain in court as a witness. He gave as reason that he had already been away from his duty two days, that he could not longer neglect his patients, and furthermore, that Superintendent Lange had ordered him not to appear. He was released after filing a bond for \$500.

THE HEALTH DEPARTMENT states that pneumonia is reported as the cause of 161 out of the total 551 deaths recorded last week—an increase of 32 over the previous week's record and an excess of nearly 43 per cent. over that of the corresponding week last year. Never before in the history of the city has this disease been so prevalent and so fatal. The highest previous reported number of pneumonia deaths was in the week of Feb. 25, 1899, when 140 were recorded. The year 1899 was marked by a serious increase in the mortality from pneumonia. During the five years, 1894 to 1898, inclusive, the average yearly deaths from this disease numbered 2130; in 1899 there were 3438, and in 1900 there were 3389 such deaths—an average increase of 37.6 per cent. and the first twelve days of 1901 show an even higher rate of increase.

AN ANTI-SPITTING ORDINANCE, the second in the history of the city, was passed in the City Council, January 14. It is as follows: Whereas, Spitting on sidewalks, in public places and in public conveyances is detrimental to health, by reason of the danger of spreading contagious disease, and is also a public nuisance which should be abated, therefore, Be it ordained by the City Council of the city of Chicago, that no person shall spit on any public sidewalk or on the floor of any public conveyance, or on the floors of any theater, hall, assembly room or public building; that any person violating the provisions of this ordinance shall on conviction be fined in a sum of not less than \$1 nor more than \$5; that this ordinance shall be in effect from and after its passage and approval by the mayor.

THE SMALLPOX SITUATION is substantially unchanged. The 19 new cases discovered during the week were, without exception, persons who have never been vaccinated or at some period so remote that the vaccination had lost its protective power. Susceptibility to the contagion of smallpox differs in individuals, and the same is true as to the protection of vaccination. As a rule, a successful vaccination in infancy or early childhood, followed by a successful re-vaccination at 14 or 15 years of age, confers an absolute immunity from smallpox during life. In a certain number of cases, however, probably 2 per cent., the vacinal protection is exhausted sooner and the individual is then liable to contract smallpox on exposure. There is no other known method of determining when this occurs or who these susceptibles are except by the test of re-vaccination; if this "takes" in a given individual it is certain that such individual would have "taken" smallpox or varioloid, if exposed to the contagion.

INDIANA.

ELKHART COUNTY pays \$100 a year for the care of the sick in its asylum to Dr. Metius M. Eckelmann.

ST. EDWARD'S HOSPITAL, New Albany, is to be paid \$625 a year for two years by order of the city council.

SIXTEEN APPLICANTS for licenses to practice medicine appeared before the State Board of Medical Registration and Examination, at Indianapolis, January 8.

DR. I. WRIGHT SHORT has been appointed surgeon of the Lake Shore and Michigan Southern Railroad at Elkhart, vice Dr. William E. Bowman, resigned.

A BILL, inspired by the spread of the "Dowie" heresy in Lake county, will be introduced in the state legislature. It is designed to protect young children from the fanaticism of their parents who may desire to have them treated by "faith-cure"

methods. The bill provides that every parent shall employ a registered physician for children under the age of 16, and also provides serious penalties for negligence or violation of the law.

IOWA.

DR. G. ALLEN STAPLES and wife, Dubuque, have returned from Europe.

DR. FRED W. POWERS, Reinbeck, has been appointed a member of the State Board of Health to succeed Dr. Joseph A. Seruggs, Keokuk, whose term has expired.

THE FACULTY of the medical department of the State University at Iowa City has voted to increase the length of the college term from six to nine months, the new provision to become effective September 1.

THE STATE BOARD OF HEALTH, believing that the wide spread of smallpox in the state is due, in part at least, to the failure of physicians to make diagnoses and to enforce quarantine, has promulgated an order that physicians who fail to comply with the regulations will be cited to appear before the State Board of Medical Examiners and show cause why their certificates should not be revoked for incompetency or wilful violation of the rules of the board.

KENTUCKY.

DR. MELVIN H. WHEELER, Falmouth, had a paralytic seizure, January 1.

DR. W. E. CLARK, Sturgis, has been found guilty of performing criminal abortion, and has been sentenced to imprisonment for ten years.

Louisville.

DR. WILLIAM R. BLUE, Louisville, has recently returned from a several months' visit to Europe, accompanied by Mrs. Blue.

THE GRAY STREET INFIRMARY, Louisville, has made large additions to its building, increasing the number of rooms and adding a new operating room.

THE MEDICAL department of Kentucky University has built two large lecture amphitheaters adjoining the main building, giving needed laboratory room in the main building.

THE ANNUAL SESSION of the three spring and summer medical schools began January 1 with large classes. The four years' course has not seemed to diminish the attendance at any of the colleges.

THE HOME FOR FRIENDLESS WOMEN has elected the following medical staff: Dr. Ewing Marshall, chairman; Dr. Henry E. Tuley, secretary, and Drs. Walter F. Boggess, Philip F. Barbour, R. Lindsey Ireland, and Hugh N. Leavell. Drs. Frank C. Simpson and Louis Frank have resigned from the staff.

DR. J. E. CASHIN has been selected by the Louisville General Council special committee on sanitary affairs to make a chemical and bacteriological examination and report whether or not the water-supply of Louisville is contaminated by sewage from the Lakeland Asylum, which flows into the river via Goose Creek. The city will pay \$500 for the work.

THE APPORTIONMENT of service at the City Hospital was made January 1: January and February, the faculty of Kentucky University Medical Department; March and April, Hospital College of Medicine; May and June, Kentucky School of Medicine, July and August, non-school members of the profession; September and October, University of Louisville, Medical Department, and November and December, Louisville Medical College.

DR. DUDLEY S. REYNOLDS, Louisville, according to the *Louisville Monthly Journal of Med. and Surgery*, has obtained a verdict of \$9,166.66 damages against the Louisville & Nashville railroad for injuries sustained from a lump of coal which fell from a coal car of an express train, as it passed the platform on which he was standing, striking him in the abdomen, just above the pubes, and inflicting injuries from which he is still suffering.

LOUISIANA.

DR. C. PEARL MUNDAY has been appointed assistant local surgeon of the Southern Pacific Railroad at Westlake.

DR. CYRIAQUE J. GREMILLION, shot and killed Dr. S. D. Beville, at Alexandria, January 7, as a result of a quarrel over a patient.

JAMES GIBBONS, an interne at the Charity Hospital, New Orleans, died January 1 from hemorrhage and shock resulting from a gunshot wound received in a fight with footpads.

THE SUIT against Dr. Oscar Lanng, New Orleans, for \$10,106 damages for "negligence and want of skill" whereby Oscar Stern lost the sight of an eye, has been decided in favor of the defendant, the court finding that the loss of sight in the eye was not proved to have resulted from any fault of Dr. Lanng.

IN SPITE of its poor supply of funds from the city budget, the New Orleans Board of Health continues its work. With

the help of a temporary 20 per cent. reduction in the official salaries and a residue of \$300 from last year's funds, nine inspectors will be retained for the time being on full pay.

MASSACHUSETTS.

LOWELL GENERAL HOSPITAL is to receive \$5000 from the estate of Mrs. Julia A. Simpson, of Lowell, the income from which is to be used for the maintenance of a free bed.

THE BOSTON CITY COUNCIL has approved the following appropriations for the hospital department; \$100,000 for a surgical out-patient department building; \$120,000 for a new isolation ward and \$46,500 for sundry repairs and improvements.

THE NEW BUILDING of the Boston Medical Library, which is exceeded in size only by the College of Physicians, Philadelphia, and the New York Academy of Medicine, was dedicated January 12. It is attractive in architecture, and is finely appointed, the cost thus far being \$140,000.

MICHIGAN.

ATTORNEY-GENERAL OREN has decided that townships must erect contagious-disease hospitals.

DR. FREDERICK B. WOOLSEY shot and seriously wounded A. L. Manly, Peamwell, during a quarrel, January 10.

SMALLPOX has been stamped out at Saginaw. The last patient has been discharged from the isolation hospital.

A RUMOR is prevalent that Dr. Jacob S. Shoemaker, of New Lothrop, who left there several months ago for South America, contracted yellow fever at Panama, and died there.

DR. VICTOR C. VAUGHAN, Ann Arbor, has been appointed a member of the State Board of Health, vice Prof. Delos Fall, Albion, resigned, and was present at the meeting, January 11.

DURING THE last three months of 1900, cholera morbus, typhoid fever and scarlet fever were more prevalent, and erysipelas, intermittent fever, remittent fever, pneumonia and whooping-cough less prevalent than usual in the state, as compared with the corresponding periods of the last decade.

MISSISSIPPI.

THE TOM FRANKLIN HOSPITAL, connected with the Industrial Institute and College, Columbus, was formally opened December 20.

DR. THOMAS D. ISOM, Oxford, the oldest practicing physician in Mississippi, has resigned his position as surgeon of the Illinois Central Railroad.

DR. JOSEPH T. WARE, Starkville, shot and killed J. B. Hull, at Ackerman, January 1. Dr. Ware has been bound over under a bond of \$2000, to await the action of the grand jury.

DR. JOHN E. HUNTER, secretary of the state board of health, reports that county health officers complain that it is impossible to prevail upon the county boards of supervisors to make adequate provision for handling the smallpox epidemics in certain localities. A report from Holmes county shows a total of 12 deaths out of 18 cases, all of them being negroes.

MISSOURI.

THE ST. JOSEPH City Council has authorized the erection of a new isolation hospital.

DR. DAVID R. PORTER, Kansas City, has been appointed a member of the board of pension examiners, vice Dr. Chett McDonald resigned.

SMALLPOX is reported in more than 100 counties in the state, and the quarantine measures thus far taken have failed to stop the spread of the disease.

DR. JAMES C. SMITH, Agency, has been appointed second assistant at the State Hospital for the Insane, No. 2, St. Joseph, to succeed Dr. Charles B. Simeoe, who resigned December 31, to take charge of the Missouri colony for the feeble-minded and epileptic at Marshall.

DR. EDWIN E. HUNTER, St. Joseph, assistant city physician, has addressed a communication to the Board of Health urging that all children attending the public schools be vaccinated, as a precautionary measure, because smallpox is epidemic in several neighboring cities.

THE STATE BOARD OF HEALTH has elected Dr. C. B. Elkins, Ozark, president; Dr. J. T. McClanahan, vice-president, and Dr. E. C. McElwee, secretary. Dr. S. C. James, Kansas City, introduced a resolution rescinding the action of the July meeting of the board in Kansas City in 1899, thus making it necessary for the board to recognize the diplomas of all colleges who matriculated students in 1898, and who graduated at the end of the scholastic year of 1901 and to register or license those graduates of any college having a three-year course.

A SYSTEMATIC CRUSADE of compulsory vaccination was begun in Kansas City, January 10, by physicians in the employ of the city. Dr. G. O. Coffin, city physician, has divided the business part of the city into six districts, and a physician has been detained to have charge of each district. Each physician is to

make a house-to-house canvass, and every person who can not show a good scar must be inoculated. Smallpox continues to gain headway in spite of the precaution, and more than 100 cases are now said to exist in the city.

AN AMENDMENT to the law regulating the practice of medicine will be introduced by Senator Rollins of St. Louis, which provides that "any person holding himself or herself out to the public as maintaining an office at any given place in this state where he or she will treat the sick, and it shall be shown that said person does not actually, and in person, do so at the place represented; or that he or she is a non-resident of this state and does not in person practice the profession of medicine at the place represented, shall be by the board adjudged guilty of unprofessional and dishonorable conduct in the meaning of the preceding section, and it shall be the duty of the State Board of Health to revoke the certificate or certificates held by any and all such persons."

MARYLAND.

DR. W. E. GRIMM, Patterson's Creek, W. Va., was arrested in Cumberland, January 3, on the charge of practicing medicine in Maryland without license and was bailed for a subsequent hearing. Dr. Grimm was the first physician to attend the smallpox patients at Pinto, Allegheny county, being constantly on the scene when another physician could not be obtained.

Baltimore.

DURING 1900, 10,700 persons died in Baltimore. This represents a mortality of 21.2 per 1000.

THE BOARD OF SUPERVISORS of City Charities has appointed Dr. Lindsay Peters resident physician of the insane department of Bayview Hospital, the city almshouse.

DR. WILLIAM RUFFNER STOVER, resident physician of the Baltimore University Hospital, has resigned to commence private practice, and Dr. William D. Bacon, assistant physician, succeeds him.

THE FLINT CLUB, named in honor of Prof. Austin Flint, held its annual banquet on the evening of January 3, Sheriff John B. Schwatka, M.D., being the presiding officer and toastmaster. The club was organized sixteen years ago by five physicians of this city.

NEBRASKA.

OMAHA has two cases of smallpox, and Lincoln one case.

DECATUR, a town of 600 inhabitants, is reported to have 416 cases of smallpox.

DR. ALEXANDER YOUNG, Arcadia, has been appointed by the governor, assistant physician at the State Hospital for the Insane, Norfolk.

THE SUPREME COURT of the state having decided adversely to the appeal of C. W. Little, a practitioner of osteopathy, he threatens now to carry the case to the United States Supreme Court for redress. His attorneys claim that by the decision the appellant has been deprived of his rights under the fourteenth amendment.

NEW JERSEY.

DR. CHARLES B. SMITH has been appointed surgeon of the Lackawanna railroad at Washington.

NOW THAT the danger of an epidemic of diphtheria is over, the health committee of the Elizabeth City Council boldly refuses to approve the bills for the expense incurred by the board of health in checking the disease.

DR. CHARLES V. BURKE, Newark, who sued Justice James J. Brylan, to recover \$210, the amount agreed upon by telephone for an operation on the defendant's brother, was non-suited, the court holding that a telephone agreement was not binding.

IT IS CLAIMED that at the present time there are no funds available for the payment of current expenses of the Burlington County Hospital, Mt. Joy, in consequence of which this institution may be closed; \$2000 is needed to continue the work.

THE TRADE COUNCIL of Bridgeton has decided to make a donation of \$10,000 to the Bridgeton Hospital. It has been decided to raise this amount by having every member of the federation, mechanics, sales-people, and laborers, give half a day's wages toward the fund.

SCARLET FEVER is prevalent at Vineland, Swainton and Court House, Cape May County, where the schools have been closed and services at the churches have been suspended, and diphtheria at Folsom, where all churches and schools are to remain closed until all danger is over. La grippe is epidemic at Princeton, where 200 cases are reported.

THE FOLLOWING PHYSICIANS were elected by the board of trustees of the Cooper Hospital of Camden, January 8: Medical staff, Drs. William A. Davis, E. L. B. Godfrey, William R. Powell and H. Genet Taylor; surgical staff, Drs. Daniel Stroock, Joseph L. Nicholson, Paul M. Meecray, and Edward A. Schel-

lenger; ophthalmologist, Dr. William R. Powell; gynecologists, Drs. Dowling Benjamin and Joseph S. Baer; pathologist, Dr. Walter S. Bray; laryngologist, Dr. Ernest S. Ramsdell. During the past year 644 patients were admitted to the hospital; of this number 63 died and 251 were discharged, cured.

NEW YORK.

HEALTH OFFICER MOORE, of Syracuse, has issued an order for the compulsory vaccination of scholars in the public, private and parochial schools of the city.

ELMIRA has 1500 cases of grip, Binghamton 2000 cases, with 50 of typhoid, Albany 500, and cities and towns throughout the state are equally affected.

THE BEAHAN HOSPITAL has been incorporated at Canandaigua, with a capital stock of \$10,000 and the following board of directors: Drs. Albert L. Beahan, Matthew R. Carson, Orlando J. Hallenbeck, John H. Jewett, Frederick E. McClellan and Harry C. Buell.

A MOVEMENT is on foot to establish, through private subscriptions, a sanatorium in the Adirondacks for working women, young married women and children suffering from consumption. A committee has been organized, of which Mrs. George F. Shrady is president. The sanatorium is to be located at Lake Kushaqua.

A NEW LUNACY BILL has been drawn up by Drs. Nelson H. Henry and John H. Girdner for presentation to the legislature, which provides that every judge to whom application is made for the examination of a supposedly insane person, shall designate a referee, and that it shall be the duty of the latter to be present at the examination conducted by the medical experts and certify as to its regularity. The bill also provides that to be eligible for the position of medical examiner in lunacy one must have had at least two years' experience in the care of the insane.

THE STATE FOREST PRESERVE BOARD and the State Board of Health have at last agreed and approved the site already recommended by the trustees for the State Hospital for the Treatment of Incipient Tuberculosis, at Raybrook, three miles southeast of Saranac village, on the side of a hill, where the hospital will be well protected from the prevailing winter winds. There are in all 525 acres, the cost of which to the state has been fixed at \$7500. Most of the adjoining property already belongs to the state. There is an ample water-supply, and the place is accessible by the New York Central railroad, and by the Chateaugay branch of the Delaware and Hudson railroad. Only \$1000 of the \$50,000 appropriated last winter has been expended. It is intended that the hospital shall accommodate 200 patients.

Buffalo.

WORD HAS been received by Dr. Jacob S. Otto, superintendent of the sanitary exhibit of the Pan-American Exposition that all the exhibits made by the United States in the department of hygiene at the Paris Exposition will be sent to Buffalo.

AT THE annual meeting of the active members of the Sisters Hospital the following officers were elected for the ensuing year: Dr. Lawrence G. Hanley, president; Dr. Henry C. Buswell, vice-president, and Dr. Nelson W. Wilson, secretary.

THE CENSORS of the Erie County Medical Society have singled out the case of William Carpenter, who was acquitted by the grand jury of illegally practicing medicine and recommended that in consequence of this acquittal it would be advisable for the society to favor an amendment to the law relating to fines, whereby they shall be paid hereafter to the county treasurer instead of to the treasurer of the society. The censors understood that the existing arrangements concerning fines had been conducive to Carpenter's acquittal. They also asked for authority to employ detectives to continue the work of collecting evidence in the cases of illegal practitioners.

New York City.

A TUBERCULOUS PAVILION, capable of accommodating 200 patients, was opened at Bellevue Hospital, January 1. It is in charge of three graduate nurses and the house staff.

DR. HERMANN KNAPP has given to the New York Ophthalmic and Aural Institute, with which he has been long prominently connected, an adjoining plot of valuable land, with a commodious building.

AT THE annual meeting of the Beth Israel Hospital it was stated that the new building is nearly completed, and that when finished it will represent an expenditure of about \$200,000. The total donations to the building fund so far amount to \$40,000. During the past year 531 patients have been received into the hospital, and 282 have been refused for lack of accommodation.

THE FRENCH CONSUL-GENERAL has returned from Europe after making application to the French government for \$50,000

to assist in providing more extensive accommodations in the French Hospital of this city. The changes contemplated will cost about \$200,000, the hospital now having room for only 60 patients. The French government has paid a certain amount annually to the hospital, but the increase in the French population has made the proposed changes necessary.

THE MONTHLY BULLETIN of the State Board of Health shows that there are outbreaks of smallpox in 17 places in the State. There had been no smallpox for three months prior to the close of November, and then a traveling troupe of colored minstrels exhibited at eight places in the eastern part of the state before it was discovered that there was smallpox among them. They touched the locality in which the smallpox made its appearance recently in New York City, and smallpox followed in their trail at Albany, Schenectady and Gloversville.

NINE MORE CASES of smallpox have developed in the city in the past week. Two of them were inmates of a lodging-house, and were the only ones there who had positively refused to allow the public vaccinators to vaccinate them. One of these, a man named Joyce, has probably been the means of spreading the disease quite extensively, for, he says that feeling ill and not knowing what ailed him, he went to Bellevue Hospital early in the morning, and was told that he had erysipelas. After receiving some medicine he was allowed to depart, and after wandering around for some time he walked across the Brooklyn bridge and into the office of the department of charities.

GRIP is very prevalent, and it is the opinion of the health authorities that a severe epidemic of this disease is imminent. Reports show that since the first death from grip was reported, Nov. 10, 1900, there has been a steady weekly increase, the total number of deaths to date being 62. Including the first and very fatal epidemic of grip, which occurred in the winter of 1890-91 there have been altogether up to the present time 3796 deaths from this disease in the Borough of Manhattan. At the present time it is estimated that not less than 4 per cent. of the population is suffering from grip, and the records of the police department show that about 10 per cent. of the police force is ill, for the most part with the grip. For the week ending Jan. 6, 1901, there were 8 deaths from the grip, while the corresponding week this year showed 36 deaths from grip in Manhattan and Brooklyn. Since that date more than 25 deaths from grip have already been reported.

OHIO.

DR. FRANK S. MERWIN, Youngstown, is seriously ill with typhoid fever.

DR. SETH W. BECKWITH, Toledo, ex-coroner of Lucas county, is seriously ill.

DR. BYRON C. HENDERSHOTT, New Philadelphia, has been appointed surgeon of the C. & M. railroad.

FOUR MEMBERS of the staff of the Mahoning Valley Hospital at Youngstown, Drs. Albert L. King, Charles D. Hauser, Albert E. Warren and Charles H. Slosson, have resigned, no reason being assigned.

THE STATE BOARD of Medical Examination and Registration held its annual meeting at Columbus, January 3, granted certificates to 7 applicants and elected Dr. Nathaniel R. Coleman, Columbus, president; Dr. H. E. Beebe, Sidney, vice-president; Dr. Frank Winders, Columbus, secretary, and Dr. D. Williams, Columbus, treasurer.

PENNSYLVANIA.

THE TRUSTEES of the Pennsylvania Medical College at Chester, have commenced the erection of a hospital for the use of the college.

DR. OLIVER J. BENNETT, Allegheny, has been appointed physician to the Western Penitentiary, vice Dr. David N. Rankin, deceased.

THE SIXTH ACCOUNTING of the estate of the late Asa Packer has been rendered and shows that the sum of \$300,000 has been paid St. Luke's Hospital, Bethlehem.

A BILL is to be introduced in the state legislature, providing for the appropriation of \$60,000 for improvements at the Allegheny General Hospital. The improvements contemplate the rebuilding, enlarging and modernizing of the institution.

SENATOR WENTZ and Assemblymen Barker, McGlathery and Dellaven have visited the State Hospital for the Insane and the Charity Hospital, Norristown, for the purpose of determining the needs of these institutions. The former has asked for an appropriation from the state of \$90,000, and the latter for \$35,000.

THE RESULTS obtained by applicants at the last examination of the Pennsylvania State Board of Medical Examiners, held on December 17, 18 and 19, have been forwarded to the

Secretary of Internal Affairs at Harrisburg, and shows that out of 80 applicants for license to practise medicine 41 were qualified and 39 rejected. It is said that in past years the number of failures was not much above 15 per cent., and the rate of failures reported above means a higher standard imposed upon the candidate than was formerly the case.

Philadelphia.

DR. HENRY CATTELL, who for several years has been pathologist to the Pennsylvania Hospital, has resigned.

DR. JOHN W. KROSKEY, attending surgeon to the Wills Eye Hospital, has resigned and Dr. McCluney Radcliffe has been appointed his successor.

ON ACCOUNT of a death from smallpox in the neighborhood of Forty-first street and Girard avenue, considerable anxiety is shown lest a further spread of the disease will ensue. As a preventive measure a large number of persons in that locality have been vaccinated and the police have been called in to guard the infected house. This was the only case of the disease in the city.

THE ANNUAL meeting of the Germantown Hospital was held January 12, and the following officers were elected: Elliston P. Morris, president; Thomas B. Homey, secretary; William H. Haines, treasurer; Williston P. Morris, William H. Haines, Frank J. Firth, Frances Stokes, Reed A. Williams, Jr., Alexander W. Wister, William H. Scott, Thomas B. Homer, Dr. Norton Downs, Thomas H. Shoemaker, Henry L. Davis, N. Penrose Allen, Edward H. Vance, Dr. George Woodward and James Mape Dodge, board of managers.

OWING to the existence of a number of cases of smallpox in New York the Philadelphia Board of Health is taking unusual precautions to prevent its transmission here.

ABOUT the last week of December there was a great increase in the number of cases of "colds" in this city, which was later followed by an epidemic of gripe. In private practice and at the public dispensaries an increase in this disease has been noted. The weather conditions at the time of the onset of the malady did not seem to be what might be termed favorable, since the days were clear, and the temperature did not change to any marked degree. An increase in the number of cases of pneumonia has been also observed.

WASHINGTON.

DR. ELMER E. HEG has been appointed a member of the board of health of Seattle.

DR. CAL. M. BOSWELL, the pioneer physician of Colfax, was seriously injured in a runaway accident recently.

DR. THOMAS E. HOXIE, Spangle, has been appointed assistant physician at the Eastern Hospital for the Insane at Medical Lake.

DR. GEORGE W. INGHAM, Olympia, has been appointed a member of the State Board of Medical Examiners.

THE STATE BOARD of Medical Examiners met at Seattle, January 2 and 3, and examined 52 men and 6 women applicants for license to practice medicine in the state.

GENERAL.

DR. EDUARDO WILDE, Argentine minister at Washington, will be a delegate to the Pan-American Medical Congress at Havana.

THE PHYSICIANS at Havana tendered a banquet recently to Dr. Carlos Finlay in token of congratulation that his theory of the transmissibility of yellow fever by the mosquito, which he has been proclaiming for many years in the face of opposition and ridicule, has at last received scientific recognition and acceptance.

DR. W. C. GORGAS, chief sanitary officer of Havana, states that a continuous improvement in the health of Havana is taking place. The little yellow fever they had in December was among the recently arrived Spanish immigrants. The general death-rate for December was the lowest for that month during the decade. In the report of the Marine-Hospital Service for the week ended Jan. 11, 1901, we find no deaths nor cases of yellow fever in Havana, 1 death at Cienfuegos, and 1 case at Matanzas, Cuba. Smallpox appears to be entirely absent.

THE FOLLOWING named asst.-surgeons in the army have been ordered to San Francisco for assignment to duty with troops destined to the Philippines: John H. Allen, Washington, D. C.; H. D. Brown, Denver, Colo.; W. F. Graham, Sumnerville, S. C.; Lawrence Mac McEvoi, St. Louis, Mo.; F. H. Mills, Buffalo, N. Y.; Joseph Pettyjohn, Augusta, Ga.; R. J. Price, Wilmington, N. C.; J. W. Reddy, Boston, Mass.; Shannon Richmond, St. Joseph, Mo.; A. R. Schier, Burlington, Ia.; A. T. Short, Montrose, Colo.; Robert S. Spilman, Washington, D. C., and T. H. Weisenburg, Philadelphia, Pa.

DISPUTE OVER PHILIPPINE MEDICAL COLLEGE.

The decision of the Philippine Commission in the San Jose Medical College case unanimously refers the settlement of the questions involved to the courts and provides trustees who, with the assistance of the attorney-general of the Philippines, will inaugurate and prosecute the litigation. The sum of \$5000 is the appropriation for the expenses of the suit. A bill has been passed carrying out the terms of the decision. It appoints five physicians as trustees, who are required to begin suit within a month in the supreme court of the Philippines to determine whether the ownership of the college is in the church or the government. The Dominican rector of St. Thomas' University and Archbishop Chappelle are required to defend the suit on the part of the church. Judge Taft's opinion says: "A case involving the construction of the Treaty of Paris and the effect upon public trusts of the transfer of sovereignty from a kingdom in which church and state are united and inseparable to one in which church and state are entirely separated is of such import that it ought to be submitted to the highest tribunal."

TO PREVENT SMALLPOX.

The spread of smallpox in the logging regions of Northern Wisconsin and Minnesota has resulted in a meeting in Duluth of members of boards of health of both states, with Secretary Bracken, of the Minnesota State Board of Health. The purpose was to decide, if possible, upon some uniform action best calculated to prevent the spread of the disease. It was decided that the only sure means of stamping out the disease is to encourage vaccination, force quarantine regulations and provide isolated hospitals at such points as may seem desirable under the circumstances. The shooting of the young woodsman at a lumber camp near Sparta, Minn., recently while trying to escape from a smallpox quarantine, had much to do with stirring the people to action. A number of the loggers who have camps on the Mesaba range were invited to attend the meeting, and they agreed to endeavor to have the men in their respective camps vaccinated. The physicians are working on some plan for allowing men in quarantine to work under special conditions. They would, under the plan proposed, be allowed to work during the quarantine period isolated from the other men in camp. The counties in which it is necessary to go to a great expense to restrict and stamp out the contagious disease will be asked to assist the towns in which the disease is being coped with.

PAN-AMERICAN MEDICAL CONGRESS.

Up to the present time—January 8—the best rates we have been able to secure for delegates attending the above congress are the regular winter tourist rates from all parts of the country to Havana and return, which from New York City is \$98; Philadelphia, \$94; Baltimore, \$90; Washington, \$88; correspondingly low rates from all other points in the United States. If my continued efforts result in lower rates, due advice will be given through THE JOURNAL. Delegates will have the option of traveling through Jacksonville, thence Florida East Coast Railway to Miami, and steamer to Havana and return; or through Jacksonville, thence Plant System to Port Tampa, and steamer to Havana and return. Steamers sail from Miami Sundays and Wednesdays at 11 p. m., arriving Havana 3 p. m. the following day. Steamers leave Port Tampa Tuesdays, Fridays and Sundays at 6.30 a. m., arriving Havana at 8 o'clock, the following morning. Inasmuch as the sessions of the congress open in Havana February 4, at 10 a. m., it seems that the route through Port Tampa, and the steamer leaving that port at 6.30 a. m., February 3, arriving Havana 8 o'clock following morning, is the best for the delegates to use. Having in mind, therefore, the comforts of the delegates, I would suggest that they arrange their trip so as to take the steamer leaving Port Tampa, 6.30 a. m., February 3. The train leaving New York at 3.25 p. m., February 1, over Pennsylvania Railroad; Philadelphia, 6.05 p. m.; Baltimore 8.27 p. m., and Washington 9:55 p. m., thence over Southern Railway through Charlotte, Columbia, Savannah and Jacksonville, which carries through sleeping cars to Port Tampa, and has dining car service, arriving Port Tampa 6 a. m., February 3, connecting with the 6.30 a. m. steamer for Havana. Through sleeping cars are also operated from Chicago and Cincinnati, through Chattanooga, Atlanta and Jacksonville, thence Plant System to Port Tampa, making the above connection. The steamer connection leaving Miami Sunday, February 3, reaches Port Tampa at 3 o'clock the following afternoon—too late for the opening session of the congress. The steamer *Seguranza* of the Ward Line leaves New York, January 30, arriving in Cuba on February 3, the day before the beginning of the congress.

The new Ward Line steamer *Morro Castle*, holding 135 cabin passengers, leaves Havana on February 9, reaching New York February 11. The round trip is \$70. Any one going via this route will be absent from New York twelve days. As these pages are going to press, the I. C. R.R., C. & N. W. Ry., and C. & E. I. R.R. companies consent to a reduction on rate to Havana and return: from Chicago, \$86, and from other points in proportion.

FOREIGN.

SMALLPOX in Paris is gradually disappearing; there were 58 cases on January 5, compared with 105 the week previous.

PROF. V. SNEGUIREFF, of Moscow, completed thirty years of professional activity December 1. The anniversary was celebrated by his friends in many ways, among them being the founding of some scholarships and prizes in his name by funds collected by his pupils.

THE recently remodeled ophthalmic clinic at the Berlin university was reopened December 12, and bronze busts of Albrecht von Graefe and Carl Schweigger were unveiled with much ceremony.

DR. VELDE, the German physician at Peking during the siege of the legations, has been presented with the cross of the French legion of honor, as also has his French companion, Dr. Matignon.

THE SAXON MINISTRY has issued a decree requesting physicians, boarding-house keepers and undertakers to report all cases of pulmonary tuberculosis. The decree requires also the disinfection of rooms in which persons die from that disease.

THE *Tidsskrift f. d. Norske Lægefor.* announces that a marble portrait bust is to be presented to the great Norwegian leprologist, Dr. G. Arnauer Hansen, on his 60th birthday, July 29, 1901.

A MONUMENT is to be erected by subscription to the eminent French surgeon, L. Ollier, whose death in his 76th year was recently mentioned in these columns. His international fame is chiefly due to his demonstration that experimentation on living animals is the most puissant element of progress in scientific surgery. He practically revolutionized conservative surgery by his studies of the growth and regeneration of bones and the artificial production of bone tissue by the preservation and transplantation of periosteum. Subscriptions for the monument are received by the French lay press and also by the *Revue de Chirurgie*, Paris, of which he was editor-in-chief, although he resided and practiced in Lyons.

DR. PIERRE CARL-EDOUARD POTAIN, one of the most prominent and popular physicians of Paris, died suddenly on the night of January 7, after pursuing his usual day's work and dining quietly with a few friends. He had long been professor of internal medicine and his occasional contributions to medical literature on the heart and other branches of internal medicine were accepted by authority, but his extensive practice interfered with much literary work. He was one of the founders of the *Bibliographia Medica*. His extreme kindness and gentleness won for him in the hospitals the title of "Saint Potain."

CANADA.

DR. T. M. FENWICK, Kingston, died January 3 as a result of blood poisoning engendered through paring a corn. He was graduated from Queen's University in 1866.

DRS. G. S. RYERSON and E. E. King, Toronto, succeeded in locating by the aid of a skiagraph and extracted a piece of steel chisel from a workman's eye, at the inner side of the optic nerve.

DURING the past summer a Philadelphia gentleman was taken ill while touring the Thousand Islands, and was brought to the Brockville General Hospital. He recovered, and the other day he showed his appreciation of the treatment received at the hospital by forwarding a check for \$1000. The money will be used for the establishment of a nurse's home and children's ward in connection with the hospital.

THE *Bulletin Méd. de Quebec* publishes the following communication: "A little sister to the Quebec Medical Society has just been born in Portneuf county. The accouchement was long, tedious and difficult. Nine physicians were present when the child was born. It is feeble and delicate, but apparently viable. For fear of accidents it was baptized at once: 'The Medical Society of Portneuf County,' with Dr. G. Paquin as the godfather."

NATIONAL CONFERENCE ON CONSUMPTION.

The governor general and the Countess of Minto are calling a meeting in Ottawa of representative medical men and laymen from all parts of Canada for the purpose of discussing measures for limiting the ravages of consumption in the Dominion. Among other projects to be discussed is the formation of a

Dominion Association with branches in each city or province for dealing with the question; then grants by the Dominion government will also be taken up for providing sanatoria or suitable homes for the cure of persons afflicted with tuberculosis. All the provincial governments will be asked to send representatives, as well as the mayors of the larger cities, and the secretaries of the provincial boards of health. Canada is losing eight or nine thousand lives every year by consumption; and according to the general accepted estimate of statisticians, the country is paying a cash tribute of eight or nine million dollars to tuberculosis.

M'GILL'S ANNUAL LECTURE.

"A Century of Chemistry" was the title of the annual lecture at McGill, which this year was recently delivered by Dr. J. Wallace Walker. He traced the development of chemistry during the past one hundred years. At the beginning of the nineteenth century a controversy was going on as to the importance of the laws of equivalent weights. When experiment finally confirmed this law, the science took a position second to none in the world of science. Dalton's great atomic theory was also enunciated at that time and with slight modifications remains the same at the present day. The biological world had also supplied the chemist with a store of material; and the substances obtained as products of vital processes were referred to. Heating by chemistry was dealt with and one of the interesting features of the lecture was the reference to the work of a Canadian, Willson, in this line. Willson has brought on the market a new product of great value—calcium carbide. This is a gray stony-looking substance made from lime and charcoal, and possesses the remarkable property of reacting chemically with water and giving off acetylene gas, which burns with a very brilliant flame.

MEDICAL DEFENSE.

The St. Francis District Medical Association of the Eastern Townships of the Province of Quebec has recently elected the following officers: President, Dr. Brown, Richmond; vice-president, Dr. Stevenson, Coaticook; second vice-president, Dr. Rioux, Sherbrooke; secretary-treasurer, Dr. W. Russell Thomas, Lennoxville. These officers have been elected *pro tempore* by the parent association, and are to conduct the medical defense part of the association. This union is now endeavoring to gain the support of the medical profession throughout the length and breadth of Canada. Dr. Roddick, M.P., is being approached to secure a Dominion incorporation for it; and physicians will be admitted from every province at a small annual fee. The objects of this defense association are to support and protect the character and interests of medical practitioners practicing in the Dominion of Canada; to promote honorable practice, and to suppress or prosecute unauthorized practitioners; to advise or defend or assist in defending members of the union in cases where proceedings involving questions of professional principle or otherwise are brought against them; and to originate legislation likely to benefit the medical profession. A determined effort will be made to acquire legal powers for these objects.

LONDON LETTER.

AN IMPERIAL PHARMACOPEIA.

The general medical council who issue the British Pharmacopoeia have taken a step which is not only of medical but political importance. They have converted the British into an imperial pharmacopoeia. At one time there were three pharmacopoeias in the United Kingdom which were issued by the Colleges of Physicians of London, Edinburgh and Glasgow respectively. They each constituted a legal standard, according to which, in the corresponding division of the kingdom, all preparations had to be made. Obviously considerable inconvenience arose when, say, an English pharmacist had to make up a Scotch prescription, for the preparation varied in strength in the different countries. The formation of the British Pharmacopoeia by the fusion of the three local pharmacopoeias was thus a great reform. The council usually issue every 10 years a new edition of the Pharmacopoeias introducing new drugs and preparations of sufficient importance and rejecting others, which have fallen into desuetude. Now, many medicinal plants and other substances are considered valuable in the colonies and India, but are unknown in England. These are often equivalent to substances in the British Pharmacopoeia which are very expensive or difficult to obtain in the particular locality. For example, in India there are several native vegetable oils which may be used in place of olive-oil, and there are plants which can replace others which it would be expensive to import. Hence the importance of ensuring that these substances should be prepared in a proper manner and made to conform to a uniform standard. A committee has been engaged with

the assistance of the Indian and Colonial governments in procuring from all parts of the empire the necessary information from medical practitioners and scientific societies. The first result has been the publication of an Indian and Colonial addendum containing the necessary details with regard to plants or substances which in the country yielding them may be employed as substitutes for others in the British Pharmacopoeia.

LONDON'S VITAL STATISTICS—THE LOWEST BIRTH-RATE ON RECORD.

A declining birth-rate which furnishes a chronic theme for lamentation to French politicians, appears to be becoming a phenomenon of every civilized nation. The report of the medical officer of health for London for the year 1899, which has just been issued, shows that a diminished birth-rate is a feature not only of London but of the whole of England and Wales. The number of births in London in the year 1899 was 133,585, giving a birth-rate of 29.3 per 1000, the lowest on record. From 1851 till 1860 the birth-rate was 33.6; 1861-70, 35.4; 1871-80, 35.4; 1881-90, 33.2; 1897, 30; 1898, 29.4; 1899, 29.3. Thus an almost steady decline is shown in the last 50 years. The marriage-rate during this period shows an almost parallel decline. From 20.6 in 1851-60 it has steadily fallen to 17 in 1894; it then rose slightly, reaching 18.7 in 1898, but again fell to 18.4 in 1899. The death-rate in the last half century has also shown a similar diminution. In the successive decennial periods from 1841 till 1890 the death-rates were 24.8, 23.7, 24.4, 22.5, and 20.5. In the successive years from 1891 till 1899 they were 21, 20.3, 21, 17.4, 19.5, 18.1, 17.7, 18.2, and 19.3.

NEPHRITIS WITHOUT ALBUMINURIA.

At the Clinical Society Dr. W. P. Herringham described a case of this rare condition, the first on record, in which the existence of nephritis without albuminuria in the absence of scarlatina of nephritis has been proved by necropsy. Several cases are recorded of nephritis without albuminuria following scarlatina, and the existence of albuminuria without nephritis in the absence of scarlatina has been suspected. A boy aged 4 was admitted to hospital for diarrhea and vomiting on March 29. After he was supposed to be cured he was sent to a convalescent home. The urine was examined three times and found normal. There was no history of scarlatina. From May 5 till July 14 he was in good health at the convalescent home and was under constant medical supervision. On July 14 dropsy began in the feet and spread to the legs. The urine was not albuminous. He was sent back to the hospital and for the next six weeks he looked a picture of subacute nephritis, but there was never albumin in the urine, which was exceedingly scanty. No formed elements were ever visible under the microscope. On August 29, he died. At the necropsy the viscera, including the kidneys, appeared natural. But microscopic examination of the kidneys showed cloudy swelling in a few of the convoluted tubes, and albuminous plugs in many; in some of the collecting tubes similar plugs were seen. An exudation apparently of serum or albumin was found in almost all the glomeruli.

INDENTATIONS IN THE SKULL OF THE NEWBORN.

At the Edinburgh Obstetrical Society Dr. Munro Kerr, of Glasgow, read an important paper on this subject and described a new method for the relief of the condition. The subject has received very little attention in this country, but in France it has been the subject of numerous treatises ever since Ambrose Paré first described the deformity. Indentations of the fetal skull may be spoon- or furrow-shaped. The latter are much the less serious and seldom cause much immediate trouble. Dr. Kerr, therefore, considered exclusively the spoon-shaped depressions. The injury is usually situated on one or other of the parietal or frontal bones near the anterior fontanelle. It occurs with few exceptions when there is deformity of the maternal pelvis, and generally in cases of flat rachitic pelvis. The extent of the deformity need not be extreme; most commonly it is just sufficient to cause a moderate degree of obstruction to the passage of the head. In the great majority of the reported cases delivery was completed by traction either on the head by forceps or on the trunks in breech presentations. But in a small proportion labor terminated spontaneously. When deformity is present the indentation is usually caused by the head being pressed against the projecting sacral promontory. Occasionally the anterior pelvic wall, an undue prominence of the iliopectineal eminence, an osseous tumor, is the cause. Defective ossification of the fetal skull predisposes to it. In most cases the indentations disappear in a week or two and give rise to no symptoms. In some, permanent depressions result which may produce no disturbance or may give rise to minor nervous storms. Some cases terminate fatally.

with twitchings, convulsions and paralysis. In others the child is born asphyxiated and dies unless the depression is removed. Schroeder in 65 cases found that 34 per cent. of the infants were stillborn and that 15 per cent. subsequently died. In treatment air-pumps and cupping glasses have been advocated. Trephining has been successfully performed. But surgical influence is not always practicable. Dr. Kerr has treated three cases successfully by the following method. The fetal bones are very resilient and by experiments he found that artificially produced depressions can be raised by firm antero-posterior compression of the head. On the living child the indentation came out with a sound as when a dent in a felt hat is removed. In one case the seriously impaired respiration was at once relieved.

Correspondence.

Prof. Loeb and Newspaper Sensationalism.

CHICAGO, Jan. 12, 1901.

To the Editor: In view of the fact that my name has been used in a number of sensational articles which have appeared in the daily papers, I wish to state that none of these articles were authorized by me. The results of my experiments have been published exclusively in scientific journals, and I am only responsible for such statements as are expressed in my scientific publications.

JACQUES LOEB,
University of Chicago.

Book Notices.

TREATMENT OF FRACTURES. By Charles Locke Seudder, M.D., Surgeon to the Massachusetts General Hospital. Assisted by Frederick J. Cotton, M. D. With 585 Illustrations. Cloth; pp. 433. Price, \$4.50. Philadelphia: W. B. Saunders & Co. 1900.

Although the title of this work is "The Treatment of Fractures," it will be found that the text is by no means so limited as the title, but deals in general with fractures, as the causation, pathology, diagnosis and prognosis are all discussed and often more extensively than is the treatment.

In the opening chapter on fractures of the skull are found a number of short, but valuable points on head injuries in general and on injuries to the brain complicating fractures of the bone. Under the treatment of skull fractures, he says: "In fracture of the base with pronounced symptoms, drainage of the fossa involved, whether anterior, middle or posterior, should be considered." No mention is made, however, of the symptoms which would warrant or indicate such a procedure, nor of the method of executing it nor of the probabilities of it doing any good if attempted. The danger in these cases lies in the injury done to the brain tissue and not in the fact that the fracture extends to the base of the skull.

Under the examination of injuries of the elbow, he says: "In the absence of positive signs of dislocation, subluxation and fracture, the lesion is a sprain or contusion. In the absence of positive signs of dislocation and radical subluxation a fracture will be present." The latter statement, particularly, is not only peculiar reasoning, but also incorrect. In fracture of both bones of the forearm the danger of lateral compression of the bones by the immediate application of a roller plaster cast is too great to advise this as the usual mode of treatment. In fractures of the upper third of the radius the advisability of dressing the arm in supination to prevent the loss of this motion is not mentioned.

The work is voluminously illustrated, and this fact adds materially to its value. The illustrations frequently show conditions much better than the text describes them. A chapter on "The Roentgen Ray and Its Relations to Fractures," by E. A. Codman, is excellent. It deals with the practical value of the rays in the diagnosis of fractures, the interpretation of skiagraphs and the errors of judgment into which one may be led by them. A chapter on the ambulatory treatment of fractures, which is somewhat historical in character, closes the work. While there are many good points in the work, it

can not be said that the subject of fractures has been thoroughly covered, not even in treatment. The publisher's work has been unusually well done.

APPENDICITIS AND ITS SURGICAL TREATMENT: With a Report of One Hundred and Eighty-five Cases. By Herman Mynter, M. D. (Copenhagen). Professor of Clinical Surgery in University of Buffalo, Buffalo, N. Y. Third revised edition. Cloth. Pp. 231. Price, \$2.00. Philadelphia: J. B. Lippincott Co. 1900.

This monograph was originally submitted to the University of Copenhagen in order to obtain the degree of Doctor of Medicine. It was accepted by the university in 1897, and was published in this country in 1898 as the first edition. The second edition was partly burned in the fire which destroyed the Lippincott Publishing Company in 1899. This, the third edition, has been revised and considerably enlarged by the addition of new material. The work is largely historical in character. The gradual development of modern ideas of appendicitis is traced from the earliest records. As the major portion of the work is made up of extracts from the opinions of others, it can not be criticised as coming from the author.

The author's statement, however, that he does "not consider cases of appendicitis with strictures, dilatations, coprolites, hydrops, ulcerations and the chronic and obliterating forms necessarily infectious" is not in accord with modern views of inflammation. An appendicitis not due to the action of microbes, which is the meaning of infectious here, can not be admitted.

The author's attempt to classify the cases pathologically into simple catarrhal appendicitis, ulcerative appendicitis and infectious appendicitis is open to the same objection.

Under his clinical classification he separates gangrenous appendicitis without perforation from gangrenous appendicitis with perforation. As every case of gangrenous appendicitis is certain to perforate if given time enough, there is not sufficient ground for subdivision of gangrenous cases on this basis.

Under treatment, the methods adopted by the leading men of Europe and America are considered. Much of this already has only an historical value, as opinions in regard to the treatment of appendicitis have changed so rapidly during the past few years. The author's views are decidedly in favor of early operation in acute cases and will, therefore, meet with the approval of all experienced surgeons.

Regarding chronic appendicitis, he states (page 117): "An operation is not indicated unless we feel the thickened and swollen appendix." That this is not a sound rule to follow the author himself makes very clear, for a few lines farther down he says: "I have, nevertheless, in several cases, where I was sure of feeling a hard, indurated appendix extending downward, found it in a diametrically opposite direction. What I felt was the flat tendon of the psoas minor muscle."

The work is an excellent review of the literature of the subject, and an extensive bibliography is appended. There are no illustrations.

ULCERS OF THE STOMACH AND DUODENUM AND ITS CONSEQUENCES. By Samuel Fenwick, M.D., F.R.C.P., Consulting Physician to the London Hospital, and W. Soltan Fenwick, M.D., M.R.C.P., Senior Physician to the London Temperance Hospital. Cloth; pp. 392. Price, \$3.50. Philadelphia: P. Blakiston's Son & Co. 1900.

This volume is divided into four parts, the first dealing with the pathology and anatomy of gastric and duodenal ulcer, while the other three are devoted to the clinical aspects of the disease and its sequelæ. The data as regards the morbid anatomy were obtained from the results of over 1000 cases of gastric ulcer, and between 100 and 200 of ulcer of the duodenum taken exclusively from hospital records. The authors find the disease may occur either idiopathically or follow the course of some other malady. In the former case it is most common in young women, while in the latter it is not infrequently the cause of death in certain infective complaints in connection with heart and liver diseases. The book is very fully illustrated, especially in its earlier portion, and is an excellent monograph of its special subject. The illustrations are largely

from photographs and are better than is sometimes the case with such reproductions. While several of the leading subjects have their own brief bibliography, quite a lengthy general bibliography is given between pages 254 and 267. The absence of reference to certain comparatively recent American papers probably ought to be expected. The book is an addition to our literature on a subject which has not been too much treated of late years.

THE TALE OF A FIELD HOSPITAL. By Frederick Treves, Surgeon Extraordinary to H. M. the Queen. With 14 illustrations from Original Photographs. Leather. Pp. 109. Price \$2.50. London, Paris, New York and Melbourne: Cassell & Co., Ltd. 1900.

Mr. Treves gives some excellent word-pictures of life in a field hospital on the desolate veldt of South Africa during the Boer war. The horror of war is seen by the army surgeon as by no one else, and this little book contains many vivid descriptions of ghastly experiences. Some of these are pathetic in the extreme, and others are amusing, though sad. The book is not written especially for medical readers, but these will be most interested in it. The author shows no mean ability as a descriptive writer, and his account of how a surgeon won the Victoria Cross is given in a way that few novelists could equal. The book is beautifully gotten up, with flexible morocco cover.

THE PRACTICE OF MEDICINE: A Text-Book for Practitioners and Students. With Special Reference to Diagnosis and Treatment. By James Tyson, M.D., Professor of Medicine in the University of Pennsylvania and Physician to the Hospital of the University. Second edition thoroughly revised and in parts rewritten. With 127 illustrations, including colored plates. Cloth. Pp. 1222. Price, \$5.50. Philadelphia: P. Blakiston's Son & Co. 1900.

This edition has given the author opportunity to bring the work up to date. The principal changes have been made in the sections on the infectious and nervous diseases: considerable attention has likewise been given to those of the circulatory system. The proofreading, however, particularly in the foreign quotations, is not always above criticism; we notice, for instance, on page 70, "anopheles claviges." New illustrations have been introduced. We have no hesitation in recommending this admirable text-book to students and practitioners.

A HANDBOOK OF THE DISEASES OF THE EYE AND THEIR TREATMENT. By Henry R. Swanzy, A.M., M.B., F.R.C.S.I., Examiner in Ophthalmology to the University of Dublin. Seventh edition. With 165 Illustrations. Cloth. Pp. 607. Price, \$2.50. Philadelphia: P. Blakiston's Son & Co. 1900.

This excellent text-book has been enlarged by the description of a method of employing the Roentgen rays for the detection and localization of foreign bodies within the eye. Minor alterations and improvements have been made, and several illustrations are added to the text. The different operations for cataract extraction are made plain to the beginner.

PHYSICAL DIAGNOSIS OF DISEASES OF THE CHEST. By Richard C. Cabot, M.D., Physician to Out-Patients, Massachusetts General Hospital. With 142 illustrations. Cloth. Pp. 310. Price, \$2.50. New York: Wm. Wood & Co. 1900.

This volume will fill a very useful place in the student's library. It will be the more valuable for its well-selected and numerous illustrations, which serve admirably to assist the comprehension of the text.

Deaths and Obituaries.

Dr. Richard Beverly Cole, ex-president of the AMERICAN MEDICAL ASSOCIATION, whose death is announced as we go to press, was born Aug. 12, 1829, at Manchester, Va. He received his academic education at the Delaware Collegiate Institute, Newark, Del., and his medical studies were carried on at the medical department of Transylvania University and Jefferson Medical College, from which last institution he received his degree of M.D., in 1848. He subsequently continued his studies in Germany, France, and Great Britain. After a short residence in Philadelphia he removed to San Francisco in 1852.

where he had since resided, and has been one of the most prominent members of the medical profession of the Pacific coast. He was surgeon-general of the celebrated vigilance committee of 1856, was surgeon-general of the state of California from 1868 till 1872 and again 1874 till 1876, and has held other official positions of note. He was one of the early movers in medical education on the coast, having held the chair of obstetrics and gynecology in the medical department of the University of the Pacific from 1858 till 1864, and since 1870 in the medical department of the University of California. Besides his presidency of the ASSOCIATION, 1895-6, he was its first vice-president in 1873, and the similar positions held by him in other societies and his honorary membership and fellowship are too many to enumerate. His specialty was surgery, and more particularly gynecology, and he held a high position among his fellow-workers in the field. We have no particulars of his latest illness, but there has passed away full of honors and years one of the most prominent figures in the medical profession of the western section of our country.

JOHN MASON GASTON, M.D., New York University, 1848, a charter member of the Marion County Medical Society and for nearly half a century an esteemed practitioner of Indianapolis, at his home in that city, January 11, after a short illness, aged 82.

EDWARD FARRELL, M.D., College of Physicians and Surgeons, New York, 1864, professor of surgery in the Halifax School of Medicine and president of the Nova Scotia Medical Society, at his home in Halifax, N.S., from pneumonia followed by typhoid fever, January 1, aged 57.

JOHN F. MAHONEY, M.D., Harvard University Medical School, 1887, of Chelsea, Mass., in California, aged 37. He was an esteemed member of the staff of the Rufus E. Frost General Hospital, which met January 1 and passed resolutions of respect, sorrow and sympathy.

ABRAM CLAUDE, M.D., University of Maryland, 1838, for eight terms mayor of Annapolis, professor of chemistry at St. John's College, and during the Civil War a surgeon in the U. S. army, at his home in Annapolis, January 10, aged 82.

HERMAN BAER, M.D., Medical College of the State of South Carolina, Charleston, 1861, prominent alike as a scholar, pharmacist, physician and citizen, at his home in Charleston, January 2, from apoplexy, aged 70.

DAVID D. BENEDICT, M.D., Western Reserve University, Cleveland, 1861, surgeon of the 17th Ohio Infantry in the Civil War, at his home, Norwalk, Ohio, from heart disease, January 5, aged 67.

RICHARD J. LINDERMAN, M.D., Pennsylvania Medical College, Philadelphia, 1858, at one time State Senator from Bucks county, at his home in Philadelphia, January 6, aged 65 years, after a prolonged illness from heart disease.

SMITH HOWELL MAPES, M.D., New York University, 1863, at his home in Indianapolis, January 10, after a long illness, aged 60.

ROBERT L. BROOKS, M.D., Tulane University, New Orleans, of Calhoun, suddenly, from heart disease at Monroe, La., January 9.

S. W. DEAN, M.D., University of Minnesota, an interne at the City Hospital, Minneapolis, from diphtheria, January 7, aged 25.

EDWIN BOGGS JOHNSTON, M.D., Western Pennsylvania Medical College, Pittsburg, 1895, at his home in Allegheny, January 1, aged 29.

SIDNEY ALLEN CONKWRIGHT, M.D., Jefferson Medical College, Philadelphia, 1892, at his home in West Sedalia, Mo., January 8, aged 31.

JOHN H. CLARK, M.D., Starling Medical College, Columbus, Ohio, 1853, suddenly, at his home in Mechanicsburg, Ohio, January 7.

EDWARD H. KRESS, M.D., Jefferson Medical College, Philadelphia, 1897, from typhoid fever, at his home in Johnstown, Pa., January 8, aged 27.

S. B. BEVILL, M.D., Vanderbilt University, Nashville, Tenn., 1892, from gunshot wound received in a dispute, at Alexandria, La., January 7, aged 32.

WILLIS M. PERKINS, M.D., Jefferson Medical College, Phila-

delphia, 1854, suddenly from heart disease, at his home in Aurelian Springs, N. C., January 2.

WILLIAM CAMPBELL DODGE, M.D., Jefferson Medical College, Philadelphia, 1864, of Adrian, Mich., from pneumonia in Chicago, January 12, aged 58.

RICHARD E. CHRISTIAN, M.D., Vanderbilt University, Nashville, Tenn., 1886, from pneumonia, at his home in Rowlandtown, near Paducah, Ky., January 1, aged 45.

THOMAS BOHANNON, M.D., University of Louisville, one of the oldest and best citizens of Jefferson county, Ky., at his home near Louisville, January 7, aged 85.

D. PROCTOR CAMPBELL, M.D., Cincinnati College of Medicine and Surgery, 1877, suddenly from heart failure, at his home, Green Springs, Ohio, January 7, aged 65.

WADE H. JONES, M.D., Medical College of the State of South Carolina, Charleston, 1858, at his residence in Tampa, Fla., after a long illness, January 5, aged 65.

ABIJAH W. BUTT, M.D., Jefferson Medical College, Philadelphia, 1886, at his home in Paoli, Pa., after an illness of two weeks, from rheumatism, December 31, aged 38.

J. N. HUFFAKER, M.D., Southern Medical College, Atlanta, 1882, of Plainville, Ga., at the Erlanger Hospital, Chattanooga, Tenn., December 30, after an operation for tumor.

H. A. DE CHESNE, M.D., College of Physicians and Surgeons of Lower Canada, 1848, at his home in Oakland, Cal., from complications following operation for hernia, December 21.

JAMES RICHARD MORISON, M.D., Northwestern University, 1899, of Traer, Iowa, from typhoid fever at St. Luke's Hospital, where he was a member of the house staff, January 6, aged 29.

JOHN NUTT, M.D., Rush Medical College, 1849, at San Diego, Cal., January 8, aged 78.

JOSEPH A. GARVIN, M.D., Bellevue Hospital Medical College, 1894, at New York, January 11.

JACOB S. HERRIES, M.D., University of Michigan, 1878, recently, at his home in Waterloo, Iowa.

WALTER L. KEIRN, M.D., University of Pennsylvania, 1852, at his home in Lexington, Miss., January 5.

EDWARD L. PARDEE, M.D., New York University, 1870, at his home in New York City, January 11, aged 58 years.

FRANCIS GRAFTON CONNOLLY, M.D., University of Maryland, 1871, at his home in Baltimore, January 10, aged 80.

ALEXANDER SHAW PORTER, M.D., a surgeon on the retired list of the Army, at Redlands, Cal., January 6, aged 33.

WILLIAM WOOD LESLEY, M.D., University of Pennsylvania, 1857, at his home in Philadelphia, January 5, aged 73.

New Instrument.

A New Laparotomy Pad.

J. HENRY BARBAT, M.D.

SAN FRANCISCO.

The ordinary Kelly pad, when used for abdominal operations, allows all the solutions used in the final preparation of the abdomen to flow under the patient's back, thus keeping it in a chemical bath during the entire operation. If the Trendel-



burg position is used the pad will probably overflow and the solutions will gravitate toward the patient's neck. If irrigation is necessary, part of the irrigating material will flow on the side which has no apron, and wet the table and floor. These conditions may appear of trifling importance, but those in whose charge the patient is placed after the performance of the operation will hail with delight any device which will avoid these inconveniences.

I have devised a pad which consists essentially of two Kelly pads joined back to back. The pad when in position has an

apron hanging down on each side of the table. The patient's spine is in contact with the center cushion, which holds the back up from the table, and keeps it from contact with any fluids which may be in the pad.

I have further arranged the operating-table so that the center is slightly higher than the sides, thus allowing all fluids to run outward instead of under the patient, leaving the pad dry at the completion of the operation.

Miscellany.

Viability of the Plague Bacillus.—In his "Preliminary Note on the Viability of the Plague Bacillus," published as a bulletin of the Hygienic Laboratory of the Marine-Hospital service P. A. Surgeon M. J. Rosenau gave the result of his observations on the viability of the plague bacillus on various fabrics and substances and under varying conditions of temperature and exposure to light, presence of moisture, etc. He arrived at the conclusion that the prolonged existence of the organism was dependent upon the presence of moisture, more than upon any other one factor. He showed, for instance, that at room temperature (20 to 27 C.) the organism lived in the presence of moisture for 60 days on crash, linen, woolen or silk fabrics; that it lived 96 days in distilled water; 97 days in ordinary tap water, and for the remarkable period of 125 days upon bone dust, where the presence of moisture was assured by wetting the substance with bouillon, and carefully stoppering the container to prevent evaporation. Since the time of publication of the preliminary note, the experiments have been continued in the laboratory for a period of over a year, and have only recently been concluded. Certain food stuffs were experimented on, but the fact developed that symbiosis with saprophytic organisms was prejudicial to the prolonged life of the bacillus, and that the substances must be subjected to a preliminary sterilization, in order to favor the growth of the plague bacillus. On cheese thus prepared, it lived for 13 to 17 days; on sterilized rice for only 3 days; on dried salt beef, 3 days; on orange peel there was no growth: there was no growth on dried figs and raisins, though this was subsequently proved to be due to the amount of grape or fruit sugar contained. In many of the cases of prolonged survival, however, the virulence of the organism was lost at a comparatively early period, 62 days being the longest period after which the organism was fatal to mice. Rosenau also quotes Yokote, of Tokio, as to the effect of the presence of organisms of decomposition on the existence of plague, showing in the case of the bodies of mice dead of plague that the higher the temperature, the more the decomposition and the greater the number of saprophytes, and that with lower temperatures the reverse obtained.

Prizes Offered by the Paris Academie de Medecine.—Every year the Paris Académie de Médecine distributes about \$11,000 in endowed prizes, all but five open to the competition of foreigners. The total offered this year is \$51,400 francs, which includes the great Audiffred prize representing an annual income of \$4800 for the discovery of a sovereign remedy against tuberculosis. Manuscripts or published works are eligible for a number of the prizes, marked with an asterisk (*) in the list we give below, in which the prizes reserved for Frenchmen are omitted. Those not marked with an asterisk require the identity of the applicant to be concealed—name in separate sealed envelope—until after the awards. All competing articles must be received by February of the year in question. The Académie prize of 1000 francs or \$200, for 1902, is offered for the best work on "Toxins in Pathology"; for 1903, "Means of Determining the Eliminating Activity of the Kidney"; Alvarenga, 800fr., 1902 and 1903, best monograph or unpublished work on any branch of medicine; Amussat* 1, 1000 fr.; 1902, for work or research which has realized or prepared the most important progress in surgical therapeutics; Baillarger*, b., 2000fr., "Treatment of Mental Diseases and Organization of Public and Private Asylums for the Insane"; Barbier*, 2000fr., 1902 and 1903, for complete cure for dis-

cases now considered incurable, such as cancer, epilepsy, serofulas, typhus or cholera morbus, etc.; Boullard*, b. 1200fr., 1902, for best work or best curative results in mental diseases; Bourceret*, 1200fr., 1902 and 1903, best work or research on circulation of the blood; Dupierris*, b. 24000fr., 1902, for best work on "Anesthesia or Diseases of the Urinary Passages"; Capuron, 1000fr., 1902, "Relations Between Fibrous Tumors of the Uterus and Pregnancy"; Chevillon*, 1500fr., 1902 and 1903, "Treatment of Cancerous Affections"; Civrieux, 800fr., 1902 and 1903, "Various Forms of Dementia"; Clarens*, 400fr., 1902 and 1903, for best work on hygiene; Daudet, 1000fr., 1902 and 1903, for best work on so-called incurable diseases, especially tumors; Desportes*, 1300fr., 1902 and 1903, for best work on "Practical Medical Therapeutics"; Falret b. 700fr., 1902, "Somnambulisms"; E. Godard*, 1000fr., 1902 and 1903, for best work on "Internal Pathology"; Herpin, of Metz, qd., 1200fr., 1902, "Abortive Treatment of Tetanus"; Herpin, of Geneva*, 3000 fr., 1902 and 1903, for best work on epilepsy and nervous diseases; Laborie*, 5000fr., 1902 and 1903, for the work that has "Notably Advanced the Science of Surgery," awarded in 1900 to Quenu and Hartmann's book on the "Surgery of the Rectum"; Larrey*, 500fr., 1902 and 1903, best work on medical statistics; Lefèvre t., 1800fr., 1902, "Melancholia"; Lorquet*, 300fr., 1902 and 1903, "Mental Diseases"; Meynot*, 2600fr., 1902 and 1903, "Diseases of the Ear"; Nativelle*, 300fr., 1902 and 1903, for best work on the extraction of the definite principle of a medicinal substance never before isolated; Orfila, b. 4000fr., 1902, "Alkaloids of Belladonna, Hyoscyamus and Datura, considered each from the point of view of Pathology, Therapeutics, Legal Medicine and Pathologic Anatomy"; Portal, 600fr., 1902 and 1903, "Experimental Study of Inoculation and Contagion of Cancer"; Pourat, 700fr., "Study of the Destination of Albuminoid Foods"; Ricord*, b. 600fr., 1903, for best work that has appeared in two years on venereal diseases; Saintlager*, 1500fr., to be awarded to the first person who produces a tumor of the thyroid in animals by administration of substances extracted from the water or soil of places where goiter is endemic; Saintour*, b. 440fr., 1902, for best work in any branch of medicine; Stanski*, b. 1400fr., 1902, for the person who best demonstrates the existence or non-existence of miasmatic contagion by infection or contagion at a distance. If no work fulfills these conditions the prize may be awarded for the best work on any question relating to contagion of inoculable diseases. Vernois* offers 700fr., "Hygiene"; Itard*, t. 2400fr. for best book on practical medicine or applied therapeutics, published at least two years; Lefort*, qq. 300 fr., 1903, for best original research on mineral and drinking waters; Tremblay*, qq., 7200 fr., 1903, for best work on "Diseases of the Urinary Passages, Especially Affections of the Prostate and Catarrh of the Bladder." All the above are annual prizes except those marked b., biennial; t., triennial; qd., quadriennial; qq., quinquennial.

Representation in the American Medical Association.

—The ASSOCIATION is the second largest body of medical men in the world, numbering about 10,000 and rapidly increasing. It was organized 53 years ago, when the population of the United States was less than 20,000,000 and when there were probably not more than 40 medical societies of all kinds in the country. The founders recognized the necessity of limiting the number of those who should manage its affairs, and therefore limited the number of those who should have a right to vote. Even at that time the probability was realized that the number might soon be too large to give each one a right to a voice in the management of the affairs of the association, and so the delegate system was adopted. The plan upon which it was organized is the plan upon which the Association is working to-day, with a few minor modifications. It is a delegate body and all the business appertaining thereto is managed by delegates who are supposed to be elected by affiliated societies. These have a right to vote, and only these. The plan is an ideal one. It provides for a democratic form of representation looking to a limited number of representatives who shall act for the whole. It is the adoption of the general plan of the government of our country, by which dele-

gates are elected to represent the many and to meet in congress to legislate for all. But every ten years a reapportionment is made by the government for the purpose of equalizing representation without increasing the size of the working body—the house of representatives. The AMERICAN MEDICAL ASSOCIATION, however, has made no reapportionment. The delegates are elected on the same basis now as in 1846; that is, one delegate for every ten members, every society being entitled to elect delegates in this proportion. As above stated, in 1847 there were less than 40 medical societies in the country; to-day there are nearly 1300. The number of delegates to the AMERICAN MEDICAL ASSOCIATION is not based on the number of members in that body, but on the number of members of the affiliated organization sending delegates. Thus one society may have 100 members, not ten of whom belong to the national body, and yet it is entitled to send ten delegates. One person may belong to several societies and be counted several times. Again, one State, Illinois, according to the list of affiliated societies printed in THE JOURNAL A. M. A. last spring, has 96 affiliated county societies, and as one of these has nearly 1000 members it may be presumed that the combined membership of these bodies in this one state, including the state society, represent at least 4000, entitling the state to send 400 delegates. It can readily be seen, therefore, that the number of delegates from the country at large necessarily makes a body too unwieldy for any deliberative legislative work. However, it is not necessary to present these figures in order to demonstrate that the number of delegates is too large, as this is quite evident at each annual meeting and is becoming more plain each year as the number in attendance increases. Under the present ratio of apportionment practically all who desire can receive a delegate certificate. It seems strange that in all these years, with the rapid increase in the number of physicians and in the number of societies in the country, not to mention the increase in population and in territory, no change has been made in this apportionment. If important questions are to be acted on deliberatively the body which acts on them must not be an unwieldy mass but must be composed of a limited number, elected in such a way as to fairly represent the profession in all parts of the country. It would seem desirable for the AMERICAN MEDICAL ASSOCIATION to consider whether the time has not come for a radical change in the basis of representation to its working body. The change must be radical now, for the reason that it has been delayed so long. If a change had been made each ten years, as is done in Congress, it would not have been considered radical at any time. Now it must be, if the result is to be a deliberative body that can act in a deliberate manner on the vital questions that must come before the Association.—*N. Y. State Jour. of Medicine*, January.

Societies.

COMING MEETINGS.

Pan-American Medical Congress, Havana, Cuba, Feb. 4, 1901.

Tri-State Medical Association of the Carolinas and Virginia, Richmond, Va., Feb. 26, 1901.

The Associated Health Authorities and Sanitarians of Pennsylvania, Harrisburg, Feb. 6-7, 1901.

THE ETOWAH COUNTY (Ala.) MEDICAL SOCIETY met at Gadsden, January 2, for its annual session, and elected Dr. John P. Ralls, of that place, president.

THE JACKSONVILLE (Ill.) MEDICAL CLUB, on December 22, elected Dr. Henry C. Campbell, president; Dr. Albyn L. Adams, vice-president; Dr. David W. Reid, secretary.

THE NEW BRITAIN (Conn.) MEDICAL SOCIETY met January 2 and elected Dr. George J. Holmes, president; Dr. Harris L. Paige, vice-president, and Dr. Joseph B. Brocksieper, secretary and treasurer.

THE YAKIMA COUNTY (Wash.) MEDICAL SOCIETY was organized in North Yakima, December 28, with Dr. Thomas B. Gunn, president, and Dr. David Rosser, secretary pro tem. both of North Yakima.

THE ARIZONA ACADEMY OF MEDICINE met at Phoenix, December 31, and elected Dr. J. Capsely McIntyre, president; Dr.

Ancil Martin, vice-president, and Dr. Payne Palmer, secretary and treasurer, all of Phoenix.

THE MANHATTAN DERMATOLOGICAL SOCIETY, of New York City, has been organized with the following officers: Dr. William S. Gottheil, president; Dr. Ludwig Weiss, vice-president, and Dr. Jacob Sobel, secretary.

THE HANCOCK COUNTY (Ind.) MEDICAL SOCIETY met January 1, at Greenfield, and elected Dr. James W. Larimore, Greenfield, president; Dr. E. R. Sisson, Maxwell, vice-president, and Dr. Milo Gibbs, Greenfield, secretary and treasurer.

THE WAPELLO COUNTY (Iowa) MEDICAL SOCIETY met at Ottumwa, January 2, and elected the following officers: Dr. Lewis J. Baker, president; Dr. Frank W. Mills, vice-president, and Dr. Charles R. Russell, secretary and treasurer, all of Ottumwa.

THE ORANGE (N. J.) PRACTITIONERS' SOCIETY held its first annual meeting January 4, at which the following officers were elected: Dr. Edgar Calvin Seibert, president; Dr. J. Minor Maghee, vice-president, and Dr. Stephen G. Lee, secretary and treasurer.

THE ACADEMY OF MEDICINE, of Los Angeles, Cal., at its meeting December 28, elected the following officers: Dr. Benjamin F. Church, president; Dr. Charles W. Bryson, vice-president; Dr. William W. Apple, secretary, and Dr. Charles E. Bacon, treasurer.

THE FAYETTE COUNTY (Pa.) MEDICAL SOCIETY has elected Dr. Robert S. McKee, New Haven, president; Dr. Levi S. Gaddis, Uniontown, secretary and treasurer; Dr. John D. Sturgeon, Uniontown, assistant secretary, and Dr. Jacob S. Hackney, Uniontown, censor.

THE MADISON COUNTY (Ind.) MEDICAL SOCIETY met at Anderson and elected Dr. J. W. Coverston, Frankton, president; Dr. Edward W. Chittenden, Anderson, vice-president; Dr. Oscar E. McWilliams, Anderson, secretary, and Dr. William W. Kneale, Anderson, treasurer.

THE WEBER COUNTY (Utah) MEDICAL SOCIETY met December 27 and elected the following officers: Dr. Edward M. Conroy, president; Dr. Chester E. Coulter, vice-president; Dr. James M. Harris, treasurer; Dr. Hayward Powers, librarian; and Dr. Harry B. Forbes, secretary, all of Ogden.

THE BELMONT COUNTY (Ohio) MEDICAL SOCIETY, at its recent meeting at Bellaire, elected Dr. John A. Heinlein, Bridgeport, president; Dr. Samuel L. West, St. Clairsville, vice-president; Dr. Alfred C. Beetham, Bellaire, treasurer, and Dr. James S. McClellan, Bellaire, secretary.

THE ST. LOUIS MEDICAL SOCIETY held its annual meeting December 29 and elected Dr. Lewis E. Newman, president; Dr. William W. Graves, vice-president; Dr. Clifton R. Dudley, recording secretary; Dr. Alonzo R. Kieffer, treasurer, and Dr. William B. Shields, corresponding secretary.

THE HANCOCK COUNTY (Ohio) MEDICAL SOCIETY held its annual meeting at Findlay, January 3, at which Dr. John M. Firmin was elected president; Dr. Norman L. McLachlan, vice-president; Dr. Don C. Hughes, secretary-treasurer, and Dr. Theron S. Wilson, assistant secretary, all of Findlay.

THE NORTHWESTERN (Iowa) MEDICAL ASSOCIATION met at Sac City, December 27, and elected the following officers: Dr. Bernard C. Kelly, Carroll, president; Dr. M. L. Le Due, Breda, vice-president; Dr. Daniel W. Wheelwright, Wall Lake, secretary, and Dr. Daniel J. Townsend, Lohrville, treasurer.

THE YORK COUNTY (Pa.) MEDICAL SOCIETY held its annual meeting January 3, and elected Dr. Roland Jessop, York, president; Drs. Nathan C. Wallace, Dover, and Jerry C. Murphey, York Haven, vice-presidents; Dr. Ralph A. Harding, York, secretary, and Dr. J. Ferdinand Klinedinst, York, treasurer.

THE JASPER COUNTY (Mo.) MEDICAL SOCIETY held its annual election of officers at Joplin, January 2, with the following result: Dr. D. V. Wale, Carthage, president; Dr. L. C. Chenoweth, Webb City, vice-president; Dr. Elizabeth L. Hull, Carthage, secretary, and Dr. Luther L. Matthews, Joplin, treasurer.

THE ALTOONA (Pa.) ACADEMY OF MEDICINE AND SURGERY, at its meeting January 2, elected Dr. J. Herbert Hogue, president; Drs. Frederick H. Bloomhardt and Henry H. Brotherlin, vice-presidents; Dr. J. Wesley Rowe, recording secretary; Dr. Mary Irvin Thompson, corresponding secretary, and Dr. Joseph U. Blose, treasurer.

THE LANCASTER CITY AND COUNTY (Pa.) MEDICAL SOCIETY, on January 3, elected the following officers: Dr. John J. New-

pher, Mt. Joy, president; Drs. Milton U. Gerhard, Lancaster, and Edwin J. Miller, Interconcourse, vice-presidents; Dr. Park P. Breneman, Lancaster, secretary; Dr. George R. Rohrer, Lancaster, treasurer, and Dr. Jacob R. Lehman, Monntville, corresponding secretary.

THE MEDICAL SCIENCE CLUB OF TOPEKA (Kas.) was organized January 5, its object being the advancement of medical knowledge among its members, the investigation and study of all subjects pertaining to the science of medicine, and the furtherance of fraternal unity in the profession. The following officers were elected: Dr. William E. McVey, president; Dr. O. Portis Davis, vice-president, and Dr. Corban E. Judd, secretary and treasurer.

THE TOLEDO MEDICAL ASSOCIATION met Jan. 11 and elected Dr. William H. Fisher for president; Dr. John North, vice-president; Dr. Charles P. Wagar, recording secretary; Dr. A. C. Schnetzler, corresponding secretary; Dr. F. E. Klauser, treasurer; Drs. J. C. Reinhart, A. C. Schnetzler, F. Jacobi, A. F. McVety and J. D. Ely, executive committee; Drs. H. A. Root, W. V. Anderson, K. M. Bainbridge, H. E. Smead and F. A. Leslie, examining committee; Dr. H. Hathaway, member of library board for 5 years; Drs. W. C. Chapman, H. Hathaway and W. D. Stewart, legislative and sanitary committee.

THE COLUMBIA (S. C.) MEDICAL SOCIETY met January 1, the vice-president, Dr. William Weston, in the chair. Dr. Benjamin W. Taylor, the senior member of the society, read a paper on "Appendicitis," after which Dr. James Woods, Babcock, superintendent of the State Hospital for the Insane, presented a handsome silver pitcher, suitably engraved, to Dr. Taylor on behalf of the society. In closing his remarks, Dr. Babcock said: "He has been our guide and friend in many of those trying ordeals which all physicians are called on to pass through. While we admit with Stevenson that gratitude is a lame sentiment and that thanks when expressed are often more embarrassing than welcome, yet, as members of the Columbia Medical Society, I ask you one and all to rise while I present this token of our fealty, love and admiration." Dr. Taylor made an appropriate and feeling response, and the society then adjourned and participated in the banquet prepared for the occasion.

New York Neurological Society.

Stated Meeting, Dec. 4, 1900.

President Dr. Frederick Peterson, in the chair.

TERMINAL CONDITION IN A CASE OF DIPLEGIA.

DR. WILLIAM M. LESZYNSKY presented a man, 21 years of age, in whom the chief feature of interest was a trembling of the hands, existing as long as he could remember. The trembling, which was growing worse, had always been more marked on the left side. No disturbance of sensibility could be detected. There was excellent muscular development on the left side and a spinal curvature, probably arising from the use of one side more than the other. There were no signs of atrophy. There was some asymmetry of the cranium. There was no disturbance of vision, but concentric contraction of the visual field. There was no nystagmus, and the pupils and fundi were normal. There was a positive tremor when at rest, increased on motion. The elbow-jerk was elicited only on the right side. Both knee-jerks were exaggerated. Ankle clonus had been demonstrated on both sides, though much more marked on the left. The man had probably recovered from a paralysis that he had had at one time, and was now suffering from a terminal condition of an infantile palsy. Undoubtedly there was a good deal of functional disturbance added to the organic trouble.

DR. M. ALLEN STARR thought the case was an athetosis on the left side, and that probably the same lesion, to a minor degree, was present on the opposite side. It was apparently a post-diplegic condition.

DR. E. D. FISHER also looked upon the case as one of cerebral diplegia most marked on the left side, and with the athetoid movements often seen in such cases. This extreme muscular development seemed to him not at all uncommon in this class of cases.

DR. B. SACHS said that there could be no doubt that the left side was the center of disturbance, and it was also probable that a part of the tremor was functional. The condition of the muscles in the scapular region seemed to him fully accounted for by the spinal curvature present.

DR. F. PETERSON agreed with the diagnosis of post-paralytic athetoid form of movement. Where the paralysis was small he thought these finer movements were more apt to be present.

TWO CASES OF SPINAL TUMOR, WITH OPERATION.

DR. M. ALLEN STARR said that five years ago he had been able to collect 145 cases of spinal tumor, in 22 of which operation had been undertaken. In the cases forming the subject of the paper pain had been very prominent, and this, together with the symptoms of pressure on the cord had allowed of the diagnosis being made. Two cases were reported in full, the first being operated on Oct. 22. On dividing the dura an extremely edematous state of the pia was observed, with one white plaque lying upon it. The cord was smaller and whiter than normal, and was not pulsating. No tumor was found. Three days later the wound was enlarged upward and the dura found to pulsate freely at the upper level, but not lower down. A tumor, $1\frac{1}{8}$ inches in length, lay upon the cord. It was oval, had a distinct capsule, and was removed en masse without difficulty. Subsequent examination showed it to be a fibroma. The cord had been reduced to about one-half of its diameter beneath the tumor. No attempt was made by Nature to heal the first operation-wound, and in spite of great care an extensive bed-sore developed over the hip. In the second week after operation the constricted feeling became less marked. The operation-wound healed very slowly. In the fourth week after the operation she had constant fever, probably because of the extensive bed-sores. The spinal incision healed about this time, but she died a few days later. The autopsy showed a softened condition of the cord opposite the exit of the second dorsal nerve from the dura, and the fifth and fourth dorsal nerves could be traced into this area. Owing to the rudimentary condition of the spine of the third cervical vertebra an error of one vertebra had been made in the count at the time of operation. The case seemed to emphasize the fact that there should be no delay in operating for spinal tumor after the diagnosis had been reached. In this case the delay had arisen from an effort to try the effect of antisyphilitic treatment, the husband being known to be syphilitic. Gumma of the spinal cord is quite rare, only 26 such cases having been found in a series of 400 cases. The tumor had been found about two inches higher than had been anticipated. Reed's table had been used as a guide at the first operation, but according to Bruns the operation should be done two segments above the upper limit of pain. This advice was nearer the truth in the present case. The level of the pain was about eight inches lower than the level of the tumor; hence in operating for spinal tumor the level of the cord should be exposed at least four inches higher than the level of the spinal nerve in which pain is found. The operation was done by Dr. McCosh.

The second case was also operated on by the same surgeon. He removed the spines and arches of the second, third and fourth lumbar vertebrae. Dissection showed a tumor involving both the soft and hard tissues of this region. The spines and arches had been eroded by the tumor, which subsequently proved to be an endothelioma. This tumor had invaded the spinal canal and produced pressure on the dura. The patient was in a critical condition for two days after operation, but since then had improved rapidly, and had had no pain since the operation. A considerable degree of atrophy had developed in both peronei. The wound had healed perfectly and there was no evidence of recurrence. It was reasonable to hope for recovery unless there should be speedy recurrence. Out of 145 cases of spinal tumor that he had collected, the history had been fairly clear in 122. Of 76 cases an operation should have been feasible, and according to the pathological report in 75 per cent. the tumors could have been removed.

DR. A. J. MCCOSH said that he had found spinal surgery much more satisfactory than brain surgery; certainly the localization of the lesions had been more satisfactory. It was difficult to say, however, that a lesion is situated at any one segment of the spinal cord, but as a portion of the cord equal to three or four vertebrae must be exposed a slight error in localization is not of great importance. He had had recently a case

presenting symptoms almost exactly like those of the first case reported in the paper. The line of anesthesia had been almost the same, but there had been no paralysis of the arms. The autopsy showed a crushing injury of the cord between the fourth and sixth cervical vertebrae. The ordinary rules laid down had indicated a lesion much lower down, and he had in this way been misled at the operation. He had not found laminectomy a very serious operation as a rule, most of the patients having exhibited comparatively little shock; hence, one should not hesitate in advising the operation when the diagnosis was sufficiently clear. He agreed thoroughly with what Dr. Starr had said about the inadvisability of delaying the operation for weeks in order to give antisyphilitic treatment a trial. He had met with a number of cases in which he believed the fatal result was attributable to such delay. When bed-sores were already present the case was practically hopeless, the patient almost invariably dying from sepsis. It was well to remember that tumors of the cord are usually found higher up than the estimated level. By beginning above and working downward, it seemed to him that the healing process would be favored. He was not of the opinion that there was any good ground for believing that the operation of laminectomy so weakens the spine as to lead to disability. Mention was made of one of his cases in which a man was engaged at an occupation requiring the frequent lifting of heavy weights, yet he had felt no inconvenience as a result of the operation on his spinal column.

DR. PEARCE BAILEY reported the case of a man, 41 years of age, who had been treated for some time previously for a variety of troubles. When seen in May he had stated that about fifteen months previously he had begun to have intense pain on the inner side of the left thigh. There had been an interval of a few months in which this pain had almost subsided. There was slight atrophy in the left leg; the left knee-jerk was absent; there was very slight anesthesia. The case was diagnosticated as one of tumor of the cauda equina. Dr. McCosh had operated upon him on May 22. He had removed the last dorsal and the first and second lumbar vertebrae, and had exposed what had looked at first like a blood-clot, but microscopical examination had proved this to be a round-celled sarcoma. Although it was probable that all of this sarcoma had not been removed, the man had done extremely well all these months, was free from pain and had resumed his occupation.

ANALYSIS OF SYMPTOMS OBSERVED IN TUBERCULAR MENINGITIS AT THE BABIES' HOSPITAL.

DR. C. A. HERTER made an analysis of 24 cases of tubercular meningitis, and in 15 of these there were autopsies. In these 15 cases, 6 were at the age of eight months; 7 were one year old or under. In 9 cases of tubercular meningitis without autopsy, 6 were five months old. These figures showed that the disease was not so rare in the first year of life as had been supposed by some writers. Nineteen of the cases had run their course in less than one month. The fontanelle had been markedly distended in 7 of the 24 cases, and in 3 there had been a marked excess of fluid found at autopsy. In one case the fontanelle had been depressed—a case sick for four or five months. In six cases there had been a delay in the closure of the fontanelle. Vomiting had been noted in 19 of the 24 cases, and had been the first symptom in 14 cases. In five in which there was vomiting, the autopsy showed nothing different from the cases that had presented vomiting. In 11 cases there had been marked constipation. In cases coming to autopsy there had also been tuberculous lesions in the intestine. In several of the cases there were tubercular ulcers of the colon, and yet constipation instead of diarrhea had been present. The pupils were unequal in 12 of the 24 cases, and dilated in the others. The pupils were contracted in only two cases. Nystagmus was observed in four cases, and strabismus in ten cases. In the cases showing strabismus there were marked lesions at the base and in the interpeduncular space. There were general convulsions in 50 per cent. There was no case which did not present either rigidity or convulsions. In cases without meningitis but with tubercles in the brain, convulsions were not so common. Paralysis was noted in 10 of the 24

cases, and was monoplegic in a number. The variability of these palsies was a rather notable feature. In the cases without meningitis but with tubercles in the brain, no palsies or paralyzes were noted. The tache cérébrale was noted in 7 cases, and flushing of the face in 10 cases. All the fatal cases had presented stupor or coma, or more or less irregularity of respiration, while these had not been observed in any of the cases with tubercles, but without meningitis. Hyperesthesia had been noted in only one case, and in only one had there been a well-developed cephalic cry. Retraction of the abdomen had been noted to a greater or less degree in 15 of the cases, but not at all in the other cases. The fever had not been high in the uncomplicated cases, and the pulse had shown nothing distinctive. In the cases without meningitis marked opisthotonos and convulsions had been the rule, and early vomiting had been much less frequent than where meningitis was present. Only two or three of the cases had presented solitary tubercles. In all of the autopsy cases the cerebral tuberculosis had been clearly secondary. The intestine was the seat of tuberculous lesions in 11 of the 12 cases in which the intestine was examined. The knee-jerks were increased in a large proportion of cases, and absent in only two. An interesting feature was that at times the knee-jerks would be alternately exaggerated and absent.

California Academy of Medicine.

Monthly Meeting, Dec. 18, 1900.

President Dr. D. O. Montgomery in the chair.

TUBERCULAR JOINTS.

DR. H. M. SHERMAN presented a case which had already been before the Academy. At that time he showed the result of an excision of the elbow, and called attention to the hip of the same side, which was swollen and tender in places; on one day the boy could walk well, and on another he would be lame. Some time before there had been a fluctuant swelling in the upper part of the thigh, and, for the sake of exploration this had been emptied by the aspirator, the contents being clinically tuberculous pus. This particular abscess had not refilled, and its emptying had caused entire disappearance of the symptoms which accompanied it. The symptoms noted at the time the case was in the Academy developed later, and were not the same as those of the abscess. The case very strongly suggested hip-joint tuberculosis, but an analysis of the symptoms prevented that diagnosis. After being shown at the Academy the boy got steadily worse, and the general swelling softened in one part above the trochanter, and fluctuation was palpable. The opening of this fluctuant place let out tubercular pus, and the cavity led down to the rim of the acetabulum, at its upper part, where was found a sequestrum, wedge-shaped, and quite free. It was removed; its bed was scraped out, and the cavity joint, which was already open into the abscess, was thoroughly washed out. The femoral head appeared normal. The wound was closed with temporary drainage and healed very kindly. Very shortly it broke down again and formed a sinus leading into the joint and always discharging. A formal excision of the hip was done and considerable of the ilium, the seat of a tuberculosis that had spread from the site of the sequestrum, was removed. The wound was packed with sterile gauze, and made to heal from the bottom. By this time the elbow had again broken down, and it was again laid open and thoroughly scraped out and washed. It too was packed and healed. Since these operations the general health of the patient has been perfect and there had been much increase in weight. The elbow is especially satisfactory; flexion is efficient and of normal range; extension is not so strong; the hand can be put on the head, and is commonly used for all ordinary purposes. The use of the hip has not yet begun.

In this case it seems likely that the elbow was the primary lesion, and the hip secondary to it, for no other lesion, skeletal, glandular or visceral, can now be found; and his health and general development do not suggest the idea of a latent lesion, though they may not be absolutely incompatible with the existence of one. Section of the femoral head after removal showed

that the tuberculosis was invading its upper half, that which had been in contact with the sequestrum in the lip of the acetabulum.

HYDROCELE.

DR. DUDLEY TAIT exhibited a patient 79 years of age, on whom he had operated three months ago, and read a paper on the treatment of hydroceles. He said that the essentials of a radical cure are that it shall be devoid of danger and pain, prevent recurrences, and finally that it shall permit the patient to resume his ordinary business in the shortest possible time. He condemned the treatment by the injection of irritating fluid for the purpose of producing adhesive inflammation between the layers of the serosa, also Volkmann's operation of incision, followed by suture of the edges of the serosa to the skin, with or without drainage, as being very uncertain in their results. In twelve of his cases operated by the latter method, he noted relapse in two, and called attention to the fact that German authors acknowledged 12 to 15 per cent. of recurrences after Volkmann's operation. Partial excision of the parietal tunica vaginalis, by which an incision is made down to the fibrous layer; the tumor, still unopened, is then dissected by means of gauze, or the finger, until the mass is free from the cellular layer, especially posteriorly. A long incision is then made in the sac, from which the liquid escapes. The tunica is then turned inside out, placing the endothelial surface outward and securing the cut edges of the serosa as high as possible around the cord by means of two or three catgut sutures. The testicle is then replaced in its normal position. It is covered by the skin, dartos and cellular tissue. Suture of the skin without drainage completes the operation, which requires generally from five to ten minutes.

He did not claim, however, the slightest priority for this measure, in as much as Longuet published a description recently, and stated having treated 22 cases by this plan, the majority as early as 1898. Among the objections made to the method of inverting the tunica vaginalis, were the risk of injuring the cord, fixation of, and subsequent atrophy of, the testicle, and the possibility of relapse. All these points have been refuted by the experience of Longuet, who had not found a single instance of recurrence in his list of 22 cases. Dr. Tait's personal observations comprised two cases, one of which was the patient exhibited at this meeting, in which an examination of the patient at this time (three months after operation), showed the scrotal tissues freely movable over the surface of the testes. The inverted tunica undergoes atrophy.

DR. CHARLES P. THOMAS, Spokane, said that he could not quite see the advantage of the operation described by Dr. Tait over the one he usually performed, which is that of excising the tunica vaginalis. He believed that every clean surgeon is convinced that the open method is the right one. The diagnosis is not always easy, but is always cleared up by the incision method, which he thought was the proper one. In any form of closed treatment there is a danger of sepsis until the wound is healed.

DR. W. J. TERRY said that the method seemed to him irrational. He did not see the object of doubling up a mass of tunica, and fastening it up to the cord.

NEPHRECTOMY.

DR. DUDLEY TAIT also reported a case of nephrectomy in a patient aged 62. The trouble began 18 months ago with polyuria and pollakiuria. Diabetes was then diagnosed and a rigid diet enforced, causing a loss of 62 pounds. Four months later there was painful micturition and slight pyuria. Occasionally there was some tire on the right side. He was treated for cystitis by various physicians for 14 months with no benefit. Examination in the beginning of November, 1900, showed an adherent painful mass in the region of the right kidney, pus in large quantities in the urine, albumin, a few red corpuscles, numerous pelvic and a few vesical cells. The segregator (Harris) gave a decidedly purulent urine from the right side, and almost clear urine from the left. The amount from the left side was almost double that from the right side. Temperature at this time was almost invariably 37.2 C. in the morning, 39 at night; pulse, from 70 to 80. Diagnosis, pyelo-

nephritis, possibly tuberculous, with a mild cystitis. Lumbar incision November 14 showed an extremely adherent kidney. With considerable difficulty and some hemorrhage the lower three-fourths of the kidney were freed. During this dissection two pockets of pus were opened in the lower third of the kidney. Further dissection being apparently impossible, clamps were applied and morcellation done. The wound was left open. The patient's condition immediately after the operation was very satisfactory: pulse, 98; temperature, 38. The dressing was removed on the third day; the wound had then the aspect seen when clamps are used. Healthy granulations were not noted on the surface of the entire cavity until the fifteenth day. The patient had no control of micturition; it was, however, no longer painful. The daily amount of urine passed could not, therefore, be estimated accurately. It varied between 900 and 1300 gm. It contained a small amount of pus in the beginning and became almost clear during the second week. On the seventeenth day the urine contained a few leucocytes, albumin and a few vesical, but no pelvic cells. The pulse showed a marked increase as early as the fourth day, 104, and rose gradually subsequently. The treatment was salt water subcutaneously, cardiac stimulants, diuretic and milk. On the twentieth day the condition of the wound was entirely satisfactory. The granulations were present in all directions. The pulse remained high, 118 to 120; temperature at night, 38.4. Urine was clearer and more abundant. Without apparent cause a sudden change occurred during the day, pulse 134, irregular; temperature, 38. Urine greatly diminished in quantity. Notwithstanding the use of stimulants and salt solution, the pulse increased in frequency, 180, and more intermittent. The patient died twelve hours later, the twentieth day after operation.

There were at least three points worthy of discussion in this case. 1. The mistake in diagnosis made by those who saw and treated the patient during the 18 months preceding the operation. Failure to make the usual examination of the urine and urinary system is the only possible explanation. 2. Whether in the presence of multiple purulent foci in the kidney it is safer to be contented with a nephrotomy and drainage. The French school almost unanimously advises incision and drainage in the common nodular infiltration of the kidney. In the case under discussion the kidney was very friable, extremely adherent in the upper third, and two pockets of pus had already ruptured during the dissection. Nephrotomy under these circumstances would have been very easily done, but the symptoms would probably not have cleared up with such incomplete drainage. However, the question still remains: would nephrotomy, with or without secondary nephrectomy, have given a better result? 3. The condition and function of the remaining kidney. The Doctor confessed to have neglected the proper study of the case from this all-important point of view. He failed to utilize any of the recent methods of determining the function of the kidneys. The methylene-blue test, the phloridzin test for artificial glycosuria, and cryoscopy were not resorted to.

Johns Hopkins Hospital Medical Society.

Meeting held Dec. 3, 1900.

Dr. H. Barton Jacobs, in the chair.

CIRRHOSIS VENTRICULI.

DR. THOMAS McCRAE exhibited, in the absence of Dr. Osler, the specimen of this exceedingly rare affection, from a man aged 48. The previous history was unimportant, except that the patient was in the habit of drinking large quantities of cold beer. The symptoms began five years ago, with acute epigastric pain, followed by loss of weight. There was no nausea or vomiting, nor other symptoms pointing to ulcer. A slight epigastric ridge was felt, which, with the absence of free hydrochloric acid and presence of lactic acid, led to the diagnosis by Dr. W. S. Thayer of carcinoma. Later the patient was seen by prominent specialists in New York, who did not confirm this diagnosis. The case came recently under Dr. Osler's care, with the additional history of a gradually diminishing ability to ingest

food and loss of 100 pounds weight during the past year. A test-meal gave 90 c.c. of fluid, with total absence of hydrochloric acid. There was no anemia. Dr. Osler made a diagnosis of cirrhosis of the stomach. Dr. Finney operated and found an hour-glass constriction at about the middle of the stomach. The opening was made on the pyloric side of the stricture, which admitted only one finger, and the stricture was then divided and the opening in the stomach closed in the usual way. The patient gradually sank and died four days later. On autopsy there was no evidence of peritonitis and the stitches held well. Death appeared due to exhaustion. Sections showed great overgrowth of fibrous tissue, and there was no sign of previous ulcer.

DERMOID CYST OF MESENTERY.

DR. J. F. MITCHELL stated that a man aged 34, a healthy, robust teacher, came into the hospital complaining of pain in back and abdomen. His trouble began ten years ago, with colicky pain recurring two or three times a year, with constipation, but no fever. Five years ago, the attacks had become more frequent, recurring five or six times a year. By last summer they recurred every six weeks. Constipation was the rule, and with relief of that came relief of the pain. Three years ago, a lump, 4x3 inches, appeared below the umbilicus in the median line. On entrance to hospital a lump was found just below the umbilicus, which disappeared altogether at times. In the knee-chest posture, it fell forward and was readily moved from side to side. On deep pressure there was pain. The urine was negative and there had been no hematuria. It was scanty and high-colored during the attacks, but there was no increase afterward. The tumor was thought to be a displaced kidney. An exploratory incision was made by Dr. Finney, and it was found to be a dermoid cyst between the folds of the mesentery, about 10 cm. in diameter, quite firm, with indefinite sense of fluctuation. On slitting up the mesentery, the tumor was easily peeled out. The abdominal cavity contained a large amount of fluid, which contained leucocytes but no other cells. Examination of the cyst contents shows fat globules and fatty-acid crystals, but no cholesterol.

DR. T. B. FUTCHER said the diagnosis had been in doubt; Dr. Osler had been non-committal, spoke of mesenteric tumor and also intestinal tumor, but inclined more to a tumor of kidney. He himself had also inclined to the latter opinion. Dr. Young had made a cystoscopic examination and drawn the urine from either kidney; this was normal, which should have impressed them more than it had. The contents of the cyst resembled the stools in "fatty diarrhea."

ACUTE PANCREATITIS.

DR. JOS. C. BLOODGOOD reported two cases. The affection is rare and the diagnosis not often made. Early diagnosis with operation may be followed by recovery. In 12,000 surgical admissions here, and perhaps an equal number on the medical side, there have been three cases, one of these being hemorrhagic and two of the suppurative form. There were only two cases of cysts of the pancreas and ten or twelve of carcinoma of the pancreas. The first case was one of acute hemorrhagic pancreatitis. There was no history of the case, but the patient came in with a diagnosis of acute intestinal obstruction, nausea and vomiting. Operation was done and areas of fat necrosis and small hemorrhages were found. The wound was closed and death was expected, but the patient recovered.

The second case was in a man 47 years of age, with a considerable excess of fatty tissue. The only evidence of previous illness was symptoms of indigestion for some years. Seven months before present attack he had had an attack of jaundice, lasting three weeks. Present attack began twenty-one days before operation: he was suddenly seized with nausea and vomiting and intense cramp-like pain. Five days later he still had great pain, with distension, nausea, vomiting; the temperature was 105 degrees, the first time it had been noted to be febrile. There was vomiting of pus at intervals. The seventh day his physician noticed a tender mass in the right lumbar region. Patient also noted swelling on right side. There was no marked rigidity. He had chills and fever. Tenderness developed in the mass, but there was no jaundice. On admission

patient was a large man, with pulse 110-120, and a tumor more visible to the right side of abdomen, but more palpable to the left of the umbilicus and below it. The right lumbar curve was fuller than the left. There was distinct resistance in the site of the tumor. The surface of the tumor was irregular, but smooth. Its lower margin moved on inspiration; over it was doubtful tympany. The dulness of the tumor was continuous with that of the liver. There was continuous fever. Leucocytes numbered 20,000. He became slightly delirious and stupid. These symptoms continued, with dry and coated tongue, pulse of 130 and dorsal decubitus. The mass was distinctly outlined, occupying chiefly the umbilical and epigastric region and more toward the right side—a large immovable mass feeling like the omentum around an appendicitis. The dulness was less between the tumor and liver. He never had appendicitis in the middle line, although he had it to the right of the gall-bladder. So bad was the patient's condition that operation was done under cocaine. On entering peritoneum the omentum was seen to be studded with areas of fat necrosis, making the diagnosis positive. There was an evident tendency to bleed. Pus was encountered, first yellow and gelatinous, later brown, with a distinct, sweet odor. The pus came out slowly, at least 250 c.c. draining out. Death followed within twelve hours with symptoms of infection. Gall-stones were found. The third case presented practically the same history. There was a distended stomach and a definite area of tympany between the tumor and liver. There was a history of morning nausea and vomiting of two year's duration. Patient was a stout man, an excessive user of beer and alcohol. There was an excess of subcutaneous fat. Patient had been sick four or five days before admission. There was a well-defined tumor, not moving on respiration. At the operation done by Dr. Finney the tumor was situated beneath the omentum. There was no improvement in the patient's condition. The wound was reopened and a large pancreatic abscess found; as soon as this was opened and drained nausea and fever ceased. The patient is living and well to-day, and is seen now and then. Six months ago he had only a suggestion of gall-stones. This patient has no recollection of coming to the hospital. Such patients look iller than those with appendicitis or cholecystitis. He has noticed in connection with gall-stones an induration of the head of the pancreas. It is well known, especially from the researches of Opie, that we get interstitial pancreatitis from obstruction of the pancreatic duct in this way.

Philadelphia County Medical Society.

Meeting, Dec. 12, 1900.

President Dr. J. H. Musser, in the chair.

RESECTION OF ULNAR NERVE.

DR. ERNEST LAPLACE presented a case of nerve severed for nearly one year and in which there had been paralysis and contracture of the fingers. The injury had resulted from a fall on a sharp object. He had made a dissection and found the two ends of the nerve separated a distance of about 1½ inches. The lower end was enveloped in cicatricial tissue. Both ends had been freed from the surrounding tissues and gradual traction made until the two ends were brought together, after which the nerve was united end to end by ten very small silk sutures inserted by means of the smallest needle possible. Before the operation there had been complete paralysis, but on the following day the patient could move the fingers, and on the fourth day he could move the hand; sensation is almost normal, thus showing that many of the severed fibers have found their fellows. From this fact the result might demonstrate the value of end-to-end union in severed nerves rather than splicing or overlapping.

DR. T. S. K. MORTON spoke of a similar case he had operated upon several years ago in which sensation had returned in the parts within two or three hours after the operation for union of a severed nerve.

LYMPHATIC AND PORTAL INFECTION FOLLOWING APPENDICITIS.

DR. JOHN C. MUNRO, of Boston, began by stating that infection of the retroperitoneal lymphatics is more common than is gen-

erally supposed. A continued temperature after operation for appendicitis should indicate infection of the retroperitoneal lymphatics. When there is a chill, high fever and jaundice, infection of the portal system should be suspected. When the former is found in any given case it should be looked on as of appendicular origin. The speaker then detailed a series of cases to illustrate the symptoms set up by infection of this character. The onset is not always sudden, but may occur several weeks after the operation and leading to the formation of abscess. In one case there had been a slight elevation of temperature for three months following an operation for appendicitis and later a retroperitoneal abscess was found. In another case subsequent to operation the patient developed chills and fever accompanied by jaundice, but aspiration—which is not a good procedure—failed to find pus in the hepatic region. In one case an abscess of liver was found which had resulted from appendicitis.

From the history of many cases he had made the following deductions: 1. In appendicitis there is nearly always infection of the retroperitoneal lymphatics. 2. This infection may date its origin previous to the onset of appendicitis. 3. Infection of the lymphatics is more common than pyelophlebitis. 4. The infection shows a tendency to spread by way of the lymphatics. 5. These complications demonstrate the value of free openings and drainage following operations for appendicitis.

DR. H. A. HARE spoke of the venous and lymphatic vessels and their relationship in the region of the appendix. A study of these shows the readiness by which infection may reach the liver and contiguous regions. The relation existing between the blood-supply of the appendix and liver is a close one. The essayist had touched on the fact that symptoms often indicated the affection of distant organs such as the spleen, stomach or other viscera when the main fault might be located in the appendix. This fact might be due to the widespread infection resulting from this condition.

DR. JOHN B. ROBERTS believed that physicians as well as surgeons were too prone to look on appendicitis as only a local condition, but the symptoms presented should call for a more careful study of the question. He disapproved of introducing aspirating needles as a diagnostic sign of hepatic abscess.

DR. EDWARD MARTIN was afraid that perhaps too many cases of doubtful nature would now be attributed to this condition. In his opinion infection of the retroperitoneal lymphatics was somewhat rare. A free incision with drainage in appendicitis would usually prevent involvement of the lymphatics. As to the use of a trocar in making explorations for abscess, it might in some cases be better than an incision which might lead to fatal hemorrhage, as instanced by a case which he had seen.

DR. JOHN G. CLARK stated that within the past three or four months he had been making a series of experiments to determine the very point made plain by Dr. Munro. He had found that after carmin granules had been injected into the more dependent parts of the peritoneal cavity of rabbits and the animal subsequently kept in an upright position after the lapse of five hours carmin granules could be found in some of the lymphatics in the sternal region. This showed that they could easily make their way through the diaphragm. After the lapse of a longer period of time carmin granules could be found near the liver, kidneys or gastric regions. He had been able also to find these granules in the bone marrow. These results only seem to follow the injection of the granules into the more dependent portions of the peritoneal cavity or adjacent to the pelvis which might therefore go to confirm the clinical observations of Dr. Munro in regard to infection of the retroperitoneal lymphatics and venous circulation in cases of appendicitis.

DR. SIMON FLENNER thought the condition might be allied to that seen in typhoid fever and other infectious diseases when thrombosis occurs. It requires only a very short time for bacteria to be distributed throughout the body. This had been demonstrated by an observer who, after injecting the bacillus prodigiosus, had, after five minutes, found it in the bile.

Chicago Pathological Society.

Meeting held Dec. 10, 1900.

URETERO-INTESTINAL ANASTOMOSIS.

DR. F. R. ZEIT disensed an experimental study of the pathology and bacteriology of ureteral implantation into the rectum as practiced on 120 dogs, and implantation of the trigonum into the rectum on 21 dogs.

The operations on the animals were done by Drs. Franklin H. Martin and Reuben Peterson with a view of devising an operation for cases of malignant disease of the bladder. The paper gave: 1. A complete résumé of the literature of bilateral uretero-intestinal anastomosis on man and animals, showing that no better results can be expected in man than those obtained in animal experiments. 2. The results of careful pathological and bacteriological examination of the operated animals. 3. The results of animal experiments with a view of producing immunity to the bacillus coli communis.

The conclusions reached are, that no matter what the operation employed with a view of preventing ascending renal infection, the pathology of ureteral implantation into the rectum is the pathology of pyelonephritis and its sequelæ. All the variations of this form of suppurative nephritis were observed in the operated dogs, from the earliest beginning of ascending infection a few days after the operation up to the healed process with induration and cicatrization and resulting granular contracted kidneys, which were found in all dogs that have recovered from the primary results of their pyelonephritis. Numerous microscopic specimens and photomicrographs were shown to prove that infection could have taken place only by way of the ureters, pelvis of kidney and uriniferous tubules, and that the pyelonephritis was caused by the bacillus coli communis.

Most of the dogs died of peritonitis due to leakage of urine and general sepsis and pyelonephritis during the first ten days, the primary mortality being 84 per cent. Dogs living a longer time died of pyelonephritis, pyelonephrosis and pyemia, or recovered from the pyelonephritis with contracted kidney. Specimens were shown of other dogs which appeared to be in perfect health 210, 300 and 405 days after operation. All had granular contracted kidneys, and still showed evidences of former pyelonephritis. The ureters are not much diseased, although usually dilated, no matter how severe a pyelitis or pyelonephritis was present. The bladder is always found to be infected by way of the urethra. In all cases where the bladder had not been removed, it was found to contain a purulent fluid teeming with bacteria, mostly staphylococcus albus and bacillus coli communis. A purulent cystitis was found also when the operator squeezed out the bladder thoroughly before closing up the abdominal wound after the operation.

Operative results on 21 dogs with implantation of trigonum into rectum were more favorable. Specimens from several dogs were shown, one of which was killed on the thirteenth day after operation. One ureter with trigonum implanted showed a normal kidney. The other ureter implanted without vesical mucosa resulted in a violent pyelonephritis.

Buffalo Academy of Medicine—Medical Section.

Meeting held Dec. 11, 1900.

PERIODIC VOMITING.

DR. CHARLES G. STOCKTON reported a case of what was held to be characteristic cyclic or periodic vomiting in a child. It first appeared when the child was 3 years old, and occurred at intervals of six or twelve weeks, thereafter, for a period of five years, when the attacks declined in frequency and severity, and have now quite disappeared. The seizures were ushered in by a day or two of dulness with inactivity of the bowels: the appetite was usually good. The vomiting occurred suddenly and was repeated sometimes with severe retching at intervals of one-half or one hour. The ejecta appeared to be pure gastric juice, rich in hydrochloric acid, which acidity declined as the attacks passed off. After vomiting for about a week, during which there was very alarming prostration, constipation of the

bowels and diminution of the urinary output, improvement appeared as suddenly as the onset. In forty-eight hours the child seemed as well as ever, and continued to be perfectly well in the interval. The affection was apparently in no way related to any other ascertainable condition, and was not precipitated by overeating or other faults in hygiene. The writer assigned this case to a group which he thinks differs from the cases reported by Leyden, which occurred in adults, and those reported by Boas, in which there was hypochlorhydria, and from other groups not answering to the description of pure cyclic vomiting in children. Hypodermoclysis and enteroclysis were recommended as means of averting the dangers of collapse. Several fatal cases were referred to.

TREATMENT OF DISEASES LOCALLY BY HOT-AIR.

DR. PRESCOTT LE BRETON referred to the introduction of superheated dry air in England in 1893 as a remedy to alleviate pain and cure disease. A description of the apparatus which essentially consists of 1. an oven to enclose the affected parts: 2, a suitable covering for the skin to absorb perspiration and prevent blistering, and 3, some means of generating heat.

The treatments to any given part occupy from one-half to one hour, and the temperature reached in the bath varies from 250 to 340 F., the heat varying according to the sensation of the patient. Massage is indicated afterward, especially if there is any swelling or exudation. The effects of this extreme heat locally are a relaxation of the tissues, an increase in the circulation with dilation of the blood-vessels, a numbing of the sensory nerves, a marked perspiration and often a change from an unhealthy to a healthy metabolism. Swelling is diminished, pain is relieved, stiffened joints and muscles move more freely. The writer details the effect of this treatment in 12 selected cases, including Colles fracture, sciatica, muscular rheumatism, contusion to lumbar region, coccygodynia, rheumatoid arthritis, neurasthenia spinalis, old dislocation of hip, subacute rheumatism, and neuritis, in all of which much good was noted with oftentimes a cessation of all symptoms. A like result was also noted in 35 cases selected from other observers.

Therapeutics.

Vapor-Bath.

The following simple method for giving a vapor-bath to patients who have to be treated in the recumbent position is recommended by *La Presse Médicale*: Spread a blanket over the bed, upon which place the patient, dressed only in his gown: under each foot and at each side of the body place a well-corked stoneware jar of boiling water. Before being placed in position, each jar should be covered with a damp towel and afterward covered with a piece of flannel. After the jars are placed in position the blanket is folded over the patient and he is then covered with another blanket and an eiderdown quilt. In a few minutes a profuse perspiration is brought on, lasting for a time, varying according to circumstances. If it is advisable to increase the perspiration, warm drinks may be given. When the patient is taken out of his vapor-bath, the blankets on which he lies and the jars are withdrawn without uncovering him, and his body should be dried under the second blanket and the quilt, which are allowed to remain. After twenty or thirty minutes his linen may be changed.

Nephritis Following Scarlet Fever.

J. Lewis Smith recommends the following mixture in order to increase the elimination by the bowels, skin and kidneys:

R.	Potassii acetatis	
	Potassii bicarb.	
	Potassii citratis, āā.....	3ii 8
	Infusi tritici repentis, q. s. ad.....	3viii 256

M. Sig. A teaspoonful every three or four hours in water, for a child of 5 years.

Treatment of Impetigo Contagiosa.

Engman, in *St. Louis Med. Review*, outlines the following treatment in impetigo: The bullæ should be opened and the contents caught in absorbent cotton and not permitted to run over the skin. Free the surface of the diseased epidermis by clipping it off close to the bullæ, and dust with an antiseptic powder. When the disease is widespread and there is much crust-formation, a bland oil, such as earron-oil, liquid albolene, or olive-oil, to which has been added 2 per cent. of salicylic acid, should be used. This should be well rubbed over the surface, the crust detached, and the following dusting-powder applied:

R.	Acidi salicylici	.....gr. xx	1	33
	Acidi borici			
	Zinci oxidi			
	Amyli, āā	.....3ii	8	

M. Sig. Apply locally.

Baths are contraindicated. Ointments seem to irritate, consequently the application of the bland oil to soften the crusts followed by the antiseptic dusting-powder is regarded by him as the most successful method of treatment.—*Med. Standard*.

H. H. Whitehouse, in "Twentieth Century Practice," recommends the removal of the crusts by washing with white castile soap in warm water, followed by the application of a mercurial preparation:

R.	Hydrargyr. ammoniati	.....gr. x	1	66
	Adipis benzoinati	.....3i	32	

M. Sig. Apply locally twice daily; or

R.	Ichthyoli	.....gr. xv	1	
	Ung. zinci oxidi q. s. ad	.....3i	32	

M. Sig. Rub in well two or three times daily.

The latter acts very well, especially when the crusts are adherent, in which case it should be spread thickly on lint and bound on. He states that, in all cases, but particularly in the bullous form, ichthyol in 3 per cent. strength is very effective.

Removal of Warts and Moles.

W. C. Abbott applies the ethylate of sodium for this purpose in the following manner: The growth should be walled in with a piece of wax, vaselin or mutton tallow and then a drop of the above solution should be placed on the tip of the growth. After two or three minutes any remaining portion should be absorbed with a blotter. A caustic effect occurs which kills quite deeply; a scab is formed, which peels off, leaving the part normal.

[Sodium ethylate is formed by the combination of metallic sodium and pure alcohol. It forms a white powder, which is soluble in water or alcohol. It is generally used in an aqueous solution of 10 per cent. strength.]

Sweating of Feet—Hyperidrosis Pedis.

The *Pharmaceutical Post* publishes the following formulae for treatment of excessive sweating of the feet:

R.	Balsami peruviani	.....m. xv	1	
	Acidi formici	.....3i	4	
	Chloralis hydratis	.....3i	4	
	Alcoholis—absolute—q. s. ad	.....3iii	96	

M. Sig. Apply by means of a local pad of wool; or

R.	Acidi borici	.....gr. xv	1	
	Sodii boratis			
	Acidi salicylici, āā	.....3vi	24	
	Glycerini	.....3iss	48	
	Alcoholis, q. s. ad	.....3iii	96	

M. Ft. lotio. For local application.

Sajous' Annual contains reports of good results obtained by Legoux in treatment of cases of obstinate perspiration of the feet with offensive odor, of several years' duration. He first bathed the feet for several days in a weak infusion of walnut leaves and applied the following mixture twice daily:

R.	Liq. ferri chloridi	.....3i	64	
	Glycerini	.....5v	20	
	Essentiæ bergamottæ	.....m. xl	2	66

M. Sig. Apply to the feet twice daily.

For Disinfecting the Mouth in Infectious Diseases.

R.	Acidi carbol	.....3i	4	
	Glycerini	.....3vi	24	
	Aquæ destil., q. s. ad	.....3ii	64	

M. Sig. Apply to the buccal mucous membrane with a pledget of cotton on an applicator; or

R.	Acidi carbol	.....3i	4	
	Spiritus camphoræ	.....3ii	8	
	Olei olivæ, q. s. ad	.....3ii	64	

M. Sig. To be applied locally by means of an applicator; or

R.	Acidi carbol	.....3i	4	
	Alcoholis—pure	.....3ii	8	
	Glycerini	.....3vi	24	
	Aquæ destil., q. s. ad	.....3ii	64	

M. Sig. For local application by means of a swab.

Care should be used that none of the solution drops into the larynx. This can be avoided by pressing the swab against the side of the bottle before applying it.

Thiocol in Tuberculous Cases.

Braun, in *Klin. Ther. Woch.*, has found that thioeol is better tolerated by the stomach than the other drugs of the creosote class. It has given considerable relief in tuberculous cases: to those suffering from chronic bronchitis especially.

—*Internat. Med. Mag.*

[Thiocol is the potassium salt of guaiacol-sulfonic acid. It contains about 60 per cent. of guaiacol. It is a fine white powder, which has a taste at first bitter then sweetish. It surpasses the other preparations in that it is free from odor, is very soluble in water, rapidly absorbed by the mucous membranes and is free from irritating action. The dose is eight grains, gradually increased to thirty or forty grains, three times a day.]

The following is the most preferable way of prescribing it:

R.	Thioeol	.....3iii to 3iv	12-16	
	Syr. aurantii, q. s. ad	.....3iii	96	

M. Sig. One teaspoonful three times a day.

Removal of Foreign Bodies in the Nose.

Children, while playing with small bodies, such as marbles, buttons, peas, beans, and grains of different kinds, very frequently place them in the nose, and they are removed with difficulty, as well as causing great fright to the child. Keating, in his treatise on "Diseases of Children," recommends that the child, if old enough, be instructed to blow hard or to cause sneezing by tickling the membrane of the nose or by the application of snuff. The body can frequently be dislodged by having the child take a full breath and then give him a smart blow on the back. If not dislodged then close the nostril which contains the body and blow into the other nostril through a rubber tube, instructing the patient to keep the mouth closed: suddenly release the closure of the side occupied by the body. If this does not accomplish the purpose then it will have to be drawn out by forceps or other surgical means resorted to.

Treatment of Gonorrhea.

The following prescriptions, recommended in treatment of gonorrhea are published in the *N. Y. Med. Journal*.

R.	Extracti zeæ fluidi—corn silk			
	Spts. etheris nitrosi, āā	.....3ss	16	
	Balsami copaibæ	.....3i	32	
	Mucilaginis	.....3ss	16	
	Aquæ destil., q. s. ad	.....3vi	192	

M. Sig. A dessertspoonful to be taken three times a day in water.

[The therapeutic agent in this prescription is the volatile contained in copaiba and it should be used more extensively in the subacute stage of gonorrhea. Zea and copaiba both contain resins which promote diuresis.]

FOR WATERY GLEET.

R.	Acidi tannici	.....gr. iv	25	
	Mucilaginis	.....3i	4	
	Aquæ, q. s. ad	.....3i	32	

M. Sig. Use as an injection two or three times daily.

Psoriasis.

The *British Med. Journal* reports the treatment of psoriasis applied by Balzer and Mousseaux, by means of oil of cade baths. The following formulæ are prepared:

R. Saponis—soft ̄ iii 96
Aque ̄ vi 192

To this emulsion oil of cade is added in the proportion of:

R. Olei cadini ̄ iii 96
Emul. saponis ̄ viii 256

M. Sig. Add the entire amount to one bath—thirty gallons of water.

The patient is instructed to use plain soap and water to remove the scales before taking the bath. Although not stated, it is supposed that the temperature of the bath should be suited to the patient, as well as the length of time the patient is to remain in it.

Crocker recommends the following to reduce the hyperemia after the scales have been removed:

R. Calamina ̄ ii 2
Zinci oxidi ̄ ss 2
Liq. calcis ̄ ss 16
Olei olivæ, āā ̄ ss 16

M. Sig. Apply locally after removing the scales by means of soap and water or by immersion in a warm alkaline solution.

Herpes Genitalis.

W. F. Robinson states that caustics should never be used, as grave ulceration may follow their use. He employs the simplest antiseptic washes and observes cleanliness by immersing the parts in a warm boric-acid solution or bathing with the same twice daily and dusting afterward with the following:

R. Europhen ̄ i 32
Acidi borici, āā ̄ i 32

M.

Duhring recommends the following:

R. Zinci sulphatis ̄ ss 2
Potassii sulphidi, āā ̄ ss 2
Spts. vini rectificati ̄ i 4
Aque ̄ vii 28

M. Sig. Shake and apply frequently.

Eczema of Female Genitals.

The following is recommended by Von Schlen:

R. Ichthyoli ̄ ss 6
Pulveris amyli ̄ i 32
Vasellini ̄ ii 64

M. Sig. Apply locally twice a day.

—*Encyc. Pract. Med.*

Tuberculosis.

Daly, in *The Medical Record*, recommends the following pill in tuberculosis:

R. Camphorægr. ii 13
Heroingr. 1/12 005
Creosotimi 06

M. Ft. pil. No. i. Sig. One such pill three times a day and at midnight.

He reports six cases and says he has found this formula superior to any he has used in treatment of the cough. It is also of great benefit in the cases of nervous depression found in tuberculous subjects. The disorders of the stomach, which are sometimes difficult to combat in phthisical patients, may be indirectly due to cough and this remedy therefore gives relief. When the cause is a local one he has had the best results with the following formula:

R. Bismuthi subnitratægr. xv 1
Guaiacoli carbonatisgr. i 06
Heroingr. 1/32 002

M. Ft. tablet No. i. Sig. One tablet after each meal.

The guaiacol has been used in this formula in small doses because it has a tonic effect in the stomach, and the heroin because it has some analgesic power. In the use of this last tablet care must be taken to prevent the constipation which the bismuth may produce.

Ovarian Neuralgia.

R. Camphoræ monobromatægr. iss 1
Pulveris capsicigr. ii 13
Confectionis rosæ, q. s.

Sig. One such pill every three or four hours.

—*N. Y. Med. Jour.*

Administration of Quinin to Children.

H. B. Sheffield, in *Med. Times and Register*, recommends euquinin, which is a perfected and practically tasteless preparation, to be given children, as it is a palatable preparation. It may be prescribed in simple syrup. It has the further advantage over quinin in being less apt to produce nausea and tinnitus. For grown-up children he prescribes the following:

R. Quininae sulphatisgr. xxx 2
Acidi sulphurici dil. ̄ ss 2
Ess. menthæ piperitæ, āā ̄ ss 2
Syr. yerbæ santæ comp., q. s. ad ̄ iii 96

M. Sig. Two teaspoonfuls every three hours.

He gives iron in the following combinations:

R. Vini ferri amari ̄ i 32
Elixir aurantii, āā ̄ i 32

M. Sig. One teaspoonful three or four times a day; or

R. Ferri et ammon. citratisgr. xv 1
Spts. vini gallici ̄ ss 16
Essence pepsini ̄ i 32
Syr. simplicis, q. s. ad ̄ ii 64

M. Sig. One teaspoonful three or four times a day; or

R. Tinct. ferri chloridi ̄ i 4
Glycerini ̄ ss 16
Syr. zingiberis ̄ i 32
Aque, q. s. ad ̄ ii 64

M. Sig. One teaspoonful three times a day after meals.

Medicolegal.

Knows the Sex That Commits Rape.—Section 4221 of the Revised Statutes of Utah of 1898 makes it a felony for any person to carnally and unlawfully know any female over the age of 13 years and under the age of 18 years. The word "male" does not appear in the statute, yet it is well known, the Supreme Court of Utah says, in the case of State vs. Williamson, that no one but a male person could be indicted for the specific offense of rape; and the court, it continues, would construe the statute to mean that a male person only could consummate the offense named therein. So it holds that the information in such a case need not specify the sex of the defendant. Or, more generally speaking, it holds that in a criminal prosecution, where the offense charged is such as only a male person could consummate, the information need not specify the sex of the defendant.

Physician Carelessly Accelerating Death.—When the case of Gray vs. Little was before the Supreme Court of North Carolina for the first time it held erroneous, as stated on page 162 of THE JOURNAL A. M. A., of July 21, 1900, an instruction to the effect that only nominal damages could be recovered for a death where it was only accelerated by the malpractice and negligence of the defendant. But it was sheer inadvertence on its part, it says, on the reappearance of the case before it, that it then referred to an instruction that was asked and not given in a way which led the lower court on the second trial to submit an issue as to punitive damages. The state statute which authorizes the recovery of such damages as are a fair and just compensation for the pecuniary loss resulting from a wrongful killing, which confers the right to recover in such cases, it holds, restricts the recovery to compensatory damages. But it says that it is difficult for it to comprehend how the jury could have returned a verdict of \$100 as compensation for the death by malpractice, as was found, of a wife and mother 33 years of age, and it suggests that considerations of humanity would seem to require that the case should be investigated by the solicitor for the district, if the criminal arm of the law has not already been invoked.

Falsely Charging That One Has Leprosy.—To falsely say of one that he has leprosy is slander, and to publish it by writing is a libel, Mr. Justice Gaynor holds, in *Simpson vs. Press Publishing Company*, at a special term of the Supreme Court of New York, Kings County. Nor does he consider that it makes any difference in this regard if the progress of science has revealed, as was contended in this case, that leprosy was erroneously classed as infectious or contagious. It remains a term of slander, he holds, until the law is changed. Every disease that is infectious or contagious is not embraced within the definition of slander. The bane in the charge of leprosy which made the courts classify it as slanderous was its tendency to cause one to be shunned and excluded from society, and that still exists. But the definition of libel is much broader than that of slander, and any false publication by writing which exposes one to ridicule, hatred, contempt or obloquy, or causes him to be shunned or avoided, is a libel in and of itself, though if spoken it might be no slander. Hence, to falsely charge one in writing with having any repulsive disease or condition which would necessarily cause him to be shunned or avoided, the judge says, would be libel, but it would not be a slander if spoken unless it was one of the diseases embraced within the definition of slander. Moreover, the point that the complaint was insufficient for not stating that leprosy is contagious or infectious, he holds was not well taken, as such an allegation is neither usual nor necessary, any more than to formally plead that to steal is a crime, for the court takes notice of what words constitute slander per se.

Venue of Actions Against Trustees.—The Civil Code of Kansas, after specifying the venue of various classes of actions, local and transitory, provides that every other action must be brought in the county in which the defendant, or some one of the defendants, reside or may be summoned. Under such a provision the Supreme Court of Kansas holds, in *State vs. Hornaday and others*, a summons to a member of the board of trustees of the charitable institutions of the state may rightfully issue from the court of any county in which such member may be, whether resident there or not, and may be served upon him there; and, when so issued and served, process may rightfully issue from such court to other members of the board, and be served upon them in other counties. It says that the members of the board are possessed of an official character, which accompanies them throughout their respective terms. While, as individual members, apart from their fellows, they may not be able to transact public business, yet they do not take on and put off their official character as the exigencies of the public service require them to convene or separate. They are each of them public officers, liable at any time to be called to the discharge of some of their public duties, and liable at any time to receive notice of public interests requiring their convocation and attention. The duties performed by them do not require their assembly at any set time or at any particular place, but they may meet when and where, within the state, the public service may be best conserved; and they are therefore, the court holds, clothed, everywhere in the state and throughout their respective terms, with the responsibilities and official character of their positions.

Opinions as to Age.—The fourth appellate division of the Supreme Court of New York says, in the case of *Hartshorn vs. the Metropolitan Life Insurance Company*, that it is well settled that expert evidence is proper where the age of a child is at issue, and that it has often been received concerning the age of an absent adult. But, to entitle such evidence to any weight, the facts and circumstances upon which the opinion is based, the court holds, should be given, and the witness should first describe, as far as practicable, the appearance of the individual whose age is in question. It also remarks that it is common knowledge that an opinion is ordinarily of but little value as to the real age of a person between the ages of 30 and 60. Here, one of the principal defenses to an action to recover life insurance was an alleged breach of warranty on the part of the insured in representing herself to be many years younger than she really was. According to the undisputed testimony of a granddaughter of hers, the insured, if she gave her age cor-

rectly in her applications for this insurance, was a grandmother at the age of 27 years, which, although not impossible, the court holds would be sufficiently unusual and extraordinary to require further proof than a mere opinion as to her age, before the conclusion that such fact was established by the evidence would be warranted, and the presumption raised by the baptismal record would be fairly overcome. The opinion referred to was that of the physician who examined the woman on each of her two applications for insurance. He testified that he had known her for three or four years, had made calls in the family professionally, but not upon her, and had called at the house frequently to see others, perhaps two or three times a month, for some time; that she had black hair, was a strong, active woman, appeared in good health, and her occupation was that of a housekeeper. Upon this foundation, he was permitted to testify that he formed an opinion, in a general way, that she was at the time in question about 51 or 52 years of age. But the court says that it is not satisfied that a sufficient foundation was laid to render this evidence admissible, and, again, it declares that upon the facts disclosed by him the testimony of the physician was entitled to but little weight upon the question of the exact age of the insured.

Indictment and Dying Declarations in Abortion Case.—In *State vs. Meyer*, where the indictment charged an attempt, without lawful justification, to cause the miscarriage of a woman pregnant with child, the Supreme Court of New Jersey held that it was error to admit in evidence the dying declarations of the woman. The reason it assigned for this was that as the legislature, in the crimes act of 1898, declared the act of the accused to be high misdemeanor, whether the woman or child died in consequence thereof or not, the death of either was not an essential element of the crime, but was really a fact to be considered in fixing the penalty. But this reason the Court of Errors and Appeals of New Jersey does not think sound. It says that while it is true that the statute calls the prohibited conduct a high misdemeanor, whether the woman or child die in consequence thereof or not, yet, on due attention to all its provisions, it clearly appears to describe two high misdemeanors—one where the woman or child dies in consequence of the operation, and the other where death does not ensue. And it deems it indubitable that, to warrant the severer sentence, the indictment must charge all the statutory constituents of the more aggravated crime. Its distinguishing feature, the death of the woman or child as a consequence of the attempted abortion, must therefore be alleged in the indictment, and thus made the subject of investigation and proof at the trial. Then, when the death of the woman is thus charged as an element of the offense, necessary to be proved in order to establish against the accused the graver crime and subject him to the severer punishment, her dying declarations, the court holds, are legal evidence. It says that it is aware that the question whether dying declarations can be received when the indictment does not specifically charge either murder or manslaughter has been answered in the negative by some tribunals whose judgments are entitled to very great respect. Nevertheless, after due consideration of those decisions, it prefers to hold that, on the trial of an indictment charging the defendant with the statutory misdemeanor of attempting to cause the miscarriage of a woman pregnant with child, in consequence whereof the woman died, the dying declarations of the woman are legal evidence. Of course, under this decision, an accused person, the court goes on to say, may be exposed to the danger of having the dying declarations of a woman put in evidence when her death is charged as the consequence of an abortion, but is not fully proved to have resulted therefrom, and thus they may be used in the jury room as evidence to convict him of abortion merely, without resulting death. However, such a danger may always exist when evidence is legally received by the court for a purpose not ultimately accomplished, and must be guarded against, as far as possible, by appropriate instructions from the court.

Right of Applicant for Registration to Hearing.—Section 13 of chapter 63, of the New Hampshire Laws of 1897, provides that "every person who is a practitioner of medicine

and surgery in this state prior to the passage of this act shall be, upon satisfactory proof thereof to the regent and upon the payment of a fee of one dollar, entitled to registration," and a certificate of the facts which shall entitle him to practice medicine. An applicant furnished statements of three residents to the effect that he attended them as a physician prior to the passage of the act, and a certificate of the city clerk that he had certified to a death in 1896. His application, however, was denied because he did not comply with a rule of the regent requiring the applicant to furnish certificates of a member of one of the medical societies mentioned in the act and of two well-known citizens that he was a practitioner of medicine and surgery. Now, a practitioner of medicine and surgery, the Supreme Court of New Hampshire says, in *Hart vs. Folsom*, is a physician and surgeon who habitually holds himself out for the practice of the profession. But the language quoted, it thinks, raises the question of whether it is enough for the applicant to show that he had been such a practitioner in the state at some time in the past, or whether he must show that he was one when the act was passed. The language, it says, seems to refer to the present time—"every person who is a practitioner"—and, although these words are qualified by the expression "prior to the passage of this act," it holds that they can not reasonably be held to refer to persons who had been practitioners, but had ceased to be such when the act was passed. So it thinks that a fair construction of the language is that only those physicians and surgeons who were in practice in the state when the act was passed are entitled to registration, a view which it believes is strengthened by a consideration of the purpose of the act. Then, it holds that it is the duty of the regent to issue a license to each applicant who comes within the provisions of the act. Whenever application is made under section 13, the regent must determine whether the applicant is a physician and surgeon, and whether he was engaged in practice when the act was passed. In performing this duty he acts in a judicial capacity, and is bound to receive and consider all evidence that legally bears upon the questions. If, for any reason, the applicant is unable to furnish such a certificate as the regent may require, the fact does not conclusively show that the applicant does not possess the necessary qualifications. Hence, in this case, while it denies that the applicant was entitled to a writ of mandamus to compel the regent to issue to him a certificate to practice medicine, the court holds that the regent should give the applicant a hearing, and admit all competent evidence bearing upon the questions at issue. If the evidence submitted amounted to satisfactory proof that the applicant was a physician and surgeon in practice in the state at the time of the passage of the act he should be registered; if not his application should be denied.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Medical Record (N. Y.), January 5.

- 1 *The Prevention and Relief of Post-Operative Intestinal Obstruction. Clement Cleveland.
- 2 A Case of Estivo-Autumnal Fever With Unusual Symptoms. George L. Peabody.
- 3 Intestinal Indigestion. A. P. Stoner.
- 4 *On the Effect of Topical Applications of Excessive Strength, and Improper Diet and Hygiene in Prolonging and Causing Skin Diseases in Infants and Young Children. S. Sherwell.
- 5 *The Clinical Value of the Heart Reflex. Albert Abrams.
- 6 A Case of Perforating Gastric Ulcer. A. B. Atherton.

New York Medical Journal, January 5.

- 7 *Observations on Lateral Curvature of the Spine: Pathologic, Clinical, Mechanical. A. M. Phelps.
- 8 *The Mesial Relations of the Inflected Fissure: Observations Upon One Hundred Brains. Edward A. Spitzka.
- 9 *The Importance of a Knowledge of Ear Disease to the General Practitioner. William H. Thomson.
- 10 Some Observations Upon Specialism in the Arts and the Sciences Generally and Upon Specialties and Specialists in the Science and Art of Medicine Particularly. William Bodenhamer.
- 11 *A Contribution to the Symptomatic Treatment of Pulmonary Tuberculosis. J. R. L. Daly.

- 12 A Case of Acromioclavicular Dislocation and Its Treatment. Bernard E. Henrahan.
- 13 Sexual Intemperance. Jennie G. Drennan.
Philadelphia Medical Journal, December 29, 1900.
- 14 A Suitable Dress for Defense Against Infectious Disease. John S. Fulton.
- 15 *Rotary Lateral Curvature and Pott's Disease of the Spine: Their Diagnoses and Treatment. A. M. Phelps and D. W. Manton.
- 16 Fracture of the Extremities. G. G. Ross and M. I. Wilbert.
- 17 *Ovarian Cysts in Colored Women, With Notes on the Relative Frequency of Fibromas in Both Races. Daniel H. Williams.
- 18 On the Use of Formalin in the Dissecting-Room. William Keiller.
- 19 Some Anomalous Cases of Typhoid Fever. Augustus A. Eshner.
- 20 An Unusual Case of Achylia Gastrica. Frank H. Murdock.
- 21 New Slide Lifter and Holder. A. H. Stewart.
- 22 Amputation of Both Feet, the Left Hand and the Right Hand, Saving the Little Finger and Part of the Thumb. J. S. Wright.

Philadelphia Medical Journal, January 5.

- 23 A Physician's Holiday at Karlsbad. James Tyson.
- 24 *Primary Branchiogenic Carcinoma. Frederick Shimanek.
- 25 *The Resources of Modern Minor Gynecology. Augustin H. Goelet.
- 26 *The Home Modification of Milk for Infant Feeding. L. Emmett Holt.
- 27 A Criticism of the Diagnosis "Composite Teratoma of the Ovary" Made in the "Pathological Report" of Dr. E. A. Jones. S. W. Baudler.
- 28 Some Cases of Tetany in Infancy. John L. Morse.
- 29 *The Relation of State and Local Boards of Health to Outbreaks of Diphtheria. G. E. Tyler.

Boston Medical and Surgical Journal, January 3.

- 30 *Experiment and Experience With the Rifle. Henry G. Beyer.
- 31 *Clinical Notes and Comments: Degenerative Disease of the Spinal Cord Associated With Anemia. Robert T. Edes.
- 32 The Differential Diagnosis of Intestinal Obstruction. Z. Boylston Adams.
- 33 A Physiologic Solvent in the Treatment of Pus Gases. Carl E. Munger.

Cincinnati Lancet-Clinic, January 5.

- 34 *Management of Pregnancy and Labor Complicated by Cardiac Disease. William Gillespie.
- 35 Treatment of Stricture of the Rectum. George J. Monroe.

Medical News (N. Y.), January 5.

- 36 *A Study of Eighty-One Cases Operated on Under Analgesia Obtained by Subarachnoid Spinal Cocainization. George R. Fowler.
- 37 The History, Aim and Purpose of the Medical Societies of the State and Counties of New York. Frank Van Fleet.
- 38 Pneumonia: Its Etiology and Treatment. D. L. Burnett.
- 39 *On the Prognosis of Hysteria: A Contribution to the Question of Fatal Hysteria. Joseph Fraenkel.

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- 40 Some Notes on Dysentery in Hawaii. E. S. Goodhue.
- 41 The Successful Treatment of Intestinal Catarrhs. R. D. Moore.

Pediatrics (N. Y.), December 15, 1900.

- 42 *The Abortive Treatment of Pneumonia, Catarrhal and Croupous, in Infants and Children. H. Illoway.
- 43 Medical Supervision of Growing Children. John M. Taylor.

Medical Age (Detroit, Mich.), December 25, 1900.

- 44 The Treatment of Neurasthenia. Lewis R. Pierce.
- 45 *The Union of the Two Diastatic Recti Abdominales in a Single Sheath for Visceral Ptosis. Orville W. MacKellar.
- 46 *Musical Murmurs of the Heart. I. W. Trent.
- 47 *Hyperchlorhydria. Alois B. Graham.

Medical Fortnightly (St. Louis), December 25, 1900.

- 48 Observations Based on the Probable Mode of Formation of Urinary Stone Relative to Its Recurrence and Prevention. (To be continued.) Reginald Harrison.
- 49 Athetosis, With Report of Case. Emerson M. Sutton.
- 50 A Leaf from a Montana Physician's Diary. James E. Free.
- 51 The Treatment of Fever in Infants. H. M. McClanahan.

Virginia Medical Semi-Monthly (Richmond), Dec. 21, 1900.

- 52 *The Bacteriology of the Stomach. J. H. Kellogg.
- 53 *Treatment of Retro-Displacements of the Uterus. Edward McGuire.
- 54 An Analysis of Seventy-Two Cases of Coxalgia. Smith H. McKim.
- 55 Pharyngeal and Naso-Pharyngeal Growths. Wm. F. Mercer.

Medical Bulletin (Philadelphia), January.

- 56 Movable Kidney. W. Easterly Ashton.
- 57 Post-Typhoid Myelitis—Great Improvement. F. Savary Pearce.

- 58 History of Typhoid Fever with Statistics. James M. Anders.
59 The Treatment of Acute Colds. W. Blair Stewart.

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- 60 *Notes on Fractures of the Major Bone Shafts Contiguous with or Involving the Articulations. Thomas H. Manley.
61 *A Case of Intermittent Hydrops of the Knee. Geo. W. Cale, Jr.
62 A Report of a Case of Malignant Jaundice Icterus, or Acute Yellow Atrophy. T. A. Martin.
63 *The Treatment of Perirectal Abscesses. John L. Jelks.
64 Surgical Cible. (Prostatic Carcinoma, Parotid Cyst, Pyorrhea Alveolaris). Robert T. Morris.
65 The Quarantine of Shipping. Lawrence Irwell.

New Yorker Medicinische Monatsschrift, December, 1900.

- 66 Ueberanstrengung des Herzens und deren Beziehung zur Fragmentation des Myocards. F. Schwyzer.
67 Die Gonorrhoe und unser Moderner Standpunkt in der Frage der Behandlung Derselben. Henry J. Scherek.

Brooklyn Medical Journal, January.

- 68 The Gift of the Watson Collection to the Library of the Society.

American Journal of the Medical Sciences (Philadelphia), January.

- 69 *A Case of Multiple Fibromata of the Nerves, with Arthritis Deformans. Robert B. Preble and Ludvig Hektoen.
70 *The Relation of Cholelithiasis to Disease of the Pancreas and to Fat Necrosis. Eugene L. Opie.
71 A Report of a Case of Typhoid Pleurisy. H. C. Gordinier and A. Jerome Lartigau.
72 *Asthenic Bulbar Palsy. Charles W. Burr and D. J. McCarthy.
73 *A Study of a Case of Gonorrheal Ulcerative Endocarditis, with Cultivation of the Gonococcus. August J. Lartigau.
74 Obstructive Biliary Cirrhosis. William W. Ford.
75 *Dorsal Dislocation of the Trapezoid. John G. Sheldon.

Journal of Medicine and Science (Portland, Me.), December, 1900.

- 76 A Clinical Study of My Fatal Cases of Appendicitis. W. K. Oakes.
77 Surgical Treatment of Nasal Catarrh. Owen Smith.
78 A Case of Congenital Cataract, with Operations and Results. David Webster.

Richmond Journal of Practice, December, 1900.

- 79 Treatment of Posterior Displacement of the Uterus. Stuart McGulre.

American Gynecological and Obstetrical Journal (N. Y.), December, 1900.

- 80 *Vaginal Versus Abdominal Hysterectomy for Cancer of the Uterus. H. J. Boldt.
81 *Drainage in Abdominal Surgery. J. W. Long.
82 *Treatment of Inflammatory Diseases of the Uterus by Irrigation. Frank W. Talley.
83 *Some Life-Saving Measures in Obstetric Work. R. R. Kime.
84 Left Lumbar Nephro-Fixation and Abdominal Myomectomy in One Sitting, with Report of Case. Andrew J. Downes.
85 *Proctorrhaphy: The Suspension of the Rectum for the Cure of Intractable Prolapse and Inversion of That Organ. Charles P. Noble.

Medical Examiner and Practitioner (N. Y.), December, 1900.

- 86 Duties of the Medical Examiner for Life Insurance. Edward K. Root.
87 A Word for the Local Examiner. D. Lichty.
88 Impressions. (Points in Diagnosis.) F. M. Johnson.
89 The Importance of Instruction in Medical Schools upon the Modification of Milk for Prescription Feeding. Andrew H. Whitridge.
90 The Lodge Question. Ernest Hall.
91 The Life Insurance Examiner. Miles H. Clark.

Oklahoma Medical Journal (Guthrie), December, 1900.

- 92 Physical Defects of School Children. Eunice B. Hamill.
93 *Is the Subarachnoid Injection of Cocain the Preferable Anesthesia Below the Diaphragm? A. W. Morton.

American Journal of Obstetrics (N. Y.), December, 1900.

- 94 *The President's Address Before the American Gynecologic Society (The American Girl of To-day). George J. Engelmann.
95 *Accessory Adrenal Body in the Broad Ligament. Aldred S. Warthin.
96 The Treatment of Persistent Occipito-Posterior Positions of the Vortex. George L. Brodhead.
97 *The Removal of Pelvic Inflammatory Masses by the Abdomen After Bisection of the Uterus. Howard A. Kelly.
98 *A Case in Which Sexual Feeling First Appeared After Removal of Both Ovaries. A. Laphorn Smith.
99 Remarks on the Technique in Dealing with the Pedicle in the Removal of Intrapelvic Growths and Structures. Richard R. Smith.
100 A Case of Congenital Ventral Hernia. Eustace L. Fiske.

Western Medical Review (Lincoln, Neb.), December 15, 1900.

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102 Secondary or Conservative Hemorrhage After Open Fracture or Amputation. Thomas H. Manley.
103 Lachrymal Obstruction. S. E. Cook.
104 Does the Thyroid Gland Influence Conception? E. C. Rankin.

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106 Some Facts About Appendicitis. Medical and Surgical. J. H. Carstens.

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- 107 *Lupus Vulgaris of Fifteen Years' Standing Successfully Treated and Cured by Exposure to X-ray. A. Everett Smith.
108 *Cholelithiasis from the Surgical Point of View. Eugene A. Smith.
109 The Importance of the Position of Medical Examiner for Life Insurance. Frank W. Maloney.
110 Cirrroid Aneurysm of the Ear. William S. Cheesman.
111 Primary Sarcoma of the Tonsil: Removed by External Pharyngotomy. Nathan Jacobson.
112 Some Points in the Toilet of the Peritoneum. Charles E. Congdon.
113 Argonin in Gonorrhea. Nelson W. Wilson.
114 Case of Pedunculated Fibroid Removed. L. G. Hanley.

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- 115 Mycosis of the Throat, with Report of a Case. F. E. Waxham.
116 *The Influence of Myth and Superstition on Medicine. W. W. Reed.
117 *The Symptoms, Prognosis and Treatment of Gastric Ulcer. W. T. Little.
118 Rupture of the Abdominal Wall During Labor. O. J. Pfeiffer.
119 A Case of Enormous Congenital Multiple Hemangiomata Cavernosa. Wm. N. Beggs.

Medical and Surgical Monitor (Indianapolis), Dec. 15, 1900.

- 120 Insanity. William B. Fletcher.
121 *A New Method for Coapting Superficial Incised Wounds. Arthur G. Bretz.
122 The Sixth International Otological Congress. Geo. F. Keiper.
123 Report of a Case of Parovarian Cyst in a Child Three Years Old. Joseph Eastman.
124 A Further Report of an Injury to the Eyeball. J. L. Masters.
125 Non-Specific Urethritis. N. E. Aronstam.

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- 126 Treatment of Ankle-Joint Disease. Daniel W. Marston.
127 The Borderland of Mental Disease, from a Gynecologist's Standpoint, with Report of Cases Cured by Operation. Ernest Hall.
128 The Circles of Byron Robinson: The Utero-ovarian Circle and the Gastrohepatic Circle. William E. Holland.
129 Intestinal Strangulation Following Hysteropexy. C. P. Thomas.
130 Empyema in Children. Floyd M. Crandall.
131 Obstruction of the Bowels Following Operation. L. Brannon.
132 *The Management of Senile Enlargement of the Prostate, with Especial Reference to the Galvanocautic Radical Treatment. F. Kreissl.

Merck's Archives (N. Y.), December, 1900.

- 134 Lavage—Its Indications, Materials, and Technique. Floy McEwen.
135 *Iodized Starch as a Therapeutic Agent. Leon L. Solomon.
136 Binioid of Mercury in Diphtheria. J. Weichselbaum.
137 Treatment of Typhoid Fever. Alexander Thomson.

Southern California Practitioner (Los Angeles), December, 1900.

- 138 The Idylwild Sanatorium. (Strawberry Valley, San Jacinto Mountains, Riverside County, California.) Walter Lindley.
139 Inflammatory Diseases of the Uterine Appendages. E. E. Montgomery.
140 The Subarachnoid Injection of Cocain for Operations Below the Diaphragm. F. C. E. Mattison.
141 The Dangers of Venereal Diseases. A Warning to Medical Students and Others. Ralph Williams.
142 Climatology of California. C. G. Stivers.

Southern Practitioner (Nashville, Tenn.), January.

- 143 Smallpox—The Osborn Treatment—Biographical Sketch of Its Author, Thomas Crutcher Osborn, M.D. S. H. Stout.

Southern Medical Journal (La Grange, N. C.), December, 1900.

- 144 Operation for Obstructive Jaundice. Hugh M. Taylor.
145 Treatment of Acute Articular Rheumatism. J. W. P. Smithwick.
146 Secondary Anemia: Its Treatment. J. W. P. Smithwick.
147 Treatment of Erysipelas. J. W. P. Smithwick.

The Laryngoscope (St. Louis), December, 1900.

- 148 *Dentigenous Cysts. Frederic C. Cobb.
149 Notes on Turbintomy. Chevalier Jackson.

- 150 An Adenoid Chreite. Chevallier Jackson.
151 Treatment of Acute Inflammation of the Middle Ear. S. S. Bishop.

Carolina Medical Journal (Charlotte), December, 1900.

- 152 Treatment of Posterior Displacement of the Pterius. Stuart McGuire.
153 Dilatation of the Heart. Herman B. Allyn.
154 *Drainage in Abdominal Surgery. J. W. Long.
155 Bilateral Parotitis—Report of Case. C. Z. Candler.

Alabama Medical Journal (Birmingham), December, 1900.

- 156 Chronic Hypertrophic Rhinitis. C. H. Franklin.
157 Burns of the Skin: Their Pathology and Repair. G. S. Brown.
158 Acute Gastric Catarrh. A. N. Steele.
159 Pterine Fibroids. J. D. Gibson.

Medical Standard (Chicago), January.

- 160 Typhoid Fever: Symptomatology. J. T. Moore.
161 Serpiginous Pler of the Cornea: Pterygium. Herman H. Brown.
162 Acute Respiratory Diseases. Wm. F. Waugh.
163 Sturpiculture. Louis J. Rosenberg.
164 Intestinal Surgery. Adolfo Luria.

AMERICAN.

1. **Post-Operative Intestinal Obstruction.**—In this article the form of obstruction following abdominal section and indirectly due to it is referred to, not the adynamic type due to intestinal paralysis from peritonitis nor that due to opium, but to that caused by the plastic lymph given out from the peritoneum and favored by handling and by operative lesions of the bowels. The Trendelenburg posture, Cleveland claims, has an incalculably favorable influence in preventing this possibility. He thinks that before beginning to examine the pelvic contents after opening the abdomen it is wise to place the patient in the Trendelenburg posture and carefully cover the intestines with omentum when it is sufficiently developed, and with wet pads of gauze force them as much as possible into the upper abdominal cavity. It is necessary, as far as possible, to leave no raw surfaces, and to cover or cauterize every stump or particle of raw tissue. The use of decinormal salt solution to irrigate the abdominal cavity and leaving the cavity half filled on closing the incision is also commended, as the absorption stimulates the patient, lessens shock and may lessen also the amount of plastic lymph thrown out. The principal point, however, made by the author is the use of oxygen injections, and several cases are reported in which they were employed to advantage. Cleveland says he has been so much impressed with the efficiency of the insufflation of oxygen in every case where he has used it that he intends to always employ it hereafter after abdominal section whenever any obstructive symptoms begin to manifest themselves. It is easily obtainable, and its use is not attended with danger if ordinary care is observed. It not merely has the power to straighten out the intestines and open their lumen, but serves as a stimulant to the peristalsis. Four of the cases detailed were desperate, and in the last he is convinced that life was saved by this procedure. He also suggests that the gas may be absorbed to some degree and enter the general circulation in some form, possibly not as oxygen, and serve as a stimulant and tonic.

4. **Infantile Skin Disorders.**—Sherwell calls attention to the use of strong topical applications as the possible cause of skin eruptions in children, and thinks that the mercurial salves and preparations are especially sinned with in this way. They are usually far too strong for the ordinary use in infants. About 10 per cent. of the people, he thinks, have an idiosyncrasy which causes the milder salves and even pure vaselin to be irritating. Another cause, which he thinks is often responsible for the effect, is intestinal indigestion. Overfeeding is in many cases the primary cause of this trouble; also errors in diet, the use of coffee, tea, etc., in young children. Other points mentioned are the clothing, and he recommends for evacuations in children, mercury and chalk, in preference to rhubarb and soda, and possibly a little compound ipecac powder added.

5. **Heart Reflexes.**—Abrams calls attention to the fact that some years ago he described a phenomenon which he named the heart reflex, consisting in a contraction of the heart body from

cutaneous irritation of the precordial region. It can only be studied with the Roentgen ray. He also refers to another phenomenon which he calls the lung reflex, which can be observed without the aid of these rays. If the skin of the thorax is irritated, lung dilatation ensues. In a previous paper he has suggested the theory that the real factor involved in the Schott treatment was not due to baths and exercise as such, but to the cutaneous irritation provoked, and in accordance with this theory he has employed vigorous cutaneous friction with hand rubbing after immersions of fifteen minutes in a warm bath to increase the sensitiveness of the skin, and can claim results emulating those of the conventional Schott method. He sums up his conclusions in regard to this point as follows: 1. Lung dilatation follows the exercise and bath treatment, the lung acting as an excretory channel for the overburdened heart. 2. The cause of the lung dilatation is dependent on cutaneous irritation induced by the exercise and baths. 3. A decrease in the volume of the heart also ensues and is likewise provoked by cutaneous irritation. The physiology of the phenomenon is noticed, and he remarks that he regards the heart-reflex test as pathognomonic in differentiating dilatation of the heart from pericardial effusion. We have yet to learn its value as an index to the condition of the myocardium.

7. **Spinal Curvature.**—Phelp's article covers about the same ground as the one noticed below. See ¶15.

8. **Inflected Fissure.**—Spitzka's article is a discussion of the position and occurrence of the inflected fissure, which has been somewhat misunderstood by cerebral anatomists, as he points out. Out of 200 half-brains examined by him, absence of this fissure was seen in 40, where it occurred 22 times on the left and 18 times on the right, and it was symmetrical in both halves of 6 brains. In 91 per cent. of the remainder it was situated on a plane, caudad of an unmistakable cephalic paracentral limb, while in the remaining 9 per cent. this limb has become separated from the main paracentral stem by a narrow isthmus, but in all cases it was situated caudad whether separated or confluent; or in other words, the inflected fissure indented and lay partly within the paracentral gyrus. Other particulars in regard to the gyrus are explained in detail and the reader is referred to the original.

9. **Aural Disease.**—Thomson points out the necessity of attention to ear troubles by the general practitioner, and illustrates it by mistakes in his own experience. He mentions the different conditions that may puzzle the diagnostician and the complications that may render them dangerous. In conclusion he offers some remarks in regard to vertigo, especially the aural type. It creates the greatest disturbance of any vertiginous disorder.

11.—See Therapeutic Department.

15. **Lateral Curvature of the Spine.**—Phelps and Manton point out that not every case of so-called Pott's disease is really tuberculous. Deformities similar to those caused by tuberculosis are seen following absorption from Peyer's patches in typhoid fever. Another rare affection resulting in kyphosis is caused by inoculation of the actinomyotic germ, and still another closely simulating tuberculosis is found in osteomyelitis. The germs of osteomyelitis are much quicker in their action and will accomplish in a few days what in tuberculous affections would take many months. These four conditions are commonly included under one head as Pott's disease. Rotary lateral curvature is differentiated from tuberculosis of the spine in that it is never produced by primary inflammation. It is nearly always congenital or rachitic; paralysis of certain muscles, faulty habits of sitting, intercostal adhesions following pleuritic effusions, etc., may be its cause. In tuberculosis the diagnosis should be made before deformity occurs. As a rule, there will be night cries, pain in bending forward, spinal rigidity, etc. If the spine is flexible in its continuity there is no Pott's disease. If it is rigid this condition is certain to be present. In lateral rotary curvature the body of the vertebrae become absorbed by pressure on one side or the other. The treatment must be on rational principles. The authors describe various appliances, but especially favor

the aluminum corset as being practicable, indestructible, and when extensively perforated it makes the coolest and most agreeable of supports, and can be worn during bathing.

17. Ovarian Cysts in Colored Women.—The opinion that has been held for a long time that in the colored race ovarian cysts are rare is combated by Williams, who shows from various authorities that there is about as much likelihood of their occurrence in the colored race as in the white. The associated notion that fibromas were more frequent in the colored race than in the white is also contradicted by him. In sixteen years he has operated 357 times in both races and found about 2 per cent. more fibrous tumors in colored women than in the white. His work was in the Freedman's Hospital entirely for colored women, and in both races in private practice. The results are of some interest. He agrees entirely with Dr. Kelly, who has also a favorable geographical position for the study of the question, that myomas are not specially more frequent in the black than the white race.

24. Primary Branchiogenic Carcinoma.—Shimanek reports a case, which he thinks is rare, of carcinoma connected with branchial fissure, and reviews the literature of kindred cases.

25.—See abstract in THE JOURNAL, xxxv, p. 1172.

26. Home Modification of Milk for Infant Feeding.—Holt gives directions and formulas of the home modification of milk and says in conclusion that three primary formulas can be made to do duty for an entire year in the vast majority of healthy infants. With the method of calculation here given on the basis of 1/20, it seems to be much easier to pass from one formula to another of the same series than by other methods. Since the additions of sugar and lime-water are constant, it is necessary only to calculate the percentage of milk as increased by the ounce in each 20-ounce mixture. The diluent water is in all cases added in sufficient quantity to make the total. Larger quantities than 20 ounces can easily be calculated if our increase is made by 5, e. g., for 25 ounces $\frac{1}{4}$ more of the milk, the sugar and the lime-water; for 30 ounces $\frac{1}{2}$ more, etc. In securing the primary formula his preference is either for milk fresh from the cow, or the bottled milk, rather than for the mixtures of milk and cream, mainly for the purpose of securing greater freshness. Where milk is obtained fresh from the cow, if it is placed in a bottle and rapidly cooled in the manner indicated, not only will the cream rise quickly so that the food may be made up when the milk is only four hours old, but at the same time this rapid cooling is of the utmost advantage in checking the early fermentative changes in milk. In taking the milk from the top of the bottle it is to be remembered that the entire number of ounces specified for the primary formula should be taken, although it may not be needed to make up the milk for weaker formulas.

29.—See abstract in THE JOURNAL, xxxv, p. 579.

30. Experiments and Experiences With the Rifle.—Beyer's article is largely an analysis of Kocher's paper, "Zur Lehre von den Schusswunden," Cassel, 1895, and a comparison of the experimental results obtained by him, which coincide with the actual experiences reported in war by Senn, Nanerode, La Garde, Sir William MacCormac, Treves, Dent, and others. His conclusions coincide with those of La Garde, who says that we should conclude that the work of the experimenters agrees with the conditions found in war. The trained military surgeon can, he claims, be trusted to read the range in the character of the wound before him with at least the same accuracy as a range-finder can.

31. Anemic Degenerative Diseases of the Spine.—Edes reports several cases of spinal degeneration associated with anemia and discusses the condition. In one case there was a post-mortem and the results found were described. They consisted in isolated areas of degeneration in the lower lumbar region only in the posterior columns, but at the level of the first lumbar nerves there were distinct patches in the posterolateral columns and in the anterior horns. In the upper cervical region corresponding areas were also found, and in the medulla at the level of the olivaries, though ill-defined. The

cause of the condition is attributed largely to toxemia rather than to anemia. It is possible that syphilis has something to do with the etiology, as English observers seemed to find this in a considerable proportion of cases. The symptoms are numbness, inability to use the hands for fine work, numbness of the feet, general weakness of motion and co-ordination, and deep reflex exaggeration. Later there may be more or less extensive anesthesia, absolute paralysis and absence of deep reflexes.

34. Heart Disease and Pregnancy.—The dangers of cardiac disorders in pregnancy are always obvious, but there are two possibilities: 1. Pregnancy is apt to relight an old endocardial inflammation, and the more recent the original attack the greater the danger. 2. Dangers from pregnancy affect women suffering from cardiac disease in proportion in which one pregnancy follows another. In a case of compensated valvular disease we rarely see failure in this respect in the first four months, but where compensation did not previously exist it is not likely to occur early in the pregnancy. The rational treatment in such cases is abortion, for a viable child is hardly to be expected and it would be folly to add to the overburdened heart the strain of useless pregnancy. In the second class the author includes the cases where lost compensation occurs in the last half of pregnancy and from great increase of the work of the heart the strain increases from day to day. Sometimes the failure is due to relighting of an old endocardial inflammation. When left to nature the chances are that the woman will not go to term. The question arises whether we should try to carry the mother past the seventh month, and if by the use of cardiac tonics the circulation can be restored we may be justified in waiting. Gillespie does not feel certain of the advisability of this course, but is not certain of the contrary. As a heart tonic, theoretically, the therapeutic action of strophanthus is preferable to digitalis, and is safer. Strychnia also produces good effects. The bowels should be looked after and absolute quiet insured, as exercise does not help the matter. If the condition of the heart does not improve and hyperemia of the liver manifests itself, and digestion is disturbed, and especially if the urine shows albumin with casts, medical treatment is useless. Whenever labor occurs, whether early or late, it must be conducted so as to incur as little strain as possible, and he does not think that anesthetics are contraindicated by cardiac disease. The usual methods will not suffice in induced labor. Rapid manual dilatation and extraction by the feet is the safest, as being the least exhaustive, and also offers the best possibilities of delivering a living child. The hydrostatic bags are applicable in many cases. A case is reported illustrating the points made in the paper. The author concludes that it is not safe to wait for development of the heart symptoms. They should be anticipated and in every case where the heart is in ill health forceps delivery is advisable as soon as compatible with other conditions.

36. Spinal Cocainization.—Fowler reports his experience in 81 cases up to the present time, in 26 involving the peritoneum. In 5 of these the analgesia was incomplete and in all the cases there was some embarrassment to the operator at one or another stage of the operation, such as vigorous peristalsis of short sections of the intestinal canal, and a certain amount of pain in 5 cases. The patients did not complain of a moderate Trendelenburg posture, but did express discomfort when an extreme pelvic elevation was employed for a long time. In 34 cases the operation was in the pelvic region, not involving the peritoneum. In two cases of varicocele the patients complained of pain when the cord was handled, but not enough to require additional anesthesia. In one case of colporrhaphy and perineorrhaphy the sensation returned too soon, and it became necessary to administer general anesthesia. In five amputation cases anesthesia was complete and the length of time it lasted was ample. In 15 cases in the lower extremities, not included in the above, a second injection was required to be made, and in one case of ligation of the internal saphenous vein the patient heard the operator call for a knife and afterward complained of pain on the slightest touch. In 3 un-

classified operations, including costal resection, nephrectomy and operation for suppurating dermoid, in the first operation the patient complained of pain when the periosteum and intracostal nerve were peeled off the bone. In the case of nephrectomy the patient disbelieved that the kidney had been removed, and in the case of suppurative dermoid the line of demarcation of anesthesia was slightly below the point where it was necessary to incise and curette. It persisted at the same height through the whole depth of the wound. The technique of the operation is described, its difficulties and certain disagreeable features that occur, such as vertigo, vomiting, involuntary defecation and urination, which occurred in about one-eighth of the cases, and were unpleasant both to the patient and to the operator. His cases were not selected ones. He has no personal knowledge of any deaths from spinal cocainization, and his experiments with other drugs than cocain are not altogether satisfactory, though he has found the combination of antipyrin and cocain to give somewhat better results so far as the analgesia was concerned. In spite of favorable results, he wishes to say that he does not consider this the ideal method of anesthesia, but that it will have an important place and sphere of usefulness. Further trial and the study of a large number of cases will be required to establish its limitations and dangers.

39. Hysteria.—Fraenkel has had three cases of fatal hysteria and discusses the possibilities. He asks three questions: Is hysteria curable? He answers in the affirmative. On what conditions does this curability depend? While we are still awaiting the pathologist's solution of hysteria, the answer to this question is somewhat difficult, but he is inclined to think that monosymptomatic cases are most indicative of serious lesions. The symptoms are generally discussed, and he divides the disease into three types: 1. Predominantly mental forms, hysteric psychoses with more or less pronounced somatic symptoms. 2. Predominantly cerebrospinal forms. 3. Predominantly splanchnic forms, where the symptoms are mainly of irritation or paralysis of the motor or sensory side of the splanchnic nervous system. In all these three groups we have the symptom-complex of hysterical seizures. The prognosis of the first two groups is, according to his experience, more favorable than the prognosis of that of the third, which has sometimes been disastrous. To answer the third question, "Is hysteria ever fatal?" he notices the authorities that previously reported fatal cases, and details his own. He accredits the deaths to: 1. spasm of the respiratory mechanism; 2. inanition from prolonged hysterical anorexia or vomiting; 3. paralysis of the circulatory or alimentary apparatus, in his last case with a pseudo-peritonitis or a pseudo-ileus. However, it may be with genuine uncomplicated hysteria, death, when it occurs, is due to irritation of the splanchnic and vegetative functions, and cases of this type are to be judged cautiously as regards their future prospects.

42. Abortive Treatment of Infantile Pneumonia.—Illo-way answers the question whether pneumonia can be aborted, in the affirmative, according to his own experience, and maintains that we have long had the means wherewith to do it. He divides his cases into two groups, according to the therapeutic treatment adopted. In the first class he found benefit from the combination of tinctures of veratrum viride and of aconite, usually giving 6 drops of the veratrum and 2 of the aconite in a one-ounce mixture for children of several years of age and in proportion for infants—a teaspoonful at short intervals until four or five doses are taken and then at longer intervals. In each case the disease was quickly brought under control. In the second class of cases his treatment was infusion of digitalis, though the first combination of aconite and Norwood's tincture is the most powerful and preferably the method of medication. The doses, of course, are very small and the treatment is therefore comparatively safe. Another point of importance in the treatment of children is that it is pleasant to take.

45. The Union of the Recti in Abdominal Ptosis.—MacKellar reports a case of pronounced gastropnoxis and nephropnoxis of the right kidney in which the recti abdominales showed

marked distinct diastasis. The operation to relieve the condition was the splitting of the sheaths of the recti muscles on the anterior surface and uniting the two in one sheath by suturing the sheath on the posterior and anterior side of the two enclosed muscles. The patient made a good recovery and passed through her pregnancy without any separation of the parts, and the visceral ptosis has remained practically cured.

46. Musical Murmurs of the Heart.—The opinions of authorities are first given by Trent, who then reports a case in which there was a continuous loud musical murmur of the heart from over the cardiac region with the greatest intensity about the mid-sternum on a level with the third costal cartilage. The sound was constant and so loud that it troubled the patient at night, keeping him awake, and other members of the family were also disturbed by it. It resembled the cooing of a dove. The man died suddenly; the post-mortem showed aortic insufficiency to a very marked degree, which was the cause of death. From this and the literature on the subject the author concludes that musical murmurs of the heart are freaks and are important simply as indicating serious organic lesions, and interesting only because of their rarity.

47. Hyperchlorhydria.—The points made by Graham in this article are the frequency of the condition and its easy diagnosis by the stomach-tube, and the importance of determining whether or not we have a primary or secondary hyperchlorhydria, and treating for the removal of the predisposing cause.

52. Bacteriology of the Stomach.—Kellogg's article reports the findings of bacteriologic examinations of the stomach fluid in various conditions, and his conclusions are summarized as follows: 1. A healthy stomach does not require the aid of germs in the digestion of foods. 2. Sterile food is digested in the healthy stomach without the development of bacteria or other micro-organisms. 3. Neither free hydrochloric acid nor combined chlorin, even when present in excess, is a certain means of sterilizing the gastric contents. 4. The gastric contents may be found sterile after a sterile test-meal in cases in which free hydrochloric acid is entirely absent and the proportion of combined chlorin small. 5. Fruits, especially fresh fruits, and fruit juices, are capable of completely sterilizing the stomach when used in sufficient quantity.

53.—This article has appeared elsewhere. See THE JOURNAL, xxxv, title 12, p. 1657.

60. Bone Shaft Fractures.—Manley reviews the subject of fractures of the long bones and summarizes his conclusions as follows: 1. The nearer the fractures of the bone shaft are located to the joint the more serious the result. 2. When complicated by subluxation, or when the fracture extends into the articulation, troublesome complications are quite certain in a large proportion of cases. In this class the osseous lesions may be non-important as compared with the change to the articular structures, large blood-vessels and nerves. 3. The symptoms of joint fracture are not unequivocal. There are no special characteristic symptoms in the pain of luxation, sprain or fracture. As a rule, after reaction sets in the suffering is greater in joint than in any other fractures. 4. The definite diagnosis of position and quality of intra- and extra-articular fractures is often difficult and sometimes impossible. When the fragments are not displaced, the application of great force under anesthetics to verify the diagnosis is unjustifiable unless the patient insists on it. In consequence of the frequent errors and uncertainties of the use of the X-rays without other confirmatory evidence their employment as diagnostic agents in these doubtful lesions is unreliable. 5. The primary treatment of closed intra-articular fractures or those in close proximity to the joint in general must be recognized on these fundamental principles everywhere. In intracapsular fractures at the hip, with proper antiseptic precautions, primary resection of the distal fragments will shorten convalescence, spare the patient needless suffering and leave a better limb than when the articular head is retained. 6. In a considerable proportion of aggravated cases in young persons, consecutive osteoplastic surgery will frequently give the

best results. This is only resorted to after acute symptoms have subsided.

61. Intermittent Hydrops of the Knee.—Cale reports a case of this condition, which he regards as a rare condition. One patient will have an attack occurring every eight days; another, occurring every eleven days, etc. In individual cases we rarely see any irregularity in the time of recurrence. Another peculiarity is that it disappears during pregnancy. He finds no mention of it in American text-books. He is inclined to consider it as possibly due to infection by some micro-organism having a regular cycle of life within the period of its occurrence.

63.—See abstract in *THE JOURNAL*, xxxv, p. 1048.

69. Multiple Fibromata.—Preble and Hektoen report very elaborately the post-mortem findings and pathologic examination of multiple fibromata in a case of arthritis deformans. They remark that the case is an extreme degree of a not uncommon condition, that of generalized neurofibromata, which is rather of more than ordinary interest because it presents certain rare if not unique features from the joint disorder and trophic changes in the skin. The general subject of neurofibromata is discussed. In this case besides the joint affections, which were those of well-marked arthritis deformans, there was ulceration similar to perforating ulcer of tabes, and the spontaneous gangrene of one foot was looked upon as also of trophic origin connected with the general condition.

70. Cholelithiasis and Pancreatic Disease.—The object of this article is to direct attention to the occurrence of pancreatic disease as a complication of gall-stone colic, the method of its occurrence and the nature of the lesions that occur. The anatomy of the parts is described and a case reported where lesions of the pancreas were associated with impaction of the stone near the orifice of the common ducts. It is held that the primary cause of lesions in and about the pancreas in this case was the interference with the outflow of pancreatic secretion from a lodgment of calculus in the common duct, and in support of this view Opie has collected a number of cases from the literature in which there were lesions of the pancreas with necrosis of surrounding fat or both, and lodgment of the gall-stones near the orifice of the common duct, thus showing the similar etiology of the symptoms. The author says in conclusion that should the lodgment of the stone occur in this position where it may at the same time compress and occlude the duct of Wirsung and become impacted, there are cases reported to show that one or several conditions may result: 1. An individual, usually in fairly good health, with perhaps a history of previous gall-stone colic, is suddenly attacked with pain in the epigastric region, accompanied by vomiting and followed by collapse. Death follows usually within forty-eight hours, and at autopsy gall-stones are found in the bile-passages, while that one which caused the fatal attack may still be lodged in the common duct near its orifice. The pancreas, is enlarged, infiltrated with blood, and hemorrhage may have occurred into the surrounding tissue. Foci of fat necrosis are usually present. 2. A fatal termination may not follow rapidly the symptoms mentioned. Pain in the epigastrium persists, jaundice may be present, and a tumor mass above the umbilicus may indicate a probable lesion of the pancreas. At the end of one or more weeks or months death occurs, often with symptoms indicating the presence of suppurative inflammation, presumably in the neighborhood of the gland. At autopsy the diagnosis of cholelithiasis is confirmed by the presence of gall-stones in the gall-bladder or in the bile-ducts, and occasionally the offending calculus is still lodged near the junction of the common bile-duct and the duct of Wirsung. The pancreas is dry, black and necrotic, and evidence of previous hemorrhage may be present. Secondary infection has occurred and the pancreas lies in an abscess cavity formed by the bursa omentalis. In the wall, and often widely disseminated in the abdominal fat, are foci of necrosis. Since the individual has survived the primary lesion, opportunity has been given for the development of secondary changes in the injured pancreas and neighboring fat. 3. In certain instances long-continued or repeated obstruction of

the pancreatic duct by gall-stones does not cause the acute lesion described, but produces chronic inflammatory changes.

72. Asthenic Bulbar Palsy.—Burr and McCarthy report an additional case to the few already known of this obscure disorder. They ask, in discussing the condition, where is its locality and what is its nature. The morbid anatomy is at fault here and we are obliged to fall back on general physiologic and pathologic laws and draw inferences from analogous affections. They think there is little direct post-mortem evidence in favor of the bulb as the seat of disease. The slight changes that have been found were in it and the cranial nerves. While they are insufficient to cause the symptoms they may indicate the action of the toxins. The symptoms certainly point toward the bulb as the part first and most seriously affected. They conclude, considering everything, that it may be said with comparative safety that the affection is one of the lower motor neurons, but whether the cell bodies or the axons are the first and most affected can not yet be determined. Primarily the disease may be in the motor muscular end-plates. The disorder certainly looks like a toxic disease. It frequently follows some mycotic affection, and kills without visible wounds. In the case reported they are inclined to think that pregnancy had some positive influence. The patient was pregnant at the first onset, and again when the condition took a serious turn. The fact that pregnancy may seriously disturb metabolism in the kidney disorders, multiple neuritis, and the greater tendency of pregnant women to certain diseases is well known. In this case the smallness of the bulb, which was developmental not secondary, might have had some influence. What nervous elements were present were normal, but fewer than usual and may have been dynamically weaker. It is possible that the ill-developed bulb was unable to withstand the stress of pregnancy. The second case reported was that of a young woman who had complained of general neurasthenic symptoms and emotional disorders and dated her troubles from an attack of la grippe. With general weakness there was numbness of the limbs starting in the left arm and gradually extending. There was also slight vertigo, blurred vision, and occasional diplopia. The ocular muscles revealed nothing specially important excepting a constant right hyperphoria. There was a certain degree of facial paralysis which extended involving the entire side; excruciating pain in both ears, some trouble in hearing and a suggestion of bulbar paralysis. After a few months, however, she completely recovered. As regards the treatment of asthenic bulbar palsy the authors say there is no specific. Electricity is dubious, massage is useful and arsenic is the one drug that seems to be of benefit.

73. Gonorrheal Ulcerative Endocarditis.—From a study of the cases reported, Lartigau offers the following conclusions: 1. Gonorrheal urethritis may be the starting-point for a fatal septicemia induced by a pure infection with the gonococcus. 2. Endocarditis and arthritis are occasionally complications of such an infectious disease. 3. The endocardial processes may be incited by the gonococcus without the association of other organisms.

74. Obstructive Biliary Cirrhosis.—Ford reports the literature of cirrhosis of the liver with special reference to the frequency of the type which seems to stand in etiologic relationship with pressure on the common bile-duct of an enlarged gland of the hilum of the liver. Some twenty-four cases are more or less briefly reported. Ford concludes his paper as follows: From the study of the cases of cirrhosis seen in Montreal, and from a review of the cases reported by other authors, together with the observations of experimental pathologists, we are justified in drawing a number of general conclusions: Complete obstruction to the flow of the bile in animals produces a cirrhosis of the liver, interlobular in character, of considerable extent, provided the animals are allowed to live a sufficient time after primary operation. This cirrhosis is due to the damming back of the bile per se, and not to the inflammation of the walls of the smaller bile-channels. In man, complete obliteration of the bile-ducts caused by pathologic changes leads to cirrhosis of the liver which can not be explained simply by damming back of bile, but must be considered to have, as an

added etiological factor, that inflammation of the walls of the biliary channels which is invariably present. The type of the cirrhosis of the liver seen in man subsequent to obstruction of the bile-passages can not be differentiated anatomically from the type of liver seen in Hanot's hypertrophic cirrhosis with jaundice. The symptom-complex of obliterative cirrhosis is so absolutely different from Hanot's cirrhosis in the variety of its symptoms and in the frequency with which they occur as to justify the statement that obstructive biliary cirrhosis is a distinct morbid condition quite apart from any other variety of cirrhosis of the liver.

75. Dorsal Dislocation of the Trapezoid.—Sheldon reports a case of this rare condition, and reproduces the account of the only other case—that of Gay—which he has been able to find in the literature. After discussing the anatomy of the condition he thinks it probable that in Gay's case and in the one that came under his own care there was a congenital weakness or absence of the ligaments or a mal-development of the carpal bone or a combination of these conditions, which rendered an uncomplicated dorsal dislocation of the trapezoid possible.

80. Vaginal vs. Abdominal Hysterectomy for Uterine Cancer.—The advantages of each form of operation are discussed by Boldt, who finds vaginal hysterectomy has a smaller opening of the peritoneal cavity, greater rapidity of operation, less shock, more rapid convalescence, avoidance of abdominal wound, and lessening of direct mortality. The objection that one must work in the dark does not hold good excepting when the bladder is separated from the cervix and then the work can be kept within sight to a great extent by proper use of retractors. The advantage of abdominal hysterectomy is that it permits more extensive removal of the lymphatic and surrounding glands. The only case where its use is at present indicated according to his view is where the uterus is too large or too adherent to be removed by the vagina without morcellation and those cases where the diagnosis of glandular enlargement is made.

81.—See abstract in *THE JOURNAL*, xxxv, p. 1425.

82. Uterine Irrigation.—The treatment here suggested by Talley for chronic inflammatory disease of the uterus is irrigation with hot alkaline water, and he uses for this purpose a narrow canula provided with two wires so as to allow the return flow of irrigating fluid and permit the uterine canal to be washed to its entire extent. The canula is curved at its end to provide for easy introduction, perforated in every direction at its extremity and of such a size that it will easily pass through a No. 15 French catheter scale. It is attached to a fountain syringe of at least two quarts' capacity and a thermometer should be used to determine the temperature of the water. He has also used a speculum with a funnel through which the return fluid may pass without danger of wetting clothing or bed. The solution used is water with 1 dram of bicarbonate of soda to a quart and enough carbolic acid to render it mildly aseptic. He never has the temperature above 123 F. and usually somewhat less; about 110 at the beginning and gradually increasing it. It is important that the irrigation should be carried on until its secondary vasomotor effects are insured. Cases amenable to this form of treatment are those in which the cervical canal is patulous.

83.—See abstract in *THE JOURNAL*, xxxv, p. 1501.

85. Proctorrhaphy.—Noble reports three cases in which he operated by fixation of the rectum to the abdominal wall in case of prolapse of that organ. The operation he proposes is to open the peritoneal cavity by an incision made through the left rectus muscle slightly below the promontory of the sacrum, to search for the sigmoid or for the rectum and make traction upon it until it is inverted and the "slack" has been taken up. The point at which the lower portion of the rectum will come in contact with the abdominal wall on slight tension should be determined and this point attached to the abdominal wall by three or more fine silk sutures passed so as to include a portion of the rectus muscle and should pass under the anterior longitudinal band of the rectus. In this way the bowel can be

firmly attached with less danger of penetrating its cavity and with the best prospects of producing permanent effects. The abdominal wound should then be closed by the tier method.

93.—This article has appeared elsewhere. See *THE JOURNAL*, xxxv, §98, p. 1511.

94.—See abstract in *THE JOURNAL*, xxxiv, p. 1338.

95. Marchand's Adrenals.—Warthin reports the case of an adrenal body found in the broad ligament, with its structural and microscopic examination, and discusses to some extent the literature. Noticing Aichel's paper, he adopts his suggestion to call these growths "Marchand's adrenals," since Marchand was the first to observe and describe them. He says in conclusion: It may be said that while Aichel's results need further confirmation, it is very probable that his view is the correct one, and that adrenal tissue is a normal constituent of the broad ligament. The practical importance of this is very great, and not only to the physiologist and pathologist, but to the clinician and gynecologist as well. Without doubt we have in Marchand's adrenals certain anatomical elements which may explain pathological conditions of the broad ligament and testis heretofore enveloped in mystery. Many tumors and cysts of these regions, whose origin is now unknown to us, may be shown by future observation to be derived from these little organs.

97.—See abstract in *THE JOURNAL*, xxxv, p. 1424.

98. Sexual Feeling and Removal of Ovaries.—In the case reported by Smith there were misplaced and inflamed ovaries causing the patient misery, with complete absence of sexual feeling. The ovaries were removed, as the patient had been under medical treatment for years without benefit. The result was restoration to health and complete restoration of sexual feeling, which had heretofore been absolutely absent. The cure seems to be permanent and he agrees with Lawson Tait that in cases of useless and diseased ovaries the removal of the diseased structure restores the normal conditions and does not unsex the woman.

107. Lupus Vulgaris.—Everett Smith reports a case of lupus of fifteen years' standing cured by application of the X-rays. A mask was made of sheet lead for the face, with a hole over the diseased portion, and this was exposed to the X-ray about every fifth day for about twenty minutes at a time, the surface being placed two inches from the light. In all, twelve treatments were given, and no medicine was used, even vaselin was denied him. After the second treatment healthy granulations appeared and healing was rapid.

108. Cholelithiasis.—Engene Smith discusses cholelithiasis from the surgeon's point of view, reporting two cases to illustrate his points. He sums up the indications for operative treatment under two headings: In the first place, operate for biliary calculus obstruction along the bile-tracts which has in its train of sequelae recurring colic, hydrocholecyst, persistent jaundice and cholemia; in the second place, operate for sepsis of the bile-tracts when it develops such dangerous conditions as suppurative cholangitis, suppurative cholecystitis or perforation of the duct or cholecyst. In both classes suffering and death are to be dreaded in the majority of cases more from the disease and its sequelae than from the surgeon's knife.

116.—See abstract in *THE JOURNAL*, xxxv, p. 447.

117.—*Ibid.*, p. 578.

121. Incised Wounds.—The method described by Bretz for coapting superficial incised wounds consists in fixing a piece of adhesive plaster on either side of the wound after thorough cleansing and putting the suture through the plaster instead of through the tissues themselves. In this way he thinks better coaptation is obtained than when it is put through the skin, is less painful; it avoids stitch-hole abscess, prevents stitch-marks, and there are no stitches to pull out. He illustrates the method for various forms of wounds.

132.—See abstract in *THE JOURNAL* of June 2, p. 1416.

133.—This article has appeared elsewhere. See *THE JOURNAL*, xxxv, p. 267.

135. Iodized Starch.—Solomon recommends the use of

iodized starch made by triturating 5 parts of iodine in a small quantity of water with 95 parts of starch slowly added and carefully rubbed until the mixture is regularly and uniformly a blue-black. It is slowly dried at a temperature not higher than 140 and carefully rubbed into a fine blue powder. We then have a 5 per cent. iodized starch, insoluble in water, with characteristic iodine taste and slight odor. It should be kept in glass-stoppered bottles. He has used this whenever iodine is indicated and thinks its action is prompt and in the proper dose energetic. The dose recommended by some authorities is, he thinks, too small. He has found from 3 to 10 grs. in capsule, pill or powder necessary to produce the desired effects. Its advantages are that it is physiologically an active preparation for both external and internal use and free from the irritation and caustic action of most of the iodine preparations. It is not objectionable to the senses and is stable enough to be kept indefinitely with reasonable care.

148. Dentigenous Cysts.—Cobb reports cases of this anomaly and concludes that the cysts are not, as Albarran suggested, due to epithelial secretion from the cells of the gubernaculum dentis, but rather, as Dr. Edward Briggs believes, an inflammatory process originating about the diseased teeth, which is characterized more by excessive secretion than by active destruction. The prognosis is also of interest, as he would not believe that so large a bony swelling as occurred in his cases would subside in so short a time. From this series he thinks dental disease can be eliminated and operation avoided. The salient points of treatment are free drainage and careful dental treatment.

154.—See abstract in *THE JOURNAL*, xxxv, p. 1425.

FOREIGN.

The Lancet, December 29, 1900.

Calcium Iodate as an Iodoform Substitute and Gastro-Intestinal Antiseptic. WILLIAM MACKIE.—After first noticing the work of Sonstadt in regard to this drug, the author gives the theory of its action as an antiseptic. It is an iodine compound containing 51 per cent. of iodine, and in addition 16 per cent. of available oxygen. On contact with putrescible organic matter, whether in acid or in alkaline media, it slowly liberates iodine. In alkaline solution, while the organic matter is being oxidized by the oxygen set free from decomposing iodate, the iodine by a reaction well known to occur in alkaline media slowly re-forms iodate, through the decomposition of water. The iodate so re-formed in contact with another portion of putrescible matter yields further proportions of free oxygen and iodine to act as before, and so on. The process is, therefore, a continuous one. As most pathologic discharges are alkaline we have in such cases the necessary conditions for the continuous action of the iodate. In acid media in the presence of reducing substances iodine is liberated and by the decomposition of water sets free oxygen, which is used up in oxidizing any unstable organic compound which may be present. The iodine in these cases passes into hydriodic acid or an iodide, and so eventually ceases to act. If, however, the acid is hydrochloric, as in the gastric juice, chlorine is liberated in the greatest abundance. Chemical equation shows that calcium iodate in contact with hydrochloric acid liberates nearly four-sevenths of its weight of chlorine, and on this fact its use theoretically as a gastrointestinal antiseptic is based. Something no doubt depends on the chemical instability of iodates generally, and on this one in particular, on the nascent action of the liberated products, and in this case that the base forms insoluble compounds such as carbonate and phosphate in contact with alkaline discharges, thus probably facilitating the free operation of the acid radicle, and on such its particular virtue depends. It would appear, therefore, that calcium iodate acts more as a destroyer of the products of bacterial life than as a bactericide. Mackie thinks, however, that its inhibitory power on bacterial growth can not be questioned, and it thus closely conforms to iodoform in its action. The function of the salt as a deodorant can be easily understood as a result of its chemical action. Iodates decompose sulphuretted hydrogen, precipitating it in part as sulphur, in part oxidizing it into sulphuric acid. The substance is easily prepared by any

chemist by mixing iodine in a solution of potassium iodide with bleaching powder and washing with cold water. It is a white powder without taste or smell, soluble in 390 parts of water. Even in this solution, however, it is a powerful antiseptic, which he shows by reporting experiments similar to those made by Sonstadt. A piece of meat, for instance, was suspended in a saturated solution of the salt and found perfectly fresh at the end of a fortnight. A few grains of the dry salt thoroughly deodorized very fetid pus, etc. Cases are reported by the author, of fetid breath, septic wounds, discharges of ulcers, otorrhea, abscess, etc., treated successfully with this drug. He has also used it in cases of septic bladder, with advantage in all and perfect cure in at least one, also as a vaginal douche and for chronic urethritis. Speaking generally he says calcium iodate has been used in almost all cases where iodoform is commonly used. He has not, however, applied it to cut surfaces of amputation flaps, though he has in several cases powdered the sutured edges after minor operations for diseased conditions. In all operations where the surfaces are left to granulate he has used it by dusting the dry powder on the surfaces, and in no case has there been any irritating or toxic action. Even children do not complain of any smarting after its use. Its advantages as compared with iodoform may be summarized as absence of smell, checking of fetor, prevention of hyper-granulation, and the inhibition of undue formation of pus. It can be used, moreover, where iodoform is inadmissible, in gargles, washing out the bladder, etc. Internally he can testify to its efficiency in checking fermentative gastric changes. He has frequently taken 2 grains and sometimes repeated the dose twice and even a third time during the day without any inconvenience, and always with marked relief. It leaves a slight metallic taste in the mouth for a little while, but this is not observed after repetition. On the day after a dose of 2 grains there is a feeling of general well-being and increased appetite, and for this reason he is inclined to think that it has some tonic properties. Sonstadt took as much as 15 grains at one time with a very slight headache the next day, and such effects as might ordinarily follow a dose of quinine. Mackie would prefer to give the drug in solution, as he has noticed a feeling of heat in the epigastrium after swallowing the dry salt. Sonstadt's maximum dose of 15 grains is a long way in advance of any possible requirement. Three or four grains may be given as a fair average for the adult.

Circumcision as a Preventive of Syphilis and Other Disorders. E. HARDING FREELAND.—The writer argues for circumcision as a preventive of syphilis, showing statistics from Hutchinson and others giving reasons why this should be effective. He thinks that in the ordinary operation too much is left and too little is removed, and the protection in this regard is therefore lost. He would also advise, with the thorough removal of the prepuce, taking away a wedge-shaped piece of frenum and thus obliterating the folds which exist on its side. He believes that if the practice were general a great and lasting benefit would be induced.

On a New Method in the Discission of Soft Cataracts. PERCY DUNN.—This writer advises in the treatment of soft cataracts by discission to avoid increased tension by draining away the aqueous before withdrawing the needle. It is reasonable, he says, to conclude that the condition of the lens after the needling would determine the degree of restored tension. With a swollen lens the aqueous would probably only be re-secreted to the amount needful to restore the normal tension, and he does not think it possible to conceive that the glaucomatous symptoms could arise under these circumstances. Another advantage of the method is the possibility of freely breaking up the lens, and still another, the rapid absorption of the soft lens matter. A lowered tension implies a more rapid circulation of fluid through the eye and is exactly the condition of affairs to be most desired for rapid absorption. He reports a case in which he carried out these methods with the best results. The only possible untoward complication that could ensue is that of iritis originating from mechanical irritation caused by the presence of broken-up lens matter, but the doctrine that mechanical irritation per se can excite inflamma-

tion anywhere in the tissues is not one which at the present day receives support of scientific testimony. In senile cataract no difficulty is experienced in obtaining a fairly rapid absorption of the lental débris which it has been found impossible to remove after extraction of the lens, a result which he thinks is chiefly due to lowered tension in the eye caused by the necessary steps of the operation in this case.

Indian Medical Gazette, December, 1900.

The Cause of Beri-Beri. E. R. ROST.—From a suggestion in an article in the *British Medical Journal* of the connection between rice and beri-beri, Rost examined various rice waters and liquors and found one organism in all which is also found in damp rice, and in the prolonged examination of the blood of a beri-beri patient the same peculiarly shaped organisms were noticed. They were also later found in the cerebrospinal fluid, serous exudation, and in the sheath of the sciatic nerve on post-mortem. Cultures in sterile rice broth, beef broth, in blood, hydrothorax fluid and ascitic fluid were made and the morphology of the organism was observed. It is a diplobacillus, generally seen as an angular organism, developing by spores. Double dumb-bells are seen as well as single knobs or rods; it is easily stained by carbol-fuchsin. It multiplies with great rapidity, will grow best in rice broth, ascitic fluid and hydrothorax fluid, and with difficulty or not at all on solid media, except coagulated blood-serum. It was found that it can withstand a temperature of eight hours at 220 F., but after the ninth hour the cultures gave negative results. Sterilization for long periods is therefore necessary. He has found this organism in 32 cases of beri-beri in the blood. In rice its appearance is that of a fibroid clammy coating sticking the granules together. He thinks rice-eating, and especially drinking rice liquor, is the principal cause. The most important point, he remarks, is its vitality, which calls for a better method of cooking rice than is often employed.

Presse Medicale (Paris), December 1, 22 and 26.

Rennet Ferment in Gastric Juice. L. MEUNIER.—Investigation of the rennet ferment in the gastric juice of forty-two individuals in various pathologic conditions showed a striking coincidence between the clinical prognosis and the amount of rennet action in the gastric juice. The rennet also affords valuable information in regard to the secretion of the gastric mucosa in the same way as the pepsin, while the tests are much easier than for the latter.

December 22.

Is the Bacillus Coli Agglutinated by the Serum of Typhoid Patients? P. COURMONT.—The results of tests on twenty-five typhoid-fever patients showed that the bacillus coli, as a rule, was not agglutinated by their serum at any stage of the disease. When agglutination occurred it was very feeble, no more than is frequently observed in normal blood, and not at all proportionate to the intensity of the agglutination of the typhoid bacillus.

December 26.

Lavage and Ferric Chlorid in Treatment of Round Ulcer. R. ROMME.—Bourget is not an advocate of surgical treatment of all cases of round ulcer. He thinks that good results can be attained by resting the stomach, diminishing the secretion of the irritating gastric juice, and aiding cicatrization with ferric chlorid. He accomplishes this by lavage of the stomach every other day with a 2 per cent. solution of ferric chlorid, supplemented by the administration of sodium bicarbonate in a 3 per cent. solution two or three times a day, three or four hours after meals, in amounts sufficient to neutralize the acidity of the gastric juice. He does not approve of rectal feeding, as it does not afford sufficient nourishment and as the secretion of the acid gastric juice continues. He also rejects milk and directs his patients to eat nothing but rice boiled in water with a little salt for one to two hours until it is a syrupy fluid. Later the water is replaced by milk: 50 gm. rice in a liter of milk, sweetened or salted, allowing about 200 to 300 gm. of the mixture at each meal, which, weight for weight, is as nourishing as white meat. The chief symptoms vanish in eight or ten days and a mixed diet can

be allowed five days later, the sodium bicarbonate being continued.

Surgery of the Sympathetic for Neuralgia. J. TERMIER.—This is a recent Lyons thesis, inspired by Jaboulay, which reports the favorable results obtained in a number of cases of severe pelvic neuralgia, sciatica, etc., by resection of the sympathetic at various points. The operation most frequently practised was "décollement" or detachment of the rectum, which ruptures the sympathetic fibers connecting with the sciatic nerve. It was successful in curing several cases of neuralgia of this nerve and of different vasomotor disturbances of the lower members; also in a case of ataxia, in which the lightning pains were permanently abolished by it. Termier attributes the primal cause of a number of neuralgias to the ganglionic system and suggests dissection of the peri-aortic fibers of the solar plexus in abdominal neuralgia and other affections possibly dependent on the abdominal sympathetic. He reports a number of cases of facial neuralgia cured or very much improved by resection of the cervical sympathetic.

Revue de Chirurgie (Paris), December.

Exclusion of the Intestine. F. TERRIER AND A. GOSSET.—In this portion of the article, concluded from the August and November numbers, fifty-two cases of exclusion of the intestine are reviewed or described at length, with forty-four recoveries. Total occlusion of the excluded loop seems to be unanimously rejected now and exclusion with partial occlusion of the excluded loop is given the preference in cases of sterocoral fistula or tuberculosis of the intestines. It is still a question whether in case of cancer which it is impossible to extirpate, unilateral exclusion is the best method of procedure, also whether the reflux of intestinal contents into the excluded portion is really to be feared.

Special Process for the Radical Cure of Inguinal Hernia. A. LE DENTU.—The method described by Le Dentu has been thoroughly tested by him during the last ten years and was the first of the "fold-operations," the second being Ricard's fold taken in the fibrous capsule of the shoulder-joint in case of recurring luxation and the third Le Dentu's application of the process to the knee. The simplicity and facility of the operation are great advantages, and also the fact that it is easier to secure the adhesion of broad flat surfaces than of narrow edges. The essence of the process is the loosening of the abdominal wall by inserting the finger beneath the external oblique and its aponeurosis after the hernia has been reduced and the sac taken care of. The abdominal wall is stretched by the forefinger until it forms a recess above the spermatic cord like the finger of a glove. A row of U-shaped stitches are then taken perpendicular to the axis of the fold thus raised, and when tied they reconstitute the wall with a double fold of muscle and aponeurosis. In case of extensive adhesions it may be necessary to split the fold down the center, otherwise proceeding as above. He uses catgut or silk, but observes that removable sutures of wire, if preferred, would probably answer the purpose equally well. He does not cite any cases, merely remarking that his results will bear comparison with those of other methods.

Cancer of the Large Intestine, Rectum Excepted. R. DE BOVIS.—This comprehensive study is concluded from five preceding numbers with a detailed description of nineteen unpublished cases and a number reported in Russian, Scandinavian and Dutch journals. In the first of the three personal cases there was a history of chronic constipation for two years, but no obstruction, diarrhea, nor blood nor pus in the discharges. When the patient, a woman of 57, entered the hospital, there had been obstruction for five days and vomiting, not fecal in character. The patient was much emaciated and there were considerable distension of the abdomen and tenderness in the right iliac fossa, which seemed a little fuller and less resonant than other portions of the abdomen. The intestine was retained outside of the abdominal cavity by a glass rod passed beneath it. The patient died, apparently from auto-intoxication. A small flat piece of bone had lodged on the stricture, which proved to be a small ring cancer of the sigmoid flexure. In another case, a robust man of 66, of good

personal and family history, had symptoms of obstruction for eight days without vomiting. The abdomen was distended, particularly on the left side, but nothing morbid could be discovered before operating. The patient died from the results of an abdominal stercoral phlegmon, and on autopsy a small ring cancer, a scirrhus, was found as in the first case, at the sigmoid flexure. The distended loop had been held merely by a strip of gauze, which had allowed it to subside, thus favoring the production of the phlegmon. In a third case the patient regained comparative health after an artificial anus had been made in the sigmoid flexure. The evidence, however, was conclusive in regard to the existence of a lesion similar to the others—a cylindrical epithelioma—although the anatomic proof was lacking.

Semaine Medicale (Paris), December 19.

The Heart in Chlorosis. E. BARIÉ.—The palpitations, pain in the precordial region and false angina pectoris noted in neuro-arthritis or dyspeptic patients are merely functional disturbances common in chlorosis. The cardiac thrombosis and dilatation of the heart occasionally noted are more serious. In five cases recently observed by Barié the heart was unusually small. Hypertrophy has been noted by many clinicians, and also a false hypertrophy due to the displacement of the diaphragm, which pushes back the heart, as can be differentiated by fluoroscopy. When actual dilatation exists it is probably due to atony of the myocardium from defective nutrition, the adulterated blood not supplying the necessary elements, although Wybauw suggests that it is due to a general infiltration of the tissues by the diffused serum of the blood. He points out that the quantity of the urine increases, while the weight diminishes, when recovery commences. Virchow has suggested that the dilatation may be secondary to a specially narrow aorta, but in this case the lesion would persist. One of the features of chlorotic dilatation is its transient character. In case of dyspepsia the gastric disturbances are liable to cause a reflex action which is transmitted by the great sympathetic to the capillaries of the lungs and incites them to spasmodic contraction. This raises the blood-pressure in the pulmonary artery and hence the right ventricle dilates, sometimes to such an extent that functional tricuspid insufficiency is the result. This, in turn, is liable to produce a souffle at the apex, spreading distinctly toward the left axilla, strictly systolic and not modified by the position of the patient. On the other hand, if the souffle is weak, if it is above, either to the right or left of the apex, if it does not spread, if it occurs in mesosystole, and especially if it alters as the subject stands or reclines, it is a cardiopulmonary souffle—a sound occurring in the lung—rendered rhythmical by the movements of the heart.

Surgical Prosthesis With Injections of Paraffin Into the Tissues. R. GERSUNY.—The first time this method was tried was on a man who was seriously depressed from the mutilation following an operation for tubercular orchi-epididymitis. Gersuny injected 8 c.c. of sterilized "white vaselin"—which is a mixture of solid and liquid paraffin, melting at 40 C.—into the left half of the scrotum and a fortnight later about the same amount into the right half. A fortnight later 3 c.c. were injected into the left half and 2 c.c. into the right. The result was extremely satisfactory. The scrotum presents the normal aspect as when contracted by cold, and on palpation the two round bodies on each side, of a hard consistency, simulate to perfection the missing testicles. This success encouraged him to inject paraffin into the uvula and velum of the palate in two persons who had been operated on for hare-lip, but were unable to articulate the syllable "ga." The parts were increased in size by the paraffin until the disturbance completely disappeared. In a case of incontinence of urine after an operation for a vesico-vaginal fistula, the function of the sphincter was restored by injecting a ring of paraffin around it. The paraffin does not change nor become absorbed and thus forms a permanent subcutaneous prosthesis. He suggests that it may prove useful in raising sunken cicatrices, in correcting deformities after ablation of subjacent bone—the superior maxillary, for instance—and to supply a base to flattened noses and breasts.

It may even prevent ankylosis if injected between the surfaces of the bones in operations on the joints, and can be removed later when a fibrous capsule has formed. Perivascular injections may arrest venous stasis and thus prevent varices, and hernia might also be controlled by appropriate use of paraffin in this way.

Centralblatt f. Chirurgie (Leipsic), December 22.

Sterilization of Sponges Without Injury. C. A. ELSBERG.—Applying to sponges the principles of his method of sterilizing catgut without injury, Elsberg states that they can be boiled for hours without losing any of their porosity, elasticity, softness or diminishing in size. He first cleanses them by soaking for twenty-four hours in an 8 per cent. solution of hydrochloric acid, which is afterward thoroughly washed out. They are next boiled for five to ten minutes in a solution of ten parts caustic potash and twenty parts tannic acid in a thousand parts water. They are then rinsed in sterile water or a solution of carbolic acid or sublimate until all traces of the brown potash solution have vanished, after which they are kept in a 2 to 5 per cent. solution of carbolic acid until needed. Large sponges infected with staphylococci, streptococci, anthrax and other bacilli and spores were always found sterile after boiling for even less than five minutes, in the potash and tannin solution, while they will bear repeated boiling without injury if the directions are followed.

Muenchener Med. Wochenschrift, December 4 and 25.

Advantage of the Curved Sound in Cases of Tumors of the Esophagus. H. STARCK.—The diverticulum sound has been found extremely useful at Erb's clinic in case of tumors of the esophagus. It penetrates where it is impossible to insert a straight sound. By turning it around, the tip constantly explores the periphery and finally locates the constriction and finds a passageway. An ordinary Nélaton catheter with a wire guide is curved at an angle of 180 degrees about 1.5 to 3 cm. from the tip. When this pathfinder has located the passage, larger sizes can be used and the lumen stretched until natural feeding can be instituted in some cases, or if not, a sound can be introduced for artificial feeding.

Significance of Alcohol in Disinfection of the Hands. E. BRAATZ.—The presence of air in the pores of the skin impedes the entrance of disinfecting fluids. Alcohol decomposes air ten times more rapidly than water, and hence allows the penetration of the fluids into the depths of the pores and crevices.

Success of Atropin in Intestinal Disturbances. P. OSTERMAIER.—Several writers have lately called attention to the advantages of subcutaneous injection of atropin in ileus and other intestinal disturbances. Ostermaier details several convincing observations, the result of a large experience with this remedy in cases of secondary reflex spasm or paresis of the intestines after calculus colic, lumbago, traumatism, etc., also in a few cases of appendicitis. He injects 1 mg. sometimes in two doses. The subjective disturbances rapidly disappear and in twelve to thirty-six hours a normal evacuation follows. Batsch reports one instance in which he injected 12 mg. in a few days in a case of intestinal perforation after difficult delivery. Boeck states that a fatal termination is rare even after taking 5 cg.

December 25.

Suprarenal Tablets in Addison's Disease. P. EDEL.—The first symptom of the disease was a sensation as if the region between the shoulder-blades was being pressed down and forward. Progressively increasing weakness was noted and the patient, a locksmith, hitherto healthy, was unable to work even for an hour a day. No remission had been observed at any time when the patient was first seen, six months after the first manifestations of the disease. In two or three days after the organotherapy had been instituted improvement was marked and in fourteen days the patient resumed his occupation. The pigmented patches also faded to their normal color and only traces of them around the eyes were still visible by the end of five weeks. The patient's manner of life was not altered in any way from usual during treatment. The autopsy, after a brief, intercurrent fatal tubercular meningitis, dis-

closed indications of quite general tubercular glandular lesions, including a nodule in the right suprarenal the size of a bean. The solar plexus and semilunar ganglion were imbedded in fibrous connective tissue.

Tubercular Peritonitis. R. OEHLER.—It was possible to follow to date 39 out of the 44 patients with tubercular peritonitis treated at the Frankfurt clinic during the last five years. The participation of the umbilicus is the most reliable sign of the affection, in addition to the evidences of persisting ascites and cachexia. Out of the 39, 18 have died and 21 are alive and well to-day. It chiefly affects children, and death ensues in about half the cases, generally from meningitis, but otherwise from exhaustion and general debility, in the course of six to twenty-four months. In a large number of cases—51 per cent.—spontaneous recovery occurred in the course of one to two years.

Wiener Klin. Wochenschrift, December 20.

Difference Between Natural and Artificial Feeding of Infants. T. ESCHERICH.—Is it possible, Escherich queries, that mother's milk contains some unknown substance which stimulates metabolism? This assumption would explain the inconsistencies observed and the results of natural feeding which in some cases indicate an almost specific reaction of the infantile organism to the mother's milk. The presence of such a ferment in mother's milk would include the child in the mother's metabolism somewhat in the same way as during placental circulation. It renders futile all our present efforts to approximate mother's milk in artificial feeding, but opens a path for future research which may yet lead to important results.

Tidsskrift f. d. Norske Lægefr. (Christiania), December 15.

Retention of Urine from Retroversion of Uterus. E. MO.—A woman of 45, ii-para, found micturition becoming painful and finally complete retention followed. The uterus was found in retrodisplacement and the urinary troubles ceased as soon as the organ was straightened.

Brazil-Medico (Rio de Janeiro), October 22.

Sero-Diagnosis of Yellow Fever. E. MEIRELLES.—This writer accepts the bacillus icteroides as the causal agent of yellow fever, and states that while it is very difficult to obtain the sero-reaction during the first stage of the disease, it can be obtained under certain conditions in the second stage and to perfection in the third stage, during convalescence and for a considerable time afterward. Dried blood serves as well as fresh, and old cultures are better than fresh. In a large number of patients with other infections it was impossible to obtain this specific sero-reaction for yellow fever. The prognosis may be based on the reaction to a certain extent, as the earlier it appears the milder the course of the disease in all his numerous tests.

Gazeta Med. Da Bahia, September, October and November.

Sodium Hyposulphite and Serum in the Plague. J. PENNA.—Seventy-two patients were in Penna's care during the latest outbreak of the plague in Brazil, and he was much impressed not only with the benefits of serotherapy, but also of the subcutaneous injection of sodium hyposulphite in the vicinity of the bubo. His supply of serum was scanty and he was unable to administer the sufficient dose in many instances, but even with these drawbacks the mortality was only 19.3 per cent. among 36 patients treated with serum, excluding the moribund cases. The general mortality of the epidemic outside of the hospital was 50 per cent. He had found that a dog will bear the intravenous injection of 7 gm. of sodium hyposulphite in a 5 per cent. solution with no appreciable disturbance nor modification of the urine or corpuscles. He therefore ventured to administer it to man, injecting 1 gm. every three hours. Four died out of 20 patients thus treated, or 20 per cent., including one patient after thirty-one days of extensive gangrene of one of the buboes. The treatment was commenced from the first to the twelfth day of the disease in the fatal cases, death occurring the second, third, fourth and seventh day thereafter. The fever lasted an average of twelve days in the serum-treated patients, seventeen days in the 16

patients treated symptomatically and sixteen days in those treated with hyposulphite. The complete records of the cases of each group are tabulated, showing all the symptoms.

St. Petersburg Med. Woch., December 15.

Metastatic Choroiditis After Pneumonia. GERMANN.—During convalescence from a typical croupous pneumonia a purulent metastatic irido-choroiditis appeared, with symptoms of meningitis and death in six days. Another fatal case is described in which croupous pneumonia was followed by endocarditis, embolic retinitis and panophthalmitis. Pure cultures of the diplococcus were derived from the anterior chamber. The only similar case described at length in literature was reported in 1892 by Herrnheiser, metastatic panophthalmitis with diplococci in the choroid, consecutive to croupous pneumonia, but Blessig, Eversbusch and Natanson have each observed a case of metastatic irido-choroiditis consecutive to influenza.

Vratch (St. Petersburg), December 15.

Mutual Relations Between the Bubonic Plague and Other Varieties of Hemorrhagic Septicemia. S. V. KONSTANSOFF.—The writer's experimental research with hundreds of mice has established that preliminary active and passive immunization against hen cholera and swine plague due to the bacillus pestifer and bacillus suis, has no influence on the course of bubonic-plague infection. In the same way passive immunization against the bubonic plague does not affect the course of the infection from the above-mentioned coccobacilli. The absence of reciprocity between the immunization against bubonic plague and against the other varieties of hemorrhagic septicemia, indicates that the former has a special place apart in this group. He found antiplague serum a valuable differentiating means for the confirmation of bubonic plague. He also noted a marked contrast between even closely related forms of hemorrhagic septicemic infection in the faculty of resistance to a temperature of 45 C.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

AMERICAN TEXT-BOOK OF PHYSIOLOGY. By Henry P. Bowditch, M.D.; John G. Curtis, M.D.; Henry H. Donaldson, Ph.D.; W. H. Howell, Ph.D., M.D.; Frederic S. Lee, Ph.D.; Warren P. Lombard, M.D.; Graham Lusk, Ph.D., F.R.S. (Edln.); W. T. Porter, M.D.; Edward T. Reichert, M.D.; Henry Sewall, Ph.D., M.D. Edited by William H. Howell, Ph.D., M.D., Professor of Physiology in the Johns Hopkins University, Baltimore, Md. Second Edition, Revised. Vol. XI. Muscle and Nerve; Central Nervous System; Special Senses; Special Muscular Mechanisms; Reproduction. Cloth. Pp. 551. Price, \$3.50. Philadelphia and London: W. B. Saunders & Co. 1901.

A HANDBOOK OF GENITO-URINARY SURGERY AND VENEREAL DISEASES. By G. M. Phillips, M.D., Professor of Genito-Urinary Surgery and Venereal Diseases, Barnes Medical College. Illustrated by Half-tone Cuts and Special Drawings by L. Crusius, M.D. Cloth. Pp. 313. Price, \$2.00. St. Louis, Mo.: Lewis S. Matthews & Co. 1900.

PROCEEDINGS OF THE AMERICAN PHARMACEUTICAL ASSOCIATION at the Forty-eighth Annual Meeting, held at Richmond, Va., May, 1900. Also the Constitution, By-laws and Roll of Members. Cloth. Pp. 968. Baltimore, Md.: Published by the American Pharmaceutical Association. 1900.

THIRTY-SECOND ANNUAL REPORT OF THE SECRETARY OF STATE ON THE REGISTRATION OF BIRTHS AND DEATHS, MARRIAGES AND DIVORCES IN MICHIGAN, for the Year 1898. Justus S. Stearns, Secretary of State. Edited by Cressy L. Willbur, M.D., Chief of Division of Vital Statistics. By Authority. Cloth. Pp. 155. Lansing, Mich.: Robert Smith Printing Co. 1900.

STATE MEDICINE AND SANITATION. The Relation of the Illinois State Medical Society to Sanitation and the Regulation of the Practice of Medicine in the State. By A. C. Corr, A.M., M.D., Carlinville, Ill. Paper. Pp. 40. Carlinville, Ill.: Macouplin Printing Co. 1900.

TRANSACTIONS OF THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA. (The State Board of Health.) Organized 1847—Meeting of 1900. Montgomery, April, 17-20. Cloth. Pp. 564. Montgomery, Ala.: Brown Printing Co. 1900.

PROCEEDINGS OF THE FIFTEENTH ANNUAL MEETING OF THE CONFERENCE OF STATE AND PROVINCIAL BOARDS OF HEALTH OF NORTH AMERICA. Atlantic City, June 1 and 2, 1900. Paper. Pp. 118. Providence: Snow & Farnham. 1900.

PROCEEDINGS OF THE PHILADELPHIA COUNTY MEDICAL SOCIETY. October, November. Paper. Philadelphia: Published by the Society.

REPORT OF THE SURGEON-GENERAL OF THE ARMY to the Secretary of War for the Fiscal Year Ended June 30, 1900. Paper. Pp. 411. Washington: Government Printing Office. 1900.

THIRTY-FIRST ANNUAL REPORT OF THE STATE BOARD OF HEALTH OF MASSACHUSETTS. Cloth. Pp. 812. Boston: Wright & Potter Printing Co. 1900.

TRANSACTIONS OF THE MICHIGAN STATE MEDICAL SOCIETY for the Year 1900. Volume xxiv. Cloth. Pp. 552. Detroit, Mich.: Published by the Society. 1900.

THE PRESENT POSITION OF THE TREATMENT OF SIMPLE FRACTURES OF THE LIMBS. An Address Delivered in Opening a Discussion at the Meeting of the British Medical Association held at Ipswich, August, 1900. By William H. Bennett, F.R.C.S., Senior Surgeon to St. George's Hospital. To Which Is Appended a Summary of the Opinions and Practice of about 300 Surgeons. Reprinted, after revision, from the British Medical Journal, Oct. 7, 1900. Cloth. Pp. 41. Price, \$0.80. New York and Bombay: Longmans, Green & Co. 1900.

ON THE USE OF MASSAGE AND EARLY PASSIVE MOVEMENTS IN RECENT FRACTURES and other Common Surgical Injuries and the Treatment of Internal Derangement of the Knee-Joint. Three Clinical Lectures Delivered at St. George's Hospital. By William H. Bennett, F.R.C.S., Senior Surgeon to the St. George's Hospital. Reprinted, after revision, from The Lancet. With 12 Illustrations. Cloth. Pp. 97. Price, \$1.40. New York and Bombay: Longmans, Green & Co. 1900.

REFRACTION AND HOW TO REFRACT, Including Sections on Optics, Retinoscopy, the Fitting of Spectacles and Eye-Glasses, etc. By James Thorington, A.M., M.D., Professor of Diseases of the Eye in the Philadelphia Polyclinic and College for Graduates in Medicine. Second Edition. With 200 Illustrations, 13 of Which Are Colored. Cloth. Pp. 301. Price, \$1.50. Philadelphia: P. Blakiston's Son & Co. 1900.

KING'S AMERICAN DISPENSATORY. By Harvey Wickes Felter, M.D., Adjunct Professor of Chemistry, Pharmacy and Toxicology, and Professor of Anatomy in the Eclectic Medical Institute, Cincinnati, Ohio, and John Uri Lloyd, Ph.D., Ph.D., Professor of Chemistry, Pharmacy and Toxicology in the Eclectic Medical Institute, Cincinnati, Ohio. Entirely Rewritten and Enlarged. Eighteenth edition. Third Revision. In two volumes. Vol. II. Cloth. Pp. 284. Price, \$4.50 per volume. Cincinnati, Ohio: Ohio Valley Company. 1900.

A MANUAL OF SURGICAL TREATMENT. By W. Watson Cheyne, M.B., F.R.C.S., F.R.S., Professor of Surgery in King's College, London; and F. F. Burghard, M.D., M.S. (Lond.), F.R.C.S., Teacher of Practical Surgery in King's College, London. In seven volumes. Vol. IV. The Treatment of the Surgical Affections of the Joints (Including Excisions) and the Spine. Cloth. Pp. 370. Price, \$3.75 net. Philadelphia and New York: Lea Brothers & Co. 1901.

TEXT-BOOK OF HISTOLOGY, Including the Microscopic Technic. By Dr. Philip Stöhr, Professor of Anatomy at the University of Würzburg. Third American, from Eighth German Edition. Translated by Dr. Emma L. Bilstein, Formerly Director of the Laboratories of Histology and Embryology, Woman's Medical College of Pennsylvania. Edited with Additions by Dr. Alfred Schaper, Professor of Anatomy, University of Breslau. With 301 Illustrations. Cloth. Pp. 432. Price, \$3.00. Philadelphia: P. Blakiston's Son & Co. 1900.

EXPERIMENTAL RESEARCH INTO THE SURGERY OF THE RESPIRATORY SYSTEM. An Essay Awarded the Nicholas Senn Prize by the AMERICAN MEDICAL ASSOCIATION for 1898. By George W. Crile, A.M., M.D., Ph.D., Professor of Clinical Surgery, Medical Department, Western Reserve University. Second Edition. Cloth. Pp. 114. Price, \$2.50. Philadelphia: J. B. Lippincott Co. 1900.

A GUIDE TO THE INSTRUMENTS AND APPLIANCES REQUIRED IN VARIOUS OPERATIONS. By A. W. Mayo Robson, F.R.C.S., Senior Surgeon to the Leeds General Infirmary. Second Edition. Cloth. Pp. 62. Price, 2 s. 6 d. London, Paris, New York and Melbourne: Cassell & Co., Ltd. 1900.

THE ESSENTIALS OF PRACTICAL BACTERIOLOGY. An Elementary Laboratory Book for Students and Practitioners. By H. H. Curtis, B.S., M.D. (Lond.), F.R.C.S., Late Surgeon Registrar, University College Hospital. Cloth. Pp. 291. Price, \$2.50. New York and Bombay: Longmans, Green & Co. 1900.

COMPARATIVE PHYSIOLOGY OF THE BRAIN AND COMPARATIVE PSYCHOLOGY. By Jacques Loeb, M.D., Professor of Physiology in the University of Chicago. Illustrated. Cloth. Pp. 309. Price, \$1.75. New York: G. P. Putnam's Sons. London: John Murray. 1900.

TRANSACTIONS OF THE NEW HAMPSHIRE MEDICAL SOCIETY, at the One Hundred and Ninth Anniversary, held at Concord, May 31 and June 1, 1900. Cloth. Pp. 333. Concord, N. H.: Ira C. Evans. 1900.

MEDICAL AND SURGICAL REPORTS OF THE BOSTON CITY HOSPITAL. Eleventh Series. Edited by Herbert L. Burrell, M.D., W. T. Councilman, M.D., and Charles F. Withington, M.D. Pastebound. Pp. 254. Boston: Published by the Trustees. 1900.

Change of Address.

F. P. Boyd, Chicago, to Lewiston, Minn.
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G. E. Thompson, 72 Marietta, to 1 Chamberlin St., Atlanta Ga.

New Patents.

Patents of interest to physicians, Dec. 18 and 25:
664,351. Siphon-filler and mineral water charger. John H. Fox, New York City.
664,318. Making soluble casein. Wm. A. Hall, Bellows Falls, Vt.
663,969. Massage chair. John M. Johnston and O. Vanorman, Los Angeles, Cal.
663,995. Germ-destroyer for telephone-mouthpieces. Lewis L. Lacey, Austin, Texas.
664,282. Vapor bath cabinet. George W. Merker, Belleville, Ill.
663,997. Atomizer, Roland Morrill, Benton Harbor, Mich.
663,978. Sanitary appliance. Arthur O'Brien, Helena, Mont.
664,308. Electrotherapeutic spectacles. Thomas B. Zeller, Pittsburgh, Pa.
664,377. Gualacolated serum and making same. Fernand Belioz, Grenoble, France.
664,378. Serum preparation for medical use. Fernand Belioz, Grenoble, France.
664,398. Abdominal support. Huldah S. Gates, Rosedale, Kan.
664,482. File for prescriptions. Harry I. Jeffers, Aberdeen, Miss.
664,495. Pessary. Horace M. Paine, Atlanta, Ga.
664,796. Rectal irrigator and insufflator. Rody E. Warner, Pittsburg, Pa.
664,516. Machine for manufacturing capsules for bottles or the like. Eduard Watzke, Friedberg, Austria-Hungary.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Dec. 27, 1900, to Jan. 2, 1901, inclusive:

George W. Adair, major and surgeon, U. S. A., member of retiring board convened in Chicago.

William B. Banister, major and surgeon, Vols. (captain and asst.-surgeon, U. S. A.), member of a board convened in Manila, P. I., for the examination of candidates for admission to the medical department of the army.

Alfred E. Bradley, captain and asst.-surgeon, U. S. A., member of a retiring board at St. Paul, Minn.

William H. Brooks, acting asst.-surgeon, from Fort Schuyler, N. Y., to San Francisco, Cal., for duty with troops en route to Manila, P. I., and subsequent assignment in the Division of the Philippines.

Marshall M. Cloud, lieutenant and asst.-surgeon, U. S. A., sick leave of absence extended.

Louis W. Crampton, major and surgeon, U. S. A., member of a board convened in Manila, P. I., to examine candidates for admission into the medical department of the army.

Calvin De Witt, lieutenant-colonel, deputy surgeon-general, U. S. A., member of a retiring board at St. Paul, Minn.

Thomas W. Jackson, acting asst.-surgeon, former orders amended so as to assign him to temporary duty at the general hospital, Presidio, San Francisco, Cal.

Theodore C. Lyster, lieutenant and asst.-surgeon, U. S. A., from duty in Cuba to Fort Schuyler, N. Y.

Walter Reed, major and surgeon, U. S. A., to represent the medical department of the army at the Pan-American Medical Congress, to meet in Havana, Cuba, Feb. 5, 1901.

William E. Richards, lieutenant and asst.-surgeon, U. S. A., leave of absence on account of sickness extended.

Major A. W. Shockley, lieutenant and asst.-surgeon, U. S. A., from duty in the Department of Cuba to Fort Niobrara, Neb.

Robert E. Warren, acting asst.-surgeon, to duty as examiner of recruits at Denver, Colo.

Clark I. Wertenbaker, acting asst.-surgeon, from Fort Niobrara, Neb., to San Francisco, Cal., for duty with troops going to Manila, P. I., and subsequent assignment in the Division of the Philippines.

J. Samuel White, acting asst.-surgeon, former orders amended to direct him to report to the commanding general Department of California for duty at the general hospital, Presidio, of San Francisco, Cal.

In addition to the above orders, the following was issued Jan. 2, 1901: The following named acting asst.-surgeons, U. S. A., will proceed from the places hereinafter designated to San Francisco, Cal., and report in person to the commanding general, Department of California, for assignment to duty with troops en route to the Philippine Islands, where, upon arrival, they will report in person to the commanding general, Division of the Philippines, for assignment to duty:

John H. Allen, from Washington, D. C.; Henry D. Brown, from Denver, Colo.; William F. Graham, from Summerville, S. C.; Lawrence McEvoy, from St. Louis, Mo.; Frederick H. Mills, from Buffalo, N. Y.; Joseph Pettyjohn, from Augusta, Ga.; Richard J. Price, from Wilmington, N. C.; Joseph W. Reddy, from Boston, Mass.; Shannon Richmond, from St. Joseph, Mo.; Anton R. Schier, from Burlington, Iowa; Alfred T. Short, from Montrose, Colo.; Robert S. Spilman, from Washington, D. C.; Theodore H. Weisenburg, from Philadelphia, Pa.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending Jan. 5, 1901:

Surgeon R. P. Crandall, detached from the U. S. T. S. *Constellation*, upon reporting of relief, ordered to temporary duty in connection with recruiting at Milwaukee, Wis., and then home to wait orders.

Surgeon W. A. McClurg, detached from the *Indiana*, and to naval training station, Newport, R. I., as the relief of Surgeon R. F. Crandall.

Asst.-Surgeon J. M. Brister, ordered to the *Independence*, Jan. 13, 1901.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended Jan. 3, 1901:

Surgeon George Purviance, relieved from duty at Baltimore, Md., and directed to proceed to Washington, D. C., reporting at the bureau for duty.

P. A. Surgeon C. P. Wertenbaker, to proceed to Shreveport, La., for special temporary duty.

P. A. Surgeon W. G. Stimpson, to proceed to Denver, Colo., for special temporary duty.

P. A. Surgeon B. W. Brown, relieved from duty at Cape Charles quarantine and directed to proceed to Baltimore, Md., and assume command of the service, relieving Surgeon George Purviance.

Asst.-Surgeon C. W. Wille, to assume temporary command of Cape Charles quarantine, relieving P. A. Surgeon B. W. Brown.

Asst.-Surgeon J. W. Ames, on being relieved by Asst.-Surgeon L. P. H. Bahrenburg, directed to proceed to Manila, P. I., and report to chief quarantine officer for duty.

Asst.-Surgeon B. J. Lloyd, granted leave of absence for 18 days from Dec. 11, 1900.

Asst.-Surgeon L. P. H. Bahrenburg, Bureau order of Dec. 27, 1900, directing Asst.-Surgeon Bahrenburg to proceed to Manila, revoked, and directed to proceed to Honolulu, H. I., reporting to the chief quarantine officer for duty.

Acting Asst.-Surgeon J. E. Bready, granted leave of absence for 4 days from Jan. 2, 1901.

Hospital Steward W. W. Kolb, granted leave of absence for 30 days from Jan. 29, 1901.

Hospital Steward E. T. Olsen, granted leave of absence for 5 days.

CASUALTY.

Acting Asst.-Surgeon A. R. Booth, died at Shreveport, La., Dec. 27, 1900.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Jan. 4, 1901:

SMALLPOX—UNITED STATES.

District of Columbia: Washington, Dec. 15-22, 1 case.
Florida: Jacksonville, Dec. 15-22, 1 case.
Illinois: Calro, Dec. 15-22, 3 cases; Chicago, Dec. 22-29, 2 cases.

Kansas: Wichita, Dec. 22-29, 2 cases, 1 death.
Nebraska: Decatur, April 1-Dec. 14, 416 cases, 4 deaths.
New Hampshire: Manchester, Dec. 22-29, 14 cases.
New York: New York, Dec. 22-29, 11 cases, 2 deaths.
Ohio: Ashtabula, Dec. 22-29, 5 cases; Cleveland, Dec. 22-29, 20 cases.

Rhode Island: Central Falls, Dec. 26, 1 case.
Tennessee: Memphis, Dec. 22-29, 2 cases; Nashville, Dec. 22-29, 1 case.

Texas: Galveston, Dec. 17, 6 cases; Houston, Dec. 22-29, 25 cases, 1 death.

Utah: Salt Lake City, Dec. 22-29, 52 cases.
West Virginia: Wheeling, Dec. 15-22, 3 cases.
Wisconsin: Green Bay, Dec. 23-30, 1 case.

SMALLPOX—FOREIGN.

Argentina: Buenos Ayres, Oct. 1-30, 22 cases, 14 deaths.
Austria: Prague, Dec. 1-8, 26 cases.
Egypt: Alexandria, Nov. 26-Dec. 10, 4 cases, 4 deaths.
England: London, Dec. 1-15, 2 cases.
France: Paris, Nov. 24-Dec. 1, 103 cases, 17 deaths; Dec. 1-8, 152 cases, 14 deaths.

Greece: Athens, Dec. 1-8, 1 case.
India: Bombay, Nov. 21-27, 1 death; Calcutta, Nov. 17-24, 8 deaths; Madras, Nov. 17-23, 1 death.

Italy: Licata, Dec. 8-15, 1 death.
Mexico: Vera Cruz, Dec. 15-22, 1 death.
Russia: Moscow, Nov. 24-Dec. 1, 3 cases, 1 death; Odessa, Dec. 1-8, 23 cases, 7 deaths; St. Petersburg, Dec. 1-8, 5 cases, 3 deaths; Warsaw, Dec. 1-8, 15 deaths.

Scotland: Glasgow, Dec. 15-21, 67 cases, 3 deaths.

YELLOW FEVER.

Cuba: Havana, Dec. 8-22, 6 deaths.
Mexico: Vera Cruz, Dec. 15-22, 1 death.

CHOLERA.

India: Bombay, Nov. 21-27, 2 deaths; Calcutta, Nov. 17-24, 35 deaths; Madras, Nov. 17-23, 1 death.

PLAGUE.

India: Bombay, Nov. 21-27, 58 deaths; Calcutta, Nov. 18-24, 4 deaths.

Japan: Osaka, Nov. 30-Dec. 4, 4 cases.
Madagascar: Tamatave, Oct. 29-Nov. 18, 1 case.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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Original Articles.

THE DIAGNOSIS OF DIABETES MELLITUS.*

JAMES B. HERRICK, M.D.

CHICAGO.

The crucial test in the diagnosis of diabetes mellitus is the examination of the urine for sugar and the determination of the question as to whether the glycosuria is transitory or not. In practice, however, it is impossible to examine the urine of all patients. While the routine first examination of the urine of every new patient and the frequent examination of the urine of old patients will detect many cases of diabetes that might otherwise escape notice, one must of necessity be directed toward the uranalysis by certain symptoms that lead one to suspect the existence of this disease. The common symptoms are great thirst, weakness and emaciation in spite of an excessive appetite, subnormal temperature and polyuria. With these classical symptoms well-marked, the attention is quickly drawn to the probable nature of the malady and the sugar found. But in many cases these symptoms are not prominent or some other symptom is so pronounced as to attract the attention of both patient and physician in another direction. It is well, therefore, to be familiar with the rarer and more atypical manifestations of the disease, and particularly because many of these symptoms appear early and in the milder cases, which, if taken in time, may be materially improved by treatment. Many of these phenomena that I shall describe as symptoms are in reality complications, but I shall refer to them, rather loosely, perhaps, as symptoms, as something occurring because of the diabetes, indicating its possible existence and therefore of aid in diagnosis. To enumerate them all here would be undesirable and impossible within the limits of this paper. I shall restrict myself, therefore, to points that have seemed to me, from reading and practice, of the greatest value, striving to emphasize those most apt to be lightly passed over and passing lightly over those that are so clearly emphasized by the experience of every practical physician as to need but passing comment.

Nervous System.—Poor nutrition and toxemia will account for the many manifestations of disturbed function on the part of the nervous system. Neuralgias are common, especially sciatica, which is apt to be bilateral, a condition, however, that I have never seen in diabetes, though I have been on the look-out for it for twelve years. Polyn neuritis is occasionally seen, especially in the diabetic who is also alcoholic. Neuralgia or neuritic pains in the legs with the loss of patellar reflex—a common event in diabetes—and an uncertain gait

may readily lead to a diagnosis of true tabes; and this latter condition may occasionally be found with diabetes. Trophic disturbances, such as falling out of the nails, bullæ, herpes zoster and perforating ulcer, are sometimes seen. Peripheral motor paralysis, as in the abductors or the spinal accessory, has been seen. Cerebral palsies recalling the paralyzes of uremia and of lead poisoning are sometimes met with, an aphasia, monoplegia or even a hemiplegia being present with no anatomical lesion found post-mortem. These are distinct from the hemiplegias due to cerebral hemorrhage from the sclerotic vessels so commonly met with in diabetes. Headache and dizziness, one or both, caused ten of Naunyn's patients to seek advice of a physician. Sleeplessness or drowsiness, even narcolepsy, are sometimes present.

The eye may give evidence of diabetes by errors of accommodation, paralysis of the external muscles, by retinitis, more rarely optic atrophy or by cataract. Rapidly developing double cataract in the young should arouse suspicion of diabetes.

Besides furuncles in the external ear, which is not at all uncommon, suppuration of the middle ear may occur, and several observers have called attention to the early and rapid involvement of the mastoid in these cases. Eulenstein¹ has recently reviewed the entire subject.

Two symptoms that seem to deserve special notice are impotence and psychic disturbances. In some cases undue sexual excitability may be present. In most, however, a distinct loss of sexual vigor is noted and is often a source of much worry. About six years ago a colored medical student asked me to see him for a cough and great weakness. The cough I found due to tuberculosis complicating diabetes. This, by the way, is the only case of diabetes in the colored I have seen. This latter condition he had been aware of for about a year, but was very bitter in his denunciation of many doctors in many towns whom he had consulted during the preceding five years for impotence, all of whom, as he said, took his money but did not examine his urine. Not until he came to Ann Arbor did a physician examine the urine and tell him his impotence was but a manifestation of diabetes. I have known other cases in which impotence induced the patient to seek aid of the physician. It is often a very early symptom.

The psychic disturbances of diabetes, while dwelt upon by French writers, are, it seems to me, slighted by many, and among others by no less an authority than Naunyn. In several instances I have seen marked psychic disturbances. An old lady imagined that at night people came into her room, conversed with her, brought her things to eat, etc., and the next day related as facts these imaginary events. A man of 60 became cross, irritable and unreasonable, where before he had

* Presented to the Section on Practice of Medicine, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

1. Deutsches Archiv f. Klin. Med., Bd. lxxvi, p. 720.

been of a quiet, mild disposition. Diabetes was discovered just before he went into a fatal coma. A physician of 55 grew, as he expressed it, ill-natured and ugly of disposition; he scolded, burst out into fits of anger that would drive his wife weeping from the table; then in remorse he contemplated suicide. His wife told me she feared he would take her life or his own and she thought he must be insane. The diagnosis of diabetes once made and treatment instituted, his disposition changed back to its old character, and he became once more the jovial, good-natured man and the kind and indulgent father and husband. This case well illustrates the improvement in the mental condition that follows improvement in the underlying disease, a characteristic of the psychic disturbances in diabetes with the exception of the more chronic and more fully developed cases.²

Alimentary Tract.—Dry mouth, stomatitis, gingivitis, falling out of the teeth are so common as to need only mention. Dilatation of the stomach from overdistension with atony may be extreme. And it is surprising how with the enormous increase in size the stomach often seems functionally perfect, digesting food rapidly and with no apparent retardation of absorption or propulsion. I have seen the greater curvature nearly to the symphysis pubis and yet none of the subjective phenomena of an enlarged and functionally imperfect organ. Constipation is often extremely distressing. Vomiting and diarrhea when they occur and persist should be regarded as possible forerunners of coma, or at least of rapid loss of strength. The gastric juice shows no constant changes. An enlarged liver may be fatty or the cirrhotic liver sometimes seen, particularly with the bronzing of the skin—the diabetic bronze of the French.

The Skin.—The itchy skin should attract attention to the urine for the possible presence of sugar as much as for bile or albumin. The tendency to local suppuration of the skin, often of a sluggish character, is well known. Many a diagnosis of diabetes has been made because furuncles or carbuncles have caused the physician to suspect diabetes. Eczema, dermatitis, especially about the genitalia, and balanitis, should lead to a similar suspicion. The gangrene of the extremities is probably in all cases to be referred to the sclerotic condition of the vessels, as in the ordinary senile gangrene. Perforating ulcer of the foot with other trophic disturbances of the skin has already been referred to.

The Circulatory System.—Arteriosclerosis is a common finding in diabetes, at times to be regarded as a sequence of the prolonged toxemia, but often as a result of the gout, syphilis, old age or heredity, that may also be a causal antecedent of the diabetes. Absence of enlarged heart and thickened vessels does not, however, by any means exclude diabetes, for in some cases no cardiac changes are present and there may be even atrophy. To the arteriosclerosis are to be attributed many of the complications and accidents, such as gangrene, cerebral hemorrhage, myocarditis with perhaps acute dilatation or angina pectoris, and the sclerotic kidney.

The Blood.—From a diagnostic standpoint little is to be learned from the blood. Lipemia is not uncommon. There are no characteristic alterations in the red or white corpuscles. The color reactions of Bremer³ and Williamson⁴ are of confirmatory value and might enable one to recognize a diabetes even without glycosuria.

Williamson has obtained his reaction from the blood of a known diabetic at a time when the urine was free from sugar.

The Urine.—There is little that is characteristic in the urine that is of great diagnostic value aside from its containing sugar. It is generally increased in amount, light in color, of a sweetish odor, of high specific gravity and acid in reaction. Albumin and casts may be present without other evidence of nephritis. Genuine nephritis may supervene, and under these circumstances the sugar may disappear. Many variations from the normal urine as regards its chemical composition are of pathological, perhaps of prognostic, interest, but can not be given much value when viewed from the standpoint of diagnosis. Variations in the amount of creatin, uric acid, oxalates, sulphates, and phosphates possess little clinical interest. The presence of aceton, diacetic acid, Beta-oxybutyric acid and the amount of ammonium excreted, are of greater value in prognosis and therapy than in diagnosis. The readiness of the saccharine urine to ferment is sometimes shown by the occurrence of this process in the bladder; cystitis may thus arise. Even pneumaturia has been noted.

The attention once directed to the urine, either as a part of the routine examination of a patient or because of some of the symptoms already enumerated, the diagnosis is generally readily made. Yet cases may be overlooked and it is well to consider the possible sources of this error. We may divide these errors into three groups and say that diabetes is not recognized because: 1. There is an error in the examination for sugar. 2. The urine is not examined for sugar. 3. There is no sugar in the urine at the time of examination.

1. Error in the technique of the examination will not be here considered.

2. The urine may not be examined for sugar.

The classical symptoms may not be present and the complications may not be recognized as possibly of diabetic origin. It is surprising how many of the milder cases of diabetes have little or no polyuria, emaciation or weakness and how readily a slight increase in the thirst and appetite may be overlooked. These are the individuals who, regarding themselves as in perfect health, apply for life insurance and who are surprised to learn from the examining physician that there is sugar in the urine. When such a patient consults a physician for a neuralgia, constipation, pruritus, balanitis, sexual weakness or because he feels a little run down in the spring and wishes a tonic, the trifling character of the complaint with the absence of marked classical symptoms of the disease may lead the physician rather carelessly to omit the uranalysis. And this is particularly liable to occur in the case of the family physician who has known his patient for years, has frequently examined him and prescribed for trifling ailments, and who may know that the urine on the occasion of previous examinations has been entirely normal.

The classical symptoms may be, or at least may have been, present but are so overshadowed in the minds both of the patient and physician by some serious complication that no thought of diabetes occurs. Pseudo-tabes or genuine tabes, cerebral hemorrhage, angina pectoris may so dominate the case as to cause one to overlook an underlying diabetes. And a dyspnea in a patient with thickened vessels and enlarged left heart, with somnolence deepening to coma may pass as uremia when there is an albuminous urine loaded with casts, a condition not at all uncommon in diabetic coma.

2. Noorden: Diabetes, in Twentieth Century Practice, ii, p. 115.

3. Medical News, February, 1895, and elsewhere.

4. British Medical Journal, Sept. 1896.

And I would here emphasize the fact that casts are very common in diabetic coma. This phenomenon, to which attention was first called by the late E. Külz, and which has been confirmed by Aldehoff,⁵ Williamson and others, is worthy of note for two reasons. 1. It may give warning of the approach of coma, being occasionally seen even in the prodromal stage. Külz described such cases and Williamson has seen the same thing occur. I have seen casts in the urine in four cases of diabetic coma, in fact in all the cases of this form of coma I have seen since my attention was first called to Külz's phenomenon by reading Williamson's book.⁶ In one case, that of a man about 60, the urine on standing showed a light yellowish or grayish sediment that consisted of an enormous number of the typical short, finely granular "coma-casts," as Aldehoff calls them. There were as many casts in a field as I have ever seen in any nephritic urine. There was but a trace of albumin. A few weeks ago the urine of a woman with diabetes revealed no casts in the centrifugalized specimen. Two days later coma began and casts were abundant. 2. A knowledge of the occurrence of casts in the urine of diabetic coma will enable the physician to avoid mistaking this form of coma for uremia, because of the albumin and casts.

On examining the urine it may be found of low specific gravity and on this account the examination for sugar may be deemed unnecessary. This is a grave error. The sugar-containing urine of diabetes may be of low specific gravity from a variety of causes. Strümpell says that it may be low when there is pronounced debility. The development of chronic interstitial nephritis will lower the specific gravity and might offer an explanation for the increased amount of urine and the thirst, as well as for other symptoms. In the latter part of April of this year I examined a man of 54, a diabetic, which diagnosis had been made two years before. He had a consolidated left apex. The total urine for twenty-four hours was 1500 c.c., it contained a moderate trace of albumin, casts, a small amount of sugar. Its specific gravity was but 1012. Another cause for low specific gravity is the drinking of large amounts of fluids. A patient of mine drinking large amounts of some spring water kept the specific gravity between 1015 and 1019, yet there was always sugar in the urine. Another patient after drinking beer all the morning passed urine with a specific gravity of 1004 and yet containing abundance of sugar. Cases with a specific gravity as low as 1002 are reported. And in the series of cases of Külz, many times records of 1010 or under were made. The importance, therefore, of examining for sugar even when the specific gravity is low is clearly seen, and the rules of some of our life insurance companies requiring such examination only when the specific gravity is above 1015 or 1020 need radical revision.

There may be no sugar in the urine at the time of examination.

At times a prediabetic or prodromal polyuria is seen without glycosuria; and as the sugar disappears in cases of permanent or temporary recovery there may be a non-saccharine polyuria.

When chronic interstitial nephritis occurs sugar may diminish, or even entirely disappear.

Acute infectious diseases, as pneumonia, influenza, typhoid fever, frequently cause a temporary disappearance of the sugar. These infectious diseases are often wrongly assigned as the cause of diabetes. For if a

patient with pneumonia shows no sugar in the urine and a week after defervescence sugar appears and remains, one could readily reach the conclusion that the pneumonia was the exciting cause of the glycosuria, when in reality exactly the opposite is the fact; the sugar formerly present has disappeared under the influence of the acute infection only to reappear later.

The glycosuria in some of the milder forms of diabetes may be periodic or cyclic, reminding one of the cyclic albuminurias. An examination at a sugar-free period would therefore lead one to a false conclusion, unless subsequent control examinations were made, and especially examinations following a known diet of carbohydrates—similar to the test for alimentary glycosuria.

In conclusion, I would call attention to the importance not only of diagnosing the diabetes, but of recognizing the variety of the disease. While the classifications are all more or less artificial, they are yet valuable, and if we make no sharper distinction than between mild, moderately severe and severe types, our treatment will be far more rational and effectual and our prognosis far nearer the truth than if we make merely one large class including all cases of diabetes. Due consideration of the age, tendency to obesity, heredity and of organic disease of the pancreas or nervous system as an etiologic factor enables one to recognize the type. And of especial value is it to note the effect of withdrawal of carbohydrates. In many of the milder types, particularly in the obese adult, the sugar can be made quickly to disappear from the urine by proper diet, while in severer forms, in spite of most rigid diet, sugar persists. It is not always the amount of sugar that determines the severity of a given case; it is rather the amount in comparison with the amount of carbohydrates in the diet.

DIABETES MELLITUS.

THE MORTALITY THEREFROM IN THE CITY OF NEW YORK
DURING THE PERIOD FROM 1889 TILL 1899; FROM
THE OFFICIAL RECORDS. COMMENTS.*

HEINRICH STERN, PH.D., M.D.

NEW YORK CITY.

It is an exceptional occurrence that the mortality statistics of diabetes mellitus are closely studied. This has been especially the case with the pertinent statistic material of American communities. The principal cause for this omission lies undoubtedly in the supposed rare appearance of the affection. It is possible that diabetes in bygone years, before the strong current of immigration had set in, was of less frequency on this continent and that the proportion of deaths following this condition was smaller than it is to-day, but it is also possible that the American practitioner of some generations ago did not recognize the disease as readily as we modern Esculapians do.

The mortality statistics of the American metropolis in regard to diabetes mellitus, heretofore, were hardly ever thoroughly revised and studied. I am greatly indebted to Dr. Roger S. Tracy, one of the eminent statisticians of this country and the registrar of the New York Board of Health, for the assistance he so generously has lent me in the compilation of the statistic material and for the privilege of granting me access to the original documents. This communication treats only of a portion of the relevant matter—the elaboration of

5. Külz's *Klinische Erfahrungen über Diabetes*, 1899.

6. Herrick: *Notes on Diabetes*, Amer. Jour. Med. Science, July, 1900.

* Presented to the Section on Practice of Medicine, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

other statistics, especially those for the year 1899, I have reserved for another communication.¹

TOTAL MORTALITY FROM DIABETES MELLITUS.

Year.	Males.	Females.	Total number.
1889	71	47	118
1890	72	58	130
1891	64	66	130
1892	66	57	123
1893	76	61	137
1894	87	79	166
1895	95	108	203
1896	98	116	214
1897	95	107	202
1898	108	130	238
1899	104	102	206
Total in years	936	931	1867

Of 1867 deaths from diabetes mellitus, 931, that is, almost 50 per cent. occurred in females. This proportion differs widely from the supposition that the affection is much more fatal in males than in females. Former mortality reports have shown that from two to two and a half times more men succumbed to this malady than women. That in both sexes the death frequency from diabetes mellitus should be so equally proportioned may be partially attributed to the struggle for existence from which the modern woman is no longer exempt. Moreover, it is but consequential to assume that the death-rate from diabetes mellitus stands in direct proportion to the frequency of the disease itself, and that in New York City about equal numbers of both sexes are afflicted with it.

The following table gives the population of New York City—Manhattan and Bronx—estimated for July 1, in each year, total deaths, total death-rate per 1000 of the population, death-rate from diabetes mellitus per 1000 of population, and deaths from diabetes per 1000 deaths, from 1889 till 1899, inclusive.

Year.	Population	Total deaths.	Total death-rate per 1000.	Death-rate from D. M. per 1000 population	Deaths from D. M. per 1000 deaths.
1889	1,566,801	39,679	25.32	0.07	2.95
1890	1,612,559	40,103	24.87	0.08	3.25
1891	1,659,654	43,659	26.31	0.08	2.95
1892	1,708,124	44,329	25.95	0.07	2.8
1893	1,758,010	44,486	25.30	0.08	3.11
1894	1,809,353	41,175	22.76	0.09	4.05
1895	1,879,195	43,420	23.11	0.11	4.72
1896	1,934,077	41,622	21.62	0.11	5.09
1897	1,990,562	38,879	19.53	0.10	5.18
1898	2,048,830	40,438	19.73	0.11	5.95
1899	2,117,106	39,911	18.85	0.09	5.15

The death-rate from diabetes mellitus varied for the different years between 0.07 and 0.11 for each 1000 of the population. In the influenza year—1889 till 1890—the mortality from diabetes mellitus per 1000 of the population amounted to but 0.8—that is, the second lowest figure in the table. It is a remarkable fact that while the total death-rate has been in a rapid decline—25.32 per 1000 population in 1889, to 18.85 per 1000 population in 1899—the mortality-rate from diabetes mellitus per 1000 population has been on the increase since 1894.

The deaths from the affection per 1000 total deaths were from the minimum 2.8, in 1892, to the maximum 5.95, in 1898.

While the increase in the death-rate from diabetes mellitus per 1000 of the population during the past six years—1894 till 1899—inclusive, is plainly noticeable, the increase of deaths attributed to diabetes mellitus per 1000 total deaths is still more striking. From 1889 till 1893, inclusive, the average mortality from this disease per 1000 reported deaths amounted to 3.01; for the following six years, 1894 till 1899, inclusive, the proportion rose to 5.02, an increase of 66 per cent.

On the other hand, the increase of the death-rate from diabetes mellitus per 1000 of population, from 0.076, the average of the lustrum 1889-93 to 0.1, the mean of the past six years, amounts to but 25 per cent.

While the death-rate from diabetes mellitus per 1000 of the population for the period of 1894-99 is larger by 25 per cent. than that of the five preceding years, the deaths from diabetes mellitus per 1000 reported deaths had increased 66 per cent. for the same periods, or in other words, notwithstanding an absolute and relative increase, the latter in its proportion to 1000 inhabitants, the greater frequency of the fatal termination of diabetes compared with the total mortality is mainly due to the better and more general recognition of the disease. Formerly uranalysis was performed by but comparatively few physicians, and the true nature of the affection was not always recognized, and death, in many instances, was ascribed to other diseases than diabetes.

MORTALITY FROM DIABETES MELLITUS ACCORDING TO MONTH AND SEX—1889-99.

Year.	January.		February.		March.		Record for quarter; April 17 till June 9.			July.	August.	September.	October.	November.	December.	Total.									
	m. f.	m. f.	m. f.	m. f.	m. f.	m. f.	m. f.																		
1889	6	1	5	3	8	6	6	3	6	3	5	3	4	4	6	12	4	8	7	3	4	14	3	118	
1890	13	6	6	8	8	6	3	5	4	1	5	8	5	3	3	6	12	4	11	2	5	3	7	6	130
1891	6	5	7	4	7	6	6	6	1	8	6	4	6	12	5	6	8	6	4	4	4	4	8	130	
1892	3	2	6	7	5	6	6	5	1	6	6	2	5	6	6	7	3	10	5	7	4	4	4	5	123
1893	5	4	8	6	8	1	4	7	6	8	6	3	4	5	8	8	15	5	6	3	6	6	10	5	137
1894	4	11	6	4	6	6	10	4	6	4	10	7	6	6	10	3	7	9	11	7	4	8	7	10	166
1895	10	8	11	9	11	13	7	14	15	8	7	4	4	6	8	8	5	3	6	10	4	13	7	11	203
1896	8	7	8	7	4	15	11	14	9	4	9	11	5	8	8	12	8	11	12	13	6	7	10	7	214
1897	8	12	12	12	10	6	9	7	7	6	4	5	11	16	9	10	3	8	7	12	5	6	10	7	202
1898	11	7	10	10	8	8	10	11	7	15	10	12	5	9	8	8	13	15	8	12	6	11	12	11	238
1899	12	11	7	2	4	12	8	8	10	12	9	4	7	9	4	9	8	5	13	15	9	9	13	6	206
Total	86	74	86	72	79	85	80	84	72	75	77	63	62	74	73	82	68	73	96	94	59	75	98	80	{ 1867
	160		158		164		164		147		140		136		155		141		190		134		178		

An examination of the foregoing table reveals the notable fact that the month in which the most deaths from diabetes occurred is October, while the one in which the mortality from this disease was lowest is the month just following, November. The total mortality from diabetes for the period of 11 years for each month fluctuates between the two extremes, 190 deaths in October and 134 in November. It is remarkable how little the figures for certain months deviate from each other. Fatal terminations of the affection were recorded: January, 160; February, 158; March, 164; April, 164; May, 147; June, 140; July, 136; August, 155; September, 141; November, 134. In October and December the mortality from diabetes was somewhat greater, 190 and 178, respectively.

Classing the months into seasons, the following figures are obtained:

1. Meanwhile this article has appeared in the Medical Record, on Nov. 17, 1900, under the title: "The Mortality from Diabetes Mellitus in the City of New York (Manhattan and The Bronx), in 1899." Classified according to month, sex, and age; also an exposé as to nationality, duration of residence in the United States, occupation, direct causes of death and accompanying diseases.

Spring: March, April and May	475 deaths, or about 25 per cent.
Summer: June, July and August	431 deaths, or about 23 per cent.
Fall: September, October and November	465 deaths, or about 25 per cent.
Winter: December, January and February	496 deaths, or about 27 per cent.
Total	1867 deaths, 100 per cent.

It is a noteworthy occurrence how almost uniformly the 1867 deaths were distributed over the different seasons. For a period of 11 years the total spring and fall mortality differed from each other but 10 deaths. The divergency between spring and fall mortality on the one side and the summer mortality on the other is somewhat greater, amounting, respectively, to 44 and 34 deaths in 11 years. The greatest divergency is found between summer and winter mortality, namely, 65 deaths in the period in question, or between 3 and 4 per cent.

Considering this last feature evolved by the statistics, it seems rather dubious whether temperature, sunshine, moisture, etc., as assumed by many authors, play any rôle whatsoever in the fatal termination of diabetes.

It could be surmised that the somewhat greater October mortality might be called forth by climatic occurrences; the validity of this assumption, however, is very questionable, as in the following month, November, when the climate does not differ materially from that of the preceding month, the mortality from diabetes was the lowest. The larger figure for October, in my opinion, is solely due to the fact that New York City is more populated during October than during any other month of the year. The people have then just returned from their summer sojourn in the country or abroad, and the exodus to southern regions has not yet begun. Many diabetics who have left the city during the summer months are among those who return and the mortality is somewhat increased simply by their presence in greater numbers.

The somewhat lessened mortality from diabetes during summer may be explained in a similar manner; a large percentage of the diabetics have bidden farewell to the sweltering city.

The mortality was greater in the male sex in January, February, June, October and December. The numebr of females who succumbed to diabetes was larger than that of the males in March, April, May, July, August, September and November.

MORTALITY FROM DIABETES MELLITUS ACCORDING TO AGE.

Deaths.	Percentage.	Age.
4.....	0.21	occurred 0—1
1.....	6.05	" 1
2.....	0.10	" 2
2.....	0.10	" 3
4.....	0.21	" 4
11.....	0.57	" 5—9
17.....	0.89	" 10—14
38.....	2.00	" 15—19
43.....	2.26	" 20—24
133.....	6.98	" 25—34
161.....	8.45	" 35—44
400.....	21.00	" 45—54
513.....	26.95	" 55—64
414.....	21.74	" 65—74
113.....	6.03	" 75—84
11.....	0.57	" 85 and over

The greatest mortality from diabetes was found to be between 55 and 64 years of age. From the 65th to the 74th year the mortality declined about 20 per cent. and was about the same as between the 45th and 54th years. Apart from the deaths under 1 year of age the mortality

of diabetes increased to the period between the 55th and 64th years, after which it slowly decreased to the 74th year. A decline of about 70 per cent. in deaths from diabetes is noticed between the 75th and 84th years of age.

An abrupt rise of mortality is noted after the end of the 44th year. While but 161 deaths were recorded for the period between the 35th and 44th years, an even 400 occurred between 45 and 54 years of age. Over 70 per cent. of all deaths took place between the 45th and 74th years of age. The fact that but 11 instances are recorded where the patient has lived to the 85th year and above, tends to show that only a very small percentage of diabetics reach an exceptionally high age.

Moreover it must not be construed as if the individual who succumbed to diabetes in an advanced age was necessarily afflicted with the disease for a long period. It appears, on the contrary that the diabetic condition may be established late in life and that diabetes then acquired runs as rapid a course as in the very young.

From the 20th to the 24th year the mortality from diabetes in the male sex is almost three times as large as in the female. Between the 25th and the 34th year the male mortality was found to be about 30 per cent. larger. From the 35th to the 44th year the mortality of the male exceeded by about 18 per cent. that of the female. In the period between 45 and 54 years, the mortality of both sexes was almost analogous, and in that between the 55th and 64th year the female mortality surpassed by a fair margin that of the male sex. In the next period, from the 65th to the 74th year, the female mortality was also greater than that of the male, and in the period following, from the 75th to the 84th year, the female mortality was almost twice that of the male. In the period above 85 years the male mortality exceeded 4.5 times that of the other sex.

Exposure, excesses of a different nature, mental and bodily strain and worry undoubtedly stand in a causative relationship to the more frequent occurrence of diabetes and the subsequent greater mortality of the male from this affection between the 20th and 44th years of life. From the 45th to the 74th year the external conditions of life of both sexes are more alike and we notice a relative decrease in the mortality of the male, although the absolute figures are highest during this period.

The cessation of the catamenia, which takes place in many instances after the 44th year has been passed, and in the wake of which occurrence grave systemic disturbances not infrequently make their appearance, undoubtedly helps to swell the female mortality from diabetes between the 45th and 48th year.

The very high mortality of females after the 55th year and before the 84th year is reached, does not seem to be caused by any especial factor or factors, but seems rather due to the better care a woman can very often bestow upon herself.

If we add together the figures from the 20th to the 84th year we find that for this period of life 884 deaths of males and 893 deaths of females from diabetes had ensued. These total figures are almost alike.

MORTALITY FROM DIABETES MELLITUS IN INFANCY AND EARLY ADOLESCENCE, 1889-99.

Judging by the mortality from diabetes mellitus in childhood, the period when this disease almost always terminates fatally, we may adduce that this malady is a rare affection in infancy and early adolescence. I found 4 cases of death from diabetes mellitus in infants below 1 year of age, during the 11 years from 1889-99; at 1 year of age, 1 death: at 2 years, 2 deaths: at 3 years, 2

deaths; at 4 years, 4 deaths ensued, that is 13 instances in which the disease terminated fatally below the 5th year of life. Between the 5th and 9th year 11 cases of death are on record for the period in question; from the 10th to the 14th year of life, I came across 17 recorded instances; and from the 15th to the close of the 19th year, the mortality from this affection amounted to 38. The total mortality from diabetes in infancy and early adolescence, being 79, forms about 4.25 per cent. of the total deaths from this disease during this period of 11 years. Of these 79 cases, 55, which is over 70 per cent., occurred between the ages of 10 and 19. The period of puberty seems to be without potent influence upon the production of diabetes mellitus or upon its fatal termination.

Of the 13 instances of death following the affection which occurred under 5 years of age, but 3 took place in females. Among the 66 other instances of deaths from diabetes in early life 33 ensued in males and 33 in females, exactly 50 per cent. in each sex. The external conditions of life in the United States as a general rule are in the mean the same for both sexes to the 20th year; a fact to which the equal distribution of the disease in both sexes may be well ascribed.

MORTALITY FROM DIABETES MELLITUS AMONG THE COLORED POPULATION OF NEW YORK CITY, 1889-99.

In the official records I find but 15 deaths from diabetes which as designated occurred among the colored population of New York City for the past 11 years.

I could not obtain exact figures of the colored population of each year comprised in the period in question, but it seems that the death-rate from this disease in the colored race, compared with that of the white population, is exceedingly low. This may be due, to either the infrequency in which the pathologic condition appears in the Ethiopian race, or to its occasional non-recognition when it is present. The great majority of the colored people belong to the lower strata of the populace, to that class which get along with a home-made diagnosis of its ailment or frequent dispensaries or "cheap" doctors. Thus it might happen, that the real disease is not infrequently overlooked and that the patient treats himself or is treated for another affection.

Of the 15 specified instances, 9 deaths occurred in males and 6 in females—a proportion divergent widely from that occurring in the white population.

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CUTANEOUS DISEASES ACCOMPANYING DIABETES.*

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In this paper I shall consider those cutaneous diseases which occur with more or less frequency in diabetes, many of which are extremely annoying and painful, others dangerous, contributing in no small measure to the fatal issue of the disease. The recognition of the causal relationship existing between these eruptions and the glycosuria is an absolute prerequisite to the successful treatment of the former; and, as in many instances they are the first noticeable symptoms of diabetes, they also possess distinct value in the diagnosis

of this affection. The greater number of them are of an inflammatory character, resembling in a general way the inflammatory diseases of the skin due to other causes, but also presenting certain peculiarities as to location and course, which suggest their etiology. A few are so constantly associated with sugar in the urine that they deserve the name "diabétides," first proposed by Fournier to indicate cutaneous diseases peculiar to those suffering from diabetes.

When the glycosuria is accompanied by excretion of large quantities of urine and likewise in the late stages of the malady, the skin is apt to be extremely dry, owing to the great diminution in the quantity of perspiration and sebum excreted, and a constant desquamation of fine white scales goes on; the hair too, becomes thin, dry and lusterless. This abnormal dryness of the skin is usually accompanied by a more or less marked general pruritus. The nails of the fingers and toes are likewise apt to present various abnormalities. They are unusually brittle and devoid of their normal luster; and in exceptional cases some or all of them are lost. This fall of the nails may be preceded by evident disease, or it may occur without precedent alteration of the nail-structure. Hemorrhage may take place into the nail-substance and trophic changes leading to deformity may occur as the secondary consequences of a diabetic neuritis. Intense pruritus localized about the vulva in women, the scrotum in men, the perineum, anus, and inner surface of the thighs in both sexes, is an extremely common symptom of diabetes; indeed so frequent is this form of pruritus that its presence should invariably lead to an examination of the urine for sugar. The itching in this form of pruritus is almost unbearable, and the violent scratching and rubbing to which the patient is irresistibly impelled leads in most cases to the development of an eczema.

Various forms of erythema may occur; the commonest are symmetrical patches situated on the face and a papular variety met with usually in young subjects, consisting of split-pea-sized, pinkish, slightly elevated lesions, situated on the forearms and legs; these papules may coalesce after a time to form variously sized patches.

Urticaria of a chronic type is likewise met with in a certain proportion of cases, due either to the direct irritation of the skin by the sugar present in the circulation, or resulting from disturbances in the alimentary canal.

One of the commonest and most distressing cutaneous complications of diabetes is eczema, situated most frequently about the genitalia, especially in women. This may begin as a severe pruritus, no evidences of inflammation being at first visible, but presently the skin becomes inflamed, partly from the violent scratching to which the parts are subjected, partly from the irritation produced by various micro-organisms—*torula cerevisiæ*, etc.—whose growth is favored by the saccharine urine with which the parts are apt to be frequently soiled. In many instances the affection is eczematous from the beginning; the skin is a bright-red, and oozes a sticky serum which soon dries into thick crusts. The inflammation may be limited to the genitalia, but more commonly it spreads up over the abdomen and down over the thighs, oftentimes involving a considerable area. In many cases this eczema presents nothing peculiar except its localization; but it may assume a very acute erythematous form which runs a rapid course, a form regarded by some authors as characteristic of diabetes. In men the prepuce is often the seat of an eczematous inflammation of a very severe grade, which produces marked thickening and narrowing of the preputial ori-

* Presented to the Section on Practice of Medicine, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

fice, with the formation of exceedingly painful fissures about its margin, leading in some cases to an extreme degree of phimosis. Balano-posthitis usually accompanies this condition of the prepuce, due to the retention of small quantities of saccharine urine after each act of micturition and the decomposition of the sebaceous material so abundantly excreted in this region. It is worth while bearing in mind that pruritus or eczema about the genitalia may be the first symptom of diabetes, occurring in patients who suffer neither from excessive thirst nor polyuria.

In elderly subjects and in the later stages of diabetes a severe form of acne—acne cachecticorum—may occur, due largely, no doubt, to the extreme malnutrition of the skin. In the same class of patients painful furuncles, occurring singly or, what is more common, in crops, and carbuncles, are common events; it is estimated that about one-third of all such affections are due to glycosuria. Carbuncle, besides being an extremely painful and exhausting affection, is often of very grave import, being in many cases the direct cause of the patient's death. The frequency of such local affections is probably due to the unusually favorable conditions offered by the sugar-saturated tissue for the growth of pyogenic micro-organisms. In their clinical features these furuncles and carbuncles do not differ from similar lesions occurring in the non-diabetic; therefore their occurrence should always suggest the possibility of their glycosuric origin, and lead to an examination of the urine.

As papillomatosis diabetica, Kaposi has described an unusual affection characterized by the sudden appearance of an inflammatory patch on the back of the hand which suppurated and was followed by ulceration. At the site of this ulcerating lesion numerous papillary outgrowths, partly red and oozing, and partly horny, were formed. The patient had suffered from saccharine diabetes for twenty years.

A much more serious complication than any of those already mentioned, is gangrene of the skin. This may exist as moist or dry gangrene, usually in single, but sometimes in multiple, lesions; it may be limited to the skin and subcutaneous tissues or it may involve the deeper structures, even affecting an entire extremity. In rare cases it occurs symmetrically on the extremities, and is then suggestive of Raynaud's disease; but the absence of the peculiar train of symptoms which precedes by some considerable time the death of the skin in this affection—local ischemia and asphyxia—will usually suffice to exclude it. Under the name of bullous serpiginous gangrene, Kaposi has described a rare form of diabetic dermatosis in which the death of the skin is preceded by a bullous eruption, the subsequent gangrene extending serpigiously. In diabetics gangrene of the skin may follow the most insignificant injury, or it may be the result of some one of the many inflammatory affections so common in this malady. It may even occur without any precedent injury or inflammation, and is then probably the result of a neuritis or changes in the vessels supplying the part.

One of the most characteristic eruptions of diabetes is that known under the name of xanthoma diabeticorum. Although it is said to occur in rare instances without glycosuria, yet sugar is found in the urine in so large a proportion of the cases that it may be regarded as almost pathognomonic of diabetes mellitus. The eruption is usually moderate in extent, affects by choice the elbows, knees, and buttocks, and consists of yellowish or yellowish-red, rather flat papules. A moderate degree

of itching and stinging usually accompanies it. It appears somewhat abruptly, and lasts for a period varying from a few weeks to several months, or even years.

Certain other diseases of the skin may be mentioned which are occasionally associated with glycosuria, but in which the causal relationship of the latter has not yet been satisfactorily established.

Nagelschmidt has found glycosuria so often in psoriatic patients that he is of the opinion that some causal connection exists between psoriasis and diabetes; but this seems doubtful in view of the fact that in the vast majority of cases of the former affection no sugar is present in the urine. Glycosuria has also been found in a certain number of cases of dermatitis herpetiformis, but whether this is the cause or effect, or whether the association was only accidental, yet remains to be determined. In rare instances abnormal deposits of pigment take place in the skin, as in so-called bronze diabetes.

Purpura is also an occasional complication, occurring usually in the early stages, but it may also appear in the later stages of the malady, when it is probably the result of the dyscrasia often existing at this time. This complication, when of the hemorrhagic variety, may be the immediate cause of death.

A few words as to the treatment of these various affections of the skin must suffice. The local treatment is largely that of similar diseases occurring in the non-diabetic. In the inflammations so common about the genitalia scrupulous cleanliness will go far toward a cure, or if not a cure, relief. Indeed if the parts are frequently bathed before inflammatory symptoms have actually appeared, they may be entirely prevented, since, as has already been said, they are in large part due to the direct irritant effects of the saccharine urine on the skin. But the treatment of the underlying cause, the diabetes, is of far more importance than any local remedies. In many cases of genital eczema or pruritus which have obstinately resisted all local treatment, the distressing symptoms will rapidly disappear when the patient's diet is regulated so as to exclude sugars and starches.

DISCUSSION ON PAPERS OF DRS. HERRICK, STERN AND HARTZELL.

DR. S. SOLIS-COHEN, Philadelphia—The only way to avoid missing cases of glycosuria is to examine, as a routine measure, the urine of every patient, no matter how trivial his complaint appears to be. I have often found sugar in urine of low specific gravity. Every case of glycosuria, however, is no more diabetes than every case of albuminuria is Bright's disease, or nephritis. The time is coming when we shall recognize the varieties of morbid constitution of the urine as symptoms of various pathological conditions due to various etiological factors. It is true that the vast majority of cases of glycosuria are due to diabetes, yet there are many other conditions in which I do not refer merely to alimentary glycosuria, but to pathologic glycosuria apart from diet. We may find it in influenza, in malaria, and in convalescence from these affections. It is not uncommon in Graves' disease or in acromegaly. It may be intermittent or recurrent. I have seen a few cases confirming the opinions of text-books that bilateral sciatica may be due to diabetes. In every such case the urine should be examined before this condition is excluded.

DR. JAMES J. WALSH, New York City—I should like to call attention to the fact that certain diseases that were formerly considered to be rare are in reality frequent. One man in Washington has seen over one hundred cases of pernicious anemia. Dr. Stern has referred to the increase of diabetes, showing that the disease is now recognized oftener than it was. It is interesting to note that many patients die of tuberculosis, or of nephritis, without suspecting the presence of any diabetes. It is a well-known fact that about one-half of all cases that die of diabetes have some tuberculosis of the lungs at the time

of their deaths. Practically all cases of diabetes have a certain amount of albumin and casts in the urine.

DR. JOHN J. MORRISSEY, New York City—In the consideration of diabetes there is one factor in the treatment of great prominence, that is, we should treat the diabetic and not the diabetes. Diabetes is produced by many causes. In examining the connection between tuberculosis and diabetes during the past year I found, among 100 cases examined, that glycosuria was present in 30 per cent. at least. Since then I have examined 50 other cases and found it present in 10 per cent. of the cases. Where we find skin diseases of a chronic character we should, as ordinary routine practice, examine the urine, particularly when we meet with furuncles or carbuncles. The medical treatment of the latter will prove slow and unsatisfactory when depending upon a diabetic causation unless the disease be treated. I do not believe that alimentary glycosuria ever develops into true diabetes; one is merely a symptom of dietetic disturbance, the other a disease of grave importance. Each case must be individualized. No restricted diet will be found adapted for all cases. The prognosis, when the disease is due to a dietetic factor, is good. In cases which have their origin in cerebral disease, and also in the involvement of the pancreas, the prognosis is always very grave. When impotency is found associated with diabetes, it may be that both arise from the same cause, and not as a sequence.

So far as the treatment of diabetes is concerned, it is in a very chaotic condition. After using strontium and the other preparations provided by the genial manufacturer, I find that it is best to rely upon opium or one of its various preparations.

DR. C. F. WAHRER, Ft. Madison, Iowa—It is easier to make a diagnosis of diabetes now than it was formerly. Indeed, a physician possessed of an average degree of intelligence can diagnose from 80 to 90 per cent. of all cases of diabetes. In speaking of the diagnosis it reminds me of a German friend who said: "I would rather make a diagnosis and have the patient die than to have the man survive and be unable to make a diagnosis." Of course, this is what interests the physician; but it does not interest the patient. I stand up here to make a plea for the patient. In dieting these patients by any rule of thumb that rigidly forbids all sugars and starches, and feeds them on meats and certain vegetables alone, on gluten biscuits, saccharin, glycerin, and a lot of other stuff that would ruin the digestion of a sound man, we do ourselves great injustice, and the patient a great wrong, even though we limit the excretion of sugar by this diet list. We by no means modify the real disease process; we but change the symptoms, we lessen the excretion of sugar—a mere symptom—and we increase the discomfort and misery of our patients. Just picture them for five to ten years existing on a diet that no well man could live on, to say nothing of the morbid cravings of one so sick as a diabetic. The rank and file of diabetics, especially the young, die despite all treatment and dieting. The differential of the sugar eliminated by the urine will not make up for any loss in the molecular changes going on in the nervous system. Let us first know our pathology before we follow rigid rules of treatment and dieting.

DR. A. E. ROUSSEL, Philadelphia—I think all agree that the diagnosis of diabetes presents no difficulty. We occasionally meet with a case which has been diagnosed as such that afterward proves to be merely a symptomatic exhibition of sugar in the urine. At the last meeting of the ASSOCIATION in Philadelphia, I reported the case of a patient who had been treated for nearly six years. The conditions presented by the patient after being placed in the hospital led us to believe it to be an undeveloped case of myxedema. Photographs were exhibited showing the results of the thyroid treatment; the patient resumed apparently the normal condition and the sugar entirely disappeared and continued in abeyance as long as the thyroid treatment was kept up. The treatment was discontinued for one year with a return of the myxedematous symptoms and the exhibition of large quantities of sugar in the urine. This goes to show that it is possible for cases of myxedema to have sugar in the urine, as has been recorded by several observers.

In regard to the question of diet I disagree with the last

speaker regarding the fixed and fast rules in the average diet for the patient. No fixed and fast rules can be laid down for diet. The exhibition of diacetic acid, or oxybutyric acid, or of a large amount of acetone should be regarded as a danger signal of the approach of diabetic coma, and no matter what form of diet is in use it should be immediately changed for some other. Consequently the recognition of the above in the examination of the urine is to my mind more important than even the percentage of sugar present.

DR. O. T. OSBURN, New Haven, Conn.—I think we should endeavor to get at this disease from an etiological standpoint. We know that 50 per cent. of the cases of diabetes show pancreatic disease; the other 50 per cent. may not show such a condition. We know that certain nervous diseases may produce diabetes; we know that myxedema and also exophthalmic goiter may produce diabetes. Again, as Dr. Stern has shown from the statistics given, at the time of the menopause, the woman seems to have diabetes. Sugar may appear in the urine in acromegaly and in thyroid disease, etc. These cases are interesting in that they show that we may get at the source of the trouble later. It also emphasizes the fact that it is objectionable to treat true diabetics with a strict dietetic course. It is certainly true that if we take away the carbohydrates we should substitute fats.

DR. JAMES B. HERRICK, Chicago—I was interested in the statements made by Dr. Stern in reference to the infrequency of diabetes in the colored race; it bears out the experience of physicians who have practiced among the black people. Possibly it may have something to do with their manner of living. I believe that it is Von Noorden who quotes the statement that among the upper 10,000 in Berlin there were more cases of diabetes than among the lower 100,000. I am sure that those who are in hospital work, and in private practice have been struck with the greater frequency with which we meet these cases in private practice than in hospitals. Diabetes is one of the rarest diseases to be met with in the public hospitals; yet in private practice the percentage of cases of diabetes met with is rather high. So it would seem that the manner of living has much to do with it; it is much more frequent among the higher than the lower classes.

Of course, I agree with Dr. Cohen that every case of glycosuria is not diabetes; I referred to that in my paper. Certainly there is a transient glycosuria that may occur from a variety of causes. There is an alimentary glycosuria and none will insist that it is a true diabetes. But we should here utter a word of caution in regard to going too far in that direction. While we believe that there is such a thing as a functional or non-organic albuminuria, still we know what great danger there is to our patients if we do not regard all these cases with suspicion; they may be forerunners or the beginnings of organic disease of the kidneys. And in a similar way we should be cautious in declaring that a given case is one of functional glycosuria. We should be on the look-out for genuine diabetes. In many of the milder forms of diabetes there may be a temporary disappearance of the glycosuria.

Dr. Cohen has referred to bilateral sciatica. In a part of my paper that I did not read I made mention of this complication. I have always looked out for bilateral sciatica in every instance of diabetes, but I have never yet seen a single case, although I know it is referred to by many writers. Dr. Walsh very properly calls attention to the importance of testing for sugar in the urine in cases of tuberculosis.

In regard to treatment, although not touched upon by the essayists, I wish to array myself on the side of the gentleman from Iowa, as against the indiscriminate and too vigorous enforcement of diet. We should take a more liberal view of the diet question, and this is in accord with the best writers upon, and the best observers of, diabetes. If we cut our patients off absolutely from carbohydrates there is great danger of coma supervening, which may come on rapidly. I also agree with the statement that we should not treat the diabetes, but the patient himself.

DR. HEINRICH STERN, New York City—In response to Dr. Herrick's statement that diabetes, as is the general opinion, is a disease of the well-to-do, I would like to state, that in my re-

searches of the original death certificates in the city of New York, almost 70 per cent. of deaths occurred in tenement houses, a tenement house being a dwelling structure occupied by more than two families: 15 per cent. occurred in hospital practice and coroner's cases, and only about 15 per cent. in private houses. This tends to show that the malady, if it may be called such, has virtually little to do with high living. At the same time, my statistics show that the Jews have not diabetes as frequently as supposed, and that the Irish, on the other hand, seem to be those who have a larger mortality from diabetes mellitus. Possibly a Jew will take better care of himself, but it seems highly probable that alcohol is a very potent factor, indeed, in the production of diabetes.

Diabetes mellitus, as I have pointed out long ago, is not a disease per se, but merely a syndrome, merely a stage in the diabetic deterioration. I have recognized, in some instances even 2 or 3 years before the appearance of dextrose in the urine, that diabetes will occur. I divide the diabetic deterioration into three stages; 1, the preglycosuric stage; 2, the glycosuric stage, the diabetes mellitus of to-day; 3, the post-glycosuric stage, the toxemia, when acetone, acetone-acetic acid and levorotatory oxybutyric acid are present, and when the output of sugar has markedly diminished or entirely ceased.

Diabetes mellitus, or the diabetic deterioration, is a plasmolysis, and as such is not difficult to diagnose. It has nothing at all to do with glycosuria, glycosuria being merely a symptom of it, just as it is a symptom accompanying a great number of operations. I have seen glycosuria following simple chloroform anesthesia; I have seen it in the wake of the extirpation of tonsils and of the kidney; I have seen it occur after overeating, after indigestion and after headache.

The identification of dextrose is not an easy matter. It is for the chemist, not for the general practitioner of medicine. The copper tests should be abandoned altogether—Haynes', Elliott's, Fehling's, Trommer's, Salkowski's—they all serve a purpose, but do a great deal of harm in the hands of the family physician.

Now, as the diabetic deterioration is a plasmolysis, how do we recognize it. I have showed some years since, that albumin may be split up into a sugar molecule on the one hand, and carbamid, or as it is wrongly called "urea," on the other. Carbamid plus glucose, or dextrose or whatever sugar of the series $C_6H_{12}O_6$ it may be, makes up albumin. In other words, I recognize the diabetic deterioration by the continued large output of carbamid + glucose; or in other words, if the egested nitrogen exceeds for any length of time the ingested nitrogen, and if at the same time sugar is excreted by the urine, then, and only then can we speak of a diabetic deterioration; then, and only then, diabetes mellitus, of the authors of to-day, is present.

I hesitate not for a moment to state that levorotatory oxybutyric acid and the fatal coma diabetiennum are often the result of a too long continued rigid fat-meat diet. Coma associated with diabetes, however, is not necessarily diabetic coma. In all instances where an accompanying or intercurrent disease, like many of the chemical affections, as phthisis pneumonia, end in coma, and when diabetes is present we can not speak of a coma diabetiennum. Coma following nephritic conditions, which are associated with glycosuria or diabetes, is by no means a true diabetic coma. This is only present when diabetes is unaccompanied by other chronic diseases, and when the coma shows the characteristic dyspneic feature. This dyspneic phenomenon, or Kussmaul's breathing, is the only characteristic symptom of true coma diabetiennum. Without it, we have no right to term a coma, a diabetic coma; a coma accompanying diabetes is not necessarily a diabetic coma.

Injuries After Intubation.—A writer in the *Corr. f. Schw. Aerzte*, found more or less serious lesions of the mucous membrane in 11 out of 96 intubated patients. The subglottic portion of the larynx and the mucosa of the anterior wall of the trachea were most frequently the site of the lesion. The tubes used are usually too large, he thinks. When it is difficult to introduce the tube, the obstruction is usually edema and not spasm of the glottis.

POST-ANESTHETIC PARALYSES.*

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Paralyses following an anesthetic which are due to that agent alone are more imagined than real. Were it not for those unfamiliar with the recent literature on the subject it would seem an imposition to burden the profession to enter further into the discussion. "Anesthesia paralysis," post-operative paralysis," etc., still in use, foster erroneous conclusions and should be dispensed with.

It is well known to neurologists that in many alcoholics, or other drug habitués, the vulnerability of a nerve trunk is so increased that a very moderate degree of pressure over it will produce a tingling or numbness, and slight injuries may even invite a neuritis.

However, we could not seriously consider an acute toxemia as an etiological factor diminishing the resistance of peripheral nerves, rendering them more susceptible to a peripheral palsy as a sequence of general anesthesia.

Seldom have I seen a post-anesthetic paralysis that did not clear up rapidly. Usually the paralysis is due to a lesion of the nerve trunk, the so-called peripheral or pressure type. In looking up the literature I find that there is little credence given to the anesthetic as the real cause.

Mally and Leszynsky, who have given as much light on the subject as any others, classify them as central, hysterical, reflex and peripheral. These paralyses are preventable in every case, and the serious attention of the surgeon should be directed toward suitable precautions as to position, etc., during anesthesia.

The central paralyses are, as a rule, immediate and are due usually to apoplexy. Since a very large number of persons who go under an operation are, by reason of age and vascular atheroma, predisposed to a stroke even from the most trifling causes, it is not unreasonable to suppose that such an accident would be a common occurrence. It is a fact, however, that apoplexy during anesthesia is so rare that it may be considered purely accidental and in no way connected with the anesthetic.

A hysterical paralysis is just as likely to be produced by other agents than anesthesia; in fact it is so rarely post-anesthetic that it may be considered accidental and due to the moral shock rather than to the anesthetic.

Reflex palsies are so extremely rare that those best competent to judge look upon them as purely accidental.

This brings us up to the peripheral palsy, which is the only one of importance to the anesthetist. That oftenest seen is paralysis of the brachial plexus, caused by elevation of the arms. This elevation—Trendelenburg position—puts the roots of the plexus, especially the upper roots, at a sharp angle with the transverse vertebral processes, the indirect pressure causing the paralysis. The upper roots suffer oftenest, as the angle is more acute than that of the lower. The most frequently involved is the deltoid muscle, although other muscles, infra-spinatus and supra-spinatus, have been paralyzed; also the radial, tibial and others, no doubt from a faulty

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position, such as an arm or leg hanging over the sharp edge of a table.

It appears then that the only type avoidable is the last mentioned. All faulty positions should be guarded against and no long-continued pressure of any nature should be allowed. This paralysis corresponds to the pressure type with a favorable prognosis. Recovery is the rule where there is no degeneration or atrophy. A severe numbness or even a slight paralysis is not uncommon from pressure on a nerve trunk in alcoholics, but the writer has never seen a case that did not fully recover.

If there is no degenerative atrophy the use of electricity is indicated. Massage, passive motion, and injections of strychnia in the region of the nerve trunk, have done good.

As precautionary measures the surgeon should not permit too long an elevation of the arms, tight clamps or straps, head resting on the arm or an extremity hanging over the table. The fallacy among medical men is the belief that peripheral palsies recover soon and for that reason do not give these accidents proper attention.

The medicolegal question may arise here as to the liability of the surgeon if he has not taken all the precautions protecting his patient. Hence, it is evident that suitable prophylactic measures should be instituted before the subject becomes one of jurisprudence rather than medicine.

DISCUSSION.

DR. F. SAVARY PEARCE, Philadelphia—There is a woman under my care at the present time who has a post-operative paralysis owing to brachial pressure caused by the position in which she was placed during an abdominal operation. A point in etiology is, in part, as to whether the patient has a good amount of flesh cushioning her tissues; this woman was very slender, and of course there was less protection over the clavicle when the arm was extended.

The medicolegal aspect has also come to my attention, for in these cases the patients are inclined to blame the surgeon. The prognosis is very good in such pressure palsies. You are apt to find later, too, an exceeding amount of wasting and consequently a good deal of deformity, which brings the condition more to the patient's mind. It is here that we can give the surgeon a good word by promising a favorable prognosis.

DR. DOUGLAS GRAHAM, Boston—I think a very common form is crutch paralysis, and if we get that in time there is almost an immediate relief through massage.

DR. C. C. HERSMAN, closing—Even in the medical profession a great many men, instead of stopping to inform themselves, really think that the paralysis is caused by some mysterious effect of the anesthetic. Very often the man who is selected to give the anesthetic does not know that one position is more dangerous than another. Then if the paralysis does come on it is allowed to recover of its own accord, instead of Nature being assisted.

THE TREATMENT OF NEURASTHENIA.*

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We have made great advances in every department of nervous and mental diseases, especially in pathology and diagnosis, but the least progress has been made in therapy. Those who are most active in the field of research seem to pay but little attention to this, the practical part. One of the best of our recent text-books on nervous diseases devoted twenty-six pages to neurasthenia, but only two to treatment.

It is with the view of stimulating work in this direction and not with the idea of presenting anything novel that this paper is read, and with the hope that it may provoke a discussion that will be of service to us all in the treatment of this commonplace disorder.

Neurasthenia has always been regarded as a functional disease, with no pathology, but a flood of light has been thrown on it by the investigations of Barker, Hodge, Mann, Eve, and many others as to the effect of prolonged activity and repose, and the effects of intoxications on the neurons. These researches have enabled us to comprehend the pathogenesis of the clinical phenomena that are found in the cases that develop gradually from overwork, anxiety, fret and worry and those that result from autointoxication and other intoxications.

Neurasthenia is an exhaustion of those neurons, the effect of defective metabolism; it is a pathological fatigue arising most frequently from gastrointestinal autointoxication. The vasomotor mechanism is the first to show the effect and the degree of disturbance in vascular tension, as Weber¹ pointed out, is a great aid in prognosis.

Neurasthenia being pathological fatigue, the first indication for treatment must be rest, mental and physical, and the first difficulty in every case is to determine whether this should be absolute or partial. In my opinion very few of the cases require absolute rest and many of them are injured by it. If the case has been one of long duration and very severe, with a very low arterial tension with very pronounced dyspeptic symptoms, four to six weeks of absolute rest will be necessary, and this should be on the Weir Mitchell plan with isolation, massage, faradic electricity and special diet.

A partial rest is all the great majority require, and the amount must be carefully determined in each case. It is usually sufficient to have them retire early, get up late, and take one or more hours of rest at noon. This rest at noon should be in a quiet, darkened room, should be absolute, with as perfect a condition of muscular relaxation as possible; one hour may be sufficient, but two is better. I regard this noon rest as very essential and it is possible even with men in active business.

Equally important with rest is the dietetic management; indeed, rest and recuperation are the two things aimed at, and recuperation must come through digestible and assimilable diet. The diet should be largely nitrogenous, and in order to promote its digestion and assimilation, sugar and sugar-producing articles should be used in the smallest possible amounts. I am sure that beef, mutton and eggs should furnish the basis of the dietary, with milk, of course, when it agrees, and if sugar is cut off these foods are more perfectly elaborated. The predigested foods are of great benefit, for many of these cases with their want of tone in the digestive organs can not properly digest ordinary diet; and failure to recuperate is often due to this cause. Therefore, make much use of predigested food, giving special preference to malted milk and somatose, ordering a teaspoonful of the latter with a eupful of the malted milk, and this in the absolute rest cases may be given every two hours; in the partial rest cases between each meal and at bedtime. I think this compound is much better than milk in many cases. Caution must always be used in so spacing the interval between the feedings as not to overtax the digestive organs. While there is comparatively little danger of this in using predigested

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1. Boston Medical and Surgical Journal, May 5, 1898.

foods, yet I think mistakes are often made with ordinary foods in this way. We fortunately have many kinds of predigested foods, efficient as nutritive agents, but of such different tastes that we can usually satisfy the palate of the patient as well as serve the nutritive demands of the system. I do not agree with those who positively interdict the use of coffee and tea. On the contrary, I think they are beneficial in many cases, excepting those who have the excessive use of these articles as a part of their etiology. I fully recognize the fact that the excessive use of either of them aids in prolonging and promoting neurasthenia, but in moderation they are both conservative to the general nutrition.

Electricity is the third indication. I have no doubt about its great value. In the absolute-rest cases, of course, general faradism is necessary, and I direct that in the beginning of the treatment it should be very gently applied and to the extremities only; later, to the whole body, using currents that can just be felt. The skin should be gently stimulated and the various groups of muscles should be made to respond to mild currents. The bed cases should also receive galvanism, first to the head, using a descending current with large electrodes of from 1 to 3 milliamperes; then to the cervical sympathetic, using from 3 to 5 milliamperes, and then to the spine and abdominal sympathetic, with a large negative electrode at the epigastrium and a smaller one over the spine and a current of from 5 to 10 milliamperes. These séances should be given daily.

The partial-rest cases who come to the office should have static electricity. I use it by insulation with the primary current, and by sparks from the spine and abdomen with the secondary current for fifteen or twenty minutes daily. My observation leads me to agree with Morton, Herdman and others that this form of electricity is sedative, tonic, eliminant and a promoter of normal vascular tension.

Hydrotherapy is the fourth indication. Sponge baths are a necessary part of the Weir Mitchell treatment, but in addition they should have the wet pack daily, beginning with a temperature of about 70 F., and gradually lowering to 50 F., prolonged for about one hour. The wet pack promotes tissue metabolism, favors the elimination of fatigue products and promotes sleep.

For the partial-rest cases, the dripping sheet is used, the water being about 70 F., and the friction with the sheet made vigorous, the whole rapidly done. It is an admirable vasomotor tonic. The shower bath, beginning with moderately warm water and gradually cooling it, is of much service in many cases. The hot-air bath, like the wet pack, will promote elimination and often overcome insomnia. Cabinets for this purpose are now readily accessible at a reasonable price.

Massage is the next indication, and is required in all the absolute-rest cases, and there is no necessity and but little advantage in introducing a special masseur. It should be given to the nurse, thereby not only saving unnecessary expense but averting the frequently distracting influences of a stranger in the case. It should be given very gently in the beginning, the movements being limited to the gentle and superficial ones, and little by little the force, vigor and extent of the treatments should be increased. The partial-rest cases sometimes need massage and sometimes do not. If the effect of the massage is sedative, it will do good; if, on the contrary, it is exciting or irritating and may do harm. In some cases, however, the difference between the effects may not be due so much to the patient as to the method of its administration. As the case progresses toward

recovery, physical exercise becomes necessary. The Swedish movements may be added to the massage; light calisthenics may be provided, and such outdoor exercises as golfing, for example. This, I take it, is one of the very best outdoor exercises of to-day for the convalescent cases, and, indeed, for many of the mild cases from the beginning. One of the most persistent cases that I have ever had to treat was largely cured by golfing. The game was played near Chicago in the summer, and when the season was over, she went to the Hot Springs, of Virginia, on account of the golf links that were there, and later to Atlanta, Ga., and she returned home well. The reasonable use of the bicycle is of much use to many, always giving them the caution that its excessive use is dangerous. The trouble is that many of these cases do not seem to know when they have over-exercised. Horseback riding is a very valuable outdoor exercise, much less liable to be abused than bicycling. Change of scene is often of advantage, but much traveling is injurious.

The European trip has been very detrimental to several of my patients. A neurasthenic must be a very good sailor to derive benefit from an ocean voyage, and sight-seeing in Europe is hazardous to their nervous system. The climate selected should be one with a moderate mountain elevation, 1500 to 2000 feet, and one not too dry. Ideal places are to be found in the Allegheny mountains, especially in the mountains of North Carolina—the country round about Asheville, and even better the country north of Asheville, with Linville as its center. This mountain region has the proper elevation, is not too dry, is very free from fogs and has superb mountain roads and trout streams, and inspiring scenery, and far enough removed from the ordinary lines of travel to give the necessary quiet.

The sanitarium, for a short time, is a good place for some patients. They can here receive the rest cures at comparatively little expense, which is an important item, of course, with many; but I do not care to have them remain long in these institutions, because their association with other invalids may develop hypochondriacal symptoms in some patients and hysteria in others.

In the drug treatment of neurasthenia, the first important class is those which promote elimination. Auto-intoxication from constipation and colonic impaction are very frequently present, sometimes overlooked. The aloetic laxatives are those I most frequently use, such as the Lady Webster dinner pill, or the pill of aloin, strychnia, ipecacuanha and belladonna. Occasionally a calomel purge is beneficial. Many of these cases require colonic flushings with the normal saline solution administered in the knee-breast position. Such flushings may be administered in the majority of the constipation cases once or twice a week to the very great advantage of the patient, not only relieving the constipation, but promoting renal elimination, so often deficient. This renal deficiency very often demands diuretics, of which the effervescing potassium citrate is probably the most efficient. All neurasthenics, I think, are greatly benefited by the imbibition of a large amount of water. This not only promotes renal elimination, but adds to the activity of all the excretories of the body.

The next indication is to relieve the nervousness. For this purpose the bromids are invaluable, and I prefer the sodium bromid. This I usually combine with the fluid extract of adonis vernalis, in from 1 to 5 minim doses. This drug is a vasomotor and cardiac stimulant, and by reason of this action guards against

the depressing effects of the bromid. It also increases renal elimination and is a sedative to the sensory nerves and has no cumulative effect. I very rarely administer the hypnotics on account of the danger of establishing a habit and because of their interference with digestion and tissue metabolism. The bromids during the day, the hot-air bath or the hot pack at night, with some easily digestible food at night will almost invariably secure all the sleep that is necessary. The blood in the great majority of the cases shows a low hemoglobin record and a low count of red corpuscles, and hematinics are necessary. Bland's mass, first introduced to the profession by the great Niemeyer, combined with small doses of the extract of *nux vomica* and arsenious acid, makes the best hematinic combination that I have yet found and is vastly superior to any of the new iron preparations that I have tried. There are very few cases in which it will not rapidly improve the blood record. Cases that are not improved often require alteratives in addition, and the chlorid of gold and sodium, combined with the pulverized resin *guaiaci*, a combination that prevents the decomposition of the gold salt, given before meals, a half or three-quarters of an hour, is the best alterative combination in my experience. Occasionally small doses of the corrosive chlorid of mercury answers next in preference as an alterative. Phosphorus, as the zinc phosphid, or the syrup of the hypophosphites U. S. P., are of service in some cases, and the animal extracts containing phosphorus in a readily assimilable form may be used with advantage. The mineral acids in some of the dyspeptic cases, for temporary use, are of service. Quinin I rarely use unless there be a malarial element present. Strychnia I never give in large doses. I think these two drugs agree in increasing the nervousness and do not benefit, except in exceptional cases, general nutrition.

In conclusion, no matter what special line of treatment may be adopted, it is very important to keep the patient busy in his efforts at cure and a daily schedule of therapeutic work should be furnished to him.

DISCUSSION.

DR. J. H. MCBRIDE, Los Angeles, Cal.—Dr. Brower's remark that neurasthenics do not know when they have reached their limit in work is true of all neurasthenics, or nearly all. Few of them have, or ever had, in health, the natural feeling of tire, and it is almost inevitable that they will overdo.

The mental element of the neurasthenic is an important one. The mere fact that we seclude them is evidence that this is considered important, and yet by seclusion not everything is gained for this side of their life. They should not be allowed to speak of their illness to the nurse, nor to any one. I have made it a rule to allow them to tell me their story once fully and then forbid them to repeat it. This saves the patient from indulging in the morbid luxury of reciting her symptoms, and by compelling a neglect of them they tend to become less prominent. The tendency to hypochondriacal states can be checked in this way.

DR. W. S. WATSON, Fishkill-on-the-Hudson—The importance of treatment of neurasthenia is more than the actual pathology, or whether it is functional or otherwise. The mentality of these cases is a very important feature. Very frequently they seem to live upon the idea that they have some incurable trouble. The electrical treatment and attention to the prevention of auto-intoxication from the intestinal tract are important. Mild doses of mercurials are of advantage, as in nearly all these cases constipation is a factor of no small importance.

DR. RICHARD DEWEY, Wauwatosa, Wis.—I find myself very much in agreement with the ideas expressed by Dr. Brower in his treatment of this common malady, especially the prescribing of a definite period of rest during each day. This is

about the only method of preventing overtaxation in very many of these cases which we all encounter that are incapable of judging at all for themselves how much exertion they should make. They seem to have lost what you might call the fatigue sense. I do not know whether the fatigue sense has a definite center in the brain, but I have been struck by the fact that so many patients are incapable of judging the limits of their own strength.

I agree also in saying that treatment at a sanitarium has its disadvantages in bringing these invalids together, unless great care and precautions are taken to avoid undesirable association, with mutual comparing of notes and discussion of symptoms. This can be done, however, and if it is done, the oversight that can be exercised in a sanitarium is much superior to that which can be secured in any private house, unless you have a rest cure with one or two nurses constantly in attendance. In addition to tub and sheet baths I believe in different forms of sprays and douches, needle baths, etc., and also in the hot shampoo, which in many cases is exceedingly valuable in relieving insomnia.

DR. C. C. HERSMAN, Pittsburg, Pa.—I have decided that rest is one of the best medicines for neurasthenia. Electricity and massage are particularly good with those who are put to bed. For those taking the rest cure I think the hot bath at bedtime is one of the best possible things, because it is such an excellent hypnotic.

Occasionally we find patients whom we diagnose as neurasthenics. Neurasthenia may be the beginning of a paresis; consequently it is necessary for us to study our patients closely. It may be very provoking for us to treat a case of neurasthenia, and then finally have it develop into a typical case of paresis. According to some of our best authors, we find that neurasthenia is the very first symptom, in some cases, and unless we study our patients carefully it is impossible to diagnose the beginning of paresis. In treating of neurasthenia one of the first and most important steps is to gain the confidence of our patient. Otherwise our success is not that desired.

DR. JOHN SMITH—It seems to me that there are many cases that are diagnosed neurasthenia, and treated as such, which are not really that condition. Neurasthenia is not a distinct entity in itself, but it is simply a symptom-complex which we find in many disorders, and I think, not perhaps the neurologist, but the general practitioner, is too apt to simply discover symptoms and call it neurasthenia, without knowing what the underlying conditions are. I remember distinctly a case seen this year, which the physician had treated for some time, and finally sent to me saying he could not find anything outside of the neurasthenic symptoms. Immediately upon examining the urine I found the whole trouble. There was a large quantity of phosphates, and it was only a matter of three weeks before the woman was entirely well. I gave sodium phosphate and sodium benzoate combined with lithia salts.

Cardiac cases are often misunderstood and not treated properly. These are the cases which do so badly when we send them to the seashore.

DR. DOUGLAS GRAHAM, Boston—I think it is generally conceded that electricity can be left off in neurasthenia. As to the massage, it depends of course upon how it is done. In these cases the indications are very definite for the use of massage, as it is almost sure to produce sound sleep if properly given in the evening to neurasthenics who have been wakeful. But if neurasthenic patients who sleep well without massage are massaged in the evening they are sure to be wakeful after it, and yet they do not feel the loss of sleep next day; they have gained something after all.

DR. A. E. STERNE, Indianapolis—It seems to me that it is utterly impossible, in a condition like neurasthenia, to lay down a set rule for any case or even the majority of cases. It is rather a condition, a state of things, than a disease. A great number of cases of unquestionable neurasthenia in their beginnings pass to more profound conditions, both of neurosis and psychosis. From the early beginning the possibility of confounding the condition with the milder grades of paresis

ought to be kept in view. I do not see so much resemblance between melancholia and neurasthenia as between incipient paresis and neurasthenia.

DR. DANIEL R. BROWER, closing—The hot-air baths and the hot pack meet the very important indication of elimination by the skin, and are both sedative to the nervous system. The hot pack should be given on a lounge close to the bed, so that the patient may be placed in the bed without exposure.

As to electricity, one of the mysteries of the times is the fact that we have so many in the profession who fail to realize the curative power of electricity per se, and refer its effects to suggestion alone. Yet these same persons must recognize its great economic power; the electric light, the telephone and the automobile must constantly force this upon them, and then they must recognize its power to decompose water, and destroy tissue. Even regarding it as a purely suggestive agent, I ask those who deery its use, what more convenient agent of this sort can you find? But I beg of them to consider carefully the physiological action of the several forms, in use, before they begin their suggestive treatments.

INTUBATION IN PRIVATE PRACTICE. AND ITS PERFECTION.*

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You probably know that intubation was formerly received in Europe with great reserve, and also that the ingenious operation of O'Dwyer is practiced at the present time only by our clinicians. The reason why our practitioners have not much inclination for the endolaryngeal method is, that, being so conservative, they in this case apprehend that intubation is an operation immensely difficult to learn, and accompanied by a great number of dangers.

One who is experienced in the matter knows that these apprehensions are exaggerated, that intubation is not at all more dangerous than tracheotomy, and that its sphere ought not to be limited to the hospital. But prejudices of that kind, if they once exist, will not be removed by the reports of single persons, however splendid they might be, but only by extensive, thoroughly authenticated statistics.

In the summer of 1899 I took the trouble to procure data concerning intubation, and I believe with best success. I applied to 89 American and European authors, and that as well to friends as to opponents of intubation. What I learned was:

Physicians.	Have done, Intubations.	Recoveries before 1894. Per cent.	Under Serum-therapy. Per cent.
In Germany	12	56	66
In France	8	437	77.11
In Galicia	5	165	89.9
In Italy	4	265	76.9
In Norway . . . . .	..	..	..
In Austria	6	74	95
In Russia	1	4	100
In Switzerland . . .	3	18	100
In Spain	1	322	77.7
In Hungary	2	63	60
in Europe	42	1404	82.58
In U. S. A.	13	4066	81.5
Total	55	5470	82.04

These fifty-five reporters think intubation in private practice just as useful as in clinical service; twenty authors had no personal experience in the matter. The rest remained in decided opposition. It may be noticed that the latter ones together disposed of but seventy-three cases, seven of them never proved the effect of

the operation in private practice. The common reason given for opposition was that the dangers of the after-treatment would be greater in practice; that therefore it would be necessary to keep the children under continued medical surveillance and that this very surveillance would be, under ordinary circumstances in practice, a matter of impossibility.

This apprehension was perfectly disproved by the reports of numerous well-experienced authors. There were reported but thirteen accidents: two deaths caused by sudden obstruction of the tube, 10 deaths caused by spontaneous detubage, and one in consequence of suddenly reappearing stenosis after extubation, absente medico.

My report given to the Gesellschaft fuer Kinderheilkunde at the Seventy-first Congress of German Naturalists and Physicians in September, 1899, stated, that: "the practitioner will have the same right—not to say obligation—to use if necessary and carry out intubation, and 2, the endolaryngeal method will give to him as well as the clinician much better results than tracheotomy.

The discussion following my essay proved that the number of opponents to private intubation was apparently reduced, on the face of these facts. Only one speaker emphasized the necessity of medical surveillance on consideration of the great dangers.

If we demand constant medical surveillance, intubation is out of the question. But at all events, we are obliged not to acquiesce with the results already gained, but to aspire to further perfection of the method, and this as long as intubation is accompanied by dangers, even very remote. On this behalf we ought to consider three points:

1. What common duties arise for the physician to undertake an intubation? 2. What method of technical execution is to be mostly recommended? 3. Which model of tubes hitherto existing is preferable to other ones, and is an improvement of the instrumentarium desirable and possible?

1. There is but one opinion about the first point: A physician should not proceed to the operation until he has sufficient previous practice on cadavers and animals. Besides he is to give instruction to the parents about the advantages and disadvantages of the bloody as well as the bloodless method; the alternative should be left to the parents. He should personally supervise the patient as well after introduction as after extraction of the tube as long as a momentary danger could be thought of. He should leave the patient only under the care of a reliable and well-instructed person, or nurse, and should never retire too far or too long from the patient.

2. As to the technique, it is rather indifferent how the tube is inserted if the operator succeeds in placing the tube quickly and without injuring the mucous membrane of the larynx in any way. It is a different question which caliber of tube is to be chosen. If the execution of the operation is a matter of manual ability the choice of the tube for the single case is the matter of clinical experience. Generally speaking one can say: If there are no especial indications to choose a tube of small caliber for the purpose of intermittent intubation, according to Francis Huber, tubes of that size are preferable which can just pass the larynx without being forcibly pushed in. The possibility of delicate introduction is always the condition sine qua non, otherwise the large caliber will be the best safeguard in preventing the most disagreeable drawbacks of intubation, sudden obstruction

* Translated and presented by Dr. Louis Fischer to the Section on Diseases of Children, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

and spontaneous detubage. Certainly another danger of intubation seems hereby increased: The danger of making a false passage. But this will occur very seldom if we do not injure the mucous membrane while inserting the tube, and besides we know no means now to prevent the danger. In the first place we are able to abbreviate the treatment by early injecting the required amount of antitoxin, and secondly we can use tubes of a material which will not be injured by the secretions of the mucous membrane, and vice versa will not injure the latter on its part. There is not much to be said about the operation itself. Manual ability and clinical experience are individual matters and will always call forth great difference in the results of the operators. But as to the instruments, the question is deserving of further discussion and a perfection of them might be for the general good.

3. Which model or kind of tubes now existing is preferable? As I know by my rather extensive international inquiry the opinion of nearly all the experienced intubators, I may define the question more precisely: Which model of O'Dwyer's tubes is preferable? The French tubes of Courts and similar ones may serve quite well in some cases, but they have not been received everywhere and this for good reasons.

Let us examine the models in proportion to the dangers of intubation. As to sudden obstruction it is rather indifferent which kind of tubes we use if we only take tubes with as large a lumen as possible and while introducing them avoid forcibly detaching membranous casts. The danger of detubage is best eluded by using tubes which remain in the larynx as firmly as possible. O'Dwyer himself has modified his tubes for this purpose providing them with a second swelling or bulge at the end of the tube. The effect is an excellent one. Spontaneous detubage happens rarely with these tubes. The third drawback of intubation remains—the danger of detubation. Here the material as well as the construction has to be taken into account. The tube must be of such quality that no harm is done to the mucous membrane in any way. So it must not have sharp edges and corners; it must be fitted as much as possible to the configuration of the larynx and trachea, it should not press nor irritate the mucous membrane.

In comparing the metal tubes of O'Dwyer with the model he last invented, the rubber tubes, we already see by simple theoretical consideration the superiority of the latter ones. The rubber tubes provided with the second swelling above mentioned will be very seldom coughed out; besides, being five times less heavy than the metal ones, they exercise less pressure on the mucous membrane, and finally they are made of a material which is very resistant to chemical influences and can be made very smooth. As not theory but practice decides in such questions I again undertook a little inquiry the results of which, with one single exception, were exactly what I expected. I used rubber tubes in six cases last winter and did not see difficulties of deglutition or obstruction, detubage or decubitus, though there were some severe cases.

Besides, I proved them in my course on intubation, introducing in adults at first the metal tube, without swelling at the end, for children of 13 years, afterward inserting the rubber tube of the same size. While the latter one remained in the larynx, even if there was violent choking, vomiting and coughing, the metal tube was always coughed out promptly. I had similar experience in my practice with children. The cause of this

I see is the better adhesion of rubber to the mucous membrane.

To confirm my own observations I applied to Bokay, of Budapest, Bonain, of Brest, Dillon Brown, A. Caille and Louis Fischer, of New York City, Massei, of Naples, and E. Rosenthal, of Philadelphia. These gentlemen had intubated some hundred cases with rubber tubes, and state, excepting Rosenthal, that in using rubber tubes with suitably large caliber, accidents, such as obstruction, detubage and decubitus, occurred less frequently than with metal tubes. The reason for this is the light weight of rubber tubes, especially since the material does not suffer under the influence of the secretions of the mucous membrane as any metal will do. On this tube even in long use no concretions will be deposited which would injure the smoothness of the tube, and vice versa the mucous membrane. As a particular advantage of the rubber tube it is noticed by Bonain that they give less difficulties of deglutition on account of their light weight. Massei notes that in the new instrument set there are seven tubes instead of six, and so a better caliber will be possible.

Rosenthal alone reports bad results with rubber tubes. He noticed deposits as often as in the metal tubes. In 25 per cent. out of eighteen cases he stated decubitus, in three instances sudden heart failure. He also observed difficulties when he was ready to remove the tube on the fourth or fifth day. A decided reason for this he can not give.

Yet the reports of the other authors and of my own experience are so favorable as to the rarer occurrence of accidents as well as to the final results that we might dare to recommend the rubber tubes for common use. However, the report of Rosenthal requires us to act with great precaution and urge a further perfection of the instrument.

Commonly it is wrong to let theory speak before practice, but my propositions shall serve first to point out the weak points in our instruments, and besides I believe that if you, gentlemen, think my ideas good, you will be able to transpose them into practice quicker and easier than I can in this country.

I am of the opinion that very many lesions of the mucous membrane of the larynx, especially such done by beginners, originate in this, that the operation is still performed with an instrument entirely inflexible. If we should have the handle of the intubator manufactured in a material moderately springy, the instrument would have a certain latitude and could during insertion rebound better from an obstacle. Grave lesions, the forcing of wrong passages would be in future nearly impossible, as the operator would have his action better in control. Naturally the slide of the intubator, which is also now rather imperfect, would have to be omitted and the management should be altered in such a way that the erected index would lie on the obturator to regulate the pressure and to prevent an undesirable giving away. To give a support to the finger it would be necessary to broaden the obturator on its adjoined piece so as to level it on the top. Intubation would then resemble to a certain degree the harmless introduction of a hard-rubber probe.

We approach this idea still more if we also modify the construction of the tube. If you examine a rubber tube you will notice that the lower part of it occluded by the head of the obturator does not show a perfect rotundity. The tube's large end is horizontally cut off. The head of the obturator projects without transition like a long top, consequently it is undisputably more

difficult to insert rubber tubes than the original metal tubes, because the former are much easier entangled by their broad bases especially in cases of cicatricial stenosis of the larynx. It can become almost impossible to introduce them, while probes even of large caliber can pass easily. For the same reason I think the mucous membrane will be lacerated by rubber tubes if the operation is not carefully executed.

The necessary modification is not difficult to be found. The lower swelling of the tube must be diminished so that the outlines will show a regular oval. The point of this oval is formed without transition by the head of the obturator. The lengthening necessary is insignificant. I hope I shall very soon succeed in demonstrating to you a model of it.

There is still another drawback to be removed, which is less important in rubber tubes, but as it could be the cause of decubitus in cases in which the mucous membrane is extremely delicate it merits our full interest. L. Bauer has first called our attention to the fact that the vertical axis of the trachea in children is deviating backward—to the vertebral column—from the axis of the larynx, and this the younger the child is. Bauer has limited his anatomical studies to the material in the children's hospital in Budapest, and it is possible that his trustworthy though unconfirmed observations are confined to singularities of race of the Hungarian population. A deviation in such a high degree—168°—will probably not be the rule in other countries. But as everywhere it is stated that next to the cricoid cartilage the anterior wall of the trachea corresponding to the end of the tube is the favorite spot of decubitus, it follows that the observations of Bauer must be correct, at least in a general way. Besides, you can ascertain on sections of the head that the end of the tube is riding on the anterior wall of the trachea so that in vivo there must be in speaking, coughing, and swallowing a continuous friction. Based on these observations, Bauer constructed proper tubes of metal. The vertical axis of these showed a considerable recurvation backwards; the ordinary swelling of the tube was lowered some millimeters also to avoid a pressure of the cricoid. These tubes are not yet in vogue and were not liked in the few clinics—Budapest and Leipzig—where they have been used; above all, it was said that they were rather difficult to be inserted into the larynx. Yet it must be noticed that decubitus occurred with them less often. One can understand this, as the front part of the trachea is discharged and thus I propose to also give the rubber tubes a small incurvation backward from the middle swelling. This should not be as pronounced as in Bauer's tubes. The transferring recommended by Bauer of the middle swelling to the height of the first cartilage of the trachea I think a mistake, as thereby the tube loses one of its best supports and can rub against the cricoid more than ever whilst the larynx is ascending and descending.

Roussel's Sign in Incipient Tuberculosis.—The *Semaine Médicale* of November 28 states that experience has confirmed the accuracy of the sign pointed out by Roussel as an indication of tuberculosis in its early stages, namely, the sharp pain caused on light percussion in the subclavicular region between the clavicle and the third or fourth rib, originating 3 to 4 cm. from the median line and extending to and beyond the shoulder and the supraspinal fossa. Occasionally the subspinal fossa is sensitive to pressure. He attributes this cutaneous hyperesthesia to a reflex neuritis or myositis from propagation. In every case it is exactly over lesions of dry pleuritis in the apex. He has noticed it recently in a young woman who is a hysteric with absolute anesthesia.

TRAUMATISM DURING INTUBATION—ITS PREVENTION AND TREATMENT.*

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Stefanie Kinderspitals.

In studying the literature of the O'Dwyer method of intubation we should really feel that everything that can be said in favor of or against it has been mentioned, and still we find a great deal requiring more careful elaboration; thus, the question of decubitus has not been given as much prominence as it deserves. True it is that all intubators must have found laryngeal ulceration resulting from pressure of the tube, and O'Dwyer, and later, Variot, the chief of the Trousseau Hospital, and his associate, Bayeux, besides Glover, Baudrand, and Marie Schultz, are among those whose attention has been directed to this particular portion of the subject. The French collective pediatric study of Grancher, Marfan and Comby on this subject appeared in a publication entitled "Laryngites Traumatiques Consecutives Au Tubage." This is the most valuable contribution to literature that can possibly be imagined. It seems as though the enthusiasts for intubation have been afraid to publish their clinical results, more especially their decubitus cases, owing to the fear of burying this valuable operative measure in the same manner as the Bouehut intubating method disappeared in the fifties. Let us hope that a careful study of this serious interference with the blessings of this operation will disappear and that the operative treatment of fibrinous laryngitis will be the same the world over as it has been in the United States, and that intubation will supersede the bloody operation of tracheotomy.

Since 1891 I have operated and observed more than 1200 intubation cases in the hospital under my immediate supervision. I had always noted traumatism following intubation in a series of cases, so that I now desire to lay this matter before you to encourage discussion.

Traumatism can result during the act of intubation in three periods: during the introduction of the tube, while the tube is in place, when the tube is withdrawn.

I shall follow the classification of Variot and divide this into three parts:

1. Traumatism may result "from denuding the mucous membrane or, in the formation of a false passage." Massei, the Neapolitan laryngologist, speaks of fracture of the tracheal rings during intubation. Slight lesions of the mucous membrane are mentioned by O'Dwyer, Jacques, Gillet, Valdemar, Damm, and Variot. If it is necessary to intubate often, and in short intervals, and that the mucous membrane will be injured repeatedly, then it certainly will be a serious matter for a laryngeal diphtheria in which the larynx already in a pathological state receives additional traumatic lesions. Such deep-seated lesions might result during the introduction of the tube if subglottic swelling or very thick pseudo-membranous masses obstruct the entrance to the tube. Hemorrhage has been known to occur in case of an abscess opened by the introduction of the tube.

2. Dillon Brown speaks of false passages, as early as 1887. He mentions two distinct cases ending fatally. In one, the tube perforated the ventricle of Morgagni.

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and got to the side of the larynx under the skin. In another instance, the posterior tracheal wall was penetrated so that the tube was between the esophagus and trachea. Rauchfuss, in 1890, speaks of four cases of "fausse route." Damm, 1896, saw in Paris one of Variot's cases of this kind, in which the tube perforated the ventricle. The number of cases in which false passages can be traced is very small. Trumpp does not believe this. Riss and Bensande, in 1896, describe two forms of false passage; in the one it begins behind the epiglottis penetrates the membrane thyrohyoidea, whereas in the second form the tube penetrates the ventricle either directly or indirectly, through the vocal cord.

Heymann, whose investigations were conducted with Variot's material, saw three cases of false passage. In one case the tube was forced through the left glossoepiglottic fold, and thus appeared through the tongue. In another case there was a perforation of the ventricle and lodged in the intererico-thyroideal fold. Variot, in 1898, saw four cases of false passage among several hundred intubation cases. Besides three cases seen by Heymann, he saw but one case in which, as a result of the false passage an "ichorous phlegmonous abscess resulted." According to Variot, the false passage is usually made through the ventricle, and the tube with its introducer is usually pushed in the fold to the cricothyroid membrane, which it perforates. Among 1200 cases of intubation seen by me, four cases of false passage have been noted. They originated in the same year, and thus it is apparent that possibly the same hand that intubated caused these four false passages.

CASE 1.—K. E., 22 months old, entered the hospital on Jan. 11, 1893, with a laryngeal diphtheria, and was intubated immediately. On the 12th the tube was expectorated; re-intubation very soon followed. On the 14th, 9 a.m., extubation with the string attached to the tube; at 10 p.m. the same day re-intubation was found necessary. At midnight of the 16th the tube was expelled, and at 4 a.m. was reinserted. On the 17th the child appeared asphyxiated in spite of the tube being in place, which required immediate extubation. It was found necessary to re-introduce the tube at once. At 10 p.m. the same evening the tube was again expelled, and a larger size tube inserted. On the 20th, 9 a.m., extubation, re-intubation in an hour. On the morning of the 23d the child pulled the tube out; asphyxia followed requiring immediate intubation plus artificial respiration. From the 11th to the 23d of January the temperature ranged between 38.5 and 39.7 C. The tube was in the larynx in all 283 hours; there were 8 intubations and extubations. At the post-mortem, on the right side of the larynx was a small irregular ulceration near the aryepiglottic fold surrounded by granulated edges, extending to the perilaryngeal connective tissue, from which it extended anteriorly and downward. The mucous membrane on the right side of the larynx was filled with bloody granulation in the portion overlying the vocal cord, beneath which yellowish-red scars exist, showing loss of substance. The left processus vocalis is bare, and on the sixth to the ninth tracheal ring the mucous membrane and the perichondrium are missing. The formation of the false passage evidently took place on the 23d when the sudden appearance of asphyxia demanded rapid intubation; the severe and diffused decubitus in the larynx undoubtedly caused the false passage.

CASE 2.—N. E., 3½ years old, entered on April 4, 1893; diphtheric stenosis is so severe that rapid intubation is called for—9 p.m. At 11 p.m. of the same evening the tube was expelled and re-intubated one-half hour later. On April 5, 6 a.m., tube was coughed out; the child breathed naturally without tube until 9 a.m. A sudden stenosis then made its appearance, demanding immediate intubation. A severe perichondritis thyreoidea followed. At 3 a.m. of the 6th the tube was expelled; re-intubation at 4 o'clock, without entirely freeing respiration. At 8 a.m. on the 7th the child drew out

the tube, but the same had to be re-inserted a few minutes later. Respiration was scarcely any easier. On the 8th there was catarrhal pneumonia of the two lower patches. Death occurred on the 9th. The temperature ranged from the 4th to the 9th between 38.5 and 40 C. The tube was in the larynx in all 101½ hours. Number of intubations were 5.

Post-mortem: Perichondritis partis anterioris et processus vocalis sinistri cartilaginis thyreoideæ. Reecessus ex sinu Morgagni dextro, in textum cellulose prælaryngealem, inter lobos glandulæ thyreoideæ tendens. Decubitus milium æquans sub chorda vocali dextra.

To determine when the formation of the false passage took place, it is hardly possible in this instance, but considering that the symptoms of perichondritis thyreoidea appeared on April 5, the presumption is at hand that the false passage occurred during the first intubation. It is to be regretted that there is not a more detailed record as to the manner of the first intubation. We do not find any other circumstances recorded which would explain the perichondritis during the second 24 hours of the child's stay in the hospital, while the post-mortem examination shows that the decubital ulcer was in this instance only slightly advanced.

CASE 3.—P. H., 5-year-old girl, entered on April 17, 1893, suffering with diphtheric stenosis. Intubation was made at 4 a.m. At 9 a.m. on the 19th, extubation; re-intubation at 5 p.m. At 9 a.m. on the 22d repeated extubation, but half an hour later the tube had to be re-inserted. At 6 a.m. on the 23d the tube was expelled; half an hour later immediate re-intubation necessary. At 6 a.m. on the 25th the tube was expelled, and the child breathed fairly well without it for three days. On the morning of the 28th, re-intubation; at 7 p.m. the tube was expectorated. Next intubation at 11 p.m. of the 29th. On the 30th, at 3 a.m., repeated expectoration; an hour later intubation, the child reviving with difficulty. The tube was again expelled at 7 p.m. At 1:45 a.m. on the 1st of May a sudden severe attack of stenosis, cyanosis and asphyxia occurred, continuing even after re-intubation had been effected. Shortly thereafter death occurred. The temperature ranged between 38 and 39 C. Intubation lasted 208 hours; number of intubations, 8.

Post-mortem: Perichondritis cartilaginis cricoideæ. Ulcus sinuosum ex sinu Morgagni dextro in textum cellulose prælaryngealem tendens.

The false-passage formation in this instance probably took place on the night of May 1, when the alarmingly difficult breathing demanded immediate intubation. The ulceration of the ventricle Morgagni no doubt contributed to the formation of the false passage. The perichondritis cricoideæ may have originated from the ulcerated larynx.

CASE 4.—R. G., 2 years old, was admitted on May 1, 1893, because of diphtheric stenosis; immediate intubation. Respiration became perfectly free. At 9 a.m. on May 3 the child draws out the tube. Symptoms of perichondritis laryngea were manifest. At 11 a.m. there occurred rapidly increasing stenosis, repeated attempts at reintubation, but without success. Tracheotomy in asphyxia was done. Following artificial respiration, and after the child had regained consciousness the canula was removed and a tube admitted into the larynx. At 6 p.m. the tube was expelled, followed by immediate re-intubation. Respiration became no freer. Death occurred. The tube was in the larynx 55 hours in all; number of intubations, 3.

Post-mortem: Reecessus fabam æquans ex sinu Morgagni dextro, in textum prælaryngealem tendens, eum parietibus necrotis.

The false passage in this case was undoubtedly formed on May 3, when repeated unsuccessful attempts at reintubation were made. It also appears that as the patient had to be reintubated at 6 p.m., after expectoration, the tube got into this false passage, which explains

why respiration would not become free. I am unable to explain the cause of the perichondritis, since its symptoms were already noticeable on the 3d.

Aside from Variot, only Heymann has made a thorough study of the symptomatology and diagnosis of the false passage. The diagnosis is made easier by one cardinal symptom, namely, that respiration does not become freer after the introduction of the tube, but on the contrary ceases entirely after a short lapse of time. On palpation at the entrance of the larynx, we find the head of the tube to be in an oblique position; in some instances we can even feel the lower end of the tube through the skin over the larynx, or on the side. After the false passage is formed, copious bleeding or bloody secretion may occur, if the tube is immediately withdrawn. Within a few hours after its removal, emphysema of the subcellular tissue may appear in the vicinity of the false passage. We take this opportunity of remarking that emphysema subcutaneum in an intubated patient can also result from alveolar rupture, as the two cases published by us in 1894 prove beyond a doubt. According to Variot, the tissues surrounding the false passage soon show symptoms of inflammation, and shortly thereafter an abscess forms on the side of the larynx—*abscessus peri et latero laryngealis*. The false passage may furthermore cause perichondritis thyroidea and cricoidea, in which event the suppuration under the perichondrium often develops into pyemia.

There are no symptoms which would show a denuding of the mucous membrane. It is impossible to see them, excepting with the aid of a laryngeal mirror. It is frequently noted that hoarseness may result—so-called aphonia—long after the tube has been removed. This has already been mentioned in the third portion of my article. The prognosis of the *fausse route* is usually bad. Frequently it is mild and does not cause suppuration in the connective tissue or a perichondritis. Under normal anatomical conditions, we frequently find an opening covered by the perichondrium—the so-called foramen thyroideum—which is about 1-6 mm. and through which the superior laryngeal artery frequently passes. If the end of a tube will enter into this fold by reason of a defect in the cartilage then a fatal hemorrhage might result owing to the perforation of the larynx. Where a distinct false passage exists it is hardly possible to expect a cure without performing tracheotomy. Heymann saw among the material of Variot, that after a false passage and the removal of the tube no stenosis of the larynx existed, and the child was able to breathe without a secondary tracheotomy, but the prelaryngeal abscess cicatrized very slowly, and the final healing was long drawn out. The simple desquamations of the mucous membrane, which are superficial wounds, have no real prognostic value.

The prophylactic treatment of traumatism resulting from the introduction of the tube requires a few words regarding the technique of the introduction of the same. Traumatism resulting from the introduction of the tube can also be caused by improperly constructed tubes, although the majority are caused by carelessness during the introduction. To properly intubate, we must be thoroughly acquainted with the details of this operation.

O'Dwyer has insisted on practicing on the cadaver, as well as on cats and dogs, in order to familiarize ourselves with the technique. I recommend intubating children that are not suffering with stenosis, but rather where a tracheal fistula exists. Palpation of the larynx through the mouth, also of the epiglottis and of the

aryepiglottic folds. I first learned intubation on a child having a laryngeal fistula, and I make it a rule to instruct others in the technique by demonstrating the anatomy of the parts concerned on the living, and when they are proficient then I take them to a mild case of convalescing stenosis. O'Dwyer maintains that nothing is more erroneous than to believe that intubation of a skilled operator is a simple matter, and thus it is that a novice watching an expert will regard the operation as a simple matter. Waxham says that in order to obtain the most satisfactory results the operation should be performed only by those who by special aptitude and careful training are capable of doing it quickly, gently and skilfully; it is necessary to practice extensively so as to master all details. It is very difficult for those not having previously practiced. Thus, Dillon Brown says, I know of no operation in surgery which is more brutal and shocking than the efforts of an unskilful man to intubate. The position of the patient is an important one; next is the fixing of the gag, then the dilatation of the mouth. We can not put the tube in its proper place unless the mouth is stretched ad maximum. Heubner's method, quoted by Carston, allows the patient to be held flat on his back in bed. My idea is to follow O'Dwyer's method and have the patient in a sitting position. All details pertaining to the choice of tubes and the instruments must be carefully examined before commencing the operation. They should be boiled in a soda solution to render them sterile. Edwin Rosenthal, Philadelphia, insists on having the tubes plated after the use of the same. I should be glad to follow his advice. Before introducing the tube, it is well to wash the pharynx with a 4 per cent. boric-acid solution; "lavage antiseptique" of the French. Some use a carbolic acid and cocain solution, which I do not regard as practical.

Huber says it is necessary that the instruments should be worked in the median line. This is an important point, for as soon as the tube reaches the larynx, if we do not work in the median line we may enter the aryepiglottic fold or in the folds of Morgagni. Inexperienced operators usually enter the ligamentum epiglotticum medium between the root of the tongue and the vallicular line near the epiglottis. It is a good point not to push the obturator too soon, as otherwise we can damage the mucous membrane. The Bayeux-Collin instrument can not be compared with the O'Dwyer, as I have had no experience with the same. Thus I must repeat that a tube should be introduced gently and without force. Trumpp says that the hand must hold the tube gently, as though it were made of a very fragile substance. Although it is possible that in subglottic swelling the proper-sized tube can not be introduced; then it is our duty to introduce a smaller tube. Some authors contrast intubation with catheterization of the bladder, and compare the dangers of using force. Congenital stenosis of the larynx, as I saw in a child 14 months old, necessitated performing tracheotomy to prevent suffocation. The child died with symptoms of bronchitis crouposa, and the section showed that there was a congenital stenosis.

Dillon Brown, speaking of false passages, says that in the two cases which have come under his notice, of false passages made in attempts at introduction, an unjustifiable amount of force was used to push the tube in place. In smaller children up to the age of 2 years Gallatti has proved that the openings of the folds of Morgagni are so narrow that the end of the tube can not enter therein. After making a false passage, it

is the wisest to remove the perforating tube and to immediately follow it by a secondary tracheotomy.

Sevestre and Martin recommend the renewed intubation, but I do not believe that such an experiment can prove successful, as we usually enter the same false passage previously made.

Heymann says: "*S'il s'est produite une fausse route, la tracheotomie doit être pratiquée pour permettre aux larynx de se cicatriser sans le contact d'un corps étranger.*" Thus it is possible that without repeated intubation or a secondary tracheotomy healing may result. The possibility of producing a false passage may be a shady side of intubation, but let the opponents of the O'Dwyer operation remember that there are many more chances of producing a false passage, while performing tracheotomy. Marie Schultz says: "*on ne peut pas rejeter une méthode—à cause de l'incapacité des opérateurs.*"

DISCUSSION ON PAPERS OF DRS. TRUMPP AND VON BOKAY.

DR. WILLIAM M. WELCH, Philadelphia—I have often felt that intubation in private practice is accompanied with much greater risk than in hospital; indeed, I have often wondered how a physician in private practice could give the necessary attention to a troublesome case. It is true that in the majority of cases of intubation after the tube is introduced no further attention is required until it becomes necessary to remove it; but there is a large number of cases in which there is much trouble. Frequently a child will cough up the tube as often as half a dozen times in a single night, and its immediate re-introduction is necessary. I can recall one or two instances, at least, in which death resulted because the physician could not get from his room in the hospital to the child in the ward quickly enough to replace the tube in the larynx. It is not uncommon, even after the speediest possible reintroduction of the tube, to find it necessary to resort to artificial respiration. I feel sure that such cases in private practice must terminate fatally.

As to the matter of the size of the tube, I would say that I find it necessary occasionally to deviate from the standard laid down by O'Dwyer. Sometimes it is necessary to use a smaller tube at first, and a little later it may be possible to introduce the standard size considered suitable for the age of the child. Again, the opposite may be true: The tube of the size supposed to be suited to the age of the child is coughed up almost immediately, necessitating frequent re-introduction, or the use of a larger tube.

I do not think there is much choice between the metal and the rubber tubes, although I am somewhat disposed to favor the latter because they do not collect chalky deposits. One might suppose that rubber tubes being lighter than metallic ones would be more likely to be coughed up, but this does not seem to be the case; indeed, I believe the tube is retained in position not so much by the weight as by the bulge in the middle of the tube.

About the only accident that I recall having seen in the operation of intubation is pushing down before the tube large pieces of exudate. This occurs every now and then, and always interferes with respiration and necessitates the hasty removal of the tube. If the exudate has been completely detached, it will be expelled. I have seen large and complete casts of the larynx, and even of the trachea, detached in this way and coughed up. We have in our collection at the hospital a beautiful cast of the larynx, trachea, both bronchi and several subdivisions of each bronchus, all in one piece. When the exudate extends below the lower end of the tube, the latter will not, of course, be of much service. Even when it is detached and expelled it frequently reforms. False passages may be caused in the operation of intubation only by inexperienced operators. In regard to the injuries from extubation I would say that it is possible to do violence to the glottis if the beak of the extractor is permitted to open too widely. I have often thought that a

serious difficulty might be met with if one blade of the beak of the extractor should happen to break off and drop down into the tube or trachea. I have never heard of such an accident. I have seen a disproportionately small tube drop down so low in the larynx as to be beyond the reach of the extractor. I recall two instances of this kind. In one case it was necessary to do tracheotomy, and in the other the tube was coughed up.

In one of the papers presented, I think the author referred to ulceration of the larynx caused by the tube. I have met with a few such cases and they all proved very serious. These ulcers are most liable to occur at a point in the larynx corresponding to the bulge of the tube, and at its lower extremity. The tube should not be worn any longer than is necessary, as it is a foreign body, and liable of itself to do injury.

With regard to the use of antitoxin in the laryngeal cases of diphtheria, I must say that my experience is not so favorable as that expressed by the author of the paper and most other writers. I am obliged to confess that I have been disappointed in its use. It occurs to me that it is scarcely fair to compare the results in intubation at the present time with the results before the days of antitoxin, since intubation is now more generally and skilfully performed. I believe that intubation is now done earlier in the disease than during the pre-antitoxin periods. In 1895 antitoxin was not as abundant as at present, and in Philadelphia we were obliged to rely on that obtained from other countries, more particularly Germany. During that year, it so happened that about one-half of the intubation cases received it and the other half did not, and the difference of death-rate was 3.39 per. cent. in favor of the antitoxin cases. In that year we limited its use to cases in the early stage of the disease. The far-advanced and moribund cases did not receive it, and this may account for the higher death-rate in the non-antitoxin cases. Our death-rate at the hospital since then, in intubation cases which received antitoxin has varied annually from 58 to 68 per cent. In 1894, the year preceding the introduction of antitoxin, the death-rate was 75 per cent., much higher, it is true, than it has been since; but diphtheria in 1894, as every one knows, was exceedingly severe in every country, and the death-rate was higher than it has been since, or than it was for many years preceding that date.

We have lately had at the hospital a great deal of unpleasant experience with croup in measles. I never before saw croup so fatal. The question is: Is it true diphtheria? Sometimes the Klebs-Loeffler bacilli are found, and sometimes they are not. In many of these cases the croup appears quite early—before the rash has disappeared—and intubation is required. This operation relieves the stenosis, but death almost invariably occurs. I do not think that this form of croup is necessarily the result of the formation of a diphtheric exudate. I have seen exudate on the tonsils, but frequently it is absent. It has been found post-mortem in the larynx. I think that in some of the cases the stenosis is due to intense congestion and swelling of the mucous membrane of the larynx, causing a spongy condition which, in the child, is sufficient to interfere with respiration. I could cite two very perplexing cases in which we found it impossible to get rid of the tube. Even after 4 or 5 weeks, on moving the tube severe and dangerous symptoms of stenosis appeared, necessitating its immediate re-introduction. Tracheotomy was at last performed, and in the case which survived we now find it impossible to do without the tracheotomy tube. I wonder what the ultimate result will be.

DR. J. E. RIGG, Wilkesburg, Pa.—What Dr. Welch has said regarding the advantages of hospitals in intubation cases is certainly true, as private practitioners know only too well. The best that we can do is to secure a competent nurse, train her in the care of intubation cases, and have such a nurse in constant attendance on these cases. My own experience with the tube has not been as satisfactory as has been generally reported. The cases have not been relieved, because, as I believe, the membrane has extended below the tube. I have had casts of membrane discharged, yet the symptoms would not be relieved.

Many cases receive antitoxin too late to expect good results.

My own use of antitoxin has been favorable, with two exceptions, and these cases received it too late. I know of a physician who gave a death-rate of 40 per cent., and it was explained by the fact that antitoxin was administered too late in every instance. I believe antitoxin has reduced the death-rate very materially, and if given early enough the results will be much better than in the past.

DR. A. CAMPBELL WHITE, New York City—Before we used antitoxin, for a period of six or eight months we kept very careful statistics of our croup cases, including, of course, intubation cases. We were able to save about 50 per cent. of our croup cases, which was much better than we had ever been able to do before. Only a small proportion of these cases were intubated, for at that time I did not think it wise to intubate a case unless it seemed absolutely necessary. Because of this, although we had a very high mortality in our intubation cases, the mortality-rate was very good in the croup cases as a whole. I was unable to save over 20 per cent. of my intubation cases at the hospital under this rule. Of course, in private practice one could not wait until the last minute to perform intubation, it being necessary often to intubate as soon as called in to see a child. That difficulty seems to me to have been overcome by the use of antitoxin. I believe now in intubating early—in intubating any child having even a moderate stenosis, and using antitoxin as well. I am of the opinion that the greatest benefits from antitoxin have been in the intubation cases. Before the use of antitoxin in New York City I feel sure that intubation was generally used; at any rate, I personally saw a great many cases of intubation before the use of antitoxin. Even though the figures quoted may not be very much in favor of antitoxin, it is rare to see figures speaking against antitoxin. The epidemic may be very mild one year and severe another, or other factors may enter to vitiate the statistics. I feel that any one who has seen much of diphtheria treated, both with and without antitoxin, must feel that he sees something happen in the antitoxin cases that he never saw before the days of antitoxin. I never used to see a child, apparently very ill with diphtheria one day and almost well the next, but I do now under the use of antitoxin. I remember one day when giving a demonstration in the diphtheria wards to a class of students a case of diphtheria came in, a child of 5 or 6 years of age. The little girl was apparently dead. We inserted a tube, and performed artificial respiration. This was before the use of antitoxin. In a few minutes the child had recovered, and before the students had left the hospital she felt like sitting up in bed. These students were deeply impressed, and felt that intubation would save that child, but I told them that in spite of the favorable appearance just then I thought the child would not recover, and this proved to be the case. The child died of septic pneumonia. This does not happen now, for the use of antitoxin seems to have entirely changed the character of the disease, that is as to almost constant development of septic pneumonia.

I have never seen or known of a case of false passage from careless intubation. I have frequently pushed down membrane before the tube in my hospital cases, and with one or two exceptions, tracheotomy has been demanded. I recall one case in particular in which intubation was performed by my assistant, who was an expert intubator. The tube was immediately withdrawn and tracheotomy at once performed, and although the membrane did not extend farther than the bifurcation of the trachea we were unable to save the child. I think even when the membrane does extend far down relief is afforded by intubation because most of the stenosis is usually at the vocal cords. There is a typical kind of dyspnea which we get when the membrane extends down into the bronchi; it is more like the dyspnea observed in pneumonia rather than in simple stenosis of the larynx. Relief is afforded by intubation, though death ensues. The tube does occasionally fall down between the cords; but it is an accident which should not occur, as it is the result of using too small a tube. A case like the one referred to by Dr. Welch, in which the tube was coughed up, probably would not be met with more than once in a lifetime. The tube turns and can not be extracted in the usual manner; hence tracheotomy is demanded.

DR. LOUIS FISCHER, New York City—You will all probably remember the great ovation given to O'Dwyer in Berlin at the Medical Congress in 1890. At that time tracheotomy was quite generally used, so that I think Dr. Welch was wrong in saying that antitoxin and intubation came into general use about the same time. He is correct, however, in stating that both antitoxin and intubation are to-day used far more extensively than formerly. I make it a rule to treat a case of diphtheria as diphtheria, and to treat a case of so-called septic diphtheria as septicemia. Two days ago the statement was made here by Professor Vaughan that it was useless to give milk containing toxins which had been subject to the process of sterilization, for the toxins had remained undestroyed. He illustrated this point by saying, if you gave 1/50 grain of this toxin to a rabbit, death would be instantaneous. In the same manner he claimed that we could not destroy the toxins though able to kill the germs, so we know that there are some forms of diphtheria—especially this septic type—in which, although the Klebs-Löffler bacilli are destroyed there is an overwhelming of the system with the toxin. The result is the occurrence of paralysis and other complications, if not death. In such cases one might just as well inject plain water as antitoxin, as these cases are true toxemic conditions, yet these cases are included in the statistics of antitoxin. I make it a rule in a severe case to give one large dose of antitoxin—3000 units—and if improvement is not observed in twenty-four hours, this dose is repeated. If, however, after the first injection I find the membrane is being shed and the general systemic condition is improving, the dose is not repeated. I look upon antitoxin as a remedy or a drug, and I want to get the systemic effect from it just as I would from rhubarb or castor-oil. I should like to ask Dr. Welch, and also Dr. White whether it is not true that a pure, simple uncomplicated diphtheria with laryngeal stenosis, even though most malignant, will recover if injected with antitoxin, and if also the opposite is not true, that although you may inject antitoxin and intubate, the catarrhal variety of laryngitis complicating measles proves most fatal in spite of antitoxin.

I was glad to hear from Dr. Welch that in 1895 there was 3.39 per cent. of recoveries in favor of antitoxin. That is certainly a grand admission, and I am happy to say that last summer Professor Kassenwitz, the great opponent of antitoxin in Vienna, told me that he used antitoxin because public opinion compelled him to do so. I feel that antitoxin, as it exists to-day, with all the disagreeable elements eliminated, and more especially since we have been using the dry form of antitoxin, of which I am a strong advocate, has given far better results than formerly.

The calcareous deposits on the metal tube which irritate and injure the soft parts of the larynx constitute my main objection to the use of metal tubes, and my reason for advocating the employment of rubber tubes. The latter will not permit such a deposit to form, and consequently you can leave the tube in much longer.

I was summoned recently by a physician to an intubation, and after the usual preparation, was about to intubate the child when I examined the throat and found a very large retropharyngeal abscess. This abscess, when incised, relieved the laryngeal stenosis; in other words, the obstruction of the larynx had been due to mechanical pressure exerted by the abscess. It is well, therefore, to examine every child very carefully and be sure that the stenosis is diphtheric, and not mechanical, before resorting to intubation. In another case, which I saw, there was laryngeal stenosis—a subglottic stenosis—occurring in a syphilitic child. It was not relieved by intubation. The stenosis extended over a period of seven or eight months. Tracheotomy was eventually performed. I feel like condemning the forcible extraction of the tube by putting the thumb and forefinger over the larynx and pushing it upward. On several occasions I have known the operator to have done this and have seen injury result therefrom. I saw a case of this kind recently in which intubation was performed 15 times, each time the tube being forced out in this manner. I believe the recurrence of the stenosis was due to traumatism. If we consider the an-

atomical construction of the larynx and trachea, we know that the outside is composed of cartilaginous rings, and that the stenosis is the result of an infiltration on the inside—a swelling as it were, toward the center—so that the lumen of the larynx is obstructed. The tube is held as in a vice by the infiltrated mucous membrane. When the swelling disappears this infiltration gradually subsides, leaving more room for the tube, so that in a violent fit of coughing the tube may be coughed out. I make it a rule to inject a very small dose, 1/100 or 1/75, or perhaps 1/50 grain of apomorphia in cases in which there is a large amount of pseudo-membrane. The object of this is to secure quick emesis, and so endeavor to prevent the occlusion of the tube, as in the case reported by Dr. Welch, in which a cast was expelled.

DR. EDWIN ROSENTHAL, Philadelphia—I think Dr. Welch is correct in every respect in speaking of the statistics now being brought forward. I know from personal experience that since 1895 the instrument-makers of Philadelphia have sold a great many more sets of intubating instruments than ever before. This would account for much of the reduction of the death-rate. Intubation is not left, as it used to be, until the patient is almost moribund before it is employed. If the older cases of late operation were included, I am sure the statistics would not be so favorable. The cases that did not require intubation should give one a better conception of the efficacy of antitoxin. When intubation is performed sufficiently early, recovery may take place even though antitoxin is not used. The cases of laryngeal stenosis complicating measles are almost invariably fatal without the antitoxin. Latterly, for some reason or another, it seems to me that the antitoxin has lost some of its efficacy. I have seen a good many deaths, and, strangely enough, these cases have been those in which rubber tubes have been used. I think that when O'Dwyer devised the intubation instruments he devised everything, and built better than he knew. I have seen calcareous deposits on rubber tubes as well as on metal tubes. The coughing up of the tube is a great drawback in private practice. After I have intubated in a case and found that the tube is expelled, I immediately introduce a tube of the next larger size. Unfortunately when using these large tubes we find a necessity for their use. This necessitates special treatment. In some instances by going backward, using smaller tubes, and allowing the child to cough up the tube, recovery will take place, but this requires constant attendance. In cases of prolonged intubation I sometimes make use of very large doses of strychnin—perhaps 1/50 grain four times a day for a child of three years. The scale of sizes furnished with the O'Dwyer tubes is a good one, but one must exercise individual judgment. I never think of putting in a tube according to the scale in an Italian child, for instance because experience has taught me that the larynx in an Italian child is much larger than the average. Of accidents, I have seen many. At one time while performing intubation, the screw of the introducing instrument was broken, and it was necessary for me to quickly introduce a tube on the extractor. If the tube is coughed up the result will be invariably favorable if it occurs after four days, or, in other words, after the disease has run its course. It is only constant practice that makes perfect, and the extraction must be done almost as quickly as one winks. You must not allow the extractor to remain for a moment on the head of the tube, and one must abstain from making any great pressure. Do not feel for the tube, but place the extractor on the point of the index finger where you know the head of the tube is. I have done this so often that I have no more dread of taking out than of putting in the tube. In putting in the tube, I never allow the silk to remain after the tube has been once introduced. In cases of laryngeal stenosis complicating measles it is neither the diphtheria nor the stenosis which kills; it is a septic pneumonia. These cases live longer—live through the period of stenosis—with antitoxin, but after death the lungs will be found solid. There is a peculiar form of septic marasmus following laryngeal diphtheria which causes death perhaps six weeks afterward, irrespective of whether or not you have used antitoxin. These cases show various forms of paralysis. In studying our mortality statistics we should include a period of two months.

FRACTURE OF THE PATELLA.*

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In fracture of the patella, where no operation is performed and ligamentous union is permitted to occur, as a rule, the result is far from satisfactory. Though the bones may be in close apposition at the termination of treatment, the tissue between the fragments soon stretches. The patient limps or is quite lame, is unfitted for any active exercise and, if in the army or navy, is permanently shelved. The fracture not infrequently recurs, and it is by no means unusual for the patella of the other leg to give way.

It has been again and again claimed that by some new and ingeniously devised external apparatus, close, firm and lasting union has been obtained, without operation, but none of these claims has so far stood the test of time.

We can not better show how all external treatment has failed than by quoting the method now advised by Da Costa.¹ Rest, with tight, frequently reapplied strips of adhesive plaster for three weeks; then, rest with a plaster-of-paris bandage for five weeks more. "At the end of the eighth week let the patient walk with canes and plaster-of-paris bandage for four weeks more, and then for one year more a lacing knee-cap and a posterior knee-splint should be worn."

He concludes with the following "The plan of prolonged retention renders joint-stiffness a certain occurrence, but this is less of an impediment than the wide separation of the fragments that inevitably attends an early use of the joint."

The majority of American surgeons are now decidedly in favor of operating in these cases. In a paper read before the American Surgical Association two years ago by Dr. Powers, of Denver, Colo., he quoted the views of most of the members of that Association. Of 71 of us, from whom he obtained opinions, 50 were in the habit of operating in recent fractures of the patella, and since then the number who operate, from that Association, has increased.

The risks of operation are not great, and the mortality is already much less than a few years ago. Of 711 cases quoted by Powers, there were but 3 deaths from sepsis, and in Phelps' report of 420 operations by New York surgeons, there were but 3 deaths from all causes, 2 from delirium tremens and 1 from carbolic-acid poisoning, but none from sepsis. Among the 118 operated on by Dr. Phelps himself, there were no deaths and no amputations. These figures show what can be hoped for under favorable circumstances. If we were to obtain the reports of operations by all operators the figures would probably not be so favorable.

No matter how conservative our personal views may be on the question of operation or non-operation, from a medicolegal standpoint the operation can not be ignored. Owing to the fact that it is usually deferred for at least ten days after the accident, and may without injury to the patient, if not to his decided advantage, be much longer postponed, the patient has plenty of time to reach hands well able to perform the operation, while there is usually nothing in his condition to prevent making the journey, however extended. It will therefore be well in these cases for the

* Presented to the Section on Surgery and Anatomy, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

1. DaCosta: Modern Surgery, 1898.

medical attendant to fully state to the patient and his friends the advantages and the disadvantages of both the operative and the non-operative methods of treatment; for the physician is quite as liable to be the victim of a malpractice suit if he says nothing about operation and permits his patient to recover with a lame leg, as if he had operated unsuccessfully without having explained its dangers.

About a dozen years ago Macewen, of Glasgow, called the attention of the profession to the fact that when fractures of the patella occur by muscular contraction, and most of the fractures of this bone do so occur, the bone gives way before the tissues immediately surrounding it, and these prepatellar tissues, when they do give way, fall into the breach and completely cover the fractured surfaces. Owing to the elasticity of this membrane, it adheres so closely to the rough surfaces of the freshly fractured bones that it can not be removed without cutting down on the parts and fully exposing them, and not even then without difficulty. The position these prepatellar tissues assume has been fully confirmed by numerous other observers and, though the subject is frequently discussed, I have yet to hear of a single case in which these tissues failed to get between the bones. The bones are so completely covered that, in some of my own cases, on introducing the finger between the fragments not a particle of uncovered bone could be felt. Macewen claims that these interposed tissues are all that prevent bony union, and the majority of American surgeons accept this conclusion; if it be accepted, no operation that invades the joint, running the risk of septic infection, which may cost the patient his limb or his life, and fails to remove this interposed membrane, is to be regarded as the best one. At the operation this pre-patellar membrane should be entirely removed and the broken bones so strongly joined that we do not have to wait for bony union before putting some strain on them. Nothing that takes hold only of the tissues around the bones will do this; it must penetrate and grasp the bones, and the suture itself must be strong. The only material that answers this description is heavy wire, of which silver appears to be the best, as it does not corrode. We should operate in all cases where the fracture is due to muscular contraction, in a healthy individual where asepsis can be secured; even if not due to muscular contraction, we may be obliged to operate, if some recent observations are correct, as the membrane has been found interposed in some cases where the fracture was due to direct violence. The most important point will be an aseptic operation. If a surgeon who is constantly doing aseptic work and can fairly be relied on to get aseptic results can not be secured, and if the room used can not be fully prepared, the operation had better not be performed. But owing to the convenience of travel and the absence of haste, even the poorest can readily reach a well-equipped hospital.

It is extremely important that the patient's powers of resistance should not have been impaired by disease or bad habits. Try as we may, we are still unable to fully disinfect a patient's skin and, unless his powers of life are strong enough to destroy a few germs carried into the tissues therefrom, he is liable to infection here. This usually means loss of limb or of life. (The author here presented a specimen from a recent case, in which he was obliged to amputate to save life.)

The operation should not be performed immediately after the accident unless the fracture be compound, but

should be postponed for about ten days, when much of the swelling and tenderness will have disappeared. During this time perfect rest on a splint will be necessary, and ice around the joint if the inflammation is marked. It has recently been suggested that the operation be postponed for thirty days, so that all blood-clots will have disappeared, as they are favorable culture-mediums, but I doubt whether even this delay would materially lessen the danger of infection; it certainly would not suit the hustling American patient, and it probably would increase the strength of the adhesions which give us so much trouble at the termination of treatment.

When the time for operation has arrived the most important point is the thorough asepsis of room, patient, operator and assistants. The customary preparations very fully carried out are all that is necessary. Special attention should be paid to the skin, as the infection usually arises from it, and it might not be amiss to supplement our preparations by exposing the knee to the very high temperatures secured by the apparatus for superheating air—the one used in the treatment of rheumatism, and which is claimed to give a temperature as high as 400 F. I doubt whether these high temperatures go very deep, but they might reach the skin's germs. The patient should wear his splint as well as his antiseptic dressing until fully etherized, to prevent injury while struggling. A vertical incision about two inches long, with its center at the line of fracture, is the usual one and can be lengthened if necessary. This fully exposes the seat of operation and sufficiently exposes the joint to permit removal of the blood-clots, which must be done with fingers, blunt instruments, forceps and a stream of aseptic water, no antiseptics being used in the joint. The membrane described by Macewen is now removed and the bones brought together. If there are but two fragments, one wire will be enough; it should be quite heavy silver wire, about the thickness of an ordinary pocket probe. In penetrating the bone I use the ordinary carpenter's brad-awl, as it makes no chips, and as the operator knows where the point is, he is better able to bring it out at the desired place than if he used a more complicated instrument. The lower fragment is often very short and inconveniently beveled, and under these circumstances a good grasp of the bone can be had by splitting the tendon and starting the awl there. It is so directed as to make it protrude at the deepest part of the fractured surface, just where the bone is in contact with the cartilage; a similar channel is then made in the upper fragment and the wire passed. Some operators make a perpendicular opening through each fragment, permitting an inch or more of the wire to lie on the joint surface of the patella. In addition to the objection of a foreign body rubbing over the joint at each movement, it must be very difficult at the operation to bring the bones into close apposition if stout wire is to be brought around such sharp angles. And if the wire has to be removed a few months later, as occasionally happens, it will be difficult and apt to lacerate the articular cartilages. After the wire is in position the bones are brought accurately together and the wire twisted; the twist can be made at the line of the fracture and there buried, or at the lowest point and the wire buried in the tendon; if the twist is too superficial it is apt to irritate the skin after the patient begins to walk, and may have to be removed. Any considerable tear in the capsule should now be closed with catgut. Drainage is usually unnecessary, but if the blood-clots were so very adherent and the joint

much manipulated, so that considerable effusion of serum may be expected, drains can be used for twenty-four hours. They can be laid at the side of the joint, close to some of the lacerations, so they may drain the joint without actually being placed in it.

In closing the wound the stitches should not be carried entirely through the tissues and the skin, as this would carry any infection remaining in the latter directly into the joint. Some of our most successful operators make a deep line of suture and report cases where marked infection occurred, with deep burrowing among the muscles, but in which the joint entirely escaped. Antiseptic dressings are applied, and a firm bandage, running high, to prevent spasm. A carved wooden splint placed on the under surface answers every purpose until the drain and stitches are removed, when light plaster-of-paris is usually applied. Surgeons are constantly shortening the period of complete rest after this operation, and I should not be surprised if, in the near future, the patient would be permitted to move his leg as soon as the external wound has healed. Even now, Phelps, of New York, makes passive motion at the end of the third week. When treated by long rest, either with or without operation, the joint is exceedingly stiff for months after the injury, and it requires great persistence, with massage and forced motion, to fully restore its usefulness. It has recently been claimed that examination by the Roentgen rays shows that in some cases, after wiring, bony union has not occurred. This may be an error of observation, as the rays would here have an unusual opportunity for penetrating the new bone, but if the union in these cases be not bony it is quite as good. "as it is strong and unyielding, rarely breaks and never stretches."

A little less than two years ago, Dr. Darnell, of Atlantic City, N. J., fell from his bicycle and fractured his patella, and ten days later I wired it. The operation was particularly difficult, owing to the lower fragment being very short and having a bevel that nearly paralleled the hole I proposed making; and, in addition, that same lower fragment had a horizontal split that completely separated it into an upper and lower portion. By splitting the tendon and starting the hole there I was able to grasp enough bone to give a satisfactory hold. The rest of the operation presented no difficulties and he made an uninterrupted recovery. Owing to the condition of the fragments, I felt obliged to keep the leg at rest longer than usual, but he has succeeded in getting full and complete motion, and I am unable to find any difference between the motion of the damaged leg and its fellow.

DISCUSSION.

DR. DONALD MACLEAN, Detroit, Mich.—We were taught that there was a vast difference between an open fracture, a simple fracture and a compound fracture, and that it made as much difference as there is between night and day whether a fracture was subcutaneous or not. We were also taught that a subcutaneous operation for an abnormal condition was all right, but that an open incision was extremely dangerous. Now, we cut right down and see exactly the condition of the tissues we are dealing with and perform a complete and safe operation. Such is also the case with fractures, which do not carry with them the terrible feeling that they did a few years ago. By our aseptic precautions we can avoid the dangers of compound fractures. In the next place these same facts encourage and justify us in converting, at our discretion, a subcutaneous fracture, dislocation or injury into an open wound where you can see and feel the exact conditions. In this connection the X-ray has been of great advantage. A surgeon who would have proposed a few years ago to cut down and

wire the fragments, or to open an elbow-joint or hip-joint which had suffered some obscure injury, would have been considered guilty of malpractice, but in these days of aseptic surgery we do not hesitate to cut down. When we have some obscure elbow-joint or hip-joint injury where there is some obstruction to replacement, if we can not succeed otherwise, we take our knife and cut down and find the exact condition present. The last, but probably the most important, aid in this work is the X-ray and no man would undertake to open an elbow- or hip-joint unless he had first made use of this means of diagnosis. In that way he will either justify his further procedure or obviate it, and if he decides to operate he would have some idea of what he was going to do. These great principles have been well illustrated this morning. Take for example asepsis; we no longer lay down a dividing line between open and subcutaneous operations. We do not have to let a patient go through life a cripple from an improperly treated fracture, as we feel at liberty, either with or without the X-ray, to lay the parts open and to do intelligently what in former times was considered very dangerous. The work done to-day will always stand as proof of surgical advancement.

DR. J. D. BLAKE, Baltimore—I was very much interested in Dr. Barton's remarks concerning fractures of the patella and thoroughly agree with him in regard to what he says is absolutely necessary, i. e., thorough asepsis in connection with the opening of the knee-joint. I do not agree with him, however, in the means or methods which he uses in ascertaining the extent of damage done to the tissues around and about the point of fracture. He states that by placing his finger over the surface of the bones he has been able to determine what the fractured surface has been, to a large extent, if not completely covered by intervening fragments of tissue. This is very true and is the reason why we do not get bony union in these cases when not operated on, a fragment of tissue having fallen between the separated fragments; nothing but an open wound and the removal of the fragments of tissue will ever enable us to bring the bones absolutely together. I do not think that any man should use his finger in the wound, notwithstanding the fact that every aseptic precaution may have been taken and the wound made a thoroughly aseptic one. In operating upon these cases I never allow the finger to enter the wound at all. Nothing but absolutely sterilized instruments are permitted to enter the wound; I take up the fragments and cut them off close to the edge of the fractured bone with forceps and scissors. I have operated three times within the last two years without a wire. I do not believe that the patella is different from bone elsewhere. I believe its capacity for union is the same, and if the obstructing material is removed and the bones are brought in a position under the eye and fastened together thoroughly by sterilized ligatures, taking up the connective tissue and periosteum overlying the patella, stitching it together as recommended by some one whose name I cannot recall is all that is necessary. As in cases of fracture of other bones, we bring the bones as near together as possible. With your stitches taking up the tissues above and below the point of fracture, you will be able to bring the bones in thorough apposition, and by removing all fragments of tissue between them you will get good union.

Nor do I agree with the Doctor that it is better to wait eight or ten days before operating. I operate as early as possible after the injury, and by so doing am enabled to more easily get rid of effused fluid in the joint as well as the blood-clots, which are more easily dislodged early than later. I thus avoid the swelling, etc., which the Doctor wishes to get rid of after it has occurred. I accomplish the cleansing by washing out the joint with absolutely sterile water. Adherent clots are removed with dressing forceps; the finger and hand are not allowed to touch the parts under any circumstances.

DR. M. B. TINKER, Baltimore—I would like to mention aluminum bronze as a possible suture material, not only for the patella but for bone in any portion of the body. This was first used in Germany in 1895, and I believe is now in almost universal use in that country instead of silver wire. The advantage of it is that it is gradually absorbed. I presume you are familiar with the fact that aluminum is dissolved by some

of the fluids of the body. The aluminum bronze consists not only of aluminum but a small amount of copper, as aluminum alone has not sufficient strength; with the copper it makes very fine material for such work and does not absorb rapidly. In the case of Dr. Keen in which he used the bronze it could still be seen by the X-ray a year after. The effect of the secretions upon it would be to reduce any sharp edges. The Germans consider it superior to silver wire.

DR. A. J. OCHSNER, Chicago—In discussing Dr. Barton's paper I would state that my experience covers only seven cases, in three of which I secured perfect union. In many of the cases that come late for operation a blood-clot will be found between the portions of bone, and this is one reason why I would prefer a transverse incision rather than a longitudinal one. In suturing the patella I like chromicized catgut, because you never have to remove it. The patella being a sesamoid bone and being in the middle of a tendon, the important injury consists in a transverse tear of a portion of this tendon on each side of the patella. This tear can be sutured by a transverse incision, but it is much more difficult through a longitudinal incision. The operation should be performed with an Esmarch constrictor upon the thigh and this constrictor should be left in place until the patient has been placed in bed with the limb strongly elevated, thus preventing traction upon the patella. I believe that everything can be removed without placing the finger in the joint and I consider this important. Two of my cases were unusually interesting. One of them came in with a fractured right patella. Two years before the same patient had fractured his left patella. He went to work in four weeks after the operation, and in two months his leg was perfectly well, while the left leg is still defective, now five years after original injury. I usually let my patients walk in three weeks. I recall another case in which there was a compound fracture due to the kick of a horse which struck the center of the patella. The patient walked in three weeks and went to work in six weeks. I always prefer to operate at once and have at different times operated on the same day, the second day, or even an hour after the fracture had occurred.

DR. W. J. MEANS, Columbus, Ohio—In a paper read before the Ohio State Medical Association in 1899, I reported several cases of fractured patellæ treated by the open method, with uniform success. I regard the open method, when there is considerable divulsion of the fragments, as the proper procedure. I used in my first case silver wire to suture the fragments. In my later operations I have discarded the bone suturing entirely. After thoroughly cleansing the space between the fragments, removing the debris from the capsule, and trimming off the shreds of tissue that are liable to prevent perfect coaptation, I suture the margins of the capsule on the anterior and lateral surfaces with catgut, and close the incision without drainage. A posterior splint to the leg and a figure-of-eight bandage complete the operation. While I am not wedded to any particular form of incision, yet I prefer the longitudinal one. Bone sutures are in my judgment unnecessary. Drilling the fragments requires considerable manipulation of the parts, which increases the danger of infection. Permanent sutures, such as silk or silver wire, are liable to cause trouble at some future time. Kangaroo tendon and catgut cut on the sharp corners of the bone, and therefore fail to give the desired effect. The main points in favor of the open method are: 1, perfect apposition; 2, bony union; 3, saving of time; 4, complete restoration of the function.

As to the question of opening joints to reduce dislocations, I believe it is a legitimate and scientific procedure. Four weeks ago I opened a shoulder-joint to reduce a dislocation of the humerus that had occurred three months previously and had resisted the efforts of several good surgeons to correct it. The result is perfect. I believe operative procedure for the correction of irreducible dislocations and for the correction of fractures where the fragments can not be properly adjusted, are legitimate and scientific.

DR. RANDOLPH WINSLOW, Baltimore—I have several times opened the articulation for dislocation of the elbow, and I have found that even when this is done and the parts are thoroughly exposed it is still by no means easy to reduce the dislocation.

I am glad to hear that reduction has been more satisfactorily effected by using double lateral incisions than by a single incision. In several cases I found it necessary to divide the triceps tendon.

DR. HART, China—I have been in China for the past seven years and many such cases have come under my notice, several of which I have operated on. As far as fracture of the patella is concerned we see very few such cases, only three or four having come to my attention. I have had to adopt different methods at various times and have operated on some by using the subcutaneous suture, which has been satisfactory, provided the limb was properly supported with a plaster-of-paris splint. I have also used sterilized silk for stitching the fascia and the tendon together, thus bringing the bones in apposition. It is very difficult to keep the patients quiet unless you tie them down in bed. In one case, a fracture of the femur, where it was necessary to keep the man quiet, I told him he would have to stay in bed several weeks, but he got up the next day, and I then chained him in bed. There are a great many joint diseases in China, and I have operated on a considerable number, particularly for necrosis of the head of the femur. Operative procedures give the most satisfactory results in these cases. I see quite a number of old cases of dislocation of from one to four months' standing, but it is very difficult to get the consent of the patients to operation. We always try to reduce the dislocation, and in many cases have been successful, but we have found dorsal dislocation of the femur the most difficult. We must first get the consent of the patient, and besides that we have to keep a book in which they sign their names, agreeing not to hold us responsible.

DR. J. W. MACFARLANE, Pittsburg, Pa.—Dr. Barton's paper is an advocate for wiring these cases, as against the ordinary splint plan, and the Doctor indicated that all cases should be operated on. I grant you at the beginning that the open method is a much better treatment, but still it can not be denied that a small portion could be treated by the splint method. In view of the fact that these papers are spread broadcast, I think the general practitioner should have a chance for his "say." It is possible for a man to get good results without the open method. There is one objection to the paper, namely, the statement that the operation is a difficult one, for I do not think that anybody will agree with him. I take it that when we advocate a plan of treatment we should make it as easy as possible and it does not add to the weight of our views to state that the matter is difficult. So far as asepsis is concerned, of course no one would touch a joint except under strictly antiseptic precautions. As to the linear and transverse operation, I believe it is better done by the transverse.

DR. J. M. BARTON, Philadelphia—I did not intend to say that I introduced the unprotected finger into the joint. The broken surfaces of the patella are turned up before us and they can be seen and felt without going at all deeply into the joint. Personally I always wear rubber gloves in these operations. In my experience sepsis has been limited to one case, and this did not start in the joint, but in the skin. As to removal of the silver wire, I have never had occasion to do this, and if it is carefully buried at the operation I think it is rarely necessary.

Some of the speakers have strongly advised absorbable sutures and sutures which do not penetrate the bone. This I am not prepared at present to accept, for as I understand it, in order to get bony union without long-continued treatment, and with a freely movable joint it is necessary to make passive motion and walk on the limb long before bony union has taken place. The suture, therefore, has to be strong enough not to break and so applied as not to stretch or tear out. I have never had the slightest trouble with the wire suture penetrating the bone, and I see no reason, when we have risked the patient's life and limb by operating on the joint, to take any chances on the suture being ineffective. If time and experience show that some absorbable suture will act thoroughly and efficiently, I am certainly willing to accept it. As to operating on all cases, I stated that if the patient is in good health, other things being equal, I preferred to do so.

DR. A. D. BEVAN, Chicago—I may be criticised for taking the position against the open operation for fracture of the patella, but I have found that by non-operative treatment I have obtained good results. I have one case, a prize-fighter, who has fought several times since his accident, who fell from the gallery of a gymnasium backward, sustaining a fracture of both patellae. These were handled in a conservative way, bringing the fragments together with adhesive plaster, which was changed every few days, and we have obtained such good union that the man has returned to his old line of work. I have also treated a golf player in the same way, and since the accident he plays as well as ever. I do not agree that the conservative method is unsatisfactory, for I have found it just the opposite. I have two cases of fracture of the patella handled in this conservative way in which the X-ray shows bony union has taken place. On the other hand, I have seen one death from operation and a number of cases of sepsis, and I would state that the ordinary medical man in general practice has no right to open up a simple fracture of the patella which he can approximate by means of adhesive plaster or plaster of paris. A man who has at his disposal all of the facilities for aseptic work has a right to handle his cases by the open method, but the vast majority of cases will fall into the hands of men who have not such facilities. The men who handle these cases should be taught to do so by the non-operative method and such a teaching would be of great service to both the patient and the surgeon.

GROWTHS IN THE FRONTAL SINUS.

TWO CASES; OPERATION; RECOVERY.*

W. D. HAMILTON, M.D.

COLUMBUS, OHIO.

Tumors in the frontal sinuses are not elaborately discussed by modern text-books on surgery. The diagnosis of this pathologic condition can not be well established until marked deformity is present. Kikuzé published, in 1888, a list of 54 cases in which tumors had been removed from the frontal sinuses, and of this number 18 died of sepsis, but the writer has not had access to any tabulated lists showing results of operations done in the last twelve years. In the face of a mortality of 33 per cent., it is obviously important that operations should be performed early in the history of the disease—as soon as the diagnosis can be made. These neoplasms may be either benign or malignant, and the osteomata are the growths most commonly met with in this location. They may attain to considerable size and sometimes undergo necrosis, and on account of the proximity of such a neoplasm to the brain and its meninges, there is danger of meningitis or cerebral abscess from its presence. Again, an empyema of the frontal sinus may complicate such a growth. When the operation is done, it is obviously important that rigid asepsis should be employed. Prominent among the pressure-effects produced by these tumors is the absorption of the cranial wall, or of the roof of the orbit, or of the wall of the sinus itself, or of the membranes of the brain contiguous to it. No classical incisions have been suggested for their attempted extirpation. If the tumor be large, it may be difficult, or impossible, to avoid a somewhat unsightly scar.

CASE 1.—J. B. C., aged 36, a resident of Carpenter, Ohio, a farm laborer by occupation, was admitted to Mt. Carmel Hospital, May 21, 1899. His father died of cancer of the kidney, though the other members of the family were free from any constitutional taint. His general health had always been good, with the exception of an attack of typhoid fever two years prior to his admission. At the age of 14 he was struck on the

forehead with a stick, causing a swelling at the root of the nose. This was incised, discharged a small quantity of pus and closed within a fortnight. The swelling never entirely disappeared, but continued to increase in size up to the time of his admission. The patient had of late suffered from headache and vertigo, and the forehead was the seat of an enlargement, extending from the line of the brows for some distance above the frontal eminences. Laterally it reached nearly to the angular processes. It was somewhat irregular in contour and more prominent to the left of the median line. Transversely it measured $3\frac{1}{2}$ inches, while the greatest vertical dimension was $2\frac{1}{4}$ inches. It was in portions hard to the touch, while in many other places it yielded a kind of crackling sensation. He had no febrile movement, there had at no time been any purulent or bloody discharge from the nose or from either ear, and his mind and vision were not apparently disturbed. The forehead was bulged out, so that the deformity was readily discernible and very unsightly. A diagnosis of osteoma or osteosarcoma of the frontal sinus was made and operation was advised.

After thorough preparation of the head and face, he was operated on at Hawkes' Hospital, under ether narcosis. A crescentic incision was made, connecting the two external angular processes and reaching at its center a point about three inches above the root of the nose. The flap having been rapidly turned downward, Hartley's chisel was used for the purpose of dividing the bone beneath the incision. The frontal bone had been to a certain extent absorbed and thinned by the growth in its progress. The chisel was used below transversely in the hope that the neoplasm might be shelled out, but the mass was too firmly fixed to make this undertaking feasible. An ordinary amputating saw was driven transversely into the most prominent part of the tumor, to the depth of one-half inch, and at a distance of $1\frac{1}{2}$ inches from the superciliary ridges. It was hard as ivory. Strong chisels were driven into the section made by the saw, and by the employment of considerable force the tumor was removed piecemeal. Rongeur forceps and large pliers were also used in the operation. The meninges were in some places exposed, while in other parts they had been absorbed, and the growth in its development seemed to have encroached backward, upward, forward and laterally as well. No formidable hemorrhage was encountered and, after having cleansed the cavity, it was packed with iodoform gauze and, provision for drainage having been made, the wound closed with stitches. The next day the patient had a normal temperature, no pain, and the dressings were thoroughly saturated with blood-stained serum. His convalescence was uneventful and he left the hospital in four weeks, with the wound healed. The growth was found to be osteoma, and weighed $4\frac{1}{2}$ ounces. A recent letter, evidently dictated by his physician, states that his general health is very good and that there is no sign of recurrence. There is some depression in the forehead and at times he is annoyed with double vision. He is able, however, to go about his ordinary avocations without being at any time incapacitated.

CASE 2.—C. S., aged 27, a resident of Wellston, Ohio, was sent to Hawkes' Hospital by Dr. J. B. Speneer, of that place, on May 18, 1900. A laborer by occupation, he had fair general health until the past few months. He first noticed a protrusion of the forehead three years ago, and it increased steadily in size until his admission to the hospital. There was no history of syphilis or tuberculosis. Some months prior to admission he consulted the writer, and then had headache slight impairment of vision and marked double exophthalmos. He was put on anti-syphilitic treatment for tentative and diagnostic purposes for a number of months, but without improvement. At the time of his admission he had a bulging swelling directly above the nasal process of the frontal bone, the size of a walnut, and flattened slightly from one side to the other. He also had double exophthalmos, especially of the left eye, with ugly divergency. Dr. C. F. Clark found double optic neuritis, inability to read and threatened blindness. The ophthalmoscope showed, particularly in the left retina, a striated condition suggestive of edema, apparently the result of intracranial pressure on the

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posterior part of the eyeball, while on the nasal side a patch of choroiditis had developed from it. He was becoming dull and apathetic and at times had slight fever. There was no history of nasal or aural disease, and the sense of smell was unimpaired.

The diagnosis of tumor of the frontal sinus, probably osteoma, was made, and operation performed. An incision was made on the forehead, which exposed, after reflection of a small flap, the region of the expanded frontal sinus. Dr. William Todd, the dentist, rendered valuable assistance with a surgical engine. A hole was bored into the sinus and the anterior wall found to have been largely absorbed. The sinus was filled with what proved to be an osteoma, rather soft in consistency, and a structure was also found resembling a fibrous polyp. This mass was located exactly in the median line in the sinus in such a position as to interfere with proper drainage into the infundibula. As a result there was retention of mucus and pus, and both sinusses were filled with mucous polyps of varying sizes. The roofs of both orbits were partially destroyed, and the secretion, together with the polyps, mucus and pus, were in contact with the dura mater, which was carried so far backward that the finger could reach the petrous portion of the temporal bone. After the removal of the bony growth and the polypi, the cavity was thoroughly washed out with salt solution, which was used freely during the operation. The bone required rather extensive removal in order to get at the sinus, and the dental engine was very useful in dividing the bone. The wound was carefully packed with iodoform gauze, some of which was lodged behind the left eye, and was partly stitched, leaving ample provision for drainage in the median line of the forehead, in the location of the frontal sinusses. At this writing he has had a normal temperature for three weeks. Ten days ago he was anesthetized, some small sequestra were removed, and the edges of the wound brought together except at the lower median angle. The cavity is about closed. It is lined with granulations. His general condition is much improved. The opening in the forehead leads downward a distance of two inches to the space behind the left eye and an equal distance toward the apex of the right bony orbit. It would have facilitated drainage if a counter-opening had been made through the squamous portion of the temporal bone on the left side at a point opposite the cavity behind the eye.

Improvement has been very marked, and the indications are that the patient will get radical relief, although the sinus will no doubt persist for a time, until the cavity is healed. His mind is perfectly clear and he is free from pain, has no vertigo, has gained in flesh and is able to read ordinary print without fatigue. The exophthalmos has disappeared, and examination by Dr. Clark shows that vision is up to the normal, while the ophthalmoscope reveals a condition of things in which the choked disc has disappeared and the retinae are about normal.

June 29, 1900: Patient was out of hospital for first time. Dr. Hamilton had operated April 20 and removed large growth—polypi—and pus. Patient has made a good recovery. Vision, R., 5/9, with + .5 S. = 5/75; L., 5/9, with + .5 S. \subset .5 C. ax. $90^\circ = 5/6$.

Diplopia occurs only with cover or with colored-glass test, which is overcome at once. Hypertropia is 0° in right, 4° in left; esophoria, 1° , abduction, 5° ; adduction, 14 to 20 degrees.

Ophthalmoscope shows right disc normal; some fine horizontal striations of retina in macular region persist; vessels normal. Left disc appears normal; possibly slight paleness; some disturbance of epithelium about the disc, but not excessive; in the large area of choroiditis there has been increase in pigmentation; coarse horizontal striations still persist. No scotoma discovered in temporal fields, therefore retina is not destroyed by choroiditis.

The first case was one of large osteoma, as has been indicated, while the second was one in which an osteoma of softer consistency of the frontal sinus was complicated by the existence of polypoid growths and a rather extensive empyema.

DISCUSSION.

DR. R. H. M. DAWBARN, New York City—An important point in these cases is the early diagnosis of the tumors, particularly when malignant and occurring in the frontal sinus of the antrum. I will mention one case to illustrate the point, which I saw five years ago. The patient had had persistent face-ache for a long time, and a dentist had extracted an upper bicuspids, the fang of which was quite soft, instead of being the normal hardness of the crusta petrosa. He came to me some weeks later, but had absolutely no evidence of a tumor so far as any bulging was concerned. By the electric light I could make out that the antrum was filled with something, and upon taking a round sewing-needle I was able to demonstrate that whereas the bone on the other side was of the usual extreme density, on the diseased side it was soft so that I could push a needle through it and into a solid growth in the antrum. Softening is quite frequent in these cases and greatly aids the diagnosis. By this method of pushing the needle into the tumor and its meeting with diminished resistance I have been able to make a diagnosis much earlier than I otherwise could have done. In an operation upon the frontal sinus we are able to do much better work and accomplish drainage more in accord with surgical principles by the natural passage by curving a probe in a peculiar way, which I discovered by experiment, and inserting a drainage-tube by a thread tied to the probe through the natural opening, instead of crushing through the bone from the frontal sinus into the nose for passage of a drainage-tube—which is the more usual way. Nine years ago I did a number of experiments on the cadaver, trying to effect drainage by the natural passages, first through the infundibula and then through the nostril, and I found by curving the probe in a peculiar way it could be done very readily. The drainage-tube is drawn through the nostril up into the frontal sinus. Dr. G. R. Fowler, in his article in Wood's "Reference Handbook" upon Frontal Sinus Disease, has an illustration showing how to curve the probe for this purpose.

TREATMENT OF THE GASTROINTESTINAL SYMPTOMS IN TYPHOID FEVER.*

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PHILADELPHIA.

While we have no direct specific remedy for typhoid fever, and no knowledge of any drug that destroys the bacillus of this disease, the proper management of the gastrointestinal system, and especially during the early period, will prove of decided advantage. Among the principal objects met in this way is the preservation of the strength and vitality of the patient, thus probably inhibiting the virulence of the bacilli and their toxins, as well as that of some of the intestinal organisms which are otherwise harmless. Moreover, we can diminish somewhat the amount of intestinal toxins, and hence to an equal extent their absorption into the general system. The frequency of certain symptoms and complications—meteorism, vomiting, diarrhea—which are so very prone to manifest themselves if the prima via be neglected, may also be lessened.

Before discussing the usefulness of drugs in this condition, which I grant are subsidiary in importance to correct feeding, baths, careful nursing, and the judicious use of stimulants, I should like to call attention to the prophylactic influence of the first two, namely, feeding and baths. In the care and management of the digestive tract, correct feeding stands paramount. For the typhoid patient liquid nourishment—milk, broths, meat-juices, egg-white and the like—is the safest, as it is the best form of, alimentation, as a rule. The liquid arti-

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cles mentioned can be alternated with each other, although milk, when well borne and not too vehemently objected to, should be given throughout the entire course of the disease. Let me lead your attention to the importance of administering the same at stated intervals—every two or three hours—and in definite quantities—6 to 8 ounces at each feeding. As to quantity, however, this should be regulated with reference to the capacity of the gastrointestinal tract. For example, if meteorism or nausea intervene, or the stools contain curds or oil globules, or a marked increase in their frequency occurs, instead of having recourse at once to drugs, we can benefit the patient's condition much more by making a thorough investigation of the diet, particularly as to quantity and character, as well as of the condition of the dejecta. Peptonizing the milk if nausea occurs or it is not well digested, as shown on macroscopic or microscopic examination of the stools, and discontinuing beef and mutton broths if the bowel movements be too frequent, may render medicines entirely unnecessary. We may also diminish the quantity of all forms of alimentation for twenty-four or forty-eight hours, with marked benefit in some cases.

The Brand method of treatment has a favorable influence on the gastrointestinal tract, by reason of its action in reducing temperature, in lessening nervous manifestations, and imparting tone and vigor to the heart and the muscular system. The digestive functions are invigorated, the glands secrete their respective juices and the tongue becomes moist, sometimes clean, and the appetite improves. While the external application of water is productive of these happy results, the internal administration also has decided advantages for the sufferer.

Dr. Hector Maillart,¹ of Geneva, as the result of his study of the subject, states: "I feel convinced that the treatment of typhoid fever with copious drinks may be recognized as a definite method. In order that the treatment may be efficacious the patient should drink at least 5 to 6 quarts of water daily during the whole febrile period. There is no contraindication to this treatment; feebleness of the heart, so far from contraindicating the drinks, may become a special indication for them. The results are a progressive lowering of the fever, disappearance of the dryness of the tongue and mouth and pronounced sedation of all the alarming nervous, circulatory and renal phenomena. These results are due to the oxidation of toxins and refuse material, which are rendered soluble and eliminated. The oxidation is shown by the formation of great quantities of urea, and the elimination takes place by the skin and kidneys, in the form of profuse sweating and abundant diuresis. This diuresis re-establishes the integrity of the renal filter and that results in the rapid disappearance of albuminuria."

This method of treatment, however, does not have a controlling influence on the general course and duration of the disease. The quantity of water can be reduced to 2 or 3 quarts per diem, and administered, as Gilman Thompson properly advises, between the hours of feeding, so that the gastric juices will not be too much diluted. Again, in those cases of typhoid associated with a tendency to constipation, this form of treatment is found to be efficacious, producing, as I have repeatedly observed, free evacuations.

As the function of the stomach is much impaired, resulting in deficient secretion and diminished motility,

meteorism is often encountered, due to decomposable material, an appropriate diet notwithstanding. To supplement the defective gastric secretion, I would advise the use of HCl in small doses after each feeding; this replaces the missing normal acid and acts as an antiseptic, thus preventing the multiplication of micro-organisms.

To address antiseptic remedies to the bacillus of Eberth or its toxins, or to the intestinal lesions, would, I believe, be hopelessly futile; and the claim that clinicians have aborted the disease with these remedies lacks confirmation. Intestinal antiseptics, however, have a sphere of usefulness, exerting as they do an inhibitory effect upon the fermentative processes, thereby counteracting the offensive odor of the stools and arresting the growth and development of ordinary intestinal bacteria. Some members of the antiseptic class of remedies, being slightly astringent, also lessen the diarrhea.

It has been my habit, especially in robust individuals, to employ calomel for the first few days of the fever. Its action as a hepatic stimulant and disinfectant of the bowel is worthy of consideration. Calomel removes the decomposable material retained in the gut, and it "places the bowel in a favorable condition for the subsequent maintenance of antiseptics."—R. H. Quill.

For the constipation sometimes present throughout the entire course of the disease, I have found an enema of soapsuds, given every second day, to be followed by the speediest and best results; in late protracted cases accompanied with an irregular intermittent fever, I have seen good results follow the administration of divided doses of saline laxatives. Again, it sometimes happens that a diarrheal condition occurs during the early period of convalescence, due to some irregularity of diet or overabundant feeding, or to a bacillary—otherwise harmless—development, and under these circumstances a mild laxative is sometimes followed by prompt amelioration of the symptoms. In this connection I wish to protest against the routine use of the so-called Woodbridge treatment. I have never seen the gratifying results claimed by its author and his disciples. Moreover, there is no special medicinal treatment for typhoid fever, but there is for the individual case.

Of the group of intestinal antiseptics, salol, benzonaphthol, thymol, carbolic acid, etc., I commonly employ salol, the dose being 3 grains every three hours, or larger quantities, even if the symptoms are above the average severity. It is a compound of salicylic and carbolic acids, insoluble in the normal juices of the stomach, but the pancreatic secretion decomposes it into its constituent elements. Its action is that of an antiseptic; meteorism is diminished and the stools become less offensive, as I have often had occasion to observe. The other members of this group of antiseptic agents may be credited with the same action, but my personal experience with their use has been quite limited.

For the marked distension of the bowel, especially noted when the colon is the seat of the principal lesions and diarrhea is a prominent feature, turpentine is probably our best remedy; it is an efficient antiseptic and a stimulant to the circulation and glandular system. When the healing process in Peyer's patches is slow and sluggish, turpentine, by virtue of its stimulating action, hastens the repair of the typhoid ulcers. For the meteorism white turpentine or the oil may be administered internally; if the stomach becomes intolerant, then enemas of the oil combined with milk of asafetida are very efficacious. As turpentine is eliminated from

the system through the lungs and kidneys, and on account of the overworked condition of the last-named organ, the drug should be used with great caution or discontinued on evidence of albumin in the urine. Dr. Pfromm informs me that in a recent case that he saw with a brother practitioner, the patient, being in the last half of the second week of typhoid fever, suddenly showed nremic manifestations while taking turpentine; the urine was scanty and contained both albumin and casts; some twitching of muscles was noticed. On discontinuing the turpentine, the urine increased in amount, albumin and casts disappeared in three or four days and the patient made a good recovery.

The colon or lower bowel is sometimes the seat of extensive ulceration; this is productive of marked tympanites, and at times an exhausting diarrhea supervenes, or involuntary discharges may occur. In these instances, intestinal irrigation if judiciously employed tends to sweep from the bowel decomposable material and irritating micro-organisms. I sometimes combine with the water an antiseptic, as salicylic acid .5 to 1 per cent., or bichlorid of mercury 1 to 6000, used thrice daily, or every four hours, according to the urgency of the symptoms. If a decided catarrhal condition exists silver nitrate .25 to 1 per cent. may be advantageously employed.

The introduction of cold water into the rectum may also be practiced with happy results in suitable cases. It has other advantages than those enumerated above; it increases the tonicity of the sphincters and rectal muscles; by a reflex action on the nerves of the bladder, it causes this viscus to contract and empty itself, and, by a like stimulation of the sympathetic plexus, influences diuresis. Its antipyretic action is also evidenced by a reduction in temperature. Time and space forbid my entering upon a discussion of the treatment of the various complications presented by the gastrointestinal tract in this disease.

DISCUSSION.

DR. H. B. FAYILL, Chicago—The question of the real value of different methods of treatment of typhoid fever is a very embarrassing one, because it takes such a vast amount of clinical data before we can arrive at conclusions which are really valuable. One point of importance is the varying relative gravity, or severity, of the clinical course in typhoid fever. This will not only lead to differences in results, but also leads to false conclusions as to the therapeutic observations. Referring directly to his own experience, he had observed a very great difference between the typhoid fever of 1898, and the same disease of preceding years. Is it that the type of typhoid fever is different? It is true that our therapeutic methods have improved, but he was also of the opinion that the type of typhoid fever has been decidedly mitigated, within the last eight or ten years. He was quite of the essayist's opinion that the therapeutic methods, of this country particularly, record a distinct advance in the treatment of typhoid fever, and he referred particularly to the use of the modified Brand method, which he uses in his own practice. The modern methods of treatment consist in gastro-intestinal disinfection and the modified Brand bath. He was unable to decide whether the amelioration is due to the improvement in gastro-intestinal hygiene or to the introduction of the Brand bath, but he was led to believe that it is the bath, rather than the antiseptic treatment. In his hospital practice he uses guaiacol instead of salol, as he found it less irritating. He could see no difference between the clinical effects of the two agents. He had found that it was most efficient if given when the stomach was comparatively empty, or not engaged in digestion. He approved of colonic flushing and had found that patients retained the normal salt solution when they could not retain the simple water injections.

DR. T. B. GREENLEY, Meadow Lawn, Ky.—When he began practice in 1845 and up to 1875 he had never seen a case of autumn typhoid; it was always a winter or spring disease. Lately, he had begun to meet with cases of autumn typhoid, and recalled seeing six cases in one house. It was in the fall of 1876, that he had made a report of seventeen cases to the State Medical Association, in which he noted several points of difference between the disease and what he had seen previously. All of the seventeen cases recovered. In these cases he had not seen the preliminary nervous state lasting about a week, and the marked delirium, that he had been accustomed to see in former years. There was also less diarrhea. Also the pulse is frequently slower than in the winter and spring disease. He had never lost a case where the bowels were constipated throughout the disease. He also noticed a less amount of eruption than formerly. He therefore thought that the type had changed.

DR. THOMAS F. REILLY, New York City—In cases where constipation is marked he had found much benefit from small doses of strychnia frequently repeated. He inquired of the essayist if he had observed any ill effect upon the kidneys from salol, and secondly, whether he had noticed any lessening of the number of relapses under that treatment.

DR. WARREN G. HILL, Milwaukee—The important subject of feeding typhoid patients should be more carefully considered. In outlining the medical treatment we usually indicate what shall be given and how often, but in directions for feeding we may indicate what is to be given, and perhaps how often, but the quantity is less clearly defined. He had seen a most careful physician overfeed a patient with a most restricted diet, the patient being fed every two hours, and he got a large quantity at each time. His own opinion was that two hours was a little too short an interval; he thought that babies, even, often do better with an interval between feedings of three or four hours. Perhaps it would be better in typhoid fever to lengthen the interval and give less food. In fact, he was so careful upon this point that his patients were in the habit of saying to him that his treatment of typhoid fever was solitary confinement and starvation. He had kept patients for a week with very little food by the stomach; he used inunctions of cod-liver oil, allowing only a spoonful or two of koumyss by the mouth. In fact, this is his ordinary routine treatment when there is much disturbance in the alimentary tract. The advantage of hydrotherapy in his mind is that the patients take up a large quantity of water by absorption into the system; at the same time they have the stimulating effect of the cold, provided that there is sufficient vitality to produce stimulation, otherwise there would be depression. But in the latter group of cases we can resort to daily colonic flushing, in addition to bathing the surface with the sponge. The colonic irrigation must be conducted very carefully, because we all know from post-mortem examinations that the colon is often so distended that the muscular coat is almost entirely absent.

DR. FRANK WOODBURY, New York City—Sterilization of the food and drink is an important part of the treatment, as well as the administration, in frequently repeated small doses, of intestinal antiseptics in order to prevent reinfection. Typhoid being largely a water-borne disease, it is important that the water used for drinking by the patient, or cooking for him, should be filtered and boiled before using, and that no ice should be given to him unless known to be from a pure source.

DR. W. W. TOMPKINS, Charleston—In 1882 a company built a railroad in West Virginia and had 500 men employed, who lived in a camp. After living in one place until the camp became infected they would move off to a new place. Typhoid broke out in camp and, acting upon the advice of an old practitioner, he bathed all the patients. He extemporized a tub out of an old canoe. There were fifteen cases in the camp at this time. Every time the temperature went up to 102 F. they were soused in this bath; it did not matter whether they had pneumonia or other complication, or none at all, they all got the baths. In three months he treated 27 cases and all got well. It might be considered harsh treatment now, but the facilities were few and the only other treatment they got was whisky. Where cases had diarrhea or constipation, they were treated

just the same. In many of his cases constipation appears early in the disease. His plan was to give small doses of castor-oil in milk and clear out the intestines so as to avoid the danger of ulceration from irritation of contents of the tube. If the fecal masses are in the lower part of the colon we can reach them by flushing. This subject has been so frequently discussed at the state meetings and by the public press that it is well known and our patients generally know what to expect and what ought to be done in treating a case of typhoid fever. As regards the diet, there can be no question that milk is the best as a rule, but in some cases it does not agree with the patient and something else must be substituted. In some cases albumin water answers the purpose, in others meat juice. It has been suggested that small doses of calomel are useful during the first week, but his experience had been that the physician is not usually called in until as late as the second week. He inquired of the essayist if he would give calomel in such cases.

DR. J. M. ANDERS, in closing, referred to the statement made that there had been a change of type in the disease during the last decade or two, and said that he was of the same opinion; that the disease had become more mild in type. And yet we still see cases of severe type, and these are taken into consideration in the discussion in his paper. One speaker had expressed himself as being unable to decide whether the improvement was due to hydrotherapy in conjunction with diet and other remedies in modern treatment. His own opinion was that it was due chiefly to hydrotherapy. In cases in which this can not be carried out, the other measures do have special usefulness, and especially a careful dietary. The question had been asked if salol produces any ill effects? He could say that he had never seen a case in which the urine became smoky, although in a few cases it had assumed a pink hue, which generally passed away on diminishing the dose. He had never seen it do any harm. He had not noticed any beneficial effects from salol upon the tendency to relapse. He did not believe that it obviates a tendency to relapse to any appreciable extent. He had not found it to reduce the tendency to other complications, but reliable statistics are wanting on this point. With regard to feeding the patient, he thought it best to be as liberal as possible, however, without at any time exceeding the digestive capacity of the patient, as shown by an examination of the stools. If the stools show undigested material he reduces the food or lengthens the interval. He thought that the stools are not examined sufficiently often by the profession. In some cases it is necessary to examine them microscopically as well as macroscopically. They often show curds and scraps of food still undigested. In this case we may substitute some other form of nourishment. The good effects of the bath are most evident upon the nerve-centers, and the symptoms which proceed from the disturbed organic functions. The reduction of temperature is important, but it is secondary to the effect upon the nervous system of the cold bath. Where hemorrhage from the ulcerated patches occurs the only indication is absolute rest, both local and general. He felt certain, both from his personal experience and from published statistics, that the cold bath has increased the tendency to hemorrhage from the bowels, caused by the necessary disturbance of the patient. The question having been asked if calomel should be given to patients coming under observation late, he would explain that he did not mean that calomel was inadmissible in the later stage, but that the most good was obtained from its use in the first week. At the end of the second week he would not consider it contraindicated unless the patient were very weak, in which case he would prefer to use something less depressing in its effects.

THE INFLUENCE OF OVERCROWDING ON THE PREVALENCE OF TUBERCULOSIS.—That tuberculosis is more prevalent and more destructive where there is overcrowding and necessarily unhygienic conditions is shown by the fact that in Glasgow the death-rate per 100,000 of the population from diseases of the lungs, including tuberculosis, was in one-roomed or two-roomed houses, 985; in three-roomed or four-roomed houses, 689, and in five-roomed houses and upward, 328.

THE UNBROKEN SKIN AS AN ABSORBING MEDIUM.*

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In a communication of this kind, consisting, as it largely does, of a review of the works of many observers, much condensation is necessary and many details must be omitted. In reviewing the literature of this subject from the beginning of the century, one is forcibly impressed by the ebb and flow in the popularity of the external application of medicinal agents for their constitutional effects.

Early in the century this method was much in vogue. After 1860, under the inspiration of the experimental physiologists it was relegated to the rear, and for almost a quarter of a century, with the exception of treatises on the use of mercurial inunction in syphilis, there was little written on the subject. Within the past decade the pendulum, largely influenced by the French school of clinicians, has begun to swing to the opposite extreme. The experimental physiologists demonstrated that the lack of homogeneity existing between the various layers of the skin would prevent the entrance of extraneous substances. That theoretic conclusion at first thought seems unanswerable. The crypts of the sebaceous glands, however, are lined with a different kind of epithelium, an epithelium similar in many respects to that of mucous surfaces, and allows the transmission of foreign substances quite as well as if they are brought in contact with it. Another fact demonstrated by later observers, notably Guinard and Linnossier, is that many of the agents that produce therapeutic results by means of cutaneous application are converted into a gaseous state before absorption takes place. The free passage of most gases, particularly oxygen and carbon dioxide, through the skin has been a well-known fact for many years, but it is of quite recent date that the practical application of this principle has obtained. The observers before mentioned clearly proved that when some of the medicinal agents, to be mentioned hereafter, were applied to the skin, without an occlusive dressing, only an infinitesimal amount could be recovered from the urine. If, however, an occlusive dressing of oiled silk and cloth were applied over the substance a very considerable amount could be recovered. This simple principle will account for many of the failures to secure therapeutic results in the past.

Another forward step was taken when Waller and others discovered that many substances, which of themselves could not produce constitutional effects when applied to the skin, might be absorbed if they were dissolved in a volatile substance, such as ether, chloroform or alcohol, which itself is absorbed in a volatile state. The absorption of aqueous solutions of non-volatile bodies by the normal skin is practically impossible. Bartholow's fanciful theory that since the blood is alkaline, acid fluids ought to pass through the skin by a process of osmosis, has not been verified. Non-volatile powders placed on the skin are likewise not absorbed. Guinard made 250 experiments with various substances of this class and never succeeded in finding any trace thereof in the excretions. Whatever absorption takes place in the mineral baths is due to the transmission of the gases evolved and to the presence of

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exposed mucous surfaces, such as the rectum, vagina, etc.

The discussion of absorption by cataphoresis, which is closely related to the subject under consideration, would unduly lengthen this paper, and must be deferred. Vanni and Guicardi believe that substances dissolved in organic liquids are more readily absorbed, and have reported the successful use of morphin and sodium salicylate when dissolved in human saliva. Their results have been disputed by Destot and others. Much had been expected from the inunctions of metals in the colloidal state, but with the exception of silver there has been little encouragement in that direction.

Fats.—A certain proportion of most fats is absorbed. It is taken up almost entirely through the sebaceous glands. Medicinal agents contained in the fatty bases are likewise taken up in varying quantities. To obtain any decided absorption, vigorous and prolonged friction is necessary in order that the substance may come in contact with the glandular epithelium. Fürbinger believes that mercury when used in the form of an inunction, is volatilized in the crypts of the glands, and finds its way into the circulation in the same manner as other gases. The same reasoning might apply to the iodid of potassium. There is, however, sufficient evidence to prove that constitutional effects may be produced by the inunction of non-volatile bodies.

INUNCTION BASES.

Petrolatum.—The value of petrolatum for this purpose is practically nil. This is due to its tendency to gum over the mouths of the glands.

Vasogen.—The trade name for an oxygenated vaselin is one of the latest products of Teutonic genius. It has been highly recommended as an inunction base, but its real value has not yet been determined. Many similar preparations that were lauded to the skies have come and gone. Lard and the various animal and vegetable oils have a moderate penetrating power.

Oleic Acid.—Judging from the literature, it might be supposed that oleic acid had lost much of the popularity that it enjoyed some years ago. It is in extensive use, however, and by many is considered to be the most efficient base for this purpose that we possess. Incompetent pharmacy is responsible for many of the failures attendant on its use.

Adeps Lanae.—To Osear Liebreich belongs the credit of calling attention to the old wool-fat, or *œsypus*, and of first demonstrating its exceptional properties as an inunction basis. He showed that wool-fat is a mixture of cholesterol and the fatty acids, which latter, however, must be removed to render the product thoroughly suitable to the skin. He also proved that the fat of the human skin and its sebaceous glands, as well as the vernix caseosa of infants, is essentially identical with wool-fat, being composed of cholesterol and iso-cholesterin. It is derived from the wool-fat of the sheep and has been popularized under the name of lanolin. This is claimed to be a purified *adeps lanae*, to which water may be added. As watery solutions of certain medicinal agents do not mix well with other fats, this is of a decided advantage, both for incorporation and absorption.

Aubert, as a result of a most thorough and painstaking investigation of the subject, believes that for simple topical application pure lanolin is inferior to other bases, but where friction is employed it is the best basis that we possess. He advises that it be mixed with castor-oil and applied with friction for from five to ten minutes.

Plasters.—It might be expected that there would be a considerable amount of absorption following the application of plasters on account of the length of time they are in a position. Anders believes that the constitutional effects of belladonna may be obtained in this way in children, and that the effect is more continued than when the drug is administered by mouth. The literature on this branch of the subject is very meager.

CONDITIONS FAVORING ABSORPTION.

Beurget found that, after 40 years of age, absorption diminished. It is much more marked in the young. The skin of women is more permeable than that of men. Those of light complexion have more permeable skin than the dark; fat people, more than those with a dry harsh skin.

It had been noticed for a long time that salivation was much more easily produced when mercurial inunction was made over hairy parts, as the pubis, than in other localities. Aubert, after carefully studying this phenomenon, decided that it was due to the increased number of glands and hair follicles present wherein the mercury was more rapidly absorbed. Thus, he produced the effects of pilocarpin by mixing it with lard and then rubbing it into the hairy regions, whereas the effect obtained when applied in other localities was very slight. Those parts of the body covered by thin skin and abundantly supplied with lymphatics, as the axillary and inguinal regions are, must be superior to the more dense structures. Pavolsky advises that the skin be washed with ether to remove oil, filth, etc., before the application of the medicament. Certainly, the parts should be cleansed with soap and warm water beforehand.

INDIVIDUAL APPLICATIONS OF MEDICINES.

A critical review of the literature has elicited the fact that the following agents may be absorbed through the skin and produce constitutional effects.

Mercury.—The first account of the use of mercurial ointment for inunction appears in 1494. Probably the employment of this and other substances by this method is much older. That mercury will produce its effects when administered in this way is generally conceded. The suggestion that the mercury be applied to the sole of the foot and thus rubbed in by the constant movement of the foot in walking is both ingenious and practical, and might be employed in the case of other agents equally as well. By some authorities mercurial soap is preferred to the soap for inunction. It is said to consume less time in its application. Vogel and Bermartzik say that if 1 per cent. sublimate lanolin ointment be rubbed into the skin of the palm of the hand a metallic taste may often be detected in the mouth within a few minutes.

Iodin.—This, either in the form of the tincture or as the iodid, is certainly absorbed. It has been found in the urine by many observers. The iodid has usually been employed in the form of an ointment. Iodid of potassium is decomposed at the body temperature, and in order to secure the full effect an occlusive dressing is necessary. The ordinary tincture when applied should likewise be covered with an occlusive dressing or, what in a measure amounts to the same thing, petrolatum. Elsberg thinks the ordinary tincture too weak and advises a 20 per cent. solution in ether and alcohol. An interesting feature in the absorption of iodid when applied to the skin, is that the amount eliminated by the kidneys and detectable in the urine does not increase gradually but by successive leaps.

Europhen and Iodoform.—Dr. F. Flick asserts that both iodoform and europhen in a solution of cod-liver oil are absorbed by the skin. He has employed these mixtures for nine years and is positive that it produces the constitutional effects of the drugs. Zera J. Lusk has successfully employed an iodoform poultice in seven cases of tuberculous peritonitis. Linnosier has found that considerable amounts of the iodoform may be recovered from the urine following such applications.

Salicylic Acid.—The absorption of salicylic acid is fairly rapid. This may be accounted for by reason of its keratolytic action, and because it is volatile at the body temperature. Reed found that if it be dissolved in alcohol and chloroform, and covered by an impermeable dressing he could detect it in the urine within twenty minutes. Sigalas and Combermalle go even further and assert that when it is rubbed into the skin and covered by a suitable dressing it can be detected in the urine in five minutes. According to Cullen, these authors have succeeded in effecting the absorption of sodium salicylate in the same manner. As might be expected, methyl salicylate, occurring alone or in combination, as in the oil of gaultheria or oil of birch, is readily taken up. Vidal has demonstrated that for this purpose the artificial oil of gaultheria is preferable to the natural oil, in that it contains more of the salicylate and less irritant substances and it does not blister. The ordinary synthetic oil of the shops answers quite as well as the preparations so extensively advertised. This method, either alone or in combination with internal medication, is employed in the treatment of acute articular rheumatism in most of the hospitals of Paris and New York, and gives great satisfaction. I have employed it in the last twelve cases of articular rheumatism and can testify to its efficacy. From one to two teaspoonfuls of the artificial oil are poured on a piece of flannel. Each of the affected joints is encircled by such a dressing and covered with oiled silk, and over this a thick flannel bandage is applied. This procedure is repeated from two to four times daily. Others employ it in ointment form. Lately this plan of treatment has been recommended in the management of acute chorea by Professor Bozzolo, of Turin. It has been suggested that the absence of salicylism, following such application, is due to the slowness of absorption, thus not permitting any great accumulation of the agent in the blood at any one time.

Silver.—The inunction of metallic silver, in the form of unguentum Credé has been successfully employed in many forms of general sepsis. Gustav Shriner reports a number of cases of cerebrospinal meningitis successfully treated by this agent. Credé states that two-thirds of the ointment penetrates the skin, and he has proved this by microscopic sections. Forty-five grains are sufficient in mild cases, and friction should be employed from twenty to thirty minutes. Roswell Park, Marx, Jones, Osborne and others have had excellent results from its use. The literature is quite extensive.

Quinin.—Inglis, Moncorvo and others assert positively that quinin produces its effects when applied locally in the form of an ointment. This method is especially useful in children. Lanolin or oleic acid are the bases usually employed. This means of administering quinin is very popular in and about New Orleans. From personal experience I believe it to be efficacious.

Phenacetin.—A few writers have employed phenacetin in the form of ointment with seeming good results.

Turpentin.—If confined, turpentin certainly does produce its good effects, and this is sometimes painfully evident if the kidneys are diseased.

Guaiacol.—Guaiacol has been used locally with undoubted success in the treatment of the pyrexia of typhoid fever, and tuberculosis. It must be volatilized, and therefore an impermeable dressing is essential.

Creosote.—Fitzgerald, of the English medical service in India, reports twenty-six cases in which creosote in olive-oil was absorbed and lowered the temperature in malarial fever. Gilbert employed it for this purpose in the pyrexia of phthisis with seeming success.

Croton-oil.—Croton-oil, if rubbed on the skin in sufficient quantity, will produce its constitutional effects. A large part of this absorption is due, however, to its preliminary destructive effect on the epidermis.

Ichthyol.—Inasmuch as very little is known of the constitutional effects of ichthyol, we can not say positively that it is absorbed. Lately it has been employed for its constitutional effects in smallpox and measles. It is said to have rapidly reduced the temperature to normal.

Pilocarpin.—This causes a profuse sweating in the parts where it is applied and effects the general condition but slightly. N. S. Davis, Jr., of Chicago, is satisfied that this method of producing diaphoresis is of distinct value in uremia. In a case of my own there was an undoubted increase in the amount of perspiration at first, but it did not continue. The case finally recovered. The usual strength employed was 5 cg. of pilocarpin in adeps lanæ. Effects are not to be expected until three hours have elapsed.

Digitalis.—This is usually employed in the form of a poultice made of the leaves. How it can act unless there be a volatile principle present is not known, but certain it is that many competent observers believe that it produces the effects of the drug on the kidney when administered in this manner.

Belladonna.—There have been many cases of belladonna poisoning reported where large amounts of this agent were employed in this manner. Certainly, the effects of the drug may be obtained by inunction. An ointment of the extract is the preparation most employed. The experiments of Aubert, however, demonstrated that the action of the atropin is largely exerted on the local glands that are covered by the inunction. After the application of an onion or garlic poultice, suitably covered, the odor can be detected in the breath. This volatile principle occasionally appears to exert a favorable influence in the bronchitis of children.

Carbolic Acid.—The effects of carbolic acid are sometimes apparent when large quantities are used as a dressing on the unbroken skin, especially if there be an occlusive dressing applied. This must be due to the transmission of the gas that is evolved and might be avoided by the use of a light permeable dressing.

A large percentage of the practitioners of medicine in this country, I believe are convinced that inunctions of cod-liver oil have some specific value in certain so-called scrofulous conditions, although it would be difficult to prove this in a scientific manner. Drs. Randolph, and A. E. Russel, of Philadelphia, say that they have seen the oil in the feces when rubbed into the skin.

DOSAGE.

It is customary to give the dosage as two or three times that of the same drug when administered by mouth. We can safely quadruple the dosage in most cases, as the absorption is so slow that accumulation

of the medicine in the system in sufficient quantity to be dangerous is hardly possible in that strength.

A medicinal agent to be absorbed by the unbroken skin, must either become volatile during its application, or be incorporated in a fatty base and applied with friction. Occlusion is an absolute requirement in the case of volatile substances. Most of the absorption occurs in the crypts of the sebaceous glands. The effect is much slower, about one-fourth as intense, and longer continued than when the same agent is administered by mouth. A large number of medicinal agents, which when given by mouth are intolerable to many patients, may be administered in this way with scarcely any unpleasant effects.

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IDIOSYNCRASY AS TO MERCURY.

A CASE OF ERYTHEMA MERCURIALE.*

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PHILADELPHIA.

In the history of many a great man, we are told that he had a peculiar aversion to some special thing, be this a cat or a rooster, or a flower or some perfume. In some cases of convalescence, we find special aversion to smoke, even in persons who have been addicted to smoking. Such aversions may be temporary or constant. If the aversion is temporary, we should call it a disposition in consequence of some disturbance in individuality; but if it is constant we may call it a peculiar constitution of individuality, in consequence of

which particular agents operate on the individual in a manner different from their ordinary mode of action on persons in general; briefly, we may call it an idiosyncrasy. Even animals are reported to have idiosyncrasies, thus the horse to the camel.

Idiosyncrasies are not uncommon; they occur in regard to various agents. Perhaps the most frequent ones are those in relation to some foods, such as strawberries, and certain fish. Others are connected with drugs and medicine. A well-known German professor of surgery could not stand iodoform; some can not use carbolic acid; others can not take antipyrin without becoming subjected to an eruption of blisters on many parts of the body.

In the literature on the use of mercury, we do not find so frequent an idiosyncrasy to this drug, and extraordinary effects of it, that it would not be worth while to mention such effects when they do occur, especially when such symptoms incline to simulate phenomena of syphilis, erysipelas and scarlet fever.

If we look over the literature of the 19th century, we do not meet many cases of untoward effects of mercury compared with its numberless uses.

One of the first who wrote about the unexpected effects of mercury was G. Alley,¹ of Dublin, who published, in 1804, in a large treatise, several cases of a peculiar eruption arising from mercury. About the same time, McMullen,² in Edinburgh, described similar cases; Spens³ followed, in 1805, with a description of three cases of erythema mercuriale. They considered the correctness of the name—eczema or erythema. Others again called it erysipelas, and as late as 1887 Dr Kreidmann⁴ discarded the bacteriological origin of erysipelas in favor of medicinal causes, such as mercury.

In 1811, A. Ramsay,⁵ and in 1812 J. Frank⁶ and J. Nicholson⁷ related cases of mercurial erythema. H. Becker⁸ published a treatise, "De Erysepelate Mercuriali," in 1817; B. Kahleis⁹ spoke of mercurial rose in 1823; in 1845 Rambant¹⁰ called attention to purpura hemorrhagica caused by mercury; and Larmande¹¹ wrote about a hydrargyro-atrophic erythema in 1880.

S. Snell¹² described in 1882 a peculiar idiosyncrasy as to mercury. Alexander¹³ related in 1884 a case of acute universal mercurial eczema; a year later Descroizilles¹⁴ wrote on mercurial eczema. P. Gaucherand¹⁵ wrote in 1886 about scarlatiniform skin eruptions caused by internal administration of mercury; Blanc¹⁶ and Kreidmann, in the following year, make observations on mercurial scarlatiniform erythema.

In more recent years, Robinson¹⁷ speaks of an individual who was suffering from two attacks of erythema, one after the other; the first after mercurial inunction, and the second after internal use of calomel. G. Lewin¹⁸ exhibits a case of toxic exanthema caused by quicksilver; and Fordyce¹⁹ mentions a case of desquamative exanthema that had been diagnosed as scarlatina.

Mrs. V. G., 50 years of age, mother of seven children, felt intense itching on her hands and arms in the morning of January 20; the following day she had a rash on her throat, flexor sides of her arms, palms of the hands and flexor sides of her legs; the eruption was the most marked in the hollows of her knees, flexor sides of wrist and elbows. An extensive redness was visible all over the skin of these said parts; the rash consisted of dark-red, small elevations over the level of the skin and felt, to the touching hand, like velvet; the elevations corresponded to the hair-follicles; on January 22 the skin was edematous and hardened like in erysipelas; fever did not exist; urine was abundant, and of a water-

* Presented to the Section on Materia Medica, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

like color; no albumin; no sugar. Diagnosis was uncertain. I remembered then that patient had told me of eruptions she had had in 1869, 1875 and 1882, and that she had an idiosyncrasy to the use of any kind of ointment. The eruption appeared to me as a symptom of poisoning.

The very intelligent patient gave me the following history of the previous cases of rash: In October, 1869, she consulted a physician for removal of a red spot of the size of a silver dollar, on her neck. The spot was a reminder of a vesicatory put there when as a little child she was believed to suffer from meningitis. The physician prescribed for this spot a grayish ointment. After a single inunction she got an itching rash over her throat, chest, abdomen, flexor sides of arms and legs, with subsequent furunculosis on several parts of the body, particularly the arm-pits. In 1873 the patient married; in October, 1875, after a pregnancy, the hair began to fall out; she used a hair pomade; after its use for the first time she got an eruption on her throat, hands, neck and back of the head. In May, 1882, after another pregnancy, she was suffering from constipation. The same physician who had treated her in 1869 prescribed a powder of grayish color, and greasy, shining appearance. A few hours after taking the first powder a rash all over the body—throat, chest, flexor sides of arms and legs, hands—occurred, followed by furunculosis again. The new attack of eruption seemed to her to resemble the previous ones.

I learned that the patient had taken on the evening of January 19, two pills, and on January 20, three pills, as a laxative, and on closer investigation I found out that the pills were blue-mass pills of 2 grains each; the diagnosis then was easy; it was a case of effects from mercury.

In the previous times, as well as in the new attack, the skin scaled off in large lamellæ, like in scarlet fever, except that the desquamative process was to a thicker extent. The teeth were greatly affected in the attack of 1882, not so in this eruption. Mercurial diarrhea did not occur, there was rather an inclination to constipation.

The urine was examined for the presence of mercury, according to Almen. I used for the purpose a very fine copper wire, such as taken for induction coils of faradic instruments. The examination was positive.

Patient comes from a healthy family; none of her sisters or brothers is known to be subjected to the same idiosyncrasy, except that father and one sister in younger years could not eat strawberries without getting a rash; later on they were not affected any by eating the berries. The children of the patient are not known to suffer from the same disposition, for one or the other has taken the same blue-mass pill or calomel.

The treatment consisted of administration of two tablespoonfuls of castor-oil and magnesium sulphate; of hot baths, diaphoresis, drinking of egg albumin stirred in boiled and cooled water, of large quantities of hot milk and hot water. The itching was first treated with inunction of vaselin and dusting of borated talcum powder, but with not a great success; it stopped promptly on administering potassium iodid, 8 grains in 150 grains of water three times a day; a second examination of urine did not exhibit mercury any longer. A struma that had existed for several years subsided simultaneously with the administration of potassium iodid.

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A NEW OBJECTIVE TEST FOR MASTOIDITIS.

WITH REPORT OF CASE.

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The use of the tuning-fork and the stethoscope to determine the comparative density of the two mastoids furnishes a valuable aid, and so far as I am aware, a new method in the diagnosis of mastoid complications. The test is made by placing a stethoscope with a small bell over the tip of the mastoid, and placing the handle of a vibrating tuning-fork over the antrum. It is found that when the mastoid is filled with pus or granulations or when it is dense from obliteration of the air-cells the sound waves are transmitted to the ears of the examiner more distinctly than when the stethoscope and tuning-fork are placed in the same relative position over the opposite or normal mastoid. Care must be used, in making the test, not to stretch the skin between the stethoscope and the handle of the tuning-fork, for then the vibrations are heard better than when the skin is not stretched, even though the distance be less.

The lower border of the middle fossa can be very accurately located by the same method. While the bell of the stethoscope is upon the mastoid the vibrating fork is moved downward over the squama and as soon as the upper border of the mastoid is reached the sound becomes much louder. The line indicating the change from cranial cavity to mastoid is usually well defined. When this line is reached a move of an eighth of an inch makes a marked difference in the sound of the fork. The position of the lateral sinus in relation to the mastoid can be determined in the same manner, though with less accuracy.

Since beginning the use of this test I have examined forty cases without mastoid symptoms and have found no perceptible difference in the resonance of the two sides; while in the examination of four cases of undoubted mastoid disease the affected mastoid transmitted the sound waves to the stethoscope with greater force than did the mastoid of the opposite side. One of the mastoid cases was recently operated on and the following description gives the chief points:

Mrs. S., colored, aged 40, gave a history of suppuration of the left ear for fifteen years, with occasional attacks of acute pain in the ear and side of the head. For three weeks before coming to the clinic she had suffered continuously from a dull pain in the ear and mastoid, which sometimes extended over the side of the head and as far forward as the eye. Examination showed that the membrana tensa had disappeared. The ossicles could not be seen. A cholesteatomatous mass occupied the attic and upper portion of the cavity of the middle ear. When portions of this mass were removed the surface beneath was covered with granulations. The temperature during her attendance at the clinic varied from normal to 101 F. Deep pressure over the mastoid caused pain. In testing the comparative resonance of the two mastoids I found that when the bell of the stethoscope was placed on the tip of the mastoid with the handle of the tuning-fork over the antrum the resonance of the left side was much greater than that of the right. The time which I could hear the fork on the affected side was thirty seconds, and on the normal side was sixteen seconds.

A mastoid operation was done December 20. The usual post-auricular incision was made, and the mastoid cortex found to be of ordinary density. The air-cells were small and filled with granulations. Hemorrhage from the mastoid wound was unusually profuse. The cavity was cleared of diseased tissue, the posterior wall of the auditory canal and the outer wall of the attic chiseled away, and the granulations and cholesteatoma carefully removed from the attic. The facial nerve was found exposed just above the oval window, and sponging of the cavity caused twitching of the left eye-lid and side of the face. A slit was made throughout the entire length of the posterior part of the membranous auditory canal; and the mastoid cavity, the middle ear and the auditory canal were lightly packed, through the meatus, with iodoform gauze. The posterior incision was completely closed with sutures.

The only thing of special interest in the case is the condition of the mastoid in relation to the test with the stethoscope and tuning-fork. The fork I have used in these tests is a C 512, so constructed that it should be heard by the normal ear about thirty-five seconds. The stethoscope has a metal bell five-eighths of an inch in diameter.

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OCULAR MANIFESTATIONS OF DIABETES MELLITUS.*

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To the practitioner of general medicine, the eye symptoms of diabetes have only a general interest, save in their diagnostic and prognostic significance. I shall, therefore, in this discussion, avoid a detailed consideration of the ocular findings, from the standpoint of one interested in diseases of the eye, and briefly examine the relation of the more important symptoms to the primary disease. It is unnecessary to caution you against that unwarranted faith in ophthalmoscopic findings which one sometimes finds among the laity. Many patients feel perfectly assured of their physical soundness when told that no evidence of disease can be found in the eye, but I am not so sure that it is unnecessary to warn you against a

too broad skepticism. It is true that no systemic disorder writes its name in large type on the background of the eye. Syphilis does not have the sole prerogative of producing iritis, nor diabetes of causing hemorrhagic retinitis, but it is true that in certain general diseases ocular symptoms are found with sufficient frequency, and a clinical picture of sufficient definiteness is often enough obtainable to make us reasonably certain, from the eye symptoms alone, of the underlying disorder.

Further, there is information to be obtained by the ophthalmoscope, of the condition of the circulation, of the changes in the vessel walls, as well as of disease of the nerve, which is in many instances of the very highest importance and which I believe is obtainable in no other way. This is a broad field, one as yet but little cultivated; we have studied the findings discovered in more advanced conditions with much care, but it is the early conditions which we should investigate. When the student with the ophthalmoscope shall work with the student of general medicine and when their tentative findings shall have been shifted by the pathologist; when such results have been patiently collected and digested, I am convinced that the opportunity for inspection of living tissues, which the eye alone affords, will take rank as one of the most important of diagnostic methods.

While ocular lesions may be present in all forms of diabetes, they are more frequently found in the chronic cases without marked general disturbances. It is, possibly, the supposed need of change in glasses which brings the majority of these cases under our observation, for refractive changes are incidental to many of the eye symptoms of diabetes. A few cases are on record in which hypermetropia has developed as a result of diabetes, and in some instances¹ it has varied with the amount of sugar in the urine. This peculiar phenomenon is due, according to Landolt, to a change in the index of refraction of the vitreous.

The development or the increase of a pre-existing myopia is a much more common occurrence. This is frequently associated with changes in the lens, but is also seen when no evidence of cataract is present. These refractive changes are often early symptoms and are important in suggesting the possibility of some serious general disease. Langford² formulates the proposition that, "The onset of myopia in patients of 50 years of age or upward without discoverable abnormality in the lenses should always excite suspicion of diabetes;" and it is well on general principles to question any too frequent necessity for change of glass.

Paralyses of the extraocular muscles occur in mild as well as severe cases of diabetes, and may be present in patients unaware of any serious constitutional disorder. These paralyses may be transient and improve and recur with the progress of the general condition. This variability is particularly observed in the lesions occurring early in the disease; the later paralyses are much more permanent. Any of the extraocular muscles may be involved. The cause of these paralytic conditions is believed to be nuclear or peripheral hemorrhages, or peripheral neuritis. Paralysis of accommodation is probably the most frequent of the ocular complications of diabetes. It was first observed by von Graefe, and as in most other instances his opinion has been confirmed by later observers. Paralysis, or more properly paresis, of accommodation, for the paralysis is often incomplete,

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¹ Landolt: *The Refraction and Accommodation of the Eye*, p. 417.

² Norris and Oliver: *System*, Vol. iv, p. 667.

is in many cases among the very earliest symptoms of diabetes.

An incomplete paralysis is often unrecognized by the patient as such. They only observe increased difficulty in reading, which is relieved by a stronger glass, and belong to the class, to which I have previously referred, who first learn of the diabetic condition when examined for glasses. The relation of diabetes to cataract is a question which has occasioned no little discussion; some authors claim that there is a true diabetic cataract while others contend that lenticular changes are no more common among diabetics than in patients of the same age suffering from some other debilitating disease. Among patients past middle life I am inclined to believe that the influence of diabetes on cataract formation is through the general nutritive disturbances and arterial degeneration by which it is accompanied; but in the young there seems to be some direct causal relation, and the unexplained development of juvenile cataract requires exclusion of diabetes, as a possible cause, by a careful physical examination.

The most interesting, if not the most frequent, ocular symptoms of diabetes are found in the retina. It has long been known that pathologic changes are frequently found in the retina of diabetics, but owing to the similarity of these lesions to those found in other diseases attended with vascular degeneration and particularly to those of renal retinitis, many observers have denied that a true diabetic type of retinal disease could be distinguished. Hirschberg,³ who has given much careful study to this subject, is convinced that there is a distinctive diabetic retinitis, presenting in most cases either a degenerative or a hemorrhagic type, and he points out the features which distinguish it from the other forms of retinal disease. He admits that his contention is not universally accepted, and explains this fact as largely due to the confusion of other observers, who have not taken into account the frequency with which renal lesions develop in diabetics. When the two diseases co-exist we may have a mixed type of retinal disease, or a diabetic retinitis may take on a renal character when the disease of the kidney is developed in the diabetic, or a patient suffering from diabetes and renal disease may not develop a diabetic but an albuminuric retinitis. Again, there are periods in the progress of the case, during which either the sugar or albumin may disappear from the urine of a patient, who, nevertheless, is suffering from both diseases. In such an event the ophthalmoscopic findings would not be sustained by a single urinary examination made at this time. Making due allowance for these facts there is no difficulty in recognizing a diabetic retinitis which can always be confirmed by physical examination. These contentions of Hirschberg seem to be well grounded and I am inclined to accept them. The typical diabetic and renal cases are surely distinct enough, but I have never chanced to see the mixed type. Retinitis is often a late symptom of diabetes and develops after the general symptoms have been long present and are well marked: but this is by no means always the case and the diagnosis of diabetes may be first made when patients are examined for glasses or consult us for some blurring of vision, flickering before the eyes or other ocular symptoms.

Retinal hemorrhages, with or without other retinal changes, are always suggestive of diabetes, particularly the small punctate hemorrhages. They are often associated with conjunctival hemorrhages; they are absorbed and recur. They are sometimes very numerous, but fre-

quently cause little disturbance of vision. Retinal changes are always present in a case of diabetes which has existed for more than ten or twelve years, and are usually considered terminal symptoms of the disease; this is not however entirely unquestioned. I believe, while always an unfavorable symptom, retinal complications do not by any means indicate an immediate termination of the disease. Hirschberg makes a distinction between the degenerative and hemorrhagic forms, and considers the cases with profuse hemorrhages far more serious. In my own experience I have known diabetics with recurrent retinal hemorrhages to live many years in comparative comfort, and I can not view the diabetic lesions with the same alarm as those of renal disease.

There is another ocular symptom which is not uncommon and which has occasioned much discussion. This is the central scotoma.

Diabetics sometimes present a clinical picture which is almost identical with that found in the toxic amblyopias. So similar are the conditions that they have been called tobacco amblyopias in diabetes, and the frequent occurrence of these symptoms was supposed to be due to the lessened resistance to the tobacco poison among diabetic subjects. As the symptoms are found in patients who use neither tobacco nor alcohol, and who are suffering from no known toxic influence, we are forced to conclude that the poison must be in some way due to the disease. Recent studies of toxic amblyopias have largely changed our ideas of the pathology of these conditions, and the peripheral neuron, which has of late been upsetting most of the established theories of the pathology of the nervous system, seems to be the offending member in this condition as well. The altered state of the blood and the profound nutritive disturbances seem to furnish us with sufficient explanation of these symptoms, which are probably similar pathologically to the other toxic amblyopias.

There are many other diseases of the eye which are caused or modified by diabetes. Iritis of a severe plastic type is met with and is always dreaded after operation on diabetic subjects.

Keratitis, which is pre-eminently an attendant of faulty nutrition, is a natural consequence of the disease, and when occurring is often a serious condition. Optic-nerve atrophy and amblyopia, without discoverable lesions, are sometimes seen. The latter symptom is probably similar to uremic amblyopia in origin, and is sometimes a forerunner of diabetic coma.

The eye symptoms are on the whole of far more diagnostic than prognostic significance. They are nearly all seen as both early and late symptoms, and are indications rather of the present nutritive condition than of the extent of the irreparable damage to the organs. The most valuable prognostic indications are to be discovered by the ophthalmoscope in the retina, and particularly in the condition of the retinal vessels.

A patient may rally from a profound toxemia, but "he is as old as his arteries."

Remote Prognosis of Serofibrinous Pleurisy.—A French author reports in the current issue of *Arch. de Méd. Navale*, all the cases of serofibrinous pleurisy observed in the navy between 1877 and 1899, a total of 352 cases: 320 patients were discharged cured, and 32 died in the course of the disease. He finds that 131 have since died, and that in 118 of these death was due to tubercular infection. The remainder, 189, are still living. He therefore concludes that in a third of all the cases serofibrinous pleurisy, apparently primary, is in reality of tubercular origin. He found the left side more frequently affected than the right.

SOME REMARKS ON THE PLANTAR REFLEX, WITH ESPECIAL REFERENCE TO THE BABINSKI PHENOMENON.*

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(Concluded from page 183.)

Early in this paper I mentioned the fact that in seven nurses on duty in the Arapahoe County Hospital I found the plantar reflex absent in 5; present in both feet in 1, and absent in one foot and present in the other in 1. These results seemed so remarkable that I decided to examine the plantar reflexes of the nurses in St. Luke's and Arapahoe County Hospitals. I found 54 vigorous and strong nurses, both in the hospitals and among graduates doing private nursing outside, who were willing to have their plantar reflexes examined. The results were as follows:

The plantar reflex was absent in 63 per cent., and present and normal in 11, or about 20.3 per cent. It was irregular, such as present in one foot and absent in the other, spreading of toes, flexion or extension of one or more of the small toes and flexion of the great toe and extension of small toe in 9, or 16.7 per cent.

There must be some steadily acting cause in nurses to give rise to the absence of plantar reflex in such a large percentage of healthy individuals. My first theory was that it was because the nurses were on their feet so many hours, but on re-examining the nurses in the early morning whom I had examined after a day's work, I found no changes practically in the plantar reflex. I then examined my own plantar reflex and found it present and normal both night and morning. I was forced to abandon this theory. In looking over my records of 2550 old cases and finding that the plantar reflex disappeared in nearly all cases of extreme exhaustion, especially just before death, in tumor and abscess of the brain and in the profound comatose stage preceding death, I felt that the frequent absence of the plantar reflex in nurses was caused by exhaustion from overwork. I again re-examined my own plantar reflex when I felt extremely exhausted from trying to work a few hours after suffering from an attack of cholera morbus. In this instance I found my plantar reflex absent. Another time, after getting exhausted the reflex was present in one foot, absent in the other.

It would be interesting to examine the plantar reflex in smelter men after a hard day's work. In looking over Drs. Walton and Paul's⁴ paper two paragraphs (pp. 310, 311) attracted my attention in this connection. They state:

In 100 cases, apparently healthy, taken from the gymnasium and other places outside of a hospital, they found the reflex as follows: In 75 per cent. normal plantar reflex, no movement in 10 per cent., and in 15 per cent. flexion on one side and absent reflex on the other.

In 100 patients taken at random from a general hospital, especially selecting those who were not suffering from any disease that would interfere with the plantar reflex the averages were as follows: Flexion of toes—generally the outer—87 per cent., absent reflex in 9 per cent., flexion on one side and absent movement on the other, 4 per cent.

The hospital patients, who were doing practically nothing, showed a higher number with normal plantar reflex, 87 per cent., than the 100 who resided without the hospital.

In the case of the nurses that I examined, I noted how long each had been in training. I found the plantar reflex absent nearly as frequently in nurses who had been in the school a few weeks or months as in those who had graduated or been in training nearly all of their required time. But here again I found that most of the nurses had come from positions that had required them to be on their feet a great deal.

If observations show that those who have absent plantar reflex for prolonged periods are more subject to certain diseases than those who have a normal reflex, our duty as physicians will be plain.

Examination of 7 healthy children: Extension of all the toes when the children were asleep in 3; unsatisfactory examination in 4, principally on account of the constant movement of the feet while I was trying to examine them. Sometimes the toes would apparently flex on irritating the plantar surface, but on pursuing the examination they would extend and again flex. The ages of the children varied from five days to three months.

Plantar reflex in 40 surgical cases: Normal reflex was present in 30, 75 per cent.; absent in 10, 25 per cent. In 4 of the cases marked flexion of the toe movements were very irregular. In one there was flexion of all the small toes in one foot and absent reflex in the other; in the second there was abduction of the little toe in one foot and quick extension of the great toe in the other; in the third, separation, without flexion or extension, of all the small toes, the great toe remaining quiet; in the fourth, nearly the same phenomenon was observed as took place in the third.

Typhoid, 17 cases: Normal reflex was present in 12, 70.5 per cent.; absent reflex in 3, 17.5 per cent.; flexion in one foot and absent in the other, 2, 12 per cent.

Consumption, 13 cases: Plantar reflex was present in 11, 84.7 per cent.; absent in 2, 15.3 per cent.

In 50 medical cases: Plantar reflex was present in 46, 92 per cent.; absent in 4, 8 per cent.

In the 240 cases just reported, in which there was no evidence of disease of the pyramidal tract, the Babinski phenomenon was not found in one. In one case the right great toe extended but the movement was quick and jerky, all the other toes remaining quiet.

NERVOUS DISEASES—100 CASES.

Dorsal and cervical myelitis: 7 cases with extensor plantar reflex, 100 per cent.

Dorsolumbar myelitis: 7 cases, absent reflex in all, 100 per cent.

Complete destruction of cord: One cervical, 2 dorsal and 4 lumbosacral, 7 cases; plantar reflex was absent in all, 100 per cent.

Idiopathic muscular atrophy, 2 cases: Plantar reflex was absent in both, 100 per cent.

Hemiplegia, 10 cases: Plantar reflex was present in 9 cases 90 per cent.; absent in 1, 10 per cent.

Epilepsy, 4 cases (using bromid): Plantar reflex was absent in all, 100 per cent.

Locomotor ataxia, 6 cases: Plantar reflex was present in 2, 33.3 per cent.; absent in 4, 66.7 per cent.

Plantar reflex was absent in 1 case swollen feet from heart disease, 100 per cent. •

Swollen feet from kidney disease, 5 cases: Plantar reflex in all was absent, 100 per cent.

Bilateral thrombosis, 2 cases: Flexion plantar reflex was present in 100 per cent.

* Read in abstract at the Seventh Annual Meeting of the Academy of Railway Surgeons held in St. Paul, Minn., Sept. 5-6, 1900.

Delirium tremens, 2 cases: Plantar flexion was present in 1, and absent in 1, 50 per cent. each.

Feigned aphasia, 1 case; Plantar reflex was R. absent, and L. Present.

Dementia, 9 cases: Flexion plantar reflex was present in 3, 33.3 per cent.; absent in 6, 66.7 per cent.; in one plantar reflex flexion was present on one side and all reflex absent on the other.

Melancholia, 12 cases: Plantar reflex was present and normal in 2, 16.7 per cent.; absent in 10, 83.3 per cent.

Imbecility, 1 case: Plantar reflex was absent, 100 per cent.

Idiocy, 2 cases: Extension reflex existed, 100 per cent.

Extreme degree of hydrocephalus, 1 case: Plantar flexion reflex was present, 100 per cent.

Paretic dementia: 4 cases: In 2 plantar reflex was absent; in 2 present on one side and absent on the other; absent, 75 per cent., present 25 per cent.

Hip disease, 3 cases: Flexion plantar reflex was in all, 100 per cent.

Spinal rigidity, 1 case: Flexion plantar reflex was present, 100 per cent.

The following 450 cases of nervous and mental diseases have been studied with especial reference to the Babinski phenomenon, in my office, in consultation practice and in attendance on private cases in St. Luke's Hospital, during the past eighteen months.

Tumor of the brain, 8 cases: Of these 3 tumors in pyramidal region, extension plantar reflex was present in all of affected leg, 100 per cent.; flexion plantar reflex was on opposite side in 2 cases, 66.7 per cent.; absent reflex existed on opposite side in 1, 33.3 per cent. Of 5 tumors outside pyramidal region, flexion was present, 60 per cent.; absent in 1 case, 20 per cent.; flexion was present on one side, absent on the other, 20 per cent.

These tumors are divided into two classes one which invades the pyramidal or motor region, and the other which does not affect this region, and the percentage is calculated in the one instance on the number of tumors affecting the pyramidal tract, which is 3, and in the other on the number without the pyramidal tract, which in this instance is 5.

Abscess of brain, 1 case: Plantar flexion was present, 100 per cent.

Meningitis, 30 cases: Flexion was present on both sides after coma in 5, 16.7 per cent.; extension on both sides in 5, 16.3 per cent.; flexion present on one side and absent on the other 3.3 per cent.; absent in 19, 63.3 per cent.

Epilepsy, 21 cases: Plantar reflex in 18, 86 per cent.; irregular in 3, 14 per cent.

Syphilis of the brain or cord, 20 cases: Flexion was present in 15, 75 per cent.; absent in 3, 15 per cent.; irregular in 2, 10 per cent.

Old hemiplegia, 30 cases: Extension reflex on affected side in 25 cases, 83.3 per cent.; extension reflex on opposite side in 3, 10 per cent.; reflex absent on both sides in 5 or in 16.7 per cent. In the latter there were trophic changes in the paralyzed limb.

Bilateral thrombosis, 2 cases: Extensor bilateral reflex was in both, 100 per cent.

Posterior spinal sclerosis, 20 cases: Flexion plantar reflex was just perceptible, irregular or delayed in 14, 70 per cent.; absent in one foot and present in the other (flexor) in 2 cases, 10 per cent.; absent in both feet in 4 cases, 20 per cent.

Multiple neuritis, recent and old, 6 cases: Flexion was present in 2 cases, 33.3 per cent.; absent in 3, 50 per cent.; present in one foot and absent in other, 1 case, 16.7 per cent.

Anterior poliomyelitis (old and recent). 106 cases: Flexion was present in 6, 60 per cent.; present in one foot in 3 and absent in the other, 30 per cent.; absent reflex in 1, 10 per cent.

Pressure neuritis affecting sciatic nerve: 8 cases: Normal plantar reflex was present in all, 100 per cent.

Pressure neuritis of nerves of leg, 10 cases: Normal plantar reflex present in 8, 80 per cent.; absent in 2, 20 per cent.

Myelitis, 8 cases: Extensor plantar reflex was present in 50 per cent.; 4 dorsolumbar was absent, 50 per cent.

Complete transverse lesion of cord, 1 case: Plantar reflex absent, 100 per cent.

Spinal caries, 10 cases: with pressure on cord above, lumbar region 4 cases, extension plantar reflex in all, 40 per cent.; spinal caries without cord lesion, flexion plantar reflex in 4, 40 per cent.; spinal caries with cord lesion in lumbar region absent reflex, 20 per cent.

Paralysis agitans, 3 cases: Sluggish flexion existed in all, 100 per cent.

Hysteria, 10 cases: Flexion plantar reflex was in 5, 50 per cent.; absent plantar reflex in 4, 40 per cent.; flexion plantar reflex in one foot, absent in the other, 10 per cent.

Neurasthenia, 25 cases: Reflex was normal, but often almost imperceptible plantar flexion, including cases of increased plantar reflex, 23 cases, 92 per cent.; absent plantar reflex in 1 case, 4 per cent.; absent in one foot and present in the other in 1 case, 4 per cent.

Nervousness, to which name neurasthenia or hysteria can not be properly applied, 15 cases: Flexion was present in 14, 93.3 per cent.; absent in one foot and present in the other. 7 per cent.

Traumatism to head, with no gross lesions of the brain substance so far as I was able to detect, 12 cases: Flexion plantar reflex was present before shock had passed away in 10 cases, 83.3 per cent.; absent plantar reflex in 2, 16.7 per cent.; after shock is over flexion plantar reflex was found in all, 100 per cent.

Traumatism to spine, with no gross lesion, 8 cases: Four cases with profound shock, plantar reflex was absent, 50 per cent.; 4 cases with minor shock plantar reflex was present, 50 per cent.

Dementia, 30 cases: Plantar flexion reflex was present in 11, 36.7 per cent.; absent in 15, 50 per cent.; extension plantar reflex in 4, 13.3 per cent.

Paretic dementia, 15 cases: Flexion plantar reflex was found in 14, 93.3 per cent.; absent in 1, 9.7 per cent.

Mania, 10 cases: Flexion plantar reflex was present in all, 100 per cent.

Melancholia, 22 cases: Plantar reflex was absent in 16, 72.7 per cent.; present, but irregular, in 6 cases, 27.3 per cent.

Paranoia, 15 cases: Flexion plantar reflex was present in all, 100 per cent.

Feigning, 4 cases: Flexion plantar reflex was in 3, 75 per cent.; plantar flexion was present in one foot and absent in the other in 1 case, 25 per cent.

Stuporous melancholia, 4 cases: Absent plantar reflex was in all, 100 per cent.

Melancholia attonita, 1 case: Normal plantar reflex was present, 100 per cent.

Weakmindedness, 10 cases: Flexion plantar reflex was present in all, 100 per cent.

Imbecility, 12 cases: Flexion plantar reflex was present in 9 cases, 75 per cent.; absent or irregular in 3 cases, 25 per cent.

Idiocy, 13 cases: Flexion plantar reflex was present in 6, 46.5 per cent.; absent in 4 cases, 30.5 per cent.; irregular in 3 cases, 23 per cent.

Deaf-mutes, 6 cases: Flexion plantar reflex was present in all, 100 per cent.

From a careful study of the literature of the plantar reflex, together with my personal investigations, I have to admit that the plantar reflex as found in children is unsatisfactory; and that the plantar reflex may be variable—irregular—absent in both feet, or absent in one foot and present in the other, more frequently than has commonly been supposed, especially by those who have not devoted considerable time to investigating this reflex in apparently healthy subjects.

It does seem to me that the claim of Collier, that extensor plantar reflex is present in total transverse myelitis, needs confirmation. Babinski did not obtain it. I have never found it in cases in which I could say that the cord was absolutely destroyed in any portion

of its extent. It is not always easy to say when the cord is completely destroyed.

Langdon found the plantar reflex absent in tetanus. Collier found extensor plantar reflex present in a case of tetanus. This discrepancy between two good observers is easy to reconcile. In Langdon's case, the disease ran a rapid course and the patient died at the end of the third day, if I mistake not. Of course, the patient must have been greatly exhausted. I have found in all diseases with profound exhaustion that the plantar reflex disappears before death. In Collier's case the disease was milder, ran a slow course and the patient finally recovered. The lateral columns of the cord are probably in an irritated condition in tetanus until the stage of exhaustion is reached. The extensor plantar reflex is what we are prepared to expect in strychnin intoxication, or in fatal poisoning from this drug. This test may be of value in a diagnosis between strychnin poisoning and a hysterical attack simulating the drug poisoning.

I make this as a suggestion. May not a hysterical subject in a paroxysm so excite the pyramidal tract to such a degree as to render it possible for one to obtain a temporary or an irregular form of the Babinski phenomenon? In hysteria one occasionally obtains a quick extension of the great toe. It is soon exhausted and totally unlike the deliberate extension of the great toe found in the majority of persons suffering from disease of the pyramidal tract.

Giudiciandrea claims to have found extension of the great toe in hysteria and in normal subjects. Schüler obtained extension of the great toe in 8 per cent. of men and in 4 per cent. of women whom he examined. Cohn states that he found extension of the great toe in 20 per cent. of his subjects. He also found extension plantar reflex on the affected side of a case of hysterical paralysis.

When I began to investigate the plantar reflex with especial reference to the Babinski phenomenon, I found extensor reflex in a number in whom I was confident there was no lesion of the pyramidal tract, and I began to be skeptical as to the value of the Babinski phenomenon. I soon learned to note the difference between the pseudo-Babinski phenomenon and the phenomenon described by Babinski in 1898. On re-examining these nervous and hysterical subjects, I did not find a genuine case of the Babinski phenomenon in which there were not other evidences of disease of the pyramidal tract.

You may ask me: Does the presence of flexion plantar reflex enable one to exclude disease in the pyramidal tract? I do not think investigation has gone far enough to enable any one to give a positive answer to this query. Personally, I do not remember having met with a case of disease of the pyramidal tract in which flexion plantar reflex was present on the affected side.

Diagnosis.—That the Babinski phenomenon is valueless in diagnosis, the most skeptical deny. In fact, Martin Cohn, who is often quoted as doubting the value of the reflex under discussion, is in some respects one of its firmest supporters. His conclusions are: "In the majority of all persons an irritation of the sole of the foot is followed by flexion of the toes. In lesions of the lateral tract of the spinal cord of an organic character, an extension reflex is to be observed." He then adds: "In no way, however, can this phenomenon be regarded as a certain pathognomonic symptom for the recognition of such a disease."⁸ How few symptoms have we that are positively pathognomonic

of certain lesions of any organ? It is only on account of the number of irregular and unexpected results obtained by Cohn that most investigators of the Babinski phenomenon have come to look on Cohn as a skeptic.

A case presenting most of the symptoms of posterior spinal sclerosis would not be diagnosticated as a clean-cut case of this disease if the extensor plantar reflex were present. Such a reflex would probably show that the lateral columns were also diseased.

A case simulating strychnin poisoning, or tetanus, without great depression and absent extensor plantar reflex, would, in all probability, justify the diagnosis of hysteria.

Prognosis.—The Babinski phenomenon may have uses in prognosis. In the discussion on the conjoint papers, one by Walton and Paul, and the other by Fraenkel and Collins, presented to the last meeting of the American Neurological Association, Dr. Spiller said that "he believed in recent cases of hemiplegia in which the knee-jerk was found absent several days or weeks after the hemiplegia had developed and the Babinski reflex was present, prognosis was bad."² He admitted that he had observed only two cases that justified such a conclusion.

Prevention.—If it is found by subsequent investigators that persons following certain vocations attended with considerable exhaustion, the majority of these—as in the cases of the nurses reported by me in this paper—have absent plantar reflex and subsequently suffer from disease affecting the legs or feet, or the nervous tone more frequently than persons with normal plantar reflex, a timely investigation of the reflex may save many continuing too long in positions attended with great physical exhaustion. In fact it may be possible to judge by a study of the plantar reflex in many—especially in those whose plantar reflex is present when they are not exhausted—the degree of exhaustion from which they are suffering.

It is possible that much valuable information may be obtained by a further study of the plantar reflex, especially in the line of prevention, as well as in those of diagnosis and prognosis.

CONCLUSIONS.

1. The Babinski phenomenon is an extremely valuable sign in diagnosis, and probably in prognosis and prevention.
2. It is not a pathognomonic sign of organic disease of the lateral tract.
3. We shall learn by subsequent observations that several poisons or conditions so irritate the lateral tract as to cause a pseudo-Babinski phenomenon, or an apparently genuine one temporary in character.
4. Greater care should be used by the investigator, and the carefully studied cases should be much more numerous.

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AMONG the deaths abroad we note that of Prof. Dr. Berenger-Féraud, who published a large number of important works treating of tropical diseases as he studied them in various parts of the world in his naval service, and of surgical folklore subjects.

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THE BACTERIOLOGY OF BRONCHITIS.

Bronchitis is a common affection, both as an independent disease and as a secondary and complicating process. That bronchitis generally is an infective disease is probably not to be doubted, but considerable vagueness certainly exists as to the special organism or organisms that sustain the most important relationship to the disease. The first question to be determined in studying the bacteriology of bronchitis is whether the lower air-passages—trachea, bronchi and pulmonary alveoli—normally contain pathogenic bacteria. The majority of observers hold that the lower air-passages are normally sterile. The bacteria present in the air are probably all withdrawn as the inspired air passes through the nose and the pharynx. That bacteria are removed from the air during respiration is shown by the fact that expired air is generally sterile; and it is thought that the bactericidal power of the nasal mucosa is an important factor in cleansing the air. Direct bacteriological examination of the healthy air-passages in man and in animals has shown them in many instances sterile.

Jundell,¹ for instance, who, by means of specially constructed instruments, examined the tracheæ of 43 persons during life, found the respiratory tract below the glottis either quite sterile or else containing scanty and transitory bacteria. Assuming that the bronchi are normally sterile, it is found that in bronchitis the bronchial secretion contains a variety of bacteria which different writers consider as the causal agents. Different methods of examination naturally yield different results in the case of a secretion that is as exposed to accidental contaminations as the bronchial. Acute bronchitis in adults can be examined post-mortem only rarely. And in children, in whom acute bronchitis is so frequently present, the conditions found post-mortem may not be the same as during life, because the bronchi are in direct communication with the mouth, which harbors a rich bacterial flora; contamination by post-mortem invasion of the tissues of the body is also possible.

Everything considered, however, W. T. Ritchie² concludes that a careful examination of the contents of the smaller bronchi soon after death would yield reliable information as to the bacteria of bronchitis in children. A large number of cases were examined by means of a

reliable technic and it was found that in practically every case of acute bronchitis there were numerous pathogenic bacteria in the bronchi, the list given including streptococci, staphylococci, colon bacilli, influenza and diphtheria bacilli. *B. pyocyaneus*, and encapsulated bacilli. The diplococci of pneumonia and streptococci were the most common; in the majority of the cases a mixed infection was present. The bacillus of influenza appears to cause bronchitis not infrequently, even apart from epidemic influenza. Ritchie's investigations go to prove that acute bronchitis is an infective disease not due to any single specific micro-organism. He did not extend his bacteriological study to the organs of the body in general. A complete investigation of this kind would have given us important information in regard to the relationship of the bacteria of bronchitis and general infection, terminal or otherwise.

OBSTRUCTIVE BILIARY CIRRHOSIS.

Cirrhosis of the liver is an exceedingly interesting process, which, in spite of the great amount of work devoted to make clear its exact etiology, still remains imperfectly understood. One reason for the comparative mystery that surrounds the exact pathogenesis of many forms of hepatic cirrhosis is the failure to discover reliable methods whereby experimental cirrhosis may be produced with certainty. Reduced largely to the study of post-mortem material, the investigators have exhausted histological and bacteriological methods without fully solving the intricate problems involved. A number of more or less distinct forms of cirrhosis of the liver have gradually been established and in the case of at least one form, namely, obstructive biliary cirrhosis, the exact etiology is now fairly well understood, largely because in this case it was possible to make suitable experiments upon animals.

William W. Ford¹ presents a full review of the observations on this form of cirrhosis. Since J. Wickham Legg, in 1874, and J. M. Chareot, in 1876, established obstructive biliary cirrhosis as a separate disease, something over 200 cases have been collected from the literature, 184 by Mangelsdorff in 1882 and 21 by Ford for the period 1882-1900. Ford adds 3 new cases from the Royal Victoria Hospital in Montreal. It has been shown by a number of experimenters that complete obstruction to the outflow of bile in animals leads to an interlobular cirrhosis, caused, as Ford concludes, by the damming back of the bile, and not necessarily secondary to a cholangitis of the smaller bile-channels. In man complete occlusion of the bile-ducts leads to a cirrhosis of the liver; here inflammation of the walls of the biliary channels is always present and this cholangitis is of etiological importance in causing the cirrhosis, being super-added to the effects of the damming up of the bile. Anatomically, obstructive biliary cirrhosis does not differ so much from Hanot's hypertrophic cirrhosis with jaundice, but the symptom-complex of obstructive cir-

1. Skand. Arch. f. Phys., 1898, viii, 284.
2. Jour. Path. and Bact., 1900, vii, 1-21.

1. American Journal of the Medical Sciences, cxxi, 60-84.

rhosis differs wholly from that of Hanot's cirrhosis; hence the two forms are quite distinct. In obstructive biliary cirrhosis the course of the disease is acute, without intermission of symptoms, the jaundice being deep from the first; the liver, at first large, commonly contracts and there develop ascites, edema of the extremities and caput medusæ. In hypertrophic cirrhosis the course is chronic, the jaundice slight at first and then increasing, the liver rarely contracting.

The causes that lead to obstructive biliary cirrhosis may be congenital deficiency of the bile-ducts, gall-stones and the consequences thereof, carcinoma of the head of the pancreas, and the pressure of enlarged lymphatic glands at the hilus of the liver. The livers are greatly enlarged with a rough surface, the weight is increased, the cut surface showing greatly dilated biliary passages and areas of new connective tissue. As indicated, contraction occurs in the later stages with obstruction to the portal circulation. Hypertrophic cirrhosis with jaundice—Hanot's cirrhosis, biliary cirrhosis—shows a symmetrically enlarged and jaundiced liver, the common and hepatic ducts being pervious. The French school hold that Hanot's cirrhosis is caused primarily by infection, and it thus differs etiologically also from obstructive biliary cirrhosis.

DISINFECTION OF THE URINE FROM CASES OF TYPHOID FEVER.

Even before the discovery of the typhoid bacillus and the establishment of its etiologic relations, it was appreciated that the intestinal discharges constituted an important agency for the transmission of the hypothetic virus of the disease. As time went on and bacteriologic knowledge increased, it became recognized that typhoid fever is not exclusively a disease of the intestinal tract, i. e., that its lesions are not confined to these structures; and, further, that the intestine may even escape. Alert and industrious investigators soon showed that typhoid bacilli are eliminated with the urine in a considerable proportion of cases of typhoid fever, sometimes in enormous number and generally in pure culture. The micro-organisms do not, as a rule, appear in the urine until the second or third week of the disease, and when once present they may persist for long periods of time, even for years. The urine may exhibit little or no other alteration, and the presence or the absence of bacilli is thought to be without prognostic significance.

With the knowledge of these facts, it is obvious that the urine, not less than the intestinal discharges, may be an important factor in the transmission of typhoid fever, and both should, therefore, be equally subjected to disinfection as a prophylactic measure. Dr. N. B. Gwyn¹ has recently reported the results of an investigation into the comparative value of various disinfectants in rendering sterile urine containing typhoid bacilli. It was found that milk of lime, or slacked lime, while the cheapest disinfectant, is neither rapid nor

certain in action, and in order to obtain results at all satisfactory one must use a solution so concentrated that on standing it will precipitate half of its actual volume of lime. Carbolic acid proved of value only in large amount, or in very strong solution. Mercuric chlorid, on the other hand, acted as a powerful and rapid disinfectant, only a small amount being required, and having the further advantage of being clean, odorless and easily applied. Formaldehyde was found to be a fairly efficient disinfecting agent, but its cost precluded its use in any but dilute solution. Chlorinated lime, prepared in saturated solution and using the supernatant fluid, proved itself a most reliable disinfectant, free chlorine being evolved on addition to the urine. The liquid chlorids—a mixture of zinc, aluminum and copper chlorid—was somewhat less active.

For disinfection of the urine in the bladder and the urinary system, urotropin, administered by the mouth, has been employed, with the results more or less satisfactory. Solutions of mercuric chlorid, 1 to 100,000 or 1 to 50,000, may be employed for irrigation of the bladder, and with some assurance that any bacilli in this viscus will be destroyed.

THE OPERATIVE TREATMENT OF SUBDURAL HEMORRHAGE.

The usual cause for hemorrhage into the brain is rupture of a diseased vessel, sometimes superinduced by increased blood-pressure. The condition, therefore, apart from the generally inaccessible situation of the extravasation, is one from the operative treatment of which not much is to be expected. Hemorrhage into the membranes of the brain, however, is more commonly of other etiology, and is correspondingly more amenable to surgical intervention. This condition is often due to traumatism, resulting in rupture of one of the venous sinuses of the dura mater internally, or of the middle meningeal artery, or of the veins of the cortical pia mater. Independently of traumatism, it may be due to rupture of aneurysms of the large arteries at the base or on the convexity of the brain, to the escape of blood from an intracerebral hemorrhage, to senility, chronic disease of the kidneys, heart or blood-vessels, hemorrhagic disease, such as purpura, scurvy, hemophilia, anemia, leukemia, hematoma in the insane—bleeding from a meningeal vein—internal hemorrhagic pachymeningitis, and activity in an overheated atmosphere. The symptoms are not always distinctive and the diagnosis is sometimes exceedingly difficult. When, however, it appears reasonably certain that an intracranial extravasation of blood has taken place in an accessible situation, operation will be clearly indicated. The number of cases in which this has been successfully undertaken is not large, although sufficiently so to justify its performance under suitable conditions.

An instance of this kind has recently been reported by Dr. J. Ramsay¹, of Launceston, Tasmania. The

1. Proceedings Philadelphia County Medical Society, xxi, No. 7, N. S., ii, 283.

1. Intercolonial Med. Jour. of Australasia, v, 10, p. 491.

patient was a man, 54 years old, addicted to alcoholic excess, who had set out to bring home a newly purchased horse, and was found unconscious on the road, with the horse standing beside him. In the course of an hour or two consciousness partially returned and the man became greatly excited. When examined, some forty hours later, a small bruise of the scalp was found in the left occipital region, without evidence of injury to the skull. Occasional irregular movements and twitching appeared in the right wrist and hand, later also in the left, then likewise in the lower extremities, and finally on the left side of the face. A general convulsion now occurred, and was followed by several others, urine and feces being passed involuntarily. In the attacks the movements began on the left side of the face, extended to the upper and the lower extremity on the same side, and then became general, the right side of the face alone not being involved. In the intervals the right arm was rigid and the left flaccid. The urine contained albumin. Breathing became Cheyne-Stokes in character. The condition not yielding to bleeding and sedatives, trephining was undertaken. On exposure of the right motor area a large flat blood-clot was found on the surface of the brain just beneath the dura. This was removed and the wound closed. Two convulsions occurred subsequently, but none thereafter. Some mental and motor impairment remained, though gradually lessening in degree.

THE SALT CURE!

A Paris dispatch says all medical Paris is ringing with laughter over American physicians' enthusiasm in the salt cure. One physician is reported as saying that "these Christopher Columbases of the medical profession on the other side of the Atlantic have disclosed one thing, that is, their ignorance and credulity." It might be said, on this side, that whoever is thus excited to laughter on the other side of the Atlantic displays equal ignorance and credulity in putting faith in yellow-journal reports that American physicians are enthusiastic over the salt cure.

DEATH OF QUEEN VICTORIA.

The death of Queen Victoria is an event that in many ways calls for notice even in a journal not devoted to general recording of political events. Her long and beneficent reign covered nearly the whole period in the past century in which the epoch-making advances in our science have been made. The Victorian era will go down in the history of medicine, as in that of literature and of science, as the brightest in our records. No ruler has had his or her name associated with so much that is of benefit to our race, or has, within the limitations of the position, more deserved it. In her personal character, which is of more importance in a monarch now than was formerly the case, she has left an example that it is hoped will be followed by her successors for all time. It is worthy of mention in this connection that the new king of England has done himself the honor of accepting an honorary membership

in the medical profession. We trust that he may worthily wear it in his new responsibilities.

THE KANSAS LYNCHING.

The disgrace to Colorado in the brutal lynching of a negro by burning noticed in *THE JOURNAL*, last month, has been paralleled by a similar outrage in Kansas. These two occurrences indicate a psychological condition of the communities in which they occur, and in which, it is claimed, conviction for the crime is impossible; that is certainly worth consideration. Such relapses toward savagery would seem to warrant the views of some anthropologists as to the degeneration of the white race in America, but for the fact that in these, as in nearly all outrages on negroes in the northern states, the foreign-born element largely prevails. What they really indicate is that in certain classes of society civilization is only skin deep and in communities where the enforcement of the law is lax the underlying brutality will show itself. What Kansas and Colorado need is the thorough application of the law to lynchers, and until this is done they will remain disgraced. If conviction is impossible in Leavenworth, that city will have to bear its special dishonor which it thus insures.

REGULATION OF PRACTICE IN MICHIGAN.

The Michigan State Board of Registration has made its report to the governor and includes in it, among other like facts, that a number of persons were found practicing medicine under diplomas or certificates as pharmacists, dentists, etc. In one case where the practice had been carried on for years under the sanction of a dental diploma, the nature of the qualifications was explained to the holder, who remarked that it was "very funny; I paid for the other kind and supposed I had it." The members of the legislature can appreciate such facts as the above and realize that the state board is a protection to the welfare of the citizen. It is to be hoped that they will remember this when the quacks make their attack on the state board in the present session. The Michigan law is far from being an ideal measure, but the present state board is demonstrating what can be done even with such an imperfect medical-practice act. It is "the man behind the gun" that wins battles, and there are states with far better laws than that of Michigan that are worse protected against quacks.

ANTITOXIN.

The New York *Tribune* of January 13 publishes reports obtained from the respective health departments, and from inquiries of physicians, as to the effects of the use of antitoxin in diphtheria in various cities. In Baltimore the report of Dr. William Royal Stokes, city bacteriologist, gives a mortality with its use of less than 9 per cent., and of only 36 per cent. in the laryngeal form of the disease. In Chicago the reduction of the death-rate from diphtheria has been 50 per cent.; in Buffalo the mortality from the disease has been lowered over 60 per cent., and the results of the antitoxin treatment, as shown by the actual figures when they were compiled, astonished even the health officials themselves. In St. Louis the general consensus of opinion among

physicians seems to be unanimously in favor of antitoxin, and in the city hospital where only the worst cases are found, it is the routine to give it in all cases of throat trouble before bacteriologic examination is made. In Paterson, Newark and Jersey City the same story was told. In Newark where statistics were reported they gave a decreased mortality of the disorder from 38 per cent. to 15.4 per cent., and in 1899, when, according to the percentage tables there should have been under the antitoxin treatment 445 deaths, there were actually only 124. In that city also figures are given of the death-rates of cases treated with and without antitoxin respectively, showing a nearly double ratio of the latter. All these statements, of course, only confirm the general testimony from the experience of the profession, but as long as there are still some posers as unbelievers in antitoxin it is well they should be placed on record. While as a rule attempts at publication of medical facts in lay journals are not to be commended, in a case like the one here noted the effects are likely to be salutary.

INCREASED MORTALITY FROM CARCINOMA.

The truth is not always pleasant, but however unpalatable, it is probably never so potential for evil as even sugar-coated error. Attention has been called by a number of observers to the fact that carcinoma is becoming increasingly prevalent, but the statement has not been acceptable and attempts have been made to cast doubt upon its accuracy. Nevertheless, the evidence would seem to support the contention for such an increase. Thus, Thomas Oliver,¹ in discussing the question of the heredity of carcinoma, points out that statistics, both in England and in America, show that while the mortality-rate from tuberculosis is decreasing, that from carcinoma is notably on the increase. Thus, the mortality records of the Mutual Life Insurance Company, of New York, covering the period from 1843 till 1898 and dealing with 46,525 deaths include 882 due to carcinoma. The age-period in which the largest number of deaths from this cause occurs is from 55 to 60 years. In 1879 the percentage of deaths from carcinoma between the ages of 50 and 70 years was 4.23; in 1889, 6.22; in 1898, 7.59. According to the statistics of the Scottish Widows' Fund, the statistics of the deaths from carcinoma were, from 1815 till 1845, 0.93 per cent. of the whole number; from 1845 till 1852, 0.72; from 1852 till 1859, 2.87; from 1859 till 1867, 3; from 1867 till 1873, 4.56; from 1873 till 1880, 4.34; and from 1880 till 1887, 5.23. Twice as many females as males die from carcinoma, their mean age of death being 62.29 years, as against 60.43 years for males.

THE GOVERNOR OF CALIFORNIA ON THE PLAGUE.

The recent message of the Governor of California is interesting reading from a medical point of view. Although a layman, he poses as a medical expert and declares that from his own investigation he has proved that no plague has existed at any time in San Francisco, the opinions of the United States quarantine officers to the contrary notwithstanding. He suggests, moreover, that the only basis for the reports is the possible escape of plague germs from cultures and slides recklessly car-

ried around in the pockets of "certain physicians and others," and that they innocently or otherwise inoculated a Chinese cadaver producing—post-mortem it appears—the enlarged glands and other macroscopic and microscopic signs of the disease. In view of the dangers he thus assumes in the above brilliant conception, he calls upon the legislature to make it a penal offense, with a maximum sentence of life imprisonment, for any one to have in possession or make from any case of plague any such cultures and slides without the written permission of the state board of health, fortified still further by executive approval. He would also make it a felony to publish any false reports of the existence of plague or to neglect to immediately inform the state board of health of any real or suspected case. The unlucky physician who suspects plague is thus between the devil and the deep sea; he is a felon if he falsely diagnoses, and also one if he fails to give utterance to his suspicions to a body that may for all he knows be conveniently organized to suppress such facts. The general tone of this part of the message, with its idiotic surmises and special pleading, indicates rather an attempt to prove a bad case than a genuine conviction that plague has not occurred. His muddle-headedness in regard to infection from "microscopic slides" and the inoculation of cadavers is funny, to say the least, and beautifully illustrates his pretensions to competency as an expert on the plague question in San Francisco. As a state paper, in this respect, the message is unique.

THE ACTION OF TUBERCULOUS TOXINS ON THE OFFSPRING OF THE TUBERCULOUS.

The question in regard to the heredity of tuberculosis is not as clearly understood as its importance demands. While the congenital transmission of bacilli from mother to offspring is demonstrated occasionally in rather special instances yet but comparatively few nowadays believe that the disease itself is commonly inherited. On the other hand there is a more general impression that the offspring of the tuberculous bring with them into the world a peculiar predisposition to tuberculosis, a lessened vital resistance, caused by the action of toxic substances on the organism. Experimental evidence in favor of this view is brought forward by Carrière¹. Products of the distillation of cultures of tubercle bacilli on glycerinated peptone were injected into guinea-pigs, which were then bred; the fetuses were few, constitutionally feeble, often dying early without macroscopic evidences of disease. A small series of experiments seems to indicate also that the descendants of pigs injected with tuberculous poisons are more sensitive to tuberculosis, and most so when both father and mother were injected. These results are not directly applicable to man. Guinea-pigs are frail animals, the mere confinement of which may materially affect their vitality. But at the same time common experience teaches that healthy offspring presupposes a healthy and vigorous parentage, and tuberculosis when at all advanced is nearly always associated with wasting and enfeeblement. Whether the deleterious action of the tuberculous poisons, whatever their nature and mechanism may be, is so far-reaching as to threaten the existence of the human

1. *Lancet*, Nov. 10, 1900, p. 1335.

1. *Arch. Med. Exp. et d'Anat. Path.*, 1900, xii, 782-787.

race, as advanced by Landonzy, may be open to question; but this phase of tuberculosis must not be lost sight of in the struggle everywhere carried on against it.

THE CLUMPING OF BACILLI AND OF RED CORPUSCLES.

The essential importance of physico-chemical processes in biological phenomena is becoming more and more generally recognized. Indeed, it is along physico-chemical lines that we may look for satisfactory explanations of many phenomena in normal as well as pathological conditions, phenomena the existence of which is made clear, but not fully explained by studies of a morphological nature. And it is probably in this very field that the new century will witness the most far-reaching achievements in physiology and pathology. Sir Lauder Brunton's simple experiments¹ illustrating the clumping of bacteria and the formation of rouleaux by red blood-corpuscles show well what a flood of light may be thrown on such phenomena when they are approached from the standpoint of physics and chemistry. If lucifer matches are covered with hard soap and thrown into a flat trough containing water they float about indifferently, but if the water is acidulated the artificial bacteria are at once drawn together into clumps. If the fluid is made alkaline the clumps do not reform when broken up. On the addition of litmus to the water, the changes in color will indicate the changes in reaction. Artificial blood-corpuscles may be made out of sheet cork cut into discs and loaded on one side with bits of lead so as to float upright. As long ago as 1869 Norris showed that partially submerged artificial corpuscles are drawn together and form rouleaux. If totally submerged they remain separate. If dipped in petroleum they coalesce even under water. And Brunton shows typical rouleaux formation by treating cork corpuscles in the same way as he treated matches. These peculiar and interesting manifestations are probably connected with changes in the surface tension produced, and so Brunton suggests that the clumping of bacilli and the formation of rouleaux may be due to the liberation of some fatty substance by the action of carbonic acid. In the case of bacilli provided with flagella, clumping is more complex, because the flagella must be rendered motionless. Whatever the ultimate explanation, these experiments are certainly valuable also as a ready means of demonstrating to students how clumping may be produced.

Medical News.

CALIFORNIA.

DR. J. J. KINYOUN, U. S. M.-H. Service, federal quarantine officer at San Francisco, is ill with appendicitis at his home on Angel Island.

DR. CHARLES S. STODDARD has been appointed county physician and health officer for Santa Barbara and Montecito, at an annual salary of \$1000.

THE POSITION of physician of Shasta County, which now pays \$900 a year, is so much desired that three aspirants have filed petitions. One of these gentlemen generously offers, if elected, to do the work for \$600 a year.

THE CHARGES of criminal neglect preferred against Dr. David Goehener, physician of San Diego County, have been dismissed by the county board of supervisors, which at the same meeting re-elected Dr. Goehener county physician for the present year.

CONNECTICUT.

THE CLASS OF 1903, Yale Medical School, has adopted resolutions expressing its deep sympathy with the family of Arthur Ely, a member of the class, who recently died, and its sense of loss as a class by his death.

THE NEW MATERNITY HOSPITAL, erected at a cost of \$38,000, on the grounds of the New Haven Hospital, under the supervision of a committee, of which Dr. William H. Carmalt was a member, was opened for inspection January 4.

BRISTOL has appointed four physicians as town physicians for the year, allowing each a compensation of \$125 per annum.

THE BOARD OF ALDERMEN of Hartford, after much heated discussion, has decided to increase the salary of the city physician from \$600 to \$1000.

DELAWARE.

AS A RESULT of the January examination for license to practice, seven applicants have been granted certificates by the State Examining Board.

THE DELAWARE STATE HOSPITAL at Farnhurst, through its trustees, reports a deficit of \$25,000 in the last two years, due to increase in the number of patients. It asks for an appropriation of \$131,000 for the next two years.

DELAWARE HOSPITAL, Wilmington, is a beneficiary by the will of the late Dr. W. W. Lesley, to the extent of \$11,000, which is to be used to establish two free beds to be known as the William Wood Lesley and Sarah A. Lesley memorial beds.

THE ANNUAL MEETING of the trustees of the Delaware Hospital for the Insane was held in Wilmington, January 3, when contracts were awarded for food supplies for the institution. At this meeting Dr. Jean M. Wilson, pathologist to this hospital, sent in his resignation.

DISTRICT OF COLUMBIA.

DR. GEORGE W. FOSTER, who has been connected with the Government Hospital for the Insane for about nine years, has resigned to accept the superintendency of the Second Hospital for the Insane at Bangor, Me.

THE COLUMBIAN UNIVERSITY HOSPITAL, Washington, had its annual meeting January 3, at which the need of additional facilities was strongly urged. Dr. Albert F. A. King was elected president of the board, and Dr. E. A. de Schweinitz, secretary.

A BILL has been introduced in the House of Representatives providing that the directors of Providence Hospital, Washington, be authorized to erect additional buildings and make such improvements for hospital purposes as they may deem proper on Square 764, now owned and occupied by that institution.

THE ATTORNEY for the District, who was called on to decide whether or not an "electrical physician" required a license to practice, is of the opinion that unless the practice of an "electrical physician" is identical with the practice of massage, or the so-called Swedish movement cure, or unless the applicant intends to use ordinary domestic remedies without fee, gift, or consideration of any kind, he is required to obtain a license in accordance with the provisions of the act of Congress.

ILLINOIS.

DR. GEORGE A. ZELLER, Peoria, superintendent of the Hospital for Incurable Insane, who is now in the Medical Department of the Volunteer army in the Philippines, writes that he does not intend to return until the expiration of his term of service.

BECAUSE OF the present system of appointing internes to Cook County Hospital, whereby none of the thirty-two internes at present is a native of Cook County, it is suggested that the positions be divided into three classes, one-third for the county, one-third for the state, and one-third for outsiders. The examinations would remain as at present; but it is thought that Cook County ought to retain the advantage of its institutions and not throw away all its benefits on outside physicians.

EFFORTS will be made by the Illinois Society for the Prevention of Consumption to induce the legislature to appropriate \$200,000 for the establishment of a state sanitarium for the care of tuberculosis. Plans and estimates for the sanitarium have been completed, and Dr. John A. Robison, secretary of the society, has been instructed to submit them for the approval of the State Board of Health. The project is indorsed by Mayor Harrison, Health Commissioner Reynolds and the State Medical Society.

Chicago.

JUDGE BAKER has remitted the fine noted last week, on Dr. Charles Eberlein, who left the court-room where he had been summoned as a witness.

THE TOTAL mortality of Chicago for the week ended January 19 was 509, a mortality per annum of 16.61 per 1000. Of chil-

1. Journal of Pathology and Bacteriology, 1900, vii, 53-54.

dren under 1 year 111, and of adults over 60 years 107 died. Pneumonia caused 120 deaths; influenza, 18; consumption, 52, and violence, 26.

AMONG RECENT ADDITIONS to the teaching force of Rush Medical College are D. G. Lingle, professor of experimental physiology; W. D. Zoethout, laboratory professor of neurology; F. C. Waite, assistant in anatomy, and C. H. Miller, technical assistant in the department of anatomy.

THE STATE BOARD OF HEALTH has begun a crusade against the unlicensed practitioners, "healers," "magnetic physicians" and the like. "Dr." H. F. Coates, a "magnetic healer," was arrested January 13, while giving a "magnetic" treatment to 25 women. Edward Podatzekie was fined \$100, January 14 for practicing medicine on a license issued to his wife.

ON JANUARY 22, the isolation hospital contained 49 smallpox patients. Dr. Isaac W. Rawlings has been placed in charge of the hospital. The cases which are now being found come from a large area, extending all over the city. Three cases were taken to the hospital from Cook County Hospital and one from Michael Reese Hospital on January 21.

EXCEPT as to the smallpox situation the public health conditions have materially improved during the past week. Pneumonia is less virulent and the number of deaths from this cause is 25 per cent. less than for the preceding week. Unless the recent dust storms again kindle up the smoldering infection there is reason to believe that the worst of this outbreak is over.

THE CHICAGO CLINICAL SCHOOL has transferred to Dr. George Thomas Palmer the *Chicago Clinic*, which will be conducted by him beginning with the January number. It will hereafter be edited by Dr. Marcus P. Hatfield, and every effort will be made to make it a popular medical publication. This publication has been conducted for 13 years; it was started as the *Omaha Clinic*.

COMMISSIONS PROHIBITED.

Resolutions of great interest to the profession were presented at the January meeting of the Chicago Medical Society, as follows:

WHEREAS, It is commonly reported that some consultants and operators are in the habit of compounding fees; and,

WHEREAS, The giving of commissions or a part of the fees by physicians or surgeons to any other person is detrimental to the good name of the profession and reduces the practice of medicine to the lowest commercial basis:

1. Because it is in effect the employment of an individual drummer for personal advertising;

2. Because it in effect promotes one's personal gains at the expense of other well-qualified physicians by an underhanded method of cutting fees, and,

3. Because it is in effect the practicing of a confidence game upon the patient; therefore, be it

Resolved, That this course is considered dishonorable by this Society, and shall subject any member practicing it to expulsion.

Resolved, That every member knowing or hearing of any member of the Society violating the spirit of this resolution is hereby earnestly requested to report the same to the committee on judiciary, in writing, with the fullest possible circumstantial statement, to the end that the facts or rumors may be thoroughly investigated for the benefit of the accused and for the benefit of the Society.

Resolved, That it shall be the duty of the committee to employ every means in its power to ascertain the facts in the case; that it shall notify the accused of the charges; and shall give him every facility to explain the matter, and that it shall report its findings to this Society as soon as practicable.

Resolved, That the willful violation of the spirit of these resolutions after this date shall be a good and sufficient cause for expulsion from this Society, and that upon the report of the committee upon any case, a three-fourths vote of the members present, by secret ballot, shall determine the action of the Society.

Resolved, That the Secretary be instructed to send a copy of these resolutions to every member of the Society and to the various medical journals in this country.

INDIANA.

DR. JOHN R. MAUK, Cambridge City, one of the oldest and best-known physicians in eastern Indiana, is seriously ill.

"Dr." I. N. Wood, a Christian scientist, of Fort Wayne, has been prosecuted by the board of health of that city for failure to report a case of diphtheria.

SENATOR CHARLES WHITCOMB will introduce bills at this session of the legislature establishing a state hospital for dipsomaniacs and other inebriates and one requiring county coroners to be physicians.

THE STATE BOARD OF MEDICAL REGISTRATION is considering the proposition of slightly lowering the minimum requirements for the colleges that want their graduates to practice medicine in the state without examination.

DURING December, 2607 deaths were reported in Indiana, 308 of which were from consumption, 299 from pneumonia, 139 from typhoid fever and 20 from influenza. In Indianapolis and Evansville tuberculosis and pneumonia caused more than 70 per cent. of the total mortality.

IOWA.

DR. ALBERT C. PHILLIPS, Sioux City, being the lowest bidder for the position of physician of Woodbury county, has been awarded the contract, at \$600 a year.

THE WAPELLO COUNTY MEDICAL SOCIETY has passed resolutions on the death of its late member, Dr. C. C. Powell, extending sympathy to his family and expressing its sense of bereavement at his death.

THE PHYSICIANS of Clinton have organized a Physicians' Protective Association with Dr. David T. Nicoll as president and Dr. Edward L. Martindale secretary. They agreed to furnish the secretary with names of candidates for the "black-list," and condemned the plan of letting out the care of the county poor to the lowest bidder.

IOWA SURGEONS have entered on a crusade against the payment of commissions to country practitioners who send them cases for operation. They hope to secure the adoption of resolutions opposing this practice, when the State Medical Society meets in May, and to secure a bylaw making the penalty on any member of the society guilty of the practice, expulsion.

THE STATE BOARD OF HEALTH has passed new rules providing that whenever any person shall be sent to any institution under the control of the board, except to either of the penitentiaries, from a locality where smallpox, diphtheria or scarlet fever is prevalent at the time of the reception of said person in the institution, there shall be furnished to the chief executive officer so receiving said person, a certificate that said person has not for seventeen days next preceding the time of sending been exposed to any such disease. And if, in such cases no certificate is furnished, said chief executive officer shall refuse to receive said person in said institution.

KANSAS.

DR. W. B. SWAN, Topeka, secretary of the State Board of Health, reports 262 cases of smallpox in the state, with two deaths.

DR. WINIFRED S. FERGUSON, Kansas City, has been fined \$25 and costs for failure to report to the authorities a case of smallpox.

THE PHYSICIANS of the state are planning to secure legislation providing proportionate representation on the State Board of Health for the schools of medicine recognized by law. At present there are more than 2000 physicians of the regular school in the state and 317 of the homeopathic and eclectic schools; yet the State Board of Health consists of 3 regulars, 3 homeopaths, and 3 eclectics.

AN UNREGISTERED PHYSICIAN of Anthony, who sued the estate of a deceased patient for \$3050 for services rendered, had his claim disallowed by the probate judge, because he had no diploma from any medical school, and was not a member of any medical society. Under the laws of the state he is not recognized as a physician, and is therefore not entitled to collect any amount for services rendered.

MARYLAND.

DR. R. P. WINTERODE, a graduate of the Baltimore Medical College, has been appointed pathologist at the Maryland Hospital for the Insane, Catonsville, to succeed Dr. Cornelius Deweese, recently resigned to accept a similar position at the Government Hospital, Washington, D. C.

THE DIRECTORS of the United Charities Hospital, Cambridge, Dorchester county, elected the following medical staff for the next two years: Drs. B. W. Goldsborough, chief of staff; Drs. John Mace and Guy Steele, local staff; Dr. Thomas S. Cullin, gynecologist; Dr. Nathan R. Porter, surgeon; Dr. Herbert Harlan, diseases of eye and ear; Drs. William Osler and Howard A. Kelly, consultants.

THE STATE BOARD OF HEALTH, at its annual meeting, January 10, elected the following officers: Dr. William H. Welch, president; Dr. William B. D. Penniman, chemist, and Dr. W. Royal Stokes, bacteriologist. Dr. Johns Fulton, the secretary, submitted his annual report. There are 31 cases of smallpox in the state outside of Baltimore, viz., 6 in Allegheny county, 24 in Prince George's county, and 1 in Montgomery county. All these patients are in quarantine, and suspected persons are under observation, and Dr. Fulton says no alarm need be felt.

Baltimore.

DR. AARON FRIEDENWALD has been elected president of the McCulloh Street Synagogue.

WHEN AN emergency call for vaccine physicians was made, January 6, 23 out of 24 physicians responded, and the twenty-fourth was prevented by illness.

A BILL to pension the widow of Dr. Jesse W. Lazear, who died in Cuba, Sept. 25, 1900, while investigating yellow fever,

has been introduced in congress by Representative James W. Denny, of this city.

DR. CHARLES W. CHANCELLOR will memorialize the legislature of West Virginia to renew his lease of Berkeley Springs, which expired in 1900. He agrees to expend \$50,000 in improvements on the springs. There will be determined opposition by other would-be lessees.

DR. ANNA GIERLING, of this city, was arrested at the instigation of Mr. Anthony Comstock, agent of the New York Society for the Suppression of Vice, January 10, on the charge of using the mails for unlawful purposes, namely, for procuring criminal operations. She was held in \$2500 bail, and her daughter-in-law was held for a like amount.

THE CHARLES FRICK branch of the library of the Medical and Chirurgical Faculty of Maryland, now has 1693 volumes, 336 having been added during the year. A large proportion of these are new books and monographs. The files of some of the most valuable English journals and hospital reports were completed by purchases made in London. One thousand five hundred and thirty-four books were taken out by readers, and the number of readers frequenting the rooms was 3976 last year.

THE SENTENCE of Dr. George C. Worthington, who was convicted of manslaughter, in causing the death by criminal operation, of Amelia A. Miller, and who was given ten years in the penitentiary, has been confirmed by the State Court of Appeals. Strong efforts have been made to keep him out of the penitentiary. He was twice convicted of manslaughter, but the first verdict, in October, 1899, was set aside because one of the jurors was under age.

MASSACHUSETTS.

DR. HENRY C. WILLIAMS, Boston, has established a surgeon's room at the Lagrange street police station, equipped with all remedies and appliances for emergency medicine and surgery.

DR. FREDERICK S. WARD, for the past two years in charge of the pathological work of the Taunton State Insane Hospital, has resigned his position with that institution and opened an office for private practice in Springfield.

THE BOSTON BOARD OF HEALTH has amended somewhat the regulations with regard to contagious diseases. Any person infected with smallpox, scarlet fever, diphtheria or croup shall be immediately isolated, and shall not leave the room or place until the board of health shall have certified in writing that all danger of communicating the disease is past. No one but the attending physician, nurse and agents of the board of health shall enter an apartment set aside for the treatment of contagious disease, or leave, until the danger is past and a certificate has been issued by the board.

MICHIGAN.

BY A RECENT ORDER of the faculty of the State University, all medical students are required to wear Red-Cross badges, as more strict precautions are enforced against the students of this department who are supposed to be more exposed to infection than those in the other departments of the university.

THE STATE BOARD OF REGISTRATION IN MEDICINE in its annual report shows that since January, 1900, 310 practitioners have been granted certificates to practice medicine upon presenting diplomas from reputable medical colleges. Forty-three medical colleges have been placed on the list of reputable medical colleges. Altogether the board has issued certificates to 4250 practitioners. It is estimated that about 600, or at least fully 50 per cent. of the itinerant practitioners have left the state, while there remain about 200 unregistered physicians still in practice. It is said that the ranks are being gradually and surely thinned out, owing to local prosecutions under the new medical act and the difficulty of evading the law.

PROPOSED BILLS for better legislation for public-health purposes were approved by the State Board of Health for introduction into the legislature. Among them were those to provide for a state hospital for consumptives, to provide for the testing of all milk cows supplying milk for sale and use in cities and villages, and a proposed amendment to the local quarantine law, to provide for an annual public meeting under the auspices of the local board of health in each township, city and village. The secretary presented the quarterly report of work done in the office, which shows the number of reports of outbreaks of dangerous communicable diseases, concerning which action was taken by the office, during the quarter, to be as follows: Diphtheria, 180; scarlet fever, 259; typhoid fever, 522; measles, 56; whooping-cough, 41; smallpox, 66; meningitis, 120, and consumption, 364. Total for the eight diseases, 1608.

MINNESOTA.

THE LIBRARY of the late Dr. John H. Murphy, St. Paul, has been presented to the Ramsey County Medical Association by his widow.

THE OWATONNA City Hospital was formally opened for inspection January 5. The hospital has accommodation for twelve patients, with a maximum capacity of seventeen, and is thoroughly outfitted and equipped. Dr. John H. Adair is president of the advisory board.

THE STATE BOARD OF HEALTH met at St. Paul January 15 and elected the following officers: Dr. Franklin Staples, Winona, president; Dr. Henry Hutchinson, St. Paul, vice-president, and Dr. Henry M. Bracken, Minneapolis, secretary and executive officer. The marked increase in the number of cases of smallpox reported in the past year was the chief subject of discussion at the meeting.

MISSOURI.

TWO MEDICAL STUDENTS were arrested and fined \$50 each at Kansas City, January 16, for not reporting to the board of health a case of smallpox which they were attending.

A RESOLUTION was adopted January 9, concurrently by the house and senate, which provides that these bind themselves to appropriate \$10,000 for the use of the State Board of Health. The money is to be used by the board to prevent the spread of smallpox, which is prevalent throughout the state.

A COMMITTEE appointed by the State Medical Association at its last meeting, is in Jefferson City for the purpose of recommending legislation in the interest of the physicians of Missouri. The members of the committee are: Dr. A. W. McAlester, Columbia; Dr. Eugene L. Priest, Nevada; Dr. Frank J. Lutz, St. Louis; Dr. David C. Gore, Marshall, and Dr. Herman E. Pearse, Kansas City.

THE STATE BOARD OF HEALTH adjourned January 7, after electing Dr. C. B. Elkins, of Ozark, president; Dr. J. T. McClanahan, Boonville, vice-president, and L. C. McElwee, St. Louis, secretary. Dr. S. C. James introduced a resolution rescinding the action of the July meeting of the board in Kansas City in 1899, thus making it necessary for the board to recognize the diplomas of all colleges that matriculated students in 1898, and who graduated at the end of the scholastic year of 1901, and to register or license those graduates of any college having a three-years' course.

NEBRASKA.

THE DIAGNOSIS of smallpox in St. Edward, made by Dr. Jones, has been confirmed by Dr. S. R. Towne, of the State Board of Health, and quarantine established.

DR. VICTOR H. COFFMAN, health commissioner of Omaha, urges the immediate erection of an emergency hospital properly equipped and provided with adequate police protection.

SENATOR TROMPEN introduced a bill in the state senate January 15, which legalizes the practice of osteopathy and declares it not to be the practice of medicine as contemplated by the law governing the practice of medicine.

NEW HAMPSHIRE.

THE DOVER HOSPITAL was incorporated January 18 by eleven ladies of that city. It is to be a charitable association.

THE STATE BOARD OF MEDICAL EXAMINERS has issued licenses to practice to eighteen applicants who were examined December 11 and 12.

DR. GUSTAVE LAFONTAINE, Manchester, whose arrest for practicing without a license was noticed in THE JOURNAL and whose defense was his lack of familiarity with English, has passed a satisfactory examination, and has been licensed to practice.

NEW YORK.

DR. CHARLES C. DURYEE, Schenectady, has been appointed a member of the board of health.

MR. COTTON has introduced a bill to exempt from taxation the property of medical societies in New York and Buffalo.

THE OSWEGO local health board has ordered a general vaccination of school children and teachers. The schools were ordered closed for two weeks.

THE ESTATE of the late J. D. Sarven, Tarrytown, has been appraised. It is estimated that by the terms of his will the Presbyterian and St. Luke's Hospitals will each receive \$59,140.

MR. BELL has introduced into the assembly a bill to so amend the general health law, by more specifically defining who are and who are not lawful practitioners of medicine, that there may no longer be any doubt as to the legal status of faith-healers and other similar impostors.

THE STATE BOARD OF HEALTH reports about 75 cases of smallpox in the state. The most serious outbreaks at the present time are at Watertown and Schenectady, although

both are under control. One case at Southold, Suffolk county, and the presence of several at Norfolk, St. Lawrence county, and Northville, Fulton county, were reported to the board.

A WEEK AGO it appeared as if the long fight over the site for the State Hospital for Consumptives was at an end, and that Raybrook had been finally chosen. It appears now that another sharp wrangle is to take place in the legislature, as a bill has been introduced to compel the selection of the Danemore site and the building of the hospital by convict labor on state lands.

Buffalo.

DR. NELSON G. RUSSELL has resigned the position of district physician, and Dr. Herman de Groat has been appointed from the eligible civil service list in his place.

MAJOR IRA C. BROWN, Buffalo, who is in the government service in the Philippines, has been placed in charge of the medical supply depot at Iloilo and of the vaccine farm. He is also the disbursing officer for the department.

THE HEALTH COMMISSIONER has issued a proclamation concerning smallpox, and advises general vaccination. A meeting of the health commissioner and district physicians was held to consider the advisability of general vaccination in all private, parochial and public schools.

New York City.

DR. HIRAM N. VINEBERG has been appointed adjunct attending gynecologist to the Mount Sinai Hospital.

REGISTER JAMES R. HOWE has given \$2500 to the Eastern District Dispensary and Hospital Association, Brooklyn.

DRS. AUSTIN FLINT, JR., and EDWARD A. AYERS have resigned as attending physicians of the Mothers' and Babies' Hospital.

WILLIAM T. WARDWELL, president of the Red-Cross Hospital, has given \$40,000 toward a fund for the erection of a new hospital.

THE MORTALITY of Greater New York for 1900 was 70,716, or 4987 more than for 1899, the mortality per 1000 being 20.53 in 1900 and 19.47 for 1899. There was increase of about 50 per cent. in the deaths from measles; 25 per cent. from typhoid fever; 10 per cent. from diphtheria and croup, and more than 100 per cent. from sunstroke.

SINCE THE first case of smallpox was reported on Nov. 5, 1900, there have been 127 cases, with ten deaths. A death from smallpox occurred in Brooklyn a few days ago, and the certificate was signed by a physician who stated that the cause of death was typhoid fever. Asked by the health department to explain this, he said that he had been in doubt about the diagnosis, and had stated it to the best of his knowledge and belief. He said he had seen over 100 cases of smallpox in Russia.

PENNSYLVANIA.

FOR THE second time since the appearance of diphtheria at Mt. Joy, near Lancaster, the public schools have been ordered closed.

THE LYCOMING COUNTY MEDICAL SOCIETY held a special meeting at Williamsport, December 30, at which a committee was appointed to draw up resolutions relative to the death of Dr. Louis Schneider.

DR. ALICE BENNETT having withdrawn as a candidate for the position made vacant by the resignation of Dr. Susan Tabor, Dr. Mary Moore Wolfe has been elected resident physician of the Norristown Insane Asylum, at a salary of \$1500 a year.

Philadelphia.

A NEW BOARD of trustees of the Medico-Chirurgical College, composed entirely of laymen, was elected January 16.

AT THE eighteenth annual meeting of the Alumni Association of the Medico-Chirurgical College the following officers were elected: Dr. John Welsh Croskey, president; Dr. Stillwell C. Burns, secretary, and Dr. S. S. Gans, treasurer.

THE ANNUAL ELECTION of officers of the medical staff of St. Mary's Hospital was held January 15, and resulted as follows: Dr. John J. Moylan, president; Dr. Louis F. Love, vice-president, and Dr. Joseph Ross, secretary. It is believed that the new building of this hospital will be completed early in the present year.

RHODE ISLAND.

DR. CHARLES W. STEWART and wife, of Newport, have sailed for Europe, en route to Vienna, where Dr. Stewart will take post-graduate work in surgery.

DIPHTHERIA prevails at the Home for Destitute Children at Bristol, R. I., and nine cases have been reported. One of the city schools has been ordered closed.

THE HOPEWORTH SANATORIUM, Bristol, a private hospital for nervous diseases, suffered a \$6000 loss by fire January 3. Martha Cottage was burned but the main building was uninjured.

IN THE CASE of Dr. Joseph Napoleon Roy, Harrisville, mentioned in THE JOURNAL of November 17, the State Board of Health has revoked Dr. Roy's certificate, and he promises to appeal to the Supreme Court and to furnish some interesting revelations as to the political aspect of the affair.

GENERAL.

SANITARY INSPECTORS have recently been placed at the ports of Nanaimo, Chemainus and Ladysmith, on the Pacific Coast of British Columbia, for the purpose of inspecting vessels bound from those ports for San Francisco, to prevent the introduction of smallpox into the latter place.

STEPS ARE being taken by the U. S. Marine-Hospital Service to establish a temporary supplemental quarantine station at Venus Point, S. C., on the Savannah River, for the purpose of intercepting cases of smallpox bound to Savannah from the coast islands of South Carolina, where this disease is said to be very prevalent. Inquiry is also on foot to ascertain the extent of this disease in the islands.

THE U. S. MARINE-HOSPITAL Bureau recently received a report to the effect that four fatal cases of plague had appeared on a vessel arriving at Shields, England, from the Rio de la Plata. Passed-Asst. Surgeon Thomas, on duty in London, was immediately ordered to this point. He also stopped at Hull, England, to investigate a report of plague on the steamship *Friary*, recently from Alexandria, Egypt, and has reported by wire that five deaths from plague occurred among the crew of this vessel en route, and that no further cases have appeared and that all sanitary precautions have been taken.

THE DEATH-RATE for December, in Honolulu, was 2.85 per cent., or 112 deaths, 32 of whom were females. Of the deaths among males, 21 were due to consumption. The following were the causes assigned: Malarial fevers, 2; typhoid, 3; diarrhea, 1; infantile diarrhea, 1; dysentery, 2; congenital syphilis, 1; septicemia, 1; inanition, 6; laryngeal, mesenteric and miliary tuberculosis, 1 each, and pulmonary, 17; atelectasis, 1; old age, 5; premature birth, 1; congestion, 7, convulsions, 1; senile dementia, 1; paralysis, 1; diseases of the spinal cord and membranes, 1; beri-beri, 2; valve disease of the heart, 4; asthma, 3; bronchitis, 4; croup, 1; edema of the glottis, 1; pleurisy, 1; pneumonia, 13; pulmonary edema, 1; appendicitis, 1; gastritis, 1; gastro-enteritis, 1; hernia, 1; inflammation of intestines, 5; cirrhosis of the liver, 1; peritonitis, 2; acute nephritis, 1; chronic nephritis, 2; uremia, 1; Bright's disease, 1; metritis, 1; puerperal convulsions, 1; puerperal hemorrhage, 1; accidental fall, 1; crushed by dray, 1; poisons, 2; suicide, 2.

PAN-AMERICAN MEDICAL CONGRESS.

The prospects for a large representation of the medical profession of this country at Havana, at the meeting of this Congress, are very promising. Not only will a large number go from the extreme East, but the West will send good delegations. The latest reports from Havana indicate that the health of the city is quite satisfactory, the danger from yellow fever being practically eliminated. The railroad rates are moderately low, the fare from Chicago to Havana and return being \$86, which includes berth and meals on the steamer. Those wishing to go via New Orleans should remember that the Morgan line of boats, which has recently been put into service, leaves on Saturday only. Those who wish to go by this route can leave Chicago by the Illinois Central at 8:30 a. m., Friday, February 1, arriving at New Orleans Saturday, February 2, at 9:35 a. m. The boat leaves two hours later and arrives at Havana on the morning of February 4. For other routes see previous issues of THE JOURNAL.

CANADA.

THE FRENCH-CANADIAN medical men of the province of Quebec are endeavoring to organize a medical congress of the French practitioners of North America, to be held some time next summer. It is fully expected that the outcome of the congress will be the formation of an association of French practitioners for the whole continent. It is understood that the French practitioners of Louisiana are favorable to the undertaking. There are reputed to be 500 French practitioners in the United States, and a little over 1000 in the province of Quebec.

THE RELATION, if any, between the manholes and the prevalence of diphtheria in Toronto is now going to receive careful investigation and observation on the part of the medical health officer of the city. Dr. Sheard has had prepared a large map of each of his inspectors' districts; and where a case of diphtheria occurs, it will be noted if a manhole is in the neighborhood, and also the class of street pavement. In this way the influence of local conditions will be investigated. It is expected that the

scavenging of the city will also soon be placed under the medical department.

DR. CLARKE, superintendent of the Kingston Asylum for the Insane, has been appointed a commissioner to investigate the workings of the asylum at New Westminster, British Columbia.

A MOVEMENT is on foot to induce the War Office of England to create places for a certain number of Canadian nurses in connection with the medical corps of the British army. A great many young Canadian women are trained at the hospitals here each year, but the field is limited, and it is thought that the war office ought to be able to avail themselves of our nurses, many of whom have shown themselves capable in the South African campaign.

MEDICAL DEFENSE FUND.

The regular meeting of the medical society of the district of St. Francis of the province of Quebec was held on January 11, under the presidency of Dr. Brown, of Richmond, Quebec. The Medical Defense Union of this association is being endorsed by all the medical men in that district, and several Montreal men have expressed a wish to become members. The question of physicians being appointed for fraternal orders was the principal topic of discussion. An effort will be made to do away with the present system of appointments, and the system of allowing each member of a lodge to choose his own physician in time of sickness, the lodge to pay the doctor's bill, substituted in its stead. It was pointed out that in the great majority of cases the lodges paid out more to the appointed physician than if paid under the latter scheme. The doctors of the City of Sherbrooke present decided to call a meeting of all the medical men in that city, and have them enter into an agreement not to accept any regular appointment in lodge except as examining physician. The association will shortly tender a banquet to Surgeon-Major Worthington in recognition of his work in South Africa.

FOREIGN.

THE VIENNA *Medicinische Wochenschrift* celebrates its semicentennial by a special number, containing "Aphorisms," and congratulations from its numerous friends and collaborators, who testify to its fidelity to the service of the medical sciences and its dignified course through its half century of existence.

THE PARIS MEDICAL CLUB gave an entertainment recently in which the music, songs and compositions recited were all by French physicians of the day, many of them popular in wide circles at home and abroad. They were all rendered by professional artists. Among them were Richelet's melodies, Prof. Richelet's famous fables, Cazalis' "Mal d'Aimer"—the latter better known by his pseudonym, "Jean Lahor"—and Dr. R. Blondel's musical compositions.

MAGNETIC HEALING IN FRANCE.

A recent decision of the supreme court in France is considered a great triumph for the profession, as it is the first organized effort of physicians to put down quackery in that country. It is declared illegal practice of medicine for any one not having been granted a diploma as a physician, to apply magnetism to the treatment of patients. Three years ago the Medical Syndicate at Angers commenced legal proceedings against a magnetic healer, accusing him of the illegal practice of medicine. The charlatan in question treated his patients by making passes over them and applying "magnetized cotton." The local court acquitted the healer and the syndicate appealed. The superior court confirmed the decision that magnetism could not be considered a treatment. The syndicate then appealed to the supreme court, supported morally and financially in its efforts by the Union des Syndicats Médicaux de France, while the magnetic healers in the country formed a powerful combination against them. The decision of the Cour de Cassation, handed down Dec. 30, 1900, states that the treatment of diseases by magnetism is to be considered the practice of medicine and should only be done by medical men. "The syndicate may justly be proud of its perseverance and success," one confrère editorially exclaims, "for if physicians suffer from these practices, the patients suffer still worse—they die."

LONDON LETTER.

THE ANTI-TUBERCULOSIS MOVEMENT.

The anti-tuberculosis crusade, which was begun more than two years ago, has made great progress. In the profession the open-air treatment has come to be regarded as the treatment par excellence. Among the general public, by means of meetings, pamphlets, etc., a great deal of vital information has been diffused as regards the necessity for providing sanatoria and the importance of hygienic measures to prevent contagion.

The National Association for the Prevention of Tuberculosis is the mainspring of this movement for enlightening the public and obtaining the support of leading men in the country which is necessary for the success of any reform. A large number of private sanatoria for carrying out the open-air treatment of consumption have now been provided, but for the poorer part of the population who can not afford to pay for such treatment the work of providing it free or at a small cost, though making good progress, is still in its earliest stage. The compulsory notification of consumption is a measure which is certain to be shortly enacted. In the meantime a number of sanitary authorities have adopted a system of voluntary notification. The National Association for the Prevention of Tuberculosis is now issuing to corporations, urban and rural councils, etc., a pamphlet containing suggestions as to voluntary notification and provision of open-air treatment for pauper consumptives. Under the notification system, cases are isolated and insanitary areas and houses are improved. Information is also given as to the cost of erecting sanatoria, disinfection of consumptives' dwellings, and the improvement of cowsheds. A large number of hospitals now provide open-air treatment, either free or at a small charge. Boards of health are now building sanatoria or maintaining beds in existing ones, or adapting special wards in the infirmaries to the open-air treatment. Another outcome of the antituberculosis movement is:

THE BRITISH CONGRESS ON TUBERCULOSIS.

The congress will be opened on July 22, 1901, and will sit from that date until the 26th. Every British colony and dependency has been invited to send delegates, and the governments of foreign countries to send representative men of science, who will be guests of the congress. Consumption and other forms of tuberculosis, though preventable and controllable, cause about 60,000 deaths annually in the United Kingdom. Probably thrice this number of persons are constantly suffering from one or other form of the disease. The object of the congress is to exchange the information and experience gained throughout the world as to methods available for stamping out the disease. Papers will be read and clinical and pathological demonstrations will be given. The museum, which will be a special feature of the congress, will contain pathological and bacteriological collections, charts, models, and other exhibits. Authorities of this and other countries will be invited to supply documents on the historical, geographical and statistical aspects of the subject. As a result of the papers and discussions practical resolutions will be formulated, which will serve to indicate the measures best adapted for the suppression of tuberculosis. The work will be divided into four sections, as follows: Section 1, state and municipal; section 2, medical, including climatology and sanatoria; section 3, pathology, including bacteriology; section 4, veterinary.

DEATHS FROM ARSENICAL BEER.

A record of the inquests held in Manchester alone, respecting deaths supposed to be due to arsenical poisoning from consumption of impure beer, shows in a striking manner the seriousness and extent of the epidemic. Twenty-one inquests have been held; in 8, death was due to arsenical poisoning, in 7, to natural causes, but there were arsenical symptoms; in 2, death was accelerated by the poison. At one of the inquests Dr. Reynolds, visiting physician to the Manchester workhouse, to whom is due the credit of discovering the cause of the outbreak of peripheral neuritis in Manchester, gave evidence as to how he arrived at his conclusion, which is most interesting as an example of sound medical reasoning. He observed that herpes occurred in some of the cases of peripheral neuritis. He therefore concluded that the herpes and the neuritis were due to the same cause. Now, the only drug which he knew produced herpes was arsenic. He, therefore, concluded that the patients must be taking arsenic in some way. As the only common factor was the beer he suspected that was the source, and on analysis found that it contained arsenic. In one of the fatal cases of arsenical poisoning the lungs were dropsical and the liver was much enlarged and in a condition of chronic inflammation. But no traces of arsenic could be found in the viscera. In another case an appreciable quantity of arsenic was found in the liver, kidneys and heart. Two deaths from arsenical poisoning have occurred at Liverpool.

THE RELATION OF MASTITIS TO TUMOR FORMATION.

At the Pathological Society Mr. F. T. Paul read an important paper on this subject. He said that the tendency of chronic mastitis to end in tumor formation had more impressed him every year. Cancerous breasts almost constantly showed microscopic changes indicating preceding chronic mastitis, and breasts removed for simple chronic mastitis frequently pre-

sented appearances suggestive of the commencement of cancer. This same was true of innocent tumors, even of those of early life. "Involution mastitis" commenced as a chronic interstitial inflammation and passed into a cirrhotic state, accompanied by cystic alterations in the acini and generally by considerable increase in the gland elements. At the stage of involution in some cases resolution took place; in others the irritation continued, especially in the peri-acinous connective tissue and after prolonged stimulation might end in the growth of a fibroadenoma. In other cases or in other parts of the same organ the epithelium responded chiefly, and intra-cystic papilloma or carcinoma might originate. He concluded that the association of chronic mastitis with adenoma in early life and with cystic and other varieties found later, its almost constant presence in conjunction with cancer, the marked bilateral mastitis which preceded bilateral cancer, and the appearances seen under the microscope in chronic mastitis, taken in conjunction with clinical experience, showed that chronic mastitis, if not the immediate, is at any rate the frequent, predisposing cause of tumor change and renders excision desirable in all marked or inveterate cases.

Marriages.

OTIS HIGGINS, M.D., to Miss Blanche Dicks, both of Lebanon, Ind., January 9.

CHARLES A. KEARNEY, M.D., Farley, Iowa, to Miss Caroline Freeman, December 25.

GREENE D. MCCALL, M.D., Fulton, Mo., to Miss Annie Basket, Mexico, Mo., January 9.

H. FRANK PRESTON, M.D., Utica, N. Y., to Mrs. Anna McFarland, Altoona, Pa., November 7.

G. DUFFIELD STEWART, M.D., Detroit, Mich., to Mrs. Katharine Fletcher, Mt. Clemens, January 3.

JACOB S. GREEN, M.D., Alameda, Cal., to Miss Gertrude Bialoglowski, Oakland, Cal., January.

THOMAS C. McNAMARA, M.D., Hoboken, N. J., to Miss Minnie Eloise Gallagher, Brooklyn, N. Y., January 23.

JOHN H. BURKHALTER, M.D., U. S. M.-H. Service, Mobile, Ala., to Miss Lillian Johnson, Thomson, Ga., January 2.

JOHN S. MESERVE, M.D., Dover, N. H., to Miss Edith Conner, daughter of Dr. Phineas S. Conner, of Cincinnati, January 1.

B. F. SANDOW, M.D., government physician, Waianea Kauai, Hawaiian Islands, to Miss Eula Elston, Berkeley, Cal., January 1.

JOHN B. DENNIS, M.D., ensign U. S. navy, stationed at Philadelphia, to Miss Adelaide A. Ware, of Fortress Monroe, January 8.

Deaths and Obituaries.

CHARLES WESLEY PURDY, M.D., Queen's University, 1869; Honorary Fellow of the Royal College of Physicians and Surgeons of Ontario, 1888; LL.D., 1898, Queen's University, Kingston, Ontario, died January 20 from uremia, at his home in Chicago, aged 54. He was born in Collins Bay near Kingston, Ontario, and took his academic course in Victoria University, Montreal. He practiced for two years in Hastings, Ontario, and then came to Chicago. He was successively house physician at the Grand Pacific and Auditorium Hotels until 1893, when he moved to his home on Twentieth street, in which he lived thereafter. For many years he had made diseases of the kidney his specialty, and was an accepted authority on this branch of medicine and on analysis of urine. His contributions to the literature on these subjects are numerous and valuable. His work on uranalysis, which has gone through several editions, is a standard; and his text-books on Bright's disease and diabetes are also considered authoritative. He was a member of the faculty of the Post-Graduate Medical School of Chicago from its organization, for several years, but never enjoyed didactic teaching, preferring to make laboratory researches and to publish their results. He was a member of THE AMERICAN MEDICAL ASSOCIATION, British Medical Association, Illinois State Medical Society and Chicago Medical Society, and was

a charter member of the Chicago Society for Internal Medicine. He was an indefatigable worker, and several months ago suffered from nervous prostration, attended by insomnia, etc. He went away for rest and recuperation, but without avail. He returned from Alma, Mich., on January 15. Three days later he was taken ill, and on the morning before he died, passed into a comatose condition from which he did not rally.

BENJAMIN F. SWAFFORD, M.D., for many years a prominent physician and surgeon of Terre Haute, Ind., died at his home in that city January 8, of diabetes, aged 67. He was graduated from Rush Medical College in 1858, and was professor to the chair of anatomy during the years 1857-1858. At the outbreak of the Civil War he entered the service as surgeon of the Eleventh Indiana Cavalry, and later had charge of Field Hospital No. 1 at Eastport, Miss., until May, 1865. He then entered civil practice at New Goshen, Ind., removing to Terre Haute in 1874, where he continued to practice until his death. He enjoyed a large, successful and lucrative practice and was one of the leading medical men of the country. He was a member and ex-president of the Vigo County Medical Society, a member of the Aesculapian Society of the Wabash Valley, and for years an active member of the Indiana State Medical Society and of THE AMERICAN MEDICAL ASSOCIATION.

DAVID N. RANKIN, M.D., Jefferson Medical College, Philadelphia, 1854, an old and honored member of THE AMERICAN MEDICAL ASSOCIATION, State and County Medical Societies, and of the Laryngological Association; a delegate to the Berlin Congress in 1890; a surgeon of the volunteer army in the Civil War, and prominent alike socially and professionally in Allegheny, from pneumonia, after an illness of three weeks, at his home, at Shields Station, Pa., January 1.

LIEUT. LOUIS P. SMITH, assistant-surgeon U. S. A., College of Physicians and Surgeons, N. Y., from septicemia following an operation for appendicitis at the First Reserve Hospital, Manila, P. I., January 8, aged 30. Dr. Smith was the first medical officer to land in Cuba, and built the first shore hospital. In November, 1899, he sailed for the Philippine Islands and was acting brigade surgeon at Dagupan.

WILBERT K. SLOAN, M.D., College of Physicians and Surgeons, Keokuk, Iowa, 1875, a prominent physician and citizen of Moline, Ill., a member of the local, state, Illinois-Iowa district societies and of THE AMERICAN MEDICAL ASSOCIATION, and for twelve years a member of the board of education, at his home, January 1, from intestinal tuberculosis, after a lingering illness, aged 53.

BENJAMIN FRANKLIN LEONARD, M.D., University of Maryland, 1876, a member of the staff of the Maryland General Hospital, surgeon to the Hebrew Hospital and Asylum, and a member of THE AMERICAN MEDICAL ASSOCIATION, at his home in Baltimore, from pneumonia, after an illness of six days, April 10, 1900, aged 53.

CYRENIUS C. POWELL, M.D., Albany (N. Y.) Medical College, 1864, one of the most prominent physicians of Southeastern Iowa, at his home in Ottumwa, January 6, from septic infection, after an illness of three weeks. The Wapello County Medical Society, at a special meeting, January 8, adopted resolutions of sympathy.

ROBERT A. TRUXILLO, M.D., Kentucky School of Medicine, Louisville, 1891, of Assumption Parish, La., from smallpox, contracted while in charge of the Levee Convict Camp on the east bank of Bayou Lafourche, January 7.

HENRY FOSTER, M.D., Western Reserve University, Cleveland, Ohio, 1848, proprietor of the Clifton Springs Sanatorium, at his home in Clifton Springs, N. Y., suddenly, from heart disease, January 15, aged 79.

ISAAC NEWTON THACKER, M.D., Ohio Medical College, 1840, a pioneer in medicine in Ohio and for nearly half a century an active practitioner, from paralysis, at his home in Defiance, Ohio, January 8, aged 89.

H. G. TOPE, M.D., surgeon of the Eightieth Ohio Infantry in the Civil War, and since that time in practice at Lamartine, Ohio, at his home in that place, December 25, aged 62.

JAMES HENDERSON HALE, M.D., Vanderbilt University, Nashville, Tenn., 1892, from a bullet-wound accidentally received, at his home in Osceola, Ark., January 9, aged 30.

GEORGE SCHLAGENHAUF, M.D., Washington University, St. Louis, 1875, from heart disease, after a long illness, at his home, Altamont, Ill., January 9, aged 53.

JAMES P. EPES, M.D., University College of Medicine, Richmond, Va., 1898, in New York City after an operation for appendicitis, January 11, aged 30.

NATHANIEL S. SIEVERS, M.D., University of Pennsylvania, 1867, at his home in Salem, N. C., after an illness of several years, January 12, aged 60.

WILLIAM P. CONNALLY, M.D., Tennessee Medical College, Knoxville, 1894, of Atlanta, at Abilene, Texas, from consumption, January 13, aged 26.

ADOLPHUS J. DENNIS, M.D., Kansas City Medical College, 1900, from consumption, January 5, at St. Joseph's Hospital, Kansas City, aged 23.

CHARLES B. BORDEN, M.D., Bellevue Hospital Medical College, New York, 1877, from pneumonia, January 9, at his home in Stamford, Conn.

HORACE HALBERT, M.D., University of Buffalo, N. Y., 1851, at his home in Canastota, N. Y., January 11, after a long illness.

ALBERT H. SNEAD, M.D., College of Physicians and Surgeons, N. Y., 1858, at his home in Waco, Texas, January 8, aged 63.

WILLIAM A. WRIGHT, M.D., University of Nashville, Tenn., 1857, at his home in Rives, Tenn., January 10, aged 75.

Correspondence.

Self-Castration.

CAMDEN, N. J.

To the Editor:—Emil L., a young white man, was brought to the Cooper Hospital about midnight of September 26. A couple of hours previously he had castrated himself, removing the entire scrotum. When he came into the hospital his appearance indicated that he had lost considerable blood, and the severed vessels were still bleeding. Examination revealed that the scrotum had been amputated close to the urethra, and the spermatic cords were retracted into the external abdominal rings. The vessels of the cords were ligated and the eutaneous flaps of the wound were sutured in the median line. A week subsequently the wound had healed by first intention; and when cicatrization and contraction are complete there will remain only a median raphe, in close contact with the penis.

For a day or two after admission the man was reticent, and it was difficult to induce him to speak of the act or of the causes that impelled him to it. But, later, he became more communicative, and in describing his operation he said he first tied a cord around the scrotum, above where he intended to cut, believing this was necessary to save him from a dangerous loss of blood. He then seized the scrotum and testicles in his left hand, and with a razor cut from above downward, with a sawing motion, severing successively all the structures. He said the "tendons" were more difficult to cut than the skin; that there was not much bleeding at first, but it became more severe in a few minutes. When asked if he was not tempted to abandon the procedure when he felt the pain of the cut, he replied that the pain was not very great, and he thought the flow of blood tended to prevent much suffering. He observed that the cord placed around the scrotum to prevent bleeding did not remain in position after the parts were severed, and to this fact he attributes the greater flow of blood that subsequently ensued. To the remark that he might have amputated the penis in his haste, he laughingly replied that he was careful not to do that.

A native of Switzerland, 27 years of age, he has resided in this country fourteen years; a florist by occupation. His father, six brothers and three sisters are living, his mother dead, the cause of her death unknown. From his description the members of his father's family were probably of a melancholy temperament and easily excited. Concerning himself, he says he was always despondent, that his employers did not use him right; that he was nervous, and his memory poor. He always had some pain in his testicles, and frequently pain in the back.

He never practiced masturbation; never had sexual intercourse, and never experienced strong desire for it. Involuntary emissions occurred at intervals of a month or six weeks, with the result that the pain in the back and testicles became less severe for a short period. Socially, he was always a recluse, and never associated with the opposite sex.

When questioned as to the immediate motive that prompted him to mutilate himself, he replied that it was because of the pain he experienced, and he thought by this means to obtain relief. He felt that his lack of success in life and his inability to please were due to the condition of his sexual organs, and he hoped by removing the offending members to obtain relief from the various influences that made him unhappy and a constant sufferer. He further said he had for years meditated on the desirability of removing the testicles in certain individuals, to prevent the transmission of undesirable traits to posterity. He had no knowledge of the Skopzi, and is not familiar with the practices of that sect.

On the seventh day following the removal of the testicles an involuntary seminal emission occurred, during sleep, but was unattended with a lascivious dream; it caused him to awake immediately. The stain on the linen was examined ten hours later, and presented all the characteristics of dried semen. Washed with dilute acetic acid, a slide was moistened with the resulting mixture, and the microscope revealed the presence of spermatozoa, but not in large quantities, there being, on an average, three to five in the field of observation. Following the emission, there was considerable pain in the wound.

The testicles, wrapped in a handkerchief, were taken with the patient to the hospital. They were of normal size and consistency, and minute inspection reveals that they were free from disease.

DANIEL STROCH, M.D.

Comments on Dr. Deaver's Article "Walled Off."

MELTON, DEL., Jan. 19, 1901.

To the Editor:—Dr. Deaver's article in THE JOURNAL of A. M. A., of January 5, is interesting as well as instructive. We all appreciate an early diagnosis as much as early treatment, and his statement "Let me insist that you have your cases of appendicitis operated on, yes, immediately after the onset of the initial pain," seems rather strong. For my own benefit and also for a large number of the profession, we would like the Doctor to give us the symptoms of the initial pain, its character and location. The symptoms of appendicitis are so varied and deceptive that I am sure many hesitate to operate, owing to the fact of being unable to arrive at an early positive diagnosis. We are inclined to think that should the Doctor's advice be taken many abdomens would be opened and normal conditions in relation to the appendix be found. I appreciate very much the Doctor's article and am not writing in the spirit of criticism, but as a seeker after truth, appreciating, as the Doctor does, the value of an early operation if one is necessary, but seeking for infallible signs whereby one may not err in an early diagnosis. Could we be as positive of the symptoms and physical signs of appendicitis as we are of empyema or pleurisy with effusion then we would not hesitate to follow the advice. Every physician feels a great responsibility resting upon him when called to cases in which the symptoms are indicative of appendicitis—to operate or not to operate is the question. He asks: Am I warranted in subjecting the patient to the dangers of an operation while some doubt exists in regard to the diagnosis? We believe in many cases it is impossible to make an early diagnosis unless the abdomen be opened. The Doctor's advice may apply very well to hospital, but the same can not always be carried out in private, practice. For the sake of diagnosis are we justified in opening the abdomen if no diseased appendix is found? . . . Many will frankly admit that they can not make a diagnosis of appendicitis in its early stage, and while having read all the literature at my command on the subject I admit I could make a better diagnosis after the abdomen was opened than before. We would like to hear from the Doctor again on the early symptoms and positive diagnosis of the disease.

R. B. HOPKINS, M.D.

New Instruments.

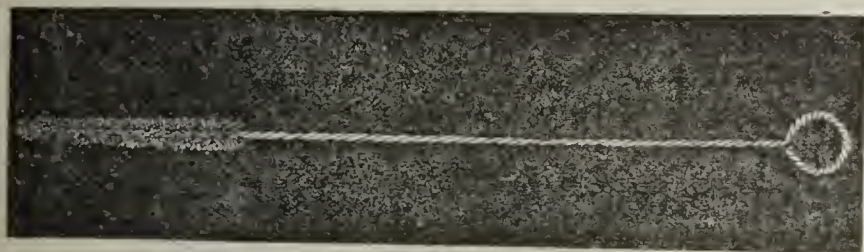
A New Method of Cleaning the Cervical Canal.

GEORGE W. NEWTON, M.D.

Professor of Gynecology, Chicago Clinical School; Instructor in Gynecology, College of Physicians and Surgeons; Attending Gynecologist, West Side Hospital.

CHICAGO.

The difficulty experienced in trying to remove the secretion from the cervical canal before making applications thereto caused me to seek other methods than theories heretofore advised. I had a brush made as shown in the cut and the ease with which the canal can be cleaned is really surprising. It does its work perfectly, and removes equally as well the thick, yellow, gelatinous gonorrheal plug as it does one of the hematogenous variety of endocervicitis. The brush is cylindrical in shape, $1\frac{1}{2}$ in. long, $\frac{1}{4}$ in. in diameter, tapering to $\frac{3}{16}$ in. If the patient is a nullipara and has a small cervical canal a smaller brush should be used. With a pair of scissors it is a simple matter to trim the bristle off to any size desired. Several sizes should be kept on hand; as they are very inexpensive the cost is a matter of small consideration. The brush is inserted into the cervical canal to the internal os, revolved once



or twice and then withdrawn, and the membrane lining the canal will be clean. The discharge becomes entangled in the meshes of the brush and adheres to it as it is withdrawn. To clean the brush hold it under running water for a few moments. It can be sterilized in the usual manner. Although simple, this brush will be found to be a very useful instrument. The uselessness of applications to the cervical canal is often due to the fact that the medicament is not applied to the membrane but to discharge which filled the canal and which it was impossible to remove. Five cases of gonorrheal endocervicitis have been practically cured by applications to the canal after first cleaning the membrane by my brush. These brushes may be obtained at the instrument shops.

A New Tongue-Depressor.

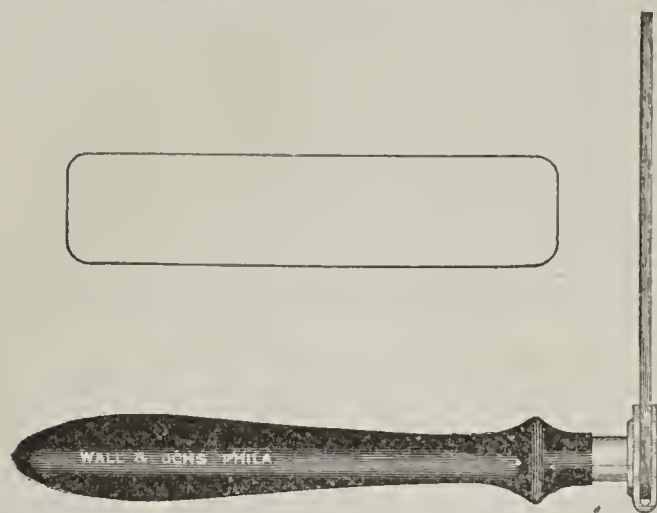
G. ALVIN HILL, A.M., M.D.

PHILADELPHIA.

Any metallic tongue-depressor, however carefully made, will, after a time, become unsightly from the wearing off of the plating, and no amount of cleaning will give it the appearance of being clean; so fastidious patients are very apt to look askance at it. Another annoying objection to all instruments made of metal not corrugated or roughened is their tendency to slip backward or sideways on the tongue, causing irresistible gagging and a necessary pause in one's examination or operation, not to mention a less docile state of that member afterward.

With the instrument here described these unpleasant features are entirely obviated. The spatula is of hard, nicely finished wood, which, on being placed on the tongue, adheres to it, so that considerable forward traction can be made and thus effectually draw the base of that organ away from the fauces, allowing more room for inspection or such applications as may be desired. After use, it is removed from the handle and thrown away or laid aside and a fresh one used for the next patient who, seeing this procedure, is impressed with the cleanliness of the operator and not infrequently comments on it. These little slips of wood are cheap and easily obtained from the makers. It is generally my custom, however, after using a few dozen of them—rejecting all that have become stained by drugs, such as

silver or iodine—to scrub them in soap and water and then subject them to a vigorous boiling for a half hour or more, and after rinsing in clean water allow them to dry, when it will be found that they are as perfect as at first and even whiter.



There can be no question as to their cleanness and aseptic condition after this treatment.

The adhesion to the tongue, the freedom from liability to gag the patient, and their clean and aseptic quality so satisfactory to both physician and patient are the chief merits of this instrument.

Miscellany.

The Support of Medical Societies.—At the beginning of the New Year and at the beginning of the new century we extend to our readers and friends a cordial greeting and offer them our best wishes for prosperity and happiness. In our last issue we called attention to a few of the unsolved problems in medicine, the solution of which we expressed the belief would be accomplished in the near future. We desire at this time to call attention to a matter which we have frequently urged before, and the importance of which to the welfare of the profession of medicine is so great that no apology is needed for bringing it up again. We refer to the proper and complete organization of the profession through its medical societies. Every reputable physician should belong to three medical societies—his county society, his state society, and the AMERICAN MEDICAL ASSOCIATION. In many country districts the counties are not populous enough to support a county medical society, but there is usually a district society, which takes its place. The county societies should be, and usually are, auxiliaries of the state society, and all of the state societies are auxiliary to the AMERICAN MEDICAL ASSOCIATION. We have, then, an ideal scheme for perfect and complete organization, and there is only lacking a sufficient appreciation on the part of many individuals in the profession of the importance of becoming a part of this organization, and thereby increasing its power; and this increase in power means a direct benefit in many ways to every practicing physician. An ideal method of organization, but one which is perhaps not practical in such a large country as this, would be to have the AMERICAN MEDICAL ASSOCIATION become the veritable parent society and have membership in the association convey membership in the state and county societies; the dues all being paid to the Association and a proper adjustment made through its treasurer to provide for the expenses of the local societies. Ten dollars a year would undoubtedly be a sufficient membership fee, to include all the expenses and to furnish each member with one of the best weekly medical journals in the world. There are in Minnesota not far from fifteen hundred reputable practicing physicians who are eligible to membership in the AMERICAN MEDICAL ASSOCIATION and in the Minnesota State Medical Society. Of this number less than five hundred, not 33 per cent., are members of the state society, and only about two hundred, or less than 14 per cent. belong to the National Association. These percentages seem ridiculously low, and, yet we believe the figures will be found about the same in other states. The St. Paul meeting of the AMERICAN MEDICAL AS-

dale, vice-president; Dr. David T. Nicoll, secretary and treasurer, and Dr. Christian Jonsson, librarian.

THE TALLADEGA COUNTY (Ala.) MEDICAL SOCIETY, at its annual meeting at Talladega, January 8, elected Dr. Benjamin B. Simms, president; Dr. Jason S. McCants, vice-president; Dr. William G. Harrison, secretary and county health officer, and Dr. Eugene P. Cason, treasurer, all of Talladega.

THE ALAMEDA COUNTY (Cal.) MEDICAL SOCIETY, on January 8, elected Dr. Hubert N. Rowell, Berkeley, president; Dr. Edmund J. Overend, Oakland, vice-president; Dr. Myra W. Knox, Oakland, secretary; Dr. Carl R. Krone, Oakland, treasurer, and Dr. Edward N. Ewer, Oakland, librarian.

THE TULARE COUNTY (Cal.) MEDICAL SOCIETY met in Visalia, January 3, and elected Dr. Alexander L. Wilson, Tulare, president; Drs. Harley P. Mathewson, Visalia, and Robert E. L. Morton, Dinuba, vice-presidents; Dr. Thomas J. Patterson, Visalia, secretary, and Dr. F. A. Combs, Visalia, treasurer.

THE ELKHORN VALLEY (Neb.) MEDICAL SOCIETY met at Norfolk, January 9, and elected Dr. P. H. Salter, Norfolk, president; Drs. John P. Gilligan, O'Neill, and H. L. Kindred, Meadow Grove, vice-presidents; Dr. Archibald L. Muirhead, Winside, secretary, and Dr. William H. H. Hagey, Norfolk, treasurer.

THE HARTFORD (Conn.) MEDICAL SOCIETY, at its annual meeting, January 7, elected Dr. George R. Shepherd, president; Dr. William M. Hudson, vice president; Dr. Joseph E. Root, secretary; Dr. George N. Bell, assistant secretary; Dr. George K. Welch, treasurer, and Dr. Frederick T. Simpson, librarian.

THE JACKSON COUNTY (Ia.) MEDICAL SOCIETY held its annual meeting at Maquoketa, January 15, at which Dr. George O. Johnson, Maquoketa, was elected president; Dr. John C. Dennison, Bellevue, vice-president; Dr. James O. Ristine, Iron Hills, secretary, and Dr. Willis A. Scott, Maquoketa, treasurer.

THE OMAHA MEDICAL SOCIETY elected officers January 8 as follows: Dr. Byron B. Davis, president; Drs. Gertrude Cusaden and Rufus D. Mason, vice-presidents; Dr. Joseph M. Aikin, secretary; Dr. Millard Langfeldt, treasurer, and Drs. Harry M. McClanahan, Benjamin F. Crummer and Andrew B. Somers, board of censors.

THE YORK COUNTY (Maine) MEDICAL SOCIETY met at Biddeford, January 10, and elected the following officers: Dr. Ambrose H. Weeks, Bar Mills, president; Drs. Henry I. Durgin, South Eliot, and Charles W. Blagden, Sanford, vice-presidents; Dr. Lawrence E. Willard, Saco, secretary, and Dr. J. Starr Barker, Kennebunk, treasurer.

THE KALAMAZOO (Mich.) ACADEMY OF MEDICINE met in annual session January 11. Dr. Herman H. Schaberg was elected president; Dr. Charles H. McKain, Vicksburg, first vice-president; Dr. Orrin F. Burroughs, Galesburg, second vice-president; Dr. Herman Ostrander, Kalamazoo, secretary, and Dr. Edwin H. Van Densen, librarian.

THE DOCTORS' CLUB met at Newark, N. J., January 11, and elected the following officers: Dr. Katherine Porter, Orange, president; Dr. Ella Palmer, Jersey City, vice-president; Dr. Isabel M. Geddes, Newark, corresponding secretary; Dr. Mary D. Hussey, East Orange, recording secretary, and Dr. Augusta M. Madison, Newark, treasurer.

THE MARION COUNTY (Ind.) MEDICAL SOCIETY held its annual meeting in Indianapolis, January 7, and elected the following officers: Dr. Lehman H. Dunning, president; Dr. George H. F. House, vice-president; Dr. Theodore Potter, secretary; Dr. Fred L. Pettijohn, assistant secretary, and Dr. Simon P. Scherer, treasurer, all of Indianapolis.

THE MONTGOMERY COUNTY (Pa.) MEDICAL SOCIETY, at its meeting January 10, elected the following officers: Dr. Percy M. Corson, Plymouth Meeting, president; Drs. George M. Stiles, Conshohocken, and J. Newton Hunsberger, Skippack, vice-presidents; Dr. Harry H. Whitcomb, Norristown, secretary, and Dr. S. Nelson Wiley, Norristown, treasurer.

THE PHILADELPHIA MEDICAL CLUB held its annual meeting January 11 and elected the following officers: Dr. Edward L. Duer, president; Drs. John B. Deaver, Philadelphia, and Edward Marvel, Atlantic City, N. J., vice-presidents; Dr. Guy Hinsdale, secretary; Dr. F. Savary Pearce, treasurer, and Dr. James M. Anders, member of the board of governors.

THE SCHUYLKILL COUNTY (Pa.) MEDICAL SOCIETY held its meeting in Pottsville, January 8, and elected the following officers: Dr. Alexander L. Gillan, Pottsville, president; Dr. Joseph P. Morris, St. Clair, vice-president; Dr. George W. Farquhar, Pottsville, secretary; Dr. David Taggart, Frackville, treasurer, and Dr. J. Spencer Callen, Shenandoah, censor.

THE MADISON COUNTY (Ala.) MEDICAL SOCIETY discussed the smallpox situation at its meeting, January 8, at Huntsville, and elected the following officers: Dr. James L. Darwin, Huntsville, president; Dr. William D. Pettus, Rap, vice-president; Dr. Edgar Rand, Leighton, secretary and treasurer, and Dr. William C. Wheeler, Huntsville, county health officer.

THE GEORGIA MEDICAL SOCIETY, OF SAVANNAH, elected the following officers at its annual meeting, January 8: Dr. Thomas P. Waring, president; Dr. John A. Crowther, vice-president; Dr. Charles B. Lanneau, recording secretary; Dr. Arthur A. Morrisson, corresponding secretary; Dr. James G. Van Marter, Jr., librarian, and Dr. John S. Hawkins, treasurer.

THE ANDROSCOGGIN COUNTY (Maine) MEDICAL ASSOCIATION met January 8 at Lewiston and elected Dr. Oliver A. Sprague, Turner, president; Drs. Edgar F. Conant and E. A. McCollister, Lewiston, vice-presidents; Dr. Richard R. Ricker, treasurer; Dr. Anson A. Cobb, Auburn, recording secretary, and Dr. Benjamin E. W. Cushman, Auburn, corresponding secretary.

THE ORANGE MOUNTAIN (N. J.) MEDICAL SOCIETY held its annual meeting at Montclair, January 4, and elected the following officers: Dr. Wellington Campbell, Short Hills, president; Dr. Francis J. E. Tetrault, Orange, vice-president; Dr. Richard D. Freeman, South Orange, secretary; Dr. Carl Buttner, Orange, treasurer, and Dr. Henry A. Pulsford, South Orange, reporter.

Chicago Academy of Medicine.

Regular-Meeting held Dec. 14, 1900.

Dr. William A. Evans in the chair.

The topic for discussion was "Pregnancy," which was considered from various standpoints.

PHYSIOLOGIC AND FOLK-LORE ASPECTS OF PREGNANCY.

DR. H. C. B. ALEXANDER said that the most important phase of the physiology of pregnancy proper coming under the domain of the topic assigned is that which relates to the physiologic increase of woman's functions during pregnancy, and that which pertains to the resultant perturbations of the organs leading to autointoxications. The pregnant woman has regained in part the child's power of cell reproduction without the child's power of eliminating the waste consequent on cell reproduction. To increase the first, without decreasing the mother's future strength after childbirth, and to decrease the second, without affecting the first, are the two problems presented to the obstetrician by the disturbances of woman's physiologic equilibrium from pregnancy.

THE MUTUAL INFLUENCES OF PREGNANCY AND THE INFECTIOUS AND CONSTITUTIONAL DISEASE.

DR. ROBERT B. PREBLE discussed this subject, and said it is usually considered from three standpoints, the influence of pregnancy upon the disease, the influence of the disease upon pregnancy, and the influence of the disease upon the fetus. The last aspect is the only one about which we have new information, for it is only recently that any attention has been given to this view of the question. Feré for some time has been making a series of interesting studies upon the influence of various agents on the chick embryo. He has exposed the egg in the incubator to alcohol, ether, tobacco and various other toxic bodies, including a variety of the bacterial toxins. In this way various monstrosities have resulted similar to those obtained by shaking the incubating eggs. It seems likely that these injurious agents and the various infections and intoxications, when they act upon the embryo before the differentiation of the various organs lead to malformations, and when they act after the organs are defined, their effects are similar to those experienced in post-fetal life. For example, malformation of the heart will result from injurious influences early in fetal life and fetal endocarditis and from similar influences felt later in uterine life. None of the infectious diseases is much altered by a coincident pregnancy. The only possible exceptions to this statement are those diseases which rapidly produce anemia, such as acute articular rheumatism, malaria, etc. The addition of such anemia to that of the pregnancy is markedly injurious. Another possible exception is that of acute yellow atrophy. This disease, un-

doubtedly an infectious one, is considerably more frequent in pregnancy and the puerperium than under other circumstances. Chlorotic women are usually sterile, but if they conceive, the anemia is intensified by the pregnancy. Women who, as young girls, have been chlorotic, often suffer a relapse during pregnancy. Pernicious anemia is made worse by pregnancy, but leukemia is not materially influenced. All of the acute and chronic infectious diseases have an injurious influence upon pregnancy and the fetus, often causing an abortion. With the exception of the variola, these diseases are usually no worse when combined with pregnancy than under ordinary circumstances, but the summation of the disease and a resultant abortion are bad. Variola, which occurs somewhat more frequently during the second half of pregnancy, is often of the severer form. Abortion occurs in about 50 per cent. of the cases: the severer the variola, the more certain the abortion. Pregnant women bear vaccination well, but the vaccination does not protect the fetus. According to Sedgwick, a fetus may have an intrauterine variola, or be born with the eruption without the mother having the disease. What is more probable is that the mother has had a variola without eruption. Searlatina is an uncommon complication of pregnancy. Olshausen finds but seven cases. If severe, it excites abortion. Measles is somewhat more common than scarlet fever. Underhill has collected fifteen cases. In five of seven cases, occurring early in pregnancy, abortion occurred. All of seven cases in the last month of pregnancy miscarried early in the disease. Pregnant women show a certain degree of immunity toward typhoid fever, and this immunity increases in the second half of pregnancy, but the speaker has found no evidence bearing upon the correctness of this statement. When the disease occurs it causes abortion in considerably more than one-half of the cases. The maternal mortality from typhoid is somewhat higher than the average mortality, being 17 per cent. of 183 cases. Malaria often causes abortion, particularly in the second half of pregnancy; according to Goth, 41 per cent.; Weatherley, 46 per cent. The combination of the anemia of pregnancy with the hemolysis of malaria is particularly bad. In pneumonia the more advanced the pregnancy the more inevitable its interruption, and it is only when the miscarriage occurs during the ninth and tenth months that the fetus has a good chance. Cases treated expectantly give a mortality of 14.3 per cent.; those in whom abortion is induced give a mortality of 71.9 per cent. Influenza, during epidemics, is often the cause of abortion; the more severe the influenza, the more inevitable the abortion. It was formerly stated that tuberculosis became quiescent during pregnancy. The opposite is true. The more advanced the tuberculosis, the more injurious the pregnancy. With advanced tuberculosis abortions are common, and if the child is born alive it is a weakling. According to Grisolle, 38 per cent. of children of phthisical women die, and about one-fourth of these are still-born. Actual transference of the tuberculosis, i. e., an intrauterine tuberculosis, while not unknown, is decidedly rare.

TOXIC HABIT AND TOXIC OCCUPATION ASPECTS OF PREGNANCY.

DR. CHARLES S. BACON said that when abortion is caused it may be due to the toxic substance acting injuriously upon the uterus, or it destroys the child and reflexly acts upon the uterus. If the poison directly affects the uterus it may affect the uterine muscle, causing contraction, or it may interfere with the circulation. A poisonous substance taken habitually, voluntarily, or accidentally, may affect the uterus. The basis of scientific knowledge on this subject was established by Gusserow a number of years ago, and since then confirmed by a number of other experimenters, who have shown that substances pass from the mother into the fetus through the placenta. Morphin undoubtedly passes through the placenta, but it does not follow that this drug affects the fetus as it would a born child. Strychnin, injected into the fetus while it is still in the uterus, in large doses, causes convulsions in the mother and perhaps death, but does not cause convulsions in the fetus. The fetus lives for some time after the death of the mother. Alcohol is commonly supposed to have some effect on pregnancy, but there are no conclusive proofs that taken in fairly moderate quantities it causes abortion. Ex-

periments have conclusively established the fact that alcohol taken in moderate doses is not excreted by the breast, and only when taken in large quantities is it found in the milk. It is sometimes said that morphin causes abortion. Whether it does so by its effect on the uterus, or by affecting the child, is not definitely established, nor has it been absolutely proved that morphin does cause abortion. Another question is as to the effect of morphin on the milk when it is given to pregnant women. The excretion of morphin, or of any of the alkaloids of opium by the milk, has been claimed by some, but it has not been definitely established. That the fetus is affected in its structure and functions of various organs of the body by morphin much in the same way that it is affected by alcohol, is extremely probable. Workers in tobacco factories are apt to abort. About twenty years ago investigations were made by the French government on this subject, several hundred cases were collected and classified, which showed that no definite conclusions could be drawn. Chronic lead-poisoning is frequently the cause of abortion, but whether the abortion is produced by the action of lead on the uterus, by its action upon the fetus, or upon the mother, is an open question. It seems probable that lead acts upon the mother rather than upon the fetus, because the action of lead upon the unstriated muscular fibers of the intestine is well known, and it is probable that it may act upon the uterine muscles in the same way and cause uterine colic in the same manner that it causes bowel colic.

VENEREAL AND DERMIC ASPECTS OF PREGNANCY.

DR. WILLIAM L. BAUM stated that gonorrhea very rarely interferes with the progress of pregnancy. In a number of cases the gonorrheal process is present shortly before the birth of the child, and it seems to exert very little, if any, influence upon pregnancy. Gonorrhea may influence pregnancy in this way, that a long-continued infection, or frequent reinfections as a consequence of endometritis, salpingitis, etc., may produce a disturbance during pregnancy. As to syphilis, it is the constitutional intoxication which plays an important rôle in subsequent pregnancies. It is known that in the majority of instances, particularly in untreated cases of the malignant forms of syphilis which occur in pregnant women, the women abort. The child, if carried to full term, may be syphilitic at birth, or manifest syphilitic symptoms thereafter.

As to the skin manifestations in pregnancy, he considered the effect of the skin disease upon the course of pregnancy, and the etiologic factor in pregnancy which causes certain dermic manifestations to take place. Frequent attacks of pruritus without any apparent skin lesions may be noted. During pregnancy there may be multiple types of erythema and a great many true neuroses of the skin. Skin lesions of the pigmented type, such as chloasma, may be brought about by other conditions than pregnancy. There is very little literature on the subject of the exanthemata having any particular effect upon the progress of pregnancy, except those of the contagious type.

RENAL ASPECTS OF PREGNANCY.

DR. CHARLES E. PADDOCK discussed this phase of the subject. It may be only one of the numerous modifications produced by the economy of gestation, and while the diagnosis is not always easy, the treatment will, as a rule, determine it. It is claimed by Winckel that 2 per cent. of women who were healthy before pregnancy have albumin in the urine during pregnancy, and it is further claimed that 6 per cent. of all pregnant women have albuminuria. Pregnancy in the majority of women is not a physiological process, and the sooner this is understood, the better it will be for the mother and child. The changes going on in the economy of the woman call for greater demands upon the heart, liver, kidneys, etc., and any interference with the action of one of these organs acts disastrously upon the others. There would be fewer cases of albuminuria and eclampsia if hygienic rules were adhered to. If albumin be present during the first few months of pregnancy, rest in bed and a milk diet will usually be all the treatment that is necessary. If, however, there are other symptoms showing a beginning intoxication, more heroic treatment will

be necessary. Should the urine show no change under this treatment, the emptying of the uterus is imperative. Under ordinary circumstances the eclamptic attack must be controlled by chloroform and chloral, and labor allowed to go on. The attack, as a rule, induces labor. Olshausen and Veit advocate the use of morphin. Morphin in the speaker's experience has been unsatisfactory. He feels much safer with chloroform and chloral, and believes the use of morphin in eclampsia has influenced unfavorably the mortality.

From the present state of knowledge concerning albuminuria and eclampsia, the author concludes that the etiology and pathology are unknown; that the kidney shows the most constant lesion, but may be entirely healthy; that the majority of the cases are acute exacerbations of a chronic nephritis, and that the principal treatment is prophylactic.

NEUROLOGICAL ASPECTS OF PREGNANCY.

DR. DANIEL R. BROWER referred to nausea and vomiting and uterine pain as being among the nervous phenomena of pregnancy. The remedies most useful to control vomiting are those that appeal to the nervous system, namely, tonics and sedatives. Nausea and pain, in the early months of pregnancy, are noted mostly in the neurasthenic type of women. Chorea of pregnancy is a serious neurological condition. It is to be combated by the same general methods that are employed in ordinary chorea. He pins his faith in the treatment of chorea to some one of the preparations of arsenic, administered in heroic doses.

Multiple neuritis, or the neuritis of pregnancy, is rare, and is doubtless, when it occurs, the product of auto-intoxication. Hysteria develops from the pregnant state, but the basis for it is laid in the previous history of the individual, pregnancy being simply one of the additional factors.

THE PSYCHIATRIC ASPECTS OF PREGNANCY.

DR. W. G. STEARNS, in explaining the comparative rarity of insanity in pregnancy, said that it must be recognized that the parturient state is natural; that woman was born to that end, and that her system has been prepared for it, and is consequently better fitted to withstand its depletions than the other strains placed upon her by unfavorable or vicious external conditions. The psychosis which most commonly develops during gestation is melancholia. Ushered in by a gradually deepening depression with timidity and vague forebodings, later profound depression, undefined fear and despair, suicidal tendencies, refusal of food, and sometimes positive stupor become the most prominent mental symptoms, but can not be distinguished from those found in melancholia otherwise produced. Puerperal insanity is more frequent than either the insanity of pregnancy or lactation. While the psychoses developing in pregnancy and during lactation are chiefly melancholias, about two-thirds of the cases occurring during the puerperium are manias. Seventy-five to 80 per cent. of women recover in puerperal insanity in from two to nine months, but occasionally recoveries are delayed for from two to three years. About 10 per cent. die, and the remainder become chronically insane. Lactational insanity may be any form of derangement, but is oftener melancholia from exhaustion, particularly if another pregnancy or the return of the menses combine to deplete the nutritional supply of the nervous system. Hallucinations are common. The treatment and management of the psychoses occurring in the course of childbirth should differ in no essential manner from that of mental disease occurring at other times, with the exception that much more can be expected of prophylactic treatment.

OPHTHALMOLOGICAL ASPECTS OF PREGNANCY.

DR. CASEY A. WOOD pointed out that the most important condition for which the ophthalmologist is consulted, is difficulty of accommodation, namely, difficulty in reading, in writing, in doing near work generally. Muscular conditions in the eye are different during pregnancy from those before and after it, and they do not differ from muscular difficulties observed in the body elsewhere. A primipara not infrequently requires the aid of glasses in reading or doing near work, but after pregnancy has been completed she can dispense with them. Pigmentation of the eyelids is not infrequently seen in pregnancy,

which is merely a part of the general pigmentation. Cases of well-marked blindness, and even of complete blindness, have been observed and reported as one of the outcomes of gestation. Violent and long-continued vomiting produces small hemorrhages into parts of the eye, and sometimes serious results follow. Detachment of the retina is not a very uncommon condition in pregnancy. Retinitis albuminurica frequently accompanies pregnancy, but the disease of the retina shows itself in a more favorable form in pregnancy than it does in the ordinary forms of Bright's disease. The prognosis is not as grave in pregnancy from albuminuric retinitis as it is in chronic Bright's disease, although the conditions are about the same. Temporary amblyopia of uremia, with or without albuminuric retinitis, was referred to. Occasionally a patient who is pregnant, whether albuminuria be recognized or not, has temporary or even complete blindness, which may last from a few hours to a few days. These patients almost invariably get well. Nothing pathological can be seen in the fundus by the ophthalmoscope.

LARYNGOLOGICAL ASPECTS OF PREGNANCY.

DR. EDWARD T. DICKERMAN referred to the influence of pathologic conditions of the upper respiratory tract upon pregnancy. In the first four months of pregnancy, especially in women of a neurotic temperament, nasal obstruction is observed, or there is a turgescence of the erectile tissue in the nose. This condition gradually subsides toward the sixth or seventh month, when nasal breathing is again restored. Late in pregnancy the tones of the voice may be affected. The upper tone limit may be lowered. Many professional singers fear pregnancy on account of losing their voice. During pregnancy there is a lowering of the voice due to interference with free chest expansion. Afterward there is a general relaxed states of the abdominal muscles which, until they resume their normal tonicity, may influence voice production, but pregnancy should have no permanent influence upon the voice. Tertiary syphilitic lesions of the larynx and of the pharynx are almost invariably retarded during pregnancy, and they remain practically in a dormant state for months after parturition has taken place, when they take on renewed activity and the tissues rapidly break down.

THE TEETH IN PREGNANCY.

DR. EUGENE S. TALBOT said that during pregnancy women are subject to more or less discomfort, annoyance and inconvenience from the teeth. The disturbance may vary from slight uneasiness to the severest form of odontalgia involving one or several teeth. Decay not only takes place in new localities, but rapid disintegration about new fillings is very common. The teeth are so sensitive and soft they can be cut like chalk. The decay creates the appearance of horn or cartilage, showing that the tooth is deprived of its lime salts by a process similar to osteomalacia in bone. When children are born at frequent intervals, especially if complications arise, the teeth are frequently completely destroyed. Interstitial gingivitis is likewise a common condition of the jaws and gums during pregnancy. Mouths healthy before pregnancy become diseased. So far as the alveolar process is concerned, there is a different etiological factor. Much stress is laid upon the normal physiological nature of pregnancy and childbirth. The changes which occur in nutrition, secretion and excretion, however, indicate a new factor, which, under Virchow's definition, must be pathologic, albeit not nosologic. One of the most marked changes is a perverted function of the excretory organs. The effete matter is not eliminated and auto-intoxication results. The alveolar process is a transitory structure. It is simply developed for the purpose of holding the teeth; when these are lost, the process absorbs. The effect of auto-intoxication upon the alveolar process is to produce interstitial gingivitis, halitosis, osteomalacia, Volkmann's perforating canal absorption, and endarteritis obliterans. The indications are inflammation of the gums, absorption of the process, leaving the necks of the teeth quite exposed. The teeth later loosen and drop out. The teeth of pregnant women should be put into a healthy condition as soon as possible. Dental operations should only be done as a necessity. After the teeth have been

put in order the physician should insist upon perfect cleanliness of the mouth and teeth.

DR. JAMES G. KIERNAN, in discussion, took issue with Dr. Bacon. He could not see, with regard to the question of the passage of morphin through the placenta and mammary gland, why more evidence is needed than the researches of Loewenstein, Potter, Bureau, and others, who have found morphin in the mammary gland and in the placenta. With regard to tobacco studies, thirty years ago, or a little over, boodle investigations were made by the French government in connection with the government monopoly of tobacco. These, like the English opium investigations made in India, were intended to be as little derogatory of tobacco as the English investigations were of opium. Etienne, in 1897, made a careful investigation of the women who work in the tobacco factories. Corroborative results were noted as to findings in other European tobacco factories, as well as in some of the tobacco factories in this country. Furthermore, observations prove that the fluids discharged at delivery contain nicotine. As to the influence of lead poisoning on the offspring of the Staffordshire potters, he could speak strongly. He has had cases of big-headed idiots, in one of whom the brain at the age of 21 weighed 68 ounces. The barren ependyma formation lining the ventricles, replacing the old hydrocephalus, as it did in the case of Cuvier, was six times as thick as it should be. Strictly speaking, however, so-called hypertrophy of the brain in macrocephalic idiots is connective-tissue hypertrophy, not active functioning hypertrophy of nerve cells.

Cincinnati Academy of Medicine.

Meeting, Jan. 7, 1900.

President Dr. C. L. Bonifield in the chair.

GALLSTONES.

DR. B. MERRILL RICKETTS reported cases, also presenting specimens. Case 1. Male, aged 45 years, had suffered from severe attacks of colic for twenty years. Four years ago he passed some 40 octagonal stones about the size of a pea. Cholecystotomy was made Dec. 30, 1900. The gall-bladder was found bilocular and closely adherent to the stomach and duodenum; all adhesions had to be separated before the gall-bladder could be brought into the abdominal incision. It was then deemed necessary to incise each cyst, and from the lower cyst was removed 10 stones, from the upper or fundus, 77. These stones were all about the size of a pea, were octagonal, and were extremely highly polished. Before concluding the operation the septum dividing the gall-bladder into two compartments was torn away, thus forming one cavity. Since the operation the temperature has never been above 99.2; there has been no pain or icterus, and his recovery seems assured. Case 2. Male, 39 years old, with a history of icterus and of colic extending over many years. Cholecystotomy was made Dec. 13, 1900. On opening the gall-bladder, there were found 15 stones and an equal number were removed on the fifth day. An evacuation of the wound on the fifteenth day contained many small fragments of biliary concretions, but subsequent dressings have failed to show any and the biliary tract is in all probability free from these concretions. The patient made an uninterrupted recovery and the wound is now entirely closed. Case 3. Male, 39 years of age, with a history of having suffered from occasional attacks of gall-stone colic for several years. Cholecystotomy was performed about Dec. 1, 1900. On opening the gall-bladder, about five ounces of a clear fluid apparently containing pus, escaped. He had not been able to find a stone either by the finger or the sound in either the gall-bladder or the common duct. Bile flowed freely until about the fifth day, when he was seized with a severe paroxysm of pain and the amount of bile was doubled. A stone was suspected, especially as he would have occasional attacks of pain. He returned home on the 18th day, only to have a severe attack of colic within 24 hours. He returned to the hospital, and on examining the dressings there were found several broken fragments of a smooth stone without facets. The wound has been kept open in the hope that other fragments, the presence of

which are suspected on account of the occasional attacks of pain, may be discharged. In case this does not happen it is more than probable that another operation may become necessary at some future time. The essayist believed that the escaped stone had been present in a dilated hepatic duct. As to the causes of the fracture of the stone or stones, "the probabilities are that the absorption of oxygen, the changing of the fluid discharging from alkaline to acid, or the contraction of the tissues of the biliary tract, one or all, are the causes for the breaking into fragments of the stone or stones."

SPINAL COCAINIZATION.

DR. H. J. WHITACRE reported three cases. Case 1. Double complete fistula in ano. Patient a male, aged 45, very dissipated as regards his habits, presented himself at Christ's Hospital for treatment. On physical examination there was found consolidation, probably tubercular, in the upper lobes of both lungs, a mitral regurgitant murmur, and the kidneys chronically diseased; in addition he gave a history of having taken many forms of alcohol cure during the last ten years, and admitted a recent protracted spree of about four weeks' duration. Fifteen minims of a 2 per cent. cocaine solution—put up in sterile pearls—were injected into the spinal canal between the fourth and fifth lumbar vertebrae. The patient said at the end of ten minutes that there was some numbness in his feet, but the anesthesia did not extend higher. Even at the end of 45 minutes there was no further progress. Suddenly he stated that there was no sensation in the buttocks, and examination revealed this to be the case, as also in the perineal region, though the lower extremities never lost sensitiveness. Anesthesia extended as high as the umbilicus. The operation was now performed, painlessly, in twenty minutes. Even when the operator inserted his finger some four inches into the rectum and delivered the grooved director that had emerged at this point, the patient complained only of a dragging sensation. There were no toxic manifestations. On the day following the operation, he complained of an attack of sciatica, which he himself assigns to the peculiar—lithotomy—position he had to assume during the operation, as he has previously had many such attacks. Nothing else of an unfavorable nature appeared. Case 2. A male, 82 years of age, with a history of prostatic enlargement covering a period of many years. During the last two years he has suffered from attacks of acute cystitis or of retention, so that fully eighteen months of this time has been spent in hospital wards at various intervals. He was able to catheterize himself fairly well, until he one day attempted to improve matters by forcing the meatus and urethra with a hickory stick; since that time an experienced physician has had the greatest difficulty in introducing a catheter. His advanced age, arteriosclerosis, and damaged kidneys would have made the giving of a general anesthetic an extremely hazardous matter. Eighteen minims of the 2 per cent. solution were used for the injection. Vomiting occurred in about three minutes and he complained of weakness. His face was pale, but his pulse showed no alteration. In ten minutes, operation was begun; it consisted of a perineal section, external urethrotomy, and removal of the right prostatic lobe. This was all done without pain, without evidence of shock, and with no failure on the part of any of the vital functions. Anesthesia continued over an hour. Recovery was uninterrupted. Case 3. Male, 17 years of age, with a history of osteomyelitis of the femur of six years' duration. At the time of the injection the patient made a sudden movement and anesthesia not ensuing in over an hour, essayist is certain that this movement threw the needle out of the spinal canal and the fluid was injected outside the dura. He was certain that the second injection made two days later entered the dura, but no anesthesia following in over an hour, ether was given. The only untoward symptoms following the injection were a headache twenty-four hours after and a slight rise of temperature. His method of giving the injection in these cases was that of Tuffier, and he endeavored to maintain the rigid asepsis of a major operation. The essayist then gave a history of the operation and reports as to mortality up to date. He also stated that in his opinion the operation had best not be performed in nervous women and children. He did not

think that the method would be used higher in the cord. As regards the advantages to be derived he said that operations have often to be made on patients the victims of severe pulmonary, cardiac, or renal disease, in which patients a general anesthetic would be dangerous to the highest degree.

RAYNAUD'S DISEASE.

DRS. A. RAVOGLI and M. L. HEIDINGSFELD presented a patient afflicted with Raynaud's disease; a male, aged 24, of German birth, duration of his disease ten years. The fingers of both hands were affected about equally. They were enlarged to about twice their normal size, and were chronically edematous; they were very cold to the touch and of a bluish-red color; a few bullæ were present on the phalanges of several fingers, and at the digital extremities of several of the metacarpal bones; these bullæ had a tendency to necrosis; there was diminished sensation to heat and cold. There was no hyperesthesia or anesthesia; no periodicity; involvement of the fingers alone; no direct or predisposing cause such as trauma or exposure to cold. On account of these facts the diagnosis must be held *sub judice*, with the possibility of the case being a vasomotor or trophoneurotic change, such as chronically cold hands, erythromelalgia, or angioneurotic edema. Some improvement has been noticed under intestinal antiseptic treatment.

DR. B. F. LYLE reported a case of Raynaud's disease that had died at the branch hospital for consumptives. He had been sent from the city hospital on account of areas of dulness involving both apices. On post-mortem examination there was found a fibroid condition of the apices, a general edema of the lungs—the direct cause of death—a fatty liver, and as was afterward shown by microscopic examination, a sclerosis of the posterior and lateral columns of the spinal cord. The man's mental condition was such that no satisfactory history could be obtained at the time he entered the branch. The gangrene had first attacked the left great toe, and had gradually involved, symmetrically, a considerable portion of both legs. The upper lip and the tip of the nose had also suffered.

DR. F. W. LANGDON, who had also examined the case, agreed in the diagnosis, and stated that at the time of the examination the patient's condition was such that nothing satisfactory could be elicited.

DR. J. E. GRIEWE made a detailed report as to the pathological changes in the spinal cord, and was inclined to the view that they were not causal so far as Raynaud's disease was concerned, not casual, but a part of a general pathologic change, of which the gangrene and the symmetrical fibroid changes in the lungs were other and coincident phases.

DR. A. RAVOGLI stated that the patient was in the dermatological ward of the Cincinnati Hospital, and on his service several months before he was transferred to the branch. At that time his mental condition was good and he gave a well-marked history of local asphyxia and of periodicity covering a period of some six or seven years previous to the onset of the gangrene. He was inclined to the opinion that it was a well-marked case of Raynaud's disease.

Philadelphia Pediatric Society.

Meeting Dec. 11, 1900.

President Dr. Alfred Stengel, in the chair.

TRANSPLANTATION OF PEDICLED FLAPS.

DRS. C. H. FRAZIER and A. L. NEWHALL reported a case of flaps transplanted from buttock to hand, with exhibition of patient, a colored boy aged 3 years, who had two years ago fallen against a hot stove, striking on the palm of the hand. A severe burn resulted, followed by cicatrization and contracture. The operation consisted in making two parallel incisions on right buttock, after which the scar tissue on the hand was removed. The sides of the flap on the buttock were stitched to the sides of the hand; a few days later the upper and afterward the lower edges of the flaps were dissected loose and stitched in a similar manner. The parts were kept immobilized, good union has resulted, and the hand and fingers are almost normally useful.

SPASTIC PARAPLEGIA.

DR. C. F. JUDSON reported a case following traumatism in a child 5 years old. The father had died of diabetes. There had been no history of paralysis on side of father or mother, except an aunt, who had suffered from late hemiplegia. At 2½ years it had suffered from typhoid and later from chickenpox. The present illness dates from about Jan. 7, 1900. The onset was apparently sudden and marked by a period of unconsciousness lasting ten minutes. About the fifth week he began to manifest weakness in the legs, and gait became awkward. Later the gait became typically spastic and he could not walk. The muscle sense was good, as was also co-ordination. Sensation to pain was slightly reduced; eye-ground was normal. There was no involvement of sphincter nor evidences of rickets. After a course of warm baths and rest in bed ankle-clonus, which had been present, now disappeared, and the child began to improve, and at this time is able to walk, but with a distinctly spastic gait. There is no evidence of Pott's disease.

INFANTILE PALSY.

DR. ALFRED STENGEL reported several cases accompanied by more or less wasting. He believes that the condition was more prevalent in the city than usual, an opinion in which several speakers concurred.

DR. J. P. CROZER GRIFFITH exhibited a case of nodding spasm. The patient was a colored child about 1 year old, whose condition was manifested by continual nodding backward and forward, but at times a rotary movement would occur. The child was not distinctly rachitic.

DR. A. A. ESHNER had seen a good many of these cases at the Orthopedic Hospital which had been associated with rickets.

DR. D. J. M. MILLER had several years ago treated three similar cases with bromids and out-door life with great benefit.

Meeting Jan. 8, 1901.

President Dr. Alfred Stengel, in the chair.

SEVERE ANEMIA WITH LEUCOCYTOSIS.

DR. S. M. HAMIL reported a case of severe anemia with leucocytosis in an infant of six months. This child had been breast-fed. It presented a yellowish color. At the first examination it was found that the liver and spleen were both enlarged. A murmur could be detected over cardiac area and vessels of the neck. The blood examination showed 3,000,000 red corpuscles and the leucocytes ranged from 23,000 to 29,000. Nucleated red-cells were present, as was poikilocytosis. The lymphocytes formed about 67 per cent. There were no evidences of rickets, scurvy, nor tuberculosis. The speaker regards the case as being a border line, one between leukemia and pernicious anemia.

LEUKEMIA IN AN INFANT.

DRS. J. A. SCOTT and H. M. FISHER reported a case in which the red cells had numbered 3,360,000 reds, and the leucocytes 36,500. The polymorphonuclears had been 25 per cent., eosinophiles 8 per cent., and the hemoglobin 30 per cent. A considerable number of myelocytes had been present, but were now diminishing, as were the nucleated red cells. The child lately had suffered from an attack of diarrhea, the stools numbering ten or twelve each day. The spleen had diminished considerably in size. There had never been any hemorrhage from the mucous membranes. By a mistake this child had been taking large doses of tincture of nux vomica, which had seemed of benefit and the medicine had been continued.

MALFORMATION OF THE BOWEL.

DR. E. E. GRAHAM exhibited a specimen of malformation of the bowel. This child had been born at term and seemed normal. During the first twenty-four hours the child refused to take the breast, and on the following day an unsuccessful effort was made to have it nurse. Up to this time there had been no bowel movement, but vomiting had occurred. Twelve hours subsequently the abdomen became distended. At this time he suspected some obstruction of the bowel and made a rectal examination, but the obstruction could not be felt. Later the abdominal distention became more pronounced and an operation was decided upon, which was done under the influence of local anesthesia, with success, the patient manifesting no

symptoms of pain. On making an incision a point of obstruction was found in the distal end of the colon which terminated in a cul-de-sac and was adherent to the sacrum. The child rallied from the operation only slightly, and died a few hours later.

GYROSPASM OF HEAD, WITH NYSTAGMUS.

DR. D. J. M. MILLER presented a case. The child had been artificially fed from birth. Last summer it had suffered from an attack of colitis. The head movements began in May last and have continued since that time, but in September were not so pronounced. Two weeks ago there was lateral rhythmic movements, and on holding the head still, nystagmus would develop. Examination of the eye-ground proved negative. In these cases a history of acute illness may usually be determined.

DR. FRANK WHITE stated that he had at present under observation of a case of a similar nature to the one presented, but more marked in character.

CONGENITAL SARCOMA OF LIVER AND SUPRARENAL CAPSULE.

DR. WILLIAM PEPPER read a paper on and presented specimen of this tumor. The father of the child had at one time suffered from insanity. The mother had six other children, all seemingly healthy. There was no history of syphilis. The patient had been born at the sixth month of gestation. A few weeks after birth a tumor could be outlined in the abdominal region, the latter region being bulging in character. The mass filled up the right iliac region and extended slightly to the left of the umbilicus, where a rather sharp border could be felt. Flatness was elicited over the entire area. The child died when three months old. At the autopsy it was found that the entire abdominal region was filled up by the liver and spleen. The capsule of the liver had a marbled appearance with hemorrhagic foci. A few enlarged lymphatic glands were found in the abdominal region. The growth had been one of typical lymphosarcoma. The speaker had made a thorough review of the literature on this subject. The facts seemed to indicate that the growth is essentially of congenital origin. In the majority of instances there is a history of rapidly growing tumor coming on a few weeks subsequent to birth, and without pain. A history of syphilis is generally not present. In certain cases the sarcoma might be rounded in type. One writer had thought the primary seat of these growths was located in the liver, others that it was in the right suprarenal. This case seemed to originate in the latter locality.

DR. J. A. SCOTT thought that one of the marked features of the case was the profound involvement of the suprarenal, without evidences of pigmentation.

DR. PEPPER, in closing, stated that of 41 cases reported only slight pigmentation had been present in 3 instances.

DR. ALFRED STENGEL then delivered the annual address.

San Francisco County Medical Society.

Regular Meeting Dec. 11, 1900.

President Dr. Geo. H. Evans in the chair.

SOME OF THE RARER COMPLICATIONS OF GONORRHEA.

DR. M. KROTOSZYNER referred to the ravages of the gonococcus on the posterior urethra, bladder, ureters, and pelvis of the kidney in males, and the ascending gonorrheal infections in women, generally ending in a complete destruction of the uterine adnexa, and called particular attention to the nervous complications of this disease. He had personally seen many cases of very severe hypochondriasis caused by a chronic posterior urethritis, which in the majority of instances had been submitted to too much treatment. In his service in the French Hospital (genito-urinary) at least 60 or 70 per cent. of all his patients suffer with sexual neurasthenia. Besides these functional troubles, organic affections of the nervous system on the basis of gonorrheal infection had been reported, of which three forms seem to be most prevalent: 1, neuralgic affections caused by gonorrhea, especially gonorrheal sciatica; 2, gonorrheal muscular atrophy and atrophic paresis; and, 3, gonorrheal neuritis and myelitis.

He reported a recent case of the first form in which a man had been confined to bed for several weeks with excruciating pains along the course of the right sciatic nerve, and the history of a recent gonorrheal infection. The sciatica, however, did not abate until several weeks after the disappearance of the discharge. In speaking of the third form, he said the literature on gonorrheal myelitis is not so scanty as one may be led to assume. As far back as 1839 Stanley described a case of paraplegia of the lower extremities caused by gonorrhea. Since that time a number of cases have been reported by other authors. Moltschanoff was able to establish organic degenerative processes in the spinal column of animals inoculated with the toxins of gonococci, which produce a complex of symptoms similar to that of tabes. He thought that the connection of gonorrhea with nervous diseases seems to call for just as much attention and study on the part of the neurologist as that of syphilis and nervous affections. Another rare complication of gonorrhea that the author observed a few months ago was in the case of a young man of 23, under his care for a severe attack of gonorrheal urethritis, prostatitis, and epididymitis, who called his attention to an affection of the finger nails, which he had noticed for two or three weeks. There appeared a sharp demarcation between the matrix and body of the nails. The upper part of the nails showed a grayish discoloration and rugged edges. It seemed as if the body of the nails would soon fall off. There was no history of syphilis. The patient was referred to Dr. Douglass W. Montgomery, who also could not arrive at a satisfactory conclusion as to the etiology of this nail affection. The author observed the patient closely and noticed the absolute disappearance of his nail disease with the abatement of his gonorrheal affection. He said that it was a well-known fact that in weakened and tuberculous subjects gonorrhea is sometimes incurable; on the other hand gonorrheal infection may weaken the system to such an extent as to lessen the resistance to tuberculous infection, either of the general system or locally. He had recently seen a case of tuberculous vesiculitis and orchitis on the basis of a chronic posterior urethritis, and thought that gonorrhea would occupy a very important place as an etiologic factor in tuberculosis. This opens up a new field for observation and study, and many dark pathologic conditions now unexplainable as to their etiology may be cleared up by the knowledge that gonorrhea, heretofore considered a simple local affection, is in truth a constitutional disease, and that the gonococcus forms toxins which may invade all organs and tissues of the body, and produce as manifold and serious complications as those we are accustomed to observe in syphilis.

DR. D. W. MONTGOMERY said that on March 28, Dr. Krotoszyner sent him the patient referred to. "The man, 21 years of age, a cook by occupation, was suffering at the time from gonorrhea, but his general health was good. He told me that the affection of the nails began six or eight months previously, in that of the left middle finger; there was a great deal of pain, and the whole finger-tip was reddened, but there was no redness at the base of the nail. The nail of the left index finger was the next affected; at the start this was painful and the finger-tip was reddened. The subsequently affected fingers were neither red nor painful. The left thumb nail was the only one that fell off entirely. The toe-nails were not affected; there was no numbness nor anesthesia nor other nerve symptoms, nor was he troubled with cold hands or feet. The skin was in all other situations in good condition, white and normal. There were no symptoms whatever of psoriasis, and as previously mentioned, the patient had never suffered from syphilis. The hair and teeth were good. When I saw him, the nails of the left ring, middle, index, and the right thumb, were affected; the affected nails were white, and broken with uneven free edges. The nails had lifted under their free edge, and the process had worked backward, separating the nail from its nail bed. There was no advancing red border such as is seen in psoriasis, indicating the advancing edge of the disease. As Dr. Krotoszyner has said, I did not know what to attribute the disease to. There was no history of syphilis, there was no evidence of disease of the nerves, and there was no sufficient evidence of psoriasis. If this nail affection is to be attributed

to gonorrhea, then it differs from the gonorrheal nail affections described by Vidal, Jeanselme and Stanislawsky, in there not being at the same time a corneal dermatitis."

GASTRIC CARCINOMA.

DR. S. I. HARRISON presented a carcinoma which he had removed Sept. 22, 1900, from a man 50 years of age. The man came from Nevada, where he had been treated for about three years for gastric catarrh. He came complaining of constant nausea and frequent vomiting—no blood—and discharging large quantities of mucus from the bowels. The tumor was situated under the outer margin of the left rectus muscle. It was quite movable, could be shoved up under the ribs or drawn down almost to the umbilicus, but always remained on the left side. Celiotomy was done with the assistance of Drs. E. E. Kelley and F. B. Carpenter. The incision was made through the left rectus muscle, and the tumor was found in the anterior wall of the stomach near the pylorus and had invaded a large area. Two fifths of the stomach, including the pylorus, was removed. The incision in the stomach was entirely closed by three rows of catgut sutures. An end-to-end anastomosis was then made between the duodenum and posterior wall of the stomach by means of a Murphy button. He rallied well from the effects of the operation, his temperature never exceeding 100.4 F., and on the fifth day feeding by the stomach was begun. At the end of two weeks he was able to sit up, and three weeks from the time of operation he left the hospital. The Murphy button had not been recovered. A careful search had been made, except on two or three occasions during his last week in the hospital, when he went to the toilet, contrary to orders.

When last seen he stated that he could eat and digest any kind of food without distress, and was gaining in weight at the rate of a pound a day. No X-ray search had been made for the button.

Chicago Surgical Society.

Regular Meeting Held Jan. 4, 1901.

Dr. Christian Fenger in the chair.

MORRISON OPERATION FOR LIVER CIRRHOSIS.

DR. L. L. McARTHUR presented a patient upon whom he had performed the Morrison operation—operative establishment of collateral circulation. The man had been a hard drinker of distilled liquors for years, and had ultimately developed the characteristic hobnail liver. The result of the operation was excellent. He said that an excellent résumé of the literature on this subject could be found in a recent number of the *American Journal of the Medical Sciences*, by Fraser, who reports the fourteenth case. The operation should be done under cocaine anesthesia, as recommended by Fraser.

DR. M. L. HARRIS did a similar operation in February, 1900, on a man 54 years of age, who had been a very heavy drinker of whisky. The third week after the operation the patient left for home. Eight weeks thereafter he died suddenly. At the autopsy cerebral hemorrhage was found as the cause of death, the hemorrhage having taken place in the ventricles of the brain.

TWO CASES OF HIP-JOINT DISEASE TREATED BY THE PHELPS METHOD.

DR. M. L. HARRIS presented these cases. The first was a boy, 7 years of age, who was admitted to the Children's Hospital, Aug. 10, 1900, and discharged Dec. 30. Patient was admitted in the usual condition, greatly emaciated, having hectic fever, pain, and the characteristic deformity of hip-joint trouble. There was a large abscess filling the left hip-joint and extending beneath the tensor vaginae femoris muscle almost to the knee. He was operated on Aug. 29, the joint opened, and the tubercular focus, found on the upper surface of the neck and inner surface of the great trochanter, removed with curette. The joint was filled with pus and tubercular granulations, which were removed with curette. The abscess extending down the thigh was opened in the same way, and also posteriorly where an abscess had dissected backward. The joint was filled with carbolic acid—95 per cent.—and allowed to remain one minute, when it was removed and alcohol used.

All the cavities were filled in the same manner, and washed out with alcohol and dried thoroughly with gauze. A large drainage-tube was used, and the wounds packed with gauze. A long anterior Thomas splint and plaster to fix the joint were used. Improvement was rapid; the cavities closed up, and the joint is now well.

The other patient, a boy of 4 years of age, was admitted to the hospital July 9, and operated on July 15. The case was essentially the same as the first one. The joint was opened, the tuberculous focus found on the upper surface of the neck extending into the joint, and was thoroughly removed with curette. The joint was filled with carbolic acid and washed with alcohol in the same manner as in the first case, a large drainage-tube being introduced, the joint packed, the wound dressed in the same manner, with Thomas splint, and the boy is now running around.

DR. HARRIS mentioned three more cases in the hospital which he had treated in the manner described, but they had been operated on so recently that they were not well enough to be presented. In both of the cases presented almost complete motion in the joint was preserved.

DR. CHRISTIAN FENGER referred to the early operations that were made for disease of the hip-joint some fifteen or twenty years ago. He asked whether the Phelps method of treatment was equally satisfactory for primary synovial tuberculosis. The results in the two cases presented by Dr. Harris were more favorable than those from iodoform emulsion injections alone.

DR. McARTHUR stated that the conservative surgeon should explore any sinuses or abscess cavities that may be associated with probable hip-joint disease, and see whether the tubercular focus lies in the fossa within the greater trochanter or whether it be a tuberculosis of the acetabulum, for in 2 or 3 per cent. of the cases the hip-joint may be spared if the diseased area be curetted and the joint not incised.

DR. HARRIS answered the question of Dr. Fenger by saying that he had not used this treatment in any case of primary synovial tuberculosis. In five cases he had used it in primary hip-joint trouble. It is not the intention to dissect out the capsule in the Phelps method. The tubercular foci are removed by means of the curette, and the joint cavity filled with carbolic acid.

CONGENITAL ANGIOMA OF TONGUE.

DR. JACOB FRANK presented a case of congenital angioma of the tongue in a man, 71 years of age. The patient was shown to elicit opinions as to operative intervention.

DR. CHRISTIAN FENGER said that if an angioma of the tongue begins to grow, it should be removed immediately. He had operated on one such case, removing one half of the organ, and the patient is still living.

SURGERY OF THE BLOOD-VESSELS.

DR. JOHN B. MURPHY read a paper in which he spoke of the surgery of the blood-vessels.

In the discussion Dr. Fenger said that the essayist had taken an original step forward in this work, it being an improvement over the invagination method practiced by him (Murphy) in 1897. Where suturing of the arteries can be done, invagination should not be undertaken. Suturing arteries is the easier method.

DR. A. E. HALSTEAD stated that Lambert was the first to resort to arterial suture, he having made a longitudinal suture of the carotid artery in 1762. Dr. Halstead mentioned a case in which, three weeks ago, he sutured an oblique wound of the first part of the axillary artery. The patient was a woman, 43 years of age, on whom he was operating for a recurrent carcinoma of the breast. The axillary artery was cut obliquely through two-thirds of its circumference while removing the tumor from its sheath. The hemorrhage was controlled by pressing the artery against the clavicle with the index finger of the left hand. Four interrupted catgut sutures were then passed through the two outer coats of the vessel, closing the wound perfectly. The radial pulse was immediately restored.

DR. ARTHUR DEAN BEVAN considered suture of the arteries as being still in its experimental stage, and he regarded the

old method of ligating an artery at two points, on either side of the injury, as the safer method.

DR. MURPHY admitted that the work was in its developmental, but not its experimental, stage. The clinical results favored some other means than ligation of arteries.

New York County Medical Association.

Stated Meeting, Dec. 17, 1900.

President Dr. Parker Syme in the chair.

RETENTION CYST OF THE LIVER.

DR. WILLIAM A. SHUFELT presented this specimen, which had been removed by operation. There was no evidence of calculi in the cuts, and the gall-bladder was normal. He said that he had been able to find recorded only five cases of simple cyst of the liver. These had been, for the most part, sterile echinococcus cysts, but he had been led to regard his specimen as a retention cyst because of the absence of echinococcus hooklets, the fact that the cyst had been found filled with bile, and because of its histological relations.

TUBE AND OVARY IN AN INGUINAL HERNIA.

DR. SHUFELT also presented this specimen, which had been removed by operation from a woman of 30, who had had for a long time an irreducible inguinal hernia. At the operation the sac of the hernia was found to contain a perfectly developed tube and ovary.

COFFEE AS A BEVERAGE: ITS DELETERIOUS EFFECTS ON THE NERVOUS SYSTEM.

DR. WILLIAM M. LESZYNSKY said that to indiscriminately condemn coffee as useless might shock the faith of multitudes. The purpose of the paper was to show that the ill effects of coffee were by no means uncommon. This statement was founded on a careful study of this subject for the past ten years. Roasted coffee contains caffein and caffeine. We all realize the excellence of coffee as a medicinal agent. From 1892 till 1896 the average importation of coffee into this country had been 597, 484, 217 pounds annually. The people of the United States are said to consume about one-third of the total coffee production, and in this fact, perhaps, was to be found the explanation of the proverbial nervousness of our people and the explanation of the large amount of work they are capable of doing. Dr. Love had expressed the opinion that the excessive use of coffee leads to worse results than the abuse of alcohol. Undoubtedly the morning cup of coffee had a most beneficial effect on a large proportion of our population. The popular idea that coffee can replace food or increase the capacity for work without corresponding tissue-waste was entirely erroneous. The old adage, "What is one man's meat is another man's poison," was often exemplified in regard to the action of coffee. Most physicians had given the subject little if any attention. The habitual daily indulgence in coffee, even in moderate quantities, by those susceptible to its action, invariably led to functional nervous disturbances. No doubt the addition of milk and sugar, by favoring fermentation, adds to the bad effect. Many physicians seem to think that coffee never acts harmfully if taken without milk or sugar, but this was not borne out by extended experience. All neurotic individuals seem to be more or less susceptible to coffee, and it usually aggravates any existing hyperemia in the cerebral system. He had seen persons in whom sneezing had been induced by the use of coffee. He could recall several cases of pneumonia in which caffein had been given as a heart stimulant, which had exhibited marked insomnia and great restlessness until the caffein had been withdrawn. In several patients he had been able to explain an obscure vertigo by the action of coffee. The wakefulness and ready flow of thought after taking coffee was now a commonplace observation. Nurses on night duty and many literary persons were given to taking coffee to secure this stimulating effect. The nervous system of children was peculiarly susceptible to the stimulating effect of coffee, and its use in them should never be permitted. It produces a certain precocity which is deplorable. He had often seen night terrors and tremulousness disappear in children after excluding coffee from the dietary. Several

years ago he had attended a boy of 6 years, suffering from acute coffee poisoning. When seen he was in an active delirium, with a pulse of 200, tachycardia and visual and aural hallucinations. The boy had entered the bar-room of the hotel and had taken some coffee beans. These he had eaten during the evening to the extent of about half an ounce. He entirely recovered in about one week. Dr. Leszynsky said that there was a large class of neurasthenics whose nervous condition was ascribable to the use of coffee. He had carefully studied and treated about 200 such cases. Naturally many of the persons so affected were individuals who work under high pressure and are required to do a good deal of talking. They usually complain of mental depression, irritability, insomnia, bad dreams, occasional vertigo, general tremulousness, precordial oppression, cardiac palpitation, loss of appetite, frequent eructations of gas, and constipation. The symptom-complex most commonly noted was general nervousness, tremor, vertigo, restless sleep, cardiac palpitation, eructation of gas, and constipation. The pulse would be found of low tension and varying in rapidity from 90 to 130. Tachycardia or bradycardia might also be present. Of course, this entire series of neurasthenic symptoms might result from other causes. Coffee-poisoning was most commonly confounded with chronic alcoholic toxemia, but the diagnosis could be made by a process of careful exclusion. The majority of those who suffer from the coffee habit, according to his experience, drink alcoholic liquors very rarely. In some cases the symptoms might appear in persons taking only three or four cups of coffee daily, but in these instances it would usually be found that very little nourishing food was taken. In acute coffee-poisoning there would be great excitability, or even delirium; in chronic coffee-poisoning the toxemia manifests itself as a depressing form of neurasthenia. Although the effects of the abuse of coffee had been known since 1705, the importance of the subject had never been adequately realized in this country. In only a few cases in his experience had bradycardia been present as a result of the abuse of coffee.

In the treatment of these patients he did not recommend in every case immediate or total abstinence. As a general rule, they should be limited to one cup of coffee in the morning, and its strength should be gradually reduced. An infusion of cocoa nibs taken in moderate quantity frequently proves acceptable as a substitute for coffee. There are many preparations on the market advertised as substitutes for coffee, but they consist of a very miscellaneous collection of substitutes. He had long since refrained from recommending any of them because their continued use had led to indigestion. Many persons in breaking off the coffee habit had thoughtlessly changed to cocoa, and had used it immoderately. As cocoa contains theobromin, which is almost identical chemically with caffein, the result could be easily imagined. Occasionally it would be necessary in these cases of coffee-poisoning to resort to the rest cure. In almost all cases a cure could be effected in from three to six months.

Therapeutics.

Hemorrhoids.

Hemorrhoids are tumors composed of the varicose dilatation of the hemorrhoidal veins, either externally or internally. Internal hemorrhoids differ from external only in that they are covered with mucous membrane instead of skin, and have a greater tendency to hemorrhage. The chief predisposing cause is the absence of valves in the hemorrhoidal veins. The direct causes are the mechanical influences which obstruct the circulation, such as sitting in the erect position; sedentary occupations; such a mode of life as leads to a constant hyperemia of the lower portion of the rectum; overeating; over-drinking of alcoholic liquors; pregnancy; excessive use of purgatives; constipation, which is usually the exciting cause of an attack, and disturbances of the liver. The important symptoms are the indications of irritation, such as itching, burning, throbbings about the anus or paroxysms of pain, and, in case of internal

piles, hemorrhage is of frequent occurrence. The treatment consists to a great extent in proper regulation of diet, daily evacuation of the bowels, which should be of a soft, mushy consistence, and the proper amount of exercise. When the tumors protrude, they should be replaced slowly while the patient is stooping, first coating them with sterilized vaselin or cocoa butter.

OINTMENTS FOR EXTERNAL PILES.

R. Chrysarobin	gr. xv	1	
Iodoformi	gr. v		3
Ext. belladonnæ	gr. x		66
Vaselini	3iv	16	

M. Ft. unguentum. Sig. Apply locally night and morning, first cleansing the parts well with water.

AS A LINIMENT.

Adler, in the *Cincinnati Lancet-Clinic*, states that external hemorrhoids, when inflamed or otherwise, can always be painlessly removed under cocain anesthesia, and it is at the time that they are inflamed that the operation does most good, for it not only radically removes the trouble, but it quickly alleviates the intense suffering which their presence otherwise occasions. As a liniment he recommends the following:

R. Ext. hamamelidis fluidi			
Ext. hydrastis fluidi			
Tinet. benzoini comp., āā.....	3iv	16	
Tinet. belladonnæ	3i	4	
Olei olivæ carbol—5 per cent.....	3i	32	

M. Sig. Apply locally twice a day.

TO ALLAY THE IRRITATION AND ITCHING.

R. Extracti opii			
Extracti belladonnæ. āā.....	gr. vii		4
Lanolini	3i	32	

M. Ft. unguentum. Sig. Apply locally.

OINTMENT.

Monroe, in the *Lancet-Clinic* gives the following ointment for the relief of his patients suffering from external hemorrhoids:

R. Opii pulv.....	3i-3ii	4-8	
Acidi tannici	3i	4	
Bismuthi subnitratiss	3ii	8	
Adipis—borated	3ii	64	

M. Ft. unguentum. Sig. Spread on a thick cloth or lint; apply to the anus and fasten with a bandage.

COLLODION APPLICATIONS.

Samways, in the *British Medical Journal*, advises application of collodion for the itching. It also causes the pile to contract. It should be applied on a little cotton after defecation, morning and evening.

PREVENTION OF HEMORRHOIDS.

Matthews, as reported in *The Medical Standard*, states that the best agent for the preventive and palliative treatment of internal hemorrhoids is cold water. Do not allow the patients to inject hot water into the rectum; it causes a distention of the veins and further protrusion of the hemorrhoids. Cold contracts, therefore, if your hemorrhoidal patients will drink a mineral water to keep the bowels open, will apply cold water to the mass after the bowels move, and will inject moderately cold water into the rectum to aid every movement, they will get good results. If some ointment is desirable, the following is suggested by him:

R. Hydrarg. chloridi mitis	gr. xl	2	66
Morphinæ sulphatis	gr. vi		36
Cocainæ muriatis	gr. xii		72
Vaselini	3i	32	

M. Ft. unguentum. Sig. Apply locally night and morning. This is especially indicated when pain is present.

ITCHING HEMORRHOIDS.

For the itching or in cases of pruritus, the following is of value:

R. Menthol	3ss-i	2-4	
Vaselini	3i	32	

M. Ft. unguentum. Sig. Apply locally when necessary to relieve the itching.

CHRYSAROBIN IN HEMORRHOIDS.

Chrysarobin has been highly recommended by such men as Pounne, Boas and others. The following formulæ, containing this preparation, may be found useful:

AS A SUPPOSITORY.

R. Chrysarobin	gr. i	06	
Iodoformi			
Ext. belladonnæ, āā	gr. 1/3		02
Cocoa butter	gr. xxx	2	

M. Ft. suppos. No. i. Sig. One such suppository two or three times a day for internal hemorrhoids.

TO CONTRACT THE NODULES.

Ewald states that the tumors may be touched with the following solution, which tends to make them more tough and resisting, and may contract the smaller nodules:

R. Potassii iodidi	gr. xxx	2	
Iodi	gr. iii		2
Glycerini	3x	40	

M. Sig. As a local application.

SUPPOSITORY.

The *Nord. Medicale* gives the following formula for local application to hemorrhoids:

R. Cocainæ hydrochlor.	gr. xii		72
Ergotina			
Ichthyoli, āā	3i	4	
Hydrarg. chloridi mitis	gr. xl		66
Vaselini			
Lanolini, āā	3ss	16	

M. Sig. A portion as large as a small hazelnut to be inserted into the rectum after each evacuation.

INTERNAL HEMORRHOIDS.

Internal hemorrhoids which may be situated as high up as the sigmoid flexure are more difficult to deal with on account of the tendency to hemorrhage, which usually is not severe, but at times may cause great alarm. When they protrude reduction must be made carefully and slowly. Pain is present and at times severe. The most intelligent treatment under such circumstances is rest in bed, the application of cracked ice or heat in the form of hot fomentations or hot poultices made up of linseed or cornmeal or onions. Rectal injections of water at a temperature of 40 or 50 F. may be used to check the inflammation and arrest the hemorrhage.

FOR THE HEMORRHAGE.

Ewald recommends for the hemorrhages pieces of ice passed into the rectum, which is usually sufficient. Injections of astringent solutions of tannic acid 1 to 2 per cent., alum 1 to 3 per cent., acetate of lead .2 to .5 per cent., nitrate of silver .5 to 1 per cent. are also valuable.

In alarming hemorrhages it is advisable to insert tampons of absorbent wool—not cotton—saturated with a 10 to 20 per cent. aqueous solution of ferropyrin or the distilled extract of hamamelis. Wool is preferable to cotton, as it remains softer and more elastic, while cotton tampons become hard upon pressure. Opium should be given to check peristalsis. The tampon should be removed in two or three days and followed by the administration of a small dose of castor-oil or some of the saline laxatives, such as Hunyadi or viehy water.

TO OVERCOME CONSTIPATION.

Constipation should be corrected in any form of hemorrhoids. The pulvis glycyrrhizæ comp., in moderate doses, is of use under such circumstances. A preparation containing equal parts of sulphur and cream of tartar prescribed as follows, is successful in overcoming the constipation:

R. Sulphuris precipitatæ			
Potassii bitartratis, āā.....	3vi	24	

M. Ft. chartule No. vi. Sig. One powder on rising in the morning.

Mercury in the form of hydrargyri chloridum mite in small doses is indicated when the portal circulation is sluggish. Preparations containing aloes should never be administered to patients with any signs of hemorrhoids, as aloes, even when given in moderate doses, acts almost entirely on the lower bowel, producing a congestion of its mucous membrane.

CALOMEL TREATMENT.

Dettrue, in *The Medical Record*, gives the following prescription containing calomel as an ointment in hemorrhoids:

R. Hydrarg. chloridi mitis	gr. xxx	2	| 02
Morphinæ hydrochloratis	gr. 1/3		
Bismuthi subnitrat.			
Vaselini, āā	3vi	24	
Glycerini	3ii	8	

M. Ft. unguentum. For local application to the protruding tumors.

AS AN ANTISEPTIC.

R. Balsami peruviani	gr. ii	12
Acidi borici	gr. xlv	3
Vaselini	3ss	16

M. Sig. Apply locally.

[Balsam of peru contains benzoin preparations, which are antiseptic and astringent.]

FOR BLEEDING INTERNAL PILES.

Hare gives the following formula containing gallic acid as an ointment in bleeding internal piles, and if painful from ulceration an iodoform suppository should be used:

R. Acidi gallici	gr. x	66
Extracti opii		
Ext. belladonnæ, āā	gr. iv	24
Ung. simplicis	3iv	128

M. Sig. Apply night and morning.

He states that great care should be used in manipulating bleeding piles, and, if of the external variety, no attempt should be made to push them inside the sphincter ani, which would constrict them.

INJECTION TREATMENT.

It has not been long since treatment of hemorrhoids by injections was in favor, and it is still being used by a great many physicians. The results and complications which very frequently follow such procedures, such as extensive inflammation and sloughing, should put us on our guard and cause us to practice economy in the employment of this line of treatment. Injections should certainly never be made when the tumors are inflamed or strangulated, as they will cause increase in the pain and swelling and tend to abscess formation.

Below are formulæ for injections that are being employed, although we do not believe that the injection method of treatment is endorsed by many scientific physicians or surgeons:

R. Acidi carbol.	gr. xii	72
Glycerini		
Aquæ destil. āā	3i	4

M. Sig. Inject two to five minims into each hemorrhoid; or

R. Alcoholis—pure	m. x-xx	6-1.33
Acidi carbolici	m. ii-v	12-.30
Aquæ, q. s. ad	3i	4

M. Sig. Two to three minims to be injected along each pile as the needle is withdrawn and not more than three hemorrhoids to be injected at one treatment. If the patient is a laboring man treat only one at a time; or

R. Zinci chloride	gr. x	66
Cocainæ hydrochloratis	gr. iv	25
Aquæ destil.	3ss	16

M. Sig. Inject a full hypodermic syringe of this solution into the hemorrhoid; or

R. Acidi carbol.		
Acidi salicylici, āā	3iss	6
Sodii boratis	3i	4
Glycerini	3i	32

M. Sig. Inject two to four minims into each hemorrhoid.

Medicolegal.

Liability of County for Care of Needy Insane.—The Supreme Court of Ohio holds, in the case of the Commissioners of Cuyahoga County vs. the City of Cleveland, that, under the Ohio statutes, the burden of caring for insane persons in needy circumstances who can not be admitted to an asylum rests upon the county in which they have their legal settlement.

Failure to Furnish Agreed Medical Attendance.—The Appellate Court of Indiana holds, in the case of the American Tin Plate Company vs. Guy, that where an employer agrees to furnish competent medical and surgical services to an employee and his family, in consideration of a certain sum deducted therefor from his wages, the employee has a right to rely upon the contract, and, if he is injured by the negligent failure of the employer to perform its part of the contract, then the employer must be responsible in damages.

As to Child Resembling Alleged Father.—The Supreme Court of Minnesota holds that it was improper, as tending to prejudice the jury, for the prosecuting attorney to call the attention of the jury, in the bastardy case of State vs. Brathovde, to the supposed resemblance of the child in question, a babe in arms, which was only about three months old, to the defendant, who was charged with being its father. The supreme court observes that it is a common saying that all young babies look alike, and thinks that such an invitation would but tend to give free scope to the imagination, in attempting to test the attorney's suggestion.

Must Keep Asylum Going.—The second appellate division of the Supreme Court of New York holds, in the case of McBride vs. the City of New York, that the department of charities of the city having had imposed upon it the duty of maintaining an asylum for the care of sick children was justified in appointing a nurse to meet an exigency, after it had been informed by the secretary of the civil service commission that it had no list of eligibles, and the city must pay the salary, although the position was under civil service. The object of the civil service law, the court says, is to increase the efficiency of the civil service, and it declares that it can not construe it as intended by the legislature to bring an end to the business of caring for children in the asylum. The duty imposed upon the department to make provision for continuing the asylum is a public one, to which the administration of the civil service law is ancillary. It was fulfilled by the appointment of the nurse.

No Defense to Crime That Life Might Have Been Saved.—The Supreme Court of Missouri, Division No. 2, holds that there was no error in the trial judge instructing the jury, in the homicide case of State vs. Lane, that if they believed and found from the evidence that the death of the man in question resulted from the effects of a blow upon the head inflicted by the defendant with a pistol they could not, in arriving at their verdict, take into consideration the fact, if fact it was, that the man's life might have been saved, after the infliction of the blow, by a proper medical or surgical treatment. The court points out that no effort had been made to show any maltreatment of the wound, or any misconduct on the part of the deceased with reference to his wound, and that the evidence of all the physicians was to the effect that the wound caused the death. Then it adds that the judge was right in telling the jury in plain language that the post-mortem discovery that trephining at the proper time would have saved the life of the deceased was no defense whatever to the charge of homicide.

Father's Liability for Attending Child With Mother.—The second appellate division of the Supreme Court of New York declared, in the case of Dixon vs. Chapman, that it can not be the law that a physician called upon to attend an infant child by the mother is chargeable with constructive notice of the actual relations existing between the father and mother of the child, in the absence of actual notice of the facts. Moreover, it holds that it is a general rule that, if a husband living separate from his wife suffers his children to reside with their mother he is liable for necessities furnished for them on her contracts, for as a father he has the right to the custody of the children, and may, in a proper case, obtain possession of their persons by habeas corpus; and where he does not assert that right, but suffers them to remain with their mother, he thereby constitutes her his agent to procure necessities for them. So, in this case, the court affirms a judgment against the father for the value of medical services rendered in and about the treatment of his infant daughter, where there was in fact no evidence that the physician knew

until he had rendered most of the services that the father and mother were living apart and the circumstances were such that a court would have been justified in finding that the parties were not actually separated, the father returning home about once in two weeks.

May Testify as to Acts and Exclamations of Patient.—

The second appellate division of the Supreme Court of New York holds, in the case of Zingrebe vs. the Union Railway Company, that a physician may tell the jury exactly what occurred in relation to a physical examination made for the purpose of testifying in a case, in so far as these occurrences are confined to the acts and exclamations of the patient, and do not embrace statements made by the patient to the physician. It would be absurd, it thinks, to say that the physician might tell the jury, for example, as in this case, that he "pressed upon the intervertebral spaces," without telling them what results followed such pressure, as that the patient would flinch, her face would be drawn up with an expression of agony, and she would make exclamations. Here the patient was blindfolded while undergoing the examination. And the court considers that the testimony of the physician as to his observations of the patient and of her conduct at the time was properly admitted in an action brought by her husband to show the jury the extent of her injuries charged to the negligence of the defendant, not as a basis of damages, but as establishing to what extent he had been, and was likely to be, deprived of the aid, comfort and society of his wife. It also holds evidence of her pain and suffering admissible for the same purpose, and concludes that \$7,250 is not excessive compensation for a man 47 years of age, with his wife about one year older, destined to go through the remaining years of his life with a wife who is not likely to contribute anything of importance to his aid, comfort or society.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

New York Medical Journal, January 12.

- 1 *Prevention and Management of Infection of the Breast During Lactation. C. S. Bacon.
- 2 *The Question of Operation for Appendicitis. Forbes Hawkes.
- 3 The General Principles of Infant Feeding, with a Simple Method of Home Modification of Cow's Milk. L. Emmett Holt.
- 4 *Dyspeptic Asthma. Frank H. Murdoch.
- 5 *Some Remarks upon Tuberculosis in Bone. Edmund Owen.
- 6 *A Case of Gangrenous Inflammation of Meckel's Diverticulum Simulating Appendicitis. C. R. Darnall.

Philadelphia Medical Journal, January 12.

- 7 A Case of Urethrorrectal Fistula Cured After a Third Operation. Orville Horwitz.
- 8 *Fallacies Concerning the Menopause. Geo. E. Shoemaker.
- 9 Wound of the Trachea, with Suture and Union by First Intention. E. S. Goodhue.
- 10 Leukemia and Splenic Pseudoleukemia. Everett J. Brown.
- 11 *Suggestions on the Treatment of Whooping-Cough. H. F. Thompson.
- 12 *Re-expansion of the Uterus in Labor. D. Benjamin.
- 13 *The Disinfection of Infected Typhoid Urines. Norman B. Gwyn.
- 14 Administrative Control of Tuberculosis. Collins H. Johnston.

Medical Record (N. Y.), January 12.

- 15 *Coffee as a Beverage, and Its Frequent Deleterious Effects upon the Nervous System: Acute and Chronic Coffee Poisoning. William M. Leszynsky.
- 16 *An Improved Method of Perforating Suprapubic Cystotomy. C. L. Gibson.
- 17 *Some Remarks on the Modern Surgical and Medical Treatment of Epilepsy. L. Pierce Clark.
- 18 Report of a Case of Primary Glioma of the Optic Nerve. Redmond W. Payne.
- 19 *The Choice of Suture for the Patella. Edwin M. Cox.

Medical News (N. Y.), January 12.

- 20 *Splenic Anemia—Anemia with Enlargement of the Spleen. Aloysius O. J. Kelly.
- 21 *Some Diagnostic Details. W. Edgar Darnall.
- 22 *On Gonorrheal Cystitis in the Female. F. Bierhoff.
- 23 Severe Acute Pleurisy, Followed by Phlebitis; Death from Embolism. Charles R. Jackson.
- 24 Case of Dextrocardia. Homer M. Thomas.

Boston Medical and Surgical Journal, January 10.

- 25 A Short Account of the Recent International Medical Congress in Paris. Henry B. Jacobs.
- 26 *The Radical Treatment of Lachrymal Diseases. Walter B. Lancaster.
- 27 An Operation for Cataract. Edward L. Parks.
- 28 *Remarks upon Spinal Cocainization Suggested by Cases Seen at Tuffier's Clinic in Paris, August, 1900. Maurice H. Richardson.
- 29 *The Purulent Rhinitis of Children as a Source of Infection in Cervical Adenitis. Carolus M. Cobb.

Cincinnati Lancet-Clinic, January 12.

- 30 A Study of Nosology and Its Relation to Treatment. Brose S. Horne.
- 31 *An Easy Method of Demonstrating the Presence of Tubercle Bacillus. C. Lee Graber.

St. Louis Medical Review, January 12.

- 32 Cancer of the Cecum in a Young Adult. T. C. Witherspoon.
- 33 Pathologic Features of Dr. Witherspoon's Case of Cancer of the Cecum. Willard Bartlett.

American Practitioner and News (Louisville, Ky.), Dec. 15, 1900.

- 34 The Ideal Private Nurse in Country Practice. E. J. Kempf.
- 35 Pernicious Vomiting of Pregnancy. Steele Bailey.
- 36 Some Apparent Trifles. (Foreign Bodies in the Ear. Alveolar Hemorrhage, etc.) W. W. Ray.

Annals of Surgery (Philadelphia), January.

- 37 *Ventral Hernia Following Abdominal Section. B. Brindley Eads.
- 38 *On Traumatic Keloid of the Median Nerve, with Observations upon the Absorption of Silk Sutures. Otto G. T. Kiliani.
- 39 An Intestine Holder. Edward H. Lee.
- 40 *Laryngectomy under Eucaïn Anesthesia, with Remarks on the Technique of the Operation. Gwilym G. Davis.
- 41 *Double Ureter. Report of a Nephrectomy Done upon a Young Child with This Condition Present. John Edward Summers, Jr.

Woman's Medical Journal (Toledo, Ohio), December, 1900.

- 42 Smallpox. Ellen Heise.
- 43 The Physician's Influence in re Vacation Schools. Helen C. Putnam.

Medical Review of Reviews (N. Y.), Dec. 25, 1900.

- 44 Medical Evidence. R. L. Pritchard.

Journal of Cutaneous and Genito-Urinary Diseases (N.Y.), January.

- 45 *Giant Cells. B. H. Buxton.
- 46 *Blastomycetic Dermatitis and Its Relation to Yaws—A Case in Point. Isadore Dyer.
- 47 *Three Cases of Blastomycetic Infection of the Skin: One Case Limited to a "Tumor" of the Lower Lip. Frank H. Montgomery and Howard T. Ricketts.
- 48 A Report of Two Cases of Blastomycosis of the Skin in Man, with a Survey of the Literature of Human Blastomycosis. James N. Hyde and Howard T. Ricketts.

Canadian Journal of Medicine and Surgery (Toronto), January.

- 49 *Gasoline in Surgery. Bruce L. Riordan.
- 50 Athetosis, or Mobile Spasm. Alexander McPhedran.
- 51 Hyperextension of the Spine in the Treatment of the Paralysis of Pott's Disease. H. P. H. Galloway.

Yale Medical Journal (New Haven, Conn.), January.

- 52 *On the Radical Cure of Femoral Hernia by Means of Gordon's Operation. Leonard W. Bacon, Jr.

Pennsylvania Medical Journal (Pittsburg), December, 1900.

- 53 Annual Address on Hygiene at the Medical Society of the State of Pennsylvania. J. T. Rothrock.
- 54 The Question of the Enforcement of the Medical Law of the State of Pennsylvania. William H. Dudley.
- 55 Heat Stroke and Heat Exhaustion. C. C. Hersman.
- 56 The Human Temperaments and Their Application in Medicine. J. C. Bateson.
- 57 Some Medicolegal Cases. T. M. T. McKennan.
- 58 Four Phthiisical Remedies Which Have Proved Most Valuable in the Author's Experience. Thomas J. Mays.
- 59 Applied Anatomy: Its Value, and Place in the Medical Curriculum. Gwilym G. Davis.
- 60 A Removable Burled Suture for Abdominal Incision. Evan O'Neill Kane.
- 61 A Note on Diagnosis of Ectopic Gestation. J. M. Baldy.

Maryland Medical Journal (Baltimore), January.

- 62 *The Prospect in the Treatment of Lobar Pneumonia. Thomas R. Brown.
- 63 *The Value of Formaldehyde in the Treatment of Suppurative Otitis Media. H. O. Relk.
- 64 *A Case of Cholelithiasis Showing Pure Culture of Typhoid Bacilli without Antecedent Typhoid Fever. C. W. Mitchell.

Cleveland Medical Gazette, January.

- 65 Complications During Appendicitis. (Continued.) Morris D. Stepp

- 66 Appendicitis and Typhoid Fever. Charles J. Aldrich.
 67 Appendicitis in Children. Joseph V. Kofron.
 68 Appendicitis and Pelvic Diseases. R. E. Skeel.
 69 Surgical Intervention in Appendicitis from the Physician's Standpoint. John H. Lowman.
 70 Hernia Following Operations for Appendicitis: Causes and Means of Prevention. C. A. Hamann.

SYMPOSIUM ON NEPHRITIS.

- 71 A Short Memoir of Dr. Richard Bright. H. E. Handerson.
 72 Pathology. R. G. Schnee.
 73 Etiology. A. W. Lueke.
 74 Sterility. Lillian G. Towslee.
 75 Medical Science at the Close of the Nineteenth Century. J. F. Purviance.

Bulletin of the Johns Hopkins Hospital (Baltimore, Md.),
 December, 1900.

- 76 *Theodor Billroth, Musical and Surgical Philosopher. A Biography and a Review of His Work on Psycho-Physiological Aphorisms on Music. John C. Hemmeter.
 77 *Report on the Examination of the Ears of 440 School Children. H. O. Reik.
 78 *Experimental Injection of Testicular Fluid to Prevent the Atrophy of the Prostate Gland in Dogs, after Removal of the Testes. George Walker.
 79 *A Plea for Early Naked-Eye Diagnosis and Removal of the Entire Organ, With the Neighboring Area of Possible Infection in Cancer of the Larynx. John N. Mackenzie.
 80 Heredity in Diabetes Mellitus, with a Report of Six Cases Occurring in a Family. J. Hall Pleasants.

St. Louis Medical and Surgical Journal, January.

- 81 Early American Medicine. James Moores Ball.
 82 In Explanation of the Ancient Peruvian Vases, Which Represent Mutilated Human Figures. Dr. Richter.
 83 The Importance of Perfect Digestion. Wm. Hooker Vail.
 84 Antiquity of the Endermic Use of Mercury Through Acupuncture, Hollow Needle, in China and Japan. Albert S. Ashmead.

Obstetrics (N. Y.), December, 1900.

- 85 *Cephalic Version. F. Horn.
 86 A Case of Ectopic Pregnancy. F. W. Samuel.
 87 Premature Dilatation of the Cervix in a Case of Multiple Pregnancy. Ewing Marshall.

Love's Medical Mirror (St. Louis), December, 1900.

- 88 *What the Law Requires of the Surgeon. Dudley S. Reynolds.
 89 *Drainage in Abdominal Surgery. J. W. Long.
 90 Renal Calculi, with Report of Cases. Stuart McGuire.
 91 Oberammergau: Its Play and Its People. J. L. Boogher.

St. Paul Medical Journal, January.

- 92 *Some Common Diseases of the Stomach and Their Surgical Treatment. William J. Mayo.
 93 *Bacteriology of the Alimentary Canal. H. S. Martin.
 94 Abscess of the Liver. W. H. Magie.
 95 *The Value of Cataphoresis in Caries and the Temporal and Other Bones. Cornelius Williams.
 96 Case of a Foreign Body in a Bronchus Successfully Treated by Intratracheal Injections. H. Longstreet Taylor.
 97 Myositis Ossificans Progressiva. Christopher Graham.
 98 Operation for Rectal Cancer Under Spinal Anesthesia. George T. Ayres.
 99 Rectal Fistula Operated Under Subarachnoid Cocain Anesthesia. C. F. Halseh.

Columbus Medical Journal, December, 1900.

- 100 Extrauterine Pregnancy, Report of a Case Diagnosed Before Rupture. Cause: An Accessory Ostium Abdominale. J. H. J. Upham.
 101 Empyema of Sphenoidal Sinus: Special Instruments for Operating; Reports of Cases. H. J. Custer.
 102 Synovitis of the Knee. J. C. Lawrence.
 103 Remarks on Tetanus. L. Woodruff.
 104 Surgery of the Nineteenth Century. W. J. Means.
 105 A Century's Progress in Ophthalmology, Otology, Rhinology and Laryngology. John Edwin Brown.
 106 Gains of the Century in Neurology. Eugene G. Carpenter.

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- 107 *Spring or Vernal Catarrh. Frank Allport.
 108 Fistula in Ano—Tubercular Fistula of the Neck. James H. Dunn.
 109 The Radical Treatment of Hernia. James E. Moore.
 110 Maternal Impressions. H. L. Staples.

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- 111 *Traumatic Injuries of the Ureter. J. W. Macdonald.
 112 Bacteriological Diagnosis of Diphtheria. J. Frank Corbett.
 113 Elephantiasis of the Prepuce. James W. Robertson.
 114 The Surgeon in War. Charles E. Hands.
 115 The Diagnosis of Pott's Disease. H. Gibney.

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- 116 Hypospadias and Epispadias, with Special Reference to Their Operative Treatment. F. W. Parham.

- 117 Spinal Anesthesia in Rectal Cases. Chas. Chassaignac.
 118 A Case of Laryngeal Diphtheria—Tracheotomy—Antitoxin Injections—Recovery. The Importance of an Early Diagnosis of Hereditary Syphilis. A Case in Point. John F. Ochsner.

International Journal of Surgery (N. Y.), January.

- 119 *Practical Suggestions upon the Treatment of Rectal Disease. (To be continued.) James P. Tuttle.
 120 *Appendicitis. B. Brindley Eads.
 121 The Technique of Surgical Gynecology. (Continued.) Augustin H. Goelet.
 122 Nose and Throat Work for the General Practitioner. George L. Richards.
 123 Regional Minor Surgery. (Continued.) George G. Van Schalek.
 124 Pseudo-Membranous Enteritis and Its Relation to Abdominal Surgery. Frank A. Glasgow.
 125 Observations in Some Paris and London Hospitals. B. R. Wakeman.
 126 Some Remarks on the Treatment of Fractures. Thos H. Hancock.
 127 After-Effects of the Unconscious State on the Memory. W. M. Cunningham.
 128 *The Injured Tramp—Who Is Responsible for Him? F. Julian Carrol.
 129 Traumatic Stricture of the Urethra. B. R. Wakeman.
 130 Compound Fracture of the Hand—Multiple Fracture. W. W. Harper.
 131 "Conservative Surgery of the Hand and Arm." H. C. Chance.

Atlanta Journal-Record of Medicine, January.

- 132 Medical Gymnastics. Theodore Toepel.
 133 Membranous Croup—Diphtheritic Laryngitis. S. A. Visanka.
 134 Ammoniated Tincture of Gum Gualac in the Treatment of Females. N. F. Howard.

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- 135 The Treatment of Burns and Scalds of the Eye. William C. Posey.
 136 *Antitoxin and Intubation, with a Report of a Second Series of One Hundred Operations. Burt R. Shurly.
 137 *The Use of Suprarenal Extract in Diseases of the Middle Ear. Lewis S. Somers.
 138 *The Value of Trichloroacetic Acid in Surgical Practice. David T. Huston.
 139 A Study of Some Heart Lesions and of Some of the Measures for Their Relief. (Continued.) H. A. Hare.

Georgia Journal of Medicine and Surgery (Savannah),
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- 140 Subarachnoid Injection of Cocain Muriate for Surgical Anesthesia in Operations Below the Diaphragm. Illustrated by a Successful Case of Erasurement of Hip-Joint. Hugh M. Taylor.
 141 *Drainage in Abdominal Surgery. J. W. Long.
 142 *The Removal of Pelvic Inflammatory Masses by the Abdomen After Bisection of the Uterus. Howard A. Kelly.
 143 The Treatment of Specific and Non-Specific Vaginal Catarrh. Charles W. McIntyre.
 144 Is Tuberculosis Hereditary? M. X. Corbin.
 145 Bronchitis and Bronchopneumonia. A. Von Grimmel.

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- 146 *The Hospitals of Japan. Edward C. Register.
 147 Etiology of Pleurisy. C. P. Ambler.
 148 *Remove the Special License Tax. J. Beverly DeShazo.
 149 Early Diagnosis of Pulmonary Tuberculosis. A. A. Young.
 150 Cerebrospinal Meningitis. W. J. Crittenden.
 151 Pernicious Malaria in Infants. John Zahorsky.
 152 *Drainage in Abdominal Surgery. J. W. Long.
 153 Treatment of Retrodisplacements of the Uterus. Edward McGuire.
 154 The Use of Food as Medicine. J. Frank Kahler.
 155 A Puzzling Case. (Gangrene of the Bowels.) E. H. Trickle.
 156 Some Interesting Experience in the Use of Suprarenal Liquid with Chlorotone in Three Cases. Willard Chaney.

Medical Times (N. Y.), January.

- 157 The Mount Bleyer Electro-Are-Chromolumens for Generating Colored Light as an Adjunct to the Regular Treatment of Tuberculosis. J. Mount Bleyer.
 159 Insanity in Its Relation to Crime. Chancey Adams.
 160 Tuberculoidin in the Treatment of Tuberculosis. C. M. Holcomb.
 161 The Curability of Bright's Disease. Elmer Lee.
 162 Some Experiences with Heroin. I. J. Martinson.

AMERICAN.

1. Infection of the Breast.—Bacon first calls attention to the difference between infection and simple hyperemia or congestion of the breast which attends the establishment of milk-secretion or prolonged intervals between nursing. Infection of the breast, on the other hand, is generally attended with fever, and the milk fever so-called is now known to be genital wound

infection. The increase of temperature accompanying the establishment of secretion is too slight to be called fever. The question as to the mode of infection, whether through lymphatics or milk-passages, is mentioned and the importance of diagnosis between breast infection and genital wound infection is also insisted upon. The distinction must be made by a study of the prominent local symptoms. The greatest difficulty is experienced when symptoms of infection coincide with pelvic tenderness and the determination may take some time. Another important point is whether an abscess has formed; the center of infection is often quite deep and determination of fluctuation difficult. If fever or local pain continue for more than two or three days diagnostic puncture should be employed. The mode of breast infection is usually either through contact by handling of the nipples, etc., or through the child. Precautions consist in washing it in clean water before nursing and after nursing, in 75 per cent. alcohol to prevent simple abrasion or accidental infection from the mouth or skin of the child and in always covering with sterilized gauze to prevent contamination with soiled garments or bed clothing. Alcohol is used as a disinfectant because it is not harmful. Other disinfectants, such as boracic acid, are of very little disinfectant value, while carbolic acid or sublimate are poisonous. The shape of the nipple will also have much to do with infection. If too short or too small or misshaped it is more liable to be wounded during nursing. When nipple wounds become infected, and before symptoms of general infection, they may be treated as in similar wounds of other parts of the body. A little cotton saturated in alcohol is generally sufficient. Nursing through a shield may be allowed. Chills and fever generally indicate deep infection, and when they appear nursing should be entirely stopped and the breast supported and put to rest by proper bandage. Treated in this way, 80 to 90 per cent. of all breast infections will terminate without abscess. The different forms of bandage are described and a valuable adjunct to the treatment is application of cold by the ice-bag. If, in spite of all treatment, some tenderness remains and suspicion of fluctuation exists, with slight increase of temperature, the hypodermic needle should be inserted. If any abscess is present, however small, it should be opened at once. If we are in doubt as to the presence of abscess a continuance of the bandage support and the ice-bag can do no harm and is the best possible treatment. Opening of the breast is a painful operation and greatly dreaded, and Bacon recommends infiltration anesthesia, after first washing out with sterilized water, and a few sterilized threads used for drainage and antiseptic dressing applied and breast bandage and drain removed in twenty-four hours. The wound is kept open by irrigation for a day or two longer, and will close of itself.

2. **Appendicitis.**—The symptoms considered bad by Hawkes are: A rectal temperature of over 102 F.; a pulse of over 100 (if the patient is not distinctly neurotic or hysterical), or a poor pulse of any frequency whatever—and especially a pulse in which there is any tension; a thoracic respiration of over 34 (if the patient is not distinctly neurotic or hysterical); a sick appearance of the patient at any time; continued vomiting at any time; more than moderate abdominal pain; more than slight rigidity; any distention whatever; marked sweating; a chill; the slightest dilated condition, not previously present, of the superficial abdominal veins on the right side of the umbilicus, or the slightest pitting of the skin in this region on pressure; marked increase in frequency of micturition (indicating usually a long appendix reaching into the bladder region—such an appendix will almost always be found markedly inflamed); the slightest jaundice; constipation not relievable by enemata; hiccup; a sudden drop of temperature or of pulse-rate in a patient who has been sick for twenty-four hours or more (this usually means perforation with beginning general septic peritonitis); an increasing leucocytosis. He would not wait until he gets two or three of these. The presence of one of these should point the way to the operation. He is inclined to think that in every case, excepting in the mild catarrhal type of appendicitis,

we shall have at least one bad sign or symptom to put us on our guard. He advises operation in all acute cases excepting those mild ones in which when first seen the patient is evidently recovering. He wishes there were a way of ascertaining in each instance whether the case will subside or not. If he sees a case for the first time after every one of the so-called bad symptoms have subsided he will be willing to allow the patient to go on to recovery without operation, having a leucocyte count made at short intervals and the patient watched very closely. The old idea about there being a time when operative procedures were in themselves more dangerous and likely to spread infection has been thoroughly proved to be erroneous. It is not the time and occurrence of attack that makes the difference, it is the operator's methods. As to the length of time that it is safe to wait after the attack has subsided, his own preference is to wait not longer than ten days. The more cases of appendicitis one sees the more conservative one becomes, using the term conservative in the sense of not allowing the patient to drift along in the channels where soundings are impossible, and where at any time, suddenly and with little or no warning, the rocks may be struck and a total wreck result. The painstaking surgeon without question saves more of his patients by operation than by any other method.

4. **Dyspeptic Asthma.**—Murdoch reports five cases of asthma suffering from various gastric disturbances, not one of whom complained of stomach symptoms, but wished only to be relieved of the distressing shortness of breath from which they suffered. Chronic dyspeptic asthma is therefore not associated with any one form of stomach trouble in particular, but primary relief can only come from restoring the digestive organs to a healthy condition.

5. **Bone Tuberculosis.**—Owen says that tuberculosis, like syphilis, is specially apt to attack the bones, but unlike the latter, it prefers the delicate growing end of the diaphysis or the spongy tissue of a small bone. He confines his remarks here, however, to tuberculous disease of the bones in the hands and feet and what he calls ultra-conservative treatment of the bones and joints. The general tenor of his article is that we are sometimes apt to carry conservative treatment too far, though he would not be considered an advocate of radical treatment in all cases, and if he makes a mistake he thinks it is in the cause of conservatism. Nevertheless, he says he has performed Symes' amputation in a very large number of cases of tuberculous disease of the tarsus in hospital work and has not had any reason to regret it in one instance.

6. **Diverticulitis.**—Darnall describes a case of inflammation of a Meckel's diverticulum, six inches in length, rising from the ileum about three and one-half feet from the ileo-cecal valve. The operation was performed for appendicitis, but this was the condition found. He is inclined to think the diverticulum here was primarily affected and the morbid process analogous to that occurring in acute gangrenous appendicitis.

8. **Menopause.**—The fallacies noted by Shoemaker are the common notion that hemorrhage above the ordinary is an essential and common feature of the normal menopause, and its consequences in the neglect of important pathologic symptoms. He thinks that the physician will avoid a blunder which will afterward be expensive to himself and to his patient if he will proceed to find out at once whether or not she is flowing too much by questioning along the following line: What is the normal of that patient in normal health? How many days' flow? The approximate time when she left the normal: question whether the flow is progressively increasing or more frequent, the amount, as far as possible, being given in figures. It will often be found that the patient has bled almost daily for many months. It may show that no periods have been actually missed or that cessation definitely occurred and in a year or more flowing began again. In this last case some form of malignant disease is almost invariably present. The normal period, it should be remembered, lasts four or five days, and the interval should not be less than three weeks. Any marked deviation from the normal or physiological must extend back into early life. If examination is indicated, it should be made at once and thoroughly. Another fallacy is

that if fibroid tumors are growing or causing disturbances the patient will do well to wait for the menopause. This idea arose when the mortality after fibroid hysterectomy was over 50 per cent. The hope that the menopause will cure the case is in itself a fallacy, and he can not recall a case of uterine fibroid which gave trouble during menstrual life that was cured after the menopause, or in other words, where it paid to wait.

11. Whooping-Cough.—Thompson considers heroin a valuable therapeutic agent in this disorder, allaying cough and easing respiration, and it also renders easier the removal of mucous deposits on the posterior laryngeal wall, which will aggravate the attack.

12. Re-expansion of the Uterus in Labor.—Benjamin commences his article by saying: "I have come to the conclusion that the parturient womb during any stage of labor, and for a few hours following, can be expanded to about the same size as it was when labor began." He describes his method as follows: Supposing, for example, an extreme case in which the head was passed through the superior strait, and has become impacted low down in the pelvis in such a position that it can not escape through the inferior strait: Anesthetize the patient, bring the hips close to the edge of the bed, elevate them well above the level of the patient's shoulders, and put an assistant in charge of each leg. Having bared and sterilized your arm and hand and applied sterilized eosmolin, begin making firm pressure with the palmar surface against the presenting portion of the head in the direction of that portion of the axis of the pelvis occupied by the head; return it by exactly the route and flexions that it came, making firm, steady pressure between the pains and holding every fraction of an inch gained when the pain comes on until it is over. It will be found to give a little between each of the pains. The process is often a long and laborious one, and since the hands and arms are apt to tire out, advantage must be taken of each opportunity to rest them without losing ground, such, for instance, as propping the elbow against the knee, and foot against the wall, or in any other manner to take the strain off the muscles, and by occasionally changing hands or being relieved by an intelligent assistant. The womb will not only begin to elongate upward, but will seem to relax its efforts, so much so that the nurse standing by will sometimes exclaim, "The pains have left her," thus, gradually the head returns above the superior strait, making room for all purposes. You can now pass your hand around the child's head in all directions and absolutely confirm your diagnosis of the position, removing the cord from its neck in the womb if necessary, or, turning the body of the child, you can firmly grasp the head and turn it in the desired direction, assisted by the other hand on the outside of the abdomen. He illustrates the value of his method by reporting a case of re-expansion of uterus and return of the child's head when there was face presentation with chin posterior.

13.—See abstract in THE JOURNAL, XXXV, p. 1367.

15.—See Proceedings of New York County Medical Association.

16. Suprapubic Cystotomy.—Gibson's improvement on the method of suprapubic cystotomy refers specially to details of drainage and consists in applying practically what is Kader's operation to the bladder, making the valvular opening which can be catheterized, but which when left alone will close itself. The article is illustrated to efficiently explain the text. Kader's gastric operation, as well known, consists in inverting the edges of the incision and securing them by one or more rows of inversion sutures, leaving only a space sufficient for a drainage-tube, thus filling up the wall in such a way as to make a valvular opening.

17. Epilepsy.—Clark summarizes the present status of surgical treatment of epilepsy as follows: 1. Idiopathic epileptics with typical grand-mal seizures should never be trephined. 2. Idiopathies in whom seizures are of the Jacksonian type should be trephined only when infantile cerebral palsies can be excluded, and when the family and personal degeneracy is

at a minimum; if operation is determined upon in such cases, a very thorough removal of the epileptogenic area should be made; even then but a fraction of one per cent. recover from their epilepsy. 3. Traumatic epileptics may be trephined when the injury is definitely proved and stands in direct causal relation and has existed not more than two years. The prognosis will then largely rest upon the degree of the neurotic predisposition present. The earlier trephining is resorted to after convulsions begin, the better the prognosis. If these rules are followed, many less so-called traumatic cases will be trephined, but the result will far exceed 4 per cent. of recoveries. All epileptics trephined for whatever cause must be given post-operative bromid treatment for years. As regards the medical treatment, he remarks that no one specific should be kept up too long, and points out the evils of bromid intoxication. He prefers to give the bromids in the form of emulsion with or without cod-liver oil, in which way he finds it less irritating and less toxic and more lasting in its effects. He summarizes the present-day medical treatment by bromid in the following statements: "1. By a combination of diet, regular occupation and personal hygiene, the bromids give the best results in treating idiopathic epilepsy. 2. The bromids, singly or combined, still remain our chief sedative for the epileptic state—in the young epileptic, to secure a possible entire suppression of attacks and ultimate cure of the disease; in the adult, an amelioration of frequent paroxysms and comparative physical and mental comfort. 3. The bromids, to be effective in chronic and longstanding cases, must be given in large daily doses to suppress convulsions, from gr. eec-cc if necessary. They should be given gradually to find the sedative level, at which level it is the physician's principal duty to maintain them with physical and mental comfort to his patient. 4. Hot and cold baths, high enemata, alimentary antisepsis, and massage are absolutely essential to successful bromid medication. 5. Bromin is a worthy substitute for the bromids in many cases in which the latter are contraindicated or can not be given in high dosage. 6. Salt starvation or semi-salt starvation is a great adjuvant to the bromid treatment, and should be thoroughly tried in all cases in which bromids or bromin are apparently contraindicated before they are discarded."

19. Patella Suture.—Two cases are reported by Cox in which catgut sutures were used for uniting the fragments of the patella. He points out the possibility of irritation, etc., from the use of wire suture, and advocates the method here employed.

20. Splenic Anemia.—A case is reported in detail by Kelly, with remarks. It is of interest largely from the fact that it occurred in a young female. There was no pronounced enlargement of the lymphatics; enlargement of the spleen was not as great as has been reported by some and the hemorrhage was from the genitals. Dyspnea was extreme, at least in the latter portion of disease. The fever was high throughout the disease, though there were one or two inexplicable drops. The author makes no special statement as regards the nature of the disease, which he considers obscure. The assumption that the enlargement of the spleen is a feature is the only basis for the successful treatment thus far. The prospects of surgical treatment are perhaps the most hopeful, though as yet undeveloped.

21. Some Diagnostic Details.—A plea is made by Darnall for observation of physiognomy, more especially of the eye, of inco-ordination of the muscles, breathing, position, odors, and the better appreciation of temperaments. He thinks the physician should familiarize himself with these latter so that he may know just what allowances are to be made for each type.

22. Gonorrheal Cystitis in the Female.—Bierhoff's article reports five cases of gonorrheal cystitis occurring in a total number of 92 cases examined. He remarks on the pathologic conditions. In one the disease was that of the body of the bladder. The other four cases presented a cystoscopic picture of cystitis coli suppurativa. He believes that cystoscopy in the female is without the dangers attending it in the male, provided the examination is preceded and followed by proper measures. In every case, however, he would strongly

recommend the microscopic examination of the sediment before any treatment is begun. As regards treatment, he thinks we possess in protargol and largin two reliable products, which, if properly used, will do all that drugs can do, and we are not justified in delaying the commencement of treatment for a single day. Besides restriction of diet and the use of frequent hot Sitz baths, we may begin the use of such remedies in the proper strength in the form of urethral and vesical irrigation at once, some of the fluid being allowed to remain in the bladder each time. In all his cases he has been able to prevent the spread of disease beyond the parts originally affected. The patients should not be dismissed, however, until the urethral discharge has completely disappeared and remains absent, even after provocative tests, and until the urethral scrapings are epithelial in character and nearly free from gonococci, the urine normal and the cystoscope reveals a vesical mucosa free from all traces of inflammation.

26. Lachrymal Disease.—In cases of epiphora it is not infrequent that the condition becomes a constant menace, threatening to cause ulcer of the cornea or phlegmonous inflammation, and radical operation is apparently demanded. Laneaster discusses the indications in these cases and favors the removal of the sac as producing diminution of the cavity and size of the lachrymal gland though there is often still considerable surplus of secretion. If, however, the condition of the patient is critical the operation is only a partial success in many cases and here he favors removal of the gland itself. There are some cases where removal of the gland without removal of the sac seems to promise relief, as where, for instance, there is no obstruction to the lachrymal passage and yet the epiphora is great. Favorable results from this procedure are reported by De Weeker and others. The disadvantages or dangers of the ordinary treatment are direct and indirect. Among the first he would include the possibility of failure of preliminary healing of the wound, entailing prolonged treatment, with more or less disfiguring scars, and if infection occurs and extends to the orbit there is the possibility of orbital abscess. There is a conceivable possibility of orbital hemorrhage occurring after extirpation and the possibility of causing ptosis by damaging the levator has been suggested. So far he knows of none of these that have occurred, excepting the first. Some operators have failed to get primary union. The direct unfavorable results are the chance of having too great dryness of the cornea after extirpation of the gland. There is also the chance of injuring the cornea by lack of care. If the eye, after the operation, should become infected, it seems a lack of irrigation would be of a decided disadvantage and necessitate frequent artificial irrigation to take the place of the natural. Against this, however, there is the fact that the removal of the sac which is the focus of infection renders such keratitis or conjunctivitis less likely to occur. He knows of but one instance of serious complication following operation for the removal of the sac and gland. This was reported by Veasey and it seems clear that the keratitis which occurred was an unusual type and not to be regarded as the result of the operation per se. He reports five cases in which he has operated, in all satisfactorily to the patient.

28. Spinal Cocainization.—Richardson gives his impressions derived from observation of Tuffier's operations under this method of anesthesia. The patients had the appearance of being in actual danger, with anxious facial expression, deep pallor and very feeble pulse. The condition would apparently indicate the hypodermic or intravenous infusion of normal salt solution, or at least of brisk stimulation or artificial heat. He admits that these signs may be due to psychic conditions, as he has seen similar symptoms in simple faintness from mental shock. The advantages of spinal over general anesthesia can not be demonstrated except by years of experience, and he is not at all convinced that the method is without serious dangers. It is inconceivable to him that the introduction of a needle into the spinal canal should be without danger, let alone the question of sepsis. One patient was reported as having suffered from paralysis of the bladder for

several months after this method of anesthesia. A feature of general anesthesia too little appreciated is the blessed oblivion of the patient from the beginning to the end of the operation, and this is lacking here.

29. Cervical Adenitis.—Cobb introduces his paper with the account of a case of a child, without history of previous trouble, contracting diphtheria followed by purulent discharge from the nose, with, two years later, removal of enlarged tonsils with adenoids, and one year after this operation with a still remaining purulent discharge from the nose and cervical adenitis following an acute coryza. This case he selected because it is typical of a class met with by the general practitioner, and he points out the possible connection between purulent rhinitis in these cases and cervical adenitis, illustrating it by the case given.

31. Tubercle Bacillus.—Graber gives the following as a convenient, cheap and reliable stain which can be used to a decided advantage and with a great deal of satisfaction by the hampered country doctor: Fuchsin (dry), 0.50 gm.; carbolic acid, 2.50 gm.; alcohol, 5.00 c.c.; distilled water, 10.00 c.c. Mix. Mount the specimen, dry, and fix; then with an ordinary medicine-dropper completely cover cover-glass held by small pair of forceps over flame of an alcohol lamp, replacing from time to time what is lost by evaporation so as not to let the specimen get dry at the edge. Steam in this way for one minute. Wash at once in water. This can be nicely done by holding cover-glass under the tap or by moving gently back and forth in a vessel of water. Dry and apply the following: Methylene blue (dry), 2.00 gm.; sulphuric acid (U. S. P.), 24.50 c.c.; distilled water, 73.50 c.c. Mix. This is to be applied in same manner, except that no heat is used and the time should be from 30 to 60 seconds. The writer has found 50 to 59 seconds to be about right, as a rule. If stained too much or not enough, modify accordingly the time of second staining. Wash in water as before, dry, and mount. This process takes but a few minutes and is very satisfactory. The tubercle bacilli are stained a bright red, all other substances blue.

37.—See abstract in *THE JOURNAL*, xxxv. p. 1047.

38. Traumatic Keloid of the Median Nerve.—Kiliani's case is that of a woman 21 years of age who had had the median nerve cut by window glass, resected and sutured together. On admission there was found over the median nerve a spindle-shaped bulbar thickening about the size of an olive. This was excised, together with a smaller one, and the nerve united by catgut suture. Sensation returned the fourth day, motion gradually afterward, and in less than three months the patient was discharged with a useful hand. The patient was readmitted some four or five months later with a small tumor at the original site, which has since decreased. The nerve tumor is called keloid because the incision twice developed keloid in the skin, indicating that the patient's tissues had a tendency to fibrous hyperplasias. Aside from the clinical and pathological interest which the case presents, he reports the case because it shows the absorption of silk sutures in the wound. Although the silk had not disappeared, microscopical observations of the tumor showed that absorption of silk fibers had set in.

40. Laryngectomy.—The conclusions of Davis' article are: It is feasible to remove the larynx under eucaim anesthesia. If the two operations are done simultaneously and a favorable course is pursued, the result will be brilliant, the patient being "out of bed on the fourth day." It is his belief that Delavan is right, and that preliminary tracheotomy ought to be done. We should not sacrifice safety for brilliancy. The leaving of an esophageal tube projecting from the wound is probably unnecessary, the patient swallowing on the third day. The wound need not be tamponed, but can be closed from the upper edge of the trachea to the hyoid bone. These patients can make their wishes understood by speaking in a short time after the complete removal of the larynx. In this case it was found comparatively easy to remove the larynx from below upward, going up on one side, then across at the hyoid bone, and down the other.

41. **Double Ureter.**—A case is reported by Summers, who calls attention to the fact of possible error in using "segregators" to determine the presence and condition of both kidneys. He says it is conceivable also that mistakes might occur when reliance is placed wholly upon ureteral catheters. Prior to an extraperitoneal nephrectomy of election it is wiser to palpate through a button-hole opening for the presence of any gross pathologic condition of the opposite kidney.

45. **Giant Cells.**—Buxton's paper is a discussion of the origin and development of giant cells and their relation to disease, and he says finally: "Without quoting other authorities who reached similar conclusions, we may sum up that giant cells: 1. In myelosarcomas represent absorption of bone. 2. In other tumors, represent foreign-body intrusion. 3. In all tumors are a secondary manifestation, and do not actively contribute to their growth."

46.—See editorial in *THE JOURNAL* of January 12, p. 112.

47.—*Ibid.*

49.—This article has appeared elsewhere. See *THE JOURNAL*, xxxv, §89, p. 123.

52. **Femoral Hernia.**—Bacon's article is a very elaborate and lengthy one, discussing all the operations and methods of treatment of femoral hernia, its mechanism, anatomy, etc., and the technique of Gordon's operation, which he recapitulates as follows: The first step is the curved skin incision, with the upper leg of the curve parallel to and about three-quarters of an inch above Poupart's ligament, and the lower leg vertical over the femoral canal or the hernial tumor. The second step is the careful preparation of the aponeurosis of the external oblique muscle. The third step is the isolation of the hernial sac, and the reduction of its contents. The fourth step is the cleaning out of the fossa ovalis and femoral canal, extending the operation into both the abdominal and the pelvic cavities, so as to have a firm bed for the peritoneum to rest on. The fifth step is the resection of the sac and the suture of the peritoneum. The sixth step is the incision in the aponeurosis and the freeing of the adjacent muscles. The seventh step is the suturing of the internal oblique and transversalis muscles to the periosteum of the pubic bone, along the pecten ossis pubis, that is, to Cooper's ligament, with mattress-suture, and the felling down of the up-turned free border of these muscles by simple sutures, fastening them to the pectineal fascia. The eighth step is the closing of the incision in the aponeurosis. The ninth and final step is the closure of the skin incision.

62. **Pneumonia.**—The various methods of the treatment of pneumonia are considered by Brown, who believes that the consensus of best teaching is that the most favorable results will be obtained by careful nursing, diet and hygiene, and the systematic use of hydrotherapy during the entire course of disease. Cold sponging and cold bags seem to be most practicable, with very little use of drugs of any sort, except perhaps some heart stimulant such as alcohol or strychnia. A dose of morphin may be needed to relieve pain if the ice-bag does not furnish relief. To this must be added the use of saline infusions and various inhalations, with or without oxygen, to allay bronchial irritation, while great care should be exercised in prophylactic measures by disinfecting the sputum and sickroom.

63. **Formaldehyde in Ear Disease.**—According to Reik, the best antiseptic in otitis is formaldehyde, of which he found 1 dram to the pint of boiled water the best solution, syringing the ear twice daily and using at least a pint at each sitting. It makes a 1 to 3000 solution of formaldehyde gas. It seldom causes discomfort, and if it should a weaker solution should be employed. He has gone over the figures of the dispensary of the Johns Hopkins and Baltimore Eye and Ear Hospitals to test the value of this method and, while he has been able to trace up and secure notes of only 47 cases, the results seem to support his views. There are certain disadvantages in the use of boracic acid, such as retarding the healing of perforation of the drum, which he has no reason to believe occurs in the use of formaldehyde. He says in con-

clusion: "I do not wish to be understood as claiming that formaldehyde will cure all cases of otorrhea, but merely desire to state my belief, based upon the experience given, that in those cases which are susceptible of cure by syringing with an antiseptic fluid, formaldehyde will accomplish the good result with more certainty and in considerably less time than any other antiseptic employed at the present time."

64. **Cholelithiasis.**—Mitchell reports cases of gall-stone surgically treated in which material of the common duct was examined bacteriologically and pure cultures of what were apparently typhoid bacilli obtained. The specially interesting point in the case is that there was no history of typhoid fever and he is satisfied as well as one can be from the past history that the patient never had the disease. He regards the case, therefore, as one of local infection with typhoid bacilli without the presence of the symptom-complex which we call typhoid.

76. **Theodor Billroth.**—Hemmeter's article is a biographical sketch with notice of the works especially in regard to music and philosophy of the distinguished surgeon, Theodor Billroth. He believes that Billroth has cleared up portions of the subject of physical and physiologic acoustics and developed the scientific aspects of music. He has also emphasized the gaps that must be filled before we can reach more tangible results concerning the purely physiological aspects of music.

77. **Aural Defects.**—Reik's paper is based on the examination of the ears of 440 school children in which he tested the hearing and internal and external abnormalities. He thinks that while he could not draw definite conclusions from this examination, if it be anywhere near correct, the normal limit for high tones is far above 32,000, and even above 49,000 in young persons, many of whom can hear over 70,000, and some over 100,000 vibrations per second. The abnormalities of the external ear were also observed, and some of them described and figured, and he thinks there is much of interest in this particular subject. The results of his paper are given in tabulated form.

78. **Testicular Fluid.**—Walker reports experiments on the injection of testicular fluid to prevent atrophy of the prostate gland after extirpation of the testes and sums up the results as follows: The prostate gland in the injected animals presented both macroscopically and microscopically the same changes that had occurred in the uninjected ones. It may be said, therefore, that the injection of the testicular fluid has apparently no effect whatever, and one is probably justified in concluding that the atrophy of the gland is in no way connected with the absence of any substance in the testicular secretion.

79. **Laryngeal Cancer.**—Mackenzie pleads for thorough work in laryngeal cancer, especially the importance of naked-eye diagnosis, as compared with only microscopic examination of excised portions. He says in case of reasonable doubt, after weighing all the facts as regards the diagnosis: Should the next step be the removal of a portion of the diseased structure for examination? And in the face of all authority to the contrary, he says emphatically, "No." Before even considering such a proposition, if it is considered at all, the suspected growth should be examined from every point of view and this is best accomplished by the second method, thyrotomy, or even still more extensive external operation. Wherever laryngeal examination leaves reasonable doubt thyrotomy is justifiable, and even after this has been done, if there should be any uncertainty remaining, the removal of a portion should be only a measure of the very last resort. The objections he makes to this procedure are: 1. It subjects the patient to auto-infection and metastasis. 2. Stimulates the local growth. 3. The method is often inconclusive and misleading and sometimes practically impossible. The general treatment is sufficiently simple. It should be that which governs us elsewhere in the treatment of cancer. Total extirpation with neighboring portions of healthy tissue or of any possible lymphatic infection should be the general rule of practice. No operation for lymphatic cancer is complete without removal of the neck lymphatics. Other measures, such as enurettement or removal of all visible disease, are not up-to-date surgery.

85. Cephalic Version.—After reviewing the opinions of authorities, Horn reports a number of cases in which this method was employed by himself, and discusses the results. In one case podalic version was finally resorted to. The results as far as the children are concerned, considering the conditions, are fairly good, but he does not think the method will be likely to claim general preference. It is much to be desired, however, that it be more employed not only in the interest of the children, but of the mother. In full term children the podalic version gives generally preferable results, though if one had the time and inclination he could get good results with cephalic version, though it will not impress the laity as much. In the induction of labor he does not hesitate to give it, by the combined method, when external method has been given a thorough trial and failed, the preference by far over any other method, and this should be in the interest of the child.

88.—See abstract in *THE JOURNAL*, xxxv, p. 1050.

89.—See abstract in *THE JOURNAL*, xxxv, p. 1425.

92. Gastric Disorders.—After describing the anatomy of the stomach and its blood-supply, Mayo notices the methods of examination. He believes that too much attention is paid to laboratory and too little to clinical examination at the present time; the two should go hand in hand and neither be neglected. For instance, the salol test for loss of motor power is unreliable, but the finding of food in the fasting stomach regularly seven hours after taking is most practical and reliable; fourteen hours after indicates stagnation or retention. For getting the outlines of the stomach neither the gastroduodenoscope nor gastroscope are of real use, nor can the giving of bismuth or the using of metal sounds for X-ray examination be compared in efficiency with simple dilatation with bicarbonate of soda and tartaric acid, or better still, a stomach-tube and a Davidson syringe with which it is easy to distend the stomach with air. If on distension the lesser curvature and pylorus remain in the normal position while the greater curvature lies below the umbilicus, dilatation is evident. If they are detected below the costal margin the stomach has descended. The history of the patient, his present condition and the chemical and biological examination of the gastric contents, taken into account with the position and size of the stomach, give a basis for diagnosis and as a rule indicate whether an abdominal incision would be expedient. In the beginning nearly all operations on the stomach are exploratory; for the most important primary investigation seldom relieves the exact condition. The technique of the operation is described and ulcer and its operative needs are noticed at length. Some forms of gastrectasia of uncertain origin are also dwelt upon, such as what has been called spasm of the pylorus, of which he thinks he has met with four cases; the special forms of pyloric obstruction are described by him, in which a high lying and fixed pylorus became more and more compressed as the stomach filled, and the distension finally relieved itself by copious vomiting. He thinks this is often the cause of dilatation, and has operated on four such cases. The so-called "fish-hook" pylorus in which the opening is directed upward, increases the muscular efforts and acts in a similar manner by increasing the stomach's work. As regards operation, he says gastroenterostomy is the most generally advisable and has few contraindications. Pyloroplasty may be of benefit in certain cases. As a result of his own experience he believes that much depends on the condition of the pylorus. If the abatement is high relapse may occur, the weakened muscles being unable to elevate the food. Gastroplication may be advantageous in selected cases for pyloric opening, but personally he has never met with a case where this operation seemed called for.

93. Bacteriology of the Alimentary Canal.—The chief points in Martin's paper are that it is erroneous to endeavor to sterilize the food which enters the alimentary canal. It is true that the alimentary canal of a newborn infant is sterile, as is also milk from the breast of the healthy mother, yet in a very short time under good conditions the bowels of children apparently in robust health are inhabited by the colon bacillus and various other forms of micro-organisms. Thousands of

infants, he claims, have been starved to death under the belief that the babies are being protected by sterilized food, which, while destroying possible pathologic germs also destroys at the same time thousands of beneficial bacteria. To pretend to abrogate the functions of the stomach in clearing the food of harmful bacteria by its acid secretion and attempting to pre-sterilize the food and filtering the water seems to him absurd.

95. Cataphoresis.—Williams reports a case of caries within the internal ear treated by him by filling the meatus, packing the tympanum and filling the canal with dilute hydrochloric acid and placing the pole well wrapped with cotton into the auditory canal the other pole being applied to the mastoid on the opposite side. A direct current of 110 volts was used, regulated by a selector apparatus obtained from a dental supply-house. No milliamperemeter was used, but the force was graduated by the sensations of the patient, and he claims that the patient was soon able to bear for a period of thirty minutes a voltage of 36 to 40 directly through the cranium in this way. The hydrochloric acid produced slight dermatitis, which he thinks was not harmful. The patient recovered. He also claims to have treated similarly another case of antrum disease. The treatment appears rather severe and risky, and perhaps had not better be adopted too freely.

107. Vernal Catarrh.—This disorder, which Allport says is not properly named, is a sort of chronic hypertrophic conjunctivitis, and more than a mere catarrhal inflammation of the eyes, consisting as it does of marked epithelial hypertrophy sometimes of enormous dimensions. He would, therefore, wish to supplant the name "spring" or "vernal" given by Saemisch, by this other designation which more nearly represents the pathology. The symptoms are described and the occurrence of the disease is said to be in warm moist climates particularly. He never saw a case in Minnesota and only three cases in Illinois. It appears to be more especially frequent in Turkey, Italy, Spain, etc., and it usually occurs during the warm months. The treatment is not satisfactory, but a wash has been recommended by Van Milligan consisting of two drops of dilute acetic acid to one ounce of distilled water, which adds materially to the comfort of the patient. The author also recommends boracic acid 10 grs., sulphate of zinc 2 grs. to one ounce of water dropped in the eye, or another prescription recommended by Dr. Casey Wood, consisting of sodæ biborat., 300 grs., boracic acid, 200 grs., hydrarg. chlorid. cor., 1/12 gr., and distilled water, 10 ounces. Use in the eye cup several times a day. Allport also recommends salicylic acid, 6 to 10 grs. to an ounce of lanolin or mild ichthyol ointment. He concludes his paper with the suggestion of the trial of chromic acid.

111.—See abstract in *THE JOURNAL* of January 12, p. 127.

119. Rectal Diseases.—The subject of rectal disorders is taken up by Tuttle, who endeavors to show what is necessary in examining for them and how to diagnose and treat ordinary cases. As a first suggestion he calls the attention of the practitioner to symptoms that indicate rectal examination. They are vague aching pain about the pelvis and sacral region, shooting down the leg; a sense of constriction or weight about the pelvis—especially in males—irregularity of the bowels, constipation, diarrhea, flatulence, loss of appetite, all the symptoms which constitute so-called intestinal indigestion, spasm of the bladder, dysuria without adequate cause, irregular menstruation in girls, membranous or mucous diarrhea with blood, restlessness at night, picking of the nose and a ferocious appetite in very young children. The history of the patient is important in regard to family antecedents, environments, habits and tendencies. All questions as to diarrhea, constipation, condition of stool when it does occur, straining, pain in and about the rectum, and its location and character, also vague unfavorable sensations should be inquired into, as also any discharge and its character; and protrusion around the rectum or swelling and whether it is easy or difficult of replacement. Having made all inquiries the physician is prepared to clearly judge of what he is likely to find, but no diagnosis is complete until both digital and ocular examinations are made. Tuttle objects to cleaning out of the rectum before examination to ascertain the habitual condition of the patient's bowels, however disagreeable

this may be. After having learned this, however, rectal irrigation should be given the patient and he then immediately afterward should be observed to see whether there is any protrusion or not.

120. **Appendicitis.**—While favoring radical procedure at the earliest possible moment Eades is not positive that all pain, vomiting and muscular rigidity call for operation. He believes in an appendicular colic, a functional condition without any pathology and some of these cases can not be differentiated from true appendicitis. In his practice, however, he places these cases on medical treatment for twelve hours and if the symptoms have abated in that time he does not consider operation absolutely necessary. If nausea and pain disappear, tenderness not increased, temperature normal or very slightly elevated, pulse normal, not too frequent, and the expression is good, he thinks recovery is probable. If improvement is not marked during the second twelve hours the surgeon should be called in.

128.—This article has appeared elsewhere. See *THE JOURNAL*, xxxv, p. 904.

136. **Antitoxin.**—Shurly tabulates the results of a later series of experiments which showed a mortality of 16.1 per cent. as compared with his 31 per cent. in his former series. He says in the conclusion of his article that we can say that the treatment of laryngeal diphtheria has reached a definite and exact procedure as sure and specific in its effects as any method in the treatment of disease can become. Antitoxin within twenty-four hours of onset, prophylactic dosage to exposed children, the use of intubation, if necessary, the enforcement of more perfect sanitary and hygienic surroundings will reduce the mortality to a very low percentage, and he also confidently believes that with serum administered twelve hours before operation the mortality of the few intubation cases that become necessary will be 5 per cent. or less.

137. **Suprarenal Extract.**—Somers enumerates the conditions in which the suprarenal extract is of value in ear diseases. The formula which he has employed is suprarenal 20 gr., phenic acid 2 gr., eucain hydrochlorate B. 5 gr., distilled water 2 drams. Macerate for ten minutes and filter. This solution he finds permanent and valuable. The conditions in which he has found the drug useful are acute inflammation of the drum or acute otitis media, together with the regular therapeutic procedures, when granulation tissue has developed in the canal and middle ear and in acute catarrhal otitis with congestion, but without perforation. In chronic suppuration of the attic, with a small perforation in Shrapnell's membrane and a scant purulent secretion the drug has not been of service and should not be used, but if perforation of the lower portion of the membrane is most often seen, the addition of suprarenal solution to the treatment will be favorable, provided the ear be thoroughly cleansed. In chronic cases where sclerosis of the lining membrane is marked, with rigid ossicles the results have not been satisfactory.

138. **Trichloroacetic Acid.**—Huston sums up the advantage of trichloroacetic acid as follows: It is one of the most powerful stimulants to granulating surfaces; it lessens secretions from granulating surfaces; it readily cleans off sloughs. When it is applied to wounds it does not burn at once, making it much easier to use as a stimulant. There is little or no inflammatory reaction.

141.—See abstract in *THE JOURNAL*, xxxv., p. 1425.

142.—*Ibid.*

146. **Japanese Hospitals.**—Register reports his observations of Japanese hospitals, which, though apparently few in number, appear to be entirely up to the latest ideas of scientific medicine and surgery. The hospitals specially noticed are the Imperial University Hospital and General Hospital at Tokyo, the Kyoto Hospital Medical School and the Kobe Hospital. Only one is mentioned as being in a poor condition and poorly managed. The Imperial Hospital at Tokyo appears to be the medical center of Japan, where all well-to-do Japanese who have to undergo surgical operation appear to resort. He remarks that the Japanese physicians seem to be particularly

adapted to certain departments in medicine, more especially minute investigation and the smaller and more delicate operations in surgery. As to microscopy their patience seems never to tire, and their preparations are elaborate to the last degree. He says the average Japanese physician would rather see a cataract operation than a hysterectomy.

148.—This article has appeared elsewhere. See *THE JOURNAL* of January 5, title 53, p. 60.

152.—See abstract in *THE JOURNAL*, xxxv., p. 1425.

FOREIGN.

British Medical Journal, January 5.

An Address on Acute Dilatation of the Heart in Diphtheria, Influenza and Rheumatic Fever. D. B. LEES.—The causes of sudden death from diphtheria are sometimes considered to be affections of the vagus nerve, but Lees finds by his studies that fatty degeneration is the much more probable cause. In fatal cases of diphtheria the cardiac muscle is often found much degenerated, and if this can be determined during life fatal syncope may be prevented. The clinical indications which should be sought for are: 1, feebleness of the pulse wave; 2, feebleness and diffusion of cardiac impulse; 3, extension of the cardiac dulness to the left; 4, feebleness of the first sound at the apex, with accentuation of the pulmonary second sound, all of which four indications of the weakened left ventricle would naturally be looked for in a heart suffering from fatty degeneration and they are all present more or less in many cases of diphtheria; 5, a sign which could not have been anticipated, but which is usually present, is marked accentuation of the aortic second sound, often very decided without tenseness of the radial pulse. One can only urge that the tension of the aorta is increased by contraction of the splenic arterioles through some central vasomotor irritation caused by the toxins. If the vascular tension is much increased at the same time that the ventricle is weakened the danger of fatal syncope is great. The physical examination of the heart is noticed by the author. He insists on the importance of percussion. The finger of the left hand is the best pleximeter and should be so applied that only the terminal phalanx is pressed upon the spot, and no pressure exerted elsewhere. In diphtheria if the dulness does not extend one finger-breadth outside of the left nipple there is usually no immediate danger, but should it extend farther than this, the case should be carefully watched. If it extends two finger-breadths there is an urgent peril and the child must not be allowed to sit up under any circumstances. This increase of dulness is sometimes very rapid, the extension from one finger-breadth to two may occur within a few hours, and is often accompanied by vomiting, which is an important danger signal, and sign of acute cardiac dilatation. When shock or acute dilatation has passed off, or if it occurs gradually, the patient may feel well, yet be in urgent danger. This apparent danger with dilated and fragile heart misleads the practitioner who does not use physical signs. Cardiac dilatation may occur at an early stage of the disease or later. In influenza there is also rapid cardiac dilatation in many cases, sometimes causing fatal symptoms. The same physical signs are to be noted with the same importance as in diphtheria. The dilatation in this disease may be permanent and give rise to very serious symptoms. Thrombosis is also of frequent occurrence, probably due to enfeeblement of the heart. Minor degrees of cardiac dilatation after influenza may cause merely a feeling of incapacity for exertion. The physical signs should be carefully noted in these cases, as undue exertion, prolonged strain, etc., may be very injurious. The same rule as to the danger-point when the dilatation exists over one finger-breadth from the nipple is to be borne in mind. In rheumatic fever, even in the most sudden type, acute dilatation seems to be present. Lees has never seen a first attack where it was absent. It is, however, less dangerous than in diphtheria or influenza. The same amount of dilatation as indicated by the extent of dulness beyond the nipple indicates less danger in rheumatism, but the rapid further extension may be serious and be attended with vomiting as in diphtheria. The slightest suspicion of rheumatism in a child should lead to repeated and frequent examination.

tion of the heart, and even in adults more often than is generally recognized, it is the fresh rheumatism that kills by breaking down the compensation. Rheumatic and diphtheric myocarditis and fatty degeneration are found and it is probable similar conditions exist also in influenza. There is no question that in diphtheria and influenza the heart injury is due to toxins produced by well-known microbes of disease, and this, Lees deduces, is an argument in favor of the microbial theory of acute rheumatism. The conclusion of his article is an appeal for greater care and accuracy in the examination of the heart by palpation and percussion. Besides the dilatation of the left ventricle above noted as an important danger, dilatation of the right auricle, quite easily detected by percussion of the fourth right interspace and weakness of the right ventricle, detected by palpation of the epigastric region, are usually accompanied by considerable dyspnea and often by some lividity. A marked degree of dilatation of the right auricle two to three finger-breadths to the right of the sternal margin in the fourth space may indicate grave danger of death from asphyxia and be an urgent call for venesection or leeches. He says: "After a considerable experience as an examiner in medicine, I am forced to the conclusion that these facts are still very inadequately recognized, for I rarely meet with a candidate who understands the object of percussion of the heart or the proper method of procedure. He usually thinks only of the useless superficial cardiac dulness and contents himself with trying to determine a horizontal upper limit (which does not exist), and then palpating the cardiac impulse, as if that were equivalent to the left border of the dulness. The right limit of the heart he usually neglects altogether. And even some physicians of great eminence are apparently not conversant with the fact that the dulness of the right auricle normally extends one finger-breadth into the fourth right space, and that its border can be quite easily detected by careful light percussion."

Clinical and Pathological Notes on a Case of Human Actinomyces. H. E. LITLEDALE.—After first reporting a case with microscopic findings, Littledale remarks that there is little doubt that the micro-organism is due to different species of the streptothrix genus. The existence of different species causing actinomyces seems to be the only way of explaining the anaerobic or aerobic conditions necessary for the growth of the micro-organism in different cases, besides the number of other variations in culture-media. The case reported was not due to aerobic organisms, but was one of what is usually known as actinomyces, and was clinically diagnosed as such when no micro-organism was even looked for. The arrangement of micro-organisms in the tissues, their characteristics, etc., leave little doubt that it was a streptothrix infection. Littledale says: "The extracorporeal relations of these streptothrix and their mode of infecting the animal are still unexplained, but there have been a number of researches, especially those of Jensen and John, cited by Crookshank, which point to their having origin among the cereals. Several experiments by different investigators tend to show a possible connection between the tubercle and timothy-grass bacillus and actinomyces. For instance, Lubarsch and Schulze produced actinomyces-like growths in animals from the timothy-grass bacillus and Eppinger's streptothrix. Bates produced mycelial growths with clubs in animals by injecting tubercle bacilli into the brain. The most extraordinary results were those of Friedrich and Nösske, who, by injecting definite quantities of tubercle bacilli into the left ventricle of rabbits, produced a growth of tubercle bacilli especially in the kidneys, composed of a dense mass of bacilli surrounded by a ring of clubs. These experiments, taken together, seem to suggest a possibility of our finding the primary source of tubercle bacilli among the cereals or some other members of the vegetable kingdom."

Notes on the Dialysis of the Toxins Through Collodion Walls. M. ARMAND RUFFER AND M. CRENDIROPOULO.—The authors have investigated the question whether mild toxins pass partly or wholly through the walls of collodion sacs and retain their pathogenic properties. The microbe chosen was the bacillus pyocyaneus, because its pathogenic properties have been well studied and it secretes a coloring matter ren-

dering its recognition easy. They found that these passed through the collodion walls in small quantities, but not altogether; and the toxins filtered through the Chamberland filter, compared with toxins obtained by dialysis, showed greater pathogenic properties than the latter. The pathogenic properties of dialysed substances varied according to the length of dialysis. The nature of the liquid surrounding the sac of collodion had great influence upon the amount of toxin which dialysed through. When a collodion sac filled with bouillon was suspended in distilled water the surrounding water became far more toxic than when the surrounding media was bouillon or peptonized water. The naked-eye characters of the water also differ according to the liquids, and the bacilli themselves change. The bacilli in the collodion sacs appear, so far as they have studied them, to follow no regular rules. They say, in summing up, that the various toxins of the bacillus pyocyaneus dialyse, but not in their entirety. The time they take in thus dialysing is comparatively long, and their pathogenic properties vary according to the length of the dialysis. It is extremely probable that the immunizing substances are almost the first to dialyse. Advantage might possibly be taken of this property in the manufacturing of vaccines.

The Lancet, January 5.

An Address on Clinical Varieties of Bright's Disease. JOHN ROSE BRADFORD.—The author summarizes his views as follows: 1. That we may recognize two forms of acute Bright's disease, one characterized not only by the well-known urinary changes, but also by the presence of dropsy, the other where dropsy is absent and where the distinction between the acute Bright's disease and mere congestion of the kidney is by no means easy. 2. That there are at least two forms of chronic Bright's disease—one where the patient secretes a scanty, highly albuminous urine and becomes markedly dropsical, the course of the malady being chronic and death occurring usually either from the mere water-logging of the tissue, or from the development of inflammatory complications, or from chronic or subacute uremia. The second form is one in which the symptoms often run a latent course for an unknown period and where the patient ultimately seeks advice on account of very vague symptoms of ill-health, such as wasting, loss of strength, circulatory disturbance, or even where he does not seek advice until the onset of acute and fatal uremia. In this form of the disease dropsy is absent, the urine is abundant and pale, and it contains a considerable quantity of albumin. would seem that not only may chronic Bright's disease be chronic from the onset, but also that the two varieties are not necessarily different stages in one and the same morbid process, but represent rather the different effects of perhaps the same morbid process.

A Series of Cases of Actinomyces. RICKMAN J. GODLEE.—The cases of actinomyces are here reported with special reference to diagnosis. The special points which the author brings out are stated as follows: 1. The probability that this uncommon disease may be mistaken for others of every-day occurrence. 2. The possibility that for long periods and even after death no signs of the ray fungus may be present in the discharges or discoverable in the tissues. 3. The characteristic appearance of the abscess when opened. 4. Possibility of true embolic pyemia resulting, the secondary abscesses containing the ray fungus. 5. The fact that if the liver or lungs are affected a lateral curvature of the spine is likely to occur, the concavity being toward the affected side.

Deformity of the Skull Simulating Leontiasis Ossea, With Condition of Syringomyelia: No Physical Signs of Syringomyelia Present. JAMES S. COLLIER.—Collier reports a case in which syringomyelia was found in the necropsy with absence of all the usual signs of that condition, but with a close simulation both in signs and symptoms of leontiasis ossea by a thin, deformed skull and meningeal ossification, though the examination of sensibility was not, however, sufficiently thorough to absolutely exclude the presence of sensory changes, and while gliosis of the cord is sometimes met with, it is usually in young children and not in adults. Absence of usual symptoms where there was such distension of the spinal cord

as occurred in this case is very rare. Skull deformities appear to be rare in syringomyelia, and where recorded they usually approach the acromegaly type, with also some other signs of acromegaly, and enlargement of pituitary body has also been found occasionally. In the present case the skull presented features very different and the deformity had been recognizable from the age of 5 years, when there was a severe injury. The calcified plates in the dura mater might also have resulted from hemorrhage occurring at this time. The author inquires whether syringomyelia could have been caused by the same injury—a fall of 20 feet on the head. It is difficult to say, however, how an excessive hemorrhage into the spinal cord could have occurred without producing some permanent alteration of the functions. In this case the patient had led an active life as a mechanic for fifteen years. There was a localized epilepsy, but no local pathologic condition to account for it.

Annales de Dermatologie (Paris), November.

Hereditary Syphilis of the Spinal Cord. P. CAZIOT.—Two cases are described of chronic meningo-myelitis of Erb's type, occurring in heredosyphilitics. Caziot urges physicians to look for indications of hereditary syphilis in examining patients with affections of the cerebrospinal axis.

Annales de la Soc. Med.-Chir. de Liege, October.

The Resources of Surgery in Uro-Genital Tuberculosis.

A. HOOGE.—The indication for surgical intervention in case of abscess, fistula or fungus is formal and accepted by all. But there are differences of opinion in regard to the initial stages, especially of epididymo-testicular tuberculosis. Roux, Quénu and others advocate operating in the old chronic cases with one or more nodules, and still more urgently, in the fibrous or fibro-caseous chronic varieties, but the majority of surgeons abstain in these conditions. The results of 19 operations for tuberculosis of the prostate and of 30 for tuberculosis of the seminal vesicles are tabulated. They seem to indicate that success is more certain the more thorough the operation. The immediate results were always good. In the 19 operations on the prostate the organ was removed in 6, and patients regained their former strength in three or four instances. One of the others died in less than two years, from renal tuberculosis, and the other in four months. In this case the prostate was found completely necrosed. In all the other cases the cure was complete or partial, with no deaths reported to date. In the 30 cases of tuberculosis of the seminal vesicles operated on, the immediate results were good in all but one case, reported by P. R. Weir, in which the irritable bladder persisted. Three deaths have occurred, including two from pulmonary tuberculosis and one four years after the operation. The patients who have been seen since are in good health. Hooge concludes the list with a recent case of his own, in which marked improvement followed the operation, although the patient was in advanced pulmonary tuberculosis. The pain and retention were completely cured and the general health improved. A perineal fistula persisted in nearly all the operations reported. The favorable results of total extirpation of the prostate should encourage further intervention in this line. The lungs were affected in one-third of the cases investigated and published to date.

Bull. de la Soc. Med. des Hop. de Paris, December 6, 13 and 20.

Intoxication from Hydatid Cyst. H. DUFOUR.—An operation was refused by the patient even after the diagnosis of a hepato-pulmonary hydatid cyst had been made and 1500 gm. of fluid had been aspirated. Dyspnea preceded and continued after the puncture: urticaria appeared three days before and again two days afterward. There was also fever, but no indication of suppuration nor leucocytosis. The post-mortem examination disclosed congestion and a few nodular bunches with giant cells in the vicinity in one lung, but no evidence of the presence of the Koch bacillus. Dufour attributes all these symptoms and lesions to intoxication from the cyst and suggests the possibility of anti-hydatid serum therapy. It might sustain the patient and enable him to benefit by repeated punctures or laparotomy without succumbing to the general intoxication or toxic peritonitis so frequently noted in these cases. Linossier, in the succeeding

number, reported that the fluid from a quadruple hydatid cyst of the liver, injected into rabbits and guinea-pigs showed no toxic power even at the dose of 200 c.c. per kilogram. The urine, however, killed rabbits in a dose of 35.8 c.c. per kilogram.

December 13.

Pleuritic Effusion in Myelogenic Leukemia. A. SICARD.—Widal classifies pleurisy as tuberculous, mechanical and acute. Sicard describes a case of typical myelogenic leukemia in which a left pleuritis effusion was characterized by desquamated endothelial cells, usually clumped. The hypertrophy of the mediastinal ganglia and of the spleen confirmed the assumption that it was a purely mechanical effusion in this case.

December 20.

Lymphadenoma With Polynucleosis. VAQUEZ.—The post-mortem findings suggested an infectious polynucleosis, possibly secondary to the lymphadenic affection. The polynucleosis should take its place between aleukemic and leukemic lymphadenoma, and is possibly a transitional process liable to terminate in true myelogenic leukemia. The patient was a woman of 30 with multiple adenomata which had been developing for thirteen months. The blood showed 3,456,000 reds to 570,000 whites when first seen, and 87 polynuclear to 13 mononuclear cells. Later there were 2,520,000 reds to 300,000 whites. Arsenic and all treatment proved ineffectual, including Metchnikoff's new leucolytic serum. A cough resembling that of pertussis was accompanied by sputa which contained almost exclusively neutrophile polynuclear leucocytes, as also the urine and pleuritic fluid.

Nord Medical (Lille), December 15.

Sign of Incipient Arteriosclerosis. H. CURY.—The sign referred to was described in *THE JOURNAL* of July 21, 1900, p. 196. It was first pointed out by Friedmann, and consists in the lowering of the maximum of the sound of the aorta auscultated from the rear. Cury confirmed the value of the sign and considers it pathognomonic of arteriosclerosis long before it can be detected by any other measure. He found it constant in 89 advanced cases, and in a large number of apparently normal persons between 38 and 45 he observed the sign in six. Two of the six have been examined since and pronounced arteriosclerosis has been found. He found no traces of the sign in a number of persons with other pathologic conditions. The cause is probably the modification in the shape of the arch of the aorta in the incipient stages of the affection.

Beer Yeast in Diabetes. P. CATTART.—The writer prepared a dried preparation of yeast which was administered to four diabetics. One was a woman of 65, an old diabetic, with poor digestion, suppuration on both legs and commencing gangrene of one toe. She voided about 2250 c.c. of urine, containing on an average 101 gm. of sugar, in the twenty-four hours. After the yeast was administered the sugar dropped to 22 gm. in a week and disappeared two weeks later, with 1400 c.c. urine a day. The gangrene was arrested and the lesions on the legs healed over completely. The yeast was suspended for six weeks, when the lesions reappeared, but vanished again in two weeks after resumption of the yeast treatment. In another case a woman of 57 voided about 2 liters of urine a day, containing 80 gm. of sugar, but no albumin. The sugar disappeared after two weeks of yeast treatment, and did not reappear during the four following months. Another case was in an advanced stage, with deep gangrene of the toes; the sugar diminished from 54 to 17 gm. a day, but the gangrene progressed and the patient died. The fourth case is described in detail. The sugar diminished from 100 gm. to 4 gm. in four months of the yeast treatment and albumin increased from 5 to 14 gm. at the same time. The increase in the albumin may have been a mere coincidence, or possibly may have been due to the larger amount of nitrogen in yeast.

Revue Hebd. de Laryngologie, Etc. (Bordeaux), December 8.

Persistent Nasal Hemorrhage. COMPAIRE.—The writer has seen several cases of persistent nasal hemorrhage, always from the same nostril, without appreciable cause, and resisting all the usual measures. In a typical case, when the patient

was first seen the hemorrhage had been arrested by tampons, but the writer insisted on their removal, to the horror of the anemic patient. He then examined the nose carefully, after introducing a little cocaine, and found, as he expected, that the hemorrhage was due solely to a rupture in the internal branch of the sphenopalatine, which presented a varicose aspect for a short distance. The ruptured portion and the varicose region were cauterized with the iron heated dark red and held on the spot till cooled, so as not to detach the eschar. A small tampon, moistened with 5 per cent. zinc chlorid solution, was then applied and removed later by intranasal antiseptic irrigations. If success is not complete the treatment must be repeated until the desired result is attained.

Semaine Medicale (Paris), January 2.

Preventive Medical Treatment of Biliary Lithiasis. A. CHAUFFARD.—It is Chauffard's opinion that systematic prophylactic measures will prevent recurring attacks of lithiasis and transform the disease into a latent stage equivalent to a cure. Surgical treatment is necessary only because the patients have been seen too late by physicians or have been inadequately treated. The aim should be to diminish the reflex excitability of the gall-bladder, modify its anatomical conditions and arrest or prevent the evolution of the calculous cholecystitis on the one hand, and on the other, to increase the flow of bile, rendering it more fluid and more abundant, keeping it aseptic, and to check the development of the calculi or dissolve them. These indications are met by a combination of sodium salicylate and benzoate and a compound of balsamic and resinous substances with general hygienic measures. The salicylate is given in doses of 1 to 2 gm. a day, combined with an equal amount of the benzoate, taken in two to four cachets before eating, occasionally supplemented by 1 to 2 gm. of Carlsbad salts. This treatment should be continued for ten to twenty days every month for several months or more than a year. Only by this perseverance can the desired results be attained. Every eight or ten days he orders one or two capsules of the compound which he has found extremely useful. The benzoate enhances the effect of the salicylate, while free from some of the inconveniences of the latter. The case is described in detail of a man of 45, so exhausted by seventy-four attacks of biliary colic within three years that he demanded operation. He had lost forty pounds in weight. Chauffard instituted his medical treatment as outlined above, twenty days a month at first and then ten days. The patient has not had an attack during the two years since the treatment was commenced and was able to take a long railroad journey within twenty days. The patient in another case was 80 years old and has been restored to normal health by this treatment with no attacks during the two years since.

Centralblatt f. Chirurgie (Leipzig), December 29.

Stenosis of the Larynx and Trachea Cured by a Thiersch Flap. H. ALARY.—This is the first case on record of complete cure of an impermeable stenosis of the larynx by excision of the cicatrix and implantation of a Thiersch flap. It was taken from the inner side of the thigh and applied through a slit in the larynx and trachea, after extirpation of the constricting cicatrix, which left a circular defect exposing the cricoid cartilage and the first ring of the trachea. The flap reversed outside, was placed on a roll of gauze, which was fastened in place, temporarily closing the larynx and the trachea at the spot. In eight days the larynx was turned back and the gauze removed. The skin flap was found in place completely healed. The wound was finally closed, after inserting a tube. The tenth day after the operation the patient, a 4-year-old boy, was able to breathe for an hour without the canula, which was then replaced and removed again daily, until its use could be gradually abandoned. Nine months later the cure was complete, the fistula had healed, the voice was powerful and distinct, although rather harsh. The recovery was smooth, but breathing was hampered a little at first by an inflammatory swelling of the false vocal chords. The stenosis followed diphtheria, and in spite of intermittent intubation, tracheotomy and several months of repeated dilatations, the child could breathe naturally only for a few moments after each treat-

ment. Herczel has recently reported a flap operation of the kind, but his patient still has times of suffocation. Lénart has also applied a flap to prevent stricture after extirpation of a papilloma. The procedure is applicable only when the cartilaginous framework is still intact or but little compromised.

Muenchener Med. Wochenschrift, December 4.

The Internal Friction-Resistance of the Living Blood in Man. C. HIRSCH AND C. BECK.—By the apparatus shown in the cut, the writers of this communication have succeeded in determining the rapidity of the blood-current in more than a hundred different persons. This is the first application to man of the tests that have been made on animals or with defibrinated human blood, which are necessarily imperfect as the blood is not a simple solution but a fluid tissue. In the tests reported it was found that the rapidity of the circulation in the capillaries did not vary .2 of a second in the same subject in repeated investigations, but it varied in different individuals in diverse pathologic conditions, from 26 to 82 seconds. The apparatus may be applied at the bedside. It is constructed on the principle of Ostwald's, the tube B filled with calcium chlorid, the open manometer D with colored benzol. The thermostat is kept at a temperature of 38 C. and the manometer corresponds to a pressure of 400 mm. water, equivalent to 452 benzol, specific gravity .88. The tube is unjoined

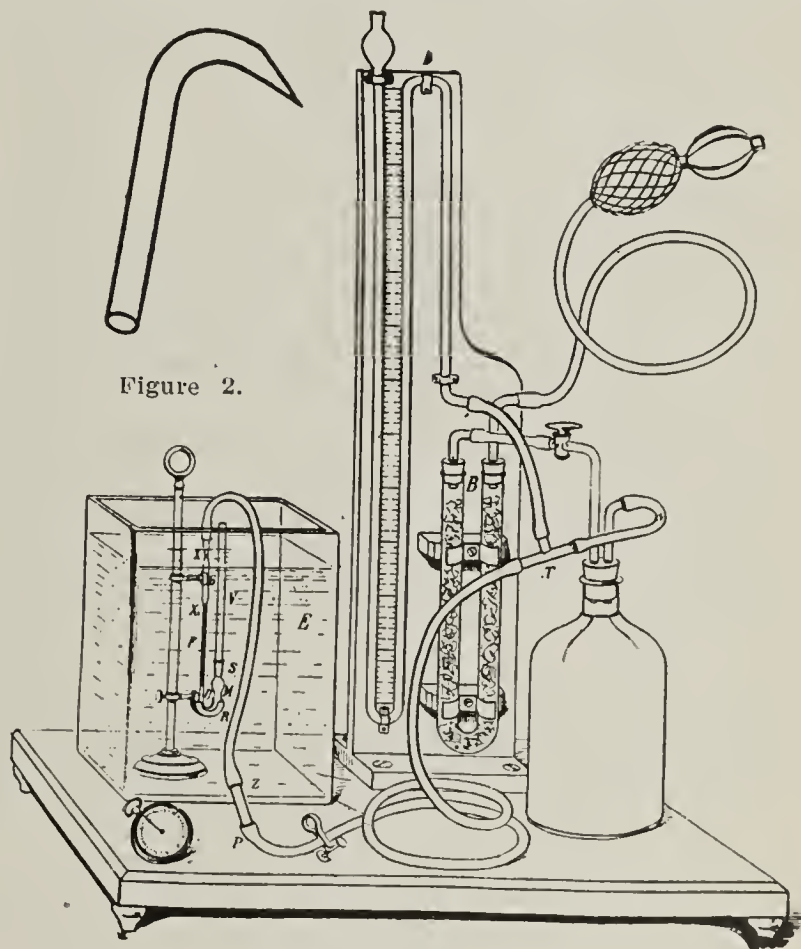


Figure 1.

at P. and the manometer closed with the stopcock. The tube, shown in left corner, natural size, is inserted in a vein in the forearm and .5 c.c. of blood are drawn, the amount necessary to fill the enlarged section of the tube G. The tube V is then replaced and the measuring apparatus put back in the thermostat. The time required for the blood to recede from X to X₁ is noted, and then the blood is aspirated again and again, thus allowing two to six measurements of the same sample of blood. The results obtained coincide with those recently reported by Huerthle in tests on living animals (*Pflueger's Arch.* lxxxii, 9 and 10), and also confirm Poiseuille's laws. The writers are now studying with the apparatus the relations between the internal friction and the specific gravity of the blood, the difference between arterial and venous, unaltered and defibrinated blood, the alterations of the viscosity in nephritic blood and the influence of albuminoid bodies on the viscosity of the blood.

Deutsche Med. Wochenschrift (Leipzig), December 20 and 27.

Value of Vegetable Albumin in Food. A. LOEWY.—Tests conducted by the writer at the Berlin Agricultural Insti-

tute resulted in establishing that vegetable albumin is utilized by the organism the same as animal albumin, and can substitute it perfectly in equal amounts. The amount of uric acid eliminated is much diminished, probably owing to the lesser quantity of nuclein in the vegetable albumin. This fact renders the latter especially advantageous in affections of the kidneys, gout, etc.

Bacteriuria in Typhoid Fever. F. NEUFELD.—In three out of twelve cases of typhoid fever examined at the Berlin Institute for Infectious Diseases the urine suddenly became turbid and was found full of typhoid bacilli. Study of these cases and of the literature shows that this bacteriuria occurs during convalescence, and may recur for months afterward. The turbidity of the urine gives ample warning and the bacteriuria is promptly cured with urotropin with no ill effects. The importance of these statements for the prophylaxis of typhoid fever, especially in the army, is evident, as bacteriuria caused by the bacterium coli is not affected by the urotropin.

Esophagoscopy for Removal of Rubber Tooth Plate. G. KILLIAN.—Skiagraphs failed to show the tooth plate which the patient said she had swallowed, but Killian succeeded in locating it by esophagoscopy and removing it by burning it through in two places with the galvanocautery and taking out each of the three fragments separately. The esophagoscope tube was 13 mm. in diameter and 42 cm. long, while the length of the copper tube for the cautery loops was 54 cm. The plate was made to hold a single tooth and the rubber burnt through easily, not requiring much heat.

December 27.

New Research in Experimental Tetanus. L. ZUPNIK.—Experimental tetanus has differed from spontaneous tetanus in man by the fact that in the former the wounded extremity is first involved and that the tetanus gradually spreads from there as from a center. In man, on the other hand, the trismus is liable to be almost the first symptom. Zupnik's researches have demonstrated that this difference is due to the location of the primary infection and to the involvement or non-involvement of muscle. Injecting tetanus spores or toxins into the dorsum of the foot, the tail or the hock of an animal, caused a descending tetanus exactly the same as in man, while the same substance injected into the thigh or the inguinal region and thus brought into contact with a powerful muscle constantly induced a typical ascending tetanus. In the former case the animal would bear twice the dose that would be fatal if injected in the thigh or inguinal region, and the incubation was very much longer, but when the symptoms appeared they were more intense. It will be an interesting question to decide whether the minimal amount of protecting serum is the same in both cases. This research shows that the location of the infecting wound has an influence on the amount of tetanus toxin elaborated; also that the intensity of the tetanus corresponds to the length of time during which the bacilli were able to develop in the wound unhindered. Thus Zupnik found he could vary the intensity of the tetanus at will with the same material and the same kind of animal. Pohl has suggested that the remarkably long period of incubation in tetanus may be due to a chemical transformation of the toxin by some tissue, which has to occur before it becomes really toxic. It is possible that the muscles are the tissue involved in this task. They evidently play a very prominent part in the pathogenesis of tetanus. The animals found most susceptible were in descending order, monkeys, marmots, squirrels, guinea-pigs, mice, rats, dogs, cats and rabbits.

Influence of the Prostatic Secretion on Spermatozoa. H. LOHNSTEIN.—In 542 tests of the prostatic secretion on 80 patients the reaction was acid 404 times, or 76 per cent.; neutral, 30 times, or 5 per cent., and alkaline in 108, or 20 per cent. In only 5 of the 80 patients was the secretion found constantly acid. Further investigation demonstrated that the presence of pus had no appreciable influence on the acidity, nor did the reaction of the prostatic secretion modify the vitality of the spermatozoa. Retained testicular secretion seems to stimulate the secretory activity of the prostate.

Heat-Stroke. M. HERFORD.—During the unusual heat of last summer, Herford had occasion to observe four cases of sun-stroke which differed from the ordinary type in their protracted course and in the disturbances in speech noted in two, one of which has persisted to date with pronounced ataxia. In one case that came to autopsy numerous small hemorrhages were noted in various organs, in the alimentary canal, liver and endocardium, similar to the hemorrhages observed in animals exposed to severe heat. In the cases described, the symptoms indicated hemorrhages of this nature in the medulla oblongata, causing the disturbances in speech and the ataxia, resembling the "acute ataxias" observed after some infectious diseases and certain intoxications.

Physical Methods in Treatment of Croupous Pneumonia. A. TAGESSON-MOELLER.—The benefits of intercostal frictions, side vibrations, abdominal massage and other physical measures in the treatment of croupous pneumonia have been recognized for years by Swedish physicians. This writer tabulates the state of pulse and temperature, breathing, etc., before and after these measures and the rapid hastening of the crisis or aborting of the disease which they induce.

Wiener Klinische Rundschau, December 23.

Therapeutic Importance of Hot-Air Douche. J. MARCUSE.—All the inconveniences of the usual methods of applying superheated air for local treatment are obviated by Frey's hot-air douche, which Marcuse endorses as the most effective means of treating and curing rheumatic, gouty and neuralgic affections. The simple apparatus consists of a small electromotor, with turbine bellows, the heating substance, tubes for hot and cold air and a rheostat. A stream of hot air at 100 to 200 C. issues from a mouthpiece 2.5 cm. in diameter with such force that it is still a powerful jet at a distance of 125 cm.

Magnesium Suture Material. CHLUMSKY.—Magnesium is the ideal absorbable material for sutures, but it is difficult to tie. This can be obviated by using it in the form of a thin, narrow ribbon instead of a wire. Chlumsky also describes a double screw made of magnesium, which he has found very serviceable in fastening together the ends of a fractured bone.

Comparative Experimental Study of Immobilization and Massage in Fractures. B. ROSSI.—Experimental research on sixty-six rabbits showed that the callus formed much more rapidly when the fracture was treated with massage than with immobilization. A provisory callus was evident by the fourth day with massage and by the eighth its consistency and stability rendered any support superfluous. With immobilization this effect was not attained until the twelfth or fourteenth day. Function was completely restored by the fourteenth day with massage, but not till the thirtieth with immobilization, and the microscope showed the callus completely ossified on the twelfth day with the former treatment, but not until the twentieth, with immobilization.

Annali Della Accademia Med. Chir. di Perugia, xi, 3.

Histologic Study of Cured Gynecologic Cases. E. DE PAOLI.—Eighty cases are studied and reported in detail. They demonstrate that congenital malformations of the uterus, especially bicornuate uterus, frequently cause abortions and by profound alterations in the structure of the uterine substance result in an exceptional fragility of the organ and liability to uncontrollable hemorrhage, which may require hysterectomy. Congenital atresia of the vagina may accompany atrophy of the uterus, and although the former may be cured, sterility persists, owing to the infantile condition of the genital organs. In most cases conservative operations for parametritis and salpingitis require secondary operations. Periuterine hematocoele frequently causes progressive, repeated hemorrhages with no tendency to spontaneous resolution. Hysterectomy for cancer of the cervix is inevitably followed by recurrence of the disease, but in case of malignant neoplasms of the endometrium, has better chances of success. Neoplasms of the endometrium may originate in the mucosa of the Fallopian tubes, in which case they present the structure of a papilloma resembling an adenocarcinoma. Decidual sarcoma presents a great variety in structure, corresponding to

differences in the clinical course. Inflammatory processes in the uterus rebellious to ordinary methods of cure require hysterectomy in certain cases. It may be regarded as a prophylactic measure against cancer, especially in cases of chronic erosion, rebellious ulceration or hemorrhagic endometritis in women near the menopause. Cysts of the round ligament sometimes have no connection with Nuck's peritoneal diverticulum, but originate from the inclusion in the ligament of epithelial elements of the Wolffian bodies or of the ovary, which are in contact with it during the embryonal life. They should therefore be considered true cystadenomata of embryonal origin.

Semana Medica (Buenos Ayres), November 8.

Yellow Fever in the Rio Janeiro Hospitals. C. SEIDL.—

This communication by one of the editors of the *Brazil Médico* was read at the recent Brazil medical congress and tabulates the statistics of eight years, during which 19,990 yellow-fever patients were treated at the hospital, with 8742 deaths. The figures confirm the experience of others that the disease attacks preferably whites, the young and strong, foreigners and the male sex. Native Brazilians are seldom affected and the infection seems somewhat attenuated in them. The mortality is very low among sailors. They are sent to the hospital at the first indications of the disease, and receive proper treatment at once, while fully 10 per cent. of the townspeople are not brought in until moribund. The mortality is extremely high among the Italians, who become terrorized at the mere suspicion of yellow fever, and offer little resistance to the disease, 54.53 per cent. dying, while the mortality among North Americans is 38.33 per cent. and among native Brazilians, 30 per cent.

Revista Medica (Mexico), December 1.

Scorpion Sting. M. HERRERA.—

The application of a ligature is theoretically indicated to prevent the penetration of the venom from the bite into the general circulation, but Herrera has witnessed two cases in which gangrene ensued, requiring amputation of the arm or finger. Sweating follows the bite and is evidently Nature's means of eliminating the poison. This sweating should be promoted and the cutaneous circulation favored. Prompt revulsive action is advantageous, such as sinapisms, friction with ammonia or multiple dry cups, with pilocarpin or some other diaphoretic internally. The chief indication, as in tetanus, is to soothe the excitability of the spinal centers. Alcohol is directly contraindicated, but chloroform, chloral, bromid and antipyrin have each their indications, particularly chloral, which Herrera administers in the dose of .5 gm. at first, following with .1 gm. to .15 gm. every fifteen minutes in the case of a child and double this amount for an adult.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

A MANUAL OF MEDICINE. Edited by W. H. Allchin, M.D. Lond., F.R.C.P., F.R.S. Ed., Senior Physician and Lecturer on Clinical Medicine, Westminster Hospital. Vol. II. General Diseases—Continued. Diseases Caused by Parasites, Diseases Determined by Poisons Introduced into the Body, Primary Perversions of General Nutrition, Diseases of the Blood. Cloth. Pp. 380. Price, \$2.00. New York: The MacMillan Co. 1901.

A TEXT-BOOK OF PHARMACOLOGY AND THERAPEUTICS, Or the Action of Drugs in Health and Disease. By Arthur R. Cushny, M.A., M.D. Aberd., Professor of Materia Medica and Therapeutics in the University of Michigan. Second Edition, Revised and Enlarged. Illustrated with 47 Engravings. Cloth. Pp. 732. Price, \$3.75. Philadelphia and New York: Lea Brothers & Co. 1901.

A TEXT-BOOK ON PRACTICAL OBSTETRICS. By Egbert H. Grandin, M.D., Gynecologist to the Columbus Hospital. With the Collaboration of George W. Jarman, M.D., Gynecologist to the Cancer Hospital, Instructor in Gynecology in the Medical Department of the Columbia University. Third Edition, Revised and Enlarged. Illustrated with 52 Full-page Photographic Plates and 105 Illustrations in Text. Cloth. Pp. 511. Price, \$4.00 net. Philadelphia, New York, Chicago: F. A. Davis Co. 1900.

THE USE OF THE ROENTGEN RAY, by the Medical Department of the United States Army in the War with Spain. (1898.) Prepared under the Direction of Surgeon-General George M. Sternberg, United States Army, by W. C. Borden, Captain and Assistant Surgeon, U. S. Army. Cloth. Pp. 98. Washington: Government Printing Office. 1900.

ON SOME CIRRHOSIS OF THE LIVER, Being the Lumleian Lectures for the Year 1900. Delivered before the Royal College of Physicians, London. By Walter Butler Cheadle, M.A., M.D. Cantab., Fellow of the College. With Illustrations. Cloth. Pp. 109. Price, \$2.00. London: Smith, Elder & Co. 1900.

DISEASES OF THE HEART: Their Diagnosis and Treatment. By Albert Abrams, A.M., M.D. (Heidelberg), F.R.M.S., Consulting Physician for Diseases of the Chest, Mt. Zion Hospital, and the French Hospital, San Francisco. Cloth. Pp. 170. Price, \$1.00 net. Chicago: G. P. Engelhard & Co. 1900.

URINARY DIAGNOSIS AND TREATMENT. By John W. Walnwright, M.D., Member of the AMERICAN MEDICAL ASSOCIATION. Cloth. Pp. 140. Price, \$1.00 net. Chicago: G. P. Engelhard & Co. 1900.

A CLINICAL TREATISE ON FRACTURES. By William Barton Hopkins, M.D., Surgeon to the Pennsylvania Hospital. Cloth. Pp. 268. Price, \$4.00. J. B. Lippincott Co. 1900.

TRANSACTIONS OF THE AMERICAN ORTHOPEDIC ASSOCIATION. Fourteenth Session, held at Washington, D. C., May 1, 2 and 3, 1900. Vol. XIII. Cloth. Pp. 335. Philadelphia: Published by the Association. 1900.

SANITY OF MIND: A Study of Its Conditions and of the Means of Its Development and Preservation. By David F. Lincoln, M.D. Cloth. Pp. 177. Price, \$1.25. New York and London: G. P. Putnam's Sons. 1900.

ANNUAL REPORT OF THE WATER COMMISSIONERS OF THE CITY OF MIDDLETOWN, N. Y., 1900. Paper. Pp. 48. Middletown, N. Y.: L. S. & J. D. Stivers. 1900.

REPORT ON THE SOURCE OF WATER-SUPPLY FOR THE CITY OF MIDDLETOWN, N. Y. By William R. Hill, M. Am. Soc. C. E. Paper. Pp. 7.

CONSTITUTION, BY-LAWS AND FEE BILL OF THE LINN COUNTY MEDICAL ASSOCIATION. Organized April 19, 1898. Paper. Pp. 8.

PROCEEDINGS OF THE PHILADELPHIA COUNTY MEDICAL SOCIETY During December, 1900. Paper. Philadelphia: Published by the Society.

Change of Address.

R. Broughton, Dwight, to Riverside, Ill.
W. W. Bennett, Meadow Creek, W. Va., to Ashland, Va.
G. P. Bearman, Bowbells, to York, N. D.
C. E. Barber, 74 Capitol Ave., to 114 Jackson St., Atlanta, Ga.
Cora White-Carpenter, 579 W. Adams St., to 167 S. Sangamon St., Chicago.
Jno. Clear, 434 Atkin St., to 107 W. Park Ave., Knoxville, Tenn.
John Evers, Chicago, to Hinsdale, Ill.
J. W. Forshey, 416 E. Rich St., to 328 E. Towne St., Columbus, Ohio.
J. H. Flynn, Ballinger Bldg., to 2406 S. 6th St., St. Joseph, Mo.
C. H. Gurney, Sewanee, to Eagleville, Tenn.
Geo. Galloway, 850 W. Harrison to 574 W. Congress St., Chicago.
G. M. Henbest, 343 Ogden Ave., to 732 Jackson Boul., Chicago.
R. R. Hogue, Sparta, Wis., to Fort Dodge, Iowa.
W. E. Hoxie, Belmont, to Hampton, Iowa.
S. F. Hodge, 213 Woodlawn Ave., to 684 Trumbull Ave., Detroit, Mich.
F. L. McKee, Search Light, Nev., to Box 1035, Plymouth, Pa.
Alex. Moulder, 1100 Cherry St., to 512 E. 10th St., Kansas City, Mo.
C. A. O'Quinn, 312 McIntosh St., to 543 Broad St., Augusta, Ga.
G. T. Palmer, 2604 Indiana Ave., to 2961 Groveland Ave., Chicago.
J. H. Peeler, Griffith, to Woodside, N. C.
B. J. Read, Blackwell's Island, N. Y., to Bedford Springs, Va.
J. A. Simpson, Oneida, to Citizens' Bank Bldg., Chattanooga, Tenn.
D. E. Stephan, 12 W. Church St., to 24½ W. Main St., Newark, Ohio.
H. H. Shelton, Gilboa, to Zela, W. Va.
E. E. Martin, 4935 Indiana Ave., to 80 Institute Pl., Chicago.
J. W. Shanks, 456 S. Wood St., to 229 Honore St., Chicago.
G. Wood, 143 E. 35th St., to 4410 Berkely Ave., Chicago.
Drs. Woodman & Harris, 12009 Butler St., Chicago, to 11933 Stewart Ave., West Pullman, Ill.

The Public Service.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ended Jan. 12, 1901:

Surgeon F. Anderson, ordered home and to wait orders when recruiting duty is completed.

Surgeon C. H. T. Lowndes, detached from the Naval Academy, Jan. 14, and ordered to the *Lancaster*.

Surgeon O. Diehl, detached from the *Lancaster* and ordered home to wait orders.

P. A. Surgeon B. R. Ward, detached from the Naval Hospital, Mare Island, Cal., Jan. 17, and ordered to navy yard, Boston.

Asst.-Surgeon J. B. Dennis, ordered to the Naval Academy, Jan. 14.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended Jan. 10, 1901:

Surgeon Eugene Wasdin, granted leave of absence for fifteen days from Jan. 14.

P. A. Surgeon C. P. Wertenbaker, to proceed to Fontainebleau, Miss., for special temporary duty.

P. A. Surgeon W. G. Stimpson, to proceed to Cripple Creek, Col., for special temporary duty.

P. A. Surgeon J. A. Nydegger, to proceed to Chicago, and report to medical officer in command for duty and assignment to quarters.

Asst.-Surgeon C. E. Decker, granted seven days' extension of sick leave from Jan. 4.

Asst.-Surgeon J. F. Anderson, having been assigned to duty in

the Immigration Service at Liverpool, England, relieved from duty in U. S. Consulate at that port.

A. A. Surgeon W. S. Walkley, granted leave of absence for three days.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Jan. 3 to 9, 1901, inclusive:

Ira A. Allen, acting asst.-surgeon, from San Francisco, Cal., to temporary duty at the army and navy general hospital, Hot Springs, Ark.

Harry D. Belt, acting asst.-surgeon, from New York City, to Manila, P. I., on the transport *Wright*, for assignment in the Division of the Philippines.

Henry C. Bierbower, acting asst.-surgeon, from St. Edward, Neb., to San Francisco, Cal., en route for assignment in the Philippines.

Weston P. Chamberlain, lieutenant and asst.-surgeon U. S. A., from San Francisco, Cal., to duty at Fort Adams, R. I.

Timothy F. Goulding, acting asst.-surgeon, former orders revoked: he is ordered from Boston, Mass., to New York City, to take passage on the transport *Wright*, to Manila, P. I.

Deane C. Howard, captain and asst.-surgeon, U. S. A., from Fort Hancock, N. J., to San Francisco, Cal., for transportation to Manila, P. I., and assignment to duty in the Division of the Philippines.

Thomas W. Jackson, acting asst.-surgeon, leave of absence extended.

Charles E. MacDonald, acting asst.-surgeon, from Fort Yates, N. D., to San Francisco, Cal., en route to the Division of the Philippines.

Arthur W. McArthur, acting asst.-surgeon, from Chillicothe, Mo., to Fort Yates, N. D., for post duty.

James E. Mead, acting asst.-surgeon, from Detroit, Mich., to San Francisco, Cal., en route to the Philippines.

Irving W. Rand, captain and asst.-surgeon U. S. A., from the Philippine Islands to duty as post surgeon, Fort Hancock, N. J.

Frederick P. Reynolds, major and surgeon, Vols., sick leave of absence from the Division of the Philippines extended.

Frederick W. Richardson, acting asst.-surgeon from St. Paul, Minn., to San Francisco, Cal., en route to the Philippine Islands.

Major A. W. Shockley, lieutenant and asst.-surgeon, U. S. A., leave of absence extended.

Frank E. Thompson, acting asst.-surgeon, from Cleveland, Ohio, to New York City, en route to Manila, P. I., on the transport *Wright*.

Henry A. Webber, lieutenant and asst.-surgeon, U. S. A., relieved from duty in the Department of Cuba, to New York City, for duty as acting quartermaster and acting commissary of subsistence on the transport *Wright* and subsequent assignment in the Division of the Philippines.

Archibald M. Wilkins, acting asst.-surgeon, from Delta, Ohio, to New York City, for transportation to Manila, P. I., on the *Wright*.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon General, U. S. Marine-Hospital Service, during the week ended Jan. 11, 1901:

SMALLPOX—UNITED STATES.

Alabama: Dec. 31, Girard, reported present; Phoenix, reported present.

District of Columbia: Washington, Dec. 29-Jan. 5, 6 cases.

Florida: Dec. 29-Jan. 5, Jacksonville, 1 case; West Tampa, 2 cases.

Georgia: Columbus, Dec. 31, reported present.

Kansas: Wichita, Dec. 29-Jan. 5, 12 cases.

Kentucky: Lexington, Dec. 29-Jan. 7, 2 cases.

Louisiana: Shreveport, Jan. 2, 2 cases.

Maryland: Baltimore, Dec. 29-Jan. 5, 1 case.

Minnesota: Minneapolis, Dec. 22-29, 3 cases.

Nebraska: Omaha, Dec. 22-29, 6 cases.

New Hampshire: Manchester, Dec. 29-Jan. 5, 18 cases.

New York: New York, Dec. 29-Jan. 5, 13 cases.

North Carolina: Caswell County, Dec. 1-31, 77 cases.

Ohio: Ashtabula, Dec. 29-Jan. 5, 1 case; Cincinnati, Jan. 4, 1 case; Cleveland, Dec. 29-Jan. 5, 39 cases, 1 death; Portsmouth Jan. 5, 3 cases.

Pennsylvania: Allegheny City, Jan. 7, 1 case; Pittsburg, Dec. 29-Jan. 5, 11 cases.

South Carolina: Greenville, Dec. 29, 1 case.

Tennessee: Memphis, Dec. 29-Jan. 5, 2 cases.

Utah: Salt Lake City, Dec. 29-Jan. 5, 34 cases.

Washington: Tacoma, Dec. 29, 1 case.

SMALLPOX—FOREIGN.

Austria: Prague, Dec. 8-15, 22 cases.

British Columbia: Nanaimo, Dec. 15-21, 5 cases; Vancouver, Dec. 1-31, 2 cases.

England: London, Dec. 15-22, 1 case; West Hartlepool, Dec. 9-15, 1 case.

France: Paris, Dec. 15-22, 8 deaths.

India: Bombay, Nov. 21-Dec. 4, 1 death; Calcutta, Nov. 24-Dec. 1, 7 deaths; Madras, Nov. 23-30, 1 death.

Russia: Moscow, Dec. 29-Jan. 5, 6 cases, 1 death; Odessa, Dec. 8-15, 41 cases, 10 deaths.

Scotland: Glasgow, Dec. 15-22, 72 cases, 1 death.

Uruguay: Montevideo, Dec. 1, 1 case.

YELLOW FEVER.

Colombia: Cartagena, Dec. 17, 1 death.

Cuba: Cienfuegos, Jan. 8, 1 death; Matanzas, Jan. 3, 1 death.

Mexico: Vera Cruz, Dec. 22-29, 5 deaths.

CHOLERA.

India: Bombay, Dec. 4, 10 deaths; Calcutta, Dec. 1, 33 deaths; Madras, Nov. 30, 3 deaths.

Straits Settlements: Singapore, Nov. 17-24, 64 deaths.

PLAGUE.

China: Hongkong, Nov. 25, 1 death.

India: Bombay, Dec. 4, 70 deaths; Calcutta, Dec. 1, 23 deaths.

Japan: Osaka, Dec. 4-13, 3 cases; Wakayama Ken, Dec. 4-13, 5 cases; Ynasa, Dec. 4-13, plague reported.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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Original Articles.

MENTAL SYMPTOMS OF CEREBRAL SYPHILIS.*

JAMES H. McBRIDE, M.D.

LOS ANGELES, CAL.

Syphilis may be the cause, either immediate or remote, of every form of disease of the nervous system, from neurasthenic conditions to coarse brain disease, or insanity. The reference to cases that follow will relate chiefly to conditions of mental disorder.

Insanity due to syphilis has, in many cases, characteristics which though not easy to describe, are indicative of a specific origin. There is however a small proportion of syphilitic insanity that is represented by the usual forms of mental disorder. It is quite correct to say, therefore, that syphilitic insanity may mimic every known form of mental derangement, simulating acute mania, ordinary melancholia, terminal dementia or resembling so closely parietic dementia that experts may differ in their diagnosis.

There is nothing characteristic in the mania of syphilis while the maniacal stage lasts, and the same statement applies to forms of depression due to syphilis. The history of the entire course of the attack is, however, often suggestive of a specific origin. The mania of syphilis is, in my experience, apt to be of rather brief duration and followed by mental confusion or mental weakness with intervals of quiet and semi-lucidity, showing the usual irregularity of syphilitic brain affections. The same is true of syphilitic melancholia, as there is the same irregularity, brief depression with much confusion, outbursts of excitement, periods of stupor and early dementia.

While, therefore, these forms of syphilitic mental disorder may, for a brief time be quite like ordinary forms of insanity, there are few cases that will, if their entire history be considered, fail to present the irregular features mentioned, and which may often be regarded as circumstantial evidence of a specific origin.

In the majority of the cases of brain syphilis the mental symptoms are largely negative. There is a loss of mental power; of self control; of the self-regarding virtues; of moral sense, and a general lowering of the individual mentality. The memory is much impaired, only the simplest kind of reasoning is possible; the emotions are imperfectly controlled; there is a state of dullness and indifference, occasionally broken by an outburst of causeless anger, or a fit of crying, or an hour of depression with a quick return to the prevailing state of mental apathy; these are prominent characteristics of the more common form of cerebral syphilis in

which mental symptoms are conspicuous. That the early symptoms of cerebral syphilis are often irregular and obscure the following case illustrates:

A groceryman, age 32, had a primary sore at 22. Five years later developed what he calls "blind spells," which still recur. Once or twice each month, usually while working hard, he suddenly becomes blind and a little confused. He sits down for a few moments when the attack passes off, and he resumes work. In January last he became confused during the afternoon and spent the greater part of the night wandering in the streets. For a month he continued to work; he recognized people readily, but could not call their names nor add a column of three figures; would give the wrong price to customers on common articles, enter still another price on the books or forget to make the entry; would ask the same question and give the same order several times. Every evening, for two months after this, he had attacks lasting ten minutes, during which he would stare wildly and talk more or less incoherently about becoming insane. These attacks ceased and he has steadily gained. He now attends to business, but is easily tired and confused and says that he lacks his former self-confidence.

The following two cases illustrate this form of syphilitic mental disorder, the form shown in mental weakness with quickly changing and incongruous delusions, with loss of memory and interests and more or less confusion of mind.

A man who had a primary sore and secondary syphilis at 31 came under my care when he was 41 for mild mental disorder that was clearly due to syphilis. His mental breakdown was probably hastened by occasional brief periods of drinking, a habit that is frequently a contributory cause of an irruption of brain symptoms in the specifically infected. He was in a state of quiet confusion, mistaking the identity of people, recognizing old friends in the physicians and attendants, who were strangers to him. He would say to-day he was in Europe, traveling for his health; to-morrow that he had been kidnapped by bandits, the next day that he was in prison for crimes he had committed, or in his own home, and yet he was quiet and contented, showing none of the interest of a traveler, the concern of a criminal in his fate, nor the anxiety of one who had been kidnapped. There was occasionally an hour when he was much depressed; at other times he would have brief periods of mental clearness, though the prevailing state was that of confusion and mental weakness, with occasional and rather indifferent reference to his delusions. During a period of six months he gradually improved and has now been entirely well for nine years.

This is the longest interval of health I have known to occur in such a case, and from my observation recoveries for such a period of time as nine years are rare. It is worth remarking here on a peculiarity of the insane syphilitic, which is the detachment of his life from his delusions. There is frequently, if not generally, an incongruity between the conduct of an insane person and his pretensions, yet this is so marked in the syphilitic insane as to have a diagnostic significance. Though the parietic does not see the inharmony between his grand schemes and his poverty and helplessness, he at least shows some earnestness and enthusiasm. The paranoiac is intense and vehement, and chafes under the indifference of his friends or the restraints of an asylum, and even the chronic delusional insane person takes pride in his fancies and sincerely believes in them.

* Presented to the Section on Nervous and Mental Diseases, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

The syphilitic insane person of the type we are now considering has a different attitude toward his delusions. He will speak of them day after day, rarely repeating in any two successive days the same delusions and may even have no recollection to-day of those he spoke of yesterday with great detail. The chief peculiarity, however, is that he seems to have little interest in his delusions; he speaks of them without feeling, interest, or enthusiasm; they do not excite his resentment for fancied wrongs; he speaks of supposed injuries done him as though he were a third person, and repeats his delusions with the mechanical and indifferent manner of one who is reciting something from memory.

This quiet monotonous reeling off of incongruous fancies that seem to correspond to no desire, that awaken no interest, that lead to no plans, nor take shape in action, that seem to come and go like the confused and hurried impressions of a dream, are distinguishing features of this form of syphilitic insanity. The break between the thinking process and the actualizing and realizing impulses must be serious, and of a kind that is special to this condition. There must be special lines of pathologic progress, undoing with the strict orderliness of growth the complications of cerebral structure, and which is shown in the confusion of the habitual thought processes, in the peculiar dissociations of reason.

Another case of this quiet, confusional form of syphilitic insanity was that of a woman whom I treated for two years, and who had been infected by her husband. Two years after infection she showed signs of mental failure, which at first was mild depression, but in a few months passed into a condition of weak-mindedness and indifference to her surroundings. During the eight years she has now been insane there has been little change in her mental condition. She is quiet, dull and apathetic, having no interest in what is going on; indeed much of the time apparently unconscious of her surroundings, being inactive and inert mentally and physically. At times she has several hours or a day of partial sanity; she will ask anxiously for her husband and children, and speak of her home and friends. Gradually her mind relapses into the habitual state, or this may take place after a day of melancholic depression. During her dull periods her speech is mumbling and indistinct; words are omitted or recalled with effort and proper names hardly at all. During the brighter periods she speaks naturally and correctly.

This quiet, apathetic, mildly varying condition, with long periods of confusion and dulness, occasional and sudden return of apparent sanity with depression or short attacks of hysteria and return to habitual mental state, furnishes an epitome of the mental symptoms of a very common type of syphilitic insanity.

Insanity may occur in the syphilitic very soon after the appearance of secondary symptoms. One has been reported in which a man became insane with characteristic mental symptoms within three months after infection. I knew a case to develop within six months. A business man under my care showed some moral perversion, extravagance, inability to apply mind, loss of interest in family and business, with decided loss of mental vigor and brief periods of depression, within six months after contracting syphilis. A few weeks later he became very stupid, had to be dressed, and at times fed. Under treatment he made a fair recovery and resumed business for some months, when without any apparent mental failure, he became shamelessly immoral, abandoned his family, and finally disappeared. Cases of this kind have more interest for the general

practitioner than some of the more severe and commoner forms of syphilitic insanity because such cases may not be committed to an asylum, but remain at large to cause the family and friends and the physician much annoyance.

The prospects of ultimate freedom from return of the disease are poor, and we should expect this to be so, for so highly organized a tissue having been injured by structural change, a tissue in which complete repair never takes place, it is hardly probable, indeed it is rarely possible, in the declining vigor of later life or in the strain of work in active life, that one should escape a return of the disease.

It is important that we appreciate the normal resistances of the body and know their limits as nearly as we can. A decayed tooth may set up a neuralgia that may continue as a habit after the removal of the tooth, because the resistances of the nerve center once weakened fail to regain the normal vigor. The doctor who has had much to do with those who have broken down from so-called overwork, that is, the worries, the anxieties, the excitements, disappointments, dissipations, irregularities of life, knows that these people rarely regain the vigor they once had and he knows, too, how difficult it is to keep them from relapsing into the morbid state. Heart-strain, neuralgias, headaches, affections of the stomach, neurasthenia, show the truth of this statement; that is, the peril of once breaking down the resistance of any part of the body. Half our work as physicians is in treating diseases that are the result of some part having been weakened from ill use and which ever after is an invalid organ, drawing a heavy pension from the system for its disability. It is true of syphilis in a special sense that it devitalizes the system, producing a vitiated tissue life that easily takes on disease and when it has once attacked the brain and thus made a positive break in its structure, it is pretty certain to return. The repairing power of the brain tissue proper is most imperfect, only functional diseases that testify to molecular change are ever repaired, so quickly does the brain take on abnormal habits and so easily does it drop to a lower level of function. The injuries done to nervous structure from syphilis are, too, not only unrepairable, but they are from their very nature, when they contain the specific poison, infection foci that multiply by many figures the chances of further disease.

It is one of the characteristics of syphilitic disease that its pathologic changes are in many if not most cases diffuse, variable and irregular, and the symptoms of syphilitic mental disorder correspond to this law, if it may be called a law. The same individual may present manifestations of wild excitement, melancholic depression and mental apathy and even stupor within a few weeks.

A man of 34, under my care suffering from syphilitic insanity, was usually quiet and slightly confused, and at such times expressed no clearly defined delusions. About once or twice a month he would be excited for three or four days, would keep walking rapidly from morning till night, preferring to walk in a circle on the lawn and carry an umbrella even on cloudy days. Said he was the Duke of Argyle, and that Queen Victoria had declared him her special favorite. He wrote letters to the queen, calling her his dearest love, and yet would make a proposal of marriage to one of his female servants if opportunity offered. He boasted of his intellectual capacity and physical prowess and was dictatorial and offensive in language. Later he would sud-

denly become very dull, denying his delusions and be for days too stupid to care for himself. He became very weak-minded, and finally died of hemiplegia, due to thrombosis. This was probably a case of arterial disease with starvation of the brain and slow degradation of its essential structure.

Another form of syphilitic insanity is one in which the patient is at first irritable, suspicious, and develops delusions of personal injury or persecution. He may believe others are trying to poison him or ruin his business and kidnap his family, and yet, as has been stated, there is decided mental apathy, a lack of any spirit of resentment or any thought of attempt at self-protection. Later the patient ceases to speak of his delusions, becomes weak-minded and contented and occupies himself with trivialities and simple routine work. A case of this kind was under my care for two years, and while very much enfeebled mentally, was taken home where, during an hour of depression, he drowned himself. Other cases will reverse the order of symptoms and show the quiet, easy-going demeanor of this man for some days or weeks and then suddenly become irritable and suspicious, and give expression to many delusions. Shortly there succeeds a mental dulness almost amounting to stupor and which continues for several days, from which the patient may temporarily pass into a condition of partial lucidity lasting only a few hours or a day before the return of the habitual mental state. Such cases illustrate and emphasize the statement that the symptoms of brain syphilis are variable, irregular and unpredictable in any given case. A young man of 30 who had contracted syphilis at 20 showed some mental depression and loss of memory and was taken to the hot springs. Soon after going there he became mildly melancholic. He was greatly emaciated, a very common thing in early syphilitic insanity, and at the same time showed mental confusion that was out of proportion to his depression; this being of itself suggestive of syphilitic origin. This condition continued for several weeks. He then gradually ceased to mention his ideas of sinfulness, etc., and showed symptoms of extreme dementia, was stupid and soiled himself, was fed by an attendant and for weeks was unable to walk from physical weakness and mental apathy. Afterward he came out of the state of stupor, became very irritable and suspicious, struck his attendants, broke window lights, and was rather difficult to manage. Later he was quieter and became subject to sudden attacks of extreme terror, during which he would attempt to escape from some fancied danger. After half a minute this would pass off, and he would feel dull and listless, and have no recollection of the occurrence. It was probably cerebral epilepsy. After eighteen months he was greatly improved, his mind was fairly clear though perceptibly weakened, was taken home, and in about two years died of an acute attack of brain disease.

It is a common observation that many inebriates become syphilitic, and it is often observed that the mildest degree of brain failure may lead and does lead to the drink habit, so early does the disease weaken the moral restraints. It is well known, too, that an old and latent syphilis is made active by drink, and I have found, too, that syphilitic inebriates are particularly liable to commit suicide after a drinking bout. So many people who have nervous syphilis are also inebriates that it is not easy to allot to each its etiologic value.

Other cases of syphilitic mental disorder may present mental symptoms of a systematized delusional type and continue without apparent change for years. Such

cases, however, are pretty sure finally to show confusion and weak-mindedness and irregular and gross brain failure.

The relation of syphilis to parietic dementia has been much discussed, some claiming all parietic dementia is due to syphilis and others that it is only an occasional cause. Some forms of syphilitic insanity are certainly much like parietic dementia. I think that the cases that are strikingly alike are often due immediately to conditions that are alike. We know that paresis occurs in the prime of life, exceptionally in the developmental period, and that it is usually immediately due to stress, to overwork, business cares, worry and all those causes that test the endurance of men in active life over long periods. The syphilitic insanity that so closely resembles paresis usually develops under much the same circumstances, syphilis being a cause in the sense that it weakened or broke down the defenses of the system. In most cases of syphilitic insanity, there is less tendency to delusions of grandeur, more frequent paralysis of cranial nerves and, more frequently, attacks of gross brain disease leading to local softenings and focal symptoms. Recovery from syphilitic insanity apparently sometimes occurs, parietic dementia is probably never recovered from.

In addition to these types of purely mental disorder due to syphilis, there are others in which mental failure may be associated with evidences of gross brain disease and focal signs. A young man, aged 31, under my care, had ten years previously had primary syphilis, his only brother having died of syphilitic brain disease at his age. He spent money foolishly, neglected his business and indulged in immoralities. When I first saw him he was good-natured and jolly. He boasted of his travels and business ability, neither of which was extraordinary. He was somewhat confused and weak-minded, his speech being drawling, trembling and hesitating, with a dull expression and a senile tremor of his hands. One day he would be cheerful, active, interested in the news of the day, and talking agreeably and coherently, the next day he would be dull, slow of speech, and confused mentally. Later he had temporary attacks of paralysis of an arm or leg. Later in the disease he had an attack of hemiparesis with convulsions beginning in the hand of the parietic arm and extending in Jacksonian order to the entire side. With this there was a condition of quiet delirium in which he saw processions of gaudily dressed demons marching about the ceiling of his room, grinning at him and threatening and making gestures. The paralysis gradually became complete in four days, and passing into coma he died. There was no autopsy.

F. W. Mott relates the case of two brothers, both of whom had syphilitic insanity of the type of the case I have just recited, and in one an autopsy showed cortical arterial disease. My patient had also what is common in the syphilitic, a number of irregular and temporary attacks of aphasia. Charcot long ago called attention to this as being characteristic of syphilitic brain disease.

Though physicians may differ regarding the curability of general syphilis, few, I think, who have had much experience with syphilis of the nervous system, will hold that these cases are safe from a return of the disease. The man who has had brain syphilis in any form or degree, however well he may appear to be, is permanently crippled in the most vital part of his body, and he can only hope to avoid a return of the disease by a careful way of living that few men have the cour-

age to adopt and fewer still escape relapse by adopting. When indeed can we say that one has recovered from syphilis? The word recovered must be used here in a different sense from that which it bears when applied to other diseases. Here is a man of fine physique and great endurance who shoulders his way easily through resistances and is never sick and a stranger to tire. He has a primary sore and mild secondary symptoms. He is outwardly the same as before and may go on for years in perfect health, when after some unusual stress or irregular habits the syphilis may reappear and possibly prove quickly fatal. The virus may not remain long in the system, but it certainly modifies the tissues so that their resistance to stress, to disease and to all unfavorable conditions is much reduced.

The first case in the series here reported as having recovered nine years ago has recently developed epilepsy of an irregular type. This man denied having syphilis, but his brother, who knew of his having had it, furnished the information. Under rest, treatment and steady habits, patients improve astonishingly, but from lack of care of health, dissipation or overwork, years of health may end in a relapse. Sometimes symptoms, such as headache and insomnia may return, or cranial nerve paralysis may recur, or an entirely new group of symptoms develop, indicating new brain territory involved. A syphilitic hemiplegia may be recovered from, to recur later on the same side, or on the opposite side, or on both sides, and this be the result of a debauch, or of an illness, after an interval of years of good health.

A bad heredity will, of course, add to the dangers of brain disease in those who are once infected with syphilis, the heredity being an element in the disease to the extent that it furnished a nervous system whose resistive powers were weak. The nutritional habits of such a system, though normal to it, are yet next of kin to the pathological and it is not surprising that it should have a fatal affinity for the specific virus. Many men are made of crumbly material, but if they escape stress and the incidence of special poisons, they may slip through life unscathed, but let adversity test the quality of their endurance or poisons like tuberculosis or syphilis attack their weakly organized tissues and the results are quickly serious. In some cases where the brain is involved this may be due to the complexity and instability of this highly organized tissue, which makes it an easy victim for a poison. I have seen such a large proportion of brain syphilis among intelligent people that I have come to believe that, other things being equal, the intellectual man who has contracted syphilis is more liable to have his brain attacked by it than another man who may also have had syphilis, but whose mental capacity is of a lower order.

This is apparently contradicted by what I believe to be the fact that intellectual or intelligent people are less liable to insanity than those who are ignorant or of inferior capacity, for of the vast multitude of those who annually go to our insane asylums, only a fraction are really intelligent people, a fraction much less in proportion than the relative numbers in the general population. It is essentially true, I think, with certain qualifications, that insanity is a disease of ignorance and incapacity. It represents the failures in the life-adjustments which to the intelligent are simple and easy; the cultured and intellectual are protected against insanity because of their more correct view of life, because of their variety of mental occupation, which allows them to escape that which more than any other one thing de-

termines insanity, namely, monotony of life and unrelieved and unvarying mental strain, however rude the work may be or simple the strain.

I do not, however, believe that this law of the mental self-protection of intelligence holds in syphilis, because we have there the brain of both the dull man and that of the wise man exposed to the same poison; they are both prisoners in the same cell, with the chances in favor of the dull man, whose brain, being of a low order, is of a more primitive and stable type of structure, and therefore presents not only an older and tougher tissue to the poison, but it also presents fewer points for the poison to attack.

Though it is possible to distinguish between syphilis of the membranes, of the cerebral arteries, and of the brain tissue proper, from personal experience I should say it can only be approximately done. In cerebral arterial syphilis the symptoms are those of deprivation, the brain is starved. The gradual destruction of the brain functions proceeds unequally, however, not uniformly. The lumen of a vessel is finally closed and there is local spasm and paralysis if in a motor region, which may be early recovered from as collateral circulation is established. A few days later these collateral vessels also suffer and there is a return of the paralysis which lasts longer and is only incompletely recovered from, and then later the whole limb or the side becomes paralytic, when the vessels are permanently closed. This irregular recurrence of symptoms indicates the imperfect and haphazard blood-supply against which the starving and failing brain contends.

Coincident with this there are usually attacks of aphasia of a transient and irregular order, and due to the same condition of arterial failure. A number of times I have followed such cases from the beginning of cerebral failure through all the kaleidoscopic changes of the disease until the patients died paralytic and demented. In one case I noticed that when the patient took a long walk or played tennis he had transient spasm in the right leg and arm followed by temporary paralysis. If he talked any length of time he developed a temporary ataxic aphasia, showing what little reserve power was left to the brain as the blood-stream was gradually shut down.

Cerebral arterial syphilis may exist without meningitis, but syphilitic meningitis rarely exists without arteritis, perhaps never.

In meningeal syphilis there are local paralyses rather irregular in distribution, sensory phenomena, especially headaches and neuralgia, and cranial nerve palsies in basal meningitis. The mental symptoms are of an active kind, delirium, or even furious violence, though there may also be attacks of stupor.

The signs of gumma, though sometimes definite, depend upon their number, size and location. In a general way, it may be stated they are those of a tumor if the gumma is local.

Those familiar with nervous syphilis know how promptly specific treatment may relieve conditions that in cases other than syphilitic would be hopeless. The relief is not, however, wholly due to the specific nature of the disease, but partly to the tissue involved. F. W. Mott's investigations show what syphilitic degeneracy is in the mesoblastic tissues, the membranes, blood-vessels and lymphatics, and that the neurons are involved indirectly. If the nerve cells were directly attacked by the virus they could not be repaired, being, as they are, perpetual elements, and we would not observe those cases of quick relief of serious symptoms, as we so often do

in cerebral syphilis. The disease of the membrane and vessels is, however, reparable within certain limits and the neurons may be restored to function when the pathological conditions of these parts are removed. The symptoms of cerebral syphilis may be due to various morbid processes, in one case to arterial occlusion, in another to pathologic lymph which fills the pericellular spaces and arrests or perverts the function of the neurons, in others to rapidly developed and perhaps temporary internal hydrocephalus due to stoppage of foramen of Majendie by inflammatory adhesions, according to Mott. The temporary attacks of drowsiness and stupor in cerebral syphilis are probably sometimes due to this condition. In cerebral syphilis, and also in parietic dementia, there is probably always some auto-intoxication from pathological conditions of blood and cerebrospinal fluid. When the myelin sheaths undergo degeneration cholin is formed, and this being a poisonous substance, is another element in the widening circle of disease.

That some people have severe general syphilis, while the nervous system escapes, and others have mild general syphilis and malignant syphilis of the nervous system, is a well-known fact. Hitzig claims that there are several toxins in syphilitic infection, and it is possible that they may have special affinities for special structures and that the activity of one and another varies in different infections. Some strains of syphilis may be more potent than others, some people are probably more susceptible than others. A French author has reported the case of a woman who infected five youths with syphilis, three of whom died of general paresis and the other two of brain syphilis. In such a case it is more probable that there was a special malignancy in the virus than that the five men were specially susceptible to syphilitic degeneracy of the nervous system.

There is no morbid condition in which it is so important to its proper understanding that its entire natural history be studied as that of insanity, and this study should include its developmental period, during which the morbid mental habits were forming and the morbid condition organizing. In this way, and only in this way, will we learn the order of progress from the beginning. This is necessary, too, not only that we may understand the disorder as a whole, but more than anything else, it promises that by thus tracking insanity to its source we may be able to achieve something in the way of its prevention. In this connection all conditions showing analogy to insanity help to explain its nature, such as conditions of mental defect, drunkenness, somnambulism and the phenomena of brain dissolution in old age.

The quiet forms of syphilitic insanity have in their symptomatology much in common with the mental history of the senile and, indeed, it may be said of all forms of insanity that they represent in some respects a premature and irregular senility. In senility we witness the slow undoing of the brain structure, which during life has been gaining in complexity, in accuracy of balance and adjustment, in multiplicity of relation, and which in senile degeneration of the brain is undone from the top, leaving the individual with the capacity of the child and with the instincts of the primitive man. The resemblance is more striking between senile mental changes and those of parietic dementia and syphilitic insanity than in other forms of mental disorder, possibly because of the more deliberate and systematic development of these special insanities. In these forms of insanity the higher faculties are easily seen to fail

first, and they fail first because the delicately organized tissue of which they are the function is the last evolved and most unstable part of the brain, and therefore easiest and first involved in the degenerative process. In all cases of slow developing insanity the higher faculties are the first to go. The judicial mind fails in the summary of knowledge and in comprehensiveness of grasp, the musician loses the ability to interpret the higher conceptions of the master, the business man fails in quickness of perception and in those accuracies of judgment that divide success from failure, and all of these repeat in a general way the order of the unmaking of the brain in senility; that is, nature unravels from the last stitch that living fabric into which the generations of men have woven their experiences.

DISCUSSION.

DR. DANIEL R. BROWER, Chicago—I am glad that I heard the masterful paper of Dr. McBride. I can add my testimony to his, that in the differentiation of these cases, the peculiarity of the mentality and the bizarre character of the symptoms are invaluable aids; and, again, the condition of arterial nutrition is most important. Pre-senility of the arteries, in the absence of interstitial nephritis, tuberculosis and gout, point almost unerringly to syphilis. I am also fully in accord with the paper in prognosis.

DR. H. A. TOMLINSON, St. Peter, Minn.—In these cases degenerative change takes place early in the anterior portion of the brain. In the course of this degenerative change the anterior branches of the Sylvian artery and the anterior cerebrals are the first to show marked evidence of atheroma, and the white streaking of the pia along the line of the blood-vessels appears earlier here than elsewhere. The location of these early changes explains the manifestations of mental disturbance in brain syphilis; because from these vessels comes the blood-supply to the area anterior to the precentral fissure. We all know that there are a large number of cases of syphilitic brain disease in which there is no mental disturbance whatever, and that the only evidence of nervous disease is some form of paralysis or aberrant manifestation of motor disturbance. In fact only a very small portion of those infected with syphilis become insane or suffer from nervous disease. The victims of syphilitic brain disease who become insane, so far as my limited experience goes—for we do not see much syphilis in the hospitals for the insane in Minnesota—are almost invariably the children of the tuberculous, syphilitic, or alcoholic; in other words, they are born with a limited vital potentiality, and it shows itself in the tendency of all disease changes to take the form of connective-tissue increase. For that reason there is naturally a more rapid and complete development of atheroma. This structural defect would indicate why these people are affected with degenerative changes, while those without this hereditary tendency have only the ordinary manifestation of syphilitic disease. I also want to speak of the difference in the manifestations of mental disturbance in the so-called second and third stages. I believe that early involvement of the brain in the unstable and defective after syphilitic infection is more common than is generally thought; especially when the involvement of the nervous system apparently takes the place of the ordinary external manifestations of the disease. I have had two cases in my own experience, in which I had positive evidence of the infection; both were young women married to men who had been recently infected with syphilis, by their own admission. In one case the insanity appeared in the second and in the other the third month after infection, and in neither one of them were there any of the external manifestations excepting a little sore throat. In both the mental disturbance began just as described by Dr. McBride, and passed rapidly into maniacal excitement with grandiose ideas. In those cases in which the affection comes on later, when degenerative changes in the blood-vessels are obvious, the manifestations would necessarily be those of progressive mental reduction, with confusion and cyclical outbursts of excitement. In the two cases referred to, the excitement passed into de-

lirium and both died. Post-mortem the conditions found were characteristic of delirium; but at the base of the brain, in the anterior ascending arm of the Sylvian fissure and the lateral and third ventricles, especially about the velum and choroid plexuses, there was some thickening and exudation. There were also white streaks along the vessels of the pia over the frontal lobes. In another case, a young woman, a prostitute, was admitted to the hospital in a moribund condition. There was at the base of the brain, extending from and involving the optic commissure, on each side, a series of disc-like tumors from 1 to 4 cm. in diameter, apparently starting from the pia and destroying the cortical substance of the knee and foot of the first and second frontal convolutions and the olfactory lobe. The pia was very dense and thick. The white matter of the anterior portion of the frontal lobes was gelatinous. This girl had a history of having been insane for about seven months, and had been delirious for two days before admission. In this case the velum and choroid plexuses were also involved.

DR. H. H. LEVY, Richmond, Va.—I would like to ask those whose experience is greater than mine, whether they have observed as a precursor, or as an early symptom, of brain syphilis, a terrific pain in the middle line of the cranium, on and about the sagittal suture. In two cases which I have seen, it was an initial symptom.

DR. G. W. McCASKEY, Fort Wayne, Ind.—I wish to emphasize the importance of the group of cases of insanity developing very early in the course of syphilis. When syphilitic insanity is spoken of, I think we generally have in mind those connected with the tertiary stage. I recently saw a case in a young attorney of 25, who contracted syphilis, and about a month later developed an acute psychosis. Death resulted, and post-mortem examination was absolutely negative. There had been temporary aphasia, such as frequently occurs as a brain symptom of syphilis. The syphilitic toxin may be fairly suspected of having produced such nutritional changes in the central nervous system as led to the insanity. However, it should be stated that the patient was a neurasthenic, and had been subjected to severe mental strain.

DR. T. D. CROTHERS, Hartford, Conn.—In my studies of the etiology of alcohol and opium cases I am continually surprised to find how often these diseases follow the infection of syphilis. Within a few weeks and in some instances months after the infection of syphilis the alcoholic craze appears. If the brain is particularly sensitive to alcohol and suffers from delirious states opium will be used and alcohol abandoned. I think I may say that from 8 to 10 cent. of the alcohol and opium cases can be traced to syphilis. Many of these persons may have been moderate users of alcohol before the infection. Others have been temperate and abstainers. It is clear to me that the poison of syphilis in many cases concentrates on certain brain centers producing irritation and exhaustion, for which alcohol and opium are most grateful narcotics. In a study of these cases it would be well to remember that the alcoholic and opium addictions are symptomatic of the degeneration of the nerve centers. This fact suggests therapeutic measures which are often very effectual.

DR. W. G. SPILLER, Philadelphia—I should like to ask Dr. Tomlinson whether he makes a distinction between secondary and tertiary syphilis in regard to the nervous system. It is the view of many neuro-pathologists that involvement of the nervous system may occur almost any time after the primary infection—a few months or many years—and that the distinction of early and late lesions can not be made in regard to the nervous system.

DR. HUGH T. PATRICK, Chicago—I should like to say a word apropos of what Dr. Spiller has just said. The sooner we abandon the old distinction between secondary and tertiary syphilis, especially in the nervous system, the better it will be. Aside from the insanity and the delirium which come with the secondaries, and which are to be classed, I believe, as disturbances due to infection, just like the disturbances of any other infection, there should be no distinction whatever made between secondary and tertiary changes in the diseases of the nervous system. The element of time should not be considered. I have seen in three or four

months organic changes which could not be distinguished from those occurring four or five years after infection. I should like to emphasize the fact that these so-called tertiary symptoms occur as a rule within the first few years after infection, and that a period of quiescence of ten years after the first infection practically excludes brain syphilis. Brain syphilis occurring ten years after infection, that ten years having been a period of quiescence, is exceedingly rare.

DR. J. H. McBRIDE, closing—I suppose it is essentially true that syphilis of the brain, occurring after 10 years, is rare, although I have seen cases occurring much later. Fournier mentions a case of a patient entirely well for 17 years, who then died from cerebral syphilis. Jonathan Hutchinson, Jr., has reported a case where the patient remained well for 32 years, and then died of syphilis. I have had several cases that remained well for 10 years and then were fatally affected. As to the circulation, I suppose Dr. Brower is correct. Dr. George Oliver has shown that in cases of syphilis, even soon after infection, the normal variation of the arteries on standing and reclining does not take place. I think Dr. Mott has said that syphilis never strikes without warning, and it is important that these cases should be dealt with by one who understands these warnings. On my way East I was consulted by a man who had what he called "blind spells," probably cerebral epilepsy, and who recently had an attack of confusion lasting several weeks, evidently incipient cerebral syphilis. He had been told he was bilious.

A REPORT OF SEVEN OPERATIONS FOR BRAIN TUMORS AND CYSTS.*

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The early wave of enthusiasm which followed the brilliant successes of Macewen, Godley, Horsley and Keen has been gradually displaced by an amount of pessimism which is unwarranted by the cumulative results of brain surgery for tumors and cysts. The pendulum has swung too far to the side of non-interference. This has been the direct result of numerous unwarranted operations in cases of suspected brain tumor, or in cases where the tumor was not accurately located. I feel safe in saying that hundreds of such cases, at a very low estimate, have been operated upon, which will never be spread on the annals of surgery or neurology. These are the cases which have done great damage and have been the cause of the pessimism which prevails, not only among the profession at large, but what is far worse, among the laity, who are only too apt to remember the failures and forget the successes, especially if the former outnumber the latter.

It is true that the enthusiastic hopes and predictions of the early enthusiasts have not been verified, but the fact remains that the fields for brain surgery for tumors and cysts, although very much narrowed, is still a considerable one, and one in which relief can be given and much good done. Pessimism always leads to inactivity and nihilism. Many a life could be prolonged, made more comfortable, and even saved, if the general practitioner and the general public once more felt the confidence born of successful results obtained in well-selected cases. Even in the latter, the mortality will always be great on account of the unwillingness of patients to be operated upon in the early stages. But, if we consider, that with the extremely rare exceptions all cases of brain tumor are fatal, even the large mortality will not deter us from, not only advising, but urging operations. It would seem too much to hope that the history of

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cancer operations might be repeated in brain surgery, but the principle is the same, and the success might be equally brilliant if, as in cancers, operations are done early on well-selected cases. In this way we may hope that the confidence of the general practitioner and of the public will be restored.

CASE 1.—Mr. L., aged 32, was admitted to the Cincinnati Hospital, June 22, 1893. His family history was negative; he denied syphilis and gonorrhea, and had never been sick before. He stated that his trouble began three years ago with cramps in the left foot and arm; which came on at intervals of a few months. About six months before his admission they became more frequent. The convulsions invariably began in the left foot, extending up the left leg, arm and face and then became general, and after lasting a few minutes, were followed by unconsciousness and somnolence. He had violent headaches and frequent attacks of vertigo, but had never vomited. His mental condition had deteriorated somewhat, and he had become apathetic.

The examination was entirely negative; the left papilla was somewhat injected and the margins were indistinct. There was no weakness of the left side of the body, or of the left extremities, and no loss of sensation.

On June 24, the patient had another typical convulsion, as described above, which was followed by a well-marked weakness of the left arm and leg, with increased tendon reflexes, but no disturbance of sensation. The trouble was now diagnosed as tumor in the right foot center. On June 28, 1893, Dr. Ransohoff trephined over right foot center, and extended opening over superior right parietal lobe. There was no bulging of the dura mater, but when it was opened the tumor was found in the region of right foot center extending over into the parietal lobe. It was the size of a hen's egg; its cavity clean, and it seemed to spring from the pia mater. The tumor was shelled out with but little difficulty; the wound healed by first intention, but there was a boggy, protruding condition of the skin and subcutaneous tissue.

On awakening from the anesthetic there was found a total paralysis of the left arm, and the patient was not able to make even slight movement of the fingers. He had recurrence of his epileptic attacks once, a few days after the operation. With this exception the recovery was uninterrupted—no fever at any time. In a few weeks he was able to get up, and in six weeks left the hospital. There remained, however, a slight paresis of the left arm and leg, with slight spastic rigidity.

Seven years after the operation the patient is still alive; there has never been any recurrence of the tumor; the hemiparesis has, however, increased; his mental condition is good, though he has occasional epileptic seizures of the Jacksonian type. In this case the operation saved the life of the patient; relieved his head symptoms and diminished very markedly the number of epileptic seizures, although it failed to completely cure him.

CASE 2.—T. B., aged 18, occupation coal miner, was admitted to Cincinnati Hospital July 15, 1893. His family history was negative; there was no history of tuberculosis, phthisis, or syphilis. According to his father, the trouble began in the latter part of December, 1892, when the patient fell and is supposed to have struck the back of his head. Close questioning revealed the fact that headache, dizziness and nausea existed for some time before the fall, which was probably the result of the vertigo. Afterward these symptoms increased, with the exception of the vomiting, which the patient had only occasionally. After the fall a growth existed on the back of the head which at first was the size of a pea, but gradually increased until it became the size of an English walnut. About January 1 the vision began to be impaired; this defect increased until the patient could distinguish only between shadow and light. Close examination revealed the fact that the early trouble with the sight was a gradual loss of the vision on the left side of the nose; left hemianopsia preceded the total loss of vision.

Physical examination showed that the patient's mental condition was apathetic, but otherwise normal; well-marked choked discs which were passing into an atrophic state; total

blindness; pupils equal in size; no light reaction; fading choked disc. In the left occipital region about an inch above and an inch to the left there was an elastic tumor which was about the size of an English walnut. It protruded through the calvarium, the opening being somewhat larger than a silver dime. The margins were sharp and elevated. The tumor had a semisolid elastic consistency, and could be pushed back into the cranial cavity, almost completely. This, however, increased the headache and vertigo, and caused nausea. There were no other physical signs whatever.

A semilunar flap was made directly over the tumor. This exposed at once a pulsating mass protruding through an opening in the calvarium, and pushing before it the dura mater, which formed a sort of sac. An incision was made through the dura mater, which was followed by the escape of a large quantity of fluid. It was removed, and although the tumor itself was not so large—size of a German walnut—an opening or cavity was present in the occipital lobe, almost oval in shape, about three inches long and two inches wide. The limiting membrane was very soft and jelly-like. The cavity seemed to be very clean; the shreds of pia mater were snipped away and the cavity was tamponed with bichlorid gauze. The dura was not closed. On the third day removal of the dressing was followed by a discharge of turbid fluid.

The patient had an uneventful recovery; his vision improved and he returned home two weeks after the operation.

The diagnosis was glioma of the occipital lobe. Some time after the operation the patient presented the following condition: At the site of the cranial opening there was a soft bulging mass about three inches in diameter; there was no return of tumor; he could read the headlines of newspapers, and could tell the time from a watch; he saw everything perfectly; did not read fine print; his discs were very white.

This patient has disappeared from view, but was alive and at work as a coal miner, and able to see well three or four years after the operation.

CASE 3.—A. G., aged 22, a machinist, was admitted to Cincinnati Hospital May 15, 1894, because of cystic dilatation of the diploic vein, and Jacksonian epilepsy. His pathologic history was negative. The previous history showed that he began to have convulsions at the age of 7, but after a while these disappeared, but reappeared when he was 14, and since then he has been having them every month. The convulsions were always preceded by a sensation of numbness, and formication of the left leg. Convulsions began in the left leg, then left arm and became general. He did not suffer from headache, vomiting or vertigo.

The physical examination was negative. The epileptic seizures were followed by maniacal attacks, during which the patient became very violent, showing a tendency to attack other patients in the ward. He was blindly destructive and had to be retained with shackles; the attack is typically mania and never lasts longer than twenty-four hours. He did not remember what occurred during the maniacal condition, and immediately after an attack he was dull and apathetic. The pupils were equal in size; responded to light and accommodation, and the external muscles of the eyes were normal. There was no disturbance of sensation of scalp or face; no evidence of injury or depression of skull; region supplied by seventh nerve was normal; the pharyngeal and palate reflexes normal. There was no loss of muscular power or sensation in either arm or leg; slight exaggeration of reflexes in left leg; no ankle clonus; no muscular weakness whatever of the left leg. The diagnosis was Jacksonian epilepsy.

June 21 to July 11 he worked around the ward and felt perfectly well. On May 15 he complained of pain in the left leg and arm. Bromid, 30 grains, was ordered every four hours. About 10 o'clock he complained severely of pain in the left leg, which was bandaged; following this was a delirium in which the patient cried and laughed; this lasted an hour and then he became quiet. During that time he was given chloral, 20 grains, and bromid 30 grains; he went to sleep at once and slept until morning. On June 26 he had two slight hysterical attacks, but was better next day, and was discharged at his own request. He had bromids and chloral since May 12, and had no epileptic attack since his admission.

July 30, 1894, the patient was re-admitted to the hospital. He admits having had gonorrhea but denies syphilis. Because of advisability of performing an operation his relatives were summoned and they gave a somewhat different history from the patient. The latter states that he has had attacks since the age of 7; his sister says that the attacks began in the twelfth year, three months after being struck on the back of the head with a brick. She states that he was brought into the city hospital unconscious, and was discharged in about a week. No record can be found. The examination of his head over the occiput reveals no scalp wound or depression of skull. The sister agrees with the patient as to the characteristic feature of the attack, that is, that it always begins in the left leg and extends to the left arm and face and then becomes general. She also says that he has attacks during which twenty-five to thirty convulsions occur in as many hours—the patient often being unconscious during the entire period. During the last few days of August the patient complained of pain in the head. One night he had three convulsions, each lasting some minutes, and all characterized by muscular contractions beginning upon the left side. In the first one the left leg was flexed first. He slept soundly between the seizures. A fourth attack followed, the next morning. This was witnessed by the day nurses, and they say it was of the same general character as those described by the night nurse. Later the patient suddenly got out of bed and was caught in the act of jumping out of the window. He complained of great cephalalgia, was restless, tossing about the bed and much excited. I ordered acetanilid, 10 grains, at 9 a. m., and 5 grains thereafter, every three hours. After observing the patient for seven days, during which he had four seizures, all typically Jacksonian, followed by a slight transient weakness of the left leg, it was determined to make an exploratory operation. He was removed to the amphitheater August 31, anesthetized, and an oval incision made over the right parietal region, the bone having first been scored in order to mark the position of the Rolandic fissure; after the flap had been turned back, the trephine was then called into use and a button of bone removed over the region of the motor area for the left foot—before using the trephine there was noted a bluish line in or on the bone, running downward and forward almost parallel to about one-half inch behind the Rolandic fissure—the trephine opening was then enlarged downward and forward, and in the process there was opened a sort of venous sinus between the two layers of bone, and corresponding in situation to the blue line mentioned. The venous sinus had eroded the inner table of the skull, forming a cystic protuberance about the size of a bean. This caused a perforation of the dura mater—the dura for an area of two inches in diameter about this perforation was very much thickened and inflamed. On removing the bony flap there protruded through the dura a sort of hernia of the pia and brain tissue. The dura was slit up in a crucial manner and both the dura and pia found much thickened and edematous; beyond this nothing was found, the cortex appearing normal. To arrest the hemorrhage from the venous sinus it was found necessary to introduce a sterilized match as a plug; this was left in the wound. Hemorrhage from other points was then arrested, the dura stitched together with interrupted gut-suture, the flaps of skin brought together with a continuous silk suture, and a plain gauze dressing applied.

On September 6 the stitches were removed. An examination of the special senses was negative. For the first two days after the operation the patient was restless, irritable and exacting, afterward was more liberal in his demands and much more rational.

September 19. There were no symptoms whatever, he pronounced himself well.

September 26. He complained of pain in the left leg, chiefly in the region of the knee-joint, which he was unable to explain; examination was negative. Patient said he had no sensations like those which used to precede an epileptic attack. He was ordered to bed and 30 grains of potassium bromid were given him.

October 8. He was up and around the ward; no symptoms at all.

October 17. No attacks at all; general condition good.

November 3. Discharged, well.

In December he returned for his epilepsy, saying that he had been free of attacks since the operation except two or three very light ones, neither of which were like his previous ones, and which he had been able to fight off. This morning, however, he had an attack exactly similar in every detail to those previous to the operation. He was given 15 grains potassium bromid. From this time until January there were no symptoms, no attacks and his condition was good. On August 25 he was discharged. On September 5 he returned to the hospital, saying that he had had an epileptic attack. He died at the County Infirmary about eighteen months after operation, during an epileptic attack.

In this case the recurrence of the epilepsy and the death of the individual were caused by the meningitis, which was set up by, and continued after, removal of the cyst.

CASE 4.—R. G., aged 10, colored, was admitted to Cincinnati Hospital May 20, 1895. The family and personal history were negative. There had been a gradual development of weakness and stiffness of the left arm and leg. This had lately increased to such an extent as to interfere with the use of the left arm altogether. The left leg was stiff and rigid and was dragged during walking; he had no pains in the extremity.

Examination gave the following: Mental condition was dull and apathetic; there was a tendency to somnolence. When aroused the mind was clear. Pupils were equal in size and reacted to light. Papilla was swollen and injected; there was choked disc. The external muscles of the eyes were normal in function. There was no defect in sensation of face or scalp; the left side of face—lower half—was paretic; the tongue protruded to the left. The left arm was rigid and spastic; the radial and triceps reflexes were increased; the muscular strength was reduced almost to a minimum; the size, the surface temperature and the sensation of arm were normal. The leg was normal in size and temperature; the muscles rigid and hard; the limb in condition of spasticity; the reflexes increased. There was ankle-clonus; muscular power was almost entirely lost; he was scarcely able to walk; dragged the leg, but the sensation normal. The diagnosis was spastic hemiplegia, subcortical brain tumor.

Dr. Ransohoff, after careful examination, decided to perform an exploratory operation. The diagnosis of subcortical tumor of the arm center of right side was made; the skull over this region was trephined, and a piece of bone about two inches in diameter was removed; the bulging of the brain and membranes was very marked, but on opening the dura the cortex of the brain was found intact. An incision was made through the cortex about an inch in length, but, as proved later, this was not made deeply enough. No tumor being found the wound was closed. Death occurred six hours later from shock. The autopsy showed a soft yellowish mass, fully the size of a hen's egg occupying the region of the nucleus lentiformis of the right side—it extended outward to within one-half inch of the cortex—extending upward into the region of the ascending frontal and parietal lobes, viz., the centrum semiovale; inward and downward it extended to the internal capsule. The microscopic examination showed the growth to be a tubercle.

The justification of the operation in this case lay in the fact that if the tumor could have been reached it might have been scooped out, and life could not only have been prolonged but have been made more endurable. That it could have been reached was shown by the autopsy. The growth was situated exactly under the trephine opening, and if the incision which was made in the cortex had been a quarter of an inch deeper the tumor would have been found during life.

CASE 5.—F. B., aged 46, was hit by a flying brick on the left side of his head. After being struck he boarded the electric car and rode to the foot of the steps leading to the Marine Hospital; while ascending these steps he fell down and was carried into the hospital. Examination revealed nothing but a scalp wound, over the temporal muscles, which was attended to by the resident surgeon.

He recognized his son one hour later, then became unconscious; he knew nothing of having been taken home, except that he inquired after his son, when put in wagon. After three days he recognized his son again. Two weeks later he recognized Dr. B., the attending physician. The first three days he did not say anything, then gradually regained his power of speech.

Examination showed his mental condition was good; memory good, but that he had lost knowledge of the names of objects; spoke in broken sentences because he could not remember words—knew what the object was but could not name it. This was more marked in his mother-tongue than in English, the knowledge of which is rather imperfect. He became excited under examination.

The eyes, face, tongue, extremities, pulse and temperature were normal. The head showed a depressed fracture under the temporal bone, circular in character, about the size of a dime—left side.

The treatment was iodid of potassium and protoiodid of mercury. An examination August 1, 1896, five months after the accident, showed that the patient had been growing worse gradually. He showed a great deal of absent-mindedness, and mental confusion. He loses himself; the speech defect has grown much worse; he is unable to repeat a word of two syllables. His mental condition is dull, sluggish and apathetic, almost stuporose. Speech is very much embarrassed. On August 3, 1896, he was operated on by Dr. E. W. Walker. The trephine was applied directly over the area of depression. The inner tables showed a cone-shaped depression of bone with the apex piercing both dura mater and pia mater and entering the cortex of the first temporosphenoidal convolution, cyst had formed about the apex of the depression and had attained the size of a small English walnut. There was no fever; the recovery was uneventful. Mental confusion, apathy, and dulness disappeared. Aphasia remained as it was. In May his condition was much better than immediately before the operation. In October, 1896, the aphasia was about the same: he could not repeat a long sentence. The right pupil was larger than the left; both responded to light. His mental condition was good.

May, 1900, the patient still had some sensory aphasia, but he spoke connectedly; carried on an ordinary conversation without much difficulty; had some trouble in remembering names, especially if the object was changed rapidly and an effort was made to hurry him.

There are two interesting features of his case: 1, the overlooking of the fracture of the skull by the first physician; 2, the apparent recovery, followed by symptoms of intracranial pressure. The first was due to the fact that the fracture was under the temporal muscle, which was not cut, the scalp wound extending down to the muscle-sheath; the muscles were probably contused and swollen, and it was very easy to overlook so small a fracture. The second feature, the rapid increase of all the signs and symptoms of intracranial pressure, during the fifth month, indicating brain tumor, except that there was no optic neuritis, was evidently due to the rapid increase in the size of the cyst—Bergmann calls attention to this feature of traumatic cysts.

CASE 6.—J. M., a German plasterer, was admitted to Cincinnati Hospital May 30, 1898. He complained of convulsions of the left arm and leg, followed by anesthesia of affected areas, lasting about half an hour. His family history was negative. As a child he had measles, mumps, and scarlet fever. No venereal history was obtained; he chewed tobacco, and drank beer to excess till one year before his admission to the hospital. There was no drug habit.

About seven years before, while ascending a ladder, his left leg suddenly became helpless, causing him to make a mis-step, and he fell a distance of fifteen feet, but as he fell on a sofa he sustained no injury at the time. He did not lose consciousness, but immediately felt numb in the entire left half of the body; this feeling lasted about twenty minutes. After the numbness passed away he went to work feeling no ill effects. About one month later he was seized in the same manner and the attack lasted about the same length of time.

The attacks gradually increased in frequency till the fall of 1897, when he would sometimes have two attacks in one day.

Up to this time the patient was as strong as he ever had been; but had ceased to work at his trade two years previously for fear of falling and injuring himself. Attacks had become less frequent, so that none had occurred since February, except on April 19, on which day an attack occurred, preceded by bilateral clonic spasms lasting two or three minutes, followed by the usual left-sided numbness and weakness. All attacks previous to this one were preceded by unilateral clonic spasms of the left side lasting about two or three minutes. For the last six years the symptoms and attacks have occurred in about the following order:

- 1, full side headache lasting about twenty minutes; 2, vomiting, the vomitus consisting principally of bile; 3, dull aching pain over the right eye, lasting from five to twenty minutes; 4, tonic spasms of left arm and left leg; 5, numbness and weakness, lasting about thirty minutes.

Examination showed that his body was fairly well developed and nourished. He had a dull, rather languid expression of the face. His cerebration was somewhat slow, and he had a slight difficulty in talking.

Cranial Nerves.—First, normal; second, he could discern persons across the street, but could not recognize them; he could not read the newspaper at any distance; there was no aphasia. Optic neuritis was present; pupils reacted to light and accommodation; third, fourth and sixth were apparently normal; fifth, motor and sensory, normal; seventh, weakness of muscles of left side of face; ninth, tongue deviates to the left side; tenth, some difficulty in breathing in morning. Troubled considerably with hiccupping; eleventh, on turning head to left, severe pain in right occipital lobe, similar pain in left lobe on turning head to right; twelfth, normal. There was some difficulty in swallowing. Motility, muscular power and grasp apparently normal and equal. Flexion, extension and power of right leg normal. Right leg was also affected at times, but only temporarily; often had passing weakness, rigidity and ankle-clonus. Unable to lift left leg from bed when extended, and when it was elevated can not flex nor extend it; resists bending somewhat, but no pain on bending. Left arm becomes exhausted easily; some inco-ordination; slightly weaker than right.

Gait.—Dragged left leg and foot; left arm hung almost motionless at side, although he had use of it; head inclined to the left side.

Sensation.—Pain, tactile, heat and cold, normal.

Reflexes.—Right and left knee exaggerated; right and left ankle-clonus marked; right and left wrist-jerk marked; right and left elbow-jerk marked.

Bladder.—He had frequent sensations of wanting to urinate, but had considerable difficulty in starting the stream. He sometimes voided urine before reaching the closet. Expelling force of bladder was much diminished. The rectum, lungs, heart, and urine were abnormal.

Exploratory trephining was done by Dr. Ransohoff over motor area of right side, but nothing found except much cerebral bulging. The patient died the same day from shock. The autopsy showed an oval opening about five inches by two and one-half inches in the parietal region of the right side, its lower margin about one and one-half inches above the external auditory meatus and the upper margin about one inch from sagittal suture. Just anterior to sagittal suture, about one inch in front and toward the median line from the opening in the calvarium, was an extensive thickening of the bone tissue circular in shape. At its central point, where it was thickest, the growth was about three-fourths of an inch thick. This thickening was due to the periosteal deposits, as the outlines of the calvarium could be plainly discerned directly under this thickening; dura mater was adherent to the brain.

The longitudinal sinus was obliterated by a soft semi-fluid, cream color growth. Under the dura mater was a growth about the size of a goose egg, which began on the surface about two inches from the tip of the first frontal convolution and extended backward along the longitudinal fissure to about two inches posterior to the fissure of Rolando.

The cortical size of this growth was about three and one-half by two and one-half inches, and occupied the posterior

half of the first and second frontal convolutions and the upper half of the ascending frontal and ascending parietal convolution around the fissure of Rolando and backward into the gyrus angularis. It bulged into the longitudinal fissure and pressed on the median surface of the psychomotor area of the left side.

Subcortically, it extended into the corona radiata, pressed on and destroyed the posterior portion of the lenticular nucleus and the fibers of the internal capsule. The cortex above the tumor was entirely obliterated, whereas the cortex of the lower portion of the psychomotor area and the portion of the corona radiata beneath it was intact.

The tumor was soft and fluctuating. On section it was semisolid, very soft, creamy in color and rather vascular. After being hardened it proved to be non-infiltrating, and could be shelled out with ease. Microscopic examination proved the tumor to be a gliosarcoma.

The interesting features of this case are: The long duration of the tumor's growth—seven years elapsing between the onset of the first symptoms and the death of the individual. Death was due to shock of the operation, and life might have been prolonged for some time. This feature alone is interesting in a therapeutic sense, because the hardened brain specimen shows that the tumor could have been shelled out if the calvarium had been opened just over it; the difficulty lay in the proximity of the growths to the longitudinal fissure. It proves once more that growths of long duration are more apt to compress the brain matter than to infiltrate the brain substance, and that, therefore the operative success is more promising than in those of more rapid growth. The second peculiarity is the presence of bilateral symptoms, viz., the frequent variation of the involvement of the right side of the face—a condition which can probably be explained only on the basis of varying pressure of the tumor on the corona radiata of the left side of the cerebrum and then the change—the involvement of the right leg and foot—the presence of spastic paresis and ankle-clonus at one examination and their absence at the next. These variations of symptoms were easily explained at the autopsy, but during life were a source of continual doubt as to whether the tumor was cortical or basal. The presence of the tumor mainly in the lobus paracentralis of the right psychomotor area, pressing upon the lobus paracentralis of the left psychomotor area, explains the bilateral spastic symptoms; and the variability of the symptoms were, in all probability, due to the increase and diminution of the vascularity of the growth. It is a little strange that the growth, by irritation, never produced an attack of localized epilepsy in the right foot.

CASE 7.—C. R., was admitted to Cincinnati Hospital July 12, 1899, in a state of coma. A friend stated that he was subject to epileptic fits, and during an attack fell backward down six steps and struck on the back of his head. He could be aroused, and answered questions, volunteered no statement, resisted attempts at examination; vomited greenish fluid; had use of all his limbs; tried to walk, but had to be supported; complained of back of neck hurting him.

Examination.—His head showed no evidence of injury. The pupils were dilated, left more than right; no reaction to light. The conjunctiva was injected; the tongue was coated and furrowed longitudinally, and protruded in the median line. He resisted all attempts at movement of his extremities, but could move them at will.

Reflexes were all increased on the left; right negative. Muscular power was decreased, much more on the left. Sensation was normal. The urine was small in amount, pea-green in color, and contained a small amount of albumin.

July 13.—Coma deeper, respiration stertorous; could still be aroused. Left side, both arm and leg were in a state of spastic rigidity. No voluntary movements in arm or leg of this side; right arm and leg were normal. Pupils were moderately contracted, and did not react to light. Urine was

passed involuntarily. At 6 p. m. he could not be aroused. His mouth was drawn to the left. Reflexes were lost on the left side; no voluntary movement of this side. Arm and leg were rigid. Reflexes on the right side were greatly exaggerated. He was very restless, constantly moving right arm and leg. There was Cheyne-Stokes respiration; mucous râles could be heard all over the chest. His temperature was 103 degrees, and his pulse rapid and irregular. Operation was performed at 11:30 a. m.; the fissure of Rolando right side was marked off and trephine opening made over lower extremity. There was no fracture; no extradural hemorrhage, and very slight pulsation of the brain. The brain opening was enlarged and an incision made in the dura, followed by a gush of partially clotted dark blood. Brain tissue immediately protruded into the wound, was dark and congested and at lower angle of wound showed areas of softening about one by three-fourths of an inch. Blood welled up from the opening for a time, containing brain tissue. The wound was gently cleansed with warm water, and dura partially closed with catgut, the opening being left over soft area, small rubber drainage-tube placed in cavity, and drain of silkworm gut externally and scalp sutured, leaving good-sized opening for drainage at lower angle of wound.

When dura was opened the clot removed, and the anesthetic discontinued, spastic condition of the left side disappeared and voluntary movement was possible and rather freely performed. This soon disappeared and patient relapsed into former condition. After removal to the ward condition gradually became worse and patient died without regaining consciousness at 2 p. m., July 15, 1900.

The post-mortem showed no evidence of external violence. There was extensive hyperemia of both hemispheres. Punctate hemorrhages were seen over—ten or twenty in number—the surface of both hemispheres from the size of a pin head to that of a split pea. On the tip of the frontal convolution of both sides there was an infiltration of blood on the surface the size of a dime; on section these bloody surfaces were found to cover a cyst about as large as a hazelnut; there was clotted blood in the middle fossa. Over temporosphenoidal and running anterior to knee of fissure of Sylvius was a large blood clot. The cortex below was extensively destroyed with opening leading into large cavity the size of a hen's egg. This cavity extends down to and involves the internal capsule. In parts of the wall the cyst shows black spots, size of pin head; other parts red; posterior portion of cavity, the cortex is destroyed and replaced by a soft and granular mass. This infiltration extends for considerable area around cortical margin of cyst, replacing normal cortex. Major portion of cortex surrounding cavity is softened, probably acute softening from hemorrhage destruction. Five other cysts were found on surface of both hemispheres; one on tip of each frontal lobe. The others were over the parietal lobes and the temporosphenoidal. These varied in size from a bean to a hazel nut. They are covered with pia mater. On opening them the cavity is conical in shape and the apex is formed by a small round hard mass, laminated and dark brown in color; the cortex is destroyed and the contents yellowish-red in character.

In various regions the pia is adherent, and a granular mass extends from its under surface into the cortex, being continuous, and apparently infiltrating the latter. The basilar ganglia, interpeduncular space, medulla, cord and bridge, show no gross anatomical changes.

Close inquiry among the friends elicited the information that the patient had had about six epileptic seizures in the past year, and had been perfectly well before. He had always been at work, and was taken with his last epileptic seizure during a night of dissipation in a house of ill-fame. No other history could be elicited. No history of syphilis, and with the exception of the epileptic seizures, he enjoyed the best of health and did not consider himself sick.

Before the operation, having no previous history of the case, it was thought that the fall produced a subdural hematoma, and the finding of the numerous hemorrhagic cysts was quite unexpected. The epilepsy undoubtedly was caused by the presence of these cysts, and the fatal hemorrhage was undoubtedly the result of

a rupture of one of these cysts, superinduced by the fall on the back of the head.

When we look over the tables of published operative cases which have been collected from the world over, we are struck with the small number of cases. The brain is a favorite seat of tumors and we all know how frequently they occur.

Bergmann, basing his opinion on an analysis of Hale White's 100 cases of brain tumors, found in the autopsy room of Guy's Hospital, Seydel's 50 cases, Allen Starr's 600 cases, compiled from all sources, and Oppenheim's 23 cases, all carefully observed *intra vitam* and after death, comes to the conclusion that at most but from 6 to 7 per cent. of all brain tumors can form the subject for surgical interference, and that to all intents and purposes brain surgery, with rare exceptions, resolves itself into the surgery of the psychomotor areas. We should not be discouraged, however, by the result of this analysis, but should be spurred on to greater exertions, to greater efforts in singling out the favorable cases. I can do no better than quote Bergmann again: "Among the tumors which grow in the cortex and can, therefore, be reached by the knife, those are most frequently present which promise favorable results from an operation, viz., tough fibromata and sarcomata, which are well encapsulated, have their seat of predilection in the

were either useless or worse, for 47.7 per cent. died as the direct result of the operation. If all the unsuccessful cases were reported, I am quite sure that the number of cases in Class 2 would be increased by several hundred, and the mortality percentage of the operation would be still greater. There is but one lesson to be learned from these statistics, and it is, if you can not localize your tumor do not operate. There is only one possible condition which can suspend the operation of this rule and that is palliative trephining for the relief of unbearable intracranial pressure, when we fail to obtain relief by the Quinke puncture.

The main obstacle which lies in our path of success is the difficulty of diagnosis and accurately locating the tumors and cysts. These difficulties are nowhere set forth in a clearer light than in Prof. H. Oppenheim's address delivered before the joint session of Neurology and Surgery at the International Congress held in Moscow in 1897. Speaking of brain surgery he says: "The whole subject is still in the developmental stage, a subject of future solution and in only a few places can we make a sharp distinction between that which is true, solid and enduring, and the counterfeit and evanescent. We have become calm and sober because we realize that we stand on uncertain ground and that of the fruits for which we strive scarcely a single one has ripened. The

No.	Name, Sex, Age.	Operator.	First Symptom.	Local Symptoms.	General Symptoms.	Optic Disc.	Operation.	Seat of Tumor.	Result.
1	Mr. L.; 32	Ransohoff; Hoppe...	Jackson epilepsy...	Jackson epilepsy of l. arm and leg.	Generalized convulsions, headache, vertigo	Negative.	Trephining...	Right foot and arm center...	Hemiplegia; epilepsy; still alive; seven years.
2	T. B.; male; 18	R. Sattler; Hoppe...	Hemianopsia	Total blindness.	Headache, vertigo, nausea	Pale.	Trephining...	Left occipital lobe	Recovery of sight; still alive; seven years.
3	A. G.; male; 22	John Oliver; Hoppe...	Jackson epilepsy...	Epilepsy; epileptic insanity.	None	Negative.	Trephining...	Cyst over right leg center...	Improvement for 6 mos.; died after one year.
4	R. G.; male; 10	Ransohoff; Hoppe...	Spastic paralysis of left arm.	Spastic hemiplegia	Headache, apathy	Choked disc...	Trephining...	Subcortical motor area. Right side	Died in four hours; shock.
5	F. B.; male; 46	E. W. Walker; Hoppe.	Sensory aphasia	Sensory aphasia	Headache, mental confusion	Negative.	Trephining...	Cyst of 1st temp. sphen. lobe. Left side.	Much improved for sensory aphasia; still alive.
6	J. M.; male; 32	Ransohoff; Hoppe...	Numbness; weakness of left leg	Jackson epilepsy; hemiplegia; diplegia.	Headache, vertigo, apathy	Choked disc...	Trephining...	Right foot center.	Died from shock in four hours.
7	C. R.; male; 23	Ransohoff; Hoppe...	General epilepsy	Spastic hemiplegia	Coma, convulsions	Negative.	Trephining...	Multiple cysts	Died from cerebral hemorrhage.

gray matter of the cortex, and when once removed do not seem to recur. Even the most benign brain tumor is a fatal disease, for it grows without a halt, and it is this very growing which threatens to destroy the mental as well as the physical life of the patient. There is but one way to put a stop to this growth, the timely removal of this dangerous, although histologically benign tumor." Considering the necessarily fatal result of this trouble, results of the surgical interference are not bad. Its future lies in the hands of the neurologist and not the surgeon. For the most important point in brain surgery is the accuracy of the diagnosis and localization. This is illustrated by the comparison of the statistics collected by Von Hippel and published in Bergmann's latest work on brain surgery. Von Hippel collected all the published operations on the brain and these can be divided into two groups: 1. Those cases in which the brain tumor or cyst was accurately located and removed; 2, those in which the localization was defective and the so-called exploratory operation was made. The first group comprises 116 cases; in all of them the tumors were removed and 60 per cent. of the cases were decidedly improved or cured, and only 7 per cent of the cases were not benefited at all or died as a result of the operation.

The condition, however, is entirely different in the so-called exploratory operations or in those cases in which, although the tumor was found, it was too large for removal. There were 157 of these cases and the operations

rocks on which the hopes of surgery of the brain have been shattered in the past have not been a defective technique nor the inherent danger of attacking the brain, but the uncertainty of diagnosis." What was true in 1897 still holds to-day. Although the advances made have been great, we are still far from standing on solid ground in brain localization. This is partly due to the inherent difficulty of the subject and partly due to a sufficient lack of pathologic data. This difficulty of accurate localization even when the lesion clearly points to the psychomotor area is clearly illustrated by two of the above cases, viz, 6 and 4. In Case 6, on account of the variation of the signs and development of bilateral involvement, it was, for a long time, almost impossible to locate the tumor. It was first thought that the tumor was at the base of the brain. The marked character of the epileptic seizure led us to open the calvarium over the left leg center, near the arm center. No tumor was found; the autopsy, however, cleared up the diagnosis and explained the difficulty. The tumor was in the right lobus paracentralis; the involvement of the right leg was due to the pressure of the tumor on the lobus paracentralis of the left side, the fluctuation in the involvement of the face and tongue was caused by the extension of the tumor into the centrum semiovale and the pressure—distant—upon the internal capsule.

If it had been possible to locate the tumor accurately, the operation would probably have been successful, for

the hardened brain showed that the tumor could have been enucleated. Case 4 offers a similar difficulty of accurately locating tumors of the psychomotor areas. The diagnosis of subcortical tumor of the arm center was made, but it was impossible to say how near the tumor was to the cortex or how near it was to the internal capsule. But viewed in the light shed upon the subject by the autopsy we can say that the preponderance of the spastic signs over the paretic and the entire absence of Jacksonian epilepsy should have shown us that the tumor was near the internal capsule, and should have been subject to an operation.

For more detailed accounts of the difficulties of diagnosis and localization, and distinguishing tumors of frontal lobe from those of the cerebellum, of the parietal and occipital lobes, I would refer the reader to recent publications of Fritch and Hitzig, Knapp, Hermanides, Oppenheim, Bruns, etc.

The following are the conclusions which most authorities have come to, as a result of the observation of their own cases and the study of the literature on the subject:

1. Tumors of the cortex or subcortical region of any portion of the cerebral hemispheres which can be reached through the calvarium are operable.
2. If possible the operation should be performed early, when the tumor is small; but even large tumors and those infiltrating in character, have been operated on with success.
3. A study of the successful cases shows that, with few exceptions, brain surgery is limited to the psychomotor areas (Von Bergmann).
4. The result of surgical interference even in the most successful cases, rarely leads to complete recovery. The general symptoms due to intracranial pressure disappear, but the focal symptoms, viz, the epileptic seizures and paralysis, either remain permanently or are only diminished. It must not be forgotten, however, that the life of the individual has been saved.
5. Cerebellar tumors are inoperable. This is the law laid down by Oppenheim and concurred in by Bergmann. Those of the posterior and upper surface of the cerebellum, near the lower margin of the occipital lobe have been removed, but the operation has been invariably fatal (Oppenheim). The danger is due to the crowding of large sinuses into a small field of operation and the pressure upon, and displacement of, the medulla. Occasionally a cyst has been luckily tapped, but we can never localize with certainty, and we all know how disastrous exploratory operations are in this region.
6. The cumulative experience of all writers is against the exploratory operation.
7. Shall we advise palliative operations? On this subject authority is divided. Horsley, Bramwell, Annandale, Sanger, Sahli, Sinking, Keen, Bruns, and perhaps Oppenheim are in favor of palliative operations for the relief of violent symptoms of increased intracranial pressure in rare cases. Von Bergmann and Von Braman are against it. My limited experience in cases in which I refused to advise an operation and the operation was, nevertheless, performed, has been with those who oppose the operation.
8. I do not agree with Oppenheim that gummata should not be operated on. I have in my possession the brain of a man who refused to be operated upon which shows that the gumma could have been removed successfully. This gumma was located accurately and diagnosed as such in the arm center during life. In my opinion, tubercles, if isolated and located so as to be

operable, should be operated upon, other things being favorable. Metastatic carcinomata are inoperable.

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DISCUSSION.

DR. DANIEL R. BROWER, Chicago—Dr. Hoppe's paper quite harmonizes with the Chairman's admirable address, and emphasizes the fact that we do cure some patients. This question of brain tumor is one of exceeding interest, but I am free to confess than in my experience I have not had as favorable results as Dr. Hoppe reports. While I have in some cases seen temporary benefits follow operation, and while I am sure I shall continue to recommend operations, I have yet to see in my own clientage a recovery. The differentiation of a cortical from a subcortical is usually impossible. A short time ago a case presenting all the classical symptoms of tumor in the motor area, was referred to Prof. N. Senn for operation; he failed to find the tumor, but post-mortem examination found it a gumma, as was supposed, just beneath the cortex.

DR. CHARLES H. HUGHES, St. Louis, Mo.—I think the position taken by the essayist is eminently correct. The subject of cerebral tumors, especially the tumors involving the optic area of the brain, is particularly interesting. I would like to see more records of the ophthalmological evidences in these cases for diagnostic purposes. I saw a case before the New York Neurological Society, on my return from Europe last year, in which the diagnosis hinged on the neuroretinitis, or choked disk, and I believe I have never seen such a case of tumor which did not reveal the retinal symptoms. This, of course, is merely my own personal experience. The first case of brain tumor that I ever operated on was a great many years ago, and I found the tumor in the area that showed negatively how valuable the recent discoveries were in regard to the psychomotor areas of the brain. The next operation was performed before the subject of aphasia was so thoroughly understood, and was the case of a patient who became an automaton; he lost the capacity of speech, and it was only necessary to give him a start and he would walk from one end of the corridor to the other. After the operation the patient began to speak, and became annoyingly loquacious.

DR. WILLIAM G. SPILLER, Philadelphia—Dr. Hughes' remarks on the presence of optic neuritis in brain tumor lead me to speak of two cases I have recently observed. One was a case reported by Dr. C. K. Mills; I saw the patient with Dr. Mills a number of times, and in that case there was no optic neuritis. The tumor was removed, and the patient improved very much after the operation. In a case that has been under my care recently, optic neuritis played a very important rôle in diagnosis. The patient was sent to me with symptoms of disease of the spinal cord, in the upper cervical region; she had stiffness of the neck, so that the head could be only slightly moved in any direction, and had other symptoms of tumor in the cervical region. I sent her to Dr. Hansell for an examination of her eyes, and he found that she had a high-grade neuritis in each eye. That was the only cerebral symptom she had, except loss of smell. The optic neuritis in this case led me to believe that probably the tumor was not confined to the vertebral canal. I found at the necropsy a tumor in the upper part of the cervical region, which had gradually grown downward and pressed on the cervical cord, and had extended to the third or fourth cervical segment, but had not involved the cord except by compression. The tumor extended upward

along the base of the brain and covered the medulla oblongata and pons.

DR. A. E. STERNE, Indianapolis—I have recently had rather a considerable number of operations, for, as you know, they frequently come together. In the first two weeks of March I had five operations on the brain. Some time in February of this year I lost a case through what I thought to be neglect on the part of the attendants at one of our hospitals in Indianapolis, a case which I had every reason to believe would recover. Dr. Hoppe's mention of the word "shock" recalls the case to me, as I have lost no case since I have made it an invariable rule to count shock as a part of the operation. I expect shock to follow; I do not wait until it comes. If there has been any degree of loss of blood, as there usually is in these cases, I feel almost sure that I am going to have shock, and I feel sure that we will have a rise of temperature up to 105; that is the rule, although it has frequently been supposed to be a fatal symptom. Before the patient comes from under the effect of the narcotic I have invariably given a saline infusion, and sometimes in addition to that a large enema, adding hypodermics of strychnia, in one case as high as 1/40 grain every ten minutes, keeping this up for the first twenty-six hours, and giving smaller doses thereafter. In that case the patient recovered, although, of course, it seemed a huge amount of strychnia to use. In all the subsequent cases I have had no ill results, and the last seven cases have all recovered. Of course, so far as concerns the final results of those cases, the time is as yet too short to decide: two were for tumors, two for cysts, and three were for conditions of idiocy. In the last three cases the idiocy was combined with spastic symptoms of a motor nature, and almost the entire top of the skull was removed, making a trephine opening on one side and a trephine opening on the other, joining in a circular fashion. No evil results whatever have occurred. I warned the family that they could not expect results immediately, and possibly not for several years, and I believe that precaution should always be taken.

I find that surgeons, as a rule, who are not neurologists are afraid to go deeply into the brain. There is no reason why they should not go deeply. We operate on internal hydrocephalus; why can we not go deeply into the brain at any time, always, of course, with the certainty in mind that a few symptoms in the motor area will follow? Owing to the fact that you have cut into the motor area there is usually a slight paresis remaining. So far as choked disk is concerned, it seems to me that optic symptoms are much more apt to be present in tumor. Cysts and abscesses do not produce choked disk in my experience nearly so often as the tumors, even when the tumors are of much less extent. Probably this is due to the greater consistency of brain tumors in comparison to the other lesions, and, therefore, the intracranial pressure will be the higher.

DR. MAXIMILIAN HERZOG, Chicago—I have been interested for some time in the subject of brain tumors from the standpoint of the pathologist, and I want to make a plea for a more exact classification of brain tumors. I think that blood cysts, and other cysts not true neoplasms in their nature, should not be included when we speak of brain tumors. Even if we find certain common clinical features we are not entitled to treat conditions so fundamentally different under the same heading. The books generally contain the statement that sarcomata are the most common neoplasms of the central nervous system. I am, from my own observations, inclined to doubt this statement, and I believe that gliomata are the most common tumors of the central nervous system. Dr. Hoppe reports among his cases one operated on, and well three years after the operation, as a sarcoma. I somewhat doubt the correctness of the pathologic diagnosis; I rather believe that this tumor was a glioma. It is sometimes not at all easy to make a correct histologic diagnosis of tumors of the brain, hence formerly many were diagnosed as glio-sarcoma, a classification which has been abandoned entirely for obvious reasons.

DR. H. H. HOPPE, in closing—The autopsy in this case showed that the tumor was much closer to the internal capsule than it was to the cortex. If the tumor is close to the cortex

there is no reason why there should not be optic neuritis. As to Dr. Herzog's views with regard to sarcoma, I would say that the diagnosis was made in this case by a pathologist. On the other hand, I have quoted in my paper a statement by Bergmann about sarcoma. There was one point that was not raised, and that is the question of diagnosis and its bearing on the results. Karl von Heller has tabulated all the published brain-tumor operations, and they are given again in Bergmann's book on "Brain Surgery." There are 116 cases of successful removal of brain tumors, and in these cases each tumor was localized before the operation; in over 60 per cent. of these cases were the patients benefited, and in only 7 per cent. was the death due to the results of the operation. On the other hand, there are 259 cases of so-called explorative cases, and in these 50 per cent. died as the result of shock. The point is, that if you can not localize your tumor you should not operate. The great point in brain surgery to-day is the accuracy of localization of the tumor before operation.

THE SKULL AND ITS CONTENTS.*

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MILWAUKEE, WIS.

If the expression sometimes ascribed to Sir Astley Cooper, that "No injury of the head is too slight to be despised nor too severe to be despaired of," be true, I will need no apology for inviting attention to the subject, except perhaps for the weakness of its presentation. Injuries to the head should possess, for every practitioner, more than ordinary interest, as they entail more than ordinary responsibilities, and when we consider the many and varied conditions met with in this field of surgery, from the slight and apparently trivial scalp wound to the fracture of the base of the skull with its probable accompanying laceration of brain tissue and membranes, and possibly rupture of large blood-vessels, the range of thought necessary to comprehend and combat these conditions becomes apparent.

In the contemplation of this class of injuries we may say, in a general way, that the practitioner must ever keep in mind not alone the skull, but its coverings and contents, as well as the intimate relations existing between them, for even a slight scalp wound, if neglected, may terminate fatally, and what appears to be only a trivial blow on the head may produce fatal cerebral hemorrhage. We must, therefore, be prepared for any reasonable probability or possibility and must by the exercise of forethought and intelligently applied treatment strive to secure satisfactory *immediate* results and prevent undesirable *remote* ones. The anatomic position of the head being one of special and almost constant exposure to violence predisposes to a large number of injuries. The delicate nature of the skull contents predisposes to the gravity of these injuries, while the intimate relations existing between the coverings and contents of the skull, although apparently separated by a closed, bony wall, teach us that injury to the former predisposes to disease of the latter and should teach us how prudent it will be on our part to guard against possible unfortunate results by prompt and intelligent action. The natural openings which lead to the interior of the skull, while in their normal condition and undisturbed by traumatism, serve the purposes of their existence without imperiling the integrity

* Presented to the Section on Surgery and Anatomy, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

of neighboring structures, but when once seriously interfered with they become dangerous channels through which infection may and often does reach the structures lying within the skull wall. Thus it will be seen that nature's necessities predispose to gravity in any injury to the head.

Nature has, however, made many admirable provisions to counteract, as far as may be, the unfortunate though necessary conditions above described. The skull is not only covered by the pericranium and tough resisting scalp, but is also carefully lined for the better protection of its contents, the importance of which protection daily experience demonstrates. The shape of the skull, as well as the varying degrees of thickness which it presents at different points and in different individuals, must necessarily enter into all calculations as to the possible or probable injury to the parts lying immediately within its walls when subjected to violence. The elasticity and resiliency of the skull bones are factors sufficiently important in themselves to merit close study. The especially ingenious and practical arrangement of the anatomy of the skull, giving as it does the best possible protection to its contents consistent with limited weight and general utility, is another of nature's provisions for the protection of its own creation. In brief, the shape, physical characteristics, coverings and lining are so well adapted to resistance and protection that ordinary violence results in but slight injury, usually confining itself to the scalp and external soft parts and not extending to the bony wall or its contents.

The skull has, however, in common with other parts of the body, its limit of resistance, and when this has been overcome a multiplicity of pathologic conditions become possible. These conditions will demand, on the part of the surgeon, an intimate knowledge not alone of the normal appearances of the parts involved, but also of the possible or probable pathologic conditions resulting from any given injury, for on this knowledge—on the accuracy with which the surgeon can estimate the nature and degree of the effects of the traumatism—must depend in a large measure his success or failure in treatment. We know that, apparently contrary to general law, a slight blow on the head is sometimes followed by the most serious results, and vice versa, and we should also know as surgeons that there must be reasons for these strange results, and these reasons must be sought for, utilized, and made a part of the clinical history of each case. It is a well-known fact that a blow on the head may produce any one of a variety of fractures with or without injury to the brain, its coverings or circulation. The outer plate of bone may be broken without the inner being affected, and the latter may be fractured without the presence of any apparent or actual depression in the outer one. The writer met with a case, in 1895, where the post-mortem revealed a fracture of the inner plate of the skull $11\frac{1}{2}$ inches in length, great laceration of brain tissue with rupture of the middle meningeal artery, and yet there was not even a scalp wound nor any evidence on the outer surface of the bone to indicate in the slightest degree the character and extent of the injury within. As a rule, however, when fracture exists both plates are involved. When an injury is present it is usually found at or near the part at which the force has been received, although there are occasional exceptions. Whenever there exists an injury of sufficient severity to have lacerated the brain or its membranes, hemorrhage resulting in clot, or more rarely, inflamma-

tion resulting in exudate follows. In either case the cranial contents are increased in volume and, as the skull walls are unyielding, pressure on the brain is a natural and inevitable consequence. This pressure, limited at first, is likely to increase until the brain functions are seriously interfered with or until life itself is extinct. The altered and abnormal conditions within the cranium may result in but temporary and trivial altered nerve manifestations, or they may result in partial or complete abolition of the motor, intellectual or sensory brain functions.

It is reasonably safe to be guided by the rule that intracranial pressure, when mild and local in character, will result in but mild and local functional disturbances, but when the pressure becomes general through the extension of the clot or the exudate all functional disturbances become general or the pressure may be so pronounced as to entirely obliterate all evidences of the existence of the nervous system so far as function is concerned.

The injury to the brain substance through traumatism to the head may be very slight, resulting in nothing more serious than a number of pinhead clots which times readily absorbs, or it may be so severe as to require active surgical interference to control the dangerous hemorrhage which is often present. In the more severe forms of injury the patient's loss of consciousness seriously interferes with completeness of diagnosis, but usually sufficient information may be obtained from the history of the accident and an examination of the patient's physical condition to enable the surgeon to arrive at reasonably accurate conclusions.

Where fracture of the skull exists, especially if depression be present, the most important factor to be considered is the condition of the skull contents. The fracture itself is of secondary consideration. Any violence of sufficient force to cause fracture of the skull has in all probability caused some injury to the brain tissue or its coverings, and this injury very evidently assumes a more serious aspect if the fracture be a depressed one, for in this event a section of bone will be pressed down upon the brain coverings and even fragments of bone may be forced into the brain substance itself.

In the consideration of any line of treatment in severe cases our thoughts should center on the probability of injury to the soft parts within the skull, and our efforts must be directed along the lines best calculated to overcome the *immediate* and prevent, if possible, the usual *remote* effects of the injury. Horsley has clearly established that brain scars, scars in the dura and depressed fragments of bone, are frequent causes of epilepsy, and that the removal of these causes usually results in benefit to and often in cure of the patient. We are therefore admonished to exercise great care, at the time of injury, in our efforts to prevent this result.

In outlining a general plan of treatment we would say that no one can hope to do satisfactory work on the skull, its coverings, or contents, unless he is surgically clean. We must not forget that infection is readily carried from the scalp to the brain or its coverings and that such an occurrence can not be too profoundly regretted and, when resulting through the carelessness or the unsurgical habits of the medical attendant, can not be too emphatically condemned. The clinical reports of all careful workers in this particular field of surgery go to prove that we may enter the cavity of the skull and there deal with conditions demanding

surgical attention with the same confidence and assurance with which we enter the abdominal cavity, providing we exercise the same care and possess the same cleanliness. In all operations on the skull the entire head should be shaved and thoroughly disinfected before the skull wall is opened. All foreign matter should be thoroughly removed and, where dirt, hair, etc., have become lodged in the line of fracture, where fracture exists, the chisel and hammer must be used to remove them.

The next care of the surgeon is to ascertain, if possible, the nature and extent of the injury. Where fracture with depression is found, removal of a section of bone, either with the trephine or chisel, places the field of injury open to observation and clears up questions that must otherwise remain in doubt. In all cases sufficient bone should be removed to permit of a thorough inspection of the field of operation.

We now, with the injured parts easily within reach, proceed to treat them as we treat injured structures in other parts of the body. All foreign matter and blood-clots are to be removed, hemorrhage controlled either by hot applications, pressure or ligature, and all ragged edges of the wound excised, securing, if possible, smooth coaptating surfaces. The wound in the brain should be closed with catgut sutures, after which the dura mater is carefully drawn over it and closed with the same material and the outer wound closed and dressed in the usual way. When we feel that our work has been clean throughout, drainage is unnecessary, but if we fear subsequent septic trouble drainage should be provided for; the patient should be put at physical and mental rest and his condition carefully watched for at least ten days. Should septic trouble occur the parts must be opened up and a rigid antiseptic treatment instituted. He must ever bear in mind that the scar tissue resulting in wounds that do not heal by first intention is prone to be followed by those dreaded *remote* effects which are often immeasurably worse than death, and we should, therefore, leave nothing undone which may in any way conduce to or further the prospects of an aseptic result. In cases presented to us for treatment we must not carelessly overestimate or underestimate nature's possibilities, but rather by a careful consideration of all the conditions, facts and symptoms present, intelligently weigh the evidence and draw conclusions in accordance with its drift. Time spent by the surgeon in securing facts to strengthen his judgment is usually time gained for the patient and is therefore well spent.

This paper has not been written with the view of instructing, but rather of inviting attention to a field of surgery worthy, we believe, of more consideration than is being given to it and to stimulate a closer and more thorough study of the conditions with which it deals. Placed in positions where we may be called on at any time to assume the responsibilities involved in such cases we should, in doing even ordinary justice to our patients, be prepared to treat them with a fair degree of intelligence, and they should receive at our hands that degree of surgical skill to which in this day they are fairly entitled. The records of Macewen, Starr, Horsley, Fluchrer, Weismann, and others, combined with our present knowledge of surgical cleanliness, place us in positions to do at least reasonably accurate and successful work on the skull and brain, and when we consider the importance of maintaining the security and integrity of nature's great nerve center and its

peculiar liability to injury, time spent in specially fitting ourselves for work in this connection can not be regarded in any other light than that of wise expenditure.

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TREATMENT OF TYPHOID FEVER.

WITH BACTERICIDAL IN CONNECTION WITH OTHER AGENTS, AND SOME CONSEQUENT DEDUCTIONS.*

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It would be remarkable indeed for any physician, be he the most humble or the most distinguished—or his work restricted—if he is not called upon to cross swords with the disease designated as typhoid fever. The treatment of a typhoid fever patient, as we shall attempt to describe, is the outgrowth of our acceptance of the now old and universally admitted theory as enunciated by Eberth, and, except in rare instances, the primary and principal site of infection is in the intestinal tract, although there may be undoubted cases in which there is no perceptible inflammatory process in the alimentary canal.

Taking the fact for granted, then, in the great majority of cases that entrance of the bacilli into the system is by means of the ingesta, we would naturally expect the first local manifestation to be somewhere in this tract. This we find to be the actual condition in nearly all cases. In many cases, one of the earliest and most noticeable symptoms is a peculiar diarrhea, which we take to be a well-directed effort of nature to rid herself of the disturbing elements there. Bacteriologists and pathologists of to-day assert that the real disturbing element is not so much the bacilli themselves, but the toxins produced by them. The toxins are the cause of the toxemia, and when this toxicity is extreme, we have a condition of mental and physical inactivity so familiar to us all who have treated or witnessed many typhoid patients treated according to the old expectant way of management. If the Brand or any other treatment has no recommendation above the old, beyond the preservation of the mental faculties, for this alone they would demand our adoption in every possible instance. It seems the Brand method would favorably impress every thinking mind as meeting in a great measure almost every indication possible to be met in an uncomplicated case of typhoid fever except that to be met by means of intestinal antisepsis. But happy is the physician whose clientele is of sufficient wealth that he may carry the Brand treatment into their homes without frequently meeting insurmountable obstacles; or, on whom his grip is so strong that he will not run serious risk of losing desirable patronage and influence. In hospital practice the cold plunge bath stands easily first as a favorite treatment by the leading teachers of the day, but a large majority of the typhoid patients are treated outside of the hospital, and the question arises, what is the most expedient and successful way to treat them? Our very limited experience is to the effect that the nearest approach, in many respects, to the Brand treatment will be attended with the greatest success.

Elimination of the bacilli and also their toxins, in every way possible, not detrimental to the patient, is the very important object to be attained. This is effected

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chiefly through the bowels and kidneys, and possibly to a certain extent through the skin. Nature usually begins this eliminative process by a diarrhea, as above stated. In accord with this idea, we should assist by as thorough a cleansing of the bowel as possible. The drugs on which we most rely for aid in this therapeutic endeavor are calomel and chlorin. As a germicide and purgative, calomel meets two important indications. It may be given in from 1/10 to 1/2 grain doses every half hour, as conditions may demand, until six or eight doses are taken. As soon as the bowels move because of the calomel, there should be a free washing out of the bowel with sterilized water, the effect of which may be improved by the addition of a dram of salt to a pint of water. This flushing will do much toward assisting nature, as well as contributing to the comfort of the patient. The course of the calomel, in varying doses according to the susceptibility of the patient to the drug, should be repeated every twenty-four to forty-eight hours. The wash should be repeated as often as the emergency demands, in proportion to the meteorism or bowel trouble. The antiseptic or germ-destroying property of chlorin has long been recognized as very powerful, while at the same time experience has amply proved that it is harmless to the animal economy. Then in addition to this cleansing effect of the calomel, and the washing, on the bowel and contents, we may give chlorin in aqueous solution and still nearer approach a condition of asepsis in the bowel and thus render it less inviting to the bacilli. My favorite way of preparing chlorin is that recommended by Dr. Yeo, with the exception of quinin, which I omit. Take potassium chlorate, grains 30, acid hydrochloric, minims 60, and distilled water 12 ounces. Put the potash in a dry bottle of sufficient size, add the acid, cork the bottle and allow it to stand until chemical action ceases, then add 3 or 4 ounces of the water at a time and agitate thoroughly. This is repeated until the preparation is complete. A tablespoonful is given to an adult every two hours until the offensive character, if such exists, of the evacuations is removed, then the interval is lengthened at night but continued in the day until convalescence is established. By this constantly lax condition of the bowels, the repeated washing out from below and the frequent imbibing of the chlorin solution serves to sufficiently free the bowel of the disturbing elements so that meteorism and its accompanying evils are in a great measure prevented. Autointoxication from this source is reduced to the minimum. So much then in the way of lessening, as well as the removal of a portion, of the products of infection which occur in the intestines. Professor Osler, at the meeting of THE ASSOCIATION at Baltimore, some five years ago, stated that "the only thing developed by this intestinal antiseptics is that the walls of the bowel could stand considerably more irritation and strain during typhoid fever than had been supposed." As revealed by the light of to-day that statement should be corrected as follows: Intestinal antiseptics, during typhoid fever, tends to protect and strengthen the walls of the bowel and to that extent is a preventive of extensive sloughing, hemorrhage or perforation.

In this connection, we next come to the consideration of hydrotherapy as an additional means of sustaining the vital forces, and promoting elimination of the toxic products through the kidneys and skin. In private practice the ideal hydrotherapy is by the sponge bath, hot and cold. Its practicability at once commends it to your intelligence. Any patient who with the aid of his family or friends is unable to carry

out this modification of the Brand treatment should be sent to the hospital, where water and nurses are abundant. The familiar maxim, "the greater the skill the better the service," is true in this as well as other callings; for the sponge bath very little skill and usually one nurse will suffice. The free use of sterilized water internally should be maintained throughout the attack, and externally, as conditions may require. If the patient can not take it into his stomach, inject 16 to 20 ounces into the bowel at stated intervals and the effect will be almost the same. We might say he should be drenched internally and externally with water. Internally it acts as a solvent and carrier of the waste matter, to a degree, like flushing out the sewers of a city. It facilitates intestinal antiseptics, it feeds and soothes the famished and parched tissues, favors metabolism, and induces sleep, nature's great restorer. If we follow up this effect with the free use of water externally, hot and then cold, the first effect is the shock, the severity of which depends on the temperature of the water and the hyperesthetic condition of the patient. As a result of the reflex action produced on the nervous system, we have expansion of the lungs, increased elimination of carbon-dioxid, increased oxygenation of the blood, increased blood-pressure, and a consequent increased activity of the lymphatics and other glands, especially the kidneys, which means an increase in the excretion of the toxins in the fluids of the body, and for your patient a bright eye and a clear head. The cold pack or sponge bath does not cause so pronounced a reaction as does the cold plunge bath; neither is it so terrifying and hazardous to the patient. At periods during an attack of typhoid fever the temperature in the majority of cases runs high, so much so that the patient is distressed. The nervous tension is too great, causing extreme restlessness, and if the sponge bath does not relieve it we must resort either to the cold plunge bath or give an antipyretic. What shall we do? In many instances it would be impossible to use the cold bath, in others still, it would be more dangerous than the drug. In the hospital you might use the plunge bath, but in private practice I would give acetanilid, and in about thirty minutes the patient is quiet, the skin is bathed in perspiration and the temperature is coming down within reasonable bounds. Often we will have among our patients those who have rigors. One will complain of being cold, or the extremities are cold while his body is hot, and we find the circulation very rapid and a temperature ranging from 104 to 105.5. If you give him 3 or 4 grains of acetanilid and re-apply ice-cold applications to his head, usually in fifteen or twenty minutes he will begin to complain of burning up. Having experienced this ordeal I can state from personal knowledge that the sensation is one of extreme heat over the surface. But to the patient. In five or ten minutes longer you find him perspiring, the extremities warm, and he expresses himself as feeling comfortable. The exact way in which this effect is produced, I am not yet able to demonstrate, but from repeated observation I am sure that through the nervous system the acetanilid causes dilatation of the peripheral blood-vessels and thus allows the hot blood to flow from the congested parts to the surface, the cooling area. The radial pulsation is slower and shows greater volume. This allows rest for the overworked heart.

Much prejudice exists against the coal-tar derivatives as antipyretics. This prejudice exists in the minds of many of our most learned, but in not a few instances it is held by those who have had very little

if any personal experience with them as antipyretics. That they are remedies which should be used with great caution, there can be no question, but that they should be discarded because some have dared to use them recklessly and met with disaster, is not warranted. On the same plea we will strike most every remedy of value from our list.

Along the latter part of the year 1895, I began the treatment of typhoid patients with the view of destroying and removing the bacilli and their toxins in the manner described, believing it to be the rational way of assisting in the correction of the pathological conditions. Since that time seventy-seven typhoid patients have come under our care with the result that all of them recovered. I might say, were permitted to recover, because some advocate the idea that patients so treated, when they do recover do so in spite of the treatment. The youngest of these patients was 4 years of age, and the oldest 63 years. They represent the various callings and conditions in life, from abject poverty to that of plenty. Their nursing and feeding as a rule harmonized with the intelligence and ability of the nurse to carry out the instructions. Diet was restricted to liquids and semi-liquids. Fruit juices were served in liberal amounts if the patients desired them and they could be obtained. If they so desired, they were permitted to masticate and suck the juices of broiled steak. The duration varied from nineteen to sixty-five days, though the average time was only twenty-five and one-tenth days from date of onset to a continued normal temperature. Except when temperature was high they all remained rational. No preparation containing opium was used at any time, save in one case of severe hemorrhage. Hemorrhage occurred in six cases, though very slight in five of those. Ice over the bowels and an enema of cold water containing extract of witch hazel were all that was used to control the hemorrhage in these. In the other case the hemorrhage was so severe and repeated, tincture of opium was added to the injection of witch hazel and water. Aside from this case, no effort was made at any time to check the bowels except by cleansing. When there is diarrhea, a part of the expectant plan is to control that diarrhea by sedatives and astringents, the idea being to preserve the vitality of the patient.

By a comparison of my results with those obtained by others, while employing the expectant plan coupled with the sponge bath, it is found that the results secured by the bath and intestinal antiseptics are the more favorable. The conclusion is that it is a mistake to check a diarrhea in typhoid fever except by the use of a purgative or by a thorough washing with sterilized water. By this, many of the bacilli and their toxins are carried away by the dejecta. Results indicate that the chlorin solution has a very beneficial effect in checking the production of the toxins, or by rendering them less active. That the toxins are largely produced in the glands, lymphatic and others, is not proof positive that the chlorin does not come in contact with them there, to some extent. It is evident that it does, in some way, to a certain degree, destroy or render inert, either in the bowel or elsewhere, a sufficient amount of them to prevent their producing that profound toxicity formerly so common in the disease. It is not held, in the seventy-seven cases reported, that the chlorin was the sole agent in the prevention of the toxemia. The effect of the calomel with the flushing of the bowel, prepared the way or acted as a stepping-stone for the chlorin. The cold bath, through its effect on the nervous and cardiovascular systems, greatly increased the elimination of toxins through the kidneys.

With the united effect of these remedial measures the patient is enabled to recover in a shorter period, and with a saving of vital force. In well-regulated hospitals where the patient is under the care of skilled nurses, and no imprudence in the diet could occur, and every detail as to treatment is faithfully adhered to, relapses would be rare and the course of the disease correspondingly shortened. We have the above statement, notwithstanding the reverse opinion is held by gentlemen of recognized and distinguished ability.

DISCUSSION.

DR. C. BIRNIE, Taneytown, Md.—My opinion is that the majority of cases result from the ingestion of contaminated water and not through breathing air. The patient and his surroundings should be kept clean and the excretions disinfected, so that neither air nor water be contaminated. I believe that typhoid fever is more easily treated where the bowels are loose. In talking with a prominent man, he told me that he prayed for constipation. I have never found that constipation was a thing to be desired in the treatment of this disease. I think that cool bathing is of great importance, but in country districts it is impossible to carry out the Brand method in all its details, and I can not agree with any statements made that we should treat typhoid fever antiseptically; I believe that this is impossible. Typhoid fever is a disease of the whole body and not of the intestinal tract alone. I disagree with the statements made regarding antiseptics; when we consider the canal, from the mouth to the anus, a twisting and turning canal, there is no known means by which we can antisepticize it. I think flushing the colon is useful, and I have known it to give relief to the flatus; for that it is good. There is a large number of cases that will get well under any reasonable line of treatment. Prescribe for the patient and not for the disease.

DR. A. E. ROUSSEL, Philadelphia—It has been within the last six weeks that I made a post-mortem on a patient of mine at the Howard Hospital, a young woman about 26 years of age, who had hardly any congestion of the intestinal tract: the most minute observations revealed no break of continuity of the tissues, yet the case responded to Widal's reaction and was evidently one of typhoid fever. How frequently do we see cases with marked meningeal symptoms due to the same cause! Therefore I consider the statements regarding the value of intestinal antiseptics as largely exaggerated. There has been a marked reduction in the mortality from the use of the Brand method. Where the entire treatment can not be carried out I believe that portable bath-tubs should be used. In those cases where a trained nurse can not be procured the application of the baths does not require a great range of intelligence; the member of the family acting as nurse should be taught how to take the temperature, and when the tubbing should be applied. I think the difficulties of applying the Brand treatment has been widely exaggerated. We know positively that before this method of treating these cases was in vogue the mortality ranged from 18 to 20 per cent., while now it runs from 5 to 10 or 11 per cent. I can not fully agree with the last speaker's remarks that those cases which show a mild degree of constipation are more severe and show a larger mortality. Dr. Wilson has had applied in the wards of the German Hospital the Woodbridge treatment, and among the 18 or 20 cases the results were far from being satisfactory. I think there were four or five deaths out of the above number of cases. I have tried many drugs and I have tried cold water, and the latter has proved by far the most efficacious. As regards the entrance of the germs into the system, I think it is undoubtedly in the vast majority of cases through the water-supply, so far as it has been demonstrated. But it is fair to assume that the germs may enter the system through one, or more than one channel.

DR. LOUIS FAUGERES BISHOP, New York City—I also wish to state that the antiseptic treatment of typhoid fever has brought nothing but disappointment. I have tried chlorin and other mixtures, and have been disappointed in all. Typhoid

fever is a general disease of the whole system and the intestinal tract is not the road through which we should treat it. The opinion of the whole medical world will support the Brand treatment. We should on every occasion preach and teach it. There is one practical point that is worthy of mention, i. e., that a tub is not necessary. In New York City in private practice we seldom use tubs any more. The nurses have learned how to arrange their patients in a rubber sheet, which answers just as well as a tub. Of course these baths are given by skilled and trained nurses. The tub is safer in unskilled hands. As to the merits of the Brand method, all are agreed that its chief merit lies in the support it gives to the circulation and the restoration of the nervous system, and that any reduction of temperature is a secondary matter, though, of course, important. When the patient gets a cold bath the effect is the same as it is in health; the respirations are deepened, the circulation is increased, the nervous system is wonderfully uplifted. It does not diminish the number of intestinal hemorrhages or perforations, but it certainly does not increase them.

DR. H. M. FUSSELL, Philadelphia—I am glad that I heard it mentioned that a modification of the Brand method can be used in private practice. After protecting the bed and floor with the rubber sheet, the water should be allowed to fall upon the patient from a height of from four to five inches above his body. I may have mistaken Dr. Peck's point in reference to antipyretics and I can not let his remarks go unchecked, because it is so much easier to give drugs than to give the baths. Antipyretics certainly reduce temperatures, but not in the same way as the cold bath does. I do not believe that intestinal antiseptics, given in a general way, do any good, but I have used in conjunction with the Brand treatment salol as a local measure. If there is a severe case of diarrhea, this is checked by this drug. I think we should depend upon cold water.

DR. J. M. PECK, in closing—Evidently some of the gentlemen failed to hear or else misunderstood the ideas expressed in the paper. I did not intimate that typhoid fever is a local disease, but that in typhoid fever we may, and usually do, have in the intestinal tract a local manifestation of the disease. The view taken in the paper is in perfect accord with that of the bacteriologist and pathologist of to-day. The degree of toxemia depends on the amount of toxins, and their amount depends on the multiplicity of the typhoid bacilli; hence our contention that any means by which only a part of the bacilli are carried away or the intestinal tract rendered less inviting to, or less favorable to the production of, the bacilli is so much to the help of the patient. Our experience with cases in which a constantly lax condition of the bowels and free flushing of them with sterilized water and frequent ingestions of chlorin fully justifies our faith in the treatment. This kind of intestinal antiseptics combined with the external application of cold as suggested in the paper will yield better results in private practice than any other yet suggested. If those using the Brand method exclusively will add to it intestinal antiseptics they will improve on their already good results. I do not believe the intestinal tract can be made strictly aseptic, but am thoroughly convinced by clinical experience that the septic products may be so reduced that auto-infection and auto-intoxication are kept in comparatively safe limits. The objection raised that the chlorin is a nauseous dose is purely imaginary, since by the addition of aromatics the most fastidious may be pleased. To be sure, the coal-tar derivatives should be used with caution, and when so used the life of your patient is in no sense endangered thereby, but is actually safe-guarded. The fact that they are potent drugs should not cause us to discard them any more than should strychnia, belladonna and a host of other powerful, but exceedingly valuable remedies be discarded. I repeat that, with judicious use, there is no danger of, or excuse for, killing a patient with acetanilid.

Violation of Quarantine.—An eclectic practitioner of Appleton, Wis., who has achieved a somewhat unsavory notoriety by his recent flagrant violation of accepted health regulations, who escaped from quarantine at Appleton, and passed through Chicago to Terre Haute, Ind., was apprehended in Milwaukee, January 30, and sent to the isolation hospital there.

INFLUENZA, ACCOMPANIED BY FOUR DISTINCT PNEUMONIC ATTACKS.

OTITIS MEDIA PURULENTA AND CEREBRAL HYPEREMIA, COLITIS, INANITION—RECOVERY.

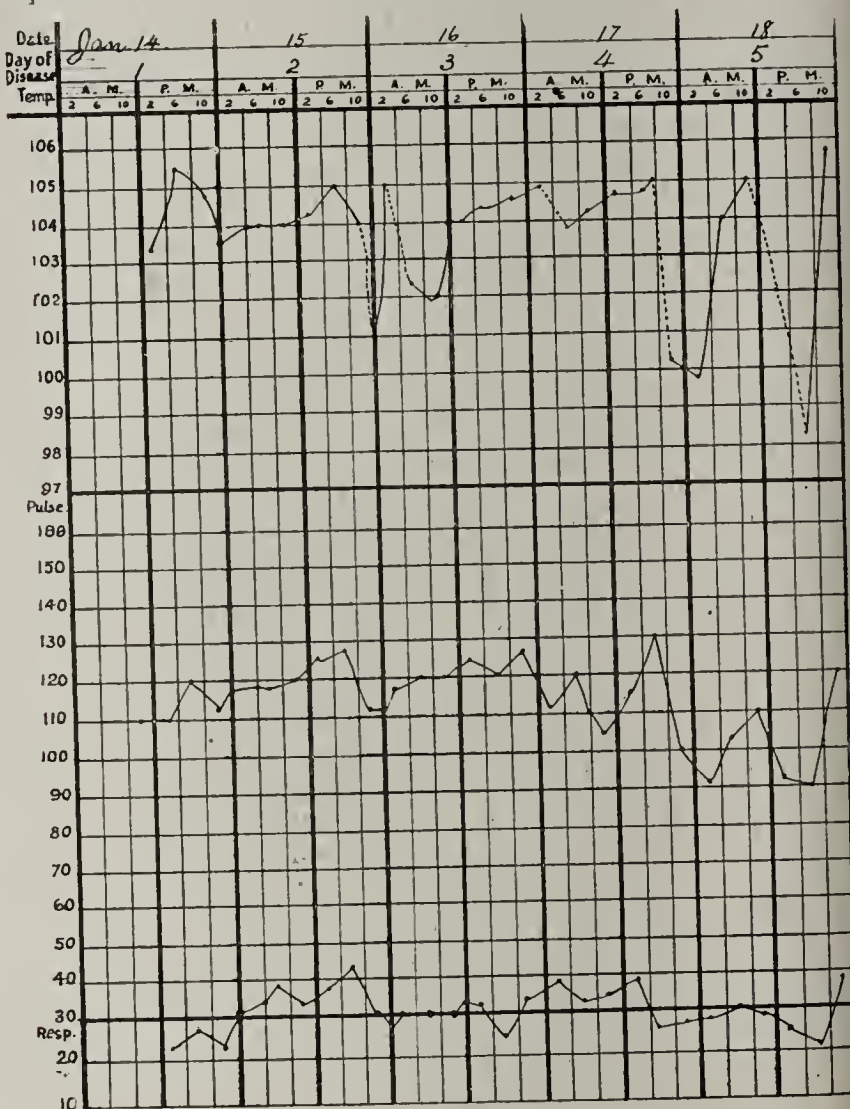
JULIUS ULLMAN, M.D.

Instructor in Clinical Medicine, University of Buffalo; Late Acting Assistant-Surgeon, U. S. A.

BUFFALO, N. Y.

As excuse for recital of this case may be given its very unusual course and happy termination in recovery.

Allen D., aged 23 months, suffered during last summer from a dysenteric diarrhea, for which he spent two months on a farm and ultimately recovered. Twelve days previous to the present illness, I treated this baby for parotitis. On January 12, when I called I found him irritable, with flushed countenance and considerable amount of dry cough; temperature 103.6; pulse 112; respiration 32. The tongue was coated, and there was



First Attack.

anorexia. The examination of the chest revealed by auscultation, subcrepitant râles, especially over both bases of the lung posteriorly. The onset was abrupt and the baby soon showed a marked apathy due to toxemia.

In the further discussion of the case I shall confine myself to the interesting and unusual temperature chart herewith presented.

The first attack of pneumonia, which was of a bronchopneumonic type scattered with here and there very small areas of consolidation, was associated with a very high temperature-curve, reaching a maximum of 105.6 F. The respirations were as high as 42, and the pulse at one time reached 135. The lines, indicating the abrupt fall of the temperature, show the effect of cold sponges and packs.

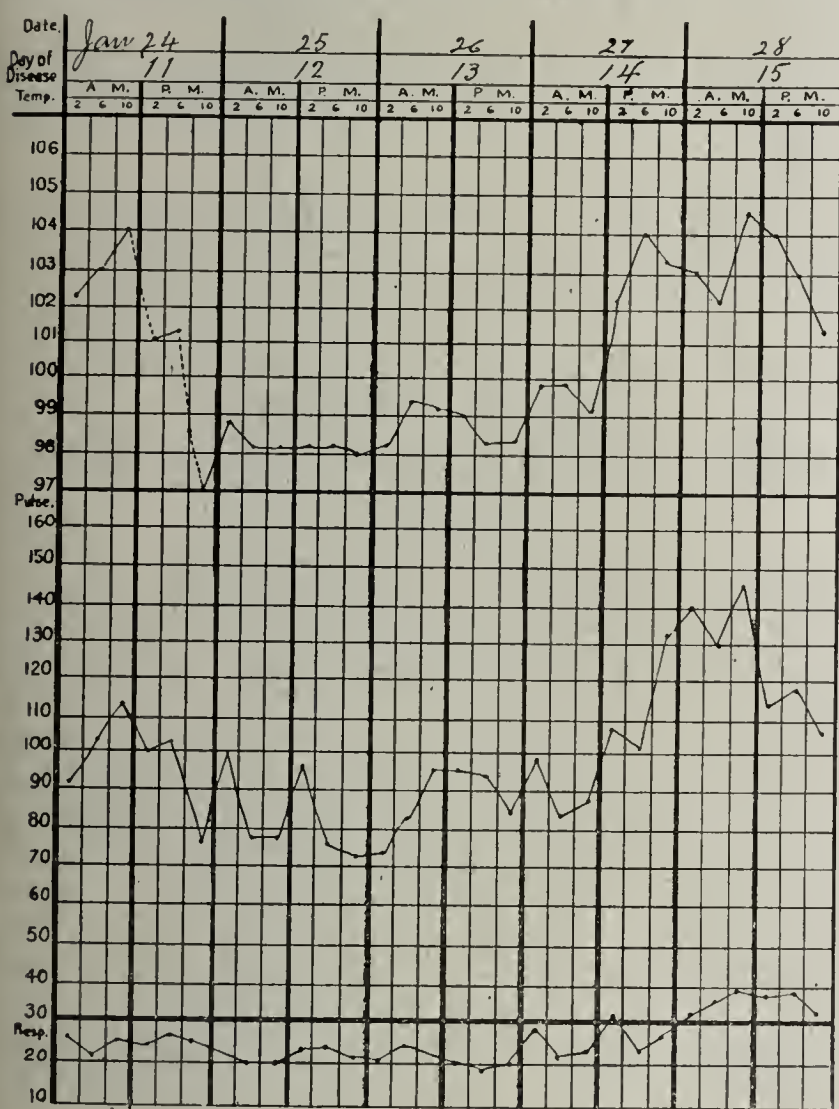
* Presented to the Section on Practice of Medicine, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

The first temperature-curve dates from January 14 to 24, eleven days inclusive. On the 9th and the 10th there was a blueness of the lips; the respirations were shallow, the pulse feeble and frequent, and emesis appearing it became necessary to give nourishment and medication by enemata. The babe meanwhile, first apathetic, became comatose; the eyes strabismic, the legs and arms strongly flexed and rigid, the head retracted, and with Kernig's sign, it was thought a complicating meningitis developed, but fortunately this was in all probability due to the active cerebral hyperemia resulting from the hyperexia, for on January 24, the eleventh day, the temperature suddenly descended by crisis and the pulse and respirations were reduced to normal. It was thought that the babe had withstood a severe type of influenza pneumonia, but we were disappointed, for after two days of calm—twelfth and thirteenth—the temperature, pulse and respirations again abruptly rose; there was again developed a dry cough, and on examina-

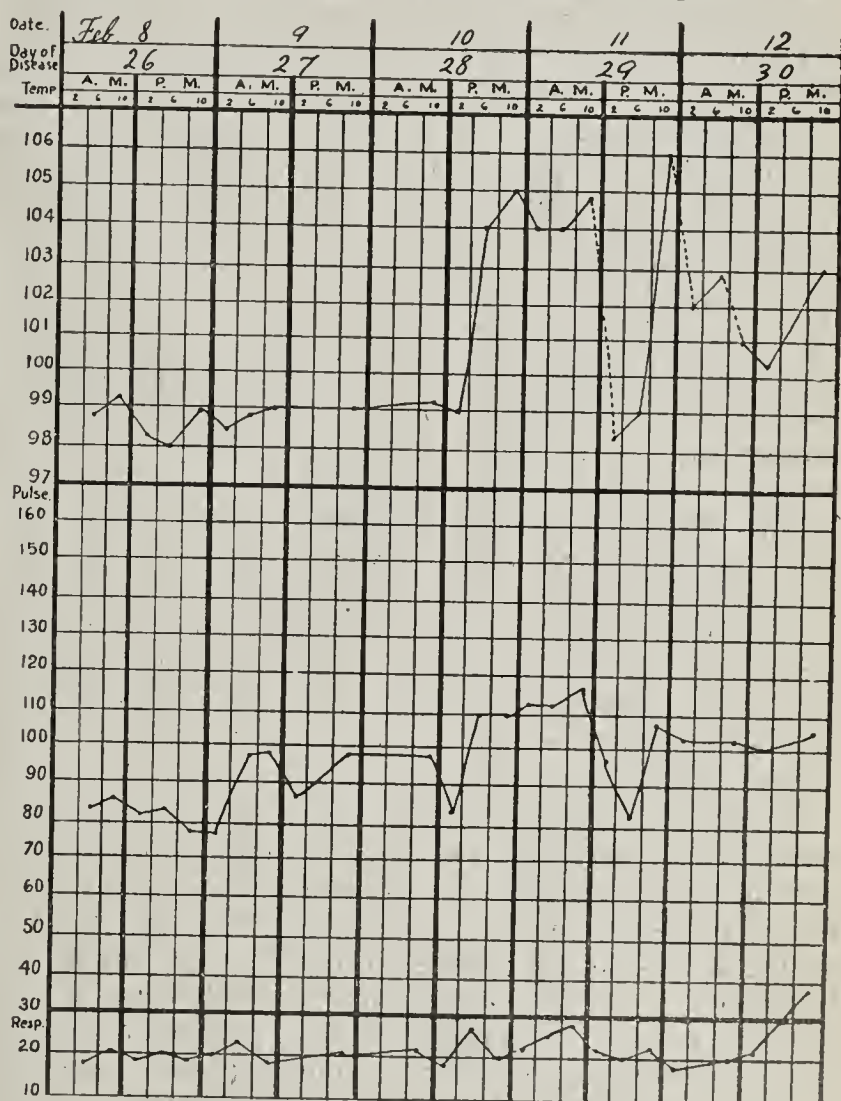
uary 27 to 30—fourteenth and seventeenth days of disease—inclusive, when temperature, pulse and respirations again descended by crisis, reaching a subnormal point, 97. The pulse became stronger and less frequent, the respirations fuller and easier, and the patient perspired freely.

The babe, because of his inability to properly take and assimilate nourishment, was anemic and lost in strength and flesh, so that beginning with the second period of calm, inunctions of cod-liver oil were given daily. This second period of calm, during which the consolidation of the right lower lobe with crepitant râles appeared, was ten days in duration—January 31 until February 9, eighteenth and twenty-eighth days of disease.

On the afternoon of February 10, or twenty-eighth day, there occurred another abrupt rise of the temperature, and on examination of the chest, a new area of consolidation of the right lower lobe with crepitant râles



Second Attack.



Third Attack.

tion of the chest there was found complete consolidation of the left upper lobe with crepitant râles and a distinct quality of bronchial breathing. The child meanwhile showed great prostration, with respirations frequently dyspneic and shallow, reaching 40. There was great restlessness and irritability and the baby acted as though in great pain. Because of the manner in which he would raise his hand to the face, our attention was directed to the examination of the ears, and a slight purulent discharge—otitis media purulenta—was noted from the right ear; this affection, after the usual treatment, improved in a few days so that the patient was less fretful and suffered less pain.

The tongue was coated, well-marked tympanitis was present, and it was noticed that the dejecta contained quantities of mucus, so that it became necessary to institute high-bowel washes. This attack lasted from Jan-

and bronchial breathing was found; the left lower lobe gave by auscultation evidences of subcrepitant râles, but no consolidation.

This attack, extending from the twenty-eighth to the thirty-fifth days, was especially severe, the chart reaching on the 13th at 10 p.m., temperature 106; pulse 128; respiration 42. The cheeks were flushed, suggestive of the hectic flush of phthisis. On the 16th there appeared a herpes labialis; there was cyanosis; the respirations were labored, shallow and cautious; the pulse was frequent, small and intermittent. There was anorexia and great irritability, the patient often refusing to swallow nourishment or medicine. Tympanites and tenesmus developed, and the dejecta showed large quantities of mucus. Again the arms and legs were often retained flexed and rigid and the head retracted. A great loss in weight and strength was noted during the attack.

On February 17 a crisis again occurred. The temperature remained normal for seven days inclusive.

On March 24, the forty-second day, there was another rise of the temperature, pulse and respirations; however, no such elevation was reached as in the previous attacks, for the reason that there was less reaction to the toxemia. The cough was dry and regularly paroxysmal. The lungs showed no consolidation, but subcrepitant râles and a bronchovesicular quality of breathing were detected over both bases, the left interscapular and mammary regions.

The colitis still continued and there was an anemia and emesis with great emaciation, the muscles becoming very much atrophied. The babe presented the appearance of inanition, and because of the continuity of fever, the hectic flush, the colitis, perspirations, the morning remissions of temperature, we were led to differentiate between influenza, malaria, remittent fever, tuberculosis and sepsis, i. e., empyema.

It was at this time a blood examination was undertaken by Dr. A. E. Woehnert, the report of which follows:

The hemoglobin was 50 per cent.; the erythrocytes numbered 3,500,000. There was a leucocytosis, but not of the polynuclear type, of 14,000. Lymphocytes, 97 per cent.; polynuclear leucocytes 3 per cent.; no eosinophiles, microcytes, poikilocytes. A picture of chloranemia or severe form of secondary anemia.

In the presence of leucocytosis we were justified in excluding a tuberculosis without cavity formation. A tuberculosis with secondary cavity formation could be excluded by, 1, the lack of physical signs; and 2, by absence of a polynuclear leucocytosis.

Empyema was excluded by physical signs, but in view of the fact that our patient appeared pyemic and that the temperature-curve reminds one of pus, and also because there are some cases, especially in infants and very young children, which give no absolute physical signs and which can only be positively diagnosed by exploratory puncture, the absence of polynuclear leucocytosis excluded it.

The blood examination, therefore, was of assistance in diagnosis in excluding the diseases enumerated above. The secondary anemia can be attributed to the toxic effects of the existing infection on the erythrocytes, causing a loss in the hemoglobin and their partial destruction. As to the increase in the lymphocytes, it was not sufficient to be attributable to a leukemia, and of this there were no nodular or splenic signs, otherwise than could be attributed to the existing inanition. Cabot regards an increase of a leucocytic count in infancy as made principally of lymphocytes, and this change is to be regarded as a mark of the arrest of the development or reversion to an earlier type of tissue. Unfortunately, we did not seek the influenza bacillus, but the prevalence of the disease sporadically at that time and the behavior and course of the history, especially considering the susceptibility of the patient after the attack of parotitis and the exclusion of the other diseases previously considered, left no doubt in my mind as to the diagnosis. The last edition of Ashby and Wright says the diagnosis often has to be made by process of exclusion and nature of epidemic prevailing.

It is interesting to note that we had: 1, an influenza bronchopneumonia scattered and in very small patches giving no definite areas of consolidation, but which showed the characteristic physical signs by auscultation; 2, that the second and third attacks were either, *a*,

marily the alveoli, such as is described in Frinkler's monograph on influenza, or, *b*, that the lobules quickly coalesced giving a lobar variety of bronchopneumonia, or, *c*, that there was added a complicating true diplococcus or streptococcus pneumoniae producing characteristic consolidation.

Purulent otitis is a very frequent complication of influenza. It may appear during the course of the disease or convalescence. It may be produced by the influenza bacillus, but often is a secondary infection due to pyogenic bacteria. Every epidemic of influenza increases the quota of diseases of the ear, and this complication should be carefully sought for.

Lastly, the colitis may be regarded as belonging to the intestinal manifestations of the disease and probably produced by swallowing the sputum, and the condition of inanition becoming secondary to the intestinal lesions and long continuance of the infection which must have produced changes of an atrophic form in the secretory function of the intestinal tract.

In view of the bad prognosis in children of influenza complicated by pulmonary disease, the severity and multiplicity of the pneumonic attacks and the ultimate recovery are emphasized.

It is a year since I first saw the child and the recovery is absolute. The child has gained in strength and weight and the lungs and other organs are normal.

AURAL MANIFESTATIONS OF SYPHILIS.*

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PHILADELPHIA.

Among 2500 consecutive cases treated in the out-patient department for diseases of the ear of the Pennsylvania Hospital there have been but seven in which the trouble was distinctly of syphilitic origin. They were as follows:

CASE 1.—A man, white, aged 25, a musician, presented himself suffering from undoubted secondary syphilis. There was a very general squamous eruption, and he had lost a large amount of hair. He had a chancre seven months before. There were several large squamous syphilids on his right auricle. These healed completely after a course of mixed treatment, accompanied by the local application of calomel ointment.

CASE 2.—A woman, white, aged 27, with marked symptoms of tertiary syphilis, had been deaf in the left ear for four years, and had suddenly lost her hearing in the right ear four days before coming to the dispensary. She suffered also since the trouble in her right ear had begun from very severe vertigo. There was total loss of bone conduction. The diagnosis of syphilitic labyrinthine deafness was made, and under large doses of potassium iodid she speedily improved. She passed from under observation before her hearing was completely restored, but her rapid and steady improvement gave us reason to hope that she would have regained it if she had persisted in the treatment prescribed for her.

CASE 3.—A boy, white, aged 9 months. The mother said the child's father had syphilis. When brought to the dispensary it had a large gummatous mass, which had broken down and formed an abscess, involving the auricle and the tissues above and in front of it. There was much glandular enlargement in other parts

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of its body and it was very weak and miserable looking. The mother said it had had "the snuffles" since birth. The pus was evacuated, and under specific treatment the child improved rapidly.

CASE 4.—Boy, colored, aged 9 years. For one week previous to coming to dispensary he had complained of roaring in the ears and deafness. There was no pain and no discharge from the ears. The drums were intact, very slightly retracted. Aerial conduction was slight and bone conduction was lost. The boy was poorly nourished, had Hutchinson teeth, and enlargement of post-cervical lymphatic glands. Under specific treatment he began to improve, but soon ceased coming to the dispensary.

CASE 5.—A colored man, aged 25, bartender, suffered from secondary syphilis. Four weeks previous to coming to the hospital his right ear began to swell; the swelling was intensely painful. The man positively asserted that he had sustained no injury and there was no evidence of any previous injury or furuncle about the ear. He recovered completely on potassium iodid internally, with the local application of yellow oxid of mercury ointment to the ear. This case I have already reported.*

CASE 6.—A woman, white, aged 30, single, domestic. Twelve years ago she had an abscess in the frontal region, accompanied by much loss of frontal bone substance, leaving extensive depression and scarring over forehead. There was a large perforation through the bony portion of the nasal septum. Her hair was scanty and quite gray. Four years ago she had gone to bed one night with apparently perfect hearing, but when she awoke was hardly able to hear anything with the right ear, and in a few days became deaf in both. She is now under treatment for specific iritis. Examination showed membrane opaque and retracted. Both bone and aerial conduction of sound were totally lost.

CASE 7.—A woman, white, aged 55 years, mother of Case No. 6. She came with her daughter to the outpatient department and said she was "going deaf." Examination showed both drums very fibrous and opaque. In the right ear she was deaf to both aerial and bone conduction. No definite history could be obtained as to whether her deafness had been of sudden onset or otherwise. There was a large perforation through her bony septum. She denied with great vigor the possibility of syphilitic infections either of herself or her daughter, declaring that her husband had been a perfectly healthy man until his death from some acute disorder some years ago. She had no other evidences of syphilis than those narrated above.

I do not think that syphilis can be a very frequent source of ear disease, as if it were, there would surely be more frequent mention made of it, and yet when we realize how many of the patients who come to dispensaries are the victims of syphilis, in many cases not manifest on superficial examination, it is possible that sometimes syphilis as the underlying cause of their trouble may escape our notice. In the cases I report, the diagnosis was plain, but in going over the literature on the subject one is struck with the great variety of ear lesions which have been described as occasionally of syphilitic origin. It seems to me very probable that many seemingly most obstinate cases which do not yield to local treatment may possibly be due to syphilis and only awaiting proper constitutional treatment.

Knapp¹ quotes the following startling statement by Hinton: "Hereditary syphilis furnishes more than one-

twentieth of all the aural patients at Guy's Hospital." Knapp says that this is certainly not a correct estimate as regards the frequency of such cases in other places.

EXTERNAL EAR.

Primary syphilis of the external ear is extremely rare. Politzer² refers to four cases. One was reported by C. Pellizzari³ in which infection followed the use of a handkerchief that had been previously used by the syphilitic son of the patient. The second was reported by J. Zucker⁴ as resulting "from the too fervent love-caress of a publican." The third case was reported by Hermct⁵ as occurring in a woman who was caressed by her syphilitic husband. The fourth case was related to Politzer by Hermct, and was a phagedenic chancre on the auricle and lobule following the bite of a syphilitic. Depres⁶ reports a case of chancre of the auricle. L. Duncan Bulkley⁷ in an analysis of 9058 extragenital chancres found 27 cases in which the chancre was located on the external ear. He reports one case occurring in a man whose ear was bitten by a man who had mucous patches in his mouth. Mracek⁸ in a study of 400 cases of extragenital chancres found but 3 located on the external ear.

Secondary and tertiary manifestations of syphilis of the most varied character are described as occurring in the auricle and external auditory canal. Any of the ordinary cutaneous lesions of syphilis may involve the auricle and canal. Thus, one case I report was that of a man in whom a syphilitic skin-eruption of squamous nature had extended to the auricle. Knapp⁹ reports a case of condylomata occurring in both external auditory canals in a woman who had contracted syphilis six months previously. He refers to a very similar case mentioned by Wilde in his "Practical Observations on Aural Surgery," and to the fact mentioned by Stöhr¹⁰ that he had seen 14 cases of broad condylomata of the canals, 11 of which were in females. Also Noquet¹¹ refers to bilateral condylomata of the external auditory meati. M. A. Goldstein¹² reports an interesting case of bilateral syphilitic ulceration of the auricle in a colored man who had contracted syphilis six months before. G. W. Linthicum¹³ also saw bilateral syphilitic ulcers of the auricle in a negro. C. D. Roy¹⁴ reports a case of condylomata of the left external auditory meatus in a colored man who had secondary syphilis. R. Barclay¹⁵ reports an interesting case in which syphilitic ulceration of the auricle resulted in sequestration of the cartilage of the concha and membranous atresia of the canal causing deafness, which was relieved by operation. H. Mendel¹⁶ reports the case of a woman who eight months after contracting syphilis developed an intense cellulitis of the auricle. Würdemann¹⁷ describes bilateral condylomata of the external auditory canals in a man who had had a chancre fifteen years before. A. H. Buck¹⁸ saw three cases of syphilitic ulceration of the external auditory canal. Depres⁶ in 1200 syphilitics observed condylomata of the external auditory meatus in five cases. Politzer¹⁹ refers to a case seen by Lang, in whom there was a syphilitic papule in the position of the short process of the malleus in a woman with general syphilis. Politzer saw a characteristic syphilitic ulcer form on the inferior wall of the meatus in the course of a chronic suppurative otitis media. The patient had likewise pharyngeal syphilis. In another case he saw a syphilitic ulcer occupying the whole length of the cartilaginous wall of the meatus, accompanied by another syphilitic ulcer on the concha. The *Philadelphia Medical Journal* of March 4, 1899, contained a

* In Philadelphia Medical Journal, June 24, 1898.

paragraph stating that a case of gumma of the helix had been seen recently at the Ricord Hospital in Paris, and had excited much attention because of its rarity.

Hereditary syphilis of the ear manifests itself most frequently in the middle and inner ear. One of the cases I report in which the external ear was involved, however, was hereditary, namely, the gumma of the auricle in the child.

MIDDLE EAR.

Syphilitic disease of the middle ear most usually originates from infection through the medium of the Eustachian tube. Politzer says that Itard²⁰ described purulent inflammation of the middle ear following syphilis. He cites Ricord, Lancereaux, Blanchet, Fournier, Bonquoy, Laboulbène and Baratoux, as having observed "primary chancroid ulcers at the ost. pharyng. tubæ. They may occur as the result of catheterization."

Jonathan Hutchinson²¹, in describing a number of cases of syphilitic disease of the ear, remarks that facial paralysis as a result of syphilitic disease of the ear, though less common than deafness from that source, is sometimes seen, and several of the cases he reports presented such paralysis. One of his cases of secondary syphilis lost his hearing simultaneously with the development of facial paralysis. He recovered from the palsy, but remained permanently deaf. Another case developed facial palsy accompanied by intense earache, but without any impairment of hearing. Hutchinson attributed the condition to syphilitic inflammation of the structures in the middle ear which did not extend to the external ear. Elsewhere²² Hutchinson says that otorrhea is not a prominent symptom in syphilitic ear disease, adding, "I have never yet seen a case of profuse otorrhea attended with ulceration, growths of granulations, etc.—such as are common in cachectic or strumous children—in an heredito-syphilitic otitis. Hutchinson thinks that secondary syphilitic otitis is to be regarded as analogous to secondary syphilitic iritis, and that the lesions it creates are usually permanent. The deafness of tertiary syphilis, he says, is of less importance, and is usually temporary.

Woakes²³, on the other hand, observes that many cases of "so-called strumous otorrhea in children are due to an inherited taint (of syphilis)." He thinks syphilitic caries of the bone is frequently responsible for the long-continued suppuration.

Hereditary syphilis was considered by A. C. Cotton²⁴ as the causative factor in the case of a child of 15 months who had other undoubted evidences of the disease associated with chronic suppurative otitis media in both ears.

F. M. Wilson²⁵ publishes the aural history of an undoubtedly syphilitic family, in which, out of five living children, three had chronic suppurative otitis media. Dr. Wilson says that these cases may have been due to syphilitic disease of tympanum, or to lowered vitality, or else were merely coincidental.

Burnett²⁶ describes the interesting case of a man who went to bed with apparently normal hearing, but on arising found himself deaf in the right ear and suffering much from tinnitus in it. Examination revealed hearing normal in left ear, but hearing was lost to air conduction in the right ear, remaining normal, however, for bone conduction. There were evidences of syphilis in the throat. As there was no loss of bone conduction, although the deafness was of sudden onset, Burnett attributed the condition to the fact that granuloma, or circumscribed, small round-cell infiltration, had formed in the tympanum with great rapidity, and had by fixation

prevented the normal movements of the conductive apparatus from being performed.

John Dunn²⁷ reports a case of exudation into the membrana tympani about the head of the malleus in a man who had manifestations of secondary syphilis. The membrane was punctured and under specific treatment the exudate disappeared. Dr. Dunn attributed the local condition to the constitutional disease.

INTERNAL EAR.

Of the cases which I report, four presented evidences of syphilitic disease of the internal ear. It is generally very late in the course of syphilis before lesions of the internal ear manifest themselves. Like almost every other subject in medicine, at one time much was said and written on the subject, but of late it has been allowed to drift into innocuous desuetude, not, however, I am convinced, because we know all there is to be known on the subject. The subjective symptoms are tinnitus and deafness, peculiar in that they are of sudden onset, especially the deafness. Hearing is generally lost in both ears, though frequently in but one. Unilateral facial paralysis is a not infrequent phenomenon.

S. Latimer Phillips²⁸ reports the case of a man who, three months subsequent to having chancre on his penis, became suddenly deaf and developed unilateral facial paralysis. In this case it would seem as though the facial nerve and the internal ear were simultaneously overwhelmed in a syphilitic catastrophe.

Syphilis of the labyrinth may occur in hereditary or acquired syphilis. Knapp¹, indeed, thinks that inherited syphilitic disease of the ear is characterized by the preponderance of labyrinthine symptoms over those of catarrhal inflammation of the middle ear. He reports several cases bearing out this view. He refers to the frequency with which syphilis of the brain or eyes is accompanied by aural syphilis.

Mygind²⁹ in reporting a case of inherited syphilitic deafness in which ocular manifestations preceded those in the ear, likewise observes that this is frequently noticed in hereditary aural syphilis. The most frequent ocular lesions are keratitis, choroiditis, or iritis.

R. Barclay³⁰ reports the case of a girl of 12 years who had suffered from syphilitic eye trouble, and for over a year previous to being brought to him had been slightly deaf. Two weeks previous to coming to his office she had suddenly become practically entirely deaf. The child had Hutchinson teeth, and her father acknowledged having syphilis. Barclay says that aural syphilis usually becomes manifest shortly before puberty.

Buck³¹ reports the case of a child with hereditary syphilis who lost its hearing in the course of three or four days. Subsequently the child developed syphilitic disease of the eye.

Crocker³² reported three cases of syphilitic ear disease occurring during the secondary stage of acquired syphilis. All three cases presented very sudden and severe deafness, more or less vertigo and violent tinnitus occurring in persons previously free from ear trouble. He says that this complex of systems should always suggest syphilis, though the same group may sometimes be seen in rare cases of labyrinthine hemorrhage or tumor, and in cases occasionally seen in sudden fixations of the stapes. He mentions as very characteristic of syphilitic disease of the ear, present in these three cases, the following hearing tests: deafness for the watch and voice was marked, a tuning-fork of middle register was wholly lost to bone conduction, but fair for air conduction; the upper register, as shown by the

Galton whistle, was more or less diminished, while the lower limit remained unaltered. He attributes these cases to sudden effusion into the labyrinth, and thinks pilocarpin acts as a specific in them, when given in conjunction with mercury and potassium iodid.

Toeplitz³³ reports an interesting case of labyrinthine syphilis following pharyngeal syphilis and unaccompanied by any middle-car lesion.

Theobald³⁴ saw a case of what he regarded as labyrinthine syphilis in which there were most remarkable variations in the hearing power, sometimes quite good, at other times almost nil. This has been noted as a feature of syphilitic deafness by several other observers.

G. A. Syme³⁵ reports two cases of acquired syphilis in which there was sudden loss of bone conduction, with staggering gait, and tinnitus, which showed marked improvement under large doses of potassium iodid. Buck long ago pointed out the fact that when the auditory nerve was involved it was usual to speak of affections as labyrinthine syphilis, whereas as a matter of fact the auditory nerve may be involved before its entrance into the labyrinth.

Roosa³⁶ advanced the statement that the most frequent seat of the lesion causing sudden loss of hearing in syphilis was to be found in the conducting apparatus and not in the labyrinth. In a later paper³⁷ he reiterated his opinion, and gives the following conclusions regarding suddenly developed deafness in connection with syphilis: "1. Very great impairment of hearing occurring suddenly, and not to be explained by the conditions found in the auditory canal or middle ear, so far as we can examine them, and not relieved at once by mechanical treatment, whether occurring in the course of syphilis or not, probably depends upon a lesion in the labyrinth or in the auditory nerve. 2. Absolute or nearly absolute deafness, the inability to hear certain tones, are symptoms of either primary or secondary lesion of the labyrinth. 3. If the tuning-fork be heard very feebly or not at all when placed upon the skull, or if it is heard better through the air than when placed upon the bones, it is probable that there is disease of the labyrinth. 4. Syphilitic disease of the labyrinth, if vigorously attacked by means of mercury and iodid of potassium soon after the beginning of the disease, may often be alleviated and sometimes cured. 5. Pathological examinations of the labyrinth, although not numerous, have already demonstrated that changes may occur, which confirm the conclusions that have been formed from clinical investigation."

W. Downie³⁸ describes the lesions found at autopsy in a boy of 17 years, the victim of inherited syphilis. The boy had had syphilitic manifestations in the eyes. Deafness came on gradually for about six months, but total loss of hearing occurred very suddenly. At the post-mortem the external auditory meatus was normal, the membrana tympani thin and free from adhesions, and the malleus and incus in healthy condition. The stapes, however, was "incorporated with, or ossified to, the border of the foramen ovale, and so had become immovably fixed to the wall of the tympanum." The mucous membrane of the tympanum was normal. The internal auditory meatus at its inner extremity was of average normal caliber and both the auditory and facial nerves were healthy, but on tracing it outward at 1 cm. from the inner opening, the upper wall became suddenly thickened, encroaching on the canal, and at a farther distance of 3 mm. the canal was almost entirely obliterated. The vestibule was so greatly encroached upon

as to make it doubtful whether any portion of this space remained. The cochlea was of average size, but the modiolus and lamina spiralis ossea were so thickened as to occupy an unusually large proportion of the cavity of the cochlea. Of the semicircular canals there was left only a trace of the external, the rest of this portion of the labyrinth being lost in an ivory-like mass of bone. This agrees with Burnett's³⁹ statement that the lesion in syphilitic disease of the labyrinth is a sclerosis of the petrous portion of the temporal bone, with ankylosis of the stapes in the oval window, accompanied by thickening of the periosteum of the vestibule and the footplate of the stapes, with hyperplasia and infiltration of small cells into the connective-tissue supports between the membranous structures in the labyrinth and the wall of the bony cavity containing them. The round-cell infiltration may be disseminated throughout the periosteum of the lamina spiralis ossea, the zona punctata and the organ of Corti.

Crockett,³² in reporting some cases of suddenly acquired syphilitic deafness, says of the pathological conditions found, that we commonly find changes in the periosteum about the footplate of the stapes and the cochlea in the vicinity of the latter, and also degenerative tissue changes in the nerve-cells and blood-vessels of the cochlea. From clinical evidence he attributes the sudden deafness to effusion in the labyrinth.

J. Baratoux⁴⁰ records the results of 43 autopsies on infants and children suffering from inherited syphilis. In these he found syphilitic lesions of the middle ear in 27, of the labyrinth in 4, and of both middle ear and labyrinth in 12. When the middle ear and internal ear were both affected, without pus formation in the internal ear, there was vascular injection and cellular infiltration of the soft parts of the labyrinth, the ampullæ and semicircular canals, and instead of the normal liquid of the canals, the parts were bathed in a sero-sanguinolent fluid. When the internal ear alone was affected, the changes were more marked. The caliber of the vessels was diminished by cellular proliferation in their walls, and sometimes they were obliterated by fibrinous clots. In some instances the labyrinth was markedly congested and there were hemorrhagic areas on the membranous portion, thus proving that the internal ear may be the seat of hemorrhage in hereditary syphilis. From the therapeutic point of view, the only thing of real value is to push the constitutional treatment of the patient, varying between mercury, potassium iodid or the mixed treatment, according to the stage of the disease in which the patient is seen. At one time pilocarpin was highly lauded in syphilis of the internal ear. Risk⁴¹ and others reported cases which had been benefited by its use. At present it is practically abandoned. Of course, if there is suppuration of the middle ear, or ulceration of the external auditory canal, local measures must be added to the specific treatment.

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PREVENTION OF INTRACRANIAL AND INTRA- VENOUS COMPLICATIONS IN SUPPURA- TIVE DISEASES OF THE EAR.*

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The predominant task of modern otology has been the evolution of an efficient treatment for mastoiditis and its complications. Formerly, surgical interference with the mastoid region was regarded as a formidable undertaking. In these days, however, we are accustomed to reports of mastoid disease in which cerebral abscesses have been evacuated, thrombosed intracranial sinuses opened and obliterated, and the internal jugular vein removed. Such cases exemplify surgical achievements of the highest order. We must not be dazzled by them, however, for it is a fair question whether there should be any cases of otitic cerebral abscess, or of otitic sinus-thrombosis, or of otitic pyemia. It seems to me that such complications are preventable, or, at least, that they may be relegated to the category of rare occurrences. The following observations are submitted as a contribution to the discussion of the ways and means by which the supervention of these complications may be obviated.

Clinically, every otorrhea should be regarded as a consequence of invasion of the chambers of the middle ear by infective micro-organisms. It is the most obvious and persistent sign of local infection. In thinking of the middle ear, most of us are apt to fix our attention upon the tympanum. But we should remember that the antrum and the cells of the mastoid process are also component parts of the middle ear. It is inconceivable that an inflammatory process, either acute or chronic, should be limited to the drum. It is not to be supposed that the tympanum may be inflamed, while the antrum, lying adjacent, and having the same vascular supply, and the same innervation, and a lining membrane of the same nature, remains unscathed by the disease. Moreover, it is highly probable that the mastoid cells are more often invaded than we are accustomed to believe. These things being true, it is evident that we must search for the sources of an otorrhea, not only in the drum, but also in the antrum, and in the cells of the mastoid process.

Gross inspection of the parts involved in suppurative diseases of the ear shows the lining membrane of the tympanum, antrum and mastoid cells engorged with

blood, swollen and softened, in the acute stages, and converted into fungous granulation tissue in the advanced stages of the disease. The underlying bone is inflamed; it is commonly in a state of caries. The changes in the mucous membrane and in the bony walls may present every degree of intensity, and every stage of progress. Pus-formation may be marked, or it may be insignificant. Cholesteatomatous masses are often present in the chronic cases. Almost without exception, the first outlet for the discharges is by the auditory canal through the ruptured membrana tympani. The disease may spread, notwithstanding such drainage, however free, to the intracranial as well as to the extracranial structures. It may extend in two ways: 1, by erosion of bone in continuity; and 2, by escape of the infectious agent from the middle ear through the blood-vessels, or by the apertures in the bones, or through the lymphatics. The bone separating the chambers of the middle ear from the cranial cavity, or from the external world, need not be deeply eroded.

Every one who has critically examined the chambers of the ear in the various stages of chronic purulent otitis media must be convinced of two things: 1, the doubtful probability that advanced disease may be permanently controlled by treatment through the external auditory canal; and 2, the eminent desirability of a permanent eradication of the infective inflammation.

Experience demonstrates that if we wish to prevent the spread of infection from the middle ear to the intracranial regions, the conditions on which the otorrhea depends must be removed. After extension of the infection has occurred, it is generally agreed that operative interference should be undertaken. Also, when swelling with fluctuation develops behind the auricle, no physician would object to an operation. But in the absence of those reasons for operating, which even the un instructed are able to appreciate, it is customary to recommend palliative measures, rather than resort to means which will permanently remove the focus of inflammation. Although in certain recognizable cases the simpler means will succeed, it is not good judgment to favor a prolonged trial of any method of treatment that is not producing palpable results.

In the majority of cases the objective symptoms will guide us aright in deciding upon the prophylactic operation. I shall ask you to consider, *seriatim*, seven objective indications for the mastoid operation, which may be recognized by the general practitioner.

1. *Bulging of Shrapnell's Membrane, with Swelling at the Inner Extremity of the Auditory Canal.*—The upper posterior quadrant of the membrana tympani is known as Shrapnell's membrane. Whenever, in purulent otitis media, it bulges into the auditory canal, and especially if swelling at the inner extremity of that canal be associated with it, we may assume that the mastoid antrum is seriously involved, and that the radical operation will probably be necessary to the patient's recovery. It is generally agreed that a free incision should be made through the drum-head in every case. Too great faith may be based on that treatment. The pus is always thick and tenacious, and it may not flow readily, even through a large aperture. Retention of pus in the ear can not be regarded too seriously; and, whenever incision of the drum-head fails to establish efficient drainage, it will be more prudent to open the mastoid antrum at once, rather than subject the patient to the dangers of delay. Those dangers are especially great in diphtheria, scarlet fever and influenza.

* Read before the New York County Medical Association, April 16, 1900.

The following history of a case will illustrate some of the prominent features of acute purulent otitis media:

M. O., 29 years of age, consulted me in February, 1899, for inflammation in his nose and throat. He had never had trouble with either ear. There was marked chronic dilatation of the submucous blood-vessels over both inferior turbinated bones; enormous posterior turbinal hypertrophies were present; and his entire pharynx was subacutely inflamed. About two weeks later, he had an attack of acute purulent otitis media in his left ear. Swelling at the inner extremity of the external auditory canal occurred early. The drum-head ruptured spontaneously before he returned to the dispensary with the ear inflamed. After ten days' treatment as an out-door patient, he was admitted to the Metropolitan Throat Hospital, where he remained about a week. The ear having improved, he was permitted to resume his indoor work. The inflammation relapsed almost immediately, and he was readmitted to the hospital on March 21, 1899, suffering from very severe pain in the ear. The mastoid process and the upper portion of the sternocleidomastoid muscle were very tender. The discharge from his ear had diminished, and he had had two mild chills. His temperature was 100. His general appearance was that of great suffering.

On March 22, assisted by Drs. C. J. Strong and E. M. Alger, I opened the mastoid cells, and established communication with the tympanum through the antrum. Pus was found in the inferior cells especially. The diseased mucous membrane and bone having been removed, the entire region was thoroughly disinfected and dressed antiseptically.

On the eighth day, the first redressing was made. There had been no discharge from the wound, or from the ear; and the wound was apparently healed throughout. On the eleventh day, the wound was perfectly healed, the ear was perfectly dry, and the dressings were removed permanently. On April 16, the ear had not discharged since the operation; the scar over the mastoid was normal; and the hearing for the watch, in the operated ear, was 10/30.

Since then, his ear has not troubled him, and the hearing remains as acute as in April. I removed, as soon as possible, the posterior turbinal hypertrophies, and reduced the inflammation in his nose and throat. I saw him in January, 1900, and up to that time the ear had not relapsed.

The result of operation in this case was not an extraordinarily fortunate one. Similar results may be attained with regularity, provided that the operation be thoroughly done, the parts thoroughly disinfected and properly dressed, each time with complete antiseptic precautions, for chance cuts no figure in the healing of wounds made for the relief of pyogenic infective diseases.

Two cases of acute purulent otitis media, in which no operation was undertaken, made a profound impression on me some years ago. Both patients were in vigorous health until attacked by the aural inflammation. Both were exposed to cold after the disease had been running about ten days. One developed typhoid symptoms immediately and died, it was said, of typhoid fever. The other died suddenly on the morning of the day appointed for the mastoid operation. Both lives could have been saved by different management.

In the case of M. O., exposure to cold and fatigue had an evil effect on the otitis. But my previous experiences with similar cases that had not been exposed to cold or fatigue were not very different. Many such might be cited in which bulging of Shrapnell's membrane and swelling at the tympanic ring occurred early, which were treated by the most approved non-operative means advocated by the recognized authorities, but without satisfactory result, and in which, after unnecessary delay and loss of strength, the radical operation became essential to the patient's recovery. In the light of these confessions, it must be evident that I have been con-

servative in accepting the teachings of experience. But it is plain to me now that the earlier the diseased regions are opened and disinfected, the more speedily will the cure be wrought, and the more safely.

2. *Persistent Tenderness over the Mastoid Process.*—Persistent tenderness over the mastoid process is a symptom of an otitis having important proportions. It is an indication for the radical operation, in both acute and chronic otitis media. In some such cases we find very little pus. There are otologists who object to a mastoid operation unless one may be confident of finding pus. If by that they mean to imply that there must be more than a few drops of pus in the antrum before they will consent to operate, I can not agree with them. As before stated, we find in purulent otitis media the mucous membrane of the middle ear in a state of fungous granulation, and we find caries of the bony walls of the middle ear. Both of these pathological conditions are incited by infective micro-organisms; and in both the existence of pus may not be very evident on cursory examination. Nevertheless, in order to cure such states of mucous membrane, and to check the progress of the caries, and to remove the infective organisms from the chamber of the middle ear, an operation that penetrates to and eradicates all of the disease must be undertaken. We should not expect other measures to succeed. Our duty to operate, therefore, is quite as great before an abscess has formed as it is afterward.

3. *Swelling of the Soft Parts over the Mastoid Process.*—The mastoid antrum should be opened in suppuration of the ear whenever swelling of the tissues over the mastoid process is observed. In a certain percentage of cases, incision and drainage of the superficial abscess is followed by recovery. This fact makes it less easy to convince an important body of general practitioners that it is not sufficiently effective. Ten years ago I was willing to handle certain cases in that way. Some of the patients were restored to health after a longer or a shorter period; but in a number of them the radical operation had to be done before the patient could recover. Among those cases of imperfect primary operation was one in which the sequel was disastrous; for my patient subsequently developed a cerebellar abscess, from which he perished. The intracranial complication did not arise until nearly two years after the first operation; but it is certain that had a radical operation been done in the beginning he would not have died as he did.

Mastoid abscesses are due to the spread of infection from the antrum and cells. In order that the infectious agent may reach the periosteum, the intervening bone need not be carious, for it may pass to the exterior through the veins, or the pores in the bone, or the masto-squamous suture. When an aperture through the external table of the mastoid is found, it should never be assumed that further operative interference may be omitted. And, also, when the external table of the mastoid process appears to be in good condition in these cases, we must never imagine that a thorough operation is not essential.

Swelling of the soft parts over the mastoid process, without abscess, is also an indication for an early operation. Such swelling may be dissipated, in certain instances, by non-operative means; but it is not probable that the infective agent may be driven from the field in that way. It is especially important that the radical operation be performed early in cases of chronic suppuration of the ear with swelling over the mastoid. Subsidence of the swelling in such cases can never signify that an adequate impression has been made on the dis-

ease, unless the improvement has been brought about by measures that are distinctly more effective than the usual local treatment.

4. *Granulations and Fistulæ in the External Auditory Canal.*—Granulations and fistulæ in the auditory canal external to the drum-head are indicative of caries in the walls of the middle ear. The discharge in these cases is more or less offensive. The extent of the carious process is not indicated by the objective, much less by the subjective symptoms. And no variety of treatment less heroic than a thorough mastoid operation offers any prospect of recovery. The following history of a case of this sort illustrates the various points commonly observed:

G. F., 9 years of age, was brought to me on account of a chronic offensive discharge from her left ear. The first purulent discharge from the ear occurred when she was seventeen months old. In 1893, she was operated on at the Manhattan Eye and Ear Hospital, and some dead bone removed through the auditory canal, I suppose, for there was no sear over the mastoid. She was under treatment until 1896. The ear had discharged offensive pus for one year when she was brought to me. For a considerable period, her general health had been poor; she was listless, and complained of frontal headache. The ear was discharging freely; and from the upper wall of the auditory canal near the drum-head projected a large granulation. There was neither swelling nor tenderness over the mastoid. At this examination in December, 1899, a large adenoid was removed from her nasopharynx.

A few days later, I attempted to anesthetize this patient; but, owing to her feeble condition, the unavoidable presence of food in her stomach, marked irritation of the bronchial tubes produced by the ether, and the subsequent depressant action of the chloroform, which was finally substituted for the ether, the child's symptoms became so alarming that I was compelled to postpone the work on her ear until another time.

During the following month, she was given iodid of iron and nux vomica. On January 10, 1900, assisted by Drs. C. J. Strong and M. C. Twitchell, and in the presence of Prof. E. D. Fisher, the patient was chloroformed, and I opened the mastoid antrum, which was found under about 1 centimeter of firm bone. There was a small quantity of pus in the antrum; the mucous membrane of the various chambers of the middle ear was in an advanced state of fungous granulation, and the walls of the antrum and cells were carious. Quite an extensive excavation was required to eradicate all of the disease. Very large granulations were removed from the tympanum. The malleus was extracted, and I intended to remove the incus, but it was missing. Nearly all of the posterior wall of the auditory canal was removed, and it was necessary to use the curette freely on the superior wall of the canal. I did not find that the roof of either the tympanum or the antrum had become carious. Finally, the entire region was thoroughly disinfected and dressed antiseptically.

Dr. Strong made all the subsequent dressings, and I did not see the patient again until five weeks after the operation. Then I found the wound entirely healed and the ear dry. The general condition of the child had improved greatly. My object in referring to this case is especially to show how dangerously extensive the middle-ear diseases may be, and yet give rise only to symptoms that are commonly regarded as insignificant.

5. *Persistent and Relapsing Fistulæ behind the Auricle.*—Persistent and relapsing fistulæ behind the auricle should be cured by a radical operation. They point to the existence of caries of the walls, and an infected state of the mucous lining of the tympanum, antrum and cells. Fistulæ that discharge for a time and close for a period are perhaps more likely to be followed by sinus-thrombosis, or some other intracranial mischief of a dangerous character than are others that remain open

continuously. The indications for early operation seem clear.

6. *Persistent, and Especially Offensive, Otorrhea.*—Persistent and relapsing otorrhea, especially if offensive, ought to be checked by thorough removal of the underlying infective condition in the middle ear. Failure to cure otorrhea by radical operation will be observed rarely, if the work be done thoroughly, and if the wound be kept surgically clean until complete healing has taken place. There may be cases of purulent otitis media that are incurable. There are cases that will not yield to one operation, because all of the disease and all of the infective material may not be removed at the first attempt. The cases that prove to be incurable, and those that prove to be difficult, are either cases in which the infection has eaten its way slowly along for years without any very marked outbreaks, like a smouldering fire in the forest, or they are cases in which the infection is intense, and the attendant indifferent to the dangers of delaying operative interference.

In the winter of 1898, Dr. W. N. Platt, of Shoreham, Vt., sent me a patient who had been under treatment for insane delusions at the State Asylum at Waterbury, Vt. She had a chronic otorrhea, which the doctor conjectured might have had some etiological bearing upon her mental state. The only local symptoms existent when I saw her were a purulent discharge from the ear and slight tenderness over the mastoid process. I operated on her at the Mary Fletcher Hospital, at Burlington, Vt. I found the usual degeneration of the mucous membrane of the chambers of the middle ear. The patient made a satisfactory recovery from this operation, and then her ovaries were removed. The combined results of these operations were good in every way; but inasmuch as the laparotomy succeeded my work so shortly, the psychological value of the operation on the ear was necessarily obscured. However, it is interesting to know that the result obtained was not fugacious. Under date of Feb. 24, 1900, Dr. Platt wrote me as follows: "I had a report from the patient that you operated on for disease of the antrum and cells, last September. At that time, both her mental and physical conditions were good—the normal psychical life perfectly adjusted."

I have referred to this case especially because, so far as I know, the chief reason for removing the disease from the ear, namely, to restore the function of the mind, was unique.

Influenced more or less by the outcome of this case, Dr. George S. Bidwell, of Waterbury, Vt., formerly assistant physician in the state asylum, referred Mrs. Charles H. N. to me for a similar operation. I operated on her at the same hospital in the summer of 1898. The same local symptoms were present as in the other case, and I found in the chambers of the middle ear similar pathological conditions. Under date of Feb. 21, 1900, Dr. Bidwell wrote me as follows respecting this patient: "She had never been adjudged insane, and when she came to you she was able to preside over her children and household. At the time she came, she complained of a strange feeling in her head—that is a term often used by melancholic and maniacal patients in the incipient stages—and confusion of ideas. This confusion was so marked that she was hindered in her household duties. She was annoyed by, and complained of, it. I did not like these prodromes. The otorrhea offered a clue. You restored her. What might have developed in her case we can only conjecture. I firmly believe more serious mental disturbances might have supervened. All abnormal mental disturbances above re-

ferred to were relieved by the operation, and four weeks ago she was well, in good spirits, and happy."

It has been suggested that persistent offensive otorrhea should be treated by removal of the malleus and the incus. That is very good as far as it goes. The fact is, however, that if we confine our attention to so narrow a view of the pathology of mastoid disease, we shall fail to relieve many patients who may have caries of the ossicles, but who have at the same time that which is more important, namely, caries of the walls of the antrum and cells. There can be no reasonable doubt that the malleus and the incus should be removed in a certain number of cases of chronic otorrhea, but, as a rule, their removal should be a step only in the radical mastoid operation.

7. *Sudden Marked Diminution, or Absolute Cessation*, of a chronic otorrhea is a symptom of great significance. It should be regarded as the signal that the infection has attacked, or is about to attack, a vulnerable part. It is a command to operate in the most thorough manner, with the least possible delay. In such cases the sigmoid sinus ought always to be explored.

THE RADICAL MASTOID OPERATION.

Macewen, in his classical treatise on "Pyogenic Infective Diseases of the Brain and Spinal Cord," has discussed the radical mastoid operation in the most satisfactory manner. Experience in the operating-room and at the dead-house has demonstrated beyond a doubt, to my mind, that his advice respecting the operative management of mastoiditis and its complications is perfectly trustworthy. It would be impossible for me to add anything thereto. But it will not be amiss to refer to the fact, so frequently forgotten, that the object of the mastoid operation is not to drain the inflamed chambers of the middle ear. The object of the operation is to remove the disease. After that has been accomplished there will be nothing to drain away. In the class of cases under consideration, it is necessary to remove the disease from every recess to which it has penetrated. Not only should the antrum and the cells be freed of the infection, but the tympanum should always be thoroughly curetted, and the malleus and the incus should be removed when they are in a state of caries. Sufficient bone must be cut away to give the operator an opportunity to ascertain the precise condition of the various parts. Objection may be raised against this doctrine on the supposition that such radical invasion of the middle ear will prove disastrous to its function. So far as may be compatible with the well-being of the patient, I agree that the integrity of the ear should be conserved. But the handling which I have advised for the tympanum, however rough it may appear to be, does not necessarily injure the hearing. Whenever the ossicles are so diseased that they must be removed, we shall find that the function of the ear had been destroyed some time before that operation was undertaken. Repeatedly have I demonstrated the fact that the most thorough curetting of the middle ear is not incompatible with the preservation of acute hearing. The following history of a case upon which I made that operation twice within the year is apropos.

H. W., 14 years of age, was seen in consultation with Dr. R. N. Disbrow, on Feb. 21, 1899. During the two years preceding, he had had recurrent attacks of suppuration in his left ear. The discharge had ceased each time after a little, and had never been accompanied by much pain. On February 12, the discharge recurred, and the ear was painful. On the 19th he consulted his physician. On the 20th, he had a chill and his temperature rose to 104. I saw him in the afternoon of the next

day. There was some purulent discharge from the left ear; the external auditory canal was free; there was a small perforation through the drum-head, and marked bulging of Shrapnell's membrane. There was no swelling over the mastoid, nor was there tenderness excepting over the knee of the sigmoid sinus. The internal jugular vein was not involved. Mental hebetude and photophobia were well marked. The patient was chloroformed, and I made a free incision through the membrana tympani, but did not evacuate much pus. After the incision had been made, a well-marked transient spasm of the left side of his face, especially about the lips, was noted. On Feb. 22, 1899, assisted by Drs. Disbrow, Booth, and E. M. Alger, I opened the mastoid antrum. It contained pus and fungous granulations, as did also the tympanum. The tympanum and the antrum were eurented very thoroughly, until I was satisfied that all of the disease had been removed. While eurenting the aditus, twitching of the same side of the face was observed once. Following up the disease, I was lead to open the sigmoid groove at the knee, and evacuated thereby about two drams of foul-smelling pus.

Ophthalmoscopic examination immediately prior to the operation showed the media clear and the fundus normal in each eye.

I did not see the patient again until Oct. 27, 1899, when his father brought him to my office, having already visited the Eye and Ear Infirmary, where he had been advised very properly that another operation was necessary. I found the ear discharging pus, and there was a fistulous tract opening at the upper end of the mastoid sear and leading down to the antrum. The wound had become infected, and had never healed.

On Oct. 30, 1899, at the Metropolitan Throat Hospital, assisted by Drs. C. J. Strong and John Drew, and in the presence of Dr. E. M. Alger and others, I operated again on this patient. The antrum and the tympanum were full of granulation tissue and cholesteatomatous masses. Very thorough eurentage of the tympanum and antrum cleared away all of the disease. The only invasion of the bone consisted in a small spot of caries in the lower portion of the mastoid process.

On November 2, I redressed the wound, and removed a large adenoid from his throat. On December 2, all dressings were permanently removed. There was a large polypus projecting from an aperture in the drum-head. By December 6 the last vestige of the polypus had been destroyed. About December 20 he was discharged cured. There had been no discharge from the ear since the polypus had been exterminated. The hearing for the watch in the left ear, the tympanum of which had been eurented twice within the year, was normal, or for my watch, 30/30.

The dangers incident to the radical operation on the mastoid in uncomplicated infectious diseases of the middle ear have been grossly exaggerated. Irregularities in the anatomy of that region have been supposed to be common enough to endanger the important closely adjacent parts, and even the patient's life, during the operation. Such suppositions are purely fanciful. It is true that the operator may wander from the course which he should follow; but it is futile to ascribe the error to an alleged anatomical peculiarity of the patient. Moreover, even after thorough eradication of the infective process, the most radical antiseptic measures are essential. Efforts to secure and to maintain thorough disinfection of all the parts involved must not be relaxed until the wound has healed perfectly.

In conclusion, permit me to remind you of the importance of diseases of the nose and throat as predisposing causes of suppurative diseases of the ear. The existence of hyperplasia of the lymphoid tissue in the vault of the pharynx tends to provoke acute suppuration in the middle ear, and provides a condition favorable to recurrences of the attack. Attention has been directed to this fact by numerous writers, but the lesson has not been learned even by many who are pretentious of be-

ing known as specialists in otology. Among close observers there can be no doubt that, in patients under 15 years of age, an adenoid exists in almost every case of suppuration of the ear. To have any etiological bearing, however, it must promote a chronic congestion of the nasopharynx. In order to serve that purpose, the growth need not be very large, although the greater the adenoid, the more likely will it be to cause trouble in the ears.

Associated with adenoid growths, we commonly encounter a hypertrophy of the faucial tonsils. At the same time, a hypertrophic rhinitis, in which chronic dilatation of the submucous veins of the inferior turbinal body plays the chief rôle, is the prevailing obstruction in the nasal passages.

Posterior turbinal hypertrophies, likewise, obstruct respiration through the nose, and they, too, should be enumerated among the predisposing causes of purulent otitis media.

In view of these facts, it must be obvious to all that rectification of abnormal states of the nose and throat is an indispensable preliminary to the prophylaxis of intracranial and intravenous complications of infectious pyogenic diseases of the ear.

[For Discussion, see THE JOURNAL, xxxiv, p. 1263.]

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THE CEREBRAL NEURONS IN RELATION TO MEMORY AND ELECTRICITY.*

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Professor Heger,¹ of Brussels, gives an account of experiments made on animals to determine the conditions of the brain cells, during various conditions of rest and stimulation, and concludes that "an important property of the cerebral nerve cell is its variability in reaction as regards its cell body, its processes, and its epidendritic granules. Changes in all three portions may co-exist or occur separately under different conditions, the further significance of which is important, and demands investigation." The nervous system reduced to its initial stage may be represented by two elements, a nerve cell, and a conducting tube, and it is the association of these two elements, which constitutes nerve centers and nerves. *Punch* tritely remarked, "What is matter never mind, what is mind, that's the matter." Although no relation of identity or analogy subsists, between mind and matter, a close relationship may be shown to exist between mind and force, or between mind force and nerve force. Undoubtedly mental activity may be excited by nerve force, and such is found to be the case in every act in which the mind is excited through the instrumentality of sensorium. The will can develop nerve force, and as a nerve force, can develop mental activity. There is in fact, a correlation between these two forces, fully as intimate as that which exists between nerve force and electricity. Maudsley is of opinion, there is memory in every nerve-cell, and indeed in every organic element of the body. The organic registration of the results of impressions upon our nervous centers, by which memory is established, is after all the very basis of mental life, and the cells and nervous tubes, associated in many ways, constitute the nervous system in its entirety. As life progresses tissue formation changes materially, and we gradually observe the outward as well as the inward manifesta-

tions of declining activity. Such is observed in the loss of hair, and the bald scalp, in the decay of teeth and consequent defective power of mastication, so also in the defective auditory process, as well as in gradually impaired vision and memory. Such evidences are undoubted in their character, and positive proof, should such be wanting, of an abnormal decline in systemic power, coincident with advancing years. While these systemic evidences of change are in progress, it is reasonable to infer that nerves and nerve centers, the very motive power of the entire system, should also participate in some degree in those structural modifications, indicative of molecular change, and impaired functional activity. Recent discoveries in the line of nerve-tissue formation, have defined small cellular almost rod-shaped bodies, as components of cell nervous tissue, known as neurons, which take an important place in the elimination of nerve power, and contributing to the production of normal functional activity. One of the most interesting developments recently announced in Germany, France and America, is that nerve cells were capable of movement, to such an extent as to actually alter their original relationship one to the other. In 1890, Wiederschein, a German physiologist, saw in the *Leptodara Hyalina*, an invertebrate, one of the entomostraca, the nerve cells of the esophageal ganglion move in a slow flowing fashion. This altered relationship almost molecular in character, may give a clue to a lessened functional activity and constitute the basis on which retardation rests. This constitutes the field of action, as to the therapeutic power of the electric current, which, as a known force, is still in its infancy. At the convention of the American Electro-therapeutic Association,² it was stated that static electricity causes contraction of the protoplasm, both animal and vegetable, excites nerve fibers, nerve centers, and nerve cells, to functional action, and to produce their separate effects, motor, sensory, secretory, sympathetic and vasomotor. The recent observation of Professor Herdman,³ of the University of Michigan, is as follows: "That whenever a current of electricity traverses an animal body, the magnetic field resulting from the current and surrounding its path, must disturb in some manner the molecular and atomic activities that are going on in the tissues and fluids, through which the current of electricity passes, in fact, in such a manner as to rotate in some degree every molecule, so as to make it assume a different position from what it would if not thus acted upon," and draws the deduction, "that alternating magnetic stress is in some way related to quickened metabolism of tissue: that the magnetic energy goes through some sort of transformation, and reappears as physiological energy." During the past few years, in noting the results of failing nerve power, as indicated by functional inactivity, in tissues and organs generally, I have been more and more impressed with the vast importance of a thoroughly established balance of power in each structure of the human body and particularly with reference to the nervous system. In the examination, no organ should be passed over easily, or even section of the body, as difficulties creep up almost silently and diseased conditions become established prior to particularly marked external indications of importance defining the same. The brain is the battery of the body and as diversified in its peculiarities and manifestations as the facial expression of the Genus Homo, no two of the entire human species being exactly alike. In the examination of

* Read before the Royal Society of Canada, May 30, 1900.

1. British Medical Journal, May 27, 1899.

2. The Times and Register, Dec. 29, 1894.

3. Electricity, April 18, 1900.

nerve power by electro-neurotone currents, I noted on several occasions after a few weeks' application quite a change in intellectual activity, as evidenced by improved memory. The currents were passed through the base of brain chiefly, by applications to the parotid regions on either side of the neck, and in the most casual manner, not in the least anticipating this practical result. The individuals operated on were over 60 years of age, and the improvement of memory was of such a character as in my humble opinion to be worthy of the closest scientific inquiry.

REPORT OF TWO CASES OF AFEBRILE TYPHOID.

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I presume no one thing has aided us so much in the diagnosis of typhoid fever as the temperature chart. Since the use of the clinical thermometer the temperature has come to be the indication for diagnosis, treatment and prognosis. All the old and recent authorities place great emphasis on this symptom of the disease. Indeed, the temperature in typhoid is so absolutely essential for the estimation of each individual case that no scientific physician would treat one without regular measurements of the temperature.

It was formerly considered that typhoid fever had to be accompanied by elevation of temperature, and the rule that at some period of the disease the temperature is raised was supposed to be without an exception. That such a thing as afebrile typhoid exists has been called to the attention of the profession by Liebermeister. I shall not enumerate the symptoms of this disease, but I wish to show that we may have absence of rise in temperature and yet the case be one of typhoid fever. Within the last few years I have seen patients with undoubted afebrile typhoid, and this has led me to give the subject consideration. My investigation has convinced me that the disease does occur in an endless number of types, and in this connection I desire to call attention to two cases of the afebrile form which came under my observation during the last sixteen months.

CASE 1.—J. E., a clerk, aged 23, whose previous health had been excellent, came to me Sept. 10, 1899, complaining of lassitude, headache, inaptitude for work, constipation quite pronounced, and loss of appetite. The above symptoms had been present for five days, and there was no temperature, but some splenic tenderness. He was given a cathartic with instructions to call again within forty-eight hours. At the end of this time he complained of having had a severe epistaxis on the morning of the sixth day, no temperature, the tongue dry and coated, and tenderness over the spleen more pronounced. I found both the diazo and Widal reactions positive, and this at once confirmed my suspicion of typhoid fever. On the eighth day there appeared a crop of five distinct rose spots. On the tenth there was quite marked iliac tenderness and meteorism present; the pulse was soft and beating 100 per minute. The patient was put to bed, where he remained for three weeks, and during this time his temperature was taken four times daily and the highest degree recorded was 99. At the end of this time the patient was told that he might go home, but that he was to follow out instructions regarding diet, exercise, etc. On arriving home he disobeyed and partook of a large meal, walked several miles, spent the day and evening in visiting friends, and the following day felt weak and exhausted; on the next day he had headache, no desire for food and felt bad generally. He continued to grow worse, and, five days afterward I found him with mental torpor and dulness, his tongue and lips dry, a new crop of rose spots on the abdomen, and considerable meteorism present, with a large and tender spleen, temperature 102 and

pulse 100. This patient, in his relapse, ran a typical course of severe typhoid fever, his temperature pursuing the step-ladder rise and continuing high for four weeks, though he eventually recovered after being in bed two months.

CASE 2.—July 8, 1900, John R., a schoolboy, aged 17, consulted me because of lassitude, intense headache, weakness and gradual loss of appetite, nervousness, inability to sleep and occasional chilliness; he also complained of marked constipation. I found his tongue heavily coated, pulse 106, soft and slightly dirotic, temperature normal, some iliac tenderness and meteorism present, a crop of rose spots on the abdomen and thorax, Widal and diazo reaction both positive. By July 20 he had improved generally, meteorism had nearly subsided, and he was beginning to crave food, no elevation of temperature had been noted, although it had been taken four times daily after the first visit. From this time on the patient gradually improved, and at the end of three weeks after first consulting me, barring a slight weakness, he was apparently well.

I was taught that typhoid fever had a characteristic course, a step-ladder rise in temperature continuing high for a period ranging from two to four weeks, declining gradually during the third and fourth. I am convinced that we may have genuine typhoid without any rise of temperature. Therefore, the typhoid of to-day is not the typhoid of von Niemeyer, Trousseau, Flint and others, for they portrayed a disease having a fairly constant train of symptoms, a fever with a characteristic course and other equally important conditions varying. Certainly ambulatory and afebrile types of the disease must have been very rare or else were not diagnosed in the practice of the older authors.

34 Washington Street.

A Hospital Steamer for the Philippines.—Major John S. Kulp, surgeon U. S. V., has recently reported the results of a voyage from Manila, on the army transport *Pennsylvania*, to bring sick men from the outlying islands to the general hospitals in that city. The vessel, a Philadelphia built, tripple-expansion, single-screw iron steamer, of 3343 tons capacity, left Manila Oct. 5, 1900, with a small cargo of subsistence and quartermaster's supplies and accommodation for the return of 160 sick soldiers. Everything necessary for the comfort, welfare and convenience of the sick was furnished promptly from the medical supply depot at Manila. The bunks were iron-pipe frames with woven-wire mattresses, all on the main deck, well ventilated and high above the water line. The vessel called at eighteen ports and brought off 155 patients, returning to Manila November 11, after a voyage of 2332 miles. Thirteen of the patients were affected with diarrhea, 46 with dysentery, 19 with malarial fever and 10 were sufferers from gunshot wounds. No death occurred during the trip, although many of the cases when received were of a grave character. In every case there was a marked improvement, and many were practically well by the end of the voyage. The object of the voyage was to determine whether or not it was practical to make use of one of the inter-island transports for the transportation of the sick during her regular trips. The result from an administrative standpoint was unsatisfactory. It proved that a ship devoted solely to the interests of the medical department was a necessity. Although the cargo was insignificant in amount the voyage was prolonged one-third on account of the delays caused by its delivery. Col. Greenleaf, chief surgeon of the Division of the Philippines, states that authority has been received from the U. S. secretary of war to purchase a light-draught ship for use as an inter-island hospital transport, and that measures are now on foot to effect this object, which will solve satisfactorily the question of furnishing the provincial military hospitals with supplies and removing their sick when necessary.

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THE DIVISION OF FEES.

Commercialism is not a word in good repute in connection with the practice of medicine. Not that it is wrong for a physician to make money if it is done honorably; nor is it beneath the dignity of an ethical member of the medical profession to apply honorable business principles in obtaining just remuneration for services rendered; but it is wrong, and degrading, for him to subordinate all he may do to commercialism. The making of money is the mainspring of commerce, but medicine, in its scientific as well as in its altruistic ideals, has a higher and nobler aim. The laborer is worthy of his hire, but in medicine the latter is only an incidental, not the ideal, end and aim. If it were, our widely-uttered claims of being a liberal profession are false, and a large proportion of what we may call the non-scientific portion of medical literature, including most addresses to graduating classes in medicine, and to societies, is the veriest talking for effect. Sometimes it would seem that there is too much of this kind of literature—that we protest too much in self-praise—but it keeps us committed to our higher ideals and in that way does good.

If, on the other hand, we come out plainly with the admission of purely mercenary motives in the practice of medicine, we misrepresent our profession, for however much we may deny it, should we care to, the practice of medicine is necessarily a self-sacrificing profession, and at best its average rewards are below what equal talent and industry bring in other occupations. It has, moreover, its scientific side which can not be ignored, and a system of ethics published to the world as a rule of conduct which is throughout antagonistic to any purely commercial estimate of the profession of medicine. We can have, therefore, only the alternative of still publicly repudiating commercialism or of giving up our best professional traditions, which is impossible. Even should we profess to do this, we could not do so in practice, and would not if we could. There is, therefore, no choice in the matter as regards the practice of medicine generally; the question only remains as to the course to be followed in special cases, and as to certain practices that tend toward questionable business methods.

One of these is the giving of commissions. It might naturally be supposed that this is not a debatable question, that such a practice is so opposed to the traditions

and to the ethics of the medical profession that there could be but one opinion—and that emphatically against it. That this supposition is not a correct one is evidenced by the facts that: 1, a prominent physician not long ago read a paper before a medical society, in which he advocated a division of the fee; 2, a professor in a leading medical college is reported to have said in a medical society last week, when this question was being discussed, that he was in sympathy with the idea; 3, it is openly charged that certain men are to-day giving commissions to physicians sending them cases. It therefore seems necessary to consider the matter and let it be known whether such a practice is recognized as right or whether it shall be condemned. Therefore, if it is to be condemned, let it be done with emphasis, and not with an ambiguity of expression that will leave a doubt as to what is meant. On the other hand, if it is decided that it is right, let it be known so that we may all act accordingly. If it is right for one it is right for all. And let the people know it, for the patient is certainly interested in the matter and ought to have a clear understanding of the arrangement.

Any receiving of commissions from surgeons or consultants for cases referred to them, without the knowledge of the patient, would be bringing into the practice of medicine methods that would be degrading even in commercial life. It is evident, however, that no patient is likely to permit himself to be exploited in this way if he can help it, and an understanding as to sharing the consultant's fee must inevitably be a secret between him and the practitioner. Thus the transaction, reduced to its simplest expression, means the introduction of the lowest and most disreputable of business methods into the practice of an honorable profession. The right of the attending physician to remuneration for his services does not enter into the consideration of the question. Whatever he is entitled to he should demand and collect from the patient.

That a surgeon sometimes gets a fee quite disproportionate to the small remuneration received by the attending physician is no argument for the division of that fee. While it is unethical to the last degree to make extortionate charges, the wrong is not made right by another coming in and taking part of that which has been obtained unrighteously, provided it has been so obtained. But whether it is right or whether it is wrong can be very easily decided, for the question simply resolves itself into this: Does the patient know of the transaction? If so, then it is legitimate and ethical; if not, it is collusion.

This question has been taken up by the newspapers and, as usual, the medical profession has been misrepresented, misquoted, and maligned. To read the lay press opinions one would suppose that this commission business is a common practice, but we protest that it is not. What little has been done has been done secretly and under cover, and by but a very few. That it has been done, and by those who claim respectability, can not

longer be denied, and there is no use in treating the matter ostrich fashion, for shutting our eyes to it does not prove its non-existence. It is hoped, therefore, that those societies which do take it up will meet the question fairly and squarely, so that there may be no misunderstanding in the future. Let it be known whether the medical profession is merely a money-making trade, adopting the methods, good and bad, of those others with whom money-getting is the sole aim, or whether it is an honorable profession with a well-earned reputation for philanthropy and good deeds, which its members do not propose it shall lose.

MEDICINE OF THE NINETEENTH CENTURY.

Notwithstanding the power that the discovery of the uses of steam and electricity has given to the race; notwithstanding the happiness that education and improved ethics have brought to humanity, the greatest gift that the nineteenth century has given to man has been the discovery of scientific laws that lead to health; laws by the knowledge of which the plague and the diseases of other countries have been kept from spreading through the community, and laws which have taught physicians how to speedily ease suffering and to save and lengthen life.

A masterly, and comprehensive syndicate article on "Medicine in the Nineteenth Century," from the pen of Dr. Osler, has just appeared. In it he sums up the discoveries and the advances of medical science in the last one hundred years, and to the layman his lucid descriptions of progress can not but be a revelation.

At the beginning of the last century the theory that "aqueous" and "dry humors" were the seat of disease was still taught. In 1801 Bichat, a young French physician, taught that the seat of disease was not in the organs themselves, but in the tissues of the organs, and thus gave an impulse to the study of morbid anatomy. Laennec discovered the art of auscultation, and his contributions to the study of the diseases of the lung and heart really laid the foundation of modern clinical medicine. Bright's researches on the kidneys and the differentiation of the fevers into typhoid, typhus, relapsing and yellow were the beginning of the original work. Once the idea of scientific investigation took the place of the philosophic discussion of theories, the light began to break, and as it lit up first one source of disease after another, we, who look backward in review, can see how dense must have been the darkness of ignorance before the present century.

In the growth of specialism, while there has, perhaps, been a loss in breadth and harmony, there has been the compensation of greater accuracy in the application of special knowledge. This has been particularly valuable in the diseases which are peculiar to women, especially to accidents incident to child-bearing, and in the great improvement in the treatment of insanity.

At the beginning of the century there were but three medical colleges in the United States and only two gen-

eral hospitals. It was the custom of practitioners to take students as apprentices, and the well-to-do finished their education abroad. After 1830 a remarkable change took place, owing to the leaven of French science brought from Paris by American students. Between 1840 and 1870 there was a great increase in the number of medical schools, but the standard was low and the work poor, from the multiplicity and rivalry of ill-equipped institutions. However, the evolution of the medical school that followed the reformation, begun in 1868, by raising the standard over the whole country, was one of the most remarkable phenomena in the history of medicine in the United States.

Dr. Osler calls attention to the fact that sanitary science, or hygiene, is one of the bright spots of the century. A knowledge of the conditions of disease, and the means of transmission together with the culmination of the art of preventive measures, has made smallpox, as a dangerous disease, a thing of the past. It has effectually kept cholera and the bubonic plague from spreading in the country. It has restricted yellow fever to its original localities, and has reduced the death-rate of typhus from 1228 per million—in England sixty years ago—to 3 per million to-day, while it has so conclusively proved the exact precautions that must be observed to prevent typhoid and tuberculosis, that it is only through gross carelessness and wilful lack of sanitary measures that they can spread.

But as he remarks: "Preventive medicine was a blundering, incomplete science until bacteriology opened unheard of possibilities for the prevention of disease." The brilliant overthrow of the hitherto much-discussed theory of "spontaneous generation," by Pasteur, Tyndall, Koch and Cohn, and the tracing of each disease to its bacteriologic origin has been the bright triumph of the century. It has led to a knowledge of wound infection, which has served as the foundation stone of the science and art of modern surgery. It has been the means of determining definitely the cause of leprosy, so that plague may never again obtain a foothold. It has reduced the aggregate death-rate of diphtheria fully 50 per cent., since the discovery of antitoxin, and concerning that most deadly and insidious of human diseases, which Dr. Oliver Wendell Holmes called the "white plague"—tuberculosis—it has taught the origin and means of prevention, that may, if faithfully followed, lead to the eradication of the disease. In summing up the revelations that have been made concerning contagious disease, through bacteriologic investigation, Dr. Osler outlines the fields of investigation that have not yet been worked with success. The cause of contagion of the exanthemata, measles, scarlet fever, chicken-pox, smallpox, and of whooping-cough, though yet unknown, he thinks may be of bacterial origin, but that the special bacteria may be too minute for any known microscope to reveal.

The last word of the century on these lines is concerning serum-therapy, which experimenters are trying

for every contagious disease, with effects that will probably modify present lines of treatment within the next ten years. While there has been a remarkable diminution in the prevalence of a large number of all the acute infections, "pneumonia," says Dr. Osler, "not only holds its own, but seems to have increased in its virulence," while concerning venereal diseases, which continue to embarrass the social economist and to perplex and distress the profession, he recommends legislation.

The brilliant experiments of the summer of 1900 on the Roman Campagna, proving conclusively that malaria can be communicated by mosquitoes, and solving at once the mystery of marshy lands, the hot season and the night air, is almost a spectacular ending to the century's work and opens an entirely new field for investigation concerning the relations of insects and animals to human diseases.

One of the striking features of modern medicine, as Dr. Osler points out, is the tendency on the part of physicians to give little or no medicine and to substitute attention to diet, exercise, rest and climate for drugs. And yet the century never witnessed a more perfect and all-abiding faith in drugs on the part of the layman than at its close. But as this man of wisdom concludes, faith is as ever a large element in the success of the practitioner, and, as Galen said, "confidence and hope do more than physic."

THE HEREDITY OF DIABETES.

Despite the earnest study that has been devoted to the subject of diabetes in recent years, the most that can be said with regard to the nature of the disease is that it is the expression of some as yet obscure derangement of metabolism, in consequence of which carbohydrates are not properly assimilated and consumed in the body, and appear in the blood and the urine as glucose. While the affection is sometimes observed in association with organic disease, more especially of the brain, and less commonly of the pancreas, no gross lesion is appreciable in the majority of cases. The derangement of function must, therefore, be referred in many instances to structural, textural, cellular or nutritive alterations, and a mutual relation exists between this assumption and the fact that the disease is sometimes transmitted by heredity. It is estimated that the latter takes place in about 25 per cent. of the cases. Thus, Thomas Oliver¹ cites an investigation by Weil of 90 members of a family through four generations, of whom 21 were certainly and 13 doubtfully diabetic. He also relates of an applicant for insurance that the father, three brothers and one sister had died from diabetes. Other instances are on record in which seven and eight children, respectively, in one family have exhibited diabetes. In a family reported by von Noorden, ten members of four generations were diabetic. J. H. Pleasants² has recently reported six cases of dia-

betes in two brothers, two sisters, an uncle and a great-uncle, among 24 descendants of a common progenitor, of whose urine examination was made in all but one case. Investigation, with the object of shedding light on the question of conjugal diabetes, into the condition of those who had married into the family, yielded only negative information.

A study of the reported cases of diabetes in which heredity appears to have been an etiologic factor discloses certain peculiar features of the familial type of the disease. It is often observed that the disease occurs in an uncle, an aunt, or a cousin, while the parents escape. This may be conveniently spoken of as the "collateral inheritance" of diabetes. In the same way, a grandparent may be diabetic, while the parent escapes. When successive generations are affected, there is a tendency for the disease to develop at a progressively earlier age. When more than two members in the same generation are diabetic, there is a tendency for the disease to appear at approximately the same period of life. While hereditary diabetes developing in the first two decades is often of a severe character, the cases developing later in life are generally of a mild type. In a certain number of cases the disease has appeared in the children prior to its occurrence in the parent. There is frequently a neuropathic tendency in diabetic families. Cases are recorded in which several children were diabetic, while the others suffered from various psychoses. Obesity is often a characteristic of families in which diabetes occurs.

INTOXICATION WITH CREOSOTE.

Creosote is one of the best of the many medicinal agents recommended for the treatment of pulmonary tuberculosis, and in view of the large scale on which it has been employed and the freedom with which it has been administered, it is indeed fortunate that its toxic effects are not more pronounced than they have proved themselves to be. The substance exhibits certain points of resemblance to carbolic acid, by which it is at times contaminated or wholly replaced, and it is possible that some cases of intoxication attributed to creosote may really be due, in part at least, to carbolic acid. Nevertheless, creosote is capable of toxic effects, and occasionally, as some cases recorded in the literature testify, there may be a marked idiosyncrasy to its action.

Creosote, though very pungent, is less escharotic than carbolic acid, but, taken in excess, it gives rise to nausea, vomiting, colicky pain, and diarrhea, with vertigo, obscurity of vision, depression of the action of the heart, convulsions and coma. The soluble sulphates are recommended as antidotes, and in cases of poisoning the stomach should be evacuated and ammonia and other stimulants administered. An instance in which the ingestion of a large amount of creosote on the part of a child was recovered from on the prompt institution of active treatment is reported by Dr. H. M. Hewlett.¹

1. Lancet, Nov. 10, 1900, p. 1335.

2. Johns Hopkins Hospital Bulletin, Dec., 1900, p. 325.

1. Intercolonial Med. Jour. of Australasia, v. No. 10, p. 501.

A girl, 3½ years old, swallowed 2 drams of pure creosote, and immediately complained of abdominal pain. She was at once given a tablespoonful of olive-oil, but soon became unconscious. When seen, twenty minutes later, she was insensible, and the face was pale, the lips cyanosed, the respirations extremely shallow, and the pulse imperceptible. The eyes were fixed, the pupils contracted and immobile, and the extremities cold. The muscles were flaccid, and no difficulty was experienced in introducing a tube into the stomach and practicing lavage, about two quarts of warm water being used. The stomach was then washed out with two pints of strong solution of magnesium sulphate, about six ounces being left in the viscus. Strychnin, 1/25 gr., was injected hypodermically, and the patient was wrapped in blankets and surrounded by hot bottles. A rectal injection of extract of beef and brandy was also given. In about eight minutes after the stomach was emptied the color of the lips improved and the pulse became perceptible. In another ten minutes resistance was offered to the presence of the stomach-tube. The color was now good and the respirations full and regular. The pupils were still contracted, but reacted to light, and the extremities were warm. Improvement continued thereafter without relapse. Pain over the region of the stomach was complained of when a little white of egg and milk was swallowed a couple of hours later, but this was relieved by hot fomentations. Urine was not passed for many hours, and then presented a dark-brownish color. Subsequently the urine exhibited a watery-green and then a pale-yellow appearance. The first bowel movement also was dark in color and smelled strongly of creosote. There were no after-effects, and in the course of a few days the child was running about again and appeared none the worse for her dangerous experience.

MISSOURI'S CHIEF EXECUTIVE.

The *St. Louis Courier of Medicine* devotes a sarcastic editorial to the outgoing governor of Missouri, who appears to have been, from a medical point of view, about all that the chief executive of a state ought not to be. It expresses the opinion that the most sensible thing of which he has been guilty was his congratulations to the citizens, in his last message, that his term had nearly ended. As one of the dispensations of a kind Providence it may be noted that the new Governor of Missouri is a member of our profession, and if he is true to his antecedents the wind will be tempered to the shorn Missouri lamb.

JUDICIAL EUTHANASIA.

While a bill referring to the manner of execution of criminals was recently under consideration by the Indiana legislature, an amendment was offered to inflict the punishment of death by giving 15 grains of morphin in a glass of whisky. This motion failed, though it is reported to have received a full party vote. The Indiana murderers, "like maudlin Clarence in

his Malmsey butt," would undoubtedly favor this mode of execution, but why this special zeal for euthanasia for criminals is such a prominent feature in modern legislation is not clear.

WATCH MEDICAL LEGISLATION.

It behooves the members of the medical profession, in the various states in which a legislature is in session, to keep in close touch with what is going on in regard to the regulation of the practice of medicine. In nearly every state more or less vicious medical legislation is being attempted. In Illinois an amendment to the medical practice act is proposed, in which these words occur: "Nothing in this act shall be construed to apply . . . to any person who ministers to or treats the sick or suffering by *massage*, or by mental or spiritual means, without the use of any drug or material remedy." The object of this amendment can be readily seen. In those states where there is no committee officially appointed to represent the profession, such legislation as the above will be easily managed and the profession wake up, when it is too late, to realize the fact that laws have been passed that are detrimental alike to the people and to the profession. When this occurs, nine times out of ten it is the fault of the profession itself, a result of lack of organization and of apathy.

RELIGIOUS RITES FOR THE DYING.

A Roman Catholic paper calls the attention of physicians to the advisability of informing Catholic patients or their friends of their condition when it becomes critical, and in any event not allowing them to die before the church's last offices for the dying can be performed. It was possibly in view of something of this kind that led a Missouri judge to decide that it was the physician's duty to inform the patient of his hopeless condition. There are objections to the unqualified adoption of this course, as *THE JOURNAL* has already editorially pointed out, but the Catholic editor's recommendation has a much better medical sanction. As he sensibly remarks, the peace of mind that follows confession often causes a change for the better in Catholic patients, and the other rites, as some of us may have observed, may have the same effect. Whatever one's own religious views may be, there is good medical reason for respecting those of others, especially in such cases as these. It is not necessary to infer that such warnings are a practical death-warrant to the patient; for they may, on the other hand, be the means of introducing the most potent of therapeutic suggestions.

IS EXERCISE UNHEALTHY?

Falstaff's opinion, that it is better to rust than to be scoured to nothing with perpetual motion, is echoed to a certain extent by a physician who holds that exercise is unhealthy for men past 35 years of age. He has received a number of endorsements from individuals who, while not Falstaffian in all respects, endorse that hero's philosophy to this extent. Among them are cited Russell Sage, the financier, William M. Evarts, and others who have never exerted themselves physically when they

could help it and believe themselves the better for this course. The American people, according to these authorities, are ruining their constitutions by too much activity, and we are told that we should adopt a more restful way of living, at least as regards physical exercise. It would be interesting to exercise one's fancy as to a state of society in which physical inactivity was the rule after 35; it would be a queer world, at least in this latitude. The notion is one of those one-sided ideas that sometimes find expression and are taken up and made the most of by the lay press. This one is comparatively harmless, since there are not many who will believe it, and fewer still who will be able to follow the teaching, as man is constituted and in present social conditions.

THE COCAIN HABIT.

The cocaine habit in the South, which has been already noticed by *THE JOURNAL*, seems to be extending. Measures have been taken to stop the indiscriminate sale of the drug in some cities where the evil is most pronounced, and similar ones are advocated in others. The cocaine habit is said to have already invaded some northern cities, though in none of them is it as general a vice as among the negroes of the South. In New York some of the physicians interviewed in regard to the habit and its prevalence claimed that medical students were particularly liable to become its victims, others gave quack remedies as the chief cause of its spread, and the mistaken popular notion that it is a cure for drunkenness was also credited as an agency. Men in thus attempting to conquer one tendency become slaves to another, or both, and their last state is worse than their first. It may be that the danger is overestimated, but it is well to be informed as to the possibilities. In any case the sale of cocaine should nowhere be unrestricted; this drug as well as morphin should be only obtainable on physicians' prescriptions and careful registry be kept of all sales. Its present freedom of sale in most sections, to any and every one who asks for it, is a special danger that is the more inexcusable as cocaine is a comparatively new drug and the vice has not acquired, like that of alcohol, a time-honored common law sanction.

VITAL STATISTICS AND REGISTRATION OF BIRTHS.

In the retiring message of the late Governor of Illinois there were a few recommendations on matters of medical interest. One of these referred to a defect in vital statistics that is perhaps not peculiar to this commonwealth, but is nevertheless one that calls for amendment. This is the more true since the medical profession is in some respects responsible though not altogether without excuse for its neglect. Any one reading the reports of deaths published in the Chicago lay papers would naturally come to the conclusion that the native stock is on the road to extinction, and that obstetrics forms no part of the medical practice of American physicians. Foreign-born midwives seem to be busy delivering mothers with largely foreign-sounding names, and only occasionally, or at least in very inadequate proportion, do medical men appear to have any share in the work. It was said at one time that a prominent and popular suburb, chiefly inhabited by the best American-born citizens, had almost no births re-

ported from its precincts. Nevertheless, the younger generation somehow comes into existence, and in a reasonable quantity. The facts speak for themselves. The vital statistics in most of our states are practically worthless because they are incomplete. It is easier to get reports of deaths, as burial permits require them, but the fully as important event of a birth too often goes unreported simply because it is practically impossible under present conditions to enforce it. Governor Tanner's suggestion is practical in that it considered the need of offering some recompense to the accoucheurs for the trouble of making the report; without that it is likely that statistics will remain imperfect, as only the most rigid police regulation and oversight, such as are hardly compatible with our customs, would enforce the registration.

Medical News.

ARKANSAS.

DR. JAMES L. GOREE, Pine Bluff, for many years president of the local board of health, has resigned.

DR. ARTHUR B. LOVING, Pine Bluff, has been appointed physician of Jefferson County for 1901, in succession to Dr. William A. Noel, term expired.

THE STATE LEGISLATURE passed a law at its last session imposing a fine of \$25 to \$100 on any dealer found guilty of selling cocaine except on the prescription of a physician or to a physician.

CALIFORNIA.

DR. THOMAS B. W. LELAND, San Francisco, was appointed coroner of the city and county of San Francisco, January 16, vice Dr. R. Beverly Cole, deceased.

SIX SURGEONS of the Emergency Hospital, San Francisco, were dismissed January 18, the reason given for the change being that the service and efficiency of the hospital would be benefited by limiting the tenure of office to one year.

DR. KINYOUN'S critics have caused a resolution to be passed by the state senate, by a vote of 26 to 8, requesting his removal by President McKinley on the ground of unauthorized quarantine of the state because of "alleged bubonic plague in San Francisco."

A CONSUMPTIVE IMMIGRANT from British Columbia, who arrived in San Francisco, January 22, was not allowed to land as he was afflicted with a communicable disease, and was indigent. He will be deported. This is the first instance of the kind in the port of San Francisco.

COLORADO.

DR. JOHN G. KEITH, Leadville, has been elected physician of Lake County.

A BRUTAL ASSAULT was made on Dr. Louis Auerbach, of Denver, by highwaymen, recently. His nose was broken and he may lose the sight of one eye.

VACCINATOR-IN-CHIEF is the title of Dr. John A. Henry, who has been appointed to supervise the work and inspect the results of the compulsory vaccination recently ordered in Denver.

DENVER PHYSICIANS, who have had offices in the California Building, are said to be making plans to erect a building exclusively for physicians. The reason for this action is said to be a proposed, unreasonable advance in rent.

GEORGIA.

DR. JOHN C. GOODMAN was elected city physician of Tifton, January 12, vice Dr. Arthur P. Hunter.

THE ATLANTA BOARD OF HEALTH reorganized January 18, re-elected Dr. William C. Jarmagin, chairman, and elected Dr. Everard H. Richardson, secretary.

THE MACON HOSPITAL, in 1900, cared for 232 white and 120 colored patients. The earnings from pay patients amounted to \$3712.50, an increase of \$1204 over those of the previous year.

THE SAVANNAH HOSPITAL will benefit to the extent of about \$40,000 by the will of the late Dr. William Duncan, of Savannah, on the death of the brother of the deceased. A bequest of \$1500 is to be paid to the hospital at once.

ILLINOIS.

THE ISOLATION HOSPITAL at Peoria is ready and the three smallpox patients who have been quarantined pending its completion have been transferred to it. No new cases have developed.

DR. FRANK ANTHONY, Sterling, who served with distinction as major and surgeon of the 6th Illinois Infantry, U. S. V., in the war with Spain, has been appointed assistant surgeon-general of the Spanish-American War Veterans in the Department of Illinois, with the rank of colonel.

Chicago.

THE DONATIONS to date toward the hospital for the treatment of consumptives to be erected this year at North Forty-eighth and North Avenues, under the management of the sisters of St. Elizabeth's Hospital, aggregate \$20,067.

Norwegian Tabitha Hospital.—At its seventh annual meeting this institution reported assets of \$37,640.75 and liabilities of \$8037.27. A proposition to put the hospital under the management of one of the Norwegian church societies was rejected and it was decided to continue the management as heretofore, receiving patients irrespective of creed or nationality.

Alumni Organization.—Alumni of Bellevue Hospital Medical College and the medical department of New York University have organized a Western branch of the association, with Dr. James F. Todd, president; Drs. James G. Kiernan and John McKinlock, vice-presidents; Dr. Willis O. Nance, secretary, and Drs. Hugh T. Patrick, J. Sanderson Christison, Julius Grinker and Sanger Brown, executive committee.

The Health of the City.—The report of the Department of Health for the week ended January 26 shows a reduction of about 50 per cent. in the mortality from the acute pulmonary affections, as compared with the previous two weeks. The total mortality has also decreased more than 10 per cent. as compared with the previous three weeks. The rate per 1000 per annum was 14.77. The deaths under 1 year were 98, and over 60 years, 102. Consumption caused 53 deaths; pneumonia, 74; bronchitis, 26; influenza, 17, and violence, 30.

Internes in Asylums.—The Chicago Medical Society, Chicago Pathological Society, Chicago Neurological Society and Chicago Society for Internal Medicine have passed resolutions recommending the selection of at least four medical internes for each of the state hospitals for the insane; that such internes shall be selected by competitive examinations from the graduates of the medical colleges in the state, recognized by the State Board of Health, that they shall serve for one year, and receive as compensation lodging, board, washing, and \$100 at the expiration of their term of service, and that the professors of nervous and mental diseases of the five medical colleges having the largest number of students in attendance shall be the examiners to select these internes.

Resolutions on Division of Fees.—The committee to whom was referred the resolutions of the Chicago Medical Society, January 23, met and adopted the following resolutions, which were recommended to the Society for adoption: "Resolved, That the offering, or the giving of a commission, or percentage of a fee, by a consulting physician or operating surgeon, or the asking or receiving such a fee or commission in any guise whatsoever, by the physician referring the case, is dishonest, disreputable and unethical, unless such arrangement be made with the full knowledge of the patient; Resolved, That a violation of this resolution shall subject the offender to expulsion from the Society."

The resolutions were adopted unanimously by a rising vote. The Physicians' Club has passed resolutions to the same effect: "Resolved, That the Physicians' Club of Chicago most severely condemns the seeking for or the receiving of a commission or part of a consultation or operation fee, as well as the offering or giving of a commission, or a part of a fee, as practices highly dishonorable and detrimental to the best interests of the medical profession."

Vaccination a Safeguard.—The interest in vaccination justifies belief that the city will be spared any such serious results from the present outbreak of smallpox as have usually followed epidemics, even when contagion was much less widely spread. The bulletin of the Health Department again refers to the object-lesson in vaccination that Germany furnishes the world. As has been truly said, that country stands alone in fulfilling in great measure the demands of hygiene as to smallpox. In consequence of the calamitous epidemic of 1870-71, it enacted the law of 1874, which makes vaccination obligatory in the first year of life and revaccination at the tenth year. In 1871, out of a population of 50,000,000, there

were 143,000 deaths from smallpox. By vaccination and revaccination rigorously enforced through the law of 1874, this mortality has been reduced to 116 a year in a much larger population. These cases, moreover, occur almost exclusively in towns on the frontier. In a recent lecture, Dr. Bizzizziro, of Rome, said: "In 1870-71, during the Franco-German War, the two peoples interpenetrated each other, the German having its army completely revaccinated, while the French were vaccinated perfunctorily. Both were attacked by smallpox, but the French army numbered 23,000 deaths by it, while the German army had only 278; and in the same tent, breathing the same air, the French wounded were heavily visited by the disease, while the German wounded, having been revaccinated, had not a single case." No properly vaccinated person in Chicago need fear the present outbreak. Every unvaccinated person is in danger of the disease, besides being a menace to the reputation of the city. The type of the disease continues as mild as during the previous three years of its prevalence in the country, and its mortality-rate is insignificant. Of the two deaths that have occurred at the Isolation Hospital since last June, only one is properly attributable to smallpox. The other was the victim of a chronic incurable disease of the liver, and he was awaiting death at the U. S. Marine-Hospital when attacked by smallpox in a very mild form.

INDIANA.

THE ESTATE of the late Dr. Benjamin F. Swafford, of Terre Haute, is valued at \$50,000.

DR. WILLIAM E. STEMEN, who has been serving in the Philippine Islands as an acting assistant surgeon in the army, has returned, requested annulment of his contract, and will locate in Fort Wayne, associated with his father.

THE PRESIDENT of the Indiana State Board of Health strongly favors the bill introduced in the present legislature providing for the establishment of a state laboratory. The last legislature passed a pure food law, but failed to appropriate funds for its enforcement.

A BILL has been introduced in the house of representatives providing for the establishment by the state of a village for epileptics. A tract of not less than 1000 acres of land is to be purchased and \$40,000 to be appropriated for this purpose. The bill goes into details, but does not suggest any particular site for the colony.

IOWA.

DR. HARRY M. HOAG sustained a loss of \$1000 by the fire at Garner, January 11.

DR. HARVEY L. COKENOWER, Clarinda, has been appointed chief division surgeon for the Keokuk & Western Railroad.

THE FORMAL TRANSFER of the Iowa College of Physicians and Surgeons, Des Moines, to Drake University was made January 19.

APPLICANTS numbering twenty-five assembled at Des Moines January 22 to take the examination of the Iowa State Board of Medical Examiners.

DR. LEVI LOAR, of Selma, who was sentenced to the penitentiary for six months for attempted abortion, has appealed his case to the supreme court. He has also brought suit against an attorney and another person to recover \$300, which he alleges he paid them to compromise the matter. He also claims \$5000 damages.

District Physicians' Compensation.—In Iowa physicians are not burdened with heavy compensation for their services. The newly-elected physician for Red Oak city and township, including the jail, poor-house and hospital, medicines and services, receives \$200 a year. Le Mars district pays its physician \$175; Merrill district, \$80; Remsen district, \$65; Akron district, \$100; Kingsley district, \$75, and Buckingham and Perry townships, \$57 per annum.

MICHIGAN.

CHIPPEWA COUNTY SUPERVISORS have appropriated \$600 for the construction of a temporary isolation hospital on the poor-farm site.

DR. W. H. HUTCHINGS has been appointed chief surgeon of the Ann Arbor Railroad and Steamship Lines, with headquarters at Ann Arbor.

BILLS HAVE BEEN introduced in the state senate and house of representatives, providing for the establishment of a hospital for consumptives.

MEDICAL MEN OF THE Soo have decided to form an association for mutual benefit and professional advancement. At the initial meeting held January 16, Dr. H. E. McLennan, Sault Ste. Marie, was elected secretary of the association.

PORT HURON is to have a new hospital to be known as the "Memorial Hospital," to cost \$25,000, and to be non-sectarian. Dr. Mortimer Wilson is the secretary of the association, which held its first meeting and adopted resolutions January 21.

MINNESOTA.

THE CORONER of St. Louis County, Dr. Samuel H. Boyer, of Duluth, has announced the appointment of medical deputies as follows: Dr. George N. Buchart, Hibbing, and Dr. George A. Tripp, Tower.

DR. F. A. DUNSMOOR, Minneapolis, medical director of the Asbury Hospital, suggests in his annual report that the old building be utilized as a pathological department, and that eventually it be maintained by the various hospitals of the city as a quarantine hospital, having separate wards for the different communicable diseases.

Smallpox Precautions.—To cope with smallpox in the logging camps of northern Wisconsin and Michigan, it was decided at a conference of health officers and loggers at Duluth, that vaccination should be encouraged, quarantine regulations enforced, and isolation hospitals provided. The loggers agreed to employ only vaccinated men or those immune by having had smallpox.

MISSOURI.

DR. HARRY H. JOHNSON, Neosho, has been appointed local surgeon for the Kansas City Southern Railway.

DR. OSCAR O. BRAECKLEIN, Kansas City, was fined \$5 on January 19, for having failed to report a case of smallpox.

DR. BUDFORD M. HENRY, Alba, was seriously injured in a runaway accident, January 12; his upper jaw was broken and his right eye so injured that it was necessary to have it enucleated.

THE SMALLPOX SITUATION in Fayette was taken up at a recent meeting of the Howard County Board of Health, at Fayette, and it was decided to erect an isolation hospital at once, to place guards near homes where the disease is known to exist, and to order compulsory vaccination.

Missouri State Medical Association.—It is announced in the *Medical Herald* that the St. Louis and St. Joseph medical societies have passed resolutions urging the officers of the State Medical Association to change the date of the meeting from May 20-23 to February 26-28, and that immediate and active steps be taken to change the date and to promote the success of the session. The reason for this is that an important bill to regulate the practice of medicine is soon to be brought before the state legislature, and it is desired to give the association the opportunity to act in this matter in the interest of the profession at large.

NEW JERSEY.

DR. LIVINGSTON HINCKLEY, Newark, for sixteen years superintendent of the Essex County Hospital for the Insane, has resigned.

THE ORANGE MEMORIAL HOSPITAL, at the annual meeting of its directors, January 14, appointed Dr. William J. Chandler, South Orange, to fill the vacancy on the staff caused by the death of Dr. William Pierson, and Drs. Mefford Runyon, South Orange, and Harry E. Matthews, Orange, on the general staff.

Hospital for Consumptives.—Senator Hutchinson, of Mercer County, will introduce a bill asking for an appropriation of \$50,000 for the establishment and equipment of a hospital for the care and treatment of cases of tuberculosis. The measure is the result of the action taken by the Trenton Board of Health on the protection against the spread of tuberculosis in healthy communities, and the bill was prepared and approved by the Mercer County Medical Society.

The Camden City Dispensary.—The board of managers of the dispensary have elected the following staff: Medical, Drs. John G. Doron, Grant E. Kirk, Levi B. Hirst, Frederick V. Dunn, Joseph H. Willis, William I. Kelehner, and William H. Pratt, Camden; Edgar B. Sharp, Berlin, Vernon E. De Grofft, Bridgeton; diseases of the eye, Dr. Robert Casperson, Camden; diseases of the nose, throat and ear, Drs. Ernest S. Ramsdell, Camden, and Vernon E. De Grofft, Bridgeton; district physicians, Drs. Joseph Willis and William H. Pratt, Camden.

Investigation of Morris Plains Hospital for the Insane.—A resolution has been introduced in the legislature calling for an investigation of this hospital. This action has been hastened on account of a case in which it was charged that the wife of a citizen had been committed to the asylum when her friends believed her to be sane. She has recently been adjudged in possession of her right mind and has been released. It is charged that sane persons have been committed to the hospital several times. A revision of the laws will also be

asked for. It is hoped that some provision will be made for epileptics so that they may be kept separate from the chronic insane.

NEW YORK.

DR. D. W. HARRINGTON, Buffalo, has presented an ambulance to the Buffalo General Hospital.

DR. H. McCLELLAN, Jeffersonville, was arrested January 9, at the instance of the Sullivan County Medical Society, and held in bonds of \$500 on the charge of practicing medicine without a state license.

DR. WALTER D. GREENE, assistant health commissioner, of Buffalo, has notified each parochial school that every pupil not vaccinated within the last five years must be vaccinated before February 11.

THE BILL affecting the State Board of Health, which provided for a commissioner at \$2500, the appointment of two state officers to serve without pay, and for a secretary at a salary of \$3500, has been drawn up and will be presented to the legislature at the present session.

THE STATE BOARD OF HEALTH reports that with 150 cases of consumption and more than 40 of typhoid fever in Sing Sing prison, and with such defective plumbing arrangements that gases back up into the buildings with the rise of the tide, it does not appear that this prison is a fit abode for human beings other than those who have been sentenced to death.

Proposed Medical Law.—A bill has been introduced in the legislature having for its special object the suppression of quackery, and more particularly faith-curing and like humbugs. Opposition to this very proper measure has arisen from the proprietary medicine men, who fear that bringing into the category of those engaged in the practice of medicine, all persons who shall "prescribe, direct, recommend or advise for the use of any other person any remedy or agent whatsoever" will prevent them from advertising as hitherto, and this would end their business. Assemblyman Bell, who introduced the bill, declares, however, that it is not aimed at any class, trade or organized sect, and that it does not include patent medicines that are the recipes of registered physicians. He adds, as his opinion, that any one who practices medicine, be he a faith-healer, or what not, should first be educated as a physician.

NORTH DAKOTA.

DR. AUGUST S. EGGERS, Grand Forks, has returned from his European trip.

DR. E. C. BRANCH has been appointed assistant physician of Cass county, succeeding Dr. Henry G. Fish, Wheatland.

THE STATE BOARD OF MEDICAL EXAMINERS met at Fargo, January 10, examined applicants and issued licenses to practice medicine to five physicians.

DR. HENRY A. BEAUDOUX, Fargo, has been appointed oculist and amirist of the divisions of the Northern Pacific Railway which end in Fargo. His territory extends from Mandan to St. Paul.

OHIO.

DR. ALEXANDER M. STEINFELD, house physician of the Children's Hospital, Columbus, has resigned.

TWO CINCINNATI IRREGULARS were arrested at the instance of the State Board of Medical Examiners on the charge of practicing medicine without first having complied with the law requiring registration.

DR. BENSON E. SAGER, Cleveland, has been arrested on the charge of failing to report a case of diphtheria within the legal limit. He claims that he took every precaution and his friends acknowledge his technical guilt.

Concentration of Medical Libraries.—A resolution has been introduced before the Cincinnati Library Board, looking toward the concentration of all the medical libraries in the city, namely, those medical works in the Public Library, the library of the City Hospital, and the books in the possession of the Academy of Medicine—a reading room at the Public Library, where they can be properly arranged and catalogued, and placed in charge of a competent attendant.

Board of Medical Registration and Examination.—The annual report of the Board, filed at Columbus, January 19, shows that, in 1900, 679 certificates were issued to graduates: 10 to practitioners of ten years' experience, and 6 on examination, while 30 applicants were rejected and two certificates revoked. Since the establishment of the Board, 9373 certificates have been issued to graduates, 725 to legal practitioners, 15 one-year certificates on examination, and 6 to graduates on examination. The rejections number 464, of which 215 were graduates, 227 legal practitioners and 22 as a result of examination.

Examination of Prostitutes.—During the past two months the health department of Cincinnati has been endeavoring to limit the spread of venereal diseases by forcing prostitutes to submit to rigid examination by some appointee of the Department. It had been learned that many of the physicians who had previously been engaged in this work were in the habit of issuing certificates without making any examination whatever. Suit was brought against the department in the person of the health officer, Dr. Clark W. Davis, by several physicians engaged in this business, for \$10,000, under the plea that their work was unlawfully interfered with by the health department. At the regular meeting of the Cincinnati Academy of Medicine, January 21, a resolution was offered by Dr. Charles A. L. Reed, president of THE AMERICAN MEDICAL ASSOCIATION, seconded by Dr. Thaddeus A. Reamy, and adopted, that the Academy approve and sanction the action of the Department and of Dr. Davis.

PENNSYLVANIA.

INFLUENZA PREVAILS to such an extent in Allentown that four schools have been closed. Many employees of the business houses are also ill with the disease.

DIPHTHERIA has recently increased in Mount Joy at an alarming rate. During the week ended January 21, seventeen new cases developed. Several deaths have occurred.

THE CONTRACT for the construction of a barracks, hospital and crematory at Marcus Hook has been awarded by the State Quarantine Board at a figure less than the amount available, \$3500.

DISINFECTION AND FUMIGATION at Pittsburg have been discontinued because the sum appropriated for the purpose has been exhausted. Hereafter, unless further provision is made, disinfection must be made at the expense of the owners or occupants of buildings.

Philadelphia.

SNEAK THIEVES raided the offices of Drs. Otho D. Schaul and B. Frank Wentz, January 19.

A LAY BOARD OF TRUSTEES of the Medico-Chirurgical College and Hospital was elected January 15. Heretofore the trustees have been medical men.

THE BOARD OF CHARITIES AND CORRECTION at a recent meeting added thirteen members to the staff of the Philadelphia Hospital, making the total number 66.

DR. WILLIAM G. SPILLER has been appointed demonstrator in neuropathology at the University of Pennsylvania. He will conduct a two-months' elective course in this branch.

WILLIAM G. TOPLIS, chief of the bacteriological laboratory at the test filtration plant of the city's water-supply, has resigned, and William R. Copeland, of Pittsburg, has been appointed his successor at a salary of \$200 a month.

DR. ANNA SHARPLESS has been re-elected president of the corporation of the West Philadelphia Hospital for Women. This institution has recently received \$5000 for the endowment of a free bed, through the bequest of Mary Baker, deceased.

TENNESSEE.

DR. PIERRE WILSON, Denison, has gone to Baltimore, on his way to Germany, where he expects to study for nine months.

DR. JEFFERSON M. HARBISON, one of the oldest physicians in Knoxville, is very ill, and his recovery is considered doubtful.

DR. ANDREW P. NELSON, Winchester, has been elected physician, and Dr. Thomas B. Anderton, health officer, of Franklin County.

DR. JAMES M. INGE, Denton, has been appointed to the chair of anatomy and clinical surgery in the medical department of the University of Texas.

THE NEW CITY HOSPITAL at Knoxville was formally accepted by the city council, January 18. The cost of the building to date has been \$32,243.36, and \$15,000 additional is asked for to complete the buildings and grounds.

DR. J. B. ADAMS, San Antonio, who recently came to that city from Alabama, on account of his health, was seriously injured by a street-car, Jan. 14, sustaining crushing wounds of both legs, necessitating their amputation.

A CHARTER was granted January 12 to the Memphis Hospital Medical College Building Company, incorporated by Drs. William B. Rogers, Elmer E. Francis, James L. Minor, Bennett E. Henning, Alexander Erskine, Dudley D. Saunders, E. Paul Sale, B. Frank Turner and Thomas J. Crofford, with a capital stock of \$40,000.

VIRGINIA.

DR. WILLIAM P. MATTHEWS has been chosen to succeed Dr. Lawrence Ingram as president of the Manchester Board of Health.

THE EXAMINATION held by the State Board of Medical Examiners, Dec. 17-20, resulted in the passing of 42 out of 53 applicants.

DR. HENRY T. BATTE, Norfolk, has been appointed city coroner of Norfolk, to succeed Dr. Robert S. Spillman, who has accepted a contract as acting assistant-surgeon in the army.

Faculty Changes.—The Medical College of Virginia has appointed Dr. Ennion G. Williams professor of pathology and bacteriology, vice Dr. Ernest C. Levy, resigned; and Dr. B. Lawrence Taliaferro, assistant to the chair; Dr. Greer Baughman, who has just returned after three years' study in Vienna, demonstrator of physiology, and Mr. E. D. Starke, prosector in anatomy. In the University College of Medicine, Dr. J. Allison Hodges has been chosen president to succeed the late Dr. Hunter McGuire and Dr. E. G. Hill, adjunct professor of chemistry.

GENERAL.

PASSED ASSISTANT SURGEON M. J. ROSENAU has returned to Washington, D. C., and resumed his duties as director of the hygienic laboratory of the U. S. Marine-Hospital Service. Dr. Rosenau has been doing special work in bacteriology at the Pasteur Institute, Paris, and the Pathological Institute, Vienna.

THE HOSPITAL-SHIP Maine, after thirteen months active service in South Africa, is to become a permanent addition to the British fleet. The vessel's complement of American surgeons, physicians and nurses, thirty-one in all, took formal leave of their ship at a reception tendered them at Portsmouth, England, January 16.

Journals Wanted.—Two copies of THE JOURNAL, vol. iii. No. ii, are wanted to complete sets for libraries, and we will pay 25 cents each for the return of issues of the above date to THE JOURNAL OF THE A. M. A., 61 Market Street, Chicago.

Cats and Plague Infection.—A representative of the U. S. Marine-Hospital Service at Constantinople, under date of Dec. 29, 1900, citing a case of bubonic plague which occurred in the person of the captain of the steamship *Dundee*, which plies between Egypt and Syria, states that the captain had six cats aboard, of which he was very fond. Several dead rats were found on the vessel, and shortly after this three of the cats died. The captain was then taken ill with bubonic plague and died.

Smallpox Data.—In view of the fact of the extraordinary prevalence of smallpox throughout the United States, it now being epidemic in greater or less severity in nearly every state and territory of the Union, the Surgeon-General of the U. S. Marine-Hospital Service is sending out the publications of the Service on the diagnosis, prevention, and management of this disease, to the health authorities of every town in which he learns there has been a case of smallpox.

San Francisco Plague Reports.—*Case 23:* Chun Way Lung, a male Mongolian, aged 60, a merchant, born in China, but residing at 720 Jackson St., San Francisco, died January 6. Dr. Kellogg, the city bacteriologist, saw the case on the afternoon of the 7th, with Dr. Wilson. He was a large, well built and rather fat man, showing no signs of continued illness. His associate gave a history of illness from gonorrhea for twenty days, a swelling appearing about a week before death. They also said he had been very feverish and thirsty, drinking water all the time, and that he had vomited several times during the last two or three days.

Examination showed a large flat swelling in the left groin, over Poupert's ligament, and extending internally to the middle line over the symphysis. Incision of this swelling did not disclose any lymph nodes, but there was much edema, and the tissues were dark, hemorrhagic and necrotic. A piece of the tissue removed showed the presence of the bacillus pestis in large numbers.

An autopsy was held the next morning by Dr. Kellogg, those present being Dr. White, of the U. S. Marine-Hospital Service, and Drs. Kinyoun, Morton, Ryfkogel and Wilson. The lungs were found to be normal, the heart very flabby and containing dark fluid blood, and about one ounce of dark bloody serum in the pericardium. The peritoneum was dry. The spleen was somewhat enlarged, its substance very dark, soft and pulsatous. Smears from the spleen showed many typical plague bacilli.

Two guinea-pigs inoculated with spleen from the case both died in five days of typical plague infection, and the organism has been recovered in pure culture from their organs and blood.

Case 24.—Leam Wing Low, aged 59, a male Mongolian, a laborer, was born in China and has been thirteen years in California, his residence 833 Clay St. He died January 15, at

6 a.m. Dr. Kellogg saw the case on the same day, with Dr. Wilson, and removed a portion of gland from a bubo in the right groin, just below Poupart's ligament. Microscopically the specimen showed the presence of the plague bacillus. He removed the spleen the next morning and found it to be much enlarged, the capsule tense, the substance soft, very dark, and the trabeculae obliterated. The blood-vessels of the peritoneum covering the intestines were injected. No other glands were enlarged. Smears from the spleen showed the plague bacillus in small numbers. Inoculation experiments have been commenced.

Case 25.—Angelo Colombo, a native of Switzerland, residing at 5 Lafayette Place, was brought into the City and County Hospital by the police patrol on January 14 in an unconscious condition. The following is from the hospital record: "January 15. Patient well developed, well nourished, face flushed and cyanotic. Lies apathetic, pupils moderate in size, equal, and react to the light. Patient lies with mouth open. Tongue and lips dry. Vessels of neck pulsate. No dulness over lungs. Thorax well formed. Heart sounds clear. Abdomen not distended or sensitive. Liver extends 15 cm. below the margin of the ribs. Spleen reaches posterior axillary line. Patient is able to move both upper and lower extremities. Is continually restless and picking at the bed clothes. Temperature when admitted was 97.4. Bladder distended, passed per catheter 760 c.c. urine, acid, sp. gr. 1019, no sugar, a trace of albumin. Was given 1 m. ol. tigllii. Died Jan. 15th, 11 p.m." Dr. Kellogg saw the patient at the city morgue. He found the spleen much enlarged, rather soft, the capsule wrinkled, and having several spots of opaque white thickenings of the latter. The cut surface was dark purple, the trabeculae partially obliterated. The entire extent of the peritoneum was covered with a hemorrhagic sticky fibrinous exudate, matting together the omentum, intestines and parietal layer of peritoneum. There was no fluid in the peritoneum, and no enlargement of the lymph glands. Smears from the spleen showed the presence of a bipolar staining bacillus which was morphologically the bacillus of plague. Inoculation experiments have been commenced.

•CANADA.

A BANQUET was tendered the staff of the *Canadian Journal of Medicine and Surgery*, Toronto, recently.

IN WINNIPEG, a man was recently found guilty of practicing medicine without being duly qualified by the medical act of Manitoba, under two different charges, and fined \$25 and costs on each charge.

Scarlet Fever Epidemic.—From a table compiled by the Montreal Health Department, it is evident that that city has passed through a serious epidemic of scarlet fever. The cases in the Civic Hospital, from Sept. 29, 1900, to Jan. 19, 1901, numbered 681. The deaths for the same period were 139, the death-rate being 20.23 per cent.

Druggists and Medical Practice.—The medical detective of the Ontario Medical Council has filed information against eight Toronto druggists for practicing medicine without a license. The cases will be up in the police court next week, and will be watched with interest. It is stated that there is considerable of this sort of work done in Toronto.

La Grippe Mortality.—In Toronto, sixty deaths occurred from acute pulmonary diseases alone between Jan. 1 and 25. The total number of deaths there, to the 25th, was 278, and during the whole of January, 1900, the number was 265. In 1900 the deaths from pulmonary causes numbered 23 for the month, those from diphtheria 10, while this year the latter reached 16 to January 25.

Changes in Ontario Asylums.—Dr. Wilson, assistant at the Brockville Asylum, has been transferred to London, to take the place of Dr. A. T. Hobbs, who has resigned to enter on private practice. Dr. Laidlaw, assistant at the Orillia Asylum, who has just returned from South Africa, has been promoted to the vacancy at Brockville; while Dr. St. Charles, also of Orillia, has been transferred to Hamilton, to succeed Dr. Heriman, who has been transferred to the Kingston institution. The changes took effect Feb. 1.

Scholarship in Medicine.—Queen's Medical Faculty has decided to found a scholarship in medicine in commemoration of Dr. Fife Fowler, dean of the faculty, who has given forty-six years of active service to the college. The scholarship will be known as the Dean Fowler scholarship; \$10,000 is required, and the graduates of Queen's throughout Canada and the United States will be asked to contribute. The faculty has already subscribed a goodly portion of this amount. In addition, \$10,000 is to be expended on improving and enlarging

the medical building. This amount will be raised from members of the faculty.

Deaf, Dumb and Blind.—The annual reports on the Ontario institutions for the education of deaf and dumb at Belleville, and of the blind at Brantford, have just been published. At the Belleville institution, 152 males and 130 females have been in attendance through the year which ended Sept. 30, 1900. Since its establishment, thirty years ago, 1187 children have been treated there. At the institute for the blind, at Brantford, 61 males and 52 females were in attendance last year, this being slightly less than the previous year. It is considered that the blind are decreasing in this province.

Consumptives and Tent Life.—During the recent cold snap, when the thermometer must have registered somewhere in the neighborhood of 20 degrees below zero, many of the consumptives at the sanatorium at Gravenhurst lived and slept in tents, without inconvenience, and, it is stated, with positive enjoyment and advantage to their physical well-being. Dr. J. H. Elliott, formerly superintendent, has returned to the institution after an absence of two years in foreign lands. Most of his time abroad has been devoted to the study of laboratory methods in connection with the bacteriology of tuberculosis, as well as visiting establishments for the treatment of this disease. He was one of the expedition from the Tropical School of Medicine at Liverpool, organized for investigating the phenomena of malaria on the west coast of Africa.

FOREIGN.

THE BUST of the Brussels otologist, C. Delstanche, was unveiled Sunday, January 20, in the otologic clinic of which he was the founder.

THE KATHARINE HOSPITAL at Moscow, the one connected with the clinics of the university, recently celebrated the 125th anniversary of its foundation.

LISBON, PORTUGAL, in addition to more than 20 practicing physicians is said to boast of 150 medical practitioners without legal qualifications—quacks.

DR. JAMES GRAHAM, Sidney, N. S. W., has been elected mayor, and it is expected that the civic hygiene will now be of the best, decreasing the probability of any further plague outbreaks.

ACCORDING TO the *Presse Médicale* of Paris, the budget for the hospitals in 1901 includes an appropriation of 718,000 francs or about \$143,000 for gauze alone. This corresponds to 6,300,000 meters.

THE RUSSIAN government has authorized the foundation of a university for women, to have only faculties of medicine, pure science and natural science. A merchant of Moscow has given 3,000,000 roubles for its establishment.

THE MEDICAL SOCIETY OF ATHENS is organizing a "Pan-Hellenic Congress of Medicine" to take place in Athens next May. Foreigners will be welcomed as members of the Congress. The address of the secretary is M. Mangakis, 85, rue de l'Université, Athens.

PLAGUE REPORTS from Sidney, N. S. W., dated December 29, state that there are no further cases in the colony and that on December 3 there were but two under treatment at Brisbane. During the week ending December 3, three cases were reported at Thursday Island.

IN THE GERMAN town of Biebrich, a charlatan treated a pregnant girl for ascites, and, when she was delivered, allowed the child to die, from ignorance of the proper procedures. Criminal proceedings were instituted against him and he was condemned to two months in prison.

HUCHARD'S CLINICAL amphitheater at the Necker Hospital in Paris has been remodelled at his expense, and he has inaugurated a series of bedside talks on therapeutics. If a listener fails to understand anything that has been said, he is to ask for further explanations, placing his request in a box provided therefor, and the next day Huchard again refers to the matter.

Seats for Employes.—The *Sem. Med.* says that the French law, which went into operation with the new year, decrees that seats corresponding to the number of female employes must be provided in stores. The German law requires "a sufficient number of seats" and the English law of 1899 one seat for each three female employes.

Mecca Pilgrimages Regulated.—The pilgrimages to Mecca are to be strictly supervised this year by the sanitary authorities, and they are to be restricted as much as possible. Several districts of India, including the Bombay Presidency, have forbidden residents from taking part in the pilgrimage. All pilgrims leaving India must sail from two appointed ports and submit to rigid disinfection.

G. A. Chatin, M.D.—The death of G. A. Chatin, M.D., of Paris, is announced. He was born in 1813, a member of the Académie de Médecine for forty-eight years, and at one time its president. He was director of the Ecole de Pharmacie and author of the "Comparative Anatomy of Vegetables," among other works. . . . Professor Dubreuil, of Montpellier, France, after twenty years of gratuitous labors in the hospitals, has left to them his property of \$140,000. He was 66 years of age at the time of his death.

Inoculations with Syphilis.—Neisser's inoculation of three prostitutes with syphilitic serum some years ago has been frequently mentioned in these columns. He has finally been officially condemned by the German disciplinary court, which has been investigating the matter, and besides a reprimand, a fine of about \$75 has been imposed. The minister of public instruction at once issued a proclamation forbidding, in all clinics and other institutions for the care of the sick, all medical intervention other than for diagnostic, curative or preventive purposes.

German Medical Courses.—It is now a definitely established fact that graduates of the technical high schools in Germany are eligible to admission to the medical course in the universities, the same as those who have taken the classical course. An editorial in the *Allg. Med. C. Ztg.* observes that some persons attribute to the unpractical, classical training of physicians in the past the apparent contempt for worldly goods which induces certain members of the profession to serve the sickness-insurance societies at terms lower than the cheapest day laborer's hire. If it is the classical training which is responsible for this ultra-magnanimous conduct, then the acquisition of technically trained members will prove a boon to the profession. But there is little chance that the coolly practical, technical graduates will turn their attention to the arduous career of medicine.

Medical Practice in New South Wales.—The new medical practice act for New South Wales calls for a term of five years' study of medicine. This would, therefore, exclude an American from practice because he is supposed to have graduated from a school of but four years. However, it seems that the first of the five years is similar to the last year usually spent in an American preparatory school before entering an American medical college, and the regulations of the British Medical Council says: "Graduates in the arts and sciences of any university recognized by the medical council, who shall have spent a year in the study of physics, chemistry and biology, and have passed an examination in these studies for the degrees in question, shall be held to have completed the first of the five years of medical study."

Red Cross Society of Japan.—From the *Times* (London) of January 7, we learn that the Red Cross Society of Japan is a very flourishing institution. Its list of subscribers contains nearly 700,000 names, and its annual income is 2,000,000 yen. It has hospitals in the chief cities, that in Tokio being especially fine, and it possesses a large staff of trained nurses, male and female, who in times of peace are at the service of the general public. The Japanese woman makes an admirable nurse. She has been criticised by some foreigners for lack of resolute initiative, and the criticism is probably just where there is a question of dealing with the "masterful Occidental." But she shows no want of resolution in the presence of patients of her own nationality, and her gentleness, sympathy, unremitting attention and complete self-effacement are beautiful qualities. One of the interesting and novel features of the society's organization is that it has two large steamers—the *Mercy* (Hakuai) and the *Saviour* (Kosai)—which are specially constructed and equipped as floating hospitals. In these ships the wounded and the sick find all the comforts furnished by a first-class hospital on shore, and are under the care of a large staff of highly-trained surgeons and nurses. The arrangement made at Tien-tsin was that all the light cases should be conveyed by the most suitable vessels in the transport fleet, and that the graver should be carried by the Red Cross ships. The *Mercy* and the *Saviour* each made five voyages from Ta-ku to Hiroshima between July 18 and October 11, and carried altogether 1678 patients, wounded and sick. Eleven ordinary steamers were similarly employed, and, according to returns just published, the total number of wounded officers and men carried to Hiroshima from the beginning of the complication until October 31 was 776, and the number of sick 2643, making an aggregate of 3419. Out of these the recoveries thus far have been 1717, and the deaths 110. The Red Cross Society has disbursed a sum of 600,000 yen, but the government's outlays are not yet publicly known.

Correspondence.

Dividing the Fee.

MONTPELIER, IND., Jan. 25, 1901.

To the Editor:—The *Chicago Times-Herald*, in its issue of yesterday, contained an article on "The Doctors at Odds on Divided Fees." This appeals so strongly to a common sense of justice that I wish to take sides with those physicians who are opposed to the fee dividing scheme, and endorse as emphatically as I can their reasons for not wanting to reduce the profession to a commercial basis.

Some time ago I received a circular letter, and you may well imagine my disgust and chagrin when I read it. It evidently had emanated from one who fully understood the financial side of the "fee dividing" problem. This would-be surgeon—I say would-be, as no reputable one would send out such a communication—with a great wealth of rhetorical diction, intimated the injustice of not dividing the fee with the man who had brains enough to diagnose the case, and intimated his intention of doing so with all who would send their cases to him for surgical aid. This, to me, had an unmistakable flavor of "fee faw fum."

It has been, during my short career as a general practitioner, my pleasure to consult surgeons, and retain them to operate. I have stood by and eagerly watched each step, while the benefit I derived from this privilege was compensation far in excess of the division of any fee.

Is it possible to conceive of a future time when general practitioners will turn their patients for operation to the highest surgical bidder? I hope not. May a time come when surgeons will clamor with their bidding for an operation, like a pack of wolves howling and snarling over a corpse? I am sure not. Will a time come when the wheels of professional ambition will be retarded or clogged by the having to "divide the fee" proposition staring one in the face who is trudging up the rugged steep, bearing that inevitable banner of excelsior? I pray not. Yet I feel that such a move as dividing fees would be the nucleus from which would grow professional disgrace and ruin.

On the evening of November 3, 1900, the profession of the country set the seal of its approval on hard work and earnest study by tendering to Dr. Christian Fenger a testimonial banquet (see *THE JOURNAL*, vol. xxxv, p. 1214). This great surgeon, by incessant toil, has won the everlasting praise of his fellows and set an example we may do well to follow, but do not say to him, You may operate on my case if you "divide the fee."

J. C. O'DAY, M.D.

Intravenous Transfusion of Formaldehyde Solutions.

PARK CITY, UTAH, Jan. 26, 1901.

To the Editor:—In your editorial, Dec. 29, 1900, on "Treatment of Tuberculosis," you remark that Dr. R. McGuire has lately treated tuberculosis by intravascular injections of formaldehyde solutions.

Permit me to report some experiments I made three years ago on dogs with intravenous injections of solutions of formaldehyde. Lack of time and a laboratory forced me to give up my studies in this line. I tried to solve the two following propositions: 1. Would it be possible, without injuring the animal, to introduce into the circulation formaldehyde in sufficient amount to disinfect tuberculous lungs? 2. By introducing formaldehyde into a vein of the foreleg—forearm—would the gas, after permeating the lungs, escape by the mouth, or would it go to the left side of the heart and into the general circulation?

It has been proved that plain, sterile water, transfused into the blood-vessels, will injure the blood-corpuscles; therefore, normal salt solution, which is compatible with formaldehyde, was chosen as the menstruum for the formaldehyde. It has, also, been proven that gases can be introduced into the blood without stopping the action of the heart. A piece of white blotting paper was saturated with a solution of fuchsin, then discolored with dilute hydrochloric acid, which turns it

yellow; when formaldehyde gas strikes this paper, the yellow color turns violet. I mixed 112 minims of formalin—45 minims of pure formaldehyde—with 2 ounces of warm normal salt solution; a vein was picked up in a dog's foreleg and the solution was slowly transfused; the yellow-colored blotting paper was immediately held near the dog's mouth; the violet color appeared in a few seconds. Of course, the dog died in two or three minutes, but the second proposition was solved—the gas escaped by the mouth. On the second dog, I used 25 minims formalin—10 minims pure formaldehyde. On a third dog, I used 37 minims formalin—15 minims pure formaldehyde. These two dogs lived and seemed as well after the experiments as before. In these, also, the formaldehyde escaped by the mouth. The yellow colored blotting paper gave no reaction of the formaldehyde test when arterial blood from the dead dog was heated.

E. VIKO, M.D.

The Philadelphia Medical Journal.

PHILADELPHIA, Jan. 22, 1901.

To the Editor:—The issue of THE JOURNAL for January 5 contained statements which might convey a wrong impression concerning the changes recently made in the *Philadelphia Medical Journal*, its financial strength, the chances of its continued success and the nature of its aims as an exponent of high professional ethics. The insertion of this letter in your columns would therefore be greatly appreciated.

The changes recently made in the editorial department were based upon the action of a board of trustees, which contained at the time, as it does now, a proportion of five physicians to every lay member. That the *Journal* has, and will continue to be inspired by men who are familiar with "high ideals in medicine" and the needs of the general profession is therefore evident. True, the shareholders have not as yet received dividends. This is due to the fact that they have "sunk a large amount of money" in the elaboration of a foundation as enduring as the original plan of the *Philadelphia Medical Journal* was comprehensive. This was not done through the "lack of sagacity of those who put their money into it," but in order to better serve its subscribers and merit their continued patronage—the secret of success. Indeed, never has the ethical, scientific and financial position of the *Philadelphia Medical Journal* been more secure than at the present time; and, far from having "a demoralizing effect on legitimate medical journalism," it will continue, with its old contemporaries, especially THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, in its efforts to maintain the dignity, honor and scientific standard of American medicine. Your truly,

JOHN B. ROBERTS, M.D., Secretary.

By Order of the Board of Trustees.

The Association's 1902 Meeting.

MEMPHIS, TENN., Jan. 22, 1901.

To the Editor:—The 1902 meeting of the AMERICAN MEDICAL ASSOCIATION should logically come south. Other southern cities, Atlanta, New Orleans, Louisville and Nashville have been honored, and Memphis is now the third largest city south of the Ohio River, with a population, by the U. S. census of 1900, of 102,320. It is well and centrally located, being in the very heart of the great Mississippi Valley. We have also eleven trunk lines, making Memphis accessible from all points. Besides, the adjacent territory, Mississippi, Alabama, Arkansas, Tennessee, Louisiana, Texas and southeast Missouri has many good physicians who have never joined the AMERICAN MEDICAL ASSOCIATION. I believe that if Memphis could secure the meeting next year our membership would be materially increased. Some few have doubted our ability to entertain the ASSOCIATION, but we now have in course of construction one of the finest hotels in the South, and our hotel facilities in general will be ample to accommodate all who may be present. With reference to suitable halls for the various sections, I can safely say there will be no trouble in securing all we need. We have a large auditorium, with a seating capacity of 4500, which would serve well for the general sessions, also for

exhibits, and May would be the ideal month for the meeting should it come south. Our business men are liberal and progressive and it is safe to say that the Merchants' Exchange will do its part. Let the AMERICAN MEDICAL ASSOCIATION come south in 1902, to Memphis, the Queen City of the Mississippi Valley. Respectfully,

FRANK A. JONES, M.D.

Incised Wounds.

CHICAGO, Jan. 28, 1901.

To the Editor:—In regard to abstract No. 121, in the January 19 issue of THE JOURNAL (p. 216) I wish to say, without criticizing the author, that I have been using that method ever since it was shown me by Dr. J. A. McDonell, of this city, and it was not original with him. As early as July, 1872, while Dr. McDonell was practicing in Boston, N. Y., an old shoemaker, named Silas Root, witnessed the Doctor trying to sew up an incised wound in a child, and as the child cried from pain this old shoemaker said: "Let me show how to coapt those edges without causing the child any pain." He thereupon took two pieces of shoeleather, shaved the rough parts off, punched holes in the approximating edges and then, by means of shoemaker's wax, attached these two pieces of leather to the skin on each side of the wound, and then laced them together with ordinary fine twine. Union was complete, and Dr. McDonell was so pleased with the result that this method became routine with him in all incised wounds. Later when adhesive plaster was put on the market, Dr. McDonell began to use that, approximating the free edges with a sterilized needle and linen thread, and this is now his routine and has been since the introduction of adhesive plaster.

331 Loomis Street.

BENJ. H. BREAKSTONE, M.D.

The British Pharmacopeia.

ASHTON, R. I., Jan. 21, 1901.

To the Editor:—In THE JOURNAL of January 19, your London correspondent speaking of the British Pharmacopeia states that there were converted into this three pharmacopeias in the United Kingdom, issued by the Colleges of Physicians of London, Edinburgh and Glasgow respectively.

Now, in a great organ of professional thought and action like THE JOURNAL its readers expect above all things accuracy. There are, undoubtedly, in the United Kingdom three colleges of physicians, one for each kingdom, in London, Edinburgh and Dublin.

Your correspondent robs Ireland, giving Scotland double her due.

N. O'D. PARKS, L. C. P. I.

Marriages.

W. H. RAMSEY, M.D., Omaha, Neb., to Miss Edna Ball, Waco, Texas, January 16.

EDWARD B. EVANS, M.D., Fargo, N. Dak., to Miss Jennie Lind Lewis, January 13.

NELSON M. BLACK, M.D., to Miss Erna Leidersdorf, both of Milwaukee, Wis., January 22.

FRANK E. DONELAN, M.D., Glenwood, Iowa, to Miss Winifred Wells, Tabor, Iowa, January 13.

CHARLES R. GRANDY, M.D., Norfolk, Va., to Miss Mabel Dickman, Richmond, Va., January 17.

JEDIAH H. CLARK, M.D., Richmond, Ind., to Miss Anna Hessler, Connersville, Ind., January 1.

ANDREW EKERN, M.D., Grand Forks, N. Dak., to Miss Signa Hustmark, Seattle, Wash., January 16.

FRANK MILLARD SEVERSON, M.D., Seneca Falls, N. Y., to Miss Anna Evelyn Mead, Chicago, January 16.

Deaths and Obituaries.

William D. Haggard, Sr., died at Columbia, Tenn., January 25, from the effects of a stroke of paralysis which occurred the previous day. He was born in Kentucky, 74 years ago, and his ambition from boyhood was to be a physician.

When he was 11 years old, his father died, and, as the oldest child, he assisted his mother in the management of the plantation. Later he was a clerk in a store, a school teacher, and at the age of 19 became tax assessor of Marion County. He saved enough to begin his medical studies at the University of Louisville in 1847, but completed his medical course at Jefferson Medical College, Philadelphia, and was graduated there in 1851. He practiced in Gallatin, Tenn., until 1864, and then moved to his farm near Sharon Hill. In 1874 he moved to Nashville, and was connected, as an instructor, with the medical department of the University of Nashville and Vanderbilt University. In 1884, he was elected to the chair of diseases of women and children in the medical department of the University of Tennessee, which chair he had occupied until recently, when he resigned in favor of his son. He has been a continuous member of the Tennessee Medical Society for a half century, and of THE AMERICAN MEDICAL ASSOCIATION for many years. In 1887 he served as chairman of the Section on the Diseases of Children. In 1889 he was instrumental in organizing the Southern Surgical and Gynecological Association. In 1892 he was elected president of the Nashville Academy of Medicine, and in 1893 one of the honorary presidents of the Pan-American Medical Congress. He had been a faithful and unusually active and successful practitioner of medicine, and during the last ten or fifteen years has devoted most of his attention to surgery, in which he gained fame throughout the South. He also found time to devote to the teaching of his profession to thousands of students throughout the entire West and South, who will mourn his loss and revere his memory.

HIRAM CHRISTOPHER, M.D., University of Louisville, Ky., 1847, of St. Joseph, Mo., died January 21, after a long illness, aged 81. He was known as a scholar, and as an enthusiastic student of languages, and especially well versed in Greek. For a number of years he was dean of the Ensworth Medical College and he was at the time of his death, senior editor of the *Medical Herald*. At a meeting of the St. Joseph Medical Society, January 23, resolutions were adopted expressing the heartfelt sympathy and sorrow of the society at Dr. Christopher's death, and, as a mark of respect to his memory, the society adjourned.

GEORGE LESTER RUNDLE, M.D., New York University, 1890, was injured by a train at Delawanna, N. J., January 20, and died the next day at the Passaic, N. J., Hospital. He was a member of THE AMERICAN MEDICAL ASSOCIATION and surgeon of the Passaic General Hospital, as well as a member of the Passaic district and city societies.

DAVID CALDWELL IRELAND, M.D., University of Pennsylvania, 1861, died suddenly of heart failure consequent on la grippe, at his home in Baltimore, Md., aged 57. He had served as member of the city council, coroner and president of the pension examining board.

WILLIAM E. DAVIS, M.D., Meharry Medical College, Nashville, Tenn., 1887, a colored physician of Fort Worth, Texas, and a member of THE AMERICAN MEDICAL ASSOCIATION, died at his home in Fort Worth, January 1, from pneumonia. He was 39 years old.

E. P. ROSS, M.D., Manitoba Medical College, Winnipeg, 1900, who had recently returned from South Africa, invalided on account of enteric fever, died suddenly from la grippe, January 14, aged 28. He was house surgeon at St. Boniface Hospital, Winnipeg.

WILLIAM S. SMITH, M.D., University of Minnesota, 1892, of St. Clair, Minn., a member of THE AMERICAN MEDICAL ASSOCIATION, died from complications following an operation for acute appendicitis, at Rochester, Minn., January 18, aged 31.

EDWARD PINCKNEY BECTON, M.D., University of Tennessee, 1857, superintendent of the Texas State Asylum for the Blind and surgeon of the Twenty-second Texas Infantry C. S. A., died at Austin, January 14, from la grippe, at the age of 66.

HENRY W. LEONARD, M.D., Miami Medical College, Cincinnati, Ohio, staff surgeon of the Fifty-first New York Infantry, and for many years in practice at Camden, N. Y., died in New York City, January 14, after a long illness, aged 71.

LUTHER NEWCOMB, M.D., University of Vermont, 1885, and for thirteen years thereafter in practice in Lynn, Mass., died after a lingering illness, from Bright's disease, at his home in Montpelier, Vt., January 10, aged 39.

WILLIAM H. PARKHURST, M.D., Western College of Physicians and Surgeons, Fairfield, N. Y., 1841, one of the oldest physicians in the Mohawk Valley, died at his home in Frankfort, N. Y., January 22, aged 88 years.

JOSEPH C. HATHEWAY, M.D., Jefferson Medical College, Philadelphia, 1856, one of the oldest practicing physicians in Ottawa, Ill., died at his home in that city after an illness of six weeks, January 21, aged 67.

ABRAHAM BETTMAN, M.D., an old resident of Cincinnati, Ohio, and before his retirement, one of the leading physicians 1852 died at his home near Fisherville, Va., January 16, after a long illness, aged 95.

STEPHEN J. REYNOLDS, M.D., New York University, 1851, one of the oldest physicians of eastern Missouri, died at his home in Bowling Green, from acute nephritis, January 20, aged 76.

SAMUEL J. COYNE, M.D., University of Cincinnati, 1879, formerly a practitioner of Aberdeen, S.D., died from an overdose of medicine, January 21, at his home, opposite Dayton, Minn., aged 56.

JAMES WATSON, M.D., New York University, 1872, died January 23, at his home in Belleville, N. Y., suddenly, from heart failure as a sequel of la grippe. He was 67 years of age.

WALTER BUTTERBAUGH, M.D., State University of Iowa, 1897, died at Denver, Colo., December 25, from tuberculosis contracted while in practice in Riverside, Iowa. He was 31 years old.

ALEXANDER C. REID, M.D., University of Aberdeen, Scotland, 1865, a retired physician of Hamilton, Ont., died at his home in that city, from paralysis, January 18, aged 63.

WILLIAM J. HARRIS, M.D., Rush Medical College, 1866, a member of THE AMERICAN MEDICAL ASSOCIATION, died at his home, near Beatrice, Neb., January 26, aged 80.

GOTTLEIB MILLER, M.D., College of Physicians and Surgeons, Keokuk, Iowa, 1882, a specialist on the eye and ear, died at his home in Ottawa, Ill., January 12, aged 76.

JAMES BOYD MCKELVY, M.D., University of Pennsylvania, 1848, was killed by a fall from a window, at his home in Bloomsburg, Pa., January 14, aged 70.

N. M. BONHAM, M.D., Missouri Medical College, St. Louis, 1860, a pioneer physician and preacher of Missouri, died at New Franklin, Mo., January 18.

HENRY COTTON, M.D., University of Minnesota, 1894, died at St. Barnabas Hospital, Minneapolis, from typhoid fever, January 22, at the age of 33.

BURT ANDREWS, M.D., Bellevue Hospital Medical College, 1891, died at his home in Augusta, Me., from tuberculosis, January 12, aged 32.

JOHN A. GILBERT, M.D., University of Wooster, 1872, of Cleveland, Ohio, died January 22, after a prolonged illness from spinal disease.

STEPHEN M. BAYARD, M.D., died at his home in Ionia, Mich., January 17, from pneumonia, after an illness of ten days. His age was 81 years.

GEORGE A. LANDERS, M.D., University of Cincinnati, 1883, of Van Buren, Ind., died from paralysis, at Fortville, Ohio, January 18, aged 42.

WILLIAM F. COOK, M.D., Medical College of Ohio, Cincinnati, 1897, died from pneumonia, at his home in Latonia, Ky., January 17.

ALBERT L. WAGNER, M.D., College of Physicians and Surgeons, Chicago, 1885, recently died suddenly at his home in Lapaz, Ind.

GEORGE E. FULLERTON, M.D., University of Michigan, a retired physician of Marion, Iowa, died recently at his home in that city.

W. FRANK ROSS, M.D., Barnes Medical College, St. Louis, 1895, died at his home in Champaign, Ill., January 23, aged 44.

LUCIUS J. W. LEE, M.D., University of Pennsylvania, from pneumonia, at his home in Brooklyn, N. Y., January 8, aged 64.

ROLLIN E. BEACH, M.D., Missouri Medical College, 1872, died from typhoid fever, at his home in Vandalia, Ill., January 23.
 THOMAS HENRY McCORMICK, M.D., Harvard Medical School, Boston, at his home in Taunton, Mass., December 31, aged 25.
 WILLIAM H. PLEUTHUR, University of Buffalo, N. Y., 1891, was found dead, January 17, aged 31.
 JAMES MARCELLUS WATSON, M.D., Jefferson Medical College, 1852, died at his home, near Fisherville, Va., January 16, after a prolonged illness, aged 70.

Therapeutics.

Treatment of Dysmenorrhea.

The general practitioner is very frequently called upon to prescribe for the ailments during menstruation. The *Ther. Gazette* gives the following outline of treatment by Lyon for dysmenorrhea: Absolute rest in bed for twenty-four hours preceding the expected period; applications of hot compresses or poultices to the lower portion of the abdomen. Rub the skin of the abdomen with the following liniment:

R. Ext. belladonnæ fl.		
Ext. hyoseyami fl., āā	3i	4
Linimenti camphoræ	3iii	96

M. Sig.: To be applied externally.

In some cases rectal injections are recommended:

R. Tinct. opii	m. x	
Aquæ amyli, q. s. ad	3vi	192

M. Sig.: As an enema to relieve the pain; or:

R. Infusi valerianæ	3ii	8
Aquæ, q. s. ad	Oi	500

M. Sig.: As an enema.

If the menstrual flow is excessive:

R. Ergotin	gr. ii	12
Quininæ sulphatis	gr. i	06
Pulveris digitalis	gr. ss	03

M. Ft. pil. No. i. Sig.: Take one such pill two or three times a day; or:

R. Ext. hydrastis fl.	3i	32
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Sig.: Thirty to sixty drops to be taken in sweetened water once or twice daily.

In other cases he employs the tincture of viburnum prunifolium in the following combination:

R. Tinct. viburni prunifolii		
Tinct. piscidiæ erythrinæ, āā	3ss	16

M. Sig.: Twenty drops four or five times a day.

Piscidia is an unofficial preparation derived from the bark of Jamaica dogwood. Its action upon the nervous system is similar to opium. It is used as a nerve sedative and for the different forms of neuralgias. He also recommends the following for the same conditions:

R. Antipyrini		
Potassii bromidi, āā	3i	4
Ext. viburni prunifolii	3iii	12
Spiritus vini galliei		
Syrupi aurantii flor., āā	3ss	16
Aquæ destil.	3ii	64

M. Sig. One dessertspoonful two or three times a day.

Antipyrin is preferable to other coal-tar products such as acetanilid, because it does not produce the changes in the blood that follow the administration of acetanilid. Brunton states that acetanilid must be used with care in the treatment of such conditions.

If the flow is not abundant but difficult, hot sitz baths to which mustard has been added is recommended, or mustard applied to the anterior abdominal wall. In such conditions he gives the following:

R. Asafetidæ	gr. ii	12
Ext. valerianæ	gr. i	06
Ext. eannabis indicæ	gr. ss	03

M. Ft. Pil. No. i. Sig.: One, two, or three a day; or:

R. Sodii salicylatis	3ii	8
Rum	3iss	48
Aquæ destil., q. s. ad	3iii	96

M. Sig.: One teaspoonful three times a day.

Chronic Alcoholism.

To meet the different symptoms present in chronic alcoholism Dr. Daniel R. Brower recommends the following outline of treatment to replace the stimulant:

R. Tinct. capsici		
Tinct. nucis vom., āā	3iv	16
Tinct. einchonæ comp., q. s. ad	3iii	96

M. Sig.: One teaspoonful every four hours.

TO PRODUCE SLEEP.

R. Chloralis hydratis,		
Potassii bromidi, āā	3iii	12
Ext. glyeyrrhizæ fl.	3i	32
Syr. simplieis, q. s., ad	3iii	96

M. Sig.: One dessertspoonful at night.

Careful attention must be given to the nourishment and elimination. He advocates the frequent administration of beef tea well seasoned with capsicum. The beef tea can be made of some of the prepared and reliable extracts now upon the market. Elimination by the skin, kidneys and bowels should be carefully observed. For the latter he recommends the following as a cathartic:

R. Pil. eath. comp. Sig.: One or two pills as needed to keep the bowels in good condition.

Chapman recommends the following pill in chronic alcoholism:

R. Zinci oxidi	3i	4
Piperini	3i	133

M. Ft. pil. No. xx. Sig.: One pill three or four times a day.

Acute Alcoholism.

The following combination is recommended by Gerhard:

R. Tinct. capsici		
Tinct. zingiberis		
Tinct. valerian. ammon.		
Tinct. gentianæ comp., āā	3i	32

M. Sig.: One dessertspoonful in a cup of hot water three or four times a day.

Treatment of Delirium Tremens.

Dr. C. G. Stoekton, in *Amer. Therapist*, advises the administration of an efficient purgative followed by:

R. Potassii bromidi	3i	4
Chloralis hydratis	gr. xxx	2

M. Sig.: At one dose, unless the condition of the patient's heart should require a smaller dose. If it is deemed necessary the above dose may be repeated. For the heart, if it should show signs of failure, he recommends digitalis. Alcohol should not be permitted in any form, but in its stead stimulation and nourishment, as beef tea with capsicum. Strychnin and nitroglycerin may be of better use in some cases than digitalis. As a cathartic he recommends aloin in half-grain doses administered hypodermically. By this means good evacuation of the bowels will be produced. Hyoscin hydrobromate can be given in 1/100 grain dose to quiet the delirium, but should be used with great care and is of advantage only when the delirium is a temporary one.

Tubercular Laryngitis.

In the later stages of tubercular laryngitis the following insufflation for the relief of pain, which is usually severe, and the restoration of the voice, may be given:

R. Iodoformi	3ii	8
Coeainæ hydrochloratis	gr. iss	09
Morphinæ hydrochloratis	gr. ss	03

M. Sig.: A small amount to be insufflated by the patient with a bent glass tube to relieve the pain.

Treatment of Chlorosis.

Two of the important factors to be observed in the treatment of chlorosis, as in the secondary anemias, are rest in bed and the relief of constipation. It has been demonstrated clinically that the increase in hemoglobin has been as rapid in chlorotic girls who were put to bed with the proper attention to elimination by the bowels as in the cases where ferruginous preparations were administered and permitting them to

follow their ordinary vocations. As a laxative, a pill containing aloes in combination with other drugs certainly takes the first rank. Aloes acts more especially upon the lower bowel. Colonic flushings, using the normal salt solution, should be resorted to occasionally. As hematinics, the iron and arsenic preparations take the lead. Dr. Frank Billings thinks the tinctura ferri chloridi is probably preferable to any other preparation in the treatment of the anemias. He recommends it to be given as follows:

R. Tinct. ferri chloridi
Glycerini, āā3i 32
Aque destil., q. s. ad.....3iii 96

M. Sig.: One teaspoonful three times a day, well diluted in water.

He further states that perhaps patients have some apprehension as to its effects upon the teeth when administered in the form of the tincture, although the decay is more probably due to the anemic condition of the patient. He emphasizes the importance of giving it in large doses. It seems that his statement is a proper one, if, as Wilcox states it, iron administered in any form is taken up by the system and circulates as the chlorid. Notwithstanding this statement, personal experience with the Fleischl hemometer in the frequent examination of blood has shown the great value of the Blaud pill in such cases, combined as follows:

R. Ferri sulphatis
Potassii carbonatis, āā3i 4
Acidi arsenosigr. i 06

M. Ft. capsulæ No. xxx. Sig.: One capsule after each meal three times a day.

The organic preparations of iron which are upon the market certainly do not improve the blood as rapidly as iron administered as above.

Sir Andrew Clarke's idea that chlorosis is caused by gastrointestinal stasis and resulting autointoxication has led to the employment of saline purgatives and intestinal antiseptics. He recommended the following:

R. Ferri sulphatisgr. xxiv 15
Magnesii sulphatis3vi 24
Acidi sulph. arom.....3i 4
Tinc. zingiberis3ii 8
Infusi quassiae, q. s. ad.....3viii 256

M. Sig.: Two tablespoonfuls twice daily; or:

R. Ferri sulphatisgr. xxiv 150
Sodii bicarbonatis3ii 8
Sodii sulphatis3vi 24
Tinct. zingiberis.....3ii 8
Spts. chloroformi3i 4
Infusi quassiae, q. s. ad3viii 256

M. Sig.: Two tablespoonfuls twice daily, at eleven and six o'clock.

For chlorotic amenorrhea, the following pill is well recommended:

R. Ferri phosphati3i 4
Pulveris aloesgr. xv 1
Quininae hydrochloridi
Ergotini, āā.....3ss 2

M. Ft. pil. No. lx. Sig.: One pill four times a day.

This pill possesses the properties of a laxative, hematinic, tonic and uterine stimulant, all of which are certainly indicated in the treatment of such conditions.

Medicolegal.

Must Order Trial of Sanity on Physician's Affidavit.—The Supreme Court of Georgia holds, in *Sears vs. State*, that when a practicing physician has made an affidavit that a person who has been convicted in a superior court of that state for the crime of murder, and has been sentenced by the judge of that court to be hanged, has been by the affiant examined since the sentence and conviction, and discovered to be, at the time of the examination and of making his affidavit, insane, and in such mental condition that the question of his sanity should be tried before a jury under the terms of the law, and when this

affidavit has been duly presented to the judge for the purpose of procuring a trial on the question of the sanity of such a convict by the superior court of the county in which he has been sentenced, it is the imperative duty of the judge to order such trial, and to have a jury impaneled, as provided by the statute, for the determination of this question.

Effect of Judgment for Services on Malpractice Case.—

The Supreme Court of Tennessee was cited, in the case of *Sale vs. Eichberg*, to two apparently conflicting classes of cases as to the effect of a recovery by a physician of a judgment for services on a subsequent action by the patient for malpractice. An examination of these cases, however, the court says, will show that they are distinguishable in this important attribute: that, where the judgment for fees is by default, no estoppel, as it is called, arises—that is to say, the judgment is no bar to an action by the patient to recover damages for malpractice; but where there is a judgment for fees on the merits, or a confessed judgment, the matter is *res adjudicata*, as it is termed, and it will bar a subsequent action for malpractice. The supreme court also holds here that in a malpractice case where a practicing physician is called as a witness for the plaintiff and quite freely expresses his opinion in respect of good practice and proper treatment in such cases, the defendant is entitled to test the knowledge of the witness, notwithstanding he disclaims being an expert, by reading or having him read, extracts from standard medical works, on diagnosis and treatment in such cases, and asking the witness whether he agrees or disagrees therewith, and then by comparing his opinion with those of the writer. An instruction for the jury that the law fixes the standard by which the injury shall be measured in a malpractice case, which is "full and complete and ample compensation to the injured person," the court pronounces objectionable, in repeating, and thus emphasizing, to stimulate the jury in assessing damages beyond the rule of simple compensation; the true rule in such cases being compensation.

Construction of Warranty That No Brother Had Died.—

The case of the *Globe Mutual Life Insurance Association vs. Wagner* was certified to the Supreme Court of Illinois as involving questions of such importance that it should be passed upon by that tribunal. An applicant for a policy of life insurance had been asked in his medical examination: "How many brothers dead?"—and answered, "None." At the end of the series of questions and answers, which included the foregoing, he signed a declaration and warranty that the answers were true, and that said answers and the statements made in his application, together with this warranty, should form the basis of any contract of insurance that might be entered into between him and the association. But the evidence, when the policy issued was sued on, showed that a brother of the insured had died in London, England, more than four years prior to the date of the application for insurance, though there was no evidence tending to show that the insured ever knew of his brother's death. Did this invalidate the policy? The Supreme Court of Illinois holds that it did not. It maintains that the answer here in question should be held to be a representation, and not a warranty, and that, in the absence of proof by the company of fraud or intentional misstatement on the part of the insured, the policy was not rendered invalid merely because the answer proved to be false. It says that, in the absence of explicit, unequivocal stipulations requiring such an interpretation, it should not be inferred that the insured or his mother, who was his beneficiary and also signed an application for the policy and made the agreements and warranties in the medical examination hers as fully as if she had signed the same, took a life policy with the distinct understanding that it should be void if any statements made in the medical examination should be false, whether the insured was conscious of the falsity thereof or not. Whether or not the insured knew of the death of his brother at the time of the application for insurance was a question for the jury. To hold that, as a precedent to any binding contract, he should guaranty absolutely that none of his brothers were dead would be unreasonable, in the absence of a more explicit stipulation than here appeared. It not infrequently happens that a man loses trace

of all or a part of his relations, and to hold him to absolute guaranty that they were living, in order that he might obtain insurance, would sometimes be impossible, and almost absurd.

Disclosures in Death Certificate Privileged.—The Court of Appeals of New York holds, in the case of *Davis vs. the Supreme Lodge, Knights of Honor*, that, in an action on a benefit certificate, the cause of death of a relative of the insured, as of an aunt, can not be shown by the certificate of death filed by the attending physician. The court says that it has held that the statements of the attending physician, for the purpose of establishing the cause of death, either of the insured himself or of his ancestors or their descendants, although not parties to nor beneficiaries under the contract, are not admissible. They are excluded not only for the purpose of protecting parties for the disclosures of information imparted in the confidence that must necessarily exist between patient and physician, but on grounds of public policy as well. The disclosure by a physician, whether voluntary or involuntary, of the secrets acquired by him while attending upon a patient in his professional capacity, naturally shocks our sense of decency and propriety, and this is one reason why the law forbids it. The form in which the statements are sought to be introduced is of no consequence, whether as a witness on the stand or through the medium of an affidavit or certificate. All are equally under the band of the statute. Nor does the court consider that section 834 of the New York code, which expressly prohibits disclosures of information acquired by a physician in his professional capacity, when the relation of physician and patient existed, was repealed by implication by the provision in the charter of the city of New York of 1897, providing that the organization of the health department of the city, and that authenticated copies of the record of the proceedings of the board of health and books and papers constituting part of its archives shall be presumptive evidence in any court of justice or judicial proceeding, when they may be relevant to the point or matter in controversy. It may well be, the court says, that the records are competent to prove the fact of death, or prove marriages or births. It is quite possible that in some cases they might be competent on questions relating to pedigree. These facts could always, at common law, be established by a species of hearsay evidence; but the cause of death in a litigation between private parties, concerning the obligations of a contract of life insurance, must be established, when material, by common-law proof.

Indictment Where Practicing Medicine Is Defined.—Section 1477 of the Political Code of Georgia defines what persons shall practice medicine in that state. Section 1478 declares: "For the purpose of this chapter, the words 'practice medicine' shall mean, to suggest, recommend, prescribe or direct, for the use of any person, any drug, medicine, appliance, apparatus, or other agency, whether material or not material for the cure, relief, or palliation of any ailment or disease of the mind or body, or for the cure or relief of any wound, fracture, or other bodily injury or deformity, after having received or with the intent of receiving therefor, either directly or indirectly, any bonus, gift, or compensation." The indictment in *Blalock vs. State* charged the former with the offense of a misdemeanor, "for that the said O. C. Blalock, on the 24th day of August, in the year 1900, in the county aforesaid, did then and there unlawfully and with force and arms practice medicine, without then and there being authorized to do so either by diploma from an incorporated medical college, medical school, or university, nor after having attended one or more full terms at a regularly chartered medical college, having been in the active practice of medicine since the year 1866, nor being then and there authorized to practice medicine in 1866, nor having been then and there licensed by the medical board; contrary to the laws of said state," etc. Now, this indictment the Supreme Court of Georgia holds, not only substantially complied with the provisions of sections 485 and 486 of the Penal Code of Georgia, upon which it was based, but was not defective in not alleging that the accused did illegally practice medicine with the intent of receiving, or after having received, directly or indirectly, any gift, bonus, or compensation for his services

in prescribing, suggesting, or recommending any drug, medicine, appliance, apparatus, or other agency for the cure of disease. It says that this indictment charged the accused with unlawfully practicing medicine. What "practicing medicine" means is defined by section 1478 above quoted. Every person is supposed to know the law. Therefore, the accused was presumed to have known what was meant by the term "practice medicine" under the state code. In other words, the court holds that since, by statutory definition, the words "practice medicine" embrace the idea of exacting compensation, an indictment charging that the accused did unlawfully "practice medicine," and expressly negating his having any of the qualifications essential to the lawful practice of medicine set forth in Section 1477 of the Political Code, is good in substance, and will support a conviction, although there be no allegation that the accused received or intended to receive compensation.

Miscellany.

The Psychic Equivalent of Epilepsy.—Recently a contractor suddenly lost all remembrance of self-consciousness from Friday at noon in New York City until he found himself in the Buffalo General Hospital the following Wednesday evening. The last remembered by him is that, being worried about an invalid wife and also feeling mentally exhausted from a very trying political campaign, he entered the elevated train to go to his home in New York City. During the time of his loss of self-consciousness he undertook a railway journey from this city to Buffalo. He was found by the police, aimlessly wandering about the streets, and was sent to the Buffalo General Hospital, service of Dr. Charles Cary. During the time he was in the hospital, it was impossible to get any account from him, but he repeatedly called for his wife and for the senator in whose behalf he worked so assiduously during the campaign. Wednesday night he regained consciousness, and was much surprised to find himself in Buffalo. He gave a history of a father who died of apoplexy, and a brother who, as a young boy, had fainting attacks. He had himself, while driving last summer, struck his head, was unconscious for three hours, and had a paresis of the right side.

The Roentgen Ray in Military Surgery.—In the annual report of the surgeon-general of the army for the year ended June 30, 1899, it was stated that a special report on gunshot injuries, in which the Roentgen ray was used, was being prepared by Capt. W. C. Borden, assistant-surgeon, U. S. A. This has just been issued from the surgeon-general's office as a handsome quarto volume of 98 pages, with 38 plates and many other illustrations. Seventeen X-ray machines were available for use during the Spanish-American War; 5 were static and 12 coil machines operated by primary batteries. The former were considered best suited for work at permanent hospitals where no dynamo current was available; the latter for the base and general hospitals of war service. In the Spanish-American War the apparatus was supplied only to general hospitals and hospital ships. The reasons for not making use of it in the field-hospitals are stated as: 1. Lodged bullets require immediate removal only in extremely rare instances. 2. The environments of and conditions incident to movable field-hospitals render asepsis in operating practically impossible and, in consequence, in field-hospitals non-interference with wounds should be practiced to the utmost extent possible. 3. Surgical interference with lodged bullets, except where adequate asepsis is available or the necessity urgent, is to be condemned, as the suppuration which follows is much more detrimental to the patient than the presence of the lodged missile. 4. A Roentgen-ray apparatus in the field is an additional incentive to surgeons to operate under conditions not adequately aseptic. The report shows clearly that in non-infected wounds extensive comminution of bone is not as a rule an indication for operative intervention; that where there is infection complete cleansing of the wound and removal of all loose bone fragments followed by drainage, antiseptic dressings and irrigation, usually suffice, and that excision or amputation is to be resorted to only in extreme cases.

Idiosyncrasy Not a Factor in X-Ray Dermatitis.—R. Kienboeck, who has had years of experience with the x-rays at the Vienna Roentgen Institute, announces that the effects of Roentgen treatment, the causation of dermatitis, etc., vary with the kind of tube employed and not with the individual subject. The Roentgen rays which chemically affect the sensitized plate are the essential element in Roentgen treatment and, if in excess, the dangerous factor. Individual predisposition varies in very narrow limits; the young react more strongly than older persons. The quantity of the rays generated and their intensity, the duration of the exposure and the distance of the tube from the tissues, must all be taken into account. He accepts as a standard exposure that which causes a simple, transient alopecia, with *restitutio ad integrum* in four to eight weeks. Exposure producing an exudative inflammation is tenfold the standard, and exposure followed by an intractable ulceration is thirty to fifty times the normal standard. Rays of less penetrating power, such as are produced in soft and medium soft—"good"—tubes, have a more intense action than those from hard tubes: 1, because the latter send out less Roentgen rays, and 2, because they give a very penetrating light. He urgently warns persons occupied with the Roentgen treatment not to expose themselves in any way to the chemically active Roentgen rays, but keep out of their limited and well-defined range of action. He tabulates twenty cases of x-ray injuries, all but two published before. One of the latter is a confrère engaged in Roentgen therapy, who acquired a "Roentgen hand," which resulted in a deep, extensive ulceration of the back of the hand. It has resisted, for a year, all the treatments applied. The other case is an ulceration of the hypogastrium after exposure to a "good" tube for seventy-eight minutes in three sittings. Unna has recommended as a protective measure for operators the application of a thick coating of zinc jelly containing 10 per cent. cinnabar and bismuth oxychlorid.

Societies.

RIVERSIDE COUNTY (Cal.) MEDICAL SOCIETY.—This Society held its quarterly session at Riverside and elected Dr. Ashley S. Parker, president, and Dr. Louise Harvey Clarke, secretary, both of Riverside.

ROME (N. Y.) MEDICAL SOCIETY.—At the annual meeting, held January 15, Dr. Arthur A. Gillette was elected president; Dr. Howard J. Teller, vice-president; Dr. Thomas P. Scully, secretary, and Dr. Gilbert N. Lehr, treasurer.

BLACKHAWK COUNTY (Iowa.) MEDICAL SOCIETY.—At the meeting, January 22, at Waterloo, Dr. Ernest J. Waddey was elected president; Dr. Henry W. Brown, vice-president, and Dr. Fred W. Keehl, secretary and treasurer.

CLARK COUNTY (Ky.) MEDICAL SOCIETY.—At the January 12 meeting of this Society, Dr. Oliver R. Venable, Winchester, was elected president; Dr. R. Browne S. Ishmael, Winchester, secretary, and Dr. John A. Snowden, Wade's Mill, treasurer.

REDLANDS (Cal.) MEDICAL SOCIETY.—The annual meeting and election of officers was held January 15, with the following result: Dr. George H. Scott, president; Dr. Charles C. Browning, vice-president, and Dr. J. E. Payton, secretary.

SKAGIT COUNTY (Wash.) MEDICAL SOCIETY.—The recent election of officers resulted as follows: Dr. M. B. Mattice, Sedro-Wooley, president; Dr. Winston Appleby, Laconner, vice-president, and Dr. Charles C. Harbaugh, Sedro-Wooley, secretary.

RICHMOND COUNTY (N. Y.) MEDICAL ASSOCIATION.—At the annual meeting held January 14, Dr. Jefferson Scales was elected president; Dr. C. Wilmot Townsend, vice-president, and Dr. Henry C. Johnston, secretary and treasurer, all of New Brighton.

TAYLOR COUNTY (W. Va.) MEDICAL SOCIETY.—At the January 18 meeting at Grafton, Dr. Alfred R. Warden was elected president; Dr. Achbor J. Baker, vice-president; Dr. Rawley H. Powell, secretary, and Dr. William F. Van Kirk, treasurer, all of Grafton.

SPRINGFIELD (Ohio) ACADEMY OF MEDICINE.—At the meeting of the Academy, January 6, the following officers were elected: Dr. Theodore F. Bliss, president; Drs. Noah Myers and Stanley R. Hutchings, vice-presidents, and Dr. Charles L. Minor, secretary and treasurer.

WHITE COUNTY (Tenn.) MEDICAL SOCIETY.—At the January 8 meeting, Dr. I. L. Davis, Darkey Springs, was elected president; Dr. William B. Young, Bonair, secretary; Dr. R. E. Lee Smith, Doyle Station, corresponding secretary, and Dr. D. R. Gist, Sparta, treasurer.

NEW BRITAIN (Conn.) MEDICAL SOCIETY.—The members of the Society opposed to the hospital management, met January 15 and elected officers as follows: Dr. Herman Strosser, president; Dr. Robert M. Clark, vice-president, and Dr. Louis Smirnow, secretary and treasurer.

LACKAWANNA (Pa.) MEDICAL SOCIETY.—The annual meeting was held at Scranton, January 8, at which the following officers were elected: Dr. Walter M. Reedy, president; Drs. Addison W. Smith and Joseph F. Grant, vice-presidents; Dr. Lucius C. Kennedy, secretary, and Lowell M. Gates, treasurer, all of Scranton.

ATLANTIC CITY (N. J.) ACADEMY OF MEDICINE.—The annual election was held January 11. Dr. Edward A. Reiley was chosen president; Dr. J. Addison Joy, vice-president; Dr. A. Burton Shimer, secretary; Dr. Walter Reynolds, treasurer, and Drs. Edward A. Reiley, Elisha C. Chew and Albert D. Cuskaden, board of governors.

WASHINGTON COUNTY (R. I.) MEDICAL SOCIETY.—At the annual meeting, held at Westerly, January 17, Dr. William A. Hilliard, Westerly, was elected president; Dr. Rowland R. Robinson, Wakefield, first vice-president; Dr. C. Grant Savage, Westerly, second vice-president, and Dr. J. Howard Morgan, Westerly, secretary and treasurer.

WARREN COUNTY (Pa.) MEDICAL SOCIETY.—A meeting was held at North Warren, January 15, at which the following officers were elected: Dr. James Gass, Sheffield, president; Drs. Joseph J. Knapp, Kinzua and William M. Robertson, Warren, vice-presidents; Dr. James R. Durham, Warren, secretary, and Dr. William V. Hazeltine, Warren, treasurer.

DELAWARE COUNTY (Pa.) MEDICAL SOCIETY.—This Society met at Chester, January 12, and elected Dr. George D. Cross, Chester, president; Dr. Conrad L. Partridge, Ridley Park, vice-president; Dr. Linnaeus Fussel, Media, secretary; Dr. Daniel W. Jefferis, Chester, treasurer; Dr. Maurice A. Neufeld, Chester, reporter, and Dr. Samuel Trimble, Lima, librarian.

OPHTHALMOLOGICAL AND OTOLOGICAL SOCIETY OF WASHINGTON (D.C.).—The thirty-fifth session was held at the residence of Dr. William H. Fox, January 9, Dr. Stephen O. Richey, president, in the chair. Papers were read by Dr. William H. Fox on "Retinal Hemorrhage," and by Dr. Anton Coe on "The Use of Electricity in Ophthalmic and Aural Practice." Both were fully discussed by the members.

CUMBERLAND COUNTY (Pa.) MEDICAL SOCIETY.—At the meeting in Carlisle, January 8, the following officers were elected: Dr. Milton M. Dougherty, Mechanicsburg, president; Drs. George C. Borst, Newville, and David W. Camp, Plainfield, vice-presidents; Dr. Hildegard Longsdorf, Carlisle, secretary; Dr. Enos K. Lefever, Boiling Springs, corresponding secretary, and Dr. John W. Bowman, Lemoyne, treasurer.

EASTERN OHIO MEDICAL ASSOCIATION.—This Association met at Steubenville, January 8, and elected Dr. Samuel B. McGavran, Cadiz, president; Drs. Walter S. Spence, Germano, Arthur B. Holland, Wellsville, John A. Hobson, Flushing, and Robert Laughlin, Steubenville, vice-presidents; Dr. James C. M. Floyd, Steubenville, corresponding secretary, and Dr. Joseph F. Purviance, Steubenville, recording secretary.

MIDDLESEX SOUTH DISTRICT (Mass.) MEDICAL SOCIETY.—The golden anniversary of this Society was held in Boston, January 16. The following officers were elected: Dr. Charles H. Cook, Natick, president; Dr. Eugene G. Hoitt, Marlboro, vice-president; Dr. Albert August, Cambridge, secretary; Dr. Walter Ela, Cambridge, treasurer; Dr. E. Scott Dow, Allston, librarian, and Dr. Alfred Worcester, Waltham, commissioner of trials.

BURLINGTON COUNTY (N. J.) MEDICAL SOCIETY.—At the annual election held in Mount Holly, January 18, the following officers were chosen: Dr. William P. Melcher, Mount Holly, president; Dr. Irving Hollingshead, Moorestown, vice-president; Dr. Addison W. Taylor, Beverly, secretary; Dr. Enoch Hollingshead, Pemberton, treasurer; Dr. Irene D. Young, Bordentown, historian, and Dr. Richard H. Parsons, Mount Holly, censor.

ALLEGHENY COUNTY (Pa.) MEDICAL SOCIETY.—At the quarterly meeting held in Pittsburg, January 15, the following officers were elected: Dr. John S. Mabon, Allegheny, president; Dr. Ferdinand Koeller, Pittsburg, vice-president; Dr. Clyde O. Anderson, Pittsburg, corresponding secretary; Dr. Edward Stieren, Pittsburg, recording secretary; Dr. Ewing W. Day, Pittsburg, treasurer, and Dr. Edward B. Heckel, Pittsburg, censor.

LEHIGH COUNTY (Pa.) MEDICAL SOCIETY.—The annual meeting and banquet were held at Catasauqua, January 8. The following officers were elected: Dr. Martin J. Backenstoe, Emaus, president; Drs. Albert J. Erdman and William W. Eschbach, Allentown, vice-presidents; Dr. Philip L. Reichard, Allentown, recording secretary; Dr. James L. Hornbeck, Catasauqua, corresponding secretary, and Calvin J. Otto, Allentown, treasurer.

LYCOMING COUNTY (Pa.) MEDICAL SOCIETY.—At the annual meeting, held at Williamsport, January 11, Dr. Joseph W. Albright, Muncy, was elected president; Dr. Robert H. Milnor, Warrensville, vice-president; Dr. Charles M. Adams, Williamsport, secretary, Dr. Wesley F. Kunkle, Williamsport, treasurer, and Dr. Horace G. McCormick, Williamsport, censor. Delegates to THE AMERICAN MEDICAL ASSOCIATION and the State Medical Society were also appointed.

BERKS COUNTY (Pa.) MEDICAL SOCIETY.—At the annual meeting held in Reading, January 8, Dr. Samuel S. Hill, Wernersville, was elected president; Drs. Fremont W. Frankhauser, and Adam B. Dundor, Reading, vice-presidents; Dr. S. Banks Taylor, Reading, corresponding secretary; Dr. James W. Keiser, Reading, recording secretary, and Abraham S. Raudenbush, Reading, treasurer. Delegates to THE AMERICAN MEDICAL ASSOCIATION were appointed on this occasion.

CLEVELAND (Ohio) MEDICAL SOCIETY.—At the ninth annual meeting, held January 11, the retiring president, Dr. Henry S. Upson, in his address, strongly recommended that the medical societies of the city be merged into one and that the medical library building be the general headquarters. Dr. Charles F. Hoover was elected president; Dr. Henry W. Rogers, first vice-president; Dr. Robert Pollock, second vice-president; Dr. John N. Lenker, secretary, and Dr. John M. Ingersoll, treasurer.

WILL COUNTY (Ill.) MEDICAL SOCIETY.—At the meeting January 15, a committee was appointed, consisting of the president, Dr. Minnie K. Bowles, and the secretary, Dr. Ezra R. Larned, to consult with the senator and state representatives from this district regarding medical legislation in favor of needed reforms. The committee will choose a third member to act with it. Dr. Minnie K. Bowles, Joliet, was elected president; Dr. Roland H. Henry, Peotone, vice-president, and Dr. Ezra Reed Larned, Joliet, secretary and treasurer.

TEXAS CENTRAL MEDICAL ASSOCIATION.—The fifteenth annual session of this Association was held at Fort Worth, January 8 and 9. The following section chairmen were selected: Dr. M. P. McElhamon, Belton, general medicine; Dr. William T. McNeill, Valley Mills, surgery; Dr. Scurry L. Terrell, Dallas, ophthalmology and otology; Dr. Hatch W. Cummings, Hearn, neurology and medical jurisprudence, and Dr. Frank D. Thompson, Fort Worth, obstetrics and gynecology. Dr. Nelson A. Olive, Waco, was elected president; Drs. Edgar D. Capps, Fort Worth, and William B. Anderson, Brownwood, vice-presidents, and Dr. William R. Thompson, Fort Worth, secretary-treasurer. Temple was selected as the next place of meeting.

CHICAGO NEUROLOGICAL SOCIETY.

Regular Meeting held Dec. 20, 1900.

Dr. Hugh T. Patrick, vice-president, in the chair.

Hematology of Neurasthenia.

DR. CHARLES F. LODOR presented the results of a study in the hematology of neurasthenia. The article will appear in THE JOURNAL.

Polioencephalitis Superior.

DR. ARCHIBALD CHURCH reported a case of this affection in a male 31 years of age. The patient was a cashier and had been married five years, with no children. The family history presented several cases of tuberculosis; otherwise it was negative. The personal history was also without notable incident, and venereal history was denied. For several years, however, he had used alcohol and tobacco freely, working very hard, with short hours of sleep, but considerable outdoor athletic exercise. Aug. 19, 1899, in a very hot sun, he played golf all day, without any head covering. His forehead, face and scalp were severely burned and the hair bleached by the sun. On the second day thereafter he noticed dimness of vision in both eyes, was compelled to hold a book at a distance, and there was also a little double vision. Examination of the eyes by competent oculists failed to detect any trouble in the fundus. There was, however, a tendency to outward squint and some rigidity of the pupils. He was given mercury by inunctions. Two weeks later he came under observation, showing a slight

ptosis on the left side, outward deviation of both eyes, and the pupils rigid to light and accommodation. Headache, vomiting, dizziness and other subjective disturbances were absent. The temperature, pulse, respiration, urine and blood were normal. He showed a little tendency to oversleep and, during the day, would drop asleep while driving. He also impressed others as being a little indifferent to subjects of ordinary interest, and was so as to the gravity of his condition. After twenty daily inunctions, a slight amount of disturbance appeared in the gums and the mercury was discontinued. On the thirtieth day after the onset of the symptoms, his speech was a little muffled and there was some incoordination when walking with the eyes closed. The tendon reflexes, which previously had been normal, showed increase, and there was a slight ankle-clonus on each side. During the night he had involuntary urination. On the thirty-first day the divergent squint subsided, apparently through paresis of the external recti or involvement of the nuclei of the sixth nerve, and the pupils commenced to dilate. Vision for distance was still normal, but there was no accommodative capacity and the pupils responded to neither light nor accommodation. Static ataxia was decidedly pronounced. The temperature had a slight subnormal tendency. There was mental hebetude. On the thirty-second day he was unable to stand, his pupils were dilated to the maximum, the eyes perfectly immobile, and ptosis on both sides partially developed. The temperature ran up to 100.2 F. The next day double ptosis was complete and reflex excitability greatly increased so that the patient was almost tetanized as he lay apathetically in bed. Babinski's sign was noted on both sides. The temperature was 101.2, and the pulse 120. The next day all conditions were worse and there was some difficulty in swallowing, with coma most of the day. The following day the temperature rapidly ascended to 108 F. with, at the same time, a falling pulse, and he died after twenty-four hours of absolute coma.

The post-mortem examination was absolutely negative, except that there were healed foci of tuberculosis in each apex, about as large as a walnut. An examination of specimens and serial sections was made by Dr. Fütterer, showing areas of more or less well-outlined softening in the corpora quadrigemina, pons, peduncles, internal and external capsule, principally on the right side. The area in the external capsule involves the claustrum in its anterior portion, with an upward extension to the lower level of the cortex. The lesions in the peduncles are confined to their lower parts and are small, while others involve the nuclei of the oculomotoris, trochlearis and abducens. Changes are decidedly inflammatory and blood-vessels thickly surrounded by masses of leucocytes appearing in the midst of areas of degeneration. Here and there is also well-developed hyaline degeneration of the walls of the blood-vessels.

Dr. Church called attention to the fact that a series of cases showing graduations between acute polioencephalitis and asthenic bulbar paralysis or myasthenia gravis could be adduced from experience and the literature, and that in this case the sequence of events might perhaps be considered as follows: A tubercular lesion inducing some hyaline degeneration in the cerebral vessels; subsequently traumatism in the shape of sunburn: the action of toxic or infectious agencies producing inflammatory changes in an area of lowered resistance, and polioencephalitis with additional foci of inflammatory disturbance.

Dr. Church, in the formal discussion which followed his paper, suggested the possibility of a series of pathologic conditions in which polioencephalitis formed one end and myasthenia gravis the other.

Dr. SANGER BROWN thought that this could hardly be the case, as the tendency of myasthenia gravis is toward recovery.

Dr. HUGH T. PATRICK agreed with Dr. Church, and showed sections from a case which apparently occupied middle ground between the two conditions mentioned. His sections through various areas of the cerebrospinal axis everywhere showed vast engorgement of the capillaries and possibly some early degeneration of cells, the patient dying before further destruction had taken place.

CHICAGO PATHOLOGICAL SOCIETY.*Regular Meeting held January 14.*

President L. Hektoen in the chair.

Tissue Changes from Diplococcus Scarlatinae.

DR. E. R. LE COUNT made a report on the histologic changes found in the tissues of animals inoculated with diplococcus scarlatinae (Class). The changes described differ only in degree from those described by Pearce and others in persons who die from scarlet fever, the most notable difference being the lack of lesions in the kidneys in the animals. Hyperplasia of lymphoid tissue, focal necroses and plasma cells in situations that betoken their presence in the blood were found in the animals inoculated.

DR. W. H. WILDER read a paper on "Tuberculosis of the Iris," and showed specimens from a case observed by him.

DRS. D. R. BROWER and H. GIDEON WELLS reported a case of paralysis of the cranial nerves of the left side, from the fifth to the twelfth inclusive. This paralysis had come on in the course of a few months and then remained stationary for twelve years. At no time were there pressure symptoms. On account of the history, coupled with a slight improvement under iodids and the occurrence of twelve miscarriages, a syphilitic lesion involving the meninges and producing an infranuclear paralysis was diagnosed. Death resulted from nephritis. At autopsy a tumor was found in the dura, exactly as located clinically, involving the left petrous bone. Microscopically it was found to be an endothelial tumor, the periendothelioma of Borrmann, with some spiculae of bone and many multinuclear and uninuclear giant cells. Microscopically it somewhat resembled a psammoma.

Periosteal Chondrosarcomas.

DR. PAUL F. MORF presented gross and microscopic specimens of three periosteal chondrosarcomas. One of the tumors was from a boy of 13, and had developed on the tibia shortly after a contusion of that bone. The other two occurred in young adults, one in a female, aged 21 years, and the last in a male, aged 19 years. These two latter tumors were found to have grown from the lower end of the femur. Microscopically the neoplasms all appeared as firm, hard, inelastic, grayish-white masses. Scattered throughout their substance were numerous islets, which looked to the naked eye, like hyaline cartilage. Disseminated foci of calcification of pinhead size gave the cut section a slightly rough surface. Microscopically the tumors were found to be made up mainly of round and spindle-shaped sarcoma cells. The islets which appeared cartilaginous were made up of larger and smaller round encapsulated cells lying in a hyaline and in a fibrous intercellular substance. In the first of the three specimens the invasion of the Haversian canals of the tibia by sarcoma cells could be plainly traced.

NEW YORK ACADEMY OF MEDICINE.*Meeting of the Section on Surgery, held January 14.***The Field of Ethyl Chlorid Narcosis.**

DR. MARTIN WARE, in a paper on this subject said he had been able to collect records of 11,207 cases in which this form of narcosis had been employed. He had personally tested it in 200 cases of minor surgery, using as an inhaler the ordinary mouth-piece of the nitrous oxid gas apparatus, with the gas tube tightly plugged with cotton. The ethyl chlorid used was that known as the monochlorid, and it was best and most economically administered by an imitation of the drop method, i. e., spraying it intermittently on the gauze. Anesthesia usually occurs abruptly after one or two minutes, and except in neurotics and alcoholics, without struggling or excitement. In children, particularly a fair degree of relaxation was secured, which was more than could be said for adults anesthetized in this manner. From five to six grams were ordinarily required to produce anesthesia. Ethyl chlorid, when thus given, is cheaper than its chief competitor, nitrous oxid, and has the advantage of requiring no bulky apparatus.

DR. WILLY MEYER said that for the past two years he had

been using ethyl chlorid in connection with the Schleich mixture of chloroform and ether, and had been much pleased with the results.

DR. JAMES P. TUTTLE said that he had used ethyl chlorid as a preliminary to ether anesthesia in about 250 cases, and with such happy results that he believed this would be in the future its chief field of usefulness.

*Meeting of the Section of Medicine, held January 15.***The Mosquito-Malaria Theory.**

DR. W. N. BERKELEY read a paper entitled "Some Further Work on the Mosquito-Malaria Theory, with Remarks on the Conditions Around New York." Out of a large number of malarial patients examined during the summer, he had found only one who had apparently developed the malaria on Manhattan Island. As to the period of incubation between the bite and the chill, one case was presented in evidence, that of an intelligent woman living in East Seventieth street. She had not been away from New York City, but had spent one night with a sister at Fordham, and had there been bitten by mosquitoes. Just fourteen days later she had had her first chill, and her blood had been found swarming with the tertian malarial parasite. Inquiry showed that a number of members of this sister's family had suffered from malaria and had been relieved by taking Warburg's tincture. Last summer several cases of typical tertian malaria had developed in a town near New York City. Inquiry showed that they had been grouped around a pond, and that there were a number of segregated pools and post-holes at the edge of this pond. It had been suggested that, as far as possible, all anopheles found in that vicinity be destroyed systematically, and the smaller breeding-places be filled in. In addition screens were provided for the houses. It was recommended that the malarial patients should be secluded, and protected from the bites of mosquitoes as long as the malarial parasites remained in the blood. These suggestions had been carried out, with a most satisfactory result, not a single new case developing in that locality. The speaker was of the opinion that the board of health of Greater New York should require malarial cases to be reported like scarlet fever and diphtheria. An inspector should be sent to every infected house to instruct the people to kill the mosquitoes therein, provide screens for the windows and doors, protect the patients with netting and fill in neighboring pools of water, or else have them heavily petrolized. He was doubtful whether anopheles could be completely exterminated in this city because of the tearing up of the streets and the many sunken blocks, yet he was positive that much could be accomplished in this direction.

Treatment of Influenza.

DR. WILLIAM H. THOMSON read a paper on this subject. He attributed the mild type of the present epidemic of la grippe to the fact that most of the people had previously had this disease, and had probably in this way acquired a certain degree of immunity. He had had the greatest success in its treatment by the following combination: 1/6 grain of the solid extract of aconite, 1 grain of Dover's powder, 8 grains of phenacetin and 6 grains of quinin. This is to be made into two pills, and 6 are to be taken daily so long as there is fever, and then the dose reduced to three a day until all catarrhal symptoms have disappeared. The obstinate paroxysmal cough so commonly observed after an attack of la grippe he had found to yield to a dose of 10 grains of antipyrin and 20 grains of bromid, and also to be greatly benefited by irrigation of the nose and throat with one quart of hot water in which has been dissolved 2 drams of chlorate of potash and 5 drops of the oil of peppermint. Perhaps one of the most important things to remember is that as soon as attacked with la grippe a person should take to bed and remain there until further orders from his physician.

DR. ANDREW H. SMITH said that in a few instances he had been able, with the laryngoscope, to obtain a view of the bifurcation of the trachea in persons afflicted with the distressing cough that follows an attack of la grippe. He had found a velvety condition of the mucous membrane at this point. In

efforts to relieve this cough his chief reliance had been on the internal administration of malto-yebrin. The physician should instruct his patients regarding the necessity of respecting the languor which they feel.

DR. JAMES K. CROOK suggested that persons who were susceptible to bronchial affections should, whenever practicable, leave a region infected with influenza, and that where this could be done, as well as in those predisposed to infection with la grippe by reason of the exposure incident to their occupation, they should take small doses of whisky and quinin daily. For the first acute symptoms he makes use of 5 grains of phenacetin and 20 grains of bromid of sodium, at intervals of five hours. The severe muscular pains seemed to be best relieved by an occasional Turkish bath.

DR. MORRIS MANGES said that in la grippe cases he had almost invariably found, on auscultation, fine dry râles over the base of the lung posteriorly. A warm moist compress around the chest made these patients very comfortable. To avoid re-infection the patient should not remain too long in one room.

DR. BRANDRETH SYMONDS said that in the early and severe epidemics of influenza the life-insurance examiners had been surprised to find that in as many as one in every ten persons, apparently healthy, and applying for life insurance, albuminuria was present. For the most part, this was transitory.

DR. A. ROSE spoke highly of the beneficial effects of the carbonic acid bath and the nasal douche of this gas in cases of la grippe.

Stated Meeting held January 17.

The Value of the X-Ray in Medicine and Surgery.

DR. FRANCIS H. WILLIAMS, of Boston, considered the x-ray in medicine, illustrating his remarks. He said that he uses in his x-ray work, a static machine having eight plates, each six feet in diameter, and with an adjustment by means of which the intensity of the light could be varied in order to bring out certain minute details that might otherwise wholly escape the observer. The patient is seated in a chair or placed on a stretcher, and the light placed about three feet from the fluorescent screen. Special care is taken that the source of light shall in every case be at a point corresponding to the intersection of a line joining the nipples and the median line of the body. In cases of emphysema the thorax appears lighter than normal, and the heart changes its position but slightly. In early tuberculosis the excursions of the diaphragm are shortened on the affected side, the heart drawn over a little to that side and there is a distinct increase in density. Not infrequently, as for example in cases of central pneumonia, consolidation of the lung is very evident on an x-ray examination, though it can not be detected by percussion and auscultation. An x-ray examination is very useful in cases of suspected aneurysm or new growths in the chest. Out of thousands of examinations he had not met with a single case of x-ray dermatitis.

DR. ROBERT ABBE discussed the subject from the standpoint of the surgeon. In his experience x-ray examinations had proved most helpful in connection with fractures of the shoulder and injuries about the elbow. It had been the means of adding to our knowledge many new varieties of Colles' fracture, and enabled the surgeon to do far better work in this class of injuries. At the present time it is not a difficult matter to secure a good radiograph of fractures of the cervical vertebrae. He had found the method disappointing as a guide to bullets situated deeply in the tissues, owing to the difficulty of ascertaining the exact plane in which the bullet lies. It was very helpful, however, in the removal of needles.

DR. CHARLES L. LEONARD, Philadelphia, discussed "The Value of the x-ray in the Detection and Exclusion of Renal and Ureteral Calculi." In four of the patients he had examined there had been calculi in both ureters. Even the most minute calculi are capable of detection by this method, as was abundantly proved by the radiographs exhibited. The reading of the negative was, however, often the most difficult part of the diagnosis. The possibility of ascertaining the exact size and position of a calculus made it possible to estimate the

chances of calculi being discharged spontaneously, and sometimes warranted the postponement of operative intervention. In 136 cases in which he had used the x-ray, renal calculi had been found in 17 and ureteral calculi in 19 cases.

MR. E. W. CALDWELL discussed "the Technique and Correct Interpretation of Radiographs." He said that the static machines are well adapted for fluoroscopic work and give a steady excitation of the tube, but if of sufficient power they are cumbersome and not very reliable. The most generally useful source for the x-ray is an induction coil capable of giving a ten-inch spark, provided with what is known as a fluid interruptor. At the patient's house, if a direct current electric lighting circuit is available, he makes use of this form of apparatus, but if there is no such circuit he passes a lamp-cord out of the window and connects it with the battery of an electric cab standing in the street. In making a radiograph of the thorax the chest should be strapped and the patient directed to employ abdominal breathing as much as possible. Similarly, in taking a radiograph of the abdomen, the latter should be bandaged and the patient told to breathe chiefly with the chest.

DR. WALTER B. JAMES said that from a somewhat limited experience with the method in internal medicine, he felt that many general practitioners might very profitably make use of this new method of precision.

DR. CARL BECK showed some skiagraphs of biliary calculi in the living subject—the first of the kind ever made. A "hard" tube and a coil giving a 15-inch spark should be employed for such work.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

New York Medical Journal, January 19.

- 1 *A Peculiar Case of Migratory Foreign Body, With X-Ray Illustrations. D. Braden Kyle.
- 2 Two Cases of Hemarthrosis of the Knees. Russell A. Hibbs.
- 3 Report of Two Cases of Dermoid Cyst of the Nose. H. S. Birkett.
- 4 *The Method of Examination of Infants. C. Herrman.
- 5 A Case of Paroxysmal Hemoglobinuria. William J. Lamson.
- 6 *General Anesthesia: The Preliminary and After-Treatment. With Remarks on Chloroform and Ether. E. Payne Palmer.
- 7 Gastric Ulcer: Report of Two Cases. E. S. Goodhue.

Philadelphia Medical Journal, January 19.

- 8 An Abstract of the Report Upon the Epidemic of Pest in Japan from November, 1899, to January, 1900. S. Kitasato, T. Takaki, K. Shigo, and G. Moriya.
- 9 *On Perforation and Perforative Peritonitis in Typhoid Fever. William Osler.
- 10 *Hemoglobinuria Complicating Typhoid Fever. John H. Musser and Aloysius O. J. Kelly.
- 11 *The Clinical Use of Thermol in Typhoid Fever at the Atlantic City Hospital, Atlantic City, N. J. A. B. Shimer.
- 12 Two Cases of Localized Neuritis Occurring as a Complication of Typhoid Fever. H. J. White.
- 13 *The Phenomena of Atropin Poisoning Following the Cessation of the Respiratory Movements. Edward T. Reichert.
- 14 Report of a Case of Cholelithiasis With Formation and Rupture of an Abscess of the Abdominal Wall. J. H. Gibbon.
- 15 A Case of Mirror-writing and of Diffuse Hypertrophy of Both Breasts in an Epileptic Negress. W. G. List.

Medical Record (N. Y.), January 19.

- 16 *The Mosquito Theory of the Transmission of Yellow Fever. With Its New Developments. Charles Finlay.
- 17 *Notes on Ovarian Grafting. Robert T. Morris.
- 18 Case of Thrombophlebitis of the Left Sigmoid Sinus Masking a Latent Brain Abscess in the Left Temporo-Sphenoidal Lobe, Both Arising from Chronic Otitis Media. Carl Koller.
- 19 *Subarachnoid Cocainization in Obstetrics and Gynecology: a Report of Twenty-one Cases. N. J. Hawley and F. J. Taussig.
- 20 *Important Points in the Management and Treatment of Consumption. Charles R. Upson.

Medical News (N. Y.), January 19.

- 21 *Conclusions Formed After Six Years' Experience With the Antitoxin Treatment of Diphtheria. Henry F. Koester.
- 22 *Problems in the Etiology, Diagnosis and Treatment of Tuberculous Disease of the Upper Air-Passages. Jonathan Wright.
- 23 Notes on the Interesting Cases of a Month's Dispensary Practice. William L. Stowell.
- 24 A Case of Adiposis Dolorosa. Ellice M. Alger.

- 25 Ligation of the Internal Jugular Vein Followed by Thrombosis of the Lateral and Sigmoid Sinuses. Charles G. Levi-son.

Boston Medical and Surgical Journal, January 17.

- 26 Dedication of the New Building of the Boston Medical Library. Addresses by David W. Cheever, James R. Chadwick, F. W. Draper. Remarks by William Osler, J. S. Billings, H. C. Wood, Henry P. Walcott, and Letter by S. Weir Mitchell.

- 27 *Note on the Treatment of Epidermoid Cancer by the Roentgen Rays. Francis H. Williams.

Cincinnati Lancet-Clinic, January 19.

- 28 Influenza or La Grippe. Charles F. Hope.
29 "Was Death Due to Chloroform?" J. F. Baldwin.
30 An Improved Rectal Speculum. L. J. Krouse.

St. Louis Medical Review, January 19.

- 31 *"Appendicitis"—Is Its Diagnosis Always Easy? Is Its Treatment Settled Beyond Question? J. L. Wiggins.
32 Tuberculous Disease of Some Joints and a Résumé of Its Surgical Treatment. Louis J. Hirschman.

Medical Fortnightly (St. Louis), January 10.

- 33 Observations Based on the Probable Mode of Formation of Urinary Stone to Its Recurrence and Prevention. Reginald Harrison.
34 Anatomy of the Eye. James E. Free.
35 Diseases of the Lung and Pleura. (Continued.) Albert Abrams.
36 General Peritonitis. Carl E. Black.
37 Some Suggestions on the Treatment of Infected Wounds and Ulcers. Erasmus McGinnis.

Medical Age (Detroit, Mich.), January 10.

- 38 Gangrene. W. A. Hackett.
39 *Subacute and Chronic Seminal Vesiculitis. Jos. E. Morrow.
40 *The Physiological Test—Talks with Medical Men. T. Mabem.

Pediatrics (N. Y.), January 1.

- 41 *On the Causation of the Congenital Stridor of Infants. John Thomson and A. Logan Turner.
42 *A Study of the Plantar Reflex in Infancy. John Lovett Morse.

The Canadian Practitioner and Review (Toronto), January.

- 43 The Treatment of Tuberculosis in Sanatoria. P. H. Bryce.
44 The Preventive and Curative Treatment of Pulmonary Tuberculosis. Geo. H. Hodge.
45 Screw Nails in Fractures. A. Groves.

Archives of Otolaryngology (New Rochelle, N. Y.), December, 1900.

- 46 *Shall the Antrum Be Opened in All Acute Empyemas of Mastoid Cells? E. F. Snyder.
47 *Contributions to the Normal and Pathologic Histology of the Pharyngeal Tonsil. Friedrich Wex.
48 *Aural Complications of Scarlet Fever. With Twelve Post-mortem Observations. Bernhard von Gaessler.
49 An Analysis of Rinne's Experiment. Prof. Bezold.
50 A Clinical and Histological Contribution to the Sarcomatous Tumors of the Temporal Bone. F. J. Hegener.
51 Report of Three Cases of Ligation of the Internal Jugular for Septic Thrombosis, Following Purulent Otitis Media—Recovery. Edward Bradford Dench.
52 Report on the Progress in Otolaryngology for the Second Quarter of the Year 1900. A. Hartmann.

Journal of Comparative Neurology (Granville, Ohio), December, 1900.

- 53 The Giant Ganglion Cells of Catostomus and Coregonus. J. B. Johnston.
54 Arrangement and Terminations of Nerves in the Esophagus of Mammalia. Lydia M. DeWitt.
55 The Vibrissæ of Certain Mammals. J. Franklin Messenger.
56 The Ophthalmic and Eye Muscle Nerves of the Cat Fish (Ameiurus). I. S. Workman.
57 On the Homologies of the Chorda Tympani in Selachians. H. A. Green.

Cleveland Journal of Medicine, January.

- 58 *The History of Typhoid Fever. H. D. Haskins.
59 *The Etiology of Typhoid Fever. W. T. Howard, Jr.
60 *The Diagnosis of Typhoid Fever. Charles F. Hoover.
61 *Prognosis in Typhoid. H. W. Rogers.
62 *Management of Typhoid Fever. H. J. Lee.
63 *Feeding in Typhoid Fever. Edward P. Carter.
64 *Sequels of Typhoid Fever. O. T. Maynard.
65 A Case of Uterus Bilocularis or Uterus Septus. F. E. Bunts.
66 Polypoid Tumor of the Rectum. J. T. Smith.

Peoria Medical Journal, January.

- 67 Notes from a Berlin Clinic on Diseases of the Stomach. Roy Sexton.
68 Ether or Chloroform: Which? William R. Allison.

Medical Council (Philadelphia), January.

- 69 Disorders of the Sexual Functions in Man. A. H. P. Leuf.
70 *Some Phases in the Treatment of So-called Urlic Acid Lesions. Alfred C. Croftan.
71 The Female Bladder. A. L. Russell.

- 72 An Interesting Case of Diphtheria. Eugene P. Bernardy.
73 Gonorrhea and Marriage. (Concluded.) C. C. Mapes.
74 Sarcoma of the Neck: Successful Operation. William L. Rodman.
75 Preliminary and Minor Railway Surgery. J. M. Salmon.
76 Association Neuroses. J. F. Ritter.
77 Climate in Medicine. John Stolze.
78 Sulphur. W. O. Bunnell.
79 The Injection Method for the Relief and Cure of Hernia. (To be continued.) C. Fletcher Souder.
80 Low Temperature of 93.4 Following Miscarriage Incident to Typhoid Fever. G. L. Woods.

Occidental Medical Times (San Francisco), January.

- 81 Some of the Accidents from the Use of the Obstetric Forceps. Henry Gibbons, Jr.
82 Anemia in Its Relation to Surgery. H. Kugeier.
83 Plague in San Francisco. W. H. Kellogg.
84 Asphyxia Neonatorum. Wm. Himmelsbach.
85 Gunshot Wounds of the Skull. T. C. McCleare.
86 Extrauterine Pregnancy. A. H. Pratt.

Chicago Clinic, December, 1900.

- 87 Pharmacology of Alkaline Medication. J. A. Patton.
88 *Personal Observations and Comments on Bad-Nauheim and the Schott Treatment. C. Turner.
89 Intubation and Tracheotomy. Aime Paul Heinecke.
90 Does Thialion Take the Place of Calomel. R. A. Meath.

Medical Summary (Philadelphia), January.

- 91 Nasal Hygiene. Edwin W. Pyle.
92 Sexual Perversions. (To be continued.) Drs. Pennebaker and Tripp.
93 The Treatment of Sick Headache. David L. Saunders.
94 Hematuria. Geo. J. Monroe.
95 Gunshot Wound of the Pericardium. Drs. Dwight and Cobb.
96 Tonsillitis. (Continued.) A. Sandner.
97 Hematuria As It Is—Reply. Ben. H. Brodnax.
98 Gonorrhea. S. A. Buchanan.
99 Beginning Muscular Atrophy, Following Strain. Burton W. Swayze.
100 Catarrhal Pneumonia. E. N. Ritter.

Denver Medical Times, January.

- 101 Foreign Bodies in the Esophagus. George W. King.
102 *Practical Points on the Feeding of the Sick. E. A. Irwin.
103 *Mastoiditis. When Does the Disease Begin and When Shall We Operate? T. D. Tuttle.
104 Double Operation for Undescended Testicles. B. C. Brooke.
105 *Malpractice Snits and the X-Ray. Rudolph Horsky.

American Medical Compend (Toledo, Ohio), January.

- 106 The Early Diagnosis of Gastric Cancer with a View to Its Radical Cure. G. W. McCaskey.
107 Diabetes Mellitus. C. Storz.

Louisville Monthly Journal of Medicine and Surgery, January.

- 108 *Some More Fallacies in the Practice of Diseases of the Rectum. Jos. M. Matthews.
109 Menorrhagia. H. A. Davidson.
110 *Neurasthenia: A Clinical Lecture. Curran Pope.
111 Medical Observations Abroad. (Continued.) August Schachner.
112 Treatment of Lithemia. Frank M. Floyd.

Canada Lancet (Toronto), January.

- 113 An Historical Sketch of Canadian Medical Education. (To be concluded.) Walter B. Geikie.
114 A Case of Tubercular Meningitis with Recovery. P. L. Scott and J. T. Fotheringham.
115 A Case of Asthma Associated with Prolapse of Liver. H. B. Anderson.

Indiana Medical Journal (Indianapolis), January.

- 116 *On the Importance of Pathological and Bacteriological Laboratories in Connection with Hospitals for the Insane. Lewellys F. Barker.
117 *What Is "Constitution" as Applied to Medical Practice? Guido Bell.
118 Tracheotomy for a Foreign Body in the Larynx. J. C. Sexton.
119 *Hyperpyrexia—Report of a Case in Which the Temperature Reached 113 F. J. C. Alexander.
Hot Springs Medical Journal, January.
120 *What Is Normal Menstruation. Geo. J. Engelmann.
121 *An Operation for the Treatment of Marked Rectal Prolapse in Women. J. Wesley Boyce.

Kansas City Medical Index-Lancet, January.

- 122 *The Value of the Hot Decinormal Salt Solution as a Therapeutic Agent.
123 Medicine an Inexact but Progressive Science. Fred S. Clinton.
124 Some Remarks on Lobar Pneumonia. Robert T. Sloan.
125 Cerebral Hemorrhage (Apoplexy). John Punton.

Memphis Medical Monthly, January.

- 126 Water. C. Travis Drennen.
127 Ectopic Gestation, with Report of Cases. J. P. Runyan.
128 The Management of Crossed Eyes in Children. E. C. Ellett.
129 "Dr. Jekyll and Mr. Hyde" (Insanity, etc. Cases of). N. F. Raines.

- 130 Pylorectomy for Malignant Obstruction. Hysterectomy for Primary Cancer of Cervix Uteri in a Nulliparous Woman. William W. Taylor.
- 131 A Further Note on the Rôle of Purulent Rhinitis of Childhood in the Production of Atrophic Rhinitis. Richmond McKinney.
- Texas Medical News (Austin), December, 1900.
- 132 Chemical Methods as Applied to the Diagnosis and Therapy of Stomach Diseases. Seth M. Morris.
- 133 The Physician in His Relation to the Public and to His Professional Brethren. S. Burg.
- 134 Vesical Calculus, Report of an Interesting Case—Perineal Lithotomy, Recovery. H. A. Barr.
- 135 Feeding of Infants. J. Farrar Haley.
- 136 Remarks upon the Treatment of Acutely Inflamed Guts. R. E. B. Bledsoe.

AMERICAN.

1. **Migratory Foreign Body.**—Kyle reports a case of attacks of frightful neuralgic pain occurring at intervals at different sites, at one time, suggesting mastoiditis, again facial neuralgia, again ethmoiditis, etc. Between attacks there was absence of any symptoms enabling one to locate the disease. The X-ray used to locate the foreign body produced acute dermatitis twenty-four hours later, with falling of the hair, the bad results of which were, however, temporary. While attempts at location were unsatisfactory, it was believed that there was a needle or piece of metal under the skin and this was vainly searched for with a magnet. An opening was made in the antrum, unsuccessfully, but was followed by swelling, apparently like a boil; this finally opened and the needle was extracted. The way the foreign body entered the tissues is unknown. Kyle knows of no such case in the literature with the peculiar features here presented.

4. **Examination of Infants.**—Two things should be borne in mind, says Herrman, in making examinations: 1. What is normal to the infant as against older children and adults? 2. Are there any abnormalities in this particular case under examination not due to the present illness? If such exist they may be either congenital or resulting from previous disease, and as illustration he mentions a yellow spot on the throat which was congenital though taken for a diphtheritic patch. The various points noted are physical characteristics, growth, size, temperature which is much greater than in the adult, and percussion and auscultation of the chest, the special points of which can not be given here, as they are noted in too much detail. The pulse, examination of abdomen, spinal column, mouth and throat should always be looked after. The stomach, genitals, ear, urine, feces, etc., are also noticed.

6. **Anesthesia.**—Palmer summarizes the indications for chloroform as follows: 1. In extensive bronchitis, bronchorrhea, pneumonia, or any extensive inflammatory condition of the pulmonary tract, because of its causing less irritation of the mucous membrane and less mucus to be secreted. 2. In acute and chronic nephritis, because it is less irritating to the kidneys. 3. In aneurysm, atheroma, endocarditis, and high-tension pulse, because it causes a perceptible fall in the blood-pressure. 4. In operations on the brain, because it causes cerebral anemia, while ether causes congestion and venous oozing. 5. In operations in the abdominal and pelvic cavities, because it causes a more complete relaxation of the abdominal muscles. 6. In those addicted to the use of alcohol and narcotics, because they usually take ether badly. In the hands of the inexperienced it is most dangerous on account of its depressing effects on the heart and lowering of the blood-pressure. Its dangers are immediate as opposed to those of ether, which are mostly in its sequelæ. The signs of danger are relaxation of the pupils, pallor of the face, sudden and rapid failure of the pulse and the respiration becomes feeble and intermittent. If any of these appear, the mask should be removed at once, and if they reappear when chloroform is again administered, ether should be substituted. Chloroform should always be given with the patient in the recumbent posture, which should be retained during the entire operation. Ether can be given in the sitting posture when necessary. It is indicated: In empyema with dilatation of the right side of the heart, fatty degeneration of the heart muscles and dilatation of the heart

without compensatory hypertrophy; in extreme prostration and anemia; in shock, collapse and hemorrhage. When given under the latter conditions, heat should be applied to keep up the body temperature, as under narcosis there is a fall of from one-third to 1 degree. Very stout subjects should be given ether, as fatty infiltration of the heart has been found after prolonged chloroform anesthesia. One great advantage is that it can be given by the unskilled anesthetizer with greater safety and at the same time allow anesthesia to be more profound. Respiration is to be watched closely, as it kills by paralysis of the respiratory center. Collapse rarely occurs without warning. The symptoms are shallow, gasping respiration, small, rapid and irregular pulse, dilated pupils. If it causes persistent cough, with excessive amount of mucus or undue vomiting we should substitute chloroform. Precautions should be used with ether in operating at night by artificial light, as its vapor is inflammable. He also cautions particularly in regard to the need of admitting air, and in not giving the anesthetic in too concentrated form, also against beginning the operation when anesthesia is incomplete. When complete the pupils should be moderately contracted and remain so, respiration deep and regular, and the pulse slow, though it may be rapid without danger unless it becomes weak and irregular. There should be a general muscular relaxation. The dilated immovable pupil indicates danger, and sudden wide dilatation of pupils calls for immediate measures. When vomiting seems to be inevitable we should remove the inhaler, lower the head and turn it to one side, and draw the jaw forward by pressing behind the angles. As soon as the patient is quiet we should cleanse the mouth and pharynx and then administer the anesthetic. Directions for resuscitation and stimulation are given, also the after-treatment. The patient should be continually watched until consciousness has been regained. If recovery does not occur within sufficient time, hot-water baths are indicated, and stimulants, and if much loss of blood has occurred normal saline solution should be infused. It is good practice to give a hot colon injection of about one quart of warm normal saline solution after prolonged operations. It lessens the thirst and shock, stimulates the kidneys and brings the patient out earlier and more satisfactorily. Vomiting should be treated by inhalation of fumes of vinegar as long as necessary. For the first twelve hours nothing should be allowed to enter the stomach.

9. **Perforation in Typhoid.**—Among the complications of typhoid, perforation is the most formidable, and Osler expresses the opinion that it is remarkable that it does not occur more frequently when we consider the extent and character of necrotic processes. The all-important question is to recognize its occurrence and, if possible, operate before widespread general peritonitis is produced. He reports several cases in which the accident occurred and where operation was performed, in one of which, however, it was incomplete, while in the other two it was a success. He gives a schedule of specific instructions to be followed in cases of typhoid fever in which perforation is suspected. He thinks if the attending physician would notice all these points much may be done to reduce the mortality. He gives detailed instructions concerning these cases, and the necessity of watching for the first feature of perforation is emphasized.

10. **Hemoglobinuria in Typhoid.**—In the cases reported by Kelly and Musser there was hemoglobinuria observed from the beginning and lasting for seven days. The progress of the disease was favorable. Aside from the rarity of the complication, other facts noticed are absence of malaria as an etiologic factor, and the use of cold-water baths with good results when it is known that cold is certainly the provoking agent of some cases of hemoglobinuria, especially the paroxysmal type. The authors think there can not be much doubt that the symptom was an unusual manifestation of typhoid infection; the case was not severe unless these symptoms should be considered in that connection. It is not unreasonable to assume that the patient had a peculiar idiosyncrasy, making his hemoglobin and red corpuscles especially susceptible to the action of typhoid toxins.

11. **Thermol.**—Shimer has experimented with thermol ($C_{11}H_{13}NO_3$) and reports cases with temperature curves showing its effect. He remarks that in each of these typhoid cases the temperature curve was markedly dissimilar to typical typhoid temperature, and the specific action of thermol on the fever is, he thinks, evident, from his observations in hospital cases as well as in private practice. He believes the earlier thermol is administered the better the result. As an antipyretic it is harmless and can be given at any time or under any conditions, any harmful effects such as collapse never being noted. The mode of administration is .5 gram at intervals of every two or three hours and to be given when the fever commences to rise, and continued even after it has disappeared, in smaller doses and at longer intervals.

13. **Atropin Poisoning.**—This experimental investigation of Reichert's gives the different stages of atropin poisoning, particularly as observed in the effects on the respiratory and vasomotor centers. The whole shows the extraordinary power of recovery of the system from the action of atropin. In one experiment recorded, 1.5 grams of atropin, or over six times the minimum fatal dose, was given in divided doses. Two hours after the first injection feeble respiratory movement occurred, there was a return of reflexes, the pulse-rate was higher than immediately after the first injection and arterial pressure had increased about four-fold. Fifteen minutes later respiratory movements were sufficiently frequent and deep to dispense with artificial respiration. In the second experiment over seven times the minimum fatal dose was given and the same strong general tendencies were manifest. Among other actions, the effects of large doses on the motor and sensory nerves are positive, both being completely paralyzed during the second period. A curious fact shown by these experiments was that while the motor fibers are absolutely inexcitable to faradic stimulus, they retain their conductivity. These experiments have an important bearing on the treatment of poisoning in man, as they show that death is due to paralysis of the respiratory center, that the center has great recuperative power, and that if artificial respiration be properly practiced the respiratory center recovers its activity, which is accompanied by general and marked improvement of the other depressed states. In man it seems that atropin poisoning should be readily treated with artificial respiration, persistently and intelligently practiced, as by Laborde's method, accompanied by such other treatment as the indications suggest.

16. **Mosquito Theory of Yellow Fever.**—Finlay reproduces a portion of an article, dated Dec. 31, 1891, which has never been published in full, though portions of it were sent to the congress at Chicago in 1892. He believes that the recent experience of the army yellow fever board has placed beyond the question of a doubt the fact that the *Culex mosquito*, *fasciatus*, does transmit yellow fever to non-immune persons so well isolated from other sources that the infection could be considered a certain result of inoculation. He also thinks it noteworthy that these bear out one of his former statements, that, whereas one or two stings from a mosquito recently contaminated may cause a mild attack of the disease or simply confer immunity without any perceptible pathogenic manifestations, the severer attacks result from a greater number of such stings, and the same might follow a single sting from a mosquito exclusively fed, during several days or weeks after its contamination, on sugar or sweet juices. Another important point which the army board has noticed and has undertaken to demonstrate, experimentally, is the fact that other sources to which the yellow fever has been hitherto attributed are absolutely incapable of determining the attack of the disease.

17. **Ovarian Grafting.**—Morris reviews the subject of ovarian grafting in detail. Cases are given, two of which have been previously reported, and in one of the cases, after transplanting a portion of the patient's ovary and excision of the remainder, the patient became pregnant, but lost the child by aborting in the third month, presumably because of the presence of persistent pelvic adhesions. In several other cases the ovaries were transplanted from one patient to another and

menstruation re-established. In his earlier experiences the ovary was sometimes grafted into a slit in the fundus so that the inner surface projected into the lumen of the uterus. In his later cases he has chosen the broad ligament as a site for grafting, as nearly as possible at the point that the ovary would normally occupy. The best result of ovarian grafting, in his experiments to date, is the avoidance of the menopause. Several successful pregnancies have been observed in rabbits by other experimenters, but we have yet to see a similar result in women as a result of the operation. The paper concludes with a review of the experiments of other investigators. The dangers from ovarian grafting seem to be no more than those from simple uncomplicated laparotomy.

19. **Spinal Cocainization.**—Twenty-one cases of subarachnoid cocainization in obstetric and gynecologic cases are reported by Hawley and Taussig. The results tend to support the view that the method is not very dangerous, except perhaps to the child *in utero*. In 5 of the 21 cases the cocainization seemed to have a toxic action on the child. The pulse that was 140 would drop to 90 or 100 after the injection and, remaining so for about ten minutes, would begin to return to normal. Three times the child was somewhat asphyxiated when born. One child died, but death was not attributed to this, as it showed signs of weakness previous to the injection. In no case was there any post-partum hemorrhage. When it produces disagreeable symptoms they are usually transient. In labor cases it usually retards the progress. From a study of the cases the use of lumbar puncture in multiparae would seem to be less called for than inhalations of chloroform. The results obtained from its use in primiparae were not very encouraging. In instrumental deliveries, when urgency is required and the patient not of a very nervous temperament, the spinal narcosis seems to meet every indication. The delivery would then be much facilitated by the patient's aid, which would be impossible under general anesthesia, and the dangers of retained placenta and postpartum hemorrhages are lessened. The authors conclude that it is doubtful whether puncture will ever replace general narcosis in abdominal operations. In vaginal ectotomy and minor gynecologic work it seems to have its greatest field of usefulness.

20. **Pulmonary Tuberculosis.**—Upton thinks that the need of greater personal attention to consumptive cases is manifest, and if the general practitioner could give the same care to these that he does to his cases of pneumonia the mortality would be lessened. He lays little stress on heredity, and believes that when several members of a family contract the disease it can usually be traced to infection. Twenty-five years' experience has convinced him of the curability of many cases. If the disease is a localized one, or even in both lungs, and the digestion and assimilation are or can be made good, sleep is restful, the environments healthful, and the patient is possessed of a determination to get well, a favorable prognosis can be made. Examinations should be extremely careful and thorough if success in the treatment is to be expected. The special points in the treatment are noticed, the use of light, ventilation, disinfectants, care of the sputa, cleansing of the intestinal tract in the beginning, tonics, systematic exercise, cold sponging and attention to hygienic environments generally. The author is inclined to look favorably on intrapulmonary medication, the frequent use of a mixture of eucalyptol, pine-needle oil, menthol and formic aldehyde having proved in his hands the most beneficial of the remedies he has tried.

21. **Diphtheria Antitoxin.**—To obtain the best results from antitoxin Koester says it must be used fearlessly and in effective quantity, which is never less than 2000 units, and in severe cases at least 3000 must be used, and this dose repeated in from twelve to twenty-four hours. Antitoxin in itself never does any harm and a supply with an appropriate syringe should be a part of every physician's armamentarium whenever he goes to see a patient of whose condition he knows nothing. The dose is to be regulated by the severity of the disease and its duration. There are also other features to be considered and, in cases of diphtheritic croup, very large doses should be given, 4500 to 6000 units, and we should be ready to intubate

at a moment's notice. Another advantage is its immunizing action, thus enabling us to prevent the disease spreading. The accessory treatment is noticed and the effect of complications. The author believes that rash following the use of antitoxin is due to excrementitious salts in the cells of the horse's serum, and if they were eliminated its occurrence would be prevented. He says: 1. Antitoxin is a positive cure for diphtheria, when employed in sufficient quantity and sufficiently early in the disease. 2. Even when employed too late in the disease to produce its specific action, it can not under any circumstances be productive of harm. 3. When used before the invasion of diphtheria, antitoxin possesses a positive immunizing power which lasts about thirty days.

22.—See abstract in *THE JOURNAL*, xxxv, p. 1171.

27. **The X-Ray in Cancer.**—Williams states his conviction that the X-rays are of value in the treatment of certain forms of epidermal cancer. His experience indicates that we have either in the X-rays themselves, or in some other form of radiation from the Crooke's tube, a valuable therapeutic agent in epithelioma, the beneficial action of which may be brought about without causing a burn. The earlier the treatment is undertaken the better. It is not improbable that we may find its curative action limited to superficial growths, though as a means of relieving the painful features of disease in other forms it may be of some use. In cases where it is effective the odors disappear, discharge decreases and the growth steadily diminishes in size.

31. **Appendicitis.**—The conclusions with which Wiggins ends his article, and which he claims are incontrovertible, from surgical experience, are: 1. There is a period during the attack when, if properly investigated, most cases can be diagnosed. 2. In some cases the real condition may be so masked by intercurrent troubles as to require an explorative incision for its solution. 3. Some cases may be simple and some severe, but no one can state in any given case, no matter how simple to-day, what the conditions will be to-morrow. 4. There is a period in every attack when the appendix can be removed with perfect safety: and there may occur a time in any attack when life is jeopardized either with or without its removal. 5. The same judgment we exercise in ordinary business affairs, if applied to a diseased appendix, would suggest its removal at the earliest moment compatible with proper preparation.

39. **Vesiculitis.**—The anatomy of the seminal vesicles is described by Morrow and the pathology of their inflammation discussed. He recognizes three classes of this disease: 1. Those caused by sexual excesses or other sexual irritability. 2. The gonorrheal type. 3. The tuberculous, which may be combined with the gonorrheal. The development of this disease, unless it takes on the acute type, is insidious, but the suspicious symptoms are frequency of urination, feeling of fullness and stiffness of the parts, perineal pain, sacral pain, various disturbances of the sexual functions, bacteria in the urine, other sources having been excluded, etc. The diagnosis must be by exclusion of stricture, posterior urethritis, prostatitis, spermatorrhea, cystitis, and pyelitis, but the only really effective means is digital examination per rectum by the educated finger. The tuberculous type can not always be excluded, but the evidence of tuberculosis elsewhere will clear up the case. The prognosis is usually good if the patient is of middle age or good physique. In older persons and in tuberculous cases the prognosis is not favorable. The only treatment of simple and chronic vesiculitis is stripping the vesicles, the method of which is detailed. He advises against the use of too much force and the employment of special care in chronic cases to avoid hemorrhage. In most instances no other than this method is required. Occasionally it may be necessary to give potassium bromid as a sedative or tonic. The treatment may cover from six weeks to six months. The stripping should not be undertaken too soon after an attack, nor continued if it increases the tenderness. In the tubercular type it is almost invariably contraindicated and we should use only tonics and antitubercular remedies.

40. **Strophanthus.**—Mabem has taken the testimony of various physicians in regard to the action of strophanthus, and found a great variation of opinion, some finding it useless, others considering it an indispensable drug. In this connection he calls attention to the importance of physiologically testing drugs before their use. The failure to do so may incur serious disappointment and loss of faith in the remedy.

41.—See abstract in *THE JOURNAL*, xxxv, p. 1663.

42. **Infantile Plantar Reflex.**—Morse's article is a study of the statements of others who have observed this reflex in children, and apparently, also, his own observations. His conclusions are: "It is evident, therefore, that there is no constant plantar reflex during the first year, and that while the reflex approaches the adult reflex during the second year, it is still inconstant. It is also evident that since there is no constant reflex under normal conditions during the first two years, no conclusions can be drawn from the presence, absence or character of the reflex in the diagnosis of abnormal conditions of the nervous system at this age. Further observations are necessary to show at what age the normal reflex is established. It is undoubtedly later than the second year."

46. **Acute Aural Empyema.**—The question whether the antrum should be opened in acute empyema is considered by Snyderaker, who reviews the various authorities. Operators in such conditions may be divided into two classes: 1. Those who open the antrum in all acute empyemas of the mastoid cells. 2. Those who open the mastoid cells without opening the antrum. Possibly a third may be added which occupies an intermediate position between the two. As an exponent of the second class he quotes Politzer, who finds in the majority of his cases no connection between the abscess and the mastoid antrum, and as an exponent of those who would open the antrum in all cases he quotes Schwartz, and as one of the intermediate class, Hessler. His own study as to the advantages of the two methods leads him to render a favorable opinion of the Schwartz treatment, though he asks: Is there a means by which we can combine the two methods? The rules which Urbantschitsch has laid down when the antrum is to be opened in acute empyema are sound, and an operator would be taking many chances to disregard them. If the meningeal symptoms are prominent, if the fistulae lead toward the antrum, if the posterior wall of the meatus is bulged forward, or when signs of inflammation are localized in this region, then in every case the antrum should be opened. In answer to the question whether, when none of these symptoms are present, it is safe to leave the antrum alone, he says the operator, unless he makes a routine practice to open it, must ask himself: 1. Is it drained? 2. Has it undergone such pathogenic changes that it is a focus of infection? If he is in doubt as to either of these points he must open the antrum. What can or should be avoided, however, is useless curetting of the antrum and aditus. Every time the antrum is opened in acute empyema the first opening should be merely exploratory and as small as is consistent with exploration of the cavity. If there is no empyema of the antrum, no growths nor other pathologic changes, to open it wider and enlarge the cavity so that the abscess is constantly reinfecting itself would seem absurd. If when it is opened no pus wells up, and on careful examination with a probe and by inspection no pathogenic changes are found, then the relations of the parts should be disturbed as little as possible. In this way we can, to a certain extent at least, combine the advantages of the Politzer method with those of the Schwartz.

47. **Pharyngeal Tonsil.**—Wex describes the anatomy of the part and then reports seven cases of tuberculosis, in six of which tubercle bacilli were found, a larger proportion than seems to have been observed by any others.

48. **Aural Complications of Scarlet Fever.**—From his observations von Gaessler comes to the conclusion that there is a relation of middle-ear disease to the exanthem. Simple hyperemia, secretory process, fibrous exudate, form the progressive states of ear disease due to infection. He thinks that ear disease is the usual manifestation of general infection and

not extension of the infectious process in the condition. While the relatively small number of the examinations he has made only suggests the probable invariable participation of the ear in scarlet fever, they show that pronounced inflammatory processes can exist behind the normal or nearly normal drum membrane. In scarlet fever the condition seems analogous to measles and diphtheria in which the ear invariably participates.

58. History of Typhoid Fever.—According to Haskins, typhoid fever can be recognized in the literature for over 200 years. Its nature, as distinguished from typhus, has been universally recognized for exactly fifty years.

59. Etiology of Typhoid Fever.—The definite cause of typhoid fever is recognized to be bacillary, which appears not merely in typhoid, but in other conditions, as for example leptomeningitis, cholecystitis, and puerperal fever. It is of great importance to recognize the fact that this germ is a possible cause in cases of bad septic or acute inflammatory and other lesions without the characteristics of typhoid. We must, therefore, modify our older views and define typhoid as an infection by the bacillus typhosus. So far as Howard is aware, very little is known as regards individual susceptibility. Certainly not all who are exposed are infected, and one attack usually gives lasting immunity.

60. Diagnosis of Typhoid.—According to Hoover, the spleen is universally enlarged in typhoid, and he would hesitate to diagnose the condition where it was not evident. The common method of percussion may not be able to determine it. The better method is to define the position of the spleen by the resistance it affords to the percussing finger, by a sort of palpation rather than percussion. Ileocecal tenderness is another sign which is usually sought in an inaccurate manner. The local peritonitis over the site of intestinal lesions would cause pain, but if tenderness is to be elicited from the ulcerating mucosa of the intestine, it must be opposed against the posterior abdominal wall and then pressure exerted to produce pain. The diseases to be distinguished from typhoid are trichinosis, malaria, septic endocarditis, septicopyemia, meningitis and miliary tuberculosis. The last is the one which we have to distinguish far more often than any other disease. As often as any other sign, the dirotism of typhoid assists in recognizing the disease. Another constant sign is diminution of the white corpuscles, the hypoleucocytosis. The Widal reaction is found also in miliary tuberculosis, in malaria, and in some cases of sepsis. He sums up the most constant signs as continued fever, flushed face, dirotic pulse, large spleen, ileocecal tenderness, hypoleucocytosis and the Widal reaction.

61. Prognosis in Typhoid.—In the modern uncomplicated case Rogers says the prognosis is good. The conditions that make it unfavorable are persistent high temperature, often up to 103 or 104 F. Laryngitis, especially when it takes the type of perichondritis, is usually fatal. Pneumonia is another serious complication; ulceration can not always be determined. Meteorism adds to the gravity of the case and, if excessive, is an unfavorable sign. Hemorrhages are dangerous in proportion to the amount of blood lost. The prognosis of perforation is always bad. Early insanity is usually fatal, and profound coma is likewise a bad symptom. In cases where the nervous system seems to receive the force of the poison and in proportion to the impression and persistence of it in spite of the treatment, the prognosis should be guarded. The heart suffers in different degrees; there are few cases without some sign of weakness in the middle or later periods, and sudden death may result from very mild exertion. The circulation is an important element in forming our prognosis, and the latter is never to be made absolutely safe until all signs of cardiac disturbance have disappeared.

62. Management of Typhoid.—The chief points insisted on by Lee are early confinement to bed, good atmospheric conditions, disinfection, free administration of pure water, care of mouth and teeth, prevention of bed-sores and good nursing.

63. Feeding in Typhoid.—Carter reviews the recent literature of feeding in typhoid and points out the inconveniences of an exclusive milk diet, and on the whole, the better showing

is in favor of a rather liberal diet, though some statistics show more percentage of relapses, and due caution should be used. He says, in view of the long siege which lies ahead of the typhoid patient, that every means which may be safely used to save the strength should be employed.

64. Sequels of Typhoid.—Those mentioned here by Maynard are temporary alopecia, bed sores, pustular dermatitis, which, he has observed in one case, mental defects from disturbance of nutrition of the brain and cord, thrombosis of the femoral vein coming on after the patient begins to improve, myocarditis, pneumonia, bronchitis, laryngitis and nephritis. Tuberculosis may develop after typhoid, but the question then arises whether it was not the primary disease.

70. Uric-Acid Lesions.—Deficient oxygenation and excessive nuclein-catabolism, according to Croftan, produce a growth of toxic leucemains called the alloxuric bases, which are the true poisons in uratic lesions. Uric acid acts pathogenically only from its tendency to form concretions; the alloxuric bases entering the blood-current prepare a nidus for the deposit of these concretions, which in their turn act as mechanical irritants in the different tissues, in the joints as in gout, and in the kidneys. The indications for treatment are: 1. To raise oxygenation, which can be done by oxygen inhalations, and in addition to this iron and arsenic, together with hygienic measures, such as massage, hydrotherapy, electricity, regulated diet, etc. 2. To regulate nuclein-catabolism, and this is chiefly done through regulation of the diet, in excluding foods which contain nuclein or alloxuric bases. Thus internal organs such as the spleen, liver, sweet-breads, kidneys, brains, etc., are forbidden. Soups, meat extracts and broths are inadvisable. Raw, dried, cured and smoked meats are to be condemned; boiled, fried and stewed meats are permissible. The starches, sugars and fats are harmless as long as they do not disturb the digestion. Alcohol is absolutely harmful. Tea, because of some of its alkaloids, is forbidden, but coffee is harmless. Water can only act beneficially. 3. The elimination of alloxuric bases and soluble urates and, on account of the very irritating action on the kidneys, Croftan prefers to avoid diuretics and promote sweating by hot baths, massage and friction treatment. The salicylates, being diaphoretics, are also useful in this way. The alkalies act similarly and also neutralize lactic acid. The so-called specifics, guaiacum, colchicum, potassium iodid, etc., are uncertain in their action and he does not use them. 4. This indication is the removal of uratic secretions. The so-called solvent action of certain agents is altogether fictitious. The theoretic remedies used in these cases are not yet established. The best treatment of the mechanical condition is necessarily mechanical. He employs counter-irritation, heat and cataphoresis for this purpose. Cantharidal collodion painted over the inflamed point often relieves pain and lessens irritation, and heat can be applied with a simple apparatus made with a stovepipe and lamp as well as with the more expensive ovens so generally advertised. Cataphoresis is indicated in chronic cases of gout with old deposits. The fingers and knuckles being elaborately cleaned and wrapped with borated absorbent cotton moistened with a solution of iodid of lithium, are placed on a metal plate connected with the negative pole. Above the fingers is placed a metallic electrode of the galvanic battery connected with the positive pole. About 20 milliamperes, for ten minutes, are sufficient, massage of the joints following. As the uratic diathesis is a hereditary condition, its cure in one generation is not to be expected. We are limited to an intelligent prophylaxis, carefully regulated mode of life, and treatment of special manifestations. In this way the perversion may possibly be educated back to the normal.

88. The Schott Treatment.—Turner's article is a severe criticism of the methods at Bad Nauheim, in which he arraigns Professor Schott, whose name has been attached to this well-known bath and gymnastic treatment of cardiac diseases, as an advertising charlatan, and gives instances which he thinks show his unreliability, ignorance and cupidity. He finds, he says, also, by inquiries among medical men in Germany, that this idea is largely held in regard to him.

102. Invalid Diet.—Irwin thinks that fevers are underfed and gives his own experience in using a more liberal diet than has generally been recommended. Twenty cases of typhoid fever in which were allowed dry toast, soft poached or boiled eggs, etc., as soon as they showed any appetite, contrasted favorably with twenty-five cases in which milk was the chief diet and soft toast only allowed after a normal temperature had been maintained for two days and stopped if it rose again. The question, he says, is not one of solid or liquid food, but one of digestibility.

103. Mastoiditis.—From his experience, a sample of which is given in a report of seven cases, Tuttle sums up the treatment of mastoiditis as follows: In all cases of purulent otitis media there is more or less involvement of the antrum. In acute otitis media with symptoms of mastoiditis we are justified in using palliative measures for twenty-four hours. To delay operative measures more than twenty-four hours without marked improvement is, however, not justifiable. The incision in the posterior superior wall of the auditory canal is far superior to Wylde's incision as a depleting measure. All cases of chronic purulent otitis media resulting in mastoiditis should be operated on at the first appearance of symptoms without resorting to palliative measures, and the author claims that we are justified in opening the antrum for drainage in chronic cases of this condition without symptoms of mastoiditis.

105. X-Ray.—Horsky discusses the fallacies of the X-ray, showing that skiagraphs are not entitled to the credence given to ordinary photographs. He has also corresponded with several prominent surgeons concerning the status of the X-ray in legal medicine, and has obtained no positive reply. There appears to be much diversity of opinion in regard to it among surgeons, though few judges have objected to it. He maintains that the skiagraph in any case should be taken by an expert. The physician should accompany his patient to the examiner, or, if he himself takes the photograph, a witness should be present. Before taking the picture both parties should verify, with the fluoroscope, the anatomic position of the part with reference to the plates and tubes, and it is also necessary that the part be taken in several positions. If the picture is introduced in evidence, or if its exclusion is attempted, the examiner should be required to demonstrate in detail just how it was taken. Finally, it being perfectly practicable, the apparatus itself should be brought into court and the jury be allowed to examine the part with the fluoroscope. He thinks the time is not far distant when this method will be in vogue. In conclusion he suggests the following as an ethical consideration for the physician or surgeon: If ever occasion requires one to take a skiagraph of a case treated by another physician, do not under any consideration allow the patient to get hold of the picture, for should any deformity or abnormality, real or fancied, appear, it may act as an incentive to bring an action. If a photographer is employed he should be charged not to give out any copies of the picture except to the physician.

108. Fallacies in Rectal Surgery.—The fallacies mentioned by Matthews are the use of the long tube in the diagnosis of rectal disorders and the existence of rectal valves. He quotes a number of authorities to support the opinion that these valves do not exist. He says he has looked for them for years and has yet to find them.

110. Neurasthenia.—Pope's summary of the treatment of neurasthenia is: 1, rest—curtailment of energy; 2, partial rest; 3, exercise; 4, diet; 5, insistence on drinking large quantities of water; 6, massage; 7, electricity; 8, hydrotherapy.

116. Insane Asylum Laboratories.—Barker considers the special subjects of pathology and bacteriology and their study in institutions for the insane, and enumerates the advances and results in these studies. He makes a special point of the importance of clinical work in these, and the co-operation of such with laboratory investigation.

117. Constitution.—Bell offers a vitalistic theory of the phenomenon of organic life, and defines what we call constitu-

tion "as an individual peculiarity of co-operative and reciprocal work of life." That is to say, it is the control of energies and forces by the animistic principle as shown in individual cases, including heredity or transmitted peculiarities, and the individual variations in growth, proliferation, nutrition, etc.

119. Hyperpyrexia.—A patient reported by Alexander suffered from recurrent attacks of what at first was diagnosed appendicitis, but which seemed to be associated with obstruction of the bowels. There was great abdominal distention, discoloration, stercoraceous vomiting, and a temperature which ranged, in the different attacks, as high as 112 to 113 F. Besides the fecal material, the evacuations, which sometimes were absent for a number of weeks, contained blood and pus and mucous exfoliation during the attacks. According to the patient's own statement, there had been no evacuation containing fecal material in the last two years. The patient takes three meals, but vomits a few hours after eating and has stercoraceous vomiting about every four or five weeks, greatly relieving the tension.

120.—See abstract in THE JOURNAL, xxxv, p. 1500.

121.—Ibid.

122. Decinormal Salt Solution.—The value of this salt solution is studied under various conditions, by Burke, who recapitulates the indications for its use under two heads, where the circulation needs filling, or when the poisons in the blood are to be diluted. Where these indications are to be met no agent will take its place. It fills the blood-vessels, and thus gives the heart something to work against. It furnishes a medium for the corpuscles to circulate in which carries nutrition to the tissues. It produces free diuresis and diaphoresis, thus liberating poisons. It delivers to the tissues two of the most essential life-giving compounds and dilutes poisons and renders them less active. It gives a respite during which we may act or in which the alarming symptoms may subside.

FOREIGN.

British Medical Journal, January 12.

Observations on Wind Exposure and Phthisis.—WILLIAM GORDON.—From an analysis of the statistics of the rural districts of the county of Devon, Gordon finds that while soil has some effect on phthisis mortality if the influence of wind exposure is removed, the chief effect is entirely due to the latter. The condition of the temperature, soil or air can not account, in his opinion, for phthisis, nor can the occupation as given in the statistics of these rural districts. It seems manifest, therefore, that for St. Thomas, Newton Abbott, Okchampton, and probably Devonshire generally, the paramount influence which now determines the higher or lower rate of phthisis is the degree of exposure to or shelter from the west and south-west winds.

Jaundice in Typhoid Fever. GEORGE OGILVIE.—According to the author jaundice is hardly as rare and fatal a complication of typhoid fever as has been thought, and he reports four cases upon which he comments at length. It is a most unusual occurrence, however, that jaundice should appear at the onset of the disease and gradually disappear with the falling off of temperature and lasting through the whole course of the disease which yet has favorable terminations. In his own cases the diagnosis has been established beyond a doubt by the Widal reaction, taken with other symptoms. The relations of morbus Weilli to typhoid are discussed, and the author seems to believe that properly it is only a form of typhoid. The one case in which the agglutination failed to follow does not, he thinks, prove anything to the contrary, since the reaction was only tried once in the early stage, when it may fail also in true typhoid. As regards the pathologic condition productive of jaundice it is largely a matter of conjecture, but it seems almost certain that it is not of catarrhal nature. The rarity of catarrhal jaundice finds a natural explanation in the fact that the stomach and adjacent parts of the intestines are scarcely ever implicated in typhoid processes. Ogilvie is inclined to think that there is some direct action of specific micro-organisms on the liver and bile-channels in these cases.

The Lancet, January 12.

Pneumococcic Arthritis. EDWARD J. CAVE.—The author first reports a typical case of the acute suppurative form of pneumococcic arthritis and analyzes 31 cases from the literature in tabulated form. The majority of the cases occurred in immediate association with pneumonia (28 out of 31.) The arthritic symptoms usually followed the onset of pneumonia from a few days to a fortnight, but in two instances they are said to have preceded it. The disease is a fatal one, 25 out of 31 having died. The affection is one of adult and advanced life and far commoner in males than in females. Both these peculiarities may stand in relation to predisposing influence or previous damage to the joint. Arthritis is commonest in the lower extremities. In 19 of the cases the inflammation was confined to a single joint, and the larger joints, excepting the hip, seem more likely to be infected. In all the cases but one included in the table, the pneumococcus was demonstrated in the fluid in the joint; but similar cases have been observed in which the pus has been found sterile. It has been suggested by Widal that the pathology may be the same, but the cocci had died out at the time of examination, or the joint affection may be due to toxins produced elsewhere in the body. Another case is reported which is not included in the table, because the organism cultivated from the blood was not identified also by animal inoculation. While its culture characteristics seemed like those of pneumococci, unfortunately, owing to the pressure of professional work, it was not experimented with further before it died out. As noticed, infection is liable to attack a previously damaged joint, and the experimental observations of numerous observers show that the injection of virulent cultures of pneumococcus directly into the joint of a susceptible animal is almost invariably followed by acute suppurative arthritis. The subcutaneous injection of virulent cultures after the previous excitation of an aseptic inflammation in the joint, whether by direct injury or by injection of turpentine, gives varying results, in many instances negative (Gabbi) and in many positive. (Ausset, Zuber.) The intravenous injection of virulent cultures with associated aseptic traumatism of the joint leads to arthritis much more certainly than do injections hypodermically. Finally Bezangon and Griffon have succeeded in producing experimental pneumococcic arthritis by modifying the resistance of animals experimented on in relation to the virulence of the pneumococcus. They find in a rabbit partially immunized that a large full dose of virulent culture produces local lesions rather than general sepsis, especially in the form of pneumococcic arthritis. Leroux, who has summarized these experimental investigations, suggests the correspondence with the clinical experience that arthritis usually supervenes after a pneumonia has run its course or toward the end of an attack when the condition of greater or less immunity has been acquired. The clinical characteristic symptoms vary in severity. Fever is generally high. The prognosis is grave both as regards danger to life and the safety of the joint. Constitutional infection is liable to occur, producing its characteristic localizations in the endocardium, meninges, and other tissues. The treatment in suppurative cases, which are the majority, should be the use of asepsis, incision and flushing of the joint, drainage and fixation, as in other suppurative arthritides. The author questions whether arthrotomy for the removal of the morbid products, avoiding important ligaments and tendons would not be followed by speedier cure and better results. Convalescence is apt to be tedious and prolonged, and stiffness and adhesions remain which must be treated on general principles.

The Relation of the Bowel Lesion of Typhoid Fever to the General Symptoms of the Disease. T. J. MACLAGAN.—The local disturbances of the intestinal glands, according to MacLagan, are the consequence of the organic growth in the tissues of millions of the organisms produced. This would not be serious were it not for the fact that it leads to sloughing and suppuration, and these bring into play other organisms much more pathogenic than the typhoid bacillus. The existence of these organisms in the system can be determined by

the prolonged duration of the fever, high temperature and other alarming symptoms, which are not due so much to direct action of the typhoid bacillus as to the various cocci associated. Gangrenous ulcers in any part of the body are apt to cause specific poisoning, and this is especially so in typhoid fever, because of the number of ulcers and consequent foci of infection. The point specially made, therefore, is that while all the symptoms of typhoid fever are traced back to an action set going by the typhoid bacilli, no one of its serious symptoms or specific dangers is due to the direct action of that bacillus.

The Practitioner, January.

The Epidemiology of Rheumatic Fever. ARTHUR NEWSHOLME.—The author finds that the epidemiology of rheumatic fever is dependent especially upon dryness and lowering of the ground water. The association of dampness of the air and soil with rheumatic pain is due to the common lack of distinction between chronic and acute rheumatism, two different disorders. The organism of acute rheumatism is one which lives in the soil, but is driven out when the ground water becomes high: it multiplies rapidly in dry years and is transmitted to the human recipient in some unknown way, possibly by the dust. This is his explanation of the facts, subject, of course, to further additions to our knowledge. Perhaps bacteriology will be able in coming years to more fully explain them.

The Pathology of Rheumatic Fever. F. J. POYNTON.—Poynton reviews the various theories of rheumatic fever, the nervous, toxic, chemical, infectious, and malarial theories, and gives at length a description of the cocci found by himself and Paine, to which he attributed the causation of the disease. He thinks that the diplococci are destroyed at the sites of local lesions, though their destruction usually results in some damage to the important tissues in which they have been localized. This explains the fleeting character of the symptoms in acute rheumatism. The worst manifestation of rheumatic fever is usually pericarditis, and in such cases he has obtained the most virulent cultures of the organism. The relapses that are so frequent, he thinks, can be explained by a certain form of the coccus that persists, recovering virulence if the vitality of the tissues is lowered by exposure, premature exercise, or possibly improper diet. The problems of heredity, etc., are yet to be elucidated.

Rheumatic Fever in Relation to the Throat. ST. CLAIR THOMSON.—The throat affections of rheumatism and the theory are treated of by Thomson, who summarizes our knowledge as regards throat affections as follows: 1. It is undoubted that a certain number of cases of acute rheumatism are preceded by an angina in a proportion varying from 30 to 80 per cent. 2. Both rheumatism and angina have many etiological points in common—season of year, cold, wet, fatigue, depression, vitiated air, etc. 3. The connection of angina and rheumatism, though undoubted in a number of cases, is not yet clearly established. 4. The tonsil may be the port of entry of the rheumatic virus, and this even although the naked-eye appearance of the throat gives no indication of its being affected. 5. The particular affection of the throat which is associated with rheumatism is not yet established. Apparently it is not peritonsillar abscess (quinsy). 6. Peritonsillar inflammation does not appear to be arrested by the administration of antirheumatic remedies. Many cases of parenchymatous and lacunar tonsillitis, on the contrary, are considerably benefited by the administration of salicin or salicylate of soda. That this action proves the rheumatic nature of the disease can not yet be accepted. 7. The question requires further research in two directions: one in differentiating the various forms of angina and determining the one which is associated with rheumatism; the other in further research to discover the true nature of rheumatism.

The Effects of Rheumatic Fever on the Heart. G. A. GIBSON.—The author deals with the production and nature of the cardiac lesions of rheumatism, and the methods of treatment. It is highly probable, he thinks, that all cases of acute and subacute catarrhal disease are of microbic origin and therefore infective. The recent work of Poynton and Paine goes a long way to explain the connection of the microbic in-

fection with acute rheumatism. When these organisms attack the heart it is due, he believes, to their circulation in the blood. The indications for treatment are: to avoid rheumatic implication of the heart; to enjoin absolute bodily rest, so that the work the heart is obliged to do is reduced to a minimum. He therefore holds that from the first moment of attack of acute rheumatism until some days after it has entirely ceased, the patient should be compelled to retain a horizontal position. The diet should be unstimulating, not introducing too much animal proteid matter, and it should contain abundance of fluid, so as to bathe the tissues freely. In the earlier stages of acute rheumatism the best form of diet is milk, though later a more liberal diet may be allowed. As regards drugs he believes in the use of salicylates in full doses until every symptom has disappeared, and then he begins to use absorbents, of which the most satisfactory is sodium iodid, giving 10 to 15 grs. three times a day. If there is an appearance of anemia, some iron preparation may be administered. No heart stimulants should be employed until later. Through the whole course of the disease an occasional mercurial aperient should be administered every few days. Another method which seems to him of value, is counter-irritation, though it is not easy to explain how it acts, but he is convinced of its utility.

Rheumatism in Childhood. GEORGE F. STILL.—After reviewing the progress of rheumatism in childhood, Still believes that it is evident that it is very common in the later periods. During early childhood, however, rheumatic phenomena are very infrequent, and in infancy rheumatism is almost unknown. The symptoms differ from those in adults chiefly in the character of the joint manifestations and the greater prominence and frequency of heart affections. He calls attention to pains in the limbs complained of by children, the so-called growing pains, which he thinks are often evidence of rheumatism, and the practical importance of their recognition can hardly be overrated. He also mentions the frequency of affections of the hip-joint in juvenile rheumatism and the limitation of the pain to one joint for a longer time than is common in older cases. This affection of the hip-joint usually suggests commencing tubercular disease. Another symptom is the stiff neck, which seems trivial, but, like the vague pains and stiffness of the limbs, may be followed by severe cardiac involvement. The frequency of cardiac affections is also one of the most characteristic features. In 170, as far as possible consecutive, cases, 128 had cardiac bruits, which in 93 were certainly due to endocarditis. Wasting is also a more notable feature in cardiac rheumatism of childhood, and a very important manifestation of rheumatism in childhood is the rheumatic nodule. While in adults they are rare, they occur in children so frequently as to be of much importance. He found them in over half of his cases, and their close association with endocarditis is of decided clinical importance and has a bearing on the prognosis. Another symptom of rheumatism in children is sore throat. Tonsillitis is so commonly present that it is difficult to escape the conclusion that it has some direct relation, possibly as a medium of infection with the disease. Rheumatic hyperpyrexia or cerebral rheumatism is almost unknown in childhood. Among the immediate symptoms he mentions stomach pains, pain in the side, headache, and nervous symptoms, such as somnambulism, night terrors, habit spasm; another ailment several times observed associated with rheumatism in children is henteric diarrhea, which is also a nervous phenomenon. In conclusion he mentions one further phenomenon, the association of red hair with rheumatism and heredity. He says the color of the hair may seem a small point, but it is one of the many little indications which are sometimes of value.

Presse Medicale (Paris), January 2 and 5.

Prevention of Alimentary Stasis. A. MARTINET.—By reclining on the right side about half an hour after meals, and drinking in this position a cup of hot chamomile or linden tea, the contents of the stomach are rendered more fluid and their escape from the organ is accelerated by the force of gravity. In a few minutes to half an hour the patient is relieved of all the symptoms of alimentary stasis.

Dyspeptic Neurasthenia. BARDET.—Neurasthenic conditions proceeding from latent dyspepsia are common. The latter is due as a rule to excessive amounts of nitrogenous foods. This abuse keeps up hyperchlorhydria, and this in turn liberates in the blood an excessive amount of sodium. If there is hepatic insufficiency, the sodium renders the organic fluids alkaline. The first effect of the hypoaecidity is usually manifest in a neurasthenic condition, and nearly all cases of pseudo-neurasthenia are due to this cause. The amount of nitrogenous food ingested should be reduced to .5 or .75 gm. to the kilogram, not allowing more than 1 gm. at any time. This is sufficient to restore the acidity to normal; the same result can be attained with dilute phosphoric acid, 1 to 3 gm. a day, or even more. Bardet adds that he has never seen any serious ill effects follow its use in the hundreds of patients he has treated with it, but larger doses are somewhat laxative. Cautm has taken 100 drops of dilute phosphoric acid a day during a period of two years without inconvenience, but Weber has observed intolerance in one patient for more than 40 drops.

Quinin in Uterine Therapeutics. P. DALCHE.—Quinin is useful in congestive dysmenorrhea, moderating the rush of blood to the genital regions, and is also useful in the dysmenorrhea due to neuralgia in this region, which Daleche thinks is more frequent than is generally recognized. It is possible that it might prove effective in amenorrhea, arousing the contractility of the uterus and of the utero-ovarian vessels, thus stimulating torpid ovulation. It is most effective, however, in metrorrhagia and menorrhagia not associated with any organic trouble. This dose is usually .5 to 1.5 gm. and Daleche combines it with digitalis or ergot as indicated.

January 5.

Leprosy in the Indo-Chinese Peninsula. E. JEANSELME.—The immense valley of the Irrawaddy is a focus of endemic leprosy, and an estimate of 25,000 is probably less than the actual number of lepers in the peninsula comprising Siam, Annam, etc. No organized efforts have been made to isolate them. In a large number of cases traced by Jeanselmé the infection was brought into the French colonies by Chinese settlers.

Centralblatt f. Chirurgie (Leipsic), January 5 and 12.

Prevention of Shortening in Fractures of the Leg. N. KAEFER.—A plaster cast is applied to the leg and, just before it hardens, is cut in two parts by a circular incision entirely around the leg a little above or below the fracture. The two parts are then pushed gradually farther and farther apart by a mechanical contrivance which is firmly fastened to the upper and lower portions of the cast with plaster bands, and which consists of an iron rod with a screw thread at each end, winding in opposite directions and fitting into a solid female screw which forms part of a long, thin iron plate at each end. By turning a nut on the rod in the center, the two screws are forced apart. This nut is turned half or completely around every day, with no discomfort to the patient, and the fracture heals with no shortening. The apparatus is also indicated to prevent shortening after oblique osteotomy.

Resuscitation by Manual Compression of the Heart. H. MAAG.—THE JOURNAL described, in its issue of July 21, 1900, p. 180, the successful experiments of Prus in the resuscitation of dogs by manual compression of the heart and blowing air into the lungs through a tracheal canula, long after apparent death from chloroform or electricity. Maag reports a case of death in chloroform narcosis after operation for nerve-stretching for rebellious sciatica. After all other attempts at resuscitation had failed, Prus' directions were followed. The heart responded promptly to the manual compressions and in half an hour the first natural respirations were perceptible. In an hour the breathing was deep and regular, the heart beating powerfully 70 times a minute, and an hour later the patient was put to bed apparently saved, although consciousness had not returned. A few minutes later respiration ceased again, and in spite of renewed efforts could not be restored. The heart continued beating for eight hours longer and then suddenly stopped, the temperature gradually falling. The air had been blown into the lungs by the mouth of an assistant.

and a large portion had found its way into the alimentary canal. This caused meteorism which forced up the diaphragm and nullified, in great degree, the efforts at artificial respiration. Prus pointed out that the diaphragm is the first to respond and take up the task of respiration. The patient was resuscitated ten to fifteen minutes after all pulse and respiration had ceased and he was cool and cyanotic. The narcosis commenced at 8: by 11:30 he was breathing regularly; by 12 all danger was apparently over, and a few minutes later respiration ceased, but the heart kept beating powerfully till 8 p.m.

January 12.

Recent Luxation of the Peroneus Tendon. H. REERINK.—A case is related in which the tendon was replaced and held in its groove by strips of adhesive plaster (Unna's zinkpflaster), and a plaster cast applied in a few days. Massage completed the cure.

Simplification of Plastic Achillotomy. O. BAYER.—Instead of the ordinary oblique division of the tendon Achilles in the treatment of spastic paralytic talipes equinus, Bayer makes the dissection in two right angles facing in opposite directions, something the shape of a step. He has been very much pleased with the results attained and now states that he has succeeded in making this dissection by subcutaneous tenotomy, without exposing the tendon, omitting the connecting longitudinal incision. The intact skin brings the parts into correct position. In sixteen days the patient was walking normally with both feet.

Dermatologische Zeitschrift (Berlin), December, 1900.

Lupus and Carcinoma. E. HOLLAENDER.—In three cases, old, rebellious lupus erythematoses became complicated with multiple carcinoma, relatively benign, and all were cured by excision of the carcinomatous nodules, with no recurrence. Hollaender is inclined to attribute the etiology to the mechanical injuries of the regions affected by lupus by the repeated therapeutic measures applied.

Deutsche Med. Wochenschrift (Leipsic), January 10.

Pentose in Bacteria. E. BENDIX.—An osazone has been derived from tubercle bacilli by Bendix which possesses all the characteristics of pentose, and he has established that the nucleo-proteid of the bacilli is the bearer of the pentose group. Tuberculin preparations therefore do not contain the pentose radical. Pentose was also found in a mixture of bacteria from feces, and pentosane was distinguished in some bacilli, including those of diphtheria, but never in certain others, as for instance, the typhoid bacilli.

Vaginal Incision for Tubercular Peritonitis. G. BAUMGART.—More than 35 cases of tubercular peritonitis operated on by Loehlein are reported and the superior advantages of the vaginal route extolled. A number of these were described by Loehlein two years ago (*Gyn. Tagesfragen*, v. p. 99), but his example in opening the abdominal cavity through Douglas' pouch does not seem to have been followed. In some of the cases a small secondary incision was also made in the anterior abdominal wall. In the pure uncomplicated cases treated by posterior colpotomy the patients were discharged in nine to twenty-two days after the operation.

Skiagraphy of the Stomach. W. BECHER.—This communication states that an empty soft-rubber tube introduced into the stomach cast a distinct shadow in all the writer's skiagraphs. When he wished to fill the tube with a bismuth solution he inserted the tube first and took a skiagram and then filled the tube with the solution through a funnel. The patient stood with his back to the focus-tube.

Thymus Death. H. KOHN.—At the autopsy of a seven-months' child who had died after two days of distress and cyanosis, a very large thymus was found, compressing the aorta like a truss. The artery beneath it and the heart were very much dilated and the latter hypertrophic.

Rattle-Snake Poison in the Cure of Leprosy. J. GOLDSCHMIDT.—Dr. A. M. de Monra announced in the issue for November 29 that he had been using rattle-snake poison in the

treatment of fifteen lepers at San Paulo, Brazil, and had been much encouraged by the unmistakably favorable effect of the medication. He first established the effective and safe dose by experiments on dogs and administered it internally or by subcutaneous injection. This poison has been used by the natives for a long time in the treatment of various skin affections and leprosy, and numerous instances are related of complete cure of leprosy after rattle-snake bite. Lewin makes the comment that any albumin which possesses the property of inducing irritation by a special chemical energy is able to induce such a modification of the existing conditions that marked benefit may result. No specific action is necessary. J. Goldschmidt, in the present number, describes a case of a leper bitten by a rattle-snake. He succumbed in twenty-four hours, but during this interval all the lepromata softened and subsided. A local physician attributed this effect to the methemoglobinemia caused by the poison, and treated another leper on this principle, giving him 45 gm. of potassium chlorate in sixty hours. The intoxication was very severe and nearly fatal, but on the patient's recovery a week later, the cutaneous affection was remarkably improved. Goldschmidt warns against energetic therapeutic measures in leprosy, as the patient's resisting powers are very feeble. But all the more urgently he recommends prompt and effective measures in the early, curable stages, when the lesion is restricted to the nasal mucosa or to the cheek near the nostrils. He cites cases of complete cure, including one published in the *Bull. Med.* in 1895, in which there has been no recurrence in ten years. He advises tuberculin as a differentiating measure. For local treatment he finds nothing so effective as eucrophen or some similar substance generating nascent iodine. Success depends on promptness and perseverance.

Importance of Indicanuria in the Pathogenesis of Certain Affections. WOLOVSKI.—Indicanuria is the sole cause of many acute and chronic affections which are promptly cured by measures that banish the indicanuria. These conclusions are based on the study of forty-four patients, and impel Wolovski to ascribe an important place in pathology to indicanuria. In several cases of trophic cutaneous neuroses—erythema, urticaria and eczema—the indicanuria was apparently the sole cause; at least they vanished in two or three days with appropriate treatment of the excess of indican, i. e., of the putrefactive processes in the intestines. It also proved to be the sole cause in several cases of the vertigo that follows chronic overfilling of the intestines, in one case of epilepsy and in a large number of gastric disturbances accompanied by disorder of the small intestine. The absence of indicanuria in case of gastric disturbance excludes an intestinal complication and is thus a valuable differentiating measure in dubious cases. He found the most effective treatment a rectal injection of two quarts of water on retiring and the next morning calomel and jalap, 1 gram each, the patient drinking copiously of some mucilaginous fluid. Chance suggested the most effective remedy to prevent recurrence of a chronic tendency, namely, mercuric iodide, not more than 5 mg. at one dose, in keratin-coated pills, two a day. In eight to ten days the amount of indican is materially diminished. Ingestion of certain foods produces indicanuria in some persons. Wolovski describes a modification of Jaffé's test for indican in the urine which requires only thirty minutes and enables amounts of indican from one-fifth to eight times the normal quantity to be determined. He adds that it is important to note the relative amount. In two cases, one of hysteria magna, he found the amount subnormal. He uses for his test pipettes graduated to hold twenty drops to the cubic centimeter. One pipette is filled with sodium or potassium hypochlorite containing 1 per cent. active chlorine, and another with the same diluted to one-tenth, thus containing 1 per 1000 chlorine. Ten c.c. of a 25 per cent. solution of lead acetate is mixed with urine to make 100 c.c., and the whole is shaken and filtered. If the urine is very high colored it should be diluted one-half. It must also be freed from albumin. Five narrow and tapering test-tubes holding each 5 c.c. of the colorless urine are placed in a row and to the first, one drop from pipette No. 1 is added; to the second, one

drop from No. 1 and five drops from pipette No. 2; to the third, two drops from No. 1; to the fourth, two drops from No. 1 and five drops from No. 2; to the fifth, three drops from No. 1. The test tubes are turned around twice and then warmed for two minutes. Five c.c. of hydrochloric acid of 1.19 specific gravity are then added to each test-tube. They are then closed with rubber stoppers, turned around two or three times and set aside for four or five minutes until cooled. To each tube is then added 1 c.c. chloroform, and the tube is turned around ten times. If the amount of indican in the urine is normal, the depth of the tint increases to the third test-tube and then decreases until in the fifth glass the fluid is colorless. If the amount is above normal, the tint increases progressively in each glass. In this case the series of test-tubes can be carried out indefinitely until the fluid finally becomes colorless, which in some cases occurs in the fifteenth tube. If the quantity of indican is subnormal, the fluid may be almost colorless in the first tube. The amount of indican is calculated from the fact that one drop of the solution containing 1 per cent. chlorin, in pipette No. 1, corresponds to 10 eg. chlorin in one liter of urine. If, for example, 1.5 drops were used for 5 c.c. urine, out of a total of 1600 c.c., this is equivalent to 15 drops to the liter of urine and 24 drops for 1600 c.c. The quantity of chlorin varies from 20 to 30 eg. in the urine for twenty-four hours. It averages 25 eg. (making allowance of 11 per cent. for the 10 c.c. of the solution of lead acetate added). This is the absolute amount. It is much more important to determine the relative amount in comparison with the solid constituents of the urine, namely, the coefficient of indican. This is readily accomplished by the aid of Haeser's multiplying formula (2.33). For example: 1600 c.c. urine, specific gravity 1.018: multiply 18 by 2.33. This gives 42 gm. to the liter and 67 gm. to 1600 c.c. The average is 60 to 70 gm. and 6 to 7 mg. of indican, i. e., 65 gm. solid substances and 6.5 mg. indican. Assuming the normal amount of chlorin to be 26 eg., we have the following proportions, 65 : .006 : .26, or the practical equivalent, 10 : .001 : .4. This can be accepted as the standard for the determination of the amount of indican. A woman excretes 40 gm. solid substances; the normal amount of chlorin in her case is 1* eg. A man excretes 90 gm. of solid substances, and for him the normal amount of chlorin is 36 eg. These are the normal amounts in these instances, although they differ widely from the average absolute amount, 26 eg.

Muenchener Med. Wochenschrift, January 1.

Treatment of Club-Foot in the Adult. O. VULPIUS.—Thirty-seven patients between 13 and 35 years of age have been cured of club-foot by Vulpius, two years having elapsed in the case of 26 and four years in 15. A number of cases are described, with illustrations showing the condition before and after treatment, which was carried out without sacrificing or mutilating the bones in any way. Subcutaneous tenotomy of the tendon Aehilles is always done; the plantar aponeurosis is occasionally divided, the posterior tuberosity of the calcaneum exposed and pulled down with hooks. Transplantation and shortening of the tendon were valuable aids in correcting the deformity and in two cases supramalleolar osteotomy was performed. No splints nor troughs are applied, except a night splint in congenital talipes. The success is due to "modeling correction of the deformity," kneading the foot, stretching the shortened soft parts on the concave side from the skin to the capsule of the joint, until the foot can be brought into an overcorrected position without effort and without springing back. It is not necessary to try to complete the process at one sitting, especially in adults. Each sitting concludes with the application of a plaster cast to maintain what has been accomplished. Tenotomy of the tendo Aehillis is the last step. The cast is kept on between two and four months. Massage and exercises are useful in the after-treatment, but are not indispensable, as the resumption of the patient's occupation usually produces the same effect, but more slowly.

Disturbances in Sensibility of the Skin With Affections of Internal Organs. H. HAENEL.—The writer of this communication has noticed certain circumscribed zones of hyperaesthesia in cases of affections of the internal organs, especially

with gastric disturbance. They are evidently reflex, and suggest an explanation for some of the nervous, rheumatic or hysterical symptoms of which patients complain. When found they substantiate the patient's assertions and confirm the existence of an internal affection.

Nitropropiol Test for Sugar. F. V. GEBHARDT.—Nitropropiol tablets are compressed from orthonitrophenyl—propiol acid and sodium carbonate. One tablet dissolved in 10 c.c. water is an efficient test for grape sugar in urine. Ten drops of the urine added and slowly heated turn the fluid indigo blue in case sugar is present, and insoluble indigo is deposited. This reaction does not occur in the absence of sugar and is, hence, a simple, delicate and inexpensive test.

Wiener Klinische Rundschau, December 30 and January 6.

Tuberculosis Pseudoleukemica. E. FERRARI.—Sternberg was able to collect, in 1898, eighteen cases of a peculiar tuberculosis of the lymphatic system, and asserted that a large proportion of the cases assumed to be pseudoleukemia in reality belonged to this group of tubercular affections. Ferrari describes a typical case which terminated fatally in five months. When first seen the diagnosis of febrile pseudoleukemia was made, and under treatment with arsenic the enlarged glands subsided. Two months later the patient returned with acute miliary tuberculosis, which soon proved fatal. The lymph-glands and whitish foci in the organs were typical specimens of the lesions in the "peculiar tuberculosis" described by Sternberg. They were also found in the muscles, a fact never before noted.

January 6.

Tabes and Diabetes Mellitus. J. PAL.—Diabetics sometimes exhibit symptoms suggestive of incipient tabes. Pal describes a case in which the symptoms and post-mortem findings indicated that endarteritis and tabes had developed simultaneously on a foundation of syphilis, and that the endarteritis had in turn generated diabetes mellitus. The tabes was not very pronounced, but unmistakable old tabetic lesions were found in the spinal cord.

Cure of Psychic Epilepsy by Operation. A. PILCZ.—A young man was affected periodically with mental confusion, hallucinations and generally altered character, suggesting a periodic mental affection. A linear scar above the right frontal eminence, about 4 cm. long, the result of a fall ten years before, was extremely painful on pressure. This scar was excised and the psychosis was cured. A few months later it returned in a mild form after severe alcoholic excess, and the wound was again painful. The patient has since discontinued the use of alcohol and the cure has been permanent. The case emphasizes the importance of abstention from alcohol by persons with an epileptoid tendency.

Wiener Klin. Wochenschrift, December 27 and January 3.

Extirpation of the Spleen. K. SCHWARZ.—In the case described, a woman of 36, in the fifth month of pregnancy, had a hypertrophic wandering spleen removed, which had caused her much suffering and inconvenience for two years. Pregnancy was not disturbed. The results were so satisfactory in this and in other cases Schwarz has collected, that he advocates extirpation for all cases of wandering spleen as the simplest and safest operation unless it is complicated by numerous adhesions. If the organ is hypertrophic, splenectomy is the only method of treatment.

January 3.

Treatment of Ulcerations With Hot Air. K. ULLMANN.—The rapid and beneficial results of local hyperemia from the application of hot air in the treatment of chronic and infectious ulcerative processes have already been proclaimed by Ullmann. He now reports and illustrates a number of cases cured by his apparatus and advocates the method for venereal ulcers and all ulcerative processes, particularly of the genital tract. He has noted repeatedly a favorable influence on the general health and remote morbid foci, and describes, among others, a case of arrest and cure of a serpiginous venereal infectious process.

Books Received

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

KINGS COLLEGE HOSPITAL CORPS: Being the Annual Report of King's College Hospital and the Medical Department of King's College. Edited by Norman Dalton, M.D., F.R.C.P., Albert Carless, M.D., F.R.C.S., John Phillips, M.A., M.D., F.R.C.P., W. D. Halliburton, M.D., F.R.S. Vol. VI. (Oct. 1, 1898-Sept. 30, 1899.) Cloth. Pp. 298. Price, 7s. 6d. London: Adlard & Son. 1900.

PHYSICAL DIAGNOSIS IN OBSTETRICS. A Guide in Antepartum, Partum, and Postpartum Examinations for the Use of Physicians and Undergraduates. By Edward A. Ayers, M.D., Professor of Obstetrics in the New York Polyclinic; Attending Physician to the Mothers' and Babies' Hospital. With Illustrations. Cloth. Pp. 283. Price, \$2.00. New York: E. B. Treat & Co. 1901.

INTRODUCTION TO THE STUDY OF MEDICINE. By G. H. Roger, Professor Extraordinary in the Faculty of Medicine of Paris. Authorized Translation by M. S. Gabriel, M.D. With additions by the Author. Cloth. Pp. 545. Price, \$5.00. New York: D. Appleton & Co. 1901.

TRANSACTIONS OF THE WESTERN OPHTHALMOLOGICAL, OTOLOGICAL, LARYNGOLOGICAL AND RHINOLOGICAL ASSOCIATION, Oto-Laryngologic Section, at Its Fifth Annual Meeting, held at Planter's Hotel, St. Louis, April 5, 6 and 7, 1900. Paper. Pp. 48. St. Louis, Mo.: The Laryngoscope. 1900.

STUDIES FROM THE DEPARTMENT OF PATHOLOGY OF THE COLLEGE OF PHYSICIANS AND SURGEONS, Columbia University, N. Y. Vol. VII. For the Collegiate Year 1899-1900. Reprints. Paper.

PROCEEDINGS OF THE AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION, at the Fifty-sixth Annual Meeting held in Richmond, Va., May 22-25, 1900. Paper. Pp. 353. Published by the American Medico-Psychological Association. 1900.

TRANSACTIONS OF THE NORTH DAKOTA STATE MEDICAL SOCIETY for the Year 1900, and List of Members. Paper. Pp. 66. St. Paul, Minn.: St. Paul Medical Journal. 1900.

THE NINTH ANNUAL REPORT OF THE SHEPPARD AND ENOCH PRATT HOSPITAL FOR MENTAL AND NERVOUS DISEASES. Paper. Pp. 35. Baltimore, Md.: Williams & Wilkins Co.

PROCEEDINGS OF THE PATHOLOGICAL SOCIETY OF PHILADELPHIA, January, 1901. Paper. Published by the Society. 1901.

Queries and Minor Notes.

A HOME FOR PHYSICIANS.

KANSAS CITY, Mo., Jan. 8, 1901.

To the Editor:—In reply to G. M. P., in issue of January 5, p. 71, concerning the establishment of a physician's home in some part of the United States, I wish to state that there is such a project, and it is meeting the encouragement of the profession at large: but a few individuals are opposing it, however. Dr. John S. Harris, of Minor Hill, Tenn., has written a few articles in favor of it, and Dr. J. O. Dyer, of Galveston, Tex., is leading the opposition.

Dr. Harris suggests that a fund be raised by subscription, and that the "home" be exclusively for physicians and their wives, who are in destitute circumstances. In my opinion, the movement will be a good one, if properly carried out; but if not conducted in a judicious and professional way, it will only amount to a failure, and a reflection on the medical profession. I beg leave to suggest, inasmuch as said "home" is to be a national affair, and that it is to be conducted under the auspices of the medical profession of America, the following:

1. That its management shall be controlled by the AMERICAN MEDICAL ASSOCIATION.

2. That it shall be called the Sanitarium and Hospital of the American Physicians and Surgeons.

3. That all regular physicians and their wives, in good moral and professional standing, shall be eligible to membership, and that no other class shall be admitted.

4. That a membership fee of \$10 be charged all applicants, and that each member be required to pay \$5 per annum, as dues, unless satisfactory proof be furnished that he or she is in destitute circumstances.

5. That said sanitarium and hospital shall be located in the most healthful and beautiful spot in America, regardless of all costs, and other donations offered by any individual, town, state, or corporation; so that the lives of the old veterans may be prolonged, and that their last days may be peacefully and pleasantly spent.

I am opposed to the word "home" in this sense, or to anything which will impart to it the shadow of charity. Let us be courageous, and determined to make it a sanitarium and hospital of the highest order, where members of its association can receive as good medical and surgical aid as the world affords, and enjoy all other necessary comforts of life. This can be accomplished by the proper organization and management. Fraternally. J. L. SHORT, M.D.

SHALL THE CONCEPTION OF INFLAMMATION BE ABANDONED?

CHESTER, PA., Jan. 12, 1901.

To the Editor:—In the leading editorial of THE JOURNAL for December 22, "Shall the Conception of Inflammation be Aban-

doned?" you refer to Andrew H. Smith's discussion of the subject. Would you kindly inform me how I can obtain the discussion of the subject by this gentleman? Respectfully,

S. B. LUCKIE, D.D.S.

Ans.—Trans. Assoc. of Americ. Phys., 1900, xv, 71-80.

KOPLIK'S SPOTS.

CANEG, TEXAS, Jan. 6, 1901.

To the Editor:—In THE JOURNAL of the 22d ult., in the proceedings of the Cleveland Medical Society, Dr. Emmett L. Holt, of New York City, makes reference to the "Koplik's sign in measles" as a valuable aid in diagnosis. Will you give me in detail what this Koplik's sign is?

S. A. F.

Ans.—Koplik's sign consists in the appearance of bluish-white slightly raised spots, about the size of a flaxseed, on the mucous membrane of the inner surface of the cheeks and lips. They vary in number, sometimes only five or six, sometimes fifteen or twenty or more. They are very generally present before the other characteristic signs. These spots are figured in the last edition of Tyson's Practice, opposite p. 105. We would also refer the inquirer to the article by Dr. Koplik on "Roetheln," p. 1195, Volume xxxv, of THE JOURNAL.

RESPONSIBILITY OF MORPHINOMANIACS.

RAVENNA, OHIO, Dec. 29, 1900.

To the Editor:—Can you refer me to anything on the subject of criminal responsibility of those addicted to the morphin habit? For instance, a morphin fiend addicted to the daily use of 45 grains appropriates some property belonging to a friend or forges his name to a paper, but results in no loss to the friend. How far is such a one responsible in the eyes of the law? Would his acts be considered the same as a sane man? If you could refer me to anything on the subject you would confer a great favor on a subscriber.

W. G. S.

Ans.—In Clevenger's "Medical Jurisprudence of Insanity" the subject is discussed and a number of legal citations given, showing the status of morphinomanacs before the law. It is generally recognized in works on mental diseases that opium, like alcohol, produces conditions qualifying if not destroying criminal responsibility.

Change of Address.

Chas. Anderson, Ft. Brown, Tex., to Santa Barbara, Cal.
M. E. Arewine, Melbourne, Ky., to Williamsburg, Ohio.
J. Bruehl, New Ridge Bldg., to Altman Bldg., Kansas City, Mo.
C. Bock, Ft. Wayne, to Indiana School for Feeble-Minded Youths, Ft. Worth, Ind.
A. H. Barr, New Orleans, La., to Storkville, Miss.
L. P. H. Bahrenburg, New York City, to U. S. Marine-Hospital Service, Honolulu, H. I.
C. S. Chamberlin, Kinsman, to P. O. Box 243, Cincinnati, Ohio.
W. J. Chenowith, Chico, Cal., to Decatur, Ill.
H. Cushman, 216 Ogden Ave., to 545 Van Buren St., Chicago.
E. Cross, Del Rio, to 231 Ave. C, San Antonio, Tex.
W. C. Cole, Omaha, Neb., to 3614 Ave. C, Connell Bluffs, Iowa.
U. A. D. Colletto, Watonga, to Weatherford, O. T.
F. H. DeVaux, Des Moines, Iowa, to Omaha Bldg., Chicago.
W. C. Davis, Chicago, to 2104 W. Washington St., Indianapolis, Ind.
W. Durrett, Ralston, to Pawnee, O. T.
H. C. Dunavant, Little Rock, to Osceola, Ark.
J. V. Davis, College Park, to Grantville, Ga.
J. F. Dunn, 614 Walnut, to 701 Walnut St., Milwaukee, Wis.
G. S. Darby, 79 Seeley Ave., to 653 W. Monroe St., Chicago.
A. D. Epps, 18 Trumbo, to 89 Beaufain St., Charleston, S. C.
J. W. Earel, Cambridge, Neb., to 606 W. Adams St., Chicago.
T. M. Edwards, Daisy, to Manassas, Ga.
W. H. Faulds, Luzerne, to Kingston, Pa.
C. H. Frizelle, Pontiac, to 403 E. Main St., Streator, Ill.
W. H. Forwood, San Francisco, Cal., to 46 N. 40th St., Philadelphia, Pa.
C. F. Gilmore, Chesterland, to Lorain Blk., Lorain, Ohio.
W. H. Gobrecht, Myerstown, W. Va., to 905 M St., N. W., Washington, D. C.
S. C. Graves, 97 Ottawa St., to Pythian Temple, Grand Rapids, Mich.
S. E. Greenfield, Atchison, to Hiawatha, Kan.
Mary D. Gayden, New Orleans, to Glencoe, La.
C. E. Hood, Cavalier, to Drayton, N. D.
J. Holland, Pahala, Kan., Kapoho, Puna, Hawaii, H. I.
A. Hoeltze, 322, to 1542 Linn St., Cincinnati, Ohio.
F. N. Hayes, Crowley, to Iota, La.
B. M. Hopkinson, 1435, to 1423 Bolton St., Baltimore, Md.
S. C. Hopkins, Norcross, to 95 W. Baker St., Atlanta, Ga.
J. S. Hall, 1013 N. J. St., to 3127 W. Washington St., Indianapolis, Ind.
J. E. Heraty, 614, to 701 Walnut St., Milwaukee, Wis.
J. R. Irwin, 15 E. 7th, to 401 N. Tryon St., Charlotte, N. C.
C. Jaeger, 1705 Champa St., to 509 California Bldg., Denver, Colo.
W. J. Jolly, McMinnville, Tenn., to Oklahoma City, O. T.
M. Johnson, 1110 W. 30th St., to 345 Westlake Ave., Los Angeles, Cal.
G. D. Kahlo, 1221, to 1321 N. Delaware St., Indianapolis, Ind.
W. E. Lamerton, Wyoming, Iowa, to 502 W. Van Buren St., Chicago.
J. A. Lockard, Toledo, to 59 S. Mulberry St., Mansfield, Ohio.
A. C. Lippincott, New York City, to Columbiaville, N. Y.
J. T. Mills, Waleska, to Sharptop, Ga.

Smith McMullin, Evanston, Wyo., to Gardnersville, Nev.
 Jas. Monroe, Custer, to Nampa, Idaho.
 W. E. Maxwell, Portland, Ore., to Kellyton, Ala.
 J. W. Macfarlane, 3617 Butler, to 200 9th St., Pittsburg, Pa.
 H. McGrew, Silverton, to Pleasant Ridge, Ohio.
 P. C. Manley, Mayfield, to 1418 Pittston Ave., Scranton, Pa.
 W. H. Moore, 434 Atkin St., to 326 W. Park Ave., Knoxville, Tenn.
 H. R. Martin, 293 S. Robey St., to 871 Jackson Boul., Chicago.
 J. W. Montgomery, Toledo, to Birds, Ill.
 R. E. Mason, Gastonia, N. C., to Seneca, S. C.
 W. A. Montgomery, Omaha, Neb., to 334 Dearborn St., Chicago.
 R. A. Noble, 2259 Calumet Ave., to Chicago Hospital, Chicago.
 R. F. Nomocks, Vossburg, to Poplarville, Miss.
 J. G. Orton, Binghampton, N. Y., to Dayton, Fla.
 W. E. O'Quinn, Las Cruces, to Torpedo Mining Co., Organ, N. M.
 J. W. Price, Boonville, Miss., to Helena, Ark.
 J. T. Rogers, Excelsior, to Statesboro, Ga.
 H. L. Rine, 120 Elm, to 272 N. 3rd St., Newark, Ohio.
 L. F. Richardson, Fairfax, to Terrill, Iowa.
 S. M. B. Smith, Wausau, to Crandon, Wis.
 J. M. Strayhorn, Bartlett, to over First Nat. Bank, Waco, Tex.
 Chas. Schaper, 1304 N. 8th St., to 722 Michigan Ave., Sheboygan, Wis.
 Geo. H. Stover, California Bldg., to Opera House Bldg., Denver, Colo.
 I. S. Stone, 3044 14th St., N. W., to 1449 R. I. Ave., Washington, D. C.
 G. B. Somers, 1034 Mission, to 2416 Webster St., San Francisco, Cal.
 L. W. Shannon, Granada, Kan., to 398 Wells St., Chicago.
 Jessie B. Scott, 1215 25th St., Des Moines, Iowa, to 2405 N St., South Omaha, Neb.
 J. N. Shaff, Cisco, to Alton, Ill.
 A. F. Stotts, Soldier, Pa., to 522 N. 1st St., Marshalltown, Iowa.
 H. M. Trankle, 509, to 663 W. Monroe St., Chicago.
 J. E. Torrence, Oxford, to Presbyterian Hospital, Cincinnati, O.
 The King-Scherer Co., 17 Park Pl., to 225-233 Fourth Ave., New York City.
 J. E. Thompson, Peckville, to La Grande St., Pittston, Pa.
 A. V. Thompson, Snowville, N. H., to Woodfords, Me.
 G. H. Willis, Galien, to New Troy, Mich.
 W. S. Watson, Fishkill-on-the-Hudson, N. Y., to Box 362 Salt Lake City, Utah.
 M. A. Walker, Melrose, to Butte, Mont.
 H. C. Wood, Irvington, to Vienna, Ga.
 W. S. Whitwell, Fishkill-on-the-Hudson, to 30 W 11th St., New York City.
 W. C. Welburn, 420 Woodland, to 501 Russell St., Nashville, Tenn.
 C. C. Young, 348 Ogden Ave., to 231 Ashland Boul., Chicago.

New Patents.

Patents of interest to physicians, Jan. 1 and 15:
 665,304. Vaginal irrigator. Moriz Bauer, Vienna, Austria-Hungary.
 664,923. Atomizing apparatus. Robert L. Benson, Chicago, Ill.
 664,840. Syringe. Byron J. Douds, Canton, Ohio.
 665,084. Nasal inhaler. Marshall B. Gardner, Anrora, Ill.
 665,243. Medical bed. Adolfo Luria, Chicago, Ill.
 665,258. Liquid pasteurizer. Lars C. Nielsen and P. V. F. Petersen, Copenhagen, Denmark.
 664,893. Spraying nozzle. Peter C. Peterson, Ottawa, Kan.
 665,371. Syringe. Walter H. Pumphrey, New York City.
 665,771. Log-holder for use in lithotomy. Willis W. Dean, Sioux City, Iowa.
 665,617. Making potassium hydroxid. Heinrich Precht, Neustassfurt, Germany.
 665,468. Chemical apparatus. Ralph C. Robinson, Boston, Mass.
 665,756. Medicinal bath cabinet. Fortune R. Ryan, Memphis, Tenn.
 665,963. Electrolyzing soluble salts. A. J. O. Chalandre, L. J. B. A. Colas, Paris, and C. J. Gerard, Seveux, France.
 665,879. Piperazin quinate and making same. Wilhelm Connsteln, Charlottenberg, Germany.
 666,135. Making cyanogen bromid. Carl Goepner and W. Witter, Hamburg, Germany.
 666,221. Apparatus for decomposing solutions. Daniel N. Hathorne and H. E. Hobson, Rumford Falls, Maine.
 666,094. Clinical thermometer. James J. Hicks, London, England.
 666,210. Disinfecting apparatus. Michael Sheridan, New York City.
 33,913. Design, ice or hot water bag, Christian W. Meinecke, Jersey City, N. J.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Jan. 10 to 16, 1901, inclusive:

George W. Adair, major and surgeon, U. S. A., member of a board at Fort Sheridan, Ill., to examine officers for promotion.
 Ira A. Allen, acting asst.-surgeon, former orders amended so as to direct him to proceed from New York City, to Hot Springs, Ark., for temporary duty at the Army and Navy General Hospital at that place.
 John M. Banister, major and surgeon, U. S. A., member of a board at West Point, N. Y., to examine officers for promotion.
 Alfred E. Bradley, captain and asst.-surgeon, U. S. A., member of a promotion board at St. Paul, Minn.
 William H. Brooks, acting asst.-surgeon, leave of absence granted.
 Charles B. Byrne, major and surgeon, U. S. A., member of a promotion board at San Antonio, Tex.
 Weston P. Chamberlain, lieutenant and asst.-surgeon, U. S. A., leave of absence granted.
 Peter J. A. Cleary, lieutenant-col., deputy surgeon-general, U. S. A., member of a promotion board at San Antonio, Tex.

Calvin DeWitt, lieutenant-col., deputy surgeon-general, U. S. A., member of a promotion board at West Point, N. Y.

Franklin M. Kemp, lieutenant and asst.-surgeon, U. S. A., member of a promotion board at West Point, N. Y.

George J. Newgarden, captain and asst.-surgeon, U. S. A., sick leave of absence extended.

Maxwell S. Simpson, captain and asst.-surgeon, Philippine Cavalry, Vols., having tendered his resignation, is honorably discharged from the service of the United States, to take effect Jan. 31, 1901.

Samuel S. Turner, acting asst.-surgeon, member of a promotion board at Fort Sheridan, Ill.

Sanford H. Wadhams, lieutenant and asst.-surgeon, U. S. A., sick leave of absence from the Department of Porto Rico extended.

In addition to the above the following acting asst.-surgeons were directed to proceed from the places designated to San Francisco, Cal., for assignment to duty with troops en route to the Philippine Islands, and for subsequent service in the Division of the Philippines: James Bourke, Chicago; George J. Fanning, Sacaton, Ariz.; Almon P. Goff, Canton, N. Y.; Charles E. Jackson, Canal Fulton, Ohio; Joseph W. Love, Springfield, Mo.; Thomas C. McSwain, Bingham, S. C.; Robert C. Rogers, Bloomington, Ind.; James W. Smith, Chicago, and George B. Tuttle, St. Louis, Mo.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending Jan. 19, 1901:

Asst.-Surgeon J. B. Dennis, to delay reporting for duty at Naval Academy until Jan. 21.

Asst.-Surgeon J. C. Pryor, ordered to duty at Naval Hospital, New York.

Asst.-Surgeon R. B. Williams, detached from the navy yard, New York, and ordered to the navy yard, Pensacola.

Asst.-Surgeon T. M. Lippitt, detached from the Naval Hospital, Yokohama, Japan, and ordered to Naval Hospital, Mare Island, via Solace.

Asst.-Surgeon B. L. Wright, detached from the Naval Hospital, Yokohama, Japan, and ordered to Naval Hospital, Mare Island, via Solace.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended Jan. 17, 1901:

Surgeon H. W. Sawtelle, leave of absence for thirty days granted by bureau letter of Dec. 18, 1900, revoked.

Surgeon F. W. Mead, leave of absence for sixty days from Jan. 21.

Surgeon A. H. Glennan, detailed to represent the service at meeting of Third Pan-American Congress, to be held at Havana, Cuba Feb. 4-8.

Surgeon W. J. Pettus, granted leave of absence for two months from Feb. 5.

P. A. Surgeon J. A. Nydegger, granted leave of absence for thirty days.

P. A. Surgeon A. R. Thomas, to proceed to Shields, England, for special temporary duty. Relieved from duty at Glasgow, Scotland and assigned to duty in the office of the U. S. Consul-General at London, England.

Asst.-Surgeon C. H. Lavinder, to proceed to Vineyard Haven, Mass., and assume temporary charge of the service during absence of Surgeon F. W. Mead.

Asst.-Surgeon John McMullen, granted leave of absence for twenty-one days from Jan. 21.

A. A. Surgeon R. C. Craig, granted leave of absence for seven days.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Jan. 19, 1901:

SMALLPOX—UNITED STATES.

California: Oakland, Dec. 29-Jan. 5, 1 case.
 Connecticut: Bridgeport, Jan. 7, 3 cases.
 Illinois: Cairo, Jan. 5, 8 cases; Chicago, Jan. 5-12, 19 cases.
 Kansas: Wichita, Jan. 5-12, 6 cases.
 Maryland: Baltimore, Jan. 5-12, 1 case.
 Massachusetts: Springfield, Jan. 5-12, 1 case.
 Minnesota: Dec. 29-Jan. 5, Minneapolis, 1 case; Winona, 30 cases.

New Hampshire: Manchester, Jan. 5-12, 21 cases.
 New York: New York, Jan. 5-12, 17 cases, 3 deaths.
 Ohio: Jan. 5-12, Ashtabula, 4 cases; Cleveland, 51 cases.
 Pennsylvania: Philadelphia, Jan. 5-12, 1 death.
 Tennessee: Jan. 5-12, Memphis, 8 cases; Nashville, 5 cases.
 West Virginia: Wheeling, Jan. 5-12, 1 case.

SMALLPOX—FOREIGN.

Austria: Prague, Dec. 22-29, 12 cases.
 Canada: New Brunswick, Port Elgin and Cape Tormentine Dec. 28, 40 cases.
 England: Leeds, Dec. 29-Jan. 5, 1 case; London, Dec. 22-29, 1 case.
 India: Bombay, Dec. 4-18, 3 deaths; Calcutta, Dec. 1-15, 8 deaths; Karachi, Dec. 2-16, 16 cases, 2 deaths; Madras, Dec. 8-14, 1 death.
 Mexico: Vera Cruz, Dec. 29-Jan. 5, 4 cases, 2 deaths.
 Russia: St. Petersburg, Dec. 15-22, 5 cases, 1 death.

YELLOW FEVER.

Cuba: Dec. 29-Jan. 5, Havana, 5 deaths; Matanzas, 1 case.
 Mexico: Vera Cruz, Dec. 29-Jan. 5, 1 case.

CHOLERA.

India: Bombay, Dec. 4-18, 6 deaths; Calcutta, Dec. 1-15, 5 deaths; Madras, Dec. 8-14, 1 death.

PLAGUE.

China: Hongkong, Nov. 24-Dec. 1, 2 deaths.
 India: Bombay, Dec. 4-18, 178 deaths; Calcutta, Dec. 1-15, 39 deaths.
 Turkey: Constantinople, Jan. 11, on steamship *Berrig*, from Potl.

The Journal of the American Medical Association

VOL. XXXVI.

CHICAGO, ILLINOIS, FEBRUARY 9, 1901.

No. 6.

Original Articles.

THE TECHNIQUE OF BLOODLESS WORK.*

ROBERT H. M. DAWBARN, M.D.

Professor of Surgery, New York Polyclinic Medical School; Surgeon
to New York City Hospital, etc.

NEW YORK CITY.

The older the surgeon, the greater becomes his respect for a drop of blood. All cutting operations on the extremities should be bloodless ones, and all elsewhere as nearly so as possible. Every drop of blood saved is a safeguard against shock; and bloodless work permits the same speed and facility of dissection that one could employ on the dead body.

At one time Petit's tourniquet, or some other, similar in principle, was the chief means for accomplishing this end. In emergency a Spanish windlass, made by loosely knotting about the limb a towel or other strong piece of cloth and then twisting a stick in it until all circulation ceases, is equally effective. Later came the use of the Esmarch rubber bandage; and until within the past few years, was for a time in regular use among surgeons. With this the blood was entirely stripped from the limb. Beginning at the foot, for example, it was carried, each turn drawn very firmly and slightly overlapping the last, up the leg, to a point well upon the thigh, where it was fastened. Then it was unwound from below up to the final turn, leaving the limb white and exsanguinated. This method is now little used. It had its advantages, but they were outweighed by certain objections. One of these is the fact that vessels subjected to such an extreme emptying and stripping process are irritated thereby. Their vasotonic nerves are temporarily paralyzed, and when the blood is again permitted to enter the limb there is distinctly more oozing from such dilated capillaries and arterioles than would otherwise be the case. Elevating the limb or the stump, and firmly pressing for an hour or longer upon the site of the wound, do to be sure minimize this oozing, but there is, nevertheless, commonly a clot formed therefrom within the wound. And all surgeons know that a wound left quite dry—cut flesh against cut flesh—always heals best and most quickly.

Again, in amputation, the operator, if he be a general practitioner, may have become a bit rusty in his anatomical knowledge, and fail to locate the chief vessels. In the leg, we have Holden's rule: "One inch below the knee, one great artery to find; two inches, two great arteries; three inches, three great arteries." If the operator, because of their retraction, or because of a bit of fat or muscle falling over the open mouths, fails to find and control all these—and several minor ones—there is likely to be an ugly hemorrhage within a few

hours. Here comes in an advantage of the present method in general use.

This consists in stripping—milking—by the fingers, for some minutes, the blood out of the elevated limb; the operator massaging along the course of the chief veins. Then, at the desired point, is applied the constriction, which is either an ordinary stout rubber bandage, or a very large rubber tube. In the former case this is ended by slipping what is left of the roll—after encircling the limb tightly a few times—beneath the final turn, the roll lying preferably over the chief vessels. Should a rubber tube be the choice, the larger in caliber the better, for it is less apt to injure the muscles and nerves beneath by its pressure; a tube of pure black gum an inch and a half in diameter, and long enough to encircle the thigh twice or thrice when unstretched is to be preferred. This is fastened very simply. We tie together the crossed ends, while still tense, with a short piece of wet bandage, using a single loop knot. Being wet it will not slip. Avoid tying a hard knot, for if the tense rubber be pricked in cutting it, the tube will be weakened and the cut be liable to enlarge and to give way when least desired. To remove, draw on the tube-ends first, thus making them once more smaller in caliber; whereupon the wet bandage loop can be untied with ease.

In consequence of the simple "milking" a small amount of blood remains in every vessel. These are not paralyzed, as is the case where the Esmarch bandage has been used, hence there is small tendency to oozing in the wound; and when the operator has any trouble in finding all the vessels, he strips sharply *down* the chief artery—the popliteal for instance—whereupon every unsecured artery and arteriole will spurt, and be located with ease.

Should the operation be one above the foot or above the hand, many operators think it best to tighten the constricting rubber bandage or tube upon the proximal limb rather than the distal, believing that because the two bones in the latter case protect the arteries between them, a greater degree of constriction is needed than if the thigh or the upper arm be chosen; and hence the leg and the forearm should be avoided for this purpose. But upon the two proximal limbs there is a choice of situations. The upper third of the thigh is so great in circumference as not to be desirable for constriction unless under compulsion, and in the lower third the external popliteal nerve lies near enough to the surface, when approaching the outer hamstring, to have occasionally been paralyzed from undue pressure. As to the arm, constriction at its middle third may paralyze the musculo-spiral nerve where it lies in its groove against the humerus. Hence, we should *select* the middle of the thigh, we should *avoid* the middle of the arm.

Our bloodless work is not wholly limited to the limbs. The scalp may, for instance, be included in this field by the use of a tube carried tightly about the head. This

* Read before the N. Y. State Medical Association, Oct. 18, 1900.

rests in front in the depression between the frontal eminences and the superciliary ridges; at the sides, runs just above the ears; and behind is fastened just below theinion.

Similarly, in amputation or excision of tumors of the female breast, for reasons other than malignancy, the work may be made almost bloodless by cording the breast at the body—first passing through its base cross-wise a pair of long mattress needles, to insure against the tube slipping off.

About the bladder, perineum and genitals, both male and female, Trendelenburg's posture secures by gravity a degree of anemia which constitutes a great safeguard, in addition to other advantages resulting from this position. And in work about the face and mouth, and upper part of the neck—a peculiarly bloody field—a ligation of one or both linguals, if a tongue excision, or of the external carotids in other cases, makes a wonderful difference in the ease and safety of the work.

The production of a degree of anemia of the trunk and head by cording of the extremities, was a suggestion of Dr. David Webster, in the *New York Medical Journal*, during 1887, his idea being to make use of this plan for the safety of the patient when the operator has reason to fear collapse from the anesthetic. At first the constricting bands are only placed tightly enough to cause the limbs to swell; and then the arterial flow is also shut off. Some quarts are thus accumulated in the extremities, maintaining a reserve guard of pure blood. And if during the operation the patient suddenly develops signs of excessive narcosis, by removing the bands and holding up the limbs the pure blood at once is mingled with the anesthetized, and almost instantly the patient wakes up. The method is little used, but is certainly ingenious.

This same idea, of constricting the extremities, enables one to do comparatively bloodless surgical work on the trunk, face, neck or brain, and is worthy of more frequent usage than at present. It is also unquestionably the best, indeed the only reliable, method of treating medical—as distinct from surgical—hemorrhage. By a medical hemorrhage, I mean one where direct mechanical control is out of the question: hemoptysis, hemothemsis, and apoplexy, for example. It is a curious fact that this best of all methods—and a very old one—has been completely lost sight of by most practitioners.

Some years ago I wrote a paper¹ entitled "Medical Hemorrhage Surgically Treated," and therein discussed this matter. At that time Dr. William Gilman Thompson wrote me that he entirely agreed with me that it was the most reliable way of treating ugly hemoptysis, that he had so found it in his service in the New York Hospital. Nevertheless, Loomis' "Practice" does not even indicate by so much as a word that he ever heard of the method, nor do I now remember any other work upon practice which discusses it.

As to drugs, Dr. Loomis was a pessimist. He advised the use of morphin, simply to quiet the patient and slow the breathing; but nothing else did he think of much value for this purpose, except aconite, if the heart were pumping too vigorously. We know that one of the old names for aconite—besides monkshood and wolfsbane—is "the vegetable lancet"—bleeding a patient into his own veins.

What aconite can do in a very feeble and slow way, cording the extremities does effectively and promptly. Three limbs should be so corded close to the trunk that they swell visibly. This swelling continues until, from

cardiac and brain anemia, the patient is made somewhat faint—and consequently there is less vigorous pumping of blood out of broken vessels, and there is a better chance for a firm clot to form there, opposing fresh bleeding when, after two or three hours, the circulation is slowly allowed to resume its ordinary course. The reason three limbs, not four, are to be corded, is to insure their safety. After a half-hour we cord the fourth limb and let up on the first one, and so on in regular order.

A recent sensational murder in politics, in another state, produced a bit of most antiquated and archaic surgery—according to the newspapers and several medical journals, and the statement went uncontradicted. I allude to the fact that in order to try to stop the bleeding from his wounded lung the surgeon bled him a pint or more from his arm! This plan has antiquity to recommend it, but nothing else. He died of shock, apparently, and we all know that hemorrhage invites shock. Had the extremities promptly been corded effectively, accumulating venous blood in them, the ending might well have been a different one.

Obviously, the same method is the proper one in apoplexy, in which there is a ruddy face, hard pulse and stertorous breathing. If the patient is plethoric, bleeding is best, but not otherwise, for he would need that blood later on. A temporary bleeding, into his own vessels, is the thing.

Given a case in which atheromatous vessels, too much eating and drinking, and occasional attacks of dizziness or semi-unconsciousness point toward the probable ending of the story, we should tell the relatives that if this patient should ever be found unconscious and snoring, with a red face, the first thing to do should be to apply Spanish windlasses, even before sending for the doctor; and they should be shown how to make and use them. In this way what might otherwise prove a fatal apoplexy would very likely be reduced to a comparatively small one.

Applying the bloodless method to the surgery of acute injuries, let me discuss for a minute a plan which I got many years ago from Dr. Gerster. Suppose we are dealing with a fresh but obscure injury at the elbow. It may be a fracture, or a dislocation, or both. Because of the swelling an exact diagnosis is impossible; and yet the doctor's reputation may in that case well depend on his accurate diagnosis—for on that alone can his treatment be based. If you wrap the elbow of a skeleton in a pillow and then endeavor to recognize the bony prominences through it, you will approximate the situation. Here comes the point in question, which I have used with satisfaction repeatedly. Anesthetize the patient; then apply the rubber bandage, slowly but firmly, from fingers to shoulder. Leave it on for, say, fifteen to twenty minutes; then undo it from below, but leave the final turn or two in place. Upon examining the elbow the swelling will be found to have disappeared, all the congestion and all the edema being gone; and you can recognize all bony points as accurately as upon the other arm. If there is a fracture, set it; if a dislocation, reduce it; then let the swelling return. You know the facts, can state the probable prognosis, and have protected your reputation.

Time only permits a momentary allusion to certain additional interesting fields which could properly be studied under the head now being discussed. In snake-bites, for instance, perhaps the most important point (next to venom antitoxin), is to make a free incision at the bite, and, having corded the extremity high up, milk out every drop of blood, from both directions—prefer-

1. N. Y. Medical Record, Jan. 2, 1892.

ably with the rubber bandage—stripping toward the cut in both instances. And then fight the enemy in detachments. That is, when the patient is a little stronger let up on the tourniquet a moment, thus admitting a little blood to keep alive the limb, and also inevitably giving entrance into the general circulation to a little of the poison which presumably still remains in spite of the stripping. When the heart has withstood the shock of this, again fight another small squad of the enemy by letting up a moment, and so on.

We are all interested in tonsillotomy, and all do it at times. I should like very much to have you try the bloodless method, on which I have written two or three papers.² Done *before* the cutting, and by aid of eucain, it is easy to pass, with a stout semicircular needle and holder, the purse-string suture as advocated by the writer; and, after tightening this, the biggest and ugliest tonsillar stump can not bleed a drop when severed. I have heard it said that the method must be difficult of accomplishment, but those who said so have not tried it. It is in adults, chiefly, that tonsillar hemorrhage is dangerous, and nothing can be simpler than this plan, used upon the adult. I believe that it will come into regular use in time.

Under encain the vessels are not contracted at all—a good point in tonsillotomy, because cocain so shrinks the mass, temporarily, that it is difficult not to leave a large stump, which protrudes after the effect of the drug has worn off. But this power of cocain—and to an even greater degree and a somewhat more lasting one, that of suprarenal extract—is of the utmost value prior to certain operations, for example, within the nose. It is a good plan to use the suprarenal extract first; and when the mucous membrane has become pale, almost bloodless, then cocain in almost any strength can be safely applied, and the operation will be devoid of hemorrhage.

Similarly, solutions of suprarenal extract and of cocain are of great advantage when applied by aid of wet gauze packed into the rectum, vagina, or bladder before cutting for the removal of growths, or for other purposes, in these vascular fields.

I regret that bloodless work as applied to starving malignant growths supplied by the external carotids can not be studied to-day. It is too large a topic. But it may interest you to know that the writer has now cut out the entire external carotid more than thirty times in the past five years, and it has also been done by Drs. Keen and Da Costa, in Philadelphia, by Drs. Brewer, Blake, W. Meyer, and Lilienthal, in New York, and by Dr. Nicolson, in Atlanta, Ga.; and from all these instances only three or four deaths have resulted from the operation, these being all in cachectic patients suffering from malignant growths—a rather unexpectedly low mortality. The operation, to be of use, must be performed on both sides, but not at one sitting, of course. And merely *ligating* upon both sides is quite useless, for within a few days pulsation will return from outside sources by anastomosis. It is the more radical measure of complete double *excision* which I am here discussing.

When the writer's paper on this topic was read before the New York Surgical Society, last spring, five patients were shown with starved and shrunken malignant growths—cancers and sarcomata—one of which dated back about five and a half, and one four years. It really seems to offer, as a method, when performed upon both sides, a clear ray of hope to the otherwise hopeless; for nothing can be more pathetic and

desolate than the outlook for a patient with cancer of the tongue or floor of the mouth, for example, which has advanced beyond reach of the knife.

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ANALGESIA FROM SPINAL SUBARACHNOIDEAN COCAINIZATION.*

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CHICAGO.

Since the announcement of the first death from chloroform anesthesia the medical profession has been constantly looking for an anesthetic that might be administered without danger. Ether then was reinstated and heralded as a drug without danger, when given as an anesthetic. Shortly after its adoption several deaths occurred which were attributed to its use, and the mortality has been constantly increasing, especially within the last five years.

The combination of ether, alcohol and chloroform was submitted to the profession as a substitute for the individual drugs and the claim made that the danger would be less. The various mixtures, however, have met the same fate as the separate ingredients.

Nitrous oxid, the oldest of the general anesthetics, was again advanced, as was also ethyl bromid, but both were found impracticable, except for very short operations. Each of the anesthetics mentioned above has its special field wherein it may be used with less danger than any of the others, none of them answering the requirements for the performance of all surgical operations.

Local analgesia was used long before the general. The various means of producing it are: 1, by rendering the tissues ischemic; 2, frigid analgesia, being produced by ice and the various sprays; 3, nerve pressure analgesia; 4, dermal and subdermal analgesias—by the injections of solutions of cocain, eucain, nirvanin, etc.; 5, tissue-infiltration analgesia—as Schleich's and its modifications; 6, local application to mucous membranes of cocain, eucain, etc.; 7, injections of the various local anesthetics into the nerve trunks supplying the field of operation, and finally, 8, subarachnoidean spinal analgesia.

To-day we are to consider from a theoretical, as well as a practical standpoint, the last-named method, with the meager data now at our command.

Dr. J. Leonard Corning, in 1884 and 1885, demonstrated that analgesia could be produced by the submeningeal injection of cocain into the spinal canal. He also suggested a method of treatment for painful diseases of the spinal cord by this means, but the surgical application was not considered by him.

Bier, Aug. 16, 1898, demonstrated that analgesia of the extremities for surgical purposes could be produced by this means. He performed his first operation, a resection of a tubercular foot, by using 3 cubic centimeters of a .5 per cent. solution, containing $\frac{1}{4}$ grain of cocain. Following this he performed, within one week, six other operations by the same method. In one of his cases the analgesia involved the entire body, excepting the head and upper portion of the neck. This case was that of a boy 14 years of age; $7\frac{1}{2}$ minims of a 1 per cent. solution, equivalent to $\frac{1}{12}$ grain of cocain, was used. August 24, eight days after using it on the first patient, Bier decided to have the effects of the drug studied upon himself, and he was accordingly given

2. N. Y. Medical Record, Dec. 17, 1892; N. Y. Medical News, May 20 and June 10, 1899.

* Read before the Western Surgical and Gynecological Association, Minneapolis, Dec. 27-28, 1900.

an injection. The needle was inserted into the spinal canal, but did not accurately fit the syringe barrel, so that a considerable quantity of the cerebrospinal fluid was lost and a very indefinite amount of cocain was injected. There was no analgesic effect produced, but he suffered from severe cephalalgia, some nausea, considerable vertigo, etc., which symptoms persisted for nine days. Whether the unpleasant effects were due to the amount injected or to the loss of a large quantity of the cerebrospinal fluid, it is, of course, impossible to state. His associate, Dr. Hildebrand, was given a full injection of one-sixth of 1 grain the same day, and with him the analgesia was perfect and there were no untoward symptoms.

Bier concluded, notwithstanding the unsatisfactory result obtained on himself, that this mode of producing analgesia was applicable to a wide range of surgical procedures involving the extremities, and further, that it should be administered with extreme caution, the greatest care being exercised in the preparation of the solution, the syringe and the back of the patient. He further advocated that local analgesia of the tract of the needle be first produced.

Up to the present time there has been no great deviation from the technique outlined by Bier, excepting the range of dosage and the substitution of other materials for the cocain, as eucain, nirvanin, antipyrin, etc.

While the results of Bier were not very flattering, it encouraged others to take up this line of investigation, the most conspicuous in the field being Tuffier. The number of investigators has since become so large that to-day with only a moderate effort I am able to present 631 operations under spinal analgesia. The names of the operators are given in alphabetical order, without reference to priority, as in this way they are more accessible for reference. The successful cases will not be considered in detail. Of the 631 cases here reported perfect analgesia was obtained in 94, or 45 per cent; partial in 2.21 per cent., and in 3.32 per cent. it was a total failure. Of the deaths which were reported to have occurred as a result of this method, I fail to find one directly attributable to the cocain. Of those which occurred in Tuffier's clinic, in only one was it possible to associate death with the injection, and in that case marked cardiac lesions were found post-mortem. This one death has been reported in a number of articles as directly due to the cocain, but a close analysis of the details shows there is good ground for believing that the drug was in no way responsible for it.

M. Racoviceanu Pitesci, of Bucharest, states that he heard of two deaths from spinal injection occurring in Roumania, but he says they were not in his practice and as he fails to give the details, I have not included them in my list. In three of the 125 injections given in Pitesci's clinic the symptoms were spoken of as dangerous, but in none did they terminate fatally.

We will now consider: 1, the physiologic effect of the injection; 2, the dosage; 3, the rapidity of injection; 4, the constant and occasional symptoms produced; 5, the analgesia following, and 6, post-operative symptoms.

1. *The Physiologic Effect.*—Corning recognized the affinity of cocain for the sensory nerve fibers and therefore reasoned that the application of the drug to the spinal cord would produce analgesia over the area supplied by the spinal nerves so treated. That the effect is produced by the direct application of the cocain to the posterior roots and ganglia and not to the cord itself, is supported by the clinical

observation that in a number of cases the analgesia is an ascending one, taking place in the trunk and neck before it has appeared in the extremities. If it were a sensory tract paralysis it should occur in the lower extremities first. The sense of contact is not affected; the reflexes are slightly altered—usually diminished; muscular sense and co-ordination are often affected, as after the injections the patients have considerable ataxia of gait; intestinal peristalsis and uterine contractions are rather stimulated then depressed, while sphincteric action of bladder, vagina and rectum are often completely abolished. The increased peristalsis, with sphincteric relaxation, accounts for the frequent defecations and less frequent urinations which take place during the course of the anesthesia. The above leads to the speculation: Can not reflex ileus be treated by this means?

2. *Dosage.*—The great majority of operators at the present time, who have adopted cocain analgesia, agree that the 2 per cent. solution is preferable, except in younger patients, where the 1 per cent., as advocated by Bainbridge, should be used. They also agree that the quantity of 2 per cent. solution injected should range from 7 to 20 minims in the adult, depending on the individual peculiarities of the patient, the location and probable duration of the operation, etc. Ten to 15 minims is the average amount required, it being seldom necessary to use more than 15, and except in hemorrhoidal and vaginal operations, less than 10. Tuffier has used 2/3 grain without unpleasant symptoms.

The method of preparation of the solution is of great importance, as cocain is a very unstable drug when in solution and exposed to the air. It will not tolerate boiling for sterilization. The solution should, of course, be freshly prepared at the time of operation, by adding sterile water to a definite quantity of the crystals, weighed amounts of which may be previously sterilized in waxed papers and kept ready for use. An excellent method is as follows: A strong solution of the hydrochlorate of cocain is prepared in distilled water, so that a certain amount will represent 3/10 of a grain. This is placed in sterilized glass tubes and the water evaporated in vacuo. The dried crystals left by evaporation are sterilized at a temperature of 180 F. and the tube sealed in the flame. A file-mark is placed at the top of the tube where it is to be broken off when ready for use and another file-mark represents the level to which exactly 15 minims of water will come. At the time of operation the top of the tube is broken off and cold sterile water added to the second file-mark, making exactly 15 minims of a 2 per cent. solution.

Glass ampullæ containing the solution have been prepared by certain manufacturers, by placing the crystals in sterile water, rapidly heating the solution a number of times to 180 F., and then sealing the tube. Last week we used one of these tubes that had been prepared four months previously by a Chicago instrument house. The result was ideal, showing the length of time which cocain may remain in solution without decomposition when kept in a sealed tube. If the solution is the least cloudy the cocain will be found to have decomposed. It can not be too strongly emphasized that the solution should be sterile to be free from danger.

The ordinary hypodermic syringe with a sliding attachment and the 3-inch needle, the latter having a lumen of 8/10 mm. and an external diameter of 1.1 mm. may be used. Special cases containing all the necessary instruments, etc., are now prepared by manufacturers. The syringe must be made of material that will permit

of boiling the entire instrument. The quantity of solution drawn into the syringe should exceed that which is to be used, as some may be needed to free the needle from blood in case there is difficulty in entering the canal. The set-screw governing the quantity should be placed before connection with the needle is made.

Before inserting the needle the skin may be frozen with ethyl chlorid and a puncture made with a scalpel, so that no infection might be carried from the skin along the tract of the needle. It is our custom to fill the needle with cocain solution before it is inserted, thus preventing the admission of blood into the lumen in transit through the tissues of the back.

The space between the fourth and fifth lumbar vertebræ $\frac{1}{2}$ inch to the side of the median line is the point of election. In this position it will be seen that we are some distance below the conus medullaris and directly over the cauda equina. The patient is placed in a sitting position with the limbs extended on the table and the back curved as far forward as possible. Standing at the patient's left, the thumb is placed over the fourth lumbar process so that its tip extends $\frac{1}{3}$ inch below the spinous process and the same distance to the right of the median line. The needle is then passed in, in a horizontal direction, just at the tip of the thumb. Occasionally the bone is encountered, when it will be necessary to change the direction of the needle downward. When the needle reaches the interspinous ligament there is a little additional resistance, which is suddenly overcome when it penetrates through that and into the spinal canal, this latter being demonstrated by the escape of cerebrospinal fluid. If the fluid does not escape the patient should be requested to strain or cough, which will often cause it to be forcibly ejected. In one case of deformed back and pelvis it was impossible for us to insert the needle into the canal. Dr. E. H. Lee had a similar experience, as did also Dr. La Place.

Tait and Caglieri, of San Francisco, have in three cases injected cocain solution into the subarachnoidean space between the sixth and seventh cervical vertebræ. Their results were good and they believe that there is no danger of traumatism to the cord in this situation, but the experiments of Masso and Aducco, who injected solutions of cocain into the fourth ventricle in certain of the lower animals showed that this procedure was invariably followed by almost immediate death, due to respiratory and cardiac failure.

These experiments argue against the safety of the high injections, which should certainly not be used until after thorough and careful investigation has been made.

3. *Rapidity of Injection.*—The fluid should be injected slowly, from forty to sixty seconds being consumed in the procedure. Goffe states that when the injection is sudden and forcible the analgesia will extend higher than when it is slowly given. This statement is denied by Marx. The solution should never be injected except when the cerebrospinal fluid is flowing from the needle. We do not consider it good practice to repeat the injection immediately or soon after in the same patient, although Marx has carried the analgesia for eight hours by repeated injections and has observed no untoward symptoms. His cases were all obstetric. If it is desired to continue the analgesia, a small quantity of chloroform or ether may be administered.

4. *Symptoms Produced by the Injection.*—One of the first to appear is a sense of heat passing over the entire body, and later thirst. From three to fifteen minutes

after the injection, most frequently seven to eight, nausea and one or two attempts at vomiting occur. Sometimes the nausea continues for ten minutes, and there may be several efforts at emesis. Preceding the vomiting there is the usual pallor, increased frequency of the pulse, which, however, may be very slow, diminution of arterial tension and perspiration. In other words, we have all the symptoms which ordinarily accompany nausea from any reflex cause. Perspiration may be very profuse, as it is in all cases of cocain intoxication, but the same symptom has been noted after the injection of saline solution into the subarachnoidean space. The pulse may become scarcely perceptible at the wrist and the facial expression is often that of profound depression. These untoward symptoms usually last but a few minutes and then disappear. In several cases that have been reported, the symptom of collapse, which occurred a short time after injection, was very alarming. McDonald records one where the respiration went up to 60 or 80 a minute, cyanosis was marked and the patient became almost pulseless. Large doses of stimulants were necessary to revive him. We have noted in a number of cases that the more severe the operation the more rapidly have the symptoms of depression, due to the cocain, disappeared.

The capillary circulation, as a rule, remains good, even when the arterial tension is very low. Respiration has not been materially affected in any of our cases, but several authors have reported it as sighing in character. As stated above, McDonald observed a case where the respirations were increased to 60 or 80 per minute, with marked cyanosis.

The sphincter ani is frequently relaxed, even to the extent of allowing involuntary evacuations on the table. Occasionally the vesical sphincter is relaxed. The relaxation of the vagina and rectum, which is so common in cocain analgesia, would theoretically be of advantage in obstetric cases.

Various drugs, given hypodermically, have been recommended to counteract toxic symptoms, but probably the best are hyoscin hydrobromate, $\frac{1}{200}$ grain, injected immediately after the cocain is administered, and nitroglycerin, $\frac{1}{100}$ grain, given at the same time or when nausea and vomiting first appear—Marx.

5. *The Analgesia.*—This first appears in from three to ten minutes after the injection, though it may be delayed to twenty, or even thirty minutes. Sometimes it is preceded by a short period of hyperesthesia involving different parts of the body.—Marx.

The analgesia almost always commences in the feet, but in rare instances is first noted as a band around the body extending downward on the fronts of the thighs. Still more rarely the analgesia is ascending from the level of injection, involving the thorax, the upper extremities, neck, face, and occasionally reaching to the scalp. It can be estimated that the analgesia will be perfect up to the costal arch and will involve all of the abdominal viscera. Amputations of the breast have been performed without pain, but the upper limit of the analgesic area rarely extends high enough for the performance of this operation.

The analgesia may be complete, partial, or entirely absent. Its duration is from twelve minutes to three hours, or even more. In one of Marx' cases it persisted five hours, but the average in our experience has been from twenty-seven minutes to one and one-half hours. During this period, particularly when the operation is a laparotomy, the tension of the muscles sometimes interferes with work, though not to a sufficient degree

to seriously impede the continuance of the most difficult operation.

At first the use of the drug in spinal analgesia was confined to persons in middle life, but since then it has been clearly demonstrated that it may be administered with safety to patients of all ages, from infancy (Bainbridge, New York) to old age (Lyman, Eau Claire).

6. *Post-Operative Symptoms.*—When the operation has been completed and the patient returned to his room he usually complains of headache, which is sometimes very severe and lasts for several days, but the rule is that it subsides in from twelve to twenty-four hours. We have not observed emesis after the patient was removed from the table, but prolonged nausea and vomiting have been reported. (Barbat, two cases; McMonagle.)

Vertigo is occasionally present and sometimes a marked ataxia in gait. In rare cases the ataxia has extended to the upper extremities. It is extremely annoying to the patient and may persist five or six days.

The pulse, which may have been very rapid and weak during the course of the operation, soon returns to normal. Temperature usually occurs the evening following the injection. It is often preceded by a chilly sensation, rarely by a rigor. It may reach 104 F., or even 106.8 F.—Fowler. In our experience it has ranged from 99.5 to 102 F. The temperature is a spinal one and not in any way connected with the wound. It is probably due to irritation of the thermic center in the cervical portion of the cord, resembling, as regards its causation, the marked thermic elevation seen in spinal traumatism. The rule is that it disappears entirely by the following morning and does not recur, though in some instances it has been observed to persist three or four days.

The patient's general condition on the following day, even in laparotomies and other major operations, has been uniformly better than when ether or chloroform was used, and the tissue reaction to the traumatism has been less marked.

Various mental disturbances have been reported by different authors to have followed spinal injections of cocain. In the case reported by McDonald, previously cited, coma occurred; Hartmann and Fowler have both noted delirium. Exhaustion and prostration lasting one or two days have been reported by Severeanu, of Bucharest. The mental exaltation which so frequently follows use of cocain is often observed.

Stiffness of the neck and muscles of the back, various disturbances of vision, tonic contractions of different sets of muscles, pains along the spine, loss of heat and cold sensation in the analgesic parts, etc., have all been noted during the post-analgesic period.

Most of these symptoms also occur after spinal injections of eucain, which would lead us to believe that they are due to variations of tension in the spinal canal, or to irritation, rather than to the toxic effects of the drugs.

Goldan reports that he has observed pneumonia following spinal injections, due to the exposure from which the patient suffers while being prepared for the injection, and exposure during the operation. He argues from this that the so-called ether pneumonias are not always due to ether, but rather to the bodily exposure during the preparation for the operation.

7. *Failure to Obtain Analgesia.*—We will quote the statements of a number of operators as to the causes of failure:

Bogart believes that his 28 per cent. of failures were explainable by faulty technique or selection of cases.

Irregularity in the action of the drug in different cases and at different times in the same case is beautifully illustrated in one reported by Bergmann, where acute cocainism followed a very small injection of the drug several days after a much larger dose had been given without untoward symptoms. Cartledge, of Louisville, had no failures in his cases and states that many of his patients were in better condition at the end of the operation than if other anesthetics had been used. Fowler had three failures, all of which were due to his inability to secure free flow of cerebrospinal fluid. He either obtained none at all or only a small quantity of very turbid fluid.

Goldan attributes three of his failures to a too large needle or a too small quantity of solution injected, but in a later paper he reports three additional failures for which he was unable to satisfactorily account. Matas attributes too small a dose as the cause of failure.

The uniformly good results of some operators contrast strongly with the uniformly bad results of others. The former is represented by the ideal experience of Morton, San Francisco, who in 31 cases had perfect analgesia in all and no serious untoward effects. The other class, larger in number, is composed of operators who have had a small number of cases in which the percentage of failures has ranged from 7 to 100. This great difference in results I can but believe is due to variations in technique.

Chronic alcoholics seem to be unfavorably affected by the drug, in some a failure of analgesia occurred—Coelho—and in others there was pronounced intoxication—McDonald.

The idiosyncrasy to cocain is more frequent than to any other drug and has been cited to explain the absence of analgesia noted by many authors—Racoviceanu Petesci, Alessiu, Pousson, Chavanaz and Coelho. The same reason has been given for the severe intoxication observed.

Substitutes for cocain in spinal analgesia are: 1. Eucain B was used in our fifth case, with only a partial analgesic effect. The solution was 2.5 per cent. Keen reports one case of perfect analgesia in which he used 1 c.c. of a 2 per cent. solution. The general opinion is that eucain can in no way take the place of cocain in this work, but certain authors advocate and use it exclusively. The unpleasant symptoms are usually the same as when cocain is used and the analgesia not nearly so satisfactory—Engelman. 2. Antipyrin was used in one case by Fowler, who injected 30 minims of a 2 per cent. solution; analgesia occurred to the level with the nipple in five minutes. All of the disagreeable symptoms were present, but were later in manifesting themselves than when cocain was used. Weber, of Chicago, uses a weak solution of antipyrin in combination with cocain. Combination of cocain and morphin has been used—Schleich's solution—by Matas, without, however, any marked change in the result. Marx observed in one case intoxication after using 1/6 grain of morphin in combination with the cocain.

One case of death is reported from pulmonary embolism nine days after the operation. It is not stated that the cause of death was verified by post-mortem examination.

Gumprecht's statistics of 17 deaths from lumbar puncture performed for diagnostic purposes in the presence of severe cerebrospinal lesions, have no value in guiding us as to the practicability of cocain analgesia.

The persistent false statements in regard to Tuffier's deaths would be amusing if it were not that they so outrageously falsified his experience.

OPERATOR.	ANALGESIA.			
	No of Cases.	Successful.	Partial Success.	Failures.
Anderson, C. H., Mississippi Valley Med. Association, Oct. 9-11, 1900.....	6	6	.....	.....
Bogart, J. B., N. Y. Academy Medicine.....	25	18	.....	7
Boldt, H. J., N. Y. Med. Jour., Nov. 3, 1900..	1	.....	.....	1
Bainbridge, Medical Record, Dec. 22, 1900..	12	11	.....	1
Cartledge, A. M., Southern Surgical and Gynecological Association, Nov. 13, 1900.....	8	8	.....	.....
Coe, H. C., N. Y. Acad. Med., Oct. 25, 1900..	1	1	.....	.....
Dudley, A. P., N. Y. Acad. Med., Oct. 25, 1900	6	6	.....	.....
Fowler, Medical Record, Dec. 22, 1900.....	81	73	8	.....
Goldan, S. O., N. Y. Acad. Med., Oct. 25, 1900; N. Y. Med. Jour., Dec. 22, 1900.....	31	25	2	4
Grandin, E. H., Medical Record, Dec. 22, 1900	3	.....	.....	3
Gibney, V. P., N. Y. Med. Rec., Dec. 22, 1900	5	5	.....	.....
Hartmann, F. S., Cook Co. Hosp., Chicago..	1	*1	.....	.....
Lee, E. W., Phila. Med. Jour., Nov. 3, 1900..	7	7	.....	.....
Lyman, J. V. R., Inter County Med. Society, Nov., 1900—Eau Claire, Wis.....	10	10	.....	.....
La Place E., Phila. Med. Jour., Nov. 3, 1900.	1	1	.....	.....
Marx, S., Medical Record, Oct. 6, 1900.....	23	23	.....	.....
Matas, R., Phila. Med. Jour., Nov. 3, 1900...	9	9	.....	.....
McDonald, W. G., Southern Surgical and Gynecological Assn., Atlanta, Nov. 3, 1900...	1	.....	1	.....
MacMonagle, B., Southern Surgical and Gynecological Association, Atlanta, Nov. 3, 1900	2	**2	.....	.....
Mallet, E. P., Southern Surgical and Gynecological Association, Atlanta, Nov. 3, 1900..	2	1	1	.....
Morton, A. W., Pacific Med. Jour., Nov. and Dec., 1900	31	31	.....	.....
Murphy, J. B., Chicago Clinic, Nov., 1900...	40	38	1	1
Neff, J. M., Personal Correspondence.....	2	2
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RHEUMATIC DISEASES OF THE EYE.
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That the eye should be subject to rheumatic disease does not seem strange when we remember that its principal protective coat is a dense fibrous structure, the sclerotic; that it contains within it the delicate muscular fibers of the iris and ciliary body, and externally the muscular bands which move it about; that it is very vascular, one coat alone, the choroid, being largely made up of blood-vessels. The wonder is that the eye does not suffer more from a disease as prevalent as rheumatism and one which shows such a predilection for fibrous, muscular, and vascular structures.

It is not the object of this paper to discuss the subject of rheumatism in general. Suffice it to say that many observers believe it to be, like gout, caused by uric acid, a product of inefficient proteid metabolism; others by lactic acid, a fermentation product of the hydrocarbons. The researches of Singer, Achalme, Thirolax and Schüler would lead us to consider it to be a microbic disease. Reinhard believes the throat to be the common infection atrium.

Neither the eyeball nor its appendages are often affected by articular rheumatism. Iritis rarely occurs with it, but cases of conjunctival congestion without mucopurulent discharge have been noticed. We are

compelled, however, to recognize the use of the term "rheumatism" as applied to an extensive group of symptoms which are probably dependent on the same causes with articular rheumatism. Sudden exposure to cold and overmuscular exertion are the principal exciting causes. Some of the diseases of the eye ascribed to the chronic type of rheumatism are iritis, episcleritis, scleritis, keratitis, orbital cellulitis, optic neuritis, chorioiditis, ocular palsy, glaucoma, and opacity of the vitreous. The most important of these in point of frequency is iritis.

It has been computed by various writers of authority that iritis furnishes from 2.3 to 4 per cent. of all ophthalmic cases, and that syphilis and rheumatism are causative factors of this disease in 90 per cent. in the proportion of syphilis 60 and rheumatism 30. It was formerly taught that the etiology of iritis could be determined by simple inspection, and it is true that in many cases the papules or condylomata characteristic of syphilitic iritis can be made out.

In the absence of these masses in the iris, however, the diagnosis depends on the history of the individual case. In the absence of a syphilitic history or signs, we may find a personal or family history of acute or chronic articular rheumatism, symptoms of lumbago, neuralgia, sciatica, torticollis or pains in the articulations or fascia or sensitiveness to changes in the weather. Many cases are subject to relapses of iritis in spring and winter, seasons of the year when rheumatic affections are most prevalent. Some cases of iritis alternate with rheumatism in other parts and some recur with the swelling of the joints.

I will briefly report three cases representing, respectively, iritis, episcleritis, and scleritis of undoubted rheumatic origin.

A woman, aged 25, came to the clinic at the Illinois Eye and Ear Infirmary, in February, 1899. She gave a history of chronic articular rheumatism. Her father was a chronic rheumatic. A diagnosis of rheumatic iritis was made. There was present the typical sign of iritis: ciliary injection, pain in the temple, slight adhesions of the iris to the lens capsule, which yielded to atropin. No nodules were present in the iris. No history nor signs of syphilis, either inherited or acquired were evident.

The patient made a rapid recovery under salicylates internally and atropin in the eye and hot applications. She was free from trouble until last April, when she presented herself again after having suffered pain in the eye for two weeks. The same treatment was continued and improvement again occurred until the early part of this month, then, with a sudden change in the weather, came a relapse of the rheumatism and also a violent pain in the eye. This gradually yielded to hot baths and pilocarpin and leeches applied to the temple; but the exudate from the iris was more abundant and plastic, and adhesions more numerous and permanent.

Next in frequency occurs a superficial form of scleritis, episcleritis, which consists of a circumscribed inflammatory nodule, generally on the temporal side. It is not movable over the sclera, but firmly attached and of a reddish-violet color. This condition can never be looked on as merely a local disease, but must be regarded as the manifestation in the eye of some systemic derangement. The large percentage, if not all of them, are associated with the rheumatic diathesis.

A case illustrating this condition was recently under treatment at the Chicago Eye, Ear, Nose and Throat College. The patient, a man aged 40, had snffered from

articular rheumatism for many years. He had had at least five attacks of episcleritis, and each had left small scleral scars with conjunctiva attached. There was a general chronic nodular condition of the sclera a few millimeters from the corneal margin. Atropin and massage had been used, and salicylates internally, but local blood-letting with the artificial leech gave most relief.

The most serious, but fortunately rare, rheumatic affection of the eye is deep scleritis. Here the circumcorneal congestion is more general, showing extensive bluish-red discoloration. It is a chronic disease and destructive to vision by the formation of deposits in the cornea, and staphyloma of the sclera. I showed a case of this type before the Chicago Ophthalmological Society last December. It was that of a young woman of 29, with a history of hip-joint disease at 3 years of age. Since that time her general health had always been good with the exception of rheumatic pains in the joints, always aggravated during changes in the weather. The family history was negative, and there were no evidences of syphilis, except the interstitial character of the corneal deposit. There was violent scleral congestion with triangular corneal opacities, which the magnified cornea showed to be quite vascular. This condition had existed over a year. A period of five weeks was the longest without a relapse. She was treated with potassium iodid, salicylates, salines, and mercury by innunction; locally with atropin, and hot applications and massage. The iris was slightly involved. In this case again leeches gave instant relief during the acute exacerbations.

I have selected these three cases because they represent, in the first two, the most common rheumatic eye disturbances, and the third the most serious in its consequences. Note particularly the history of many relapses; in all a positive rheumatic condition, in one also a family history of it. The case of iritis yielded best to treatment, but so far is not permanent. The two scleral cases are hardly influenced at all except by heat and local blood-letting.

OVULATION AND MENSTRUATION NOT INTERDEPENDENT FUNCTIONS.*

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From one of the most popular text-books¹ on midwifery in our medical colleges, I quote the following: "The intimate connection between ovulation and menstruation is now admitted by most physiologists, and it is held that the determining cause of the discharge is the periodic maturation of the Graafian follicles, . . . and when the ovaries are removed by operation, menstruation does not take place." One of our latest physiologies, also popular as a text-book² in our medical colleges, states the following: "Women do not menstruate when both ovaries have been removed by operation. Some instances have been recently recorded, indeed, of a sanguineous discharge, occurring periodically from the vagina after both ovaries have been removed for disease; and it has been inferred from this that menstruation is a function independent from the ovaries, but this evidence is not conclusive."

Most of us have been educated along the line of the ovula theory of menstruation, and probably most phy-

sicians to-day believe that ovulation and menstruation are one and the same thing, or at least, duplicate features of a single function. Another view, claiming a respectable and growing minority, divides the thought of the medical profession, and these views are fairly set forth in Gould's "American Year-Book." In an article by Hirst and Dorland, we read: "The divergent views are, first, that ovulation occurs at each menstrual period, and that the two processes are due to the same active cause. The other view is, that ovulation and menstruation are independent of each other, and are due to independent stimuli, and are coincident only by accident."

Since the days of Alexander's "Philosophy of Menstruation," Hamburg, 1841, followed by Grafft, Berlin, 1842, revised and improved by Raciborski, "Habit of Menstruation," Paris, 1868, many others have duplicated their noble efforts, and a clearer and truer understanding and comprehension of the functions of ovulation and menstruation have been gradually introduced into medical thought and literature, so that now many physiologists and gynecologists are concurring in the theory that ovulation and menstruation are naturally coincident, usually concurrent, exceptionally, independent functions. Let us consider this subject from three different standpoints.

1. *Ovulation without Menstruation.*—In Kirke's Physiology,² we read: "Cases are known where ova have been discharged in amenorrheic women. It must, therefore, be admitted that menstruation is not dependent on the maturation and discharge of ova." This statement is in harmony with the frequent observations of many gynecologists. Frequently mothers consult their physicians in regard to their daughters, in age ranging from 14 to 18, well-developed girls, who are having regular periodic ovarian disturbances, as regular and complete, minus the menstrual flow, as their mothers did. Perhaps this does not prove that these ovarian disturbances were ovulation; yet had these symptoms been attended with the customary discharge, ovulation would have no longer been considered hypothetical. While we have in the young, substantial proof as to when the menstrual flow began, we have no substantial proof as to when ovulation began.

We have had many patients who have menstruated for years and suddenly became amenorrheic, yet monthly had their regular periodic ovarian disturbances, less the external manifestations, and afterward when the flow reappeared it was when they were having these periodic attacks, suggesting at least that the ovaries had been performing their functions, though the uterus had failed to respond with its associated function.

In the year 1881, a young lady came under my care, who at the age of 21 attended the National Centennial, at Philadelphia, and was menstruating at that time. She took cold; the catamenia ceased and she saw no more of it for five successive years, though she experienced for about a year her regular, periodic ovarian disturbances, until gradually they ceased with her failing health. During the fifth year and after about six months' treatment, she noticed the return of the regular ovulation symptoms, and after three or four months more the regular menstrual flow appeared.

During a recent visit to Florida I was consulted by a well-developed, hearty young lady of 18 years, who gave the following history of herself: "About five years ago I began to have bad feelings in my head, back and sides, reaching through the bowels, which I could not account for. They seemed to come on about every four

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weeks, lasting two or three days each time and seemed always the same. Latterly, these spells have seemed worse. When I have taken medicine for them it has done me no good, and I have become anxious about my health." Recognizing the usual symptoms of menstrual disturbance, I asked her if she thought these pains were connected with her menstruation. She replied: "I never menstruated, but feel as other girls tell me they feel when they are sick, and I would like to know why I do not menstruate." A day having been appointed, another physician and myself examined her, when we found a complete vaginal atresia. By manual exploration through the bladder and rectum we discovered a rudimentary uterus, but not a vestige of a vagina. The clitoris and majora were intact, but no evidence of hymen. All other parts were normal. Considering her health and womanly development, what did these regular periodic symptoms signify but ovulation? Another day was appointed, when Dr. Bishop, of Sandford, assisted, accompanied with a surgeon, and while the young lady was under the anesthesia, the flesh corresponding to the place and size of the natural hymen, and to the thickness of blotting-paper was dissected off in pursuit of a vagina, but no vagina was found. There were two little holes, bilateral, about three-fourths of an inch apart, disclosing two passages about the size of an ordinary knitting needle and extending upward about four inches; surrounding these the tissues were dense but healthy.

"That ovulation may and does occur apart from menstruation," says Dr. Martin, in his physiology and histology, quoted from Hirst,⁴ "seems to be proved by such cases as that of Oldham. In that instance the ovaries had descended into the labia majora, and every three or four weeks one or both swelled and became tender. The uterus and vagina were absent."

One of the most frequent and familiar symptoms to a gynecologist, is swelling and tenderness over the ovaries, discovered on digital examination from one to three days previous to the menstrual flow, and a like digital examination, showing less swelling and tenderness, some time before or soon after the flow has begun, indicating that the ovarian changes and constitutional disturbances may be independent of menstruation in these cases as in the cases above cited, where, in the young, the ovaries had matured faster than the uterus and had entered their functional mission before the uterus was ready to express, by the usual sanguineous discharge, its readiness to co-operate in this usually associated phenomenon. The same is true also in the other above-cited cases of amenorrhea where there were the usual ovarian symptoms present, but the menstrual flow absent.

When we consider ovulation in its simple and independent character, as exhibited in nature's scaly and feathered tribes, which is unattended with a menstrual flow, we are compelled to admit that ovulation in the mammiferous, though periodic, is as natural as in the fish or fowl; and the period is not dependent on the moon, or contact with a male, or on genitalia congestion, or on the menstrual flow, but on the nature of things. The period of ovulation being as natural as the interval, we are compelled to admit that ovulation is the primary and initial organic step in nature's progressive effort to procreate, and that ovulation, therefore, being primary, initial and independent, the uterine changes, blood discharge, venous congestion, heat, etc., usually concurrent phenomena, are necessarily only secondary: and while the uterine changes are secondary,

usually they are intimately associated with ovarian changes, especially in the attainment of nature's purpose in an ultimate end of ovulation, namely, procreation. Yet in view of the many incontrovertible and incontestable facts reaching through many years of painstaking study and creditable observation in different parts of the land and in different lands, we are compelled to believe, that exceptionally, and by no means solitary, there may be ovulation and even conception without menstruation. Let us pursue this general subject from another standpoint.

2. *Menstruation without Ovulation.*—In the foregoing discussion we have cited numerous authors and clinical cases, showing that ovulation and menstruation are coincident, but not interdependent; that ovulation is the primary and initial step in nature's process of recreation, called menstruation, and that the menstrual flow is the secondary act in the same process, usually attendant, but exceptionally absent and may occur independent of ovulation.

A glance at the anatomy of the blood and nerve supply of the ovaries and uterus will aid us in the discussion of the functions. The arterial supply of the ovaries is from the ovarian branch of the aorta. The arteries of the uterus are the uterine and a branch from the ovarian. The uterine artery is a branch of the internal iliac, supplying the walls and viscera of the pelvis and generative organs except the ovaries, so that the blood-supply is quite out of proportion in the two organs, and is mainly from different sources. The nerve-supply to these organs is abundant and from the sympathetic system. The nerves of the ovaries are from the spermatic or ovarian plexus. The nerves of the uterus are from the inferior hypogastric, some from the ovarian, and from the third and fourth sacral nerves. The uterine nerves are not distributed through the ovaries, but to the uterus, vagina and bladder.

The blood and nerve supply being mainly from different sources, suggests the probability that there might be an ovarian activity without a corresponding uterine activity and vice versa; ovulation without menstruation or menstruation without ovulation.

The menstrual flow, beyond reasonable controversy, is produced from the mucous membrane lining the uterus, and is entirely independent of rupture of the Graafian follicles. Exactly how it is produced is still a mooted question. Some hold that it is a natural result of a periodic vascular congestion, throwing off the membranes and leaving the surface raw and bloody. Others say it is produced by exudation from open-mouthed blood-vessels, which terminate in the mucous membrane. Still others hold that it is produced by turgescence and vascular osmosis. Of still less value are the theories that the blood is produced by the presence of the ova in the uterus or by congestion of the Fallopian tubes; from ovarian activities and rupture of the Graafian follicles, or the theory of monthly, periodic uterine muscular contraction forcing the flow. But it is important in this anatomical reference to bear in mind that the blood and nerve supply are essentially from different sources.

Now let us return to the consideration of the menstrual function. Again, we quote from Kirke's "Physiology," "Though menstruation does not appear to depend on the discharge of the ova, yet the presence of ovaries seems necessary for the performance of the function." The statement that menstruation does not appear to depend on the discharge of the ova, appears to us more in accord with clinical observation than

either theories, namely, of Bisehoff and Pflugar, on the one hand, that "ovulation and menstruation are due to the same active cause, the one being the starting-point of the other,"⁵ and the theory of the extreme party, on the other hand, represented by Biegel, quoted by Professor Schroeder,⁶ of Bavaria, that "ovulation and menstruation are completely independent of one another, and that the discharge of the ovum may take place at any time whatever, even in children, but that menstruation is nothing but the periodical returning demand of the female genital organs for sexual gratification." Professor Schroeder's own views are more in accord with recent developments, namely, "That it is clear, that the two phenomena have no necessary and absolute connection, and that the occurrence of one without the other is quite conceivable."

In physiological menopause does ovulation or the menstrual flow cease first? Do they cease together? Do the irregularities of the menstrual flow, or the frequent and prolonged hemorrhages during the change have to do with ovulation? Physicians see many cases where menstruation continues long after the age of child-bearing, and, we conclude, long after the age of ovulation. I had a patient who menstruated once in about three months at the age of 73. I have the assurance of one who menstruated regularly between 75 and 80; but we hear of no pregnancies so late in life. However, Sarah, Mrs. Abraham, bore her husband a son at the age of 100, and why not, if ovulation continues, other things being equal?

Painstaking observation of surgical cases for the last twenty years seems to prove conclusively that menstruation has continued periodically and regularly after both ovaries have been removed. This is corroborated by the majority of the latest works on surgery and gynecology, though denied by such men as Dorant, Baker, and Dormer Harris,² who say: "Some instances have been recently recorded, indeed, of a sanguineous discharge, occurring periodically from the vagina after both ovaries have been previously removed by disease; and it has been inferred from this that menstruation is a function independent of the ovary; but this evidence is not conclusive. A lady came under my care, who some months previous had a double oophorectomy performed; she told me that her menstrual periods had been as regular after as before the operation. Another young lady had a like operation and after three months began to menstruate regularly and continued for three years, when hysterectomy was performed. I attended her in both operations. Gill Wylie⁵ reports Lawson Tait as saying: "Women sometimes menstruate regularly when both tubes and both ovaries have been removed. I know of one who has missed not more than two menstruations in two years and a half, although I have both of her tubes and ovaries in a jar." I have, at present, one under my care who, two years ago, had both ovaries removed and has menstruated as regularly since as before.

Again, in considering the independent action of the functions of ovulation and menstruation, let us look at it from still another standpoint.

3. *Conception without Menstruation.*—If there be truth in the subject of this paper, namely, that the two named functions of generation in the female are not interdependent; if anatomy and physiology have so provided; and if surgery, clinical history and painstaking observations sustain this truth, then we can conceive of the possibility of even conception without menstruation, which, if it should occur, would prove

an independence of the functions of the ovaries and uterus.

Dr. Jaggard⁷ says: "Pregnancy may occur in the absence of menstruation." He further says: "There are also authentic cases on record of pregnancy after the climacteric." I attended a gray-haired lady in confinement at the age of 50 and past, who supposed she had passed the change of life long before. Dr. Hodge⁷ cites a case coming under his own observation of a woman who became pregnant seven months after the last appearance of menstruation.

Several cases have occurred in my practice of women becoming pregnant during lactation and before the re-appearance of the menses. A young girl may become pregnant before she menstruates. "The Hindoos"¹¹ have a custom that their girls shall be obliged to marry before the establishment of the menses, because even menstruation occurring in a girl who has not had the opportunity to conceive is regarded as infantile.⁸ Medical missionaries are conversant with this phenomena in tropical countries where girls often marry before the age of 10 and sometimes children are born before their teens. Kussmaul reports a case of one who became pregnant at the age of 8 and bore a child nine months later.⁹ Fox,¹⁰ of Philadelphia, speaks of attending a girl in confinement at the age of 11 years and 4 months. The Mohammedans in Syria and Asia Minor, among whom I lived for several years, often marry their daughters before the catamenia and it was often said that a child was born before the menstruation. Menstruation is seen, therefore, to be no integral part of ovulation, nor an absolute factor of conception, though usually concurrent and attendant.

There may be ovulation without menstruation; menstruation without ovulation; and conception without menstruation.

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DYSMENORRHEA.*

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That group of phenomena comprehended under the term dysmenorrhea is as interesting as it is common in the experience of every practitioner of medicine, nor is the interest lessened by the reflection that on the successful management of the case in which such symptoms occur, often depends the reputation of the physician concerned, among a large number of patrons. That the problem is frequently a difficult one will hardly be gainsaid. It can not, therefore, be time misspent if we devote the few minutes at our disposal to the study of the etiology and rational treatment of the abnormal conditions underlying these morbid manifestations. Recent investigations have thrown light on the innervation of the ovary and the uterus, respectively, which greatly fa-

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elicitate our understanding of the symptoms, especially in organs remote from the genital sphere. The nerves of the ovary originate from the plexus renalis and lower section of the plexus aorticus seu spermaticus, and belong almost entirely to the sympathetic system. They obtain, however, spinal filaments by means of communicating branches of the nervus spermaticus externus, which owes its origin to a branch of the nervus genitofemoralis originating from the plexus lumbalis; it joins the plexus spermaticus.

According to the researches of Otto V. Herff,¹ there exists in the ovarian stroma a very dense nervous plexus which is mainly designed to supply all vessels, including those of the follicles. Nerves also attain to the follicular epithelium, lying on the smallest follicles, but sending filaments into the largest ones, which radiate into the membrana granulosa and end here. Moreover, here and there filaments attain to the germinal epithelium as well as to the muscular cells in the hilus and to the inner vascular layer. Devos² finds that the plexus surrounding the follicles has no connection with the vascular nerves. He considers, therefore, the follicular nerves as centripetal and believes that their stimulation has influence on the entire nervous network of the uterovaginal domain. The result of the studies of Winterhalter are embraced in the two propositions: 1. The ovarian vessels are surrounded with perivascular plexuses. 2. In the zona vasculosa lies a ganglion consisting of cells of the character of the sympathetic ganglion-cells, and its processes surround the vessels for the greater part in numerous convolutions.

Bearing in mind that the physiologic function of the ganglion-cells is to preserve and accumulate stimuli coming to them for a considerable time, and to discharge these stimuli directly or indirectly through the intervention of other cells as soon as the stimulative height has overstepped a certain limit, we are logically forced to the assumption that menstruation is a reflex process starting from the ovaries.

In the language of Maericke, "the excitations which the Graafian follicle exerts on the nerves surrounding it, partly by its growth, partly by the chemical processes occurring in it at the time of sexual maturity, are deposited and accumulated through the instrumentality of these nerves in the spinal marrow or in the ganglia of Frankenhauser and Winterhalter; perhaps in others also.

"When the stimuli have thus attained a certain height a discharge follows in the form of a powerful congestion of the blood in the genitalia."

The nerves of the uterus are derived in part from the plexus hypogastricus and in part from the sacral nerves. The hypogastric plexus lies on each side, immediately on the promontory about 3 centimeters beneath the bifurcation of the aorta, and forms a combination of the plexus spermaticus and renalis. From the two last-named plexuses fibers go upward to the celiac plexus. The most important roots of the plexus coeliacus are the nervi splanchni and the abdominal branches of the pneumogastric—chiefly the right. It also receives contributions from the phrenic nerves. Herlitzka, in his valuable contribution to the study of innervation of the uterus, says: "In the tissue of the uterus we find, besides the plexus belonging to the vessels, two other nervous elements entirely different from one another in structure and derivation. 1. A network consisting of ramified cells whose processes anastomose with one another in

a manifold manner. It stands in communication with strong bundles consisting of pale fibers of Remak. These elements probably are derived from the sympathetic system. These cells are not to be considered as ganglion-cells; it may rather be assumed that to them belongs simply the conduction of the nervous excitations. 2. Some myelin-containing fibers which exhibit the same properties as all nerves derived from the cerebrospinal axis. These fibers end with extensive ramifications of a characteristic appearance, and are distributed over wide zones of uterine tissue without, however, entering into communication with the elements of the proper network or with the fiber-cells of the muscles."

These anatomical descriptions plainly show the source and extent of the distribution of the cerebrospinal and sympathetic nerves to the pelvic organs, at the same time demonstrating the communication between them. Another anatomical feature must be kept in view, namely, that in the sympathetic paths, vasomotory, motory, secretory and sensory fibers run; and such cerebral nerves as the pneumogastric and trifacial maintain communication with sympathetic ganglia. We shall not be at a loss, therefore, to explain the various morbid phenomena of dysmenorrhea, however incomprehensible they may appear to the student of medicine who ignores anatomical research.

Women who enjoy excellent health at the time of menstruation feel a change in their physical condition, as the very term they use denotes—they are "unwell." Independently of an increased susceptibility of the nervous system to external impressions, they may complain of certain local annoyances, as heaviness, or fulness in the region of the pelvis, a sensation of pulling in the sacrum, a frequent desire to void urine, etc. Dr. Emmet thus expresses it: "Every woman, even in health, will experience some degree of discomfort at the menstrual period. That she should be absolutely free from pain and suffer no inconvenience at the time is an abnormal condition." I can hardly follow the eminent gynecologist here and accept these views without qualification. That, as a rule, healthy women have more or less discomfort when they menstruate is true, but it is equally true that we by no means infrequently meet such women who say that menstruation takes place absolutely without pain. If women in good health, therefore, complain of discomfort in menstruation, it need not excite surprise if women affected with the various pathologic conditions underlying dysmenorrhea present many and varied phenomena. In most cases the complaints begin long before the appearance of the period, and reach their highest point in intensity during it, then die away slowly and by degrees. Sometimes the pains come on shortly before the menstrual flow, and promptly cease when this begins. Others have the pains only during the flow, still others, before and during the period. Some have only a dull burning or gnawing sensation in the pelvis; in the case of others the pains radiate in a wide circle, and are perceived at distant parts of the back. In some the pain is more or less continuous, while in others exacerbations alternate with remissions. In many the pains are perceived and described as plain uterine contractions. To these symptoms are often added great irritability of the bladder; the patient has an urgent desire to pass urine every few minutes, and the results of her efforts in this direction are only a few drops. Disturbances of the digestive tract are frequently present; constipation alternates with diarrhea, the latter symptom being the more common. Heartburn, nausea and vomiting are as frequent as they are annoying. Attacks

¹ Zeitschrift f. Geb. u. Gyn., Bd. xxiv, Hft. 2.

² Jahresberichte von Frommeil, 1894.

of severe hemierania, which may be present for days, give the patient no rest. Cardiac palpitations, cold sweats, and attacks of syncope are manifestations evoked from the circulatory system. If no help comes, her condition may steadily and progressively depreciate. The pains become constant; the fear of the next menstruation, which hangs like the sword of Damocles over the unfortunate woman, the exhaustion that ensues from the pain during the period, the inability to enjoy life and perform properly its duties, and the disappointment at the failure of conception induce sooner or later a state of invalidism distressing beyond description. The exasperating character of the pains and the attendant depression of spirits often impel the unhappy sufferer to call to her aid a force as potent as it is destructive, in the end, to mind and body. She becomes addicted to the use of narcotics, especially morphia; it is certainly correct that dysmenorrhea furnishes a large quota to the contingent of morphia habitués.

With reference to the causes of dysmenorrhea, most modern writers refer the phenomena in question to diseases of the uterus, the tubes, the ovaries, the peritoneal covering of these organs as well as the pelvic connective tissue. In the preponderating majority of cases the morbid affections which are the etiologic factors are inflammatory processes. Hence the classification: 1. causes originating in the uterus, and 2, causes which are extrauterine. This extension of the term dysmenorrhea so as to make it include all the painful symptoms evoked by inflammatory affections of the adnexa and their serous investments is a great mistake, an egregious blunder, and leads to confusion of thought.

Inflammatory affections of these organs, in consequence of the fluxion of menstruation, do at times undergo changes for the worst, but on the other hand I have been repeatedly struck by the fact that the symptoms improved decidedly during the flow. Moreover, in tubal or ovarian disease the dysmenorrhea is a mere incident and not the all-important determining factor in the clinical picture. The proper type of dysmenorrhea is the retention, mechanically, of menstrual blood, as it is observed in its most pronounced form, in cases of occlusion of the genital tract consequent on arrest of development. Similarly its symptoms are manifested, although not so clearly or unequivocally in all forms of narrowing of the cervical canal as in stenosis of the external os, flexion consequent on pathological ante flexion, flexion occurring in retroflexion, and in the narrowing caused by tumors, especially myomata. It is impossible to state in general terms how excessive the narrowing must be in order to cause retention of the uterine contents. Whilst coagula or shreds of the uterine mucous membrane are able to pass through a quite wide cervix only with difficulty, on the other hand, fluid blood makes its way through a very narrow cervix with comparative ease. But this is only true when the blood is secreted by the uterine mucosa slowly. In these cases there is always a mechanical distention of the uterine cavity, to which the muscular tissues of the body respond with contractions causing labor-like pains or uterine colic. The pains are paroxysmal and at times attain a high degree of intensity. When the flow becomes free they may intermit, but in other cases they persist during the entire time of menstruation.

The great apostle of the mechanical explanation of dysmenorrhea was that rare genius to whose labors gynecological surgery owes an unpayable debt, J. Marion Sims. It has been attacked, it is true, by most modern writers, one of the ablest being Heinrich Fritsch, for

whose learning and sagacity I have the highest admiration, but notwithstanding I believe it rests, in the main, on impregnable ground. Fritsch says: "The mechanical explanation of dysmenorrhea played a great rôle with Marion Sims. It was said that the inner os uteri was partly actually narrowed as a complication, and partly was contracted owing to the fact that the uterus was flexed in this place. If blood was now effused into the uterus it could not escape, consequently uterine contraction originated, and this constituted dysmenorrhea.

... Against this view speaks the following: 1. The pains have not the plain character of labor-like pain, are not at all limited to the uterus, but are felt in the entire hypogastrium and in the thighs. 2. It is proved by sounding that the pains are frequently present before a drop of blood is found in the uterus. The pains by no means disappear when the blood has free egress; nay, just in the worst cases so little blood is secreted that it can by no possibility stimulate the uterus to contractions. 3. The fluid blood is not to be identified with a firm foreign body stimulating the contractions. Coagula just in these cases are never found. The uterus does not react by dysmenorrheal pains even on the formation of polypi, on the sound, on accumulations of mucus, on intrauterine treatment. 4. The menstruation in the same patient is at times painful, and with appropriate therapeutical measures quite free from pain. Menstruation in a wide uterus may be very painful when it is inflamed or lies in a bad position. 5. Quite the same condition is observed in a quite normally formed uterus. The pains in uncomplicated cases are to be explained in the following way: We know that the mucous membrane swells very considerably in menstruation and that the uterus also becomes larger. The resistance of the uterus to this thickening of the mucous membrane and the dilatation of the blood-vessels produce contraction and pain. Dysmenorrhea is frequent, therefore, in a badly developed, small nulliparous uterus, but is wanting in the healthy, yielding uterus of a multipara whose vessels and cavity are wide. A strongly flexed uterus will oppose greater difficulties to the thickening of the mucous membrane and the uniform distention than a completely normal one. It must be borne in mind, in addition, that the swelling mucous membrane, in menstruation, forces the mucus out of the uterus and almost always some discharge precedes the menstruation. If this mucus cannot escape on account of stenosis of the os uteri, or on account of strong ante flexion, or on account of polypus, also if the blood is retained, the mucous membrane is prevented from swelling. The use of the sound will help here. This view has much affinity with the assumption of Sims, for which the success of the operative measures plainly speaks. After a birth the dysmenorrhea ceases as a rule, because the vessels and the muscular tissue likewise remain dilated."

This admission on the part of Fritsch is all that the advocate for the mechanical view could wish, and at the same time shows that with the eminent gynecologist love of truth weighs more than the reputation for dialectic skill. Küstner insists that the exclusive mechanical view of dysmenorrhea must be allowed to drop, but at the same time admits that we can moderate or heal the dysmenorrhea if the contractions of the uterus are removed or limited in some degree by eliminating their cause; that is to say, if so easy a way of escape is made for the uterine contents that contractions are not called forth, or at any rate to only a limited degree. He also finds the underlying cause of the phenomena in inflam-

matory conditions of the uterus and the adnexa and their peritoneal investment. August Martin believes that one of the most frequent³ complaints of women, the subject of salpingitis, refers to dysmenorrhea; at the same time he expressly states that the pains are increased during menstruation in some cases, while in other cases they undergo amelioration. He further states that in reference to the dysmenorrhea in salpingitis it must remain questionable what share the uterus and what the peritoneum has in the pains, "even if the pains are decidedly localized in the tubes." We thus see what a confused, hazy clinical picture we obtain of dysmenorrhea if we bring under its definition all the inflammatory affections of the pelvis, while on the contrary it is clear and intelligible in all its details if we regard it as a neurosis originating when the uterus finding an obstacle to the evacuation of its contents, responds by spasmodic contraction of its muscles. All other pains, whether occurring during menstruation or at other times, and proceeding from endometritis, metritis, perimetritis, oophoritis or salpingitis, are absolutely excluded from a proper conception of dysmenorrhea.

I by no means wish to deny, however, that dysmenorrhea in its full type, if allowed to persist unchecked, will undoubtedly cause oophoritis and endometritis. A peculiar form of dysmenorrhea, called intermenstrual pain, has lately attracted much attention. Halliday Croom devotes considerable space to its discussion in his article in Allbutt's "Practice of Medicine." It is a misnomer to speak of it as dysmenorrhea, and I agree with Fritsch in regarding it as a symptom of endometritis. A form of dysmenorrhea, which is of special interest to the general practitioner, is the pain accompanying menstruation in young girls soon after the establishment of this function. In these cases the explanation will usually be found in the fact that the uterus is backward in its development and consequently is unable to meet the demands made on it by the menstrual process. The blood-vessels especially possess too slight a caliber and are inadequate to the menstrual fluxion. The mucous membrane is thus not able to swell properly and perform its functions. The abnormal increase of pressure in the uterine vessels, which is normally relieved by a free flow of blood, evokes now, reflex contractions of the uterus, which are increased from the fact that the uterus, in consequence of the smallness of its cavity, is unable to hold the secreted blood. It is not to be denied that there are cases of severe dysmenorrhea in which the source of the disease must be sought, not in the uterus, but in the general system, especially the nervous system. The subjects of this type are neurasthenic or hysterical. They are, as a rule, badly nourished, anemic, chlorotic individuals, with a hereditary tendency to nervous and psychical disturbance.

Dr. William Fliess, of Berlin, has called attention to a peculiar form of dysmenorrhea which he designates by the term nasal form of dysmenorrhea. According to this author, there are certain points in the nose called by him "genital places," particularly the inferior turbinate bones and the tubercular septi, which undergo changes during menstruation, under certain conditions in consequence of which dysmenorrhea is evoked as a reflex phenomenon. The application of cocaine to this part of the nasal mucous membrane will alleviate the dysmenorrhea, while cauterization will effect a permanent cure.

The relation between the nose and the sexual organs deserves more attention than it has heretofore received, but meanwhile it must remain a subject for further investigation.

That form of dysmenorrhea called forth by an endometric exfoliation presents a group of symptoms which may be considered as a pure type of dysmenorrhea. The symptoms are necessarily more pronounced than in ordinary cases, especially the rhythmical contractions, since a stronger force is requisite for the passage of a solid membrane than for the expulsion of fluid blood. Recognizing the fact that the dysmenorrhea is a neurosis and that the characteristic pain is to be referred to spasmodic contractions of the uterine muscular tissue, which manifest themselves when the menstrual blood effused into the cavity finds an obstacle to its discharge through a narrow or flexal canal, the indications of treatment are obvious. In the uncomplicated dysmenorrhea of young girls a vaginal examination is unnecessary. The general health should be promoted by tonics, proper exercise, attention to the state of the bowels, and to act on the uterus, the fluid extract of hydrastis—a teaspoonful three times daily—should be exhibited during the free interval. If the pain persists it may be necessary to resort to the use of a suppository containing aqueous extract of opium or morphin, and thus the patient may be permanently relieved. I need scarce remind you that a frequent recourse to the use of opium is manifestly contraindicated. Antipyrin has shown in my hands wonderful power in relieving the pain of dysmenorrhea. It may be exhibited by the mouth or hypodermically. It should be borne in mind, however, that it is very depressing in its action on the heart, and its effects must be carefully watched. Of all the coal-tar derivatives, phenalgin in 5-grain doses once every hour or two until the pains cease, has rendered me the greatest satisfaction. Apiol exhibited twice daily for some days previous to menstruation is a valuable acquisition to the remedies.

If these simpler measures prove inefficient, it will be necessary to resort to local treatment. In cases of hypoplasia or pathological ante flexion, cure may be effected by recourse to a gradual dilatation by Hegar's dilators, or, as I prefer, by steel sounds. McGinnis praises highly the use of electric treatment. In chlorosis and nervous phenomena he applies one electrode on the abdomen the other in the lumbar region. In cases of "pure uterine dysmenorrhea," he applies the positive pole in the cavity of the uterus.

If in spite of these local measures the dysmenorrhea recurs, an excellent method is to dilate with laminaria tents. I agree entirely in the view expressed by Fritsch that by this gradual dilatation better results can be obtained than by the use of forcible dilatation at one sitting. A small tent, properly bent and aseptic, is first introduced, the patient being in Sim's position and the uterus fixed by a bullet forceps, and allowed to remain twenty-four hours. Iodoform gauze is placed against the os uteri and the vagina packed. A second is similarly introduced and allowed to stay twenty-four hours, and so on until the cavity is sufficiently large to admit the finger. The uterine cavity is then packed tightly with iodoform gauze and this is kept intact for two days. If this treatment is conducted according to strict principles of asepsis and antisepsis, no infection may be feared. As Fritsch correctly observes, "the next menstruation may be still painful in consequence of ir-

3. Die Krankheiten der Eileiter, Leipzig, 1895.

ritation of the nerves, but afterward menstruation occurs without pain."

I have heard gynecologists declare that they never make use of tents, that such methods are antiquated; but in this class of cases the laminaria tent unfolds a power that can be equaled by no other known plan of treatment. In cases complicated by chronic endometritis and in those in which a myoma is situated in the uterine wall I make use by preference of the dilator of Pryor, which possesses many advantages over the ordinary dilators, for the purpose of thorough dilatation. The uterus is then eurented with the Sims sharp curette and tightly packed with strips of iodoform gauze. In this way the dysmenorrhea is cured with the endometritis.

For the membranous form I use the same method of treatment with decided benefit. Fritsch recommends the prolonged use of uterine irrigations of lysol, 1 to 100, after thorough dilatation, and this method is well worthy of adoption. Finally, it should be mentioned that oophorectomy has been recommended as a last resort in cases of persistent and obstinate dysmenorrhea. Against this practice I must make my decided protest; in the first place we have no certain guarantee that the patient's condition will be better after the operation than before, and secondly with the less radical means at our command I am absolutely sure that we can attain the desired goal by persistence, patience, and wise discrimination.

TREATMENT OF MENORRHALGIA OF PELVIC ORIGIN BY ELECTRICITY.*

G. BETTON MASSEY, M.D.

PHILADELPHIA.

What are we to do for the relief of our young women patients who suffer persistently from menstrual pain and spasm? I allude to those cases which have resisted all approved drug medication, including alimentary correctives and eliminants, as well as antispasmodics, and whose life is clouded during one-fourth of each month by an ever-increasing degree of morphia stupefaction as the only relief from intense pain.

The pathology of cases of this nature is usually of a dual character. There is commonly a chronic inflammatory process present in the endometrium, accompanied by congestive conditions in the ovary, the endometritis being merely catarrhal, and there is also a most pronounced erethism of the pelvic neuromuscular apparatus. This neuromuscular erethism is the feature wherein these cases differ so greatly from those of mere endometritis in parous women, unaccompanied by the menorrhagic spasms. The pain and spasm are probably present in the younger women because of developmental imperfection, the result being very much like a *tic-douloureux* due to a bad tooth. Should pregnancy occur a spontaneous cure is probable, not because the cervical cavity is then larger, as incorrectly supposed by some, but because a full development of the organs has been produced by the remarkable trophic accompaniments of the gravid state.

The idea that dysmenorrhea is due to obstruction of the menstrual flow has been shown to be a delusion. No accumulation is ever found in these cases. The steel dilators that are still improperly employed in a treatment based on this obsolete theory themselves

disprove the presence of obstruction, for a canal that will admit them in their closed state is far larger than necessary as a hydraulic drain for the menstrual fluid. If the purpose in view, in the use of these instruments for forced dilatation under ether, is not the permanent enlargement of the canal, but the mere divulsion of the spasmodic stricture, it follows that the method should be employed only during the actual spasm of the period, and should be repeated at each period, conditions never present in these operations as advised in the books.

The truth is, that this formidable operation, the forcible dilatation of the cervical canal by steel dilators, oftener does harm than good; the cases temporarily relieved rarely experiencing comfort more than during one period, and this probably owing to an amelioration of the endometritis. The harm at times done by the operation is, on the other hand, an actual aggravation of the subacute catarrhal condition, ending, in some instances, in an ascending catarrh of the tubes and ovaries.

Too often the final history of a case which has been placed under forcible dilatation, is abdominal section for removal of inflamed ovaries. This result may at times be merely in spite of the treatment, which failed to cure the case in its first stages; but in other cases I have the unquestionable testimony of patients and their physicians that what had been merely menstrual pain in the uterus and back before dilatation, was changed to constant pain in the ovarian regions after dilatation, and this without relief from the menstrual pains.

There are at present a large number of physicians in this country who agree with me that in electricity we have a most valuable remedy for the permanent cure of persistent menorrhagia, even of the most severe forms. Unfortunately, little is written at present from this point of view, and the unopposed views of the wisdom of dilatation remain uncontradicted. The method may be carried out in office practice, is free from risk to already congested appendages, and may be relied on to cure when conjoined with intelligent regulation of the general health and habits of the patient.

I have given the exact technique elsewhere, but may say that it consists of judicious blending of vagino-abdominal applications of the positive pole of the galvanic current with similar intrauterine applications of the same current. The intrauterine applications must not be used, however, until the congestive condition of the appendages is relieved, after which the local effect of mild mercuric cataphoresis within the cavity will quickly remove the endometritis, which, having its inception in "catching cold" during a period, is the initial lesion of the affection.

It will be noticed that I recommend that the positive pole of the galvanic current be used and not the negative. This choice is deliberately made as the result of large experience, and shows that electricity does not owe its value in these cases to a dilating effect, as some think, this effect being greatest at the negative pole, but rather to the cure of the endometritis. If there is no endometritis I do not pass the electrode within the uterus at all, but apply the internal electrode within the vagina alone.

I would urge an intelligent use of electricity in this condition on the part of all physicians engaged in general office practice. Expertness is readily gained by those equipped with sufficient gynecological and electrical training, and though the actual work will require

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some time and trouble, the result can not be other than pleasing when it keeps the patient at home, makes her a well woman, and robs an operating-room of another sexless product.

DISCUSSION ON PAPERS OF DES. THAYER, HARRISON AND MASSEY.

DR. E. G. ZINKE, Cincinnati, Ohio—This is a subject with which we are all more or less familiar, but we all differ as to the proper treatment of the various cases. I have listened very attentively, and I must say that I have heard nothing especially new. So, too, the criticism I may make is not particularly new. I have ceased to use electricity for fully eight years in the treatment of gynecologic cases. I have purchased hundreds of dollars worth of apparatus for this work, but have derived absolutely no benefit from it, especially in the treatment of dysmenorrhea. I am free to admit that in some of these cases I did not, in all probability, determine the real cause of the trouble. When a case of dysmenorrhea presents itself to me now, I make every effort to determine the cause. Those cases which are amenable to treatment at all can be cured without the use of electricity. The most difficult are those in unmarried women, especially when under 18 years of age; in these it is exceedingly difficult to determine the nature of the trouble unless an examination is made, and this is not always advisable or possible. We might treat the patient from a neurotic standpoint, but we should not waste too much time. After temporizing for awhile and failing to relieve the patient, I invariably insist on examination under the influence of an anesthetic. If we can exclude want of development of the generative organs not much can be accomplished by electricity. We should pay attention to the general health of the patient, proper diet, daily action of the bowels, outdoor exercise, change of climate and good habits, especially in girls who go to school or who work in ill-ventilated tailor shops, where they are obliged to sit for eight or ten hours in a cramped, unnatural position, breathing bad air. When we find a want of development or diseased conditions, we must give them the proper treatment, and I am sure that in cases of endometritis, metritis, salpingitis or oöphoritis the least beneficial treatment is electricity. I have absolutely no use for it in my practice.

DR. MAXIMILIAN HERZOG, Chicago—I wish to put myself on record as against the view that menstruation and ovulation are absolutely independent of each other. Truly, it is a fact that ovulation occurs without menstruation. It is also true that we have hemorrhages from the uterus, which are menstrual in character, without ovulation, but the exception only proves the rule. It was formerly claimed that in menstruation the major part of the uterine mucosa is shed. This view was derived from the examination of post-mortem material, which is unfit for studies of this kind. We must examine menstruating uteri obtained from the living if we wish to make correct observations. I am in a position to confirm the statements of Mandel and others that there is little of the uterine mucosa shed in menstruation, and that little consists only of some of the superficial epithelial cells. I have made this observation repeatedly on menstruating uteri obtained *per operationem* from the living. The changes which do occur in menstruation are the following: The capillaries of the intertubular connective tissue are enormously dilated and there is an extravasation of blood into the connective tissue. Some of the blood makes its exit toward the surface, and some of the surface epithelia are lifted away from their basement membrane and shed. Those are all the changes we find in a normal menstruating uterus. The object of this change is to prepare the soil for an impregnated ovum. It has recently been shown by Peters and others, that the human ovum, like that of lower animals, when it first begins to develop in the uterus, is surrounded by a solid layer of ectoblast with phagocytic properties. The changes occurring in menstruation are for the purpose of allowing the implantation of the ovum. The changes in the uterus in menstruation serve a specific purpose, viz., to prepare the soil for an impregnated ovum, and they therefore do stand in a certain relation to ovulation.

Regarding dysmenorrhea, our knowledge of the pathology of this condition is a very hazy one. Our classification of dysmenorrhea is incorrect. Obstruction to the menstrual flow plays a very insignificant rôle in the causation of dysmenorrhea. There are practically only two types of dysmenorrhea. One which is dependent on inflammatory changes in the uterine mucosa and the other dependent on inflammatory changes in the ovary. The inflammatory changes of the uterine mucosa are of the type of an endometritis interstitialis. In cases where the membrane is shed the uterine mucosa undergoes a change much like that in normal menstruation, except that the limit is overstepped and we have the formation of tissue very much resembling a young decidua. Several interesting papers on certain forms of oöphoritis characterized by changes in the vessel walls have recently been published. In these forms of oöphoritis we find processes of endarteritis obliterans and hyaline changes in vessel walls. We know little of the cause or causes of most cases of oöphoritis.

Some time ago I studied the histopathology of syphilis, and I have been able to confirm the work of Rieder, who found that the vessel changes in syphilis are mostly found in the veins and lymphatics and not in the arteries. I have examined a number from cases of dysmenorrhea, and found conditions very much resembling those found in syphilis. It occurred to me that it is possible that there are certain cases of oöphoritis which are of syphilitic origin. There is, however, nothing definite known as yet about this point, but I think it would be worth while if the gynecologist would keep in mind that certain forms of oöphoritis are probably due to congenital or acquired syphilis. In such cases mercury and the iodids would probably be of greater service than the knife.

DR. GEORGE J. ENGELMAN, Boston—I have always been very much interested in this subject since my study of the menstrual changes in the uterine mucosa, in 1870, and am at present engaged in an investigation of the menstrual condition among school and college girls; it has brought to my attention the various forms of dysmenorrhea common among young women in supposedly good health. Dr. Harrison mentioned two forms; one an acute inflammation of the uterine tissue and the other of the appendages. The majority, certainly many, of the cases of dysmenorrhea I observe among school girls are due to nervous influences. I have gone over nearly 5000 cases of menstruation in so-called "well women," girls in educational institutions, neither hospital nor private patients, and find from 42 to 83 per cent., perhaps an average of 66 per cent., afflicted with more or less menstrual suffering. The pain is increased with hours or intensity of study, with worry or emotion, and is diminished or ceases during vacation time without treatment of any kind. These are nervous menstrual pains, which are augmented by physical exertion and mental application and strain. I believe that the mental or nervous element is a more prominent factor than we usually take it to be, and clearly demonstrates the necessity for a general management of these cases. The character of the pain does not necessarily differ from that which accompanies inflammatory conditions, and how the diagnosis is to be made I do not know, except by examination and study of the individual case, but let us by all means, in the young girl, first attempt the general management, the relief of all abnormal and injurious conditions of worry or debility, of mental or physical prostration. As a large majority of these cases are unquestionably due to nervous disturbances, much can be done without local interference. Electricity I have used much and successfully for the relief of menstrual suffering and in the management of pelvic disease, and am sorry to see the contempt with which this really valuable agent is referred to by many and the superficial way in which it is disposed of. I know that many able observers say precisely what Dr. Zinke does. I differ with him, as my own experience is decidedly at variance with his. I like the effect of electricity, but would not rely on its use alone and unaided as a means of treatment. It is a valuable and effective agent, but must be used at the proper time, and in suitable cases, precisely as any other remedy or drug. I have found electricity an admirable remedy for the relief of pain in cases of

inoperable tumors, or when an operation is not desired, in neurotic and neurasthenic cases, in cases where stimulation is needed in debility, local or general, and where thickening of tissue exists, with a want of absorption. Electricity can be applied by a cotton-covered electrode in the vagina as the active pole, and the other over the abdomen, using mild currents. A very satisfactory method in dysmenorrhea due to flexion, narrowing of the canal or chronic inflammation is to use the dilator as an electrode. The dilator is connected with one pole, the abdominal electrode with the other, and the blades gently separated during the séance. In this way the electrode is brought in contact with the tissue, and dilatation is much more easily accomplished with than without the current. It has a relaxing effect and this overcomes the pain of dysmenorrhea. A few applications a month are enough, but most effective is one immediately before the appearance of the flow. The treatment is one requiring time and careful manipulation, with some knowledge of currents and instruments, but it has its good points and I am sorry that men of authority like Dr. Zinke express themselves as he does, as others will be guided by their very positive statements so unfavorable to this agent, which is truly valuable in its proper place, and unjustly abused because enthusiasts have claimed too much for it.

DR. C. L. BONIFIELD, Cincinnati, Ohio—Dr. Massey, in his remarks, said, much to my surprise, that those patients where we have a large accumulation of fluid in the uterus suffer no pain. I have seen a number of such following amputation of the cervix, this growing together and the obstruction being absolute or nearly so. They also follow curettement, where proper precautions are not taken to keep the os patulous. It has been my experience that such patients suffer the most intense pain at the menstrual period.

Dr. Herzog's observation that the mucous membrane of the uterus is not thrown off at the menstrual epoch, is the very latest view of German observers on this subject. The pain these patients have may not be due to the difficulty the fluid has in escaping from the uterus, but the difficulty it has in escaping from under the mucous membrane. A fact I have observed, and which speaks for an accumulation of fluid, is that if one of those girls suffering from dysmenorrhea for years, a girl who begins with an undeveloped uterus, be examined under an anesthetic, almost invariably the body of the uterus will be found dilated and pear-shaped. The walls of the uterus are not in contact as they ordinarily are, and one can direct the curette freely within the cavity. Whether this is from an accumulation of secretions or an hypertrophy of the organ I am not prepared to say.

As to electricity, I am willing to grant that Dr. Massey gets the result he claims, and other men who will take the time to learn his methods will get the same good results. I can obtain as good results in other ways that are less objectionable and not so difficult and objectionable. Dysmenorrhea is a disease of the unmarried, and such patients do not like to come to your office to be treated for weeks and months. It is best to dilate the uterine cervix, pack the uterus as firmly as possible with gauze, and thus produce a miniature labor, which will do more good than months of electric treatment.

DR. F. F. LAWRENCE, Columbus, Ohio—Some three years ago I wrote a paper on this subject and emphasized the important fact that painful menstruation is not a disease but simply a symptom, and that we should begin the treatment as soon as possible. The conditions giving rise to it must be treated as such, and the symptom of painful menstruation will rapidly disappear with the disappearance of the conditions treated. We might as well talk of leucorrhea as a disease as of dysmenorrhea. I am pleased to note that the doctor makes practically the same statement that I have made in my paper, and that is that obstructive dysmenorrhea has not only been shown to be a mistake, but is something we do not find. The conditions causing the pain may be classified as of uterine, intra-uterine, ovarian, tubal, local or general origin, and we must fight the condition itself and treat that condition, and not treat a symptom.

Electricity may be, as Dr. Massey said, of some value: he

is competent and we will take his word for it. Is it by its tonic effect, by increasing tissue metamorphosis, or what? Cases of small cervix are usually undeveloped ones. On examination of these—they are usually in young girls—we may find ovaries so small that we can barely tell that they are ovaries. The uterus is completely undeveloped, infantile in fact. These poor girls, suffering frightfully every month, are told that if they will marry they will get well. Cases of hyperemia, if permitted to become chronic, will result in a subsequent destruction of the ovary, and later it will break down into a cyst or become cirrhotic. These latter are the cases which give the most trouble. I have had a number in which a small, hard, cartilaginous ovary was responsible for the most marked disturbance, such as obscure neuralgia, convulsions and other nervous troubles. They are the patients who are not benefited by any local treatment. Many cases of hyperemia treated early will probably be cured by electricity. Of equal benefit are rest, local depletion and abstinence from all things which will produce sexual excitement or physical excesses. We have ovarian, tubo-ovarian, uterine, intrauterine and extrapelvic conditions, which are responsible for this trouble. Our chlorotic girls suffer severely from painful menstruation and nervous disturbances in connection therewith.

DR. E. G. ZINKE, Cincinnati, Ohio—I did not wish to convey the impression that I was opposed to the use of electricity, nor that I condemn any individual who may be disposed to resort to it as a means of treatment. What I did wish to say was this: Our chairman, with his experience, endorsed what I said, that there was no case on record in which the use of electricity produced a cure of any diseased condition of the pelvic organs. It may give relief under certain conditions, although personally I have seen none. No fibroid, ovaritis, salpingitis or endometritis was ever cured by electricity. I know of no man who has more experience, who has investigated more ardently, more diligently, more earnestly than Apostoli, and yet none of his patients, where measurements and plaster casts were taken, was benefited more than temporarily. We never have menstruation without ovulation. We must have had ovulation in order to have menstruation. We may have menstruation after ovulation has ceased, as, for instance, when the menopause has been brought about artificially; but there is no case on record in which menstruation made its appearance when ovulation had never occurred.

DR. C. C. THAYER—I have nothing to say in regard to my paper, as the points are put there for the consideration of others. The facts are recorded in many of the latest textbooks on the subject, and personally observed in clinical practice. In regard to the use of electricity in dysmenorrhea, I am greatly in favor of it in such cases. I have used it for twenty years, and appreciate its advantages more to-day than ever before. I have no criticism to make of people who have not used it or become familiar with it, but those who have tried it extensively find it to be a wonderful remedy in some patients with dysmenorrhea. Those gentlemen who look for the causes of this affection in the genitalia, do not look far enough. They do not understand the real elements that enter into the condition of dysmenorrhea in many cases, aside from the anatomic derangements or malformation. A most important cause is found in the disturbances of the nervous system, and oftentimes we must begin the treatment of it by directing our attention to general physical conditions. Hygienic treatment is an important item. Along the same line electricity comes in with its influence on the nervous system. It is not so much in dilating the blood-vessels, on which dysmenorrhea is not always dependent, but it is the general tonic effect of electricity. It facilitates free circulation and stimulates the entire nervous system.

So far as accumulation of fluid is concerned, I think that is an exploded theory. I have dilated the uterus time and time again, using the suction syringe to see if there was an accumulation, but found none, and when curetting have found nothing except what was necessarily attached to the mucosa. The accumulation theory is a false one, and in most of these cases I think we will find, as Thomas so beautifully and strikingly

showed in his last text-book, "that dysmenorrhea is more often cured by a trip to Europe than by any process or treatment he ever used in his office."

DR. G. T. HARRISON—Dr. Massey can not prove the assertions he made. It is a pity I could not read the whole of my paper, so that you could see the argument. In speaking of Dr. Sims, I think he spoke rather slightly of him. Of all the names that shine in the pages of the history of our profession, he can not bring forward any two greater names than J. Marion Sims and Carl Schroeder. The latter was one of the greatest and most gifted of modern surgeons. Those who have had the pleasure of seeing him in Berlin were impressed by his greatness, as his was one of the most majestic figures in Germany. As Martin said to a friend, we did not appreciate—fully at first, his loss—and it is only years afterward, after these men are lost to us, that we realize how great their value has been. When I can quote such authorities for the views I hold, I feel that I would rather err with those men than be right with Dr. Massey.

DR. G. B. MASSEY, closing the discussion—I do not wish to be behind in my homage to Marion Sims, but the thought occurred to me recently that the day of authorities in medicine had passed away a short time after I graduated. More harm has been done by the blind following of authorities in medicine than by the inquisition of the middle ages. We want facts, not the personality of the man who brings them forward. Sometimes noble personages lead to the perpetuation of great errors. My paper was a very short one and referred only to the incurable sort of cases, those which are supposed to go to the surgeon, hence I welcome the many remarks made about the neurotic cases, those that can be cured without even the means I recommend. I took especial occasion to mention that the uterus should not be invaded by an electrode, or anything else, unless there was local disease of the endometrium. I can not too strongly corroborate the remarks made that needless examination should always be avoided, but there are cases, and I have in my mind quite a number that are destined to shipwreck in life unless they are cured. They come to me before, and they come to me after the dilatation, and it is to those that the second part of my paper particularly refers.

I need hardly say anything on the question of the accepted theory of obstruction. Dr. Bonifield's evidences of pain in connection with accumulation in the uterus were all traumatic. They were operative. You will find in the literature of the non-operative cases of pelvic accumulation that those are not diagnosed until the accumulation will at times amount to a pint of fluid. In other words, the patients have no pain. I have proven, too, that there is no obstruction, that there is no spasm, no actual muscular spasm. I reported a case some years ago, in which I found the cervix more dilated, coincident with the pain, than in the normal condition. After all, the most important element, as pointed out by other speakers, is the neuromuscular storm of the apparatus connected with the reproductive organs, and that explains the pain. It is not the physical obstruction, but it is the painful condition superinduced by the effort of the diseased organ to throw off the immense amount of excrementitious material which is to be thrown off at that time.

MOVABLE KIDNEY, FROM THE STANDPOINT OF THE GENERAL PRACTITIONER.*

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Movable kidney was first described by Rayer, in 1836, and since then various authors and writers have called attention time and again to the importance of this abnormal condition, among whom I might mention Hare, Keppler, Sulzer, Hahn, Edebohls, Ewald, Einhorn, Israel, Lewis, Noble, Senn, Keen, Reed, and others. The earlier writers treated it almost entirely from a medical

standpoint and the later ones as entirely from the surgical.

My object is primarily to endeavor to interest the general practitioner in the subject, in order that he may be able to diagnose the condition, and to determine which cases should be treated medically and which surgically. I would also like to impress him with the fact that in many cases this condition is a most serious one, and unless it is recognized, and promptly and intelligently dealt with, very grave consequences may result.

The normal location of the kidneys, as well as their anatomical relations to adjacent viscera, are so well understood that I will not take up your time with a description of where they ought to be found, but will try to point out how you may be able to tell when they are in an abnormal position, and outline the symptoms somewhat in detail. The frequency of malposition of the kidney is astonishing, and it has been estimated that one woman out of every four has a movable kidney, and while they are not all of them suffering from it, yet in the vast majority of these cases it does produce symptoms which need attention.

There are probably thousands of women and many men suffering from the effects of a movable kidney to-day, and many of them seriously, who are being treated for indigestion, hysteria, neurasthenia, heart disease—so-called—albuminuria, and even mental disorders, such as hypochondria, melancholia, epilepsy, etc., and who are being drugged almost to death, and yet receive practically no benefit from their treatment. Such a condition of affairs should not exist, and there is no reason why any intelligent practitioner should not be able to recognize and diagnose a movable kidney, if he carefully examines his patient, and after having found it, he should be able to advise the best method for getting relief.

The etiology of this condition is a difficult problem, and the causes assigned by different writers are very many. In some cases it is undoubtedly a congenital condition, but in most of them it is acquired, although I believe that in a very great many there exists an individual predisposition, which is due to some abnormal congenital conditions.

Among the various causes assigned are tight lacing, relaxed abdominal parietes, the result mainly of child-bearing, traumatism, and absorption or atrophy of perirenal fat. The last is probably one of the most common causes, as the greater number of cases of movable kidney will be found in thin people; in fact, it is almost axiomatic, given a thin woman, weighing 110 pounds or less, with various reflex nervous symptoms, and you are pretty sure to find a movable kidney.

Movable kidney occurs in the great majority of cases on the right side, and why this is so no satisfactory explanation has as yet been offered. Occasionally it occurs on the left side, and quite frequently both sides are affected at the same time.

The symptoms of movable kidney are very complex, and are common also to many other diseases, particularly those of the female sexual organs. In fact, in very many cases, there is coincident disease of the uterus and its adnexa. The nervous disturbances are greater in the early history of the displacement, and in those cases where the range of motion is not very great, while the localized discomforts are more pronounced where the condition has existed for a longer time, and where the range of motion is greater.

This is probably because the sympathetic nervous system, through the influence of which the various reflex

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symptoms manifest themselves, becomes accustomed to the abnormality after a time, and fails to notice it; while, on the other hand, after the condition has existed for a long time, and the range of motion has become greater, we have localized conditions, due to traction on the renal vessels and nerves, congestion and inflammation of the organ itself, and occasionally acute strangulation, due to torsion of the blood-vessels and ureter.

In the earlier stages, the most common symptoms are digestive disturbances, nausea, epigastric pain, faintness, especially on first arising in the morning, cardiac palpitation, general nervousness, distension of the bowels with gas. These symptoms are aggravated by exercise and excitement. Many patients are unable to ride in steam or trolley cars without being nauseated; later on they complain of localized pain, or a sense of dragging or weight in the lumbar region, and occasionally severe pain, due to extreme congestion or an acute hydronephrosis from twisting of the blood-vessels and ureter.

Inability to lie on the left side is frequently complained of, and the most comfortable position is flat on the back, which position relieves all strain or traction on the blood-vessels and nerves, and permits the organ to resume its normal position and functions.

The diagnosis of movable kidney is comparatively easy. In most cases the patients are thin and the abdominal muscles relaxed, so that the kidney can readily be felt in either the hypochondriac or lumbar region, sometimes as low down as the iliac fossæ. The examination may be made either with the patient lying in the dorsal position, or standing. Personally I prefer the latter, as oftentimes, when the patient is lying on her back, the kidney goes back into its normal position and remains there and can not be felt at all. If examined while in the dorsal position the thighs should be flexed, to relax the abdominal muscles. The examiner sits on the right side of the patient, with his left hand passed under the small of the back, pressing deeply into the renal region, to prevent the kidney from slipping back into position unrecognized. The fingers of the right hand palpating the front and sides of the abdomen usually recognize the displaced organ.

When a movable kidney is discovered, it should be caught between the fingers of both hands and its characteristic shape outlined. Slight pressure will elicit some tenderness, and a peculiar sickening feeling will be complained of. The kidney readily slips from between the fingers back into position, and it is hardly possible to mistake it for anything else.

If the patient is examined in a standing position, she should have her clothing loosened and her skirts supported by a nurse or assistant, or by the examiner himself, so that she will not be embarrassed with the fear that her clothing will fall off. She should stand before a table or stand, with her hands resting on it, bending slightly forward. The examiner stands behind the patient, with the thumb of the right hand pressing firmly over the lumbar region, and the fingers pressing deeply in front. The kidney is then felt between the thumb and fingers very plainly, and upon slight pressure slips back into position; oftentimes the patient can distinctly feel it slip from between the fingers and will tell you so.

When the left kidney is examined, the left hand is used in the same way. The advantage of this position is, that very often you wish to examine a patient and there is no nurse or assistant to hold her skirts, and the examiner can hold her skirts with one hand while examining the kidney with the other.

In some cases, where the patient is not very thin, it is necessary to use both hands, and under such circumstances the examiner should sit at the right or left side of the patient, according to which kidney is to be examined, and use the one hand behind and the other in front.

Occasionally the abdominal muscles are so hard and rigid that it is impossible to feel anything. Under such circumstances it may be necessary to administer an anesthetic. Movable kidney must not be confounded with a distended gall-bladder, a displaced liver, or other intra-abdominal tumors. A careful examination of the tumor will easily disclose the characteristic shape and size of the kidney, and the history of the case will, if carefully studied, aid in the differentiation.

The prognosis of movable kidney is favorable if properly treated. There is, however, a very positive danger from such a condition that has been of long standing. The traction on the veins, together with an occasional twist in the blood-vessels and ureter, produces congestion, which is after a time followed by inflammatory changes in the tissues, and eventually you have a chronic interstitial nephritis, manifested by tube-casts and albumin in the urine. Acute hydronephrosis is not uncommon, and this in time may be followed by pyonephrosis. Acute strangulation may also occur with necrosis if it is not promptly relieved.

In all cases the patients are chronic invalids and their lives made very miserable, if not actually shortened, by the neglect to recognize and treat this condition. The treatment may be divided into medical, mechanical and surgical.

1. The medical treatment would consist in the use of such measures as would improve the general health of the patient, together with the accumulation of surplus fat. The rest treatment, with forced feeding and massage is sometimes beneficial, at least temporarily, but as soon as the patient returns to her ordinary duties the condition is, in most cases, reproduced. Toning up the nervous system, as well as the digestive apparatus, relieves the effects of this condition sometimes, but does not alter the conditions themselves, and therefore must of necessity be only temporary. For this purpose, I know of nothing equal to tincture of *nux vomica* in large doses, together with cold douching of the spine, followed by brisk rubbing.

2. The mechanical treatment consists in the use of elastic bandages, sometimes fitted with a special pad, called a kidney pad, and in some cases this device relieves the symptoms, but I doubt if it ever keeps the kidney in its proper place.

3. The ideal treatment is surgical, and with our improved methods and technique it is attended with a very small mortality, practically none at all when it is not complicated by other abnormal conditions.

This condition is so frequently found in multiparæ and associated with various lesions of the uterus and other pelvic organs that the gynecologist necessarily comes in contact with the greater number of cases, and a number of operations have been devised for its relief.

It is not my purpose to discuss the merits of the different operations, nor to recommend any particular one, but I wish to say that my own cases have always had a nephrorrhaphy done, with buried silk-worm gut sutures, and in every instance the patients have been restored to perfect health and able to perform all the duties required of them in their different stations in life without any difficulty.

To recapitulate, I would like to emphasize the following points: Examine carefully every patient who weighs

less than 120 pounds and complains of general nervous symptoms, indigestion, palpitation, etc., for movable kidney. If you do not find it at your first examination, look for it again, and even for the third time, as you will frequently fail to find it at your first examination, and will be able to demonstrate it at your second or third. After having found it, study carefully all the symptoms and conditions and decide what is best to be done. When you have so decided, if you favor surgical treatment and are not qualified to operate yourself call to your assistance some one who is and have him operate for you. As to the particular operation, let the surgeon decide that point and hold him responsible for the results. If I have succeeded in interesting one general practitioner in this important subject, and he goes home inspired with the knowledge that he can bring relief to some of his patients who may have been suffering for a long time from this condition unsuspected then I shall consider my time and effort well spent and shall feel amply repaid for what has been so imperfectly done.

SOME NOTES ON THE CLIMATOLOGY OF ARIZONA.*

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It is the purpose of this paper to call your attention to a region about which much has been said and written, and yet concerning which little is known by the medical profession. This lack of knowledge is not limited to the district under consideration and comes through the absence of climatological teaching in our schools and the dearth of literature on subjects pertaining to climate. In the great library of the College of Physicians and Surgeons, in Philadelphia, only one volume on the subject of medical climatology is to be found, and this is really limited in its scope. In about five hundred papers scheduled for this ASSOCIATION only three bear any relation to climate.

Our text-books make reference to the Southwest in a general way in recommending climate for this, that or the other disease, failing frequently to differentiate between the climates of this region. The fact is that there are almost as great differences in the climates of the so-called arid Southwest as there are between the climates of the Atlantic seaboard and the Southwest. This paper simply calls attention to the conditions which obtain in Arizona, leaving to the judgment of the practitioner the applicability of the climate to disease.

Arizona is an immense territory on the west of the great Rocky Mountain divide, extending from the northern line of Mexico 400 miles northward, and between California and New Mexico, east and west, about 350 miles.

Solly, in his "Medical Climatology," says: "An inquiry into the climate of Arizona discloses the fact that it is climatically distinct from each of its neighbors, New Mexico and California, and has natural laws of its own, although these laws are modified in turn by the climatic influences of both the Pacific Coast and the Rocky Mountains." He might have added that within Arizona itself almost every physical feature and climatic condition known to any portion of the United States is to be found. The reason for this is found in the physical features of the country and its relation to the Gulf of California and the Pacific Ocean.

For the purpose of the climatologists the territory has been variously subdivided. The classification most commonly given is that of Captain Glassford, namely, a plateau, a pro-plateau and plain. The present section-director of the weather bureau has made a new classification, which seems more satisfactory. That portion of the territory lying west of parallel 113 and extending to California and Nevada he includes in the district which approximates the "plain" of the other classification, and by dividing the remaining eastern portion by the 34th parallel of latitude, he has a northern and southern district, corresponding approximately to the plateau and pro-plateau of Glassford. In two stations of the western division for the year 1898 the mean temperature was 68.9 F. For six stations in the northern division the mean temperature was 52.03. For twenty-two stations in the southern division the mean temperature was 64.01.

On the other hand adopting the classification of plateau, pro-plateau and plain, we find that the plain occupies the southwestern one-third of the territory. The elevation of the plain varies from less than 100 feet above sea-level to about 3000 feet.

Do not get the idea that this is a perfectly level area, for it is not. True it is a plain, but there are mountains and valleys within it, but they are not numerous nor are the elevations great. The soil of this region is largely composed of a rich loam in the valleys, a sandy gravel on the mesas and the usual rocky formations in the elevations. There is very little vegetation except the cactus, sage bush and mesquite, except where irrigation is employed. As the cities which are visited in the winter and spring by thousands of invalids are within the district, making it the most important area from the standpoint of the medical climatologist, we will pause to review the conditions obtaining.

The assertion has been made that the elevation of the plain varies from sea-level to 3000 feet. Taking the only available report from a medium altitude as an average we choose the report from Phoenix for an average year.

For January the monthly mean temperature was 50.4 F., the mean maximum was 63.3 and the mean minimum 37.4. The mean daily range was 25.8 and the greatest daily range 33. The mean variability was 25, the mean of the three consecutive warmest days was 71. The maximum temperature for the month was 73, the lowest maximum was 52 and the highest minimum was 46 F. The mean relative humidity for the month was 49 per cent. The average hourly wind velocity was 3.7 miles. The total precipitation was 1.76 inches, which was 40 per cent. above the average. The percentage of possible sunshine was 85.

By way of comparison the averages at an elevation of 5000 feet in about the same latitude, in the plateau, gave the following: The monthly mean temperature was 41.5, 9 degrees lower. The mean maximum was 53.4, 7.1 degrees lower, the mean minimum was 29.6, being 7.8 degrees lower. The maximum temperature for the month was 66 as against 73 on the plain, and the minimum temperature was 17 as against 29 on the plain. The mean relative humidity for the month was 60.5 as against 49 per cent. The precipitation was 5.4 inches, some 30 per cent. below normal. The percentage of possible sunshine was 65, as against 85 on the plain.

In order to save time and continue the comparison we will take the month of April, the first of the next quarter. The monthly mean temperature was 68.8, the mean maximum 83.8, the mean minimum 53.7, the mean daily average range was 30.1 and the greatest

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daily range 41, the mean variability was 2.6, the mean of the three consecutive warmest days was 93 and the mean of the three coldest days was 47, the maximum temperature for the month was 95 and the minimum 42 degrees. The lowest maximum was 65, and the highest minimum 66 degrees, the mean relative humidity was 28 per cent. The average hourly velocity of the wind was 5 miles. There was only a trace of precipitation. The percentage of possible sunshine was 83. No rainy days were noted.

For this month in the plateau the mean monthly maximum was 79.91, as against 83.8, the mean minimum was 49.2, as against 53.7, the monthly mean was 64.6, as against 68.8 on the plain. The relative humidity was 22 on the plateau and 28 on the plain. The wind velocity of the plateau was 12.6, against 5 on the plain.

Taking July for another comparison, we have a monthly mean on the plain of 91 F., the mean maximum 103.7 and the mean minimum 78.2, the mean daily range was 25.5, the greatest daily range was 32, the mean variability 2.7, the mean of the consecutive warmest days was 109 and the mean of the three consecutive coldest days 70, the maximum for the month was 112 and the minimum was 68. There were 31 days with maximum above 90, 29 days above 95, and 24 days above 100. The lowest maximum was 92 and the highest minimum 84 F. The mean relative humidity was 40 per cent. This is accounted for by the fact that July is the rainy month of this region. The average hourly wind velocity was 4.7. The total precipitation for the month was .87 inches. The percentage of possible sunshine was 78.

For the same month on the plateau the mean maximum temperature was 91.1, as against 103.7, the mean minimum was 68.9, the mean monthly temperature was 80. The relative humidity was 9 per cent. higher than on the plain. The rainfall was 2.89 inches, against .87. The velocity of the wind was 100 per cent. higher than the plain. The percentage of possible sunshine was about 15 per cent. lower on the plateau.

The month of October on the plain was as follows: Monthly mean 68.9, mean maximum 82.1, mean minimum 55.7, mean daily range was 26.7, the maximum temperature for the month was 96, and the minimum 40. The lowest maximum was 66 and the highest minimum was 72. The average hourly wind velocity was 4.3, the mean relative humidity was 40 per cent. The total precipitation was .3 inch. The percentage of possible sunshine was 78.

On the plateau the mean maximum temperature was 76.2, against 82.1, the mean minimum was 49.7, against 55.7, the monthly mean was 63, against 68.9. The humidity was .51, against 40 per cent. The velocity of the wind was 9.8, against 4.3. The percentage of possible sunshine was 66, against 78.

For the year the means were as follows: On the plain the mean monthly temperature 70, mean maximum 84, mean minimum 56. The total precipitation for the year was 5.19 inches. The mean relative humidity was 36. There were 245 absolutely clear days in the year, 86 partly cloudy, and 34 cloudy. The percentage of possible sunshine was 85. The average hourly velocity of the wind was 4.4 miles.

On the plateau the means were as follows: Mean monthly temperature 48.2, mean maximum 58.5, mean minimum 37.6. The total precipitation was 19.6 inches. The mean relative humidity was 52. There were 180 clear days, 149 partly cloudy, and 36 cloudy. The per-

centage of possible sunshine was 65. The average hourly velocity of the wind was 7.1.

Thus it is seen that Arizona presents a great diversity of climates within her own borders, varying from the subtropical to the almost perpetual snow on the peaks of the high mountains of the north. Yet there is a marked similarity in all portions in the essentials of a dry climate, namely, the low relative humidity and the high percentage of possible sunshine. No region in the United States, and perhaps in the world, equals or even approximates the southwestern plain of Arizona for the dryness of atmosphere, the days of sunshine and low velocity of the wind. As in all dry climates, there is a marked difference between shade and sunshine, day and night, but it is a difference which is regular and constant, and can be guarded against by the invalid, because it can be anticipated.

Furthermore, Arizona offers any altitude from sea-level to 13,000 feet, and she has mineral and thermal springs whose virtues are just beginning to attract attention. If a maximum of sunshine, a minimum of moisture, with the ability to live out of doors in any elevation desired, meets the requirements of the medical profession of America, Arizona presents claims which demand consideration.

PREVENTIVE TREATMENT OF MIGRAINE.*

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The explanation of numerous diseased conditions on the theory of autointoxication has found ready acceptance because of its simplicity and because of much apparent evidence in its favor. This has been an especially welcome hypothesis to account for that obscure group of diseases known as the neuroses, for which all other theories have been so unsatisfactory. In this group it has been common to include migraine. Theoretical considerations, clinical observations and therapeutic results all point strongly in favor of such a hypothesis. But, however simple this theory seems in its statement, it in fact only throws the mystery a step further back. It is an explanation which needs explaining. It opens questions which involve the most complex problems of physiological chemistry. What are the toxic substances? Where and how are they formed? What organs are involved? These and many other questions have not yet been solved, and probably will not be for a long time. This is about the conclusion to which Ewald¹ comes in his recent elaborate review of the subject, which is the best summary of our present knowledge that has been published.

Bouchard's well-known work will remain one of great value, although all of his conclusions are not accepted, as will also the work of Alexander Haig on uric acid. How thoroughly the uric-acid theory has taken hold of the professional mind is evidenced in the frequency with which we find recurring in the medical literature of the past fifteen years the terms "lithemia," "uric-acid diathesis," "uricemia," etc.

As to migraine and similar disorders, Haig's results have been confirmed in so far as the increase of uric acid in the blood preceding the attacks is concerned, and as to the fact that preventing the increase of uric acid

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1. Berlin. klin. Wochenschr., Feb. 12 and 19, 1900.

usually prevents the attacks. However, it has never been accepted that uric acid alone was the noxious agent.

The discovery of ptomains and leucomains raised the presumption that some of these bodies, particularly the leucomains, might be the real causative agents, especially when it was found that the symptoms produced by the injection of these substances into animals closely resembled the symptoms of some of these diseases. As the leucomains may be supposed to fluctuate along with the uric acid in the metabolic changes of the body, we have in this supposition supplied exactly what has been wanting as a causal factor.

About 1895 I became interested in the investigations my fellow townsman, Dr. B. K. Rachford, was making along this line. He apparently demonstrated the presence of paraxanthin in excess in the urine following attacks of migraine and migrainous epilepsy.²

Not only did his experiments seem to be conclusive, but the results of treatment on the lines thus indicated seemed to confirm it. Unfortunately other experimenters have not been able to confirm Dr. Rachford's results. Dr. Pfaff,³ of Boston, has failed to find paraxanthin in the urine in such cases. Drs. Forcheimer and Stewart have apparently shown that the toxic properties of urine are due to bacteriological growth after it has passed, and that urine, either from a normal or migrainous subject, which is kept sterile is not toxic. These results throw considerable doubt on the reliability of Dr. Rachford's results, so that we must admit that however attractive and however probable, they are as yet not demonstrated.

To us, as therapists, the result of treatment is the main question, and here, as elsewhere, our therapy may be in advance of our pathology. Although I can not be sure of Dr. Rachford's pathology, I have had in cases of typical migraine great satisfaction in following his plan of preventive treatment as given in his various papers published in the *Medical News* and *Archives of Pediatrics*.

In its essentials this treatment, it is true, is not original. Since Haig's book appeared in 1892, I had, with fair success, followed his treatment of exclusion of meat diet, the administration of salicylates and other drugs which favor the elimination of uric acid; but my success has been much better in thoroughly carrying out the treatment of Dr. Rachford.

It must not be forgotten that, notwithstanding some form of leucomain poisoning may be the efficient cause, those concomitant causes which are enumerated in the text-books under etiology should not be neglected. Perhaps the most important of these is eye-strain. So frequently is this found that some writers have been inclined to make it the chief pathological factor.⁴

But the correction of ocular defects does not always cure without further treatment. Uterine and menstrual disorders must have appropriate attention. In children, adenoid growths should be removed. Vicious habits and hygienic sins must be corrected. Some of the French writers have ascribed an important rôle to dilatation of the stomach and proptosis of the abdominal organs in the production of sick headache. By favoring fermentation and absorption they may be predisposing causes when present. One such case has come under my care.

CASE 1.—Mrs. J. W., aged 41 years, widow, mother of two living children, of lithemic diathesis and with lithemic family history. General health is excellent; she has severe headaches recurring every ten or twelve days, accompanied by nausea and vomiting, with dizziness and flashes of light before the eyes. Pain is worst on right side, but radiates over whole head; has some fermentative dyspepsia with coated tongue, eructations, etc. Bowels constipated, urine somewhat scant and high colored. Has been subject to migraine nearly all her life. Physical examination negative, excepting relaxed abdominal walls with descent of stomach, lower margin of which is one inch below the umbilicus. An abdominal bandage was ordered; daily lavage was made for two weeks, then tube used only when symptoms of gastric fermentation returned or a headache threatened. Meat was excluded from the diet; the constipation corrected; lithia water given freely; exercise in open air ordered.

There was an immediate improvement, the headaches recurring only with some violation or neglect of instructions. Since the migraine had existed prior to a time that it was likely her proptosis began, for there was a distinct tendency to lithemia, it is not likely that the proptosis was more than a minor causal factor. My observations have convinced me that the essential in preventive treatment is the withdrawal of the red meats from the diet. At the beginning this is a hardship for many patients, but after a time they lose the craving for meat and very willingly avoid it. The hearty co-operation of the patient is essential for success. I am accustomed to say to such patients: "Your headaches are due to a constitutional tendency which can not be removed, but you may have your choice of suffering or being practically free from them by practicing self-denial and following certain rules." This plan of treatment is briefly as follows:

1. Red meats are to be rigidly excluded; fish, bacon, brains, sweet-breads and eggs are allowed. Rich and highly-spiced dishes are to be avoided. Coffee, tea and alcoholic beverages are to be excluded. Sweets should be reduced, but when meats are excluded a moderate amount is well borne. Water may be taken very freely. Meals to be taken at regular intervals and overloading of the stomach to be avoided.

2. As much outdoor exercise is to be taken as possible—undue fatigue to be avoided—rooms always should be well ventilated, both by day and night; and hot baths taken two or three times a week. In some cases the Turkish bath is beneficial; in some cases the morning cold sponge bath is directed.

3. The medicinal treatment aims to regulate the bowels, to promote intestinal antisepsis and to stimulate the liver, the great organ for completing the oxidation of the products of metabolism, and protecting the body from poisoning. The same end may be attained by various means. The various salicylates are all useful. In obstinate cases an occasional mercurial is required. I have had the best result in the long-continued use of some of the formulæ recommended by Dr. Rachford.⁵ The one most commonly used is as follows: sodii sulph. (crystals), 120 grains; sodii phosphat., 30 grains; sodii salicylat., 10 grains; tinct. nucis vom., 3 drops; aquæ dest., to make 4 ounces. This dose is to be taken before breakfast each morning and is best taken in a glass of seltzer, or still better the ingredients are made up in these proportions in large siphon bottles charged with carbonic acid. The proportions are variously modified in different cases. In my own case I have so far seen no benefit from the use of potassium permanganate, which Dr. Rachford frequently uses.

2. Trans. Assoc. of Amer. Physicians, 1895, Med. News, May, 1896.

3. Trans. Assoc. of Amer. Physicians, 1899.

4. E. C. Seguin, *Cyclopedia of the Diseases of Children*, iv, p. 832.

5. *Archives of Pediatrics*, Oct., 1897.

From a number of cases which have been kept free or nearly free from suffering for a long time I select the following:

CASE 2.—Mrs. C. E. S., aged 42, large and fleshy, of indolent habits, has been subject to sick headaches since puberty, general health is good. She came under treatment in April, 1898, at which time she was having an attack of typical migraine every two weeks, of great severity. After ruling out ocular defects and other sources of reflex disturbance she was put on the course of treatment above outlined. The above mixture in siphon she took each morning for several months, and still takes it for a few days or weeks if she becomes constipated or is threatened with a return of headache. The headaches disappeared almost immediately after beginning the treatment, and now recur very rarely and only when she breaks some of her rules.

CASE 3.—Robert S., aged 9 years. In early childhood, as nearly as his mother can recall, when between 2 and 3 years old, he began to have paroxysmal attacks of vomiting with severe headache and great prostration. He continued to have these attacks every two or three months with occasional milder attacks between. In the severe attacks he became unconscious, with head strongly retracted, with pupils contracted. On several occasions physicians who saw him believed that he was developing meningitis. All treatment had failed to do more than mitigate the attacks. He was very fond of meat, and it was quite a struggle for him to give it up. However, he very manfully submitted to the ordeal and was rewarded by almost complete relief for the past year and a half. He is allowed to have a little chicken occasionally. He now cares so little for butchers' meat that he does not eat it if placed before him. He has grown stronger and more robust. The oculist's report in this case was negative. He took a mixture of salicylate, phosphate and sulphate of soda before breakfast for one year, and still occasionally takes it.

In two other school children of about the same age I have had the same result, except that in one but little benefit was derived until errors of refraction had been corrected, and the third had constant relapses, from failure to follow the treatment, although quite free when closely adhering to it.

CASE 4.—Mrs. G. D., aged 37, has family history of gout and rheumatism, is subject to rheumatism and neuralgia, has severe headaches just preceding each menstrual period, with extreme nausea and vomiting. The pain is supraorbital and on the right side. She is also subject to headaches which are not migrainous in character. She has astigmatism and myopia. She has also had pelvic inflammation leaving retroversion and adhesions. As her reflex disturbances can not all be removed and as the pelvic conditions do not allow vigorous exercise the result of treatment has not been entirely successful in her case. However, her attacks have been so greatly mitigated in severity and diminished in frequency that she very gladly adheres to the main outlines of this plan of treatment and most of the time has a siphon of the saline mixture on hand.

These are but a few cases chosen to illustrate the general outline and general principles of treatment of a large class of people, many of whom had life made miserable by the constant recurrence of their attacks of sick headache.

DISCUSSION.

DR. HEINRICH'S STERN, New York City.—The medical men of this country should be thankful to Dr. Rachford, of Cincinnati, Ohio, for pointing out that paraxanthin, which is the urotheobromin of the older experimenters, is found in increased quantities in the urine of persons who have been subjected prior to the enlarged excretion of this substance to an epileptic attack. Migraine possesses an epileptiform character, and I have found, repeatedly, a greatly increased output of this dimethyl-xanthin body in the urine of patients habitually suffering from migraine. Paraxanthin melts at 295-296 C., and forms glistening plates often 4 mm. broad. It crystallizes occasionally in needle-form crystals. It is hardly soluble in cold

water. In hot alcohol it dissolves readily. Its solutions react neutral.

The methods employed by Bouchard in his experiments are irrational, imperfect and in a measure nonsensical. As I stated some years ago—Recent Studies in Urinology—there are mainly two objections to the experiments alluded to by Dr. Mitchell: 1. The direct introduction of the urine of man into the circulation of the rabbit. 2. The application of the phenomenon thus produced toward forming conclusions as to the autogenesis of certain diseases in man. The poisonousness of the renal secretion, I contend, may depend on certain elements which are not preformed in the blood, and which are transmitted into the urine from another source.

I am sorry that the time allowed for discussion does not permit of going at greater length into Bouchard's experimental fallacies and subsequent irrational conclusions. We American physicians have no business whatsoever to accept every new fad in medicine on account of its newness or because it is imported.

The red meat, chemically speaking, does not seem to differ materially from the white meats. The xanthin bodies are contained in the white meats in about the same quantities as in the red. Birds excrete enormous quantities of uric acid. This substance is contained in goodly quantities in the liver and muscles of geese, turkeys and other poultry. Most flesh of poultry is classified as "white meat," but it certainly contains all or nearly all these substances which we wish to keep out of the organism, when we prescribe a diet without "red meat."

DR. J. H. YARNALL, Washington, D. C., said that he has all his life been a great sufferer from migraine. His diet has consisted almost exclusively of red meats, never having eaten but one vegetable. He has at different times tried strict dieting, abstaining from meats and living on milk, eggs and dried bread without noting any difference in the frequency or severity of the attacks. The treatment that affords him the most relief is perfect rest: as soon as he notices the scintillating sparks appear before his eyes in the premonitory stage, he goes, if he can, into a darkened room and lies down, takes a small amount of whisky, and remains perfectly quiet; he generally gets over an attack in this way in an hour, but if the circumstances are such that he can not do this at once, the acute attack ensues with the most intense headache, the pain being of such a piercing character that he has had to take a small dose of morphia for relief. This treatment is only palliative, and has no effect in diminishing the frequency of the attacks. His experience has been that there is no distinct line of treatment that will suit all cases, but that each must be studied and treated on its own merits.

DR. A. L. BENEDICT, Buffalo, N. Y.—What is most needed in a discussion of this topic is an agreement as to what is meant by migraine. Oculists say that it is a headache due to eye-strain; some clinicians say that it is a gastric reflex; others go so far as to declare that it is essentially gouty. If asked just what they mean by "gouty migraine," they will answer that it depends on an intestinal indigestion. If we question further as to the nature of the failure of intestinal function, we meet with no satisfactory explanation. In some instances migraine seems to be the expression of a bacterial development in the lower bowel. In such cases great relief may be obtained from thorough flushing of the bowels, both by the rectum and through the mouth. In the use of colonie lavage, we must be careful to avoid the time of gastric digestion, for the reasons pointed out by Dr. Fenton B. Turek, of Chicago.

Many of these cases of so-called migraine are due to deficient secretion of hydrochloric acid, and are best treated by the administration of this acid. I wish to emphasize this point because so many physicians, relying on the sourness of which patients complain, fall into the error of considering the condition one of superacidity. In a sense, it is superacidity, but of an organic kind and best combated by hydrochloric acid, though alkalies will give immediate relief. I admit the possibility of migraine due to hyperchlorhydria, but, in my experience, this symptom is very rare in patients who have an excess of hydrochloric acidity.

Dietetic causes are certainly operative, but I believe that the essayist has too severely condemned sugar and candy. Most of us, at least in America, eat about three times as much meat as we should. I do not mean this as a general statement, but as one representing an actual, though approximate, arithmetic calculation. If we estimate the amount of proteid contained in bread-stuffs, vegetables, eggs and milk, we shall find a very small amount left to be provided in the form of meat. The ordinary serving of meat at a first-class restaurant is considerably more than should be taken in the course of an entire day. If we eat more than one meat or fish course, or if, as most of us do, we eat meat, hot or cold, fresh or preserved, at every meal, we exceed the normal ration at least twice. Now, with this excessive diet of proteid and of proteid rich in extractive, that is excrementitious, matters, if we take two or three pieces of candy and have a headache, the average layman, as well as the average physician, ignores the meat and lays the entire blame on the sugar. Very few of us are using muscles or wearing out our brains to such a degree as to need very much reparative material, and this is the sole physiologic function of proteid, although it may, in an emergency such as diabetes furnish, be employed as a producer of heat and force. Sugar, on the other hand, is a valuable and concentrated fuel-food. All carbohydrates are digested into glucose before being of use to the body, and we have a special intestinal ferment to split into glucose, the three double hexoses, milk-sugar, maltose and cane-sugar. In many cases of migraine we find an excess of indican in the urine and an excessive virulence of the colon bacillus, due to the presence of an excess of undigested but rotting proteid. It certainly is a mistake to incriminate sugar and candy in such cases, though their excessive use may aggravate the essential condition.

DR. J. N. UPSHUR, Richmond, Va., wished to refer particularly to the use of red meat and the supposed lithemic cause of migraine. He thought, after reading Haig's book, that Haig has a hobby and rode it, booted and spurred, for all it was worth. The speaker had seen many cases of migraine, in which it would not apply, cases of headache from other causes beside digestive disturbance. Many of his patients presented symptoms of overwork of the nervous system, one of the first symptoms of breaking down in some of these was the failure of digestion, but not from any dietetic cause. There is probably in many of these an accumulation of uric acid in the excretories of the body, as the result of disturbance incident to nerve strain. Like the gentleman from Washington, he had himself personally suffered from migraine, but in his case it was a condition of lithemia due to overwork. The attacks were associated with intense pain in the colon; requiring several weeks to break it off by careful treatment. Patients may suffer from migraine without committing any errors of diet, but as the direct result of overwork and nervous strain. There is a prominent member of the ASSOCIATION, a tireless worker, who, finding himself suffering with lithemia, followed out the plan of Haig, although he was the smallest eater of any man the speaker had ever seen. He did not need to be dieted, but did require a careful building-up treatment. The result of following out this plan of Haig's treatment in this case has been most unfortunate, and the distinguished patient is practically "laid on the shelf" in the midst of his usefulness. We do not yet know the pathology of gout and lithemia. The speaker noted a distinction between gout and lithemia. In a case of gout we have a history of a man who eats heartily and takes his bottle of Burgundy and goes to bed, feeling very contented with himself and the world, but wakes up at 2 o'clock in the morning, feeling as if a blacksmith had his toes in a vise. The next day he feels well and does it all over again. That is the result of indulgence in the pleasures of the table and is common in England. In this country, on the contrary, we make eating entirely a secondary consideration. A man here usually will only take twenty to thirty minutes for his meals, and really does not give enough attention to the subject. Personally he is a very small eater and cares little for food, but lives under constant strain and pressure, and from this overstrain of the nervous system he has a condition, from time to time, of something which he calls lithemia, although he does not know whether it is uric

acid or some other error of metabolism. In the treatment, however, some action must be had upon elimination, either by the kidneys or the liver, in order to overcome it; and until evidence is obtained of proper secretion of bile from the liver, all other remedies will be of no effect. You must use one of the mercurials and follow this up with phosphate of sodium, which is the best solvent of uric acid that we can have. He gives it in hot water several times a day, until full action is obtained and then he follows it up with salicylate of sodium. Some physicians prefer salol, which is the most infamous concoction that has ever been introduced. A man does not want to put into his stomach anything that, for several days after taking it, will make him feel as if he had a hornet's nest in his stomach, from the eructations of gas. The principal thing is to relieve the nerve-strain. What the condition needs is rest, not dieting but every patient must be treated according to his individual merits, by taking away the red meats in some cases, while others needing nourishment are allowed the red meats in moderate quantity with other food. In most cases, the best nourishment is plenty of fresh milk.

DR. J. M. ALLEN, Liberty, Mo., said he had noticed that in regard to migraine, or old-fashioned sick headache, it subsides if the patient lives to be 55 or 60 years of age. The pathology of migraine is unsettled. It commences with pain in the head and is followed by nausea. Is the nausea due to the headache, or is it due to reflex, or other causes? In some cases it is observed that the stomach is intensely acid, and the intensely acid fluid passes through the pylorus. When there is not enough alkali there to overcome this acid condition of the contents of the intestine, in order to produce the necessary digestive changes, the result is interference with metabolic processes. The next phenomenon noticed is an increased flow of urine. As a result of the faulty metabolism, we have some noxious substance present in the blood, and this is thrown off in a large flow of urine. Some say there is deficient action of the liver. If there is any way of discovering when the liver does not secrete bile, he would like to know it. The liver keeps right on secreting bile. When the stools are pale, it is because the biliary ducts are obstructed, and all cholagogue remedies do harm. Moreover, the retained bile can not be the cause, for we know that just where biliousness should be expected in catarrhal jaundice, where there is no obstruction of the gall-ducts and the white stools, these symptoms are absent.

DR. E. H. BARTLEY, New York City, said that he would like to harmonize the various conflicting theories which had been mentioned with regard to the pathology of migraine. The accumulation of uric acid has been blamed by some; others hold that the digestive disorder is the principal factor, and others believe nervous disturbance to be at the bottom of the matter. Each view is partly right. There is impairment of digestive processes, but the nervous strain leads up to the digestive disturbance and the lithemia. The nervous strain is not the direct cause of the lithemia, but leads up to it. It must be remembered that Haig's method does not distinguish between uric acid and the xanthin bodies, so when Haig says uric acid, he means uric acid plus the xanthin group of bodies to which reference has been made by Dr. Stern. There is one point in diagnosis that is important. Where the nausea precedes the headache, it is usually a case of migraine due to stomach disorder, but where the headache comes on first it is likely to be one of nervous origin, often due to eye-strain. With regard to the cure of the patient, we can get the attacks to come a month or two months apart, or even at longer intervals, but in a patient with this tendency to migraine, he can not always expect to get entirely rid of the headaches, and he should be told this so as not to expect too much from the treatment.

DR. E. W. MITCHELL, in closing, said that in his paper he had spoken only of typical cases of migraine. In the discussion he had not heard anything to disprove the fact that the xanthin or alloxuric bodies are not present in the urine. While we may not accept the work of Haig to the full extent, yet it clears up the subject. It is quite probable that varying symptoms may depend on varying amounts of these partially changed bodies being carried over and not burned up. It is likely that the liver is the organ which has the function of

converting these bodies. So we come back to the former views as to biliousness and inactive liver, but we have a more scientific view as to what is meant and how the liver may be at fault. The essential point in the treatment is not one remedy, or single combination of remedies, but following out the plans of treatment indicated, which he had adopted with such success that he felt warranted in bringing it before the Section. In some cases, meats can be withdrawn and eggs substituted; he also recommended to his patients to use brown and particularly corn bread instead of white. In regard to the discussion about the red and the white meats, there is a difference independently of the question of the proteids. He considers the white meat more easily digestible. Where there is disturbance due to bacteria, it would be advisable not to use meat at all. In the laboratory we use meat broths for making cultures of virulent bacteria, and perhaps their use might favor such infection in the bowel.

CASES ILLUSTRATING VALUE OF RECTAL INJECTIONS OF SALT SOLUTION IN HEMORRHAGE AND THREATENED COLLAPSE

T. B. GREENLEY, M.D.

MEADOW LAWN, KY.

On Sept. 16, 1899, I was called to see a woman suffering from hemorrhage due to abortion, at the end of the second month. She was virtually in a state of collapse, being pulseless and very pallid. I gave, hypodermically, nitroglycerin and atropin, near the shoulder.

Then, as soon as I could have it prepared, I injected nearly a half-gallon of hot salt solution into the bowel and held it there by pressure on the anus for one-half hour; her pulse came up, and she resumed to some extent, her natural color. I then put her on turpentine and ergot every two hours.

There was no more hemorrhage. The entire ovum was expelled, and there being no placenta I did not, in her prostrated condition, examine for clots. I saw her the next day, and found her doing well, with no further hemorrhage.

CASE 2.—On the night of Nov. 3, 1899, I was hurriedly called to see Mrs. R. She was supposed to be in the third month of her pregnancy. She was flooding freely; a large pool of blood was on the floor, having passed through the bedding. She was nearly pulseless, her heart beating very feebly. I could feel a vibration of the radial artery, at the wrist. I used the same treatment in this case as in the first, and, in addition, washed out the womb with hot water, and removed the remaining clots with my fingers. She rallied in less than an hour, when the hemorrhage was completely arrested. I put her on turpentine and ergot, as in the first case.

CASE 3.—This was a neglected case of cholera infantum in a child of eight months. It had vomited and purged nearly three days when I saw it, and was nearly exhausted. The small vibration of pulse at the wrist could not be counted. It had kept food on its stomach only a few minutes at a time since it had been taken sick. It was very restless, and reached and cried for anything in a glass or cup, from intense thirst.

I injected about 1/40 grain of morphin with a minute portion of atropia, in its arm; as soon as I could have the salt solution prepared, I injected nearly a pint into the bowels, retaining it by pressure. In less than an

hour its pulse came up, and it became quiet. I then allowed a teaspoonful of milk every fifteen minutes. It ceased vomiting, and in a few days, under proper treatment, was restored to health.

It is astonishing with what rapidity the sigmoid flexure and colon can absorb fluids in conditions where the blood-vessels are virtually empty, as illustrated in the above cases. It seems to me that this would be a better, if not a quicker, mode of introducing salt solution into the system than by hypodermic injections, likewise less painful to the patient and less dangerous than transfusion. In cases of emergency, like those above related, it is essential to get the fluid into the circulation as quickly as possible; it can be done by enema much sooner than we can get ready to do it by either of the other modes.

Another advantage is that the sterilization of instruments is not necessary; no time is lost thereby. We require only a fountain syringe, and in its absence a common hand syringe will answer the purpose. The salt solution should be sufficiently warm, about 110 to 115 F., and of the strength of an ounce of sodium chlorid to the gallon of water.

In using the hypodermic injections, we have to be prepared with the proper size of needle, which should be sterilized before using. This operation should be only done by the physician. Transfusion is attended with more risk to the patient and should only be done by the most careful and painstaking physician, and in fact it would always be advisable, when this operation is performed to have consultation.

In cases of emergency, like those above related, we have not time to send for instruments or medical assistance. Therefore, we contend that the quickest and safest plan, in such cases, is the best.

Salt solution is not only used as the proper fluid to restore the lost volume of blood to the system, but is also regarded as an effective antiseptic.

DISCUSSION.

DR. J. M. ALLEN, Liberty, Mo., approved of the teaching of the paper, which was on a comparatively new subject. Not every physician is in a position to transfuse blood, but rectal injections of normal salt solution can be practiced by every one. The one great difficulty experienced is in getting the fluid to rise above the sigmoid flexure. His own plan has been to raise the hips of his patient by allowing him to lie across, and partly over, the bed, with his shoulders near the floor. By this expedient the injection is very easily introduced and retained. With the aid of ergot to constrict the tissues and strychnin to overcome the anemic condition of the brain, and the use of this method, he does not see that it is necessary to lose a single case of this character. Time is what is wanted, and only a short time, and this expedient keeps the patient up until the blood-vessels are again fully supplied with blood.

DR. J. TRACY MELVIN, Saguache, Colo.—In the treatment of cholera infantum, there is one fact which must impress itself on every practitioner, i. e., that the saline injection is the one remedy for the relief of genuine cholera infantum. There is generally too much time lost in trying other remedies. If the author of the paper can persuade other physicians to overcome the collapse not only of hemorrhage, but also of cholera infantum, by saline injections, he will render valuable service and save many lives.

DR. T. B. GREENLEY, in closing, said that the first time he used the normal salt solution this way was in a case of collapse following postpartum hemorrhage. It occurred to him that if he could by any means fill up the blood-vessels, he might overcome the collapse. He made the experiment of injecting the saline solution into the bowels; the patient soon afterward came out of the collapse and made a good recovery.

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PHYSIOLOGIC RESUSCITATION OF THE STILL-BORN.*

DANIEL LICHTY, M.D.

ROCKFORD, ILL.

The usual methods of resuscitation recommended and practiced are so illy applicable at the bedside, to the restoration of the still-born, and so often ineffectual, that the suggestions here given and employed during eight years of the usual obstetric service of the general practitioner are deemed worthy of presentation.

The bronchi, bronchioles, rings, alveoli, sera, epithelia, mucosa, capillaries, elastic connective-tissue and muscular fiber of the lungs form an aggregation of structure as interesting and complex, regardless of their nervous control, as any in the human body.

Bearing in mind that the lungs do not functionate at all as organs during intrauterine life, but simply vegetate through their nutritive channels; and that the rich and active plexus of vessels of the pulmonary circuit are not employed during this period; and that the resiliency of the pulmonary tissues has not yet been tested, nor have the chest muscles been used in the mechanism of respiration, it becomes more apparent that physiologic rather than mechanical methods should be sought and employed to induce function.

During fetal life the respiratory center is in physiologic desuetude, or in an apneic condition; but there remains unleashed a negative pressure-of-inspiration in the nerve-cells of this center which is an inherent or latent potentiality, which keeps up a physiologic, coordinated, rhythmic relation with the circulatory center through their inosculating branches as long as life exists. Fetal blood has a larger percentage of hemoglobin than the mother's, and has also a larger respiratory capacity than adult blood; hence there is a remarkable power of resisting asphyxia in newly-born animals that have never breathed¹. This was noted as early as Haller's period, and has since been made a subject of further experiment by Buffon, Langollos, Rosenthal, Stokes, W. F. Edwards and others.

Animals that are born with their eyes shut, as dogs and cats, and which have at first very little animal heat, will show signs of life after complete submersion for more than a half-hour in warm media; on the contrary, if a hibernating animal is put in a temperature of about 10 F. below zero, it dies through a paralysis, or inhibition of the center of respiration; but when these same animals are enveloped in an atmosphere or medium of greater temperature than found in either at birth or at apnea, respiration is soon established², even to a degree of excessive depth and frequency. And again, Dr. Ackerman has stated that the frequency of respiration is caused by neither want of oxygen nor excess of carbon dioxide in the blood, but alone by the increase of temperature of the whole organism, or heat dyspnea, or what Dr. Isaac Ott calls polypnea.

That there is an anatomic and physiologic area or center in the medulla oblongata which is recognized as presiding over respiration is no longer a subject of doubt or discussion. Experiment has been often enough duplicated to prove that removal of or injury to the medulla oblongata, alone, at once stops all respiratory movements, even though all the muscles of the trunk concerned in respiration—and they are many—and their associated nerves be left entirely uninjured; or, if that

smaller tract of the medulla whose limits are not as yet exactly defined, lying below the vasomotor center, between it and the calamus scriptorius, be crushed or removed, respiration ceases though every other part of the body be left intact; so near this is the inhibitory vagus center that it too is generally injured or irritated and the heart's beat arrested or impeded, instant death ensuing.

This very important portion of the nervous system was designated by Flourens, the "vital knot," or ganglion of life; it is now, I believe, generally recognized by physiologists as one of the respiratory centers³.

The group of dynamics stored in these centers coordinating respiration, is very complex and of wide distribution, as evidenced in impending asphyxia, dyspnea or aroused respiration, when nearly all the muscles of the trunk are called into requisition, reinforced by the rigid extremities fixing the trunk as auxiliaries.

Isaac Ott's polypneic center seems so firmly established that its recognition in this connection confirms the practice to be recommended: he locates this center in the tuber cinereum, and demonstrates that external heat as an irritant to the cutaneous surface carries an excitant to the polypneic center which, acting as a reflex center, sends other impulses that are carried to the adjoining respiratory centers, causing rapid respiration; he asserts that heat is the best external stimulant to rouse the polypneic center—the center of respiration in cases of poisoning or drowning.

Then we have Christiani's expiration and inspiration centers, Martin and Booker's inspiration center in the posterior bodies of the corpora quadrigemina; and Ott's polypneic center; all these subsidiary ones are in the medullary center and through this depot exert their influence on respiratory movements; these subsidiary or subordinate centers are no doubt connected with each other and with the vital center by well-fixed and responsive nerve-paths. It would be a waste of time to rehearse the experiments made in this field of research⁴, while the clinical evidence that confirms the existence of such a depot is not rare; and the interrelation of function, physiologic and pathologic, between this and the ganglia of the great sympathetic, or organic brain, adds strength to the position.

"We also know that many cases of head injury by accident, or during delivery at child-birth, appear to end fatally, owing to failure of the respiratory center; in these cases alternate heat and cold to the abdomen and chest tide the patient over this dangerous period and bring about an ultimate recovery."⁵ There is no doubt that most of the cases of asphyxia neonatorum are caused by pressure on the occiput during emergence beneath the symphysis and are a traumatism as much as if occurring in an ordinary accident.

Every ultimate structure has its center and its periphery, whatever its shape; the nucleus, nucleoli, surrounding fluid and hyaline wall form an arrangement by which excitation of any part of its peripheral wall finds an active response at its center; the human organism is an aggregation of these mobile, plastic and responsive units of which the new-born is its most delicate expression; the dynamic forces given by the gestative impress are inherent in all the structures; it is our duty to recognize these anatomic structures and physiologic processes in the methods of the resuscitation of the still-born. We know that the syncope occurring in chloroform employed as an anesthetic, induces primary failure of the circulatory mechanism and secondary failure of the respiratory center; the latter fails to act not

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only because of the damage by the drug, but also because of the anemia of the medulla induced by the fall of arterial tension". We also know how easily syncope can take place where there is general cerebellar anemia, and also where depletion has occurred from traumatism, accidental or surgical; whether attended by shock or not.

Resuscitation in these cases is by prompt depression of the upper zone of the body to favor gravitation of the blood to the dependent cerebellar region and medullary center. Next in importance to this is the supplying of artificial heat externally; and the supplementary pressure of the capillaries by the subcutaneous, subperitoneal or rectal flushings with the "normal salt solution," and a further prone or inverted position to stimulate both the centers of circulation and respiration.

The same fundamental principles adapted to the emergency of resuscitation at the lying-in-bed in the private home or hospital wards will, it is believed, achieve more than the methods usually employed, with less sanguinary and manual exhibition —e. g., such as Schulze's swinging of the child's body through the air. Sylvester's mechanical methods, etc.

If due preparation has been made and anticipated, resuscitation provided for, a basin large enough and an abundance of warm water is at hand, in such a case submersion of the occiput of the collapsed child is easily done and one of the requirements met; but the reverse of what should be is usually done—the hips and legs are immersed, while the head and body are held erect, whereas the feet and body should be elevated and the occiput completely immersed. With a hand resting beneath, this can be done, taking care not to allow water to enter the nasal or oral aperture; then, with the ring and little finger of the left hand, we should elevate the middle body, and with the right hand, or by the aid of an assistant, let fall or dash a half-ounce or so of cold water upon the unsubmerged epigastrium, and soon the reward of a gasp is heard—the stimulus to future respiration. This maneuver can be repeated once in ten or fifteen seconds, an ample time while waiting for return of animation. Should success not come with the first attempt, draw forward the tongue and at the next impact of the cold water a reflex will have gone forward and upward that will surely do its work.

Sometimes in the hurried advance of labor and the emergence of the child, complete equipment is not at hand; then a pint of warm water in which to submerge the occiput is of use, with warm flannels for enveloping the elevated body, and the accoucheur can sit at the bedside treating the child while the placenta and cord are still functioning with the mother. If the cord is short, this still has an advantage over early severance of the funis and removing the child to a remote table for manipulation where observation of the mother is lost and the chances of the child not enhanced.

If, while this manipulation is going on, the placenta is expelled, its maternal surface can be exposed to the air for the blood-absorption of oxygen, according to Dr. S. Stringer's method; here, however, another vigil must be kept, lest passive retrograde circulation ensue and the child become exsanguinated by placental hemorrhage. This may seem an inactive way when compared with the spectacle of swinging a child through the air, or hastily calling for a table and assistants to perform Sylvester's or Hall's resuscitation methods; and it may not seem as simple as the attempts to inflate the lungs, which usually only inflate the stomach: which if there is any good in it is through the reflex at the solar ganglion.

Physiologic methods are above mechanical, and recognition of this fact and practice on this line will bring results and recompense.

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Clinical Report.

CASE OF ECTOPIC PREGNANCY.

J. HENRY BARBAT, M.D.

SAN FRANCISCO.

The following case illustrates the necessity of giving apparently trivial symptoms due consideration, and acting without delay if we wish to save our patients from unnecessary and serious risk from hemorrhage. Mr. H. came to my office on Friday evening, Nov. 30, 1900, to ask about his wife's condition. He stated that she had pains and some tenderness in the lower abdomen and had been flowing very slightly every few days for ten days previously. Her menstruation had been regular, but at the last epoch, on November 2, she flowed only for one day, her usual time being three or four days. I called to see her the day following and in addition to the symptoms mentioned found that ten days previously she had had a sudden pain in the abdomen, which was followed by considerable tenderness. Examination showed a soft mass in Douglas' cul-de-sac which could not be definitely outlined on account of the tenderness, but which seemed to be more to the left of the uterus. The uterus was about the size of a two months' pregnancy, and felt soft and doughy. After the examination the pain and tenderness seemed to leave, and the patient stated that she felt perfectly well; but the symptoms were sufficiently characteristic to make me feel that an ectopic pregnancy existed, and that the sudden pain which had come on was due to a slight hemorrhage from a rupture of the sac. An immediate operation was advised, and done on the morning of December 30. On opening the abdomen no blood was noticed, but a sponge passed down into the bottom of the pelvis was saturated with dark fluid-blood, showing that hemorrhage had taken place. The left side was examined first and the ovary found enlarged. This was cut into and proved to be a corpus luteum of pregnancy; the tube was normal. The right tube was enlarged at its distal end to about the size of an egg, and had two patches of lymph adherent on opposite sides. The ovary was normal. When the lymph was removed, the points of rupture were disclosed, and bled profusely. The tube was removed close up to the enlargement, leaving fully 2 inches of normal tube; the cut end was split for 1/4 of an inch and the mucosa sutured to the peritoneum. The specimen proved to be a six weeks' pregnancy. The patient made an uninterrupted recovery, as we usually find in all cases which are operated on before severe hemorrhage has taken place.

The case is of interest on account of the meager symptoms and the fact that the ovum which was extruded from the left ovary was fertilized in the right tube. Delay would certainly have resulted in further hemorrhages, with possibly fatal result.

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SURGERY OF THE NINETEENTH CENTURY.

About twenty years ago one of the most celebrated surgeons in London made a public address in which he stated that surgery had reached its limits. To-day one of the most famous surgeons of this country announces that the birth of modern surgery dates back barely a quarter of a century.

W. W. Keen, M.D., LL.D., ex-president of the AMERICAN MEDICAL ASSOCIATION, in his critical survey of the "Progress of Surgery,"¹ traces in broad lines the effect of the two great discoveries in surgery—*anesthesia* and *antisepsis*—to their individual results in each branch of surgery; and shows what few surgeons themselves realize how vastly the proportion of human suffering has been lessened, and how greatly human life has been lengthened by the appliances of these discoveries. The desire to bring relief to suffering is too widely human to permit of a narrow national pride, but it can not, nevertheless, fail to be an incentive to American surgeons to remember that some of the most brilliant achievements have come from their fellow countrymen.

After vaccination, which event illumined the history of medicine at the close of the eighteenth century, the most important discovery was that of *anesthesia*. On Oct. 16, 1846, Dr. John C. Warren first performed a major surgical operation without inflicting the slightest pain. Ether was for the first time administered in the Massachusetts General Hospital, and the very sponge which was then used is still a precious trophy of that hospital. The news of the discovery spread like wild-fire over the whole civilized world, revolutionizing the methods of surgery. Prior to that time an operation was attended with horrors that neither patient nor surgeon to-day can conceive. Only the most heroic would submit, and rapidity was the chiefest recommendation that a surgeon could have. With the freedom from pain has come the modern deliberate, careful, painstaking operations, involving minute dissections and the greatest accuracy where a single stroke of the knife may mean life or death.

It is interesting to recall the rapidity with which the number of patients increased. In the five years preceding the discovery of ether, only 184 persons were willing to be operated on in the Massachusetts General Hospital, so that the students and surgeons were limited

to an experience of about three operations each month. In the five years following the introduction of ether there were some eight or nine operations a month; while last year, in the same institution, there were more than 3700 performed.

The discovery of chloroform, by Sir James Y. Simpson, of Edinburgh, in 1847, and the use of local anesthesia during the last few years, has made a surgical operation less painful than a mild attack of illness. Spinal anesthesia, which has been practiced only during the last two years, will probably never take the place of chloroform or ether. Dr. Keen hopes, however, that with the discovery of new chemical compounds the twentieth century will produce the ideal anesthetic, one which will abolish pain and consciousness without danger to life.

Although pain during an operation was completely abolished, yet, as the older surgeons of the country well know, the after-suffering from fever, and the constantly discharging wounds, and the mortality from blood-poisoning, erysipelas, tetanus, and gangrene were as great as ever.

The standard of successful operations has so changed that whereas thirty years ago, before the discovery of antisepsis, when in rare cases a surgeon obtained a primary union without a drop of pus, without fever and with but little suffering, it was considered a marvelous achievement, now it is precisely reversed, and the surgeon who does not get primary union without a drop of pus, with no fever and with little suffering, asks himself: What was the fault with my technique? Dr. Keen says, in a panegyric of praise for the discoverer of antisepsis, that when the International Congress of Berlin, and the British Medical Association in Montreal, welcomed Lord Lister with cheer after cheer, it was but a feeble expression of a gratitude that no words could express.

Lord Lister's discovery was but the beginning of the work which laboratory investigation has furthered. Bacteriologic research has been of as great import to surgery as to medicine; and the discoveries, especially along the line of wound infection, have led to the technique of the modern operation as regards instruments, care of the hands and dressings.

Among the discoveries that American surgeons are proud to attribute to their countrymen, may be mentioned those in surgery of gunshot wounds, the most astonishing record being, perhaps, that of Flührer of New York, who reported a case where the ball entered at the forehead and traversed the entire brain, yet the patient recovered.

Willard Parker of New York was the first to make the profession listen to him when he urged that abscesses appearing above the right groin should be operated on and the patient's life saved. His operation for appendicitis, which has arisen to such prominence, has saved the majority of patients who thirty years ago would have died of localized peritonitis. Until 1885

1. N. Y. Sun, Feb. 3.

it would have been thought fatal to operate on perforating ulcer of the stomach. In an inaugural dissertation by Tinker of Philadelphia, 232 cases of such perforating ulcer were reported, of which 123 recovered after operation, whereas formerly the mortality of the disease was 100 per cent. The operation of ovariectomy had its rise in America. Ephraim McDowell, of Kentucky, in 1809, was the first to perform it, and Washington L. Atlee, of Philadelphia, and his brother, were the ones to place it on a firm foundation. Their mortality was about one out of two; but to-day, owing to the improvement introduced by antiseptic methods, the death-rate is seldom over 3 per cent.

An incidental but very important cause of the advance of surgery has been the increase in journalism and the formation of societies. Every successful operation along new lines is immediately reported, and its technique is spread abroad, calling forth comments and improvements from other surgeons, so that by mutual co-operation the skill of American surgeons has reached a very high rank.

Almost as the last word of the century, on the subject of surgery, was being said, the Roentgen ray appeared, illuminating the hidden parts of the human frame and opening a new and undreamed of method of diagnosis. So in the light of such an unexpected discovery we do not hesitate to hope, with Dr. Keen, that the surgery of the twentieth century may as completely outshine the surgery of to-day as that of to-day outshone that of thirty years ago.

ACUTE POST-OPERATIVE DILATATION OF THE STOMACH PRODUCED BY THE SUPERIOR MESENTERIC ARTERY COMPRESSING THE DUODENUM.

Acute dilatation of the stomach following operations may become the cause of death. Referred by some to central or peripheral nervous disturbances, by others to muscular paralysis and to the influence of the anesthetic, the observations of Kundrat, Schnitzler, Albrecht, and P. Müller show that in many such cases it undoubtedly concerns compression of the duodenum at the duodeno-jejunal junction by the superior mesenteric artery, as described by Rokitansky as long ago as 1845. Albrecht collected 19 cases of this kind from the literature, six of them developing after narcosis. P. Müller¹ refers to five additional cases. He describes two typical new ones with autopsy, and two others in which therapeutic measures appear to have been successful in saving life. The post-operative dilatation may follow operations of any nature, but occurs most frequently after laparotomy. The symptoms may set in immediately after the operation and, unless overcome, they lead to death in from two to five days; very rarely the onset takes place some days after the narcosis. The predominant symptom is profuse vomiting of fluid mixed with bile, but without feculent character. The abdomen is at first usually not distended, and commonly there is no tenderness;

thirst is marked. Because the intestinal canal is usually empty there are no passages and no flatus. These and other symptoms are, of course, not diagnostic of any one condition, but add now the presence of a dilated stomach—and dilatation may be readily made out by the usual methods—and certainly the symptom-complex becomes very significant. A brief consideration of the consequences of duodenal occlusion below the biliary papilla will explain the symptoms. The post-mortem findings are said to be typical: great dilatation of the stomach and duodenum, the superior mesenteric artery being tense and compressing the duodenum, but without producing distinct circulatory disturbances; the empty small intestine is always found in the pelvis, the mesentery being stretched. In Müller's cases the gastro-duodenal contents had been forced into the gall-bladder and up into the liver, whose function was thus suspended. Experiments have shown that traction on the mesentery, toward the pelvis, causes occlusion of the duodenum, especially in thin persons. When the small intestines sink down into the pelvis, the mesentery is folded together like a fan, and its length is probably the decisive factor in causing compression, the shorter the mesentery the greater the danger. And as the dilatation of the stomach increases the small intestine is hindered from leaving the pelvis. The complicated anatomical and mechanical factors that enter into this *circulus vitiosus* probably merit further experimental study.

Up to this time the diagnosis of duodenal occlusion under these circumstances has been made three times during life, first by Schnitzler, while Müller now describes two cases. In all three the threatening symptoms were relieved quite promptly and completely by placing the patient in the prone position with elevation of the pelvis with or without emptying and washing out the stomach. Undoubtedly further experience will lead to the establishment of more definite rules for treatment which, naturally, in some cases may have to be operative. The opinion has been ventured that post-operative duodenal compression is not so very rare; spontaneous cure may take place in many cases, in others relief follows lavage of the stomach, in still others the symptoms are attributed to the effects of the anesthetic, and perhaps some are regarded as instances of peritonitis. Suffice it to say that long persistence of post-operative vomiting should direct attention to duodenal occlusion.

THE DEFINITION OF THE "PRACTICE OF MEDICINE."

The essential part of any medical practice act, apart from its enacting clause and the penalties, is the definition of the phrase, "practice of medicine." Ambiguity or incompleteness in this nullifies or renders inefficient the law itself, and some of the measures enacted have suffered from this defect. A bill is now before the New York legislature to amend the medical practice law by adding the definition, which it seems was lacking, and the strictness of the definition attempted will be manifest. The amendment, as reported, reads: "Any

1. Deutsche Zeitschr. f. Chir., 1900, lvi, 487-511.

person shall be regarded as practicing medicine within the meaning of the act, who shall prescribe, direct, recommend, or advise, for the use of any person, any remedy or agent whatsoever, whether with or without the use of any medicine, drug, instrument or other appliance, for the treatment, relief or cure of any wound, fracture or bodily injury, infirmity, physical or mental, or other defect or disease. This article shall not be construed as prohibiting the service of any person in an emergency, or the domestic administration of family remedies, nor shall it be construed to affect commissioned officers serving in the United States army, navy, or marine-hospital service, while so commissioned, etc."

If we were to criticise this definition, we should say it was too elaborate and comprehensive on the one hand; even the simplest friendly advice in regard to health could be construed as unlawful under its provisions. On the other hand, any more liberal construction might open the way to a laxity that would seriously impair the usefulness of the law. It is not generally advisable to enact laws that it is understood are in the whole or in part likely to pass into innocuous desuetude, to use an often quoted term. The definition of the Georgia medical practice act meets this difficulty in one way and appears in most respects quite satisfactory. It says, *Sec. 1478*: "Practice Medicine Defined.—For the purpose of this chapter, the words 'practice medicine' shall mean to suggest, recommend, prescribe or direct, for the use of any person, any drug, medicine, appliance, apparatus, or other agency, whether material or not material, for the cure, relief, or palliation of any ailment or disease, of the mind or body, or for the cure or relief of any wound, fracture or other bodily injury or any deformity, after having received or with the intent of receiving therefrom, whether directly or indirectly, any bonus, gift or compensation." This seems to cover very nearly every demand and, by inserting the element of compensation in the definition, is free from the objection above noted. Whether or not it leaves a chance for some lawyer to make a hole in the law, it might be presumption to say, but it hardly appears so to a non-legal mind. After all, it is an open question whether the simpler definition of the Nebraska law is not better than these more elaborate attempts and just as effective: "Any person shall be regarded as practicing medicine within the meaning of this act who shall operate or profess to heal or prescribe or otherwise treat any physical or mental ailment of another." The supreme court of that state has twice passed upon this law, once when it decided that the practice of a "Christian scientist" came within the definition, and recently,¹ when it decided that the practice of so-called osteopathy also was within the meaning of the act. The courts could hardly construe this as covering any simple friendly counsel as quickly as they might the more particularized definition of the New York law, while it is nevertheless complete enough to cover all bona-fide attempts at prac-

ticing medicine. It would, moreover, it seems to us, be less likely to stir up opposition and attempts to destroy the law through the courts, than would the more particularized definition proposed in New York. A law that too openly tempts an interpretation that it forbids the application of a porous plaster or the fitting of a crutch seems like a *reductio ad absurdum* to the average layman, and may easily be so taken by a judge or jury. The wisdom of the serpent and the harmlessness of the dove are especially needed in framing laws that strike so many interests as do those directed against quackery.

THE INFLUENCE OF SYPHILIS UPON THE MORTALITY OF THE LIFE-INSURED.

The opinion that syphilis plays an important part in the production of chronic diseases of internal organs, largely abandoned through the influence of Hunter, came to the fore once more through the work of Virchow in 1858, "On the Nature of Constitutional Syphilitic Affections." Since then the importance of syphilis has become recognized more and more. Specific diseases of the bones, the nervous system, the liver, and other organs, have been studied carefully. Heubner's work in 1874, "On the Luetic Diseases of the Cerebral Arteries," has been of signal value, because it laid the foundation for the study of syphilitic disease of the vessels in general and the various serious pathological conditions resulting therefrom in the brain, the heart, and the large vessels. We know now only too well that syphilitic meningitis and cerebral gummas, softening of the brain, and coronary disease may develop years after the infection. General paresis, arteriosclerosis and aneurysm are also regarded as having often a syphilitic basis, general paresis in the opinion of many being always aluetie result. In few diseases has the practical value of pathological anatomy received better illustration than in the case of syphilis. Deprived of the aid obtainable from the demonstration in a suspected lesion of the specific etiologic agent, investigators have been forced to rely upon the character of the anatomical changes in order to differentiate syphilitic from other and often strikingly similar lesions. And it is not impossible that on account of the natural limitations of this method the knowledge ofluetie manifestations may have suffered. Nevertheless, a mass of information has accumulated and by following certain broad lines of inquiry it is generally possible to reach fairly definite conclusions in regard to some of the questions here broached.

Thus Runeberg,¹ of Helsingfors, studied the influence of syphilis upon the death-rate of the insured in a company whose applications, death-certificates, etc., he could use for this purpose; information was secured also from the physicians and the relatives, especially in cases of death from general paralysis. Between 1875 and 1897 there were 734 deaths, 11.4 per cent. of which

1. JOURNAL A. M. A., xxxv, p. 1578.

1. Deutsches Med. Woch., 1900, 18-20.

—or 84—are referred to syphilis, 21.3 per cent. to tuberculosis, and 10 per cent. to pneumonia. There were 22 general paralytics among the 84 cases referred to syphilis, and in 16 of these a definite history of syphilitic infection was obtained; 31 of the 84 succumbed to heart disease; 21 to brain and cord diseases; and 3 to chronic nephritis, etc. In most of these cases syphilitic infection could be traced directly. In 69 cases the period between infection and death averaged 20.2 years, the average age of the whole 84 being 43.4 years, and the average time between the issuance of the policy and death 8.1 years. The same company, during the period of 1874 till 1895, accepted 11,359 applicants; of these 619 acknowledged syphilis, and the deaths of this group were 78, or 12.6 per cent., while of the remainder, 656, or 6.1 per cent., died. Runeberg is of the opinion that at least 25 per cent. of deaths from heart disease, hemorrhage into the brain, and cerebral softening in persons under 50 without distinct specific history should be placed at the door of syphilis. These figures, although small, throw a strong light upon syphilis as an etiologic factor in fatal diseases of the vital organs. There is no question in regard to accuracy and careful handling of the figures. The articles also contain much of interest to the experts in insurance.

INFLUENCE OF INANITION ON THE INFECTION WITH THE COLON BACILLUS.

The many and various factors that favor or oppose infections are imperfectly understood. The complexity of many processes that enter into the consideration of such questions makes it difficult to give any radical explanation of the various phenomena, clinical and experimental, observed in this interesting field. Roger and Josue¹ starved rabbits for five to seven days and then allowed them to feed for seven to eleven days, when they were infected with the colon bacillus. The animals that had fasted withstood infection much better than the controls. Here it appears that the resistance to infection is rapidly increased after fasting, increased above that of the average normal animal. Conditions similar to this may explain the apparently contradictory results often seen in the study of the reaction of animals to infections. The authors also suggest that religious fasts, undertaken as spiritual discipline, for similar reasons may be of hygienic importance considering the circumstances under which voluntary abstinence from food is often practised.

THE APPENDIX VERMIFORMIS.

The generally accepted teaching and popular belief that the appendix is simply an evolutionary remnant appears to be contradicted to some extent by some recent researches. At the meeting of the British Royal Society, December 3, last, Dr. R. J. A. Berry reported that, from a microscopic study of certain vertebrates—rabbit, cat, pigeon—he found a marked accumulation of lymphoid tissue at the cecal apex, reaching its maximum

development about one week after birth. In a general way he found the presence of this sort of tissue the characteristic feature of this region, and in the vertebrate kingdom generally, he stated that such an accumulation of lymphoid tissue represented the appendix. As the scale is ascended toward the higher vertebrates, this becomes differentiated into a special organ, the appendix, which is therefore not a mere vestigial structure, but a specialized part of the alimentary canal. If this be the case, however, it does not necessarily follow, from what he tells us, that the appendix in man is not a vestigial remnant, though his reported findings cast a little cloud in its title as such. It is just possible that even in man it may yet have a slight useful function, but one that is badly overweighted by the occasional disadvantages from its presence in the organism.

HAVANA'S HEALTH FOR 1900.

The report of the chief sanitary officer of Havana, Cuba, Mayor W. C. Gorgas, for the year 1900, contains some interesting data, and shows a very creditable state of affairs from a health point of view. The annual death-rate is the least that has been reported for the decade, the lowest previous one, that for 1893, having been 38.68 per thousand, while for 1900 it was only 24.4, which is not a high figure for a tropical city. The existence of yellow fever to some extent was to be expected, and during the past year it found specially favorable conditions for its spread among the 24,000 immigrants, most of whom were non-immune. Still, it was kept well in hand; of the 920 Spaniards stricken, the percentage of deaths from the disease was only 26.3, while among the 235 Americans it was only a little more than one-half as great. The epidemic, if it can be called by that name in a city that is rarely free from the disease, was not a formidable one, and evidently had but a slight influence on the general mortality ratio. Tuberculosis in Havana was nearly four times as fatal as yellow fever, and caused over one-seventh of the total mortality, thus showing that it is as little controllable there as in more temperate climates. Another disease, fortunately rare elsewhere—tetanus—caused more than half as many deaths as yellow fever, and is responsible for over 3 per cent. of the total mortality. The report is a most creditable showing of the sanitary management of very difficult problems under the military control of the United States.

THE PRESS AND QUACKERY.

The public press can do much to show, in their true colors, the characters of the various charlatans who prey upon the public. Often, however, the press is subsidized in an advertising way, though occasionally we find a publication rising above this. During the past few weeks a "divine healer" has located in Cincinnati, Ohio, with a corps of assistants, the latter of whom seem to have been injected with the "divine fluid" by the head "healer," for when trade was brisk or the exigencies of weather such that the "doctor" demurred about going out, one of the assistants was sent to answer calls, and it is said at the rate of \$5 a visit. The *Cincinnati Post*, in order to investigate the claims of the "healers," sent a reporter with instructions to feign some illness in

1. La Semaine Médicale, 1900, No. 29.

order to gain admittance, but as every one who applies is "treated" for a "trifling consideration," this proved to be a matter of very little difficulty. The experiences of the reporter have been published in detail, and among other things, indicate that the chief assistant has followed, at one time or another, almost every known profession, his immediately previous efforts having been directed to the stage, in the way of illustrated songs. After exposing a number of so-called cures, the reporter states that, on leaving the institution, she was asked for a testimonial, which the *Post* published, as follows: "To Dr. . . . Having entered the Institute in perfect physical condition, without an ache or pain, the managers of the institution were kind enough to supply me with a varied and choice assortment of ailments for which I paid the very reasonable sum of \$21. I can recommend your heelers to all seeking a fine collection of diseases at a nominal price. Yours for health, J. M. P." The entire matter was treated in a half serious, half cynical style that will undoubtedly appeal more to the public at large than a library of abuse, and it is to be hoped that other newspapers will be stimulated to efforts along the same line. At any rate the profession of medicine owes hearty thanks to the *Post* for its aid, and the laudable attempt to purge the city of the human sharks who have been so long allowed to gorge themselves upon their innocent and gullible victims.

PROPER AND IMPROPER METHODS OF CLEANING PUBLIC BUILDINGS AND CONVEYANCES.

Often the more or less elaborate process of cleaning of rooms and conveyances becomes a means of dissemination of bacteria-laden dust rather than of removal of dust and dirt. In many cases one may very readily convince himself that the cleaning merely disturbs the accumulated dust, which soon settles down again upon the very articles and floor just dusted. This improper method of cleaning is seen only too often in public buildings and public conveyances as well as in private houses. The question has been subjected to a scientific inquiry by Elmer W. Firth, sanitary engineer, who conducted a series of experiments upon micro-organisms in the air of public buildings and conveyances as the result of improper methods of cleaning.¹ He points out that correct cleaning is based on certain principles, among which may be mentioned the following: Absorbent floor materials should not be allowed to conceal dust and dirt; non-absorbent flooring should be used in public places; this means the removal of carpets from churches and theaters and of fiber mats from cars and boats; linoleum and rubber mats may be substituted. Damp sawdust on floors is useful for retaining some of the dust raised in sweeping. Dust and organisms suspended in the air after sweeping settle more quickly in a closed room than in a ventilated one. Strong currents may keep organisms in suspension for a long time unless the draught passes directly through the room. For these reasons sweeping and dusting in public places should be done at such times as to allow settlement of the dust before occupancy. Dry sweeping and dusting

are condemnable and should never be allowed in the presence of numbers of people. Absolute removal of the solid impurities of the air that settle in all buildings, and of the dust after sweeping, is best accomplished by the use of damp cloths, and frequent mopping and washing are necessary. As dampness is to be avoided, wooden flooring should be substituted with stone or tile. The material accumulated in cleaning should be destroyed or disposed of in such a way that "it will not be merely a nuisance transferred to another place," which is the great objection to many methods of cleaning.

THE DUTY OF THE PHYSICIAN TO THE STATE.

While the political atmosphere in some of our large American cities and states is not of the most respirable character, there are indications that the majesty of the law is not held at too low an estimate. Every now and then evidence is afforded that the courts are not inclined to look upon the acts of the medical man with the liberality and consideration to which his profession would seem to entitle him. Only recently a judge in an eastern city, in remitting the fine imposed upon a physician for contempt of court, because he was late in answering a subpoena, by reason of attendance on a patient seriously ill with diphtheria, is quoted as saying that "it were better that the patient should die than that the Commonwealth's witnesses should place themselves in contempt of court." We are sure this new judgment will not receive universal acceptance, either by the bench, the bar, the medical profession or the laity. The physician's occupation is not a business in the ordinary sense of the word, and it would bode ill for the entire fabric of society if, in any case of gravity, particularly in the existence of an emergency, he were compelled to yield the welfare of his patient to his obligations to the state. The state is at best but the aggregation of its citizens, and it has no right, by arbitrary methods, to jeopardize the life of a single one of its constituents. On the contrary, there is an indissoluble bond between the two, each of which must recognize the prerogatives and the privileges, not less than the duties and the obligations of the other. We think it will by common consent be agreed that the first obligation of the physician is to save life and relieve suffering. Only after he has fulfilled this requisition can he devote himself to his duties to the state. That this is sound doctrine, not alone in theory, but likewise in practice, the experience of the centuries amply demonstrates. But it is by no means implied that the physician is justified in any degree in neglecting or shirking his obligations to the state. On the contrary, these are not less incumbent on him than on other citizens; but when it comes to the question of whether he shall jeopardize the welfare of his patient to obey the summons of the court, we are sure that there will ever be but one decision.

TEACHING AND DIAGNOSIS OF TYPHOID FEVER.

In his recent paper before the Philadelphia County Medical Society, "On Perforation and Perforative Peritonitis in Typhoid Fever,"¹ Osler makes a few remarks

1. Studies from the Dept. of Pathology, College of Physicians and Surgeons, Columbia Univ., N. Y., 1899-1900.

1. Phila. Med. Jour., 1901, Jan. 19, p. 116; THE JOURNAL A. M. A., p. 346.

concerning certain aspects of the treatment of typhoid fever that should receive the respectful attention of the medical profession. In order that the death-rate from typhoid fever may reach the lowest possible point a practical, first-hand knowledge of the disease in all its manifestations is requisite. The senior students should, he urges, see typhoid patients day by day and watch their progress from week to week. That this is not done very generally is known only too well. That there are cases enough in the large cities to provide instruction of this sort is not to be doubted; but such instruction is not given because the courses are not so arranged and because the medical schools have not proper control of the hospital facilities. Brilliant lectures on typhoid fever are given, recitations are held, books are read, and cases are shown in the amphitheater, but typhoid fever is not learned satisfactorily in that way. And this is shown by the experience in the last war. "The worst indictment," says Osler, "ever brought against the medical schools of this country is contained in the report by Reed, Vaughan, and Shakespeare on the prevalence of typhoid fever during the Spanish-American war. Shades of W. W. Gerhard and of Austin Flint! The young doctors, to whom were entrusted scores of valuable lives, had practically not gotten beyond the nosology of Rush. Of the total number of 20,000 cases of typhoid fever, only about 50 per cent. were diagnosed by the regimental or hospital surgeons." In 80 of 85 cases sent to civil hospitals in Baltimore the diagnosis was changed from malaria to typhoid. Similar instances occurred elsewhere. The authors of the report mentioned venture the statement that the army surgeons probably did better than the average physician in his private practice. Whatever the truth may be, this is but a lame and impotent apology that emphasizes still more the need for different and better methods of teaching. Men like Osler render the profession great service by courageously speaking their minds on topics of such basal import as this.

Medical News.

ALABAMA.

Smallpox is spreading in and around Huntsville. Cases have been reported in the city, West Huntsville, Dallas, Meridianville and Madison.

Dr. Thomas W. Ayers, Anniston, has given up his practice and will start with his family for China, sailing from San Francisco, March 15. He goes out as a medical missionary under the auspices of the Southern Baptist Board, and will be stationed at Hwang Hi-en, North China.

Hillman Hospital, Birmingham, has appointed the following medical staff: Medical—Drs. Cunningham Wilson, Thomas D. Parke, Baxter Rittenberry, John W. Barelay, Charles Brenand, and Robert V. Mobley; surgical—Drs. Benjamin G. Copeland, William P. McAdory, Charles Davis, William H. Wilder, Edward P. Riggs, and Lewis C. Morris.

Opposition to discrimination in favor of Mobile Medical College is the cry of the State Medical Association and of the Jefferson County Medical Society. They consider that to allow the graduates of the Mobile Medical College to practice medicine in Alabama without undergoing the usual examinations before the state or county boards would be unfair to the Birmingham Medical College and the graduates of the leading medical colleges of the North and East, and would lower the standard of the profession in the state.

CALIFORNIA.

Visalia has appointed a new board of health, of which Dr. F. A. Combs is president.

San Francisco's mortality in December was the largest in its history—680 deaths. A large percentage were from la grippe, or pneumonia, exhaustion, etc., following that disease.

Visalia Sanatorium, which was not yet completed, but was to have been opened February 15 by Drs. Thomas O. McSwain and William W. Cross, Jr., was destroyed by fire January 25.

Diphtheria has broken out in the City and County Hospital, San Francisco. Two nurses, one physician and one inmate have the disease, and a number of patients with sore throats are isolated and under suspicion.

Clara Barton Hospital, San Francisco, has been incorporated by Drs. J. Henry Barbat, George H. Evans, Edward G. Frisbie, Charles A. Dozier, Elmer E. Kelly, Henry B. A. Kugeler, and Frank B. Carpenter. A lot for the new institution has been selected and a building to cost not less than \$50,000 will be erected.

DISTRICT OF COLUMBIA.

The remains of Major John G. Davis, surgeon, U. S. V., who died in Manila, November 1, were buried with military honors in the National Cemetery, Arlington, January 16.

Dr. Alonzo B. Richardson, Washington, superintendent of the Government Hospital for the Insane, has been elected to the chair of mental diseases in the medical department of the Columbian University.

The Episcopal Eye, Ear and Throat Hospital, Washington, recently elected Dr. E. Oliver Belt secretary of its board of governors, re-elected the assistant and attending physicians, and also elected Dr. John B. Nichols pathologist.

Health office changes at Washington include the withdrawal of Dr. Lewis J. Battle, inspector of smallpox service; the transfer of Dr. Creed W. Childs to the smallpox inspection and the assignment of Dr. Uriah J. Daniels to duty as physician to the poor.

The Indigent Insane.—Providing a bill submitted to Congress be passed, this class will hereafter be admitted to the Government Hospital for the Insane, on petition of the Commissioners of the District filed in its supreme court, which court shall issue a writ *de lunatico inquirendo*, whereupon the marshall shall impanel a jury from the jurors in attendance on the criminal courts, who shall perform this duty in addition to their duties in the criminal court.

ILLINOIS.

Dr. Edward Bowe, Jacksonville, was appointed county physician of Morgan County, January 25.

Dr. James Selkirk has been elected to the Aurora Hospital board, in place of Miss Nellie Higgins.

Dr. Elnathan P. Hathaway, Ottawa, has been appointed a member of the board of pension examiners, to succeed Dr. J. J. Taylor.

Bills have been introduced in the legislature appropriating \$383,100 for the Illinois Northern Hospital for the Insane at Elgin, and \$490,600 for the Illinois Southern Hospital for the Insane at Anna.

Silver Cross Hospital, Joliet, is raising the \$4000 required to make John Lambert's offer of \$500 operative. This is expected to be sufficient to pay all indebtedness and place the institution on an independent basis.

Chicago.

Dr. Christian Fenger has gone to the Gulf Coast for a month.

Dr. Nicholas Senn has returned from his vacation trip to Central America.

Lull in Smallpox.—The grave apprehensions caused by the discovery of thirteen cases of smallpox in one day have not been realized, and the situation at present is reassuring, no new case having been detected during the first four days of this week. The record of no case among the recently vaccinated is still unbroken, and this lesson, upon which too much stress can not be laid, is causing a resort to vaccination on a scale that is the best assurance against any serious epidemic spread of the disease.

Public Health Conditions.—As indicated by the bills of mortality the public health conditions maintain the improvement noted in the bulletin of the health department of two weeks ago. There were 32 fewer deaths reported for the week ended February 2 than for the week before, and 54 less than for the corresponding week of 1900. The death-rate among the aged, however, still continues high—23 per cent. of the total, as against a normal 20 per cent. of those over 60 years of age, and

this notwithstanding a reduction in such diseases as apoplexy, Bright's disease, consumption and nervous diseases. Deaths from uncomplicated influenza have remained nearly stationary in number for a month, and the epidemic has probably reached its height, although its complications will continue to be manifest in the new crop of pneumonia and bronchitis which will follow the snow storm of February 2 and 3.

Attending Staff of Cook County Hospital.—The organization of the attending staff of the hospital for the ensuing term of two years, occurred January 31. Dr. Denslow Lewis was re-elected president and Dr. L. Blake Baldwin secretary. The executive committee consists of: Dr. Arthur R. Edwards, chairman; Dr. Charles F. Swan, secretary, and Drs. William E. Quine, James B. Herrick, John P. Webster, Orville W. MacKellar, Mary Jeannette Kearsley and the president and secretary ex-officio. The staff is constituted as follows: Surgeons, Drs. Denslow Lewis, Charles F. Swan, Leonard St. John, Weller Van Hook, C. Pruyn Stringfield, William E. Schroeder, Wladyslaw A. Kuslewski, John B. Murphy, Thomas A. Davis, John Leeming, Frederick S. Hartman, Edward L. Moorhead, Albert I. Bouffleur, Charles Davison, Samuel L. Weber, John W. Tope of Oak Park, Daniel H. Williams, Aime P. Heineck, Francis W. McNamara, Orville W. MacKellar, Daniel N. Eisendrath, Frank R. Byrnes, Gerhardt S. Seim of Blue Island, John P. Webster, A. E. Halstead, Herbert R. Hammond, Robert A. Letourneau, Thomas J. Conley, Edward H. Lee, and Mary Jeannette Kearsley; physicians, Drs. Frank Billings, Arthur R. Edwards, James B. Herrick, Charles C. O'Byrne, E. Fletcher Ingals, William E. Quine, B. McPherson Linnell, John A. Robison, Florence W. Hunt, Thomas A. Noble, J. H. Dolamore, Robert H. Babcock, Robert B. Preble and Arthur E. Price; pathologists, Drs. Ludvig Hektoen and William A. Evans; dermatologists, Drs. L. Blake Baldwin and Maurice B. Sineere; obstetricians, Drs. Effie L. Lobdell and Frank B. Earle; diseases of children, Drs. Frank S. Churchill, Josephine A. Jackson, William J. Butler and Isaac A. Abt; ophthalmologists, Drs. Allen T. Haight and J. G. Huizinga, and nervous diseases, Drs. Sanger Brown and Daniel R. Brower.

KENTUCKY.

Paduca's Board of Health met for reorganization January 17 and elected Dr. W. T. Graves, president.

Dr. Edward N. Simpson, Milldale, has been appointed physician of Kenton County, in place of Dr. William F. Cook, deceased.

The decision of Judge Toney, against "Dr." Harry Nelson, in a suit to compel the State Board of Health to license him to practice osteopathy, has been reversed by the Court of Appeals.

Reporting Smallpox.—The Board of Health of Lexington has adopted resolutions to the effect that, in the future, regular weekly statements of the presence of smallpox shall be published over the signature of the president of the board, and that a warrant shall be issued against any physician failing to report a suspicious case.

LOUISIANA.

Dr. Oscar Czarnowski, New Orleans, was robbed of jewelry, valued at \$1000, by burglars, January 22.

Dr. William P. Brewer, New Orleans, has been elected president of the Association of the Army of Northern Virginia, and Dr. Felix Formento, also of New Orleans, secretary.

The suit involving the position of health officer of New Iberia has been decided in favor of Dr. William J. Emmer, who will continue as health officer pending appeal and injunction.

The Alumni Association of Tulane University, New Orleans, January 19, elected Drs. Frederick W. Parham and O. L. Porthier to represent the medical department on the executive committee during the ensuing year.

MASSACHUSETTS.

Two Everett physicians were fined \$50 each, January 24, for neglecting to report a case of contagious disease to the local board of health.

The new schedule agreed to by the physicians of Gardner became effective February 1, but before that time one of the signers of the agreement withdrew his name, as he said, in justice to a number of his patients and as a matter of business.

The mortality of Worcester for 1900 was 2159, equivalent to an annual death-rate of 18.77 per 1000. The births registered numbered 2223. Lung and throat diseases caused 694 deaths, or 31.21 per cent of the total mortality, while tuberculosis is reported to be the cause of 281 deaths.

MICHIGAN.

The medical staff of St. Joseph's sanatorium, Mt. Clemens, has been organized with Dr. Joseph M. Croman as secretary.

A bill has been introduced in the house of representatives providing for an appropriation of \$200,000 for a state sanatorium for the care and treatment of nervous diseases.

Attorney General's Decision.—The attorney-general, to whom was submitted a resolution adopted by the State Board of Health relative to the legality of the action of the Board in appointing its members as State Communicable Disease Inspectors under act No. 47 of the laws of 1893, and to the question of compensation for services thus rendered and expenses thus incurred, has decided that the State Board of Health has no authority to appoint its members as inspectors and the members of said board are not entitled to compensation for services as members of the Board or as inspectors.

MINNESOTA.

Of twenty-five candidates who took the recent examination for license to practice in the state, 17 passed and are duly licensed.

A St. Paul physician has had his license taken away by the State Board of Medical Examiners, for violating the Code of Ethics by advertising.

Dr. William S. Fullerton, Winnebago City, has been appointed to fill the unexpired term of Dr. William Corpron, Minnesota Lake, resigned.

Registration of Osteopaths.—A bill has been introduced by Senator Horton, creating a state board of examiners and registration for osteopaths. The bill provides for twenty months of study and the passing of a satisfactory examination, and provides further that the members of this sect shall not prescribe any drugs.

MISSOURI.

In Kansas City, a party who resisted vaccination was fined \$10 on January 21.

A St. Louis physician was fined \$50, January 25, for failing to report a case of smallpox.

Dr. Zachary T. Martin, Lathrop, has been appointed physician to the penitentiary at Jefferson City.

To Check Smallpox.—The bill passed by the legislature, January 22, relative to the checking of smallpox in the state, provides for a county board of health in each county to be composed of the judges of the county court of each county and a reputable physician to be appointed by them. These county boards of health are to have the same powers within their counties as are given to the State Board of Health within the state respecting quarantine regulations and the prevention of the spread of malignant, contagious and infectious diseases. The board is given power to pay, out of the county treasury, reasonable expenses incurred by it, but it is to have no power to raise a quarantine established by the State Board of Health.

NEW YORK.

Dobbs Ferry is to have a hospital, and steps are being taken to begin the erection at once.

A new quarantine hospital for Buffalo is now a certainty. Its location will probably be outside the city limits on the county farm site.

Dr. Francis M. Deems, now of Flushing, but at one time a well-known physician of Manhattan, sustained a fracture of his hip while getting off a cable car on January 30.

New York's Health.—According to the bulletin of the State Board of Health, there were 128,468 deaths in the state during 1900, which exceeds the previous year by 6647, and the average for the past five years by 8000. It is thought that the influenza epidemic probably added 11,500 to the mortality.

New Garbage Crematory.—The State Board of Health has approved the plans for the reconstruction of their plant in Cheektowaga, outside the city limits. The new plant will resemble the old one, destroyed by fire, with the exception of some new modern appliances to facilitate the work of garbage destruction.

Research Work.—A number of prominent medical societies have adopted resolutions urging Governor Odell not to interfere with the important research work that is being carried on at the Pathological Institute of the New York state hospitals, but instead to give it generous support and foster the work already begun.

Overcrowding of Insane.—There is a great overcrowding in all departments of the Manhattan State Hospital for the Insane, there being 6000 patients where not over 5000 can be properly accommodated. The superintendent has called attention to the insufficient accommodation, in his annual reports for the past two years, but relief has not yet come.

Fitch Hospital to Close.—It has been decided, by the hospital committee of the Charity Organization Society, Buffalo, to close the Fitch Accident Hospital, March 1. The hospital has been poorly endowed and the organization believes that there being another emergency hospital in the city, and because of the great cost of conducting it, the funds could be better expended in charity organization work proper for relief and investigation of poor cases.

New York City.

Mothers' and Babies' Hospital.—The directors of this maternity hospital, which has been in existence for over eighteen years, have decided to close the institution after May 1, unless the necessary financial support is forthcoming before that time. The hospital accommodates about 40 in-patients and attends to about 130 cases in the tenements each month.

Mt. Sinai Hospital.—Contributions to the building fund of this institution are coming so satisfactorily that work is to begin on the new buildings at once. There will be, in all, nine buildings, occupying the entire block bounded by One Hundredth and One Hundred and First streets and Fifth and Madison avenues. The total cost is to be \$1,600,000, of which all but \$225,000 has been contributed. There will be accommodations for 360 medical and surgical cases.

Practice of Midwifery.—Assemblyman McKeown, of Kings county, has introduced into the legislature a bill to regulate the practice of midwifery in New York City. It authorizes the Board of Health to appoint, on or before July 1, a board of examiners in midwifery, consisting of the sanitary superintendent of the board of health, the assistant sanitary superintendents of each borough, and the chief inspector of contagious diseases in the Borough of Manhattan. They are to meet at prescribed intervals, examine candidates and issue certificates to the successful ones, for a fee of \$10. They shall have power, after a proper hearing, to recommend to the board of health the revocation of a license. All licensed midwives must register annually at the office of the board of health, before July 1. A fine is to be imposed on all persons practicing midwifery without a license.

Smallpox Among New York Italians.—Smallpox has broken out afresh in this city, in the upper section known as "Little Italy," where the people have made every effort to conceal its existence from the authorities. Of the 38 cases from this region during the past week, not one of the afflicted had been vaccinated. A midnight raid was made by 125 physicians of the board of health and an equal number of policemen, and in this way several cases were discovered and almost every person living in the district was vaccinated. They also found a child who had died of the disease. The fact that smallpox has broken out among these people means that in all probability new cases will soon appear in widely separated parts of the city, because the Italians have been working in all parts, and have had an excellent opportunity to spread the disease.

Grand Jury Findings Against Bellevue.—The grand jury for January has handed down a strong presentment against Bellevue Hospital. After careful comparison of the records of Bellevue and of the Manhattan State Hospital for the Insane, including a valuable collection of photographs belonging to the latter institution, it was found that out of 700 patients sent from Bellevue Hospital to the State Hospital bruises and other marks of bodily injury were found to be present on 250 patients, and the testimony offered convinced the jury that these injuries had not been received while in transit between the two hospitals. The presentment further says: "It is fairly deducible from the testimony submitted to us that in point of fact the medical board is directly and absolutely responsible for the administration of Bellevue. It has not been made clear to us how this state of affairs has been brought about, but it would appear that it has resulted from the gradual and steady encroachment of that body upon the prerogatives of the commissioner of charities and the superintendent of the institution." Regarding the practice of some hospitals of transferring their dying patients to Bellevue Hospital, Superintendent Stewart makes the startling statement: "117 cases of this kind have been reported as occurring within one year." Judge Truax has refused to grant a change of venue in the case of the three former nurses of Bellevue now under indictment for having caused the death of Louis Hilliard in the insane pavilion.

NORTH CAROLINA.

New Hospital and Training School.—The H. J. Reynolds hospital and training school for nurses at Winston-Salem, has raised more than \$4000 for the \$5000 required to secure the \$5000 offered by Mr. Reynolds, and it is expected that the

building will be erected immediately. There is urgent need of such an institution for colored persons in the locality, and both white and colored appear equally interested in the project.

OHIO.

Dr. Lewis A. Molony, late surgeon, U. S. A., has returned to Cincinnati.

Another arrest at the instance of the Ohio State Board of Medical Registration has been made in Cincinnati, for the practice of medicine without having been registered in the state.

OREGON.

Osteopaths, according to press reports, are not to be granted certificates to practice in Oregon, by the State Board of Medical Examiners.

Bills creating a state board of health and changing the present system of conveyance of the insane to asylums are to be introduced to the coming session of the legislature.

PENNSYLVANIA.

Higher Medical Education.—The State Medical Council, at its winter meeting, adopted a standard of such a degree that it would comply with the high requirements now in vogue at the University of Pennsylvania and other of the foremost medical colleges. The curriculum provides for "four years of exclusive medical study." The Council is making an effort to influence legislation at Washington, toward passing a law which shall be of national scope.

Philadelphia.

Bequests of \$10,000 have been left to both the St. Joseph's and St. Mary's hospitals.

Dr. George W. Pfromm has been appointed chairman of the Physicians' Board of Civil Service Examiners, to succeed Dr. J. H. Anders, resigned.

Dr. Simon Flexner has been appointed pathologist of the Pennsylvania Hospital, and director of the Ayer Clinical Laboratory, to succeed Dr. H. W. Cattell, resigned.

SOUTH DAKOTA.

Vaccination Law Valid.—According to press dispatches the recent decision of the supreme court in the case brought by the Board of Education of Lead, against George W. Glover, involving the power of the board to exclude a pupil from school for refusing to be vaccinated, is that the boards of education and health departments have power to order vaccination and to exclude from school those who refuse to comply with the order.

WISCONSIN.

The State Board of Medical Examiners, at its meeting in Milwaukee, in January, passed favorably on 74 applications for license to practice, about twenty applications being held over.

An osteopath, of Waukesha, who was convicted, January 3, of illegal practice of medicine, has been fined \$25 and costs. He expects to appeal and to demonstrate in a higher court the unconstitutionality of the state law.

Marinette's physicians are said to have banded themselves together and passed resolutions asking the city council to raise the annual salary of the health officer from \$200 to \$1000 and that he be nominated by the physicians. They have also pledged themselves individually not to accept the office unless these terms are accepted.

CANADA.

Montreal's deaths numbered 150 last week. Scarlet fever claimed 20 victims and la grippe 6.

Diphtheria, during the month of January, numbered 169 cases in Toronto, with 20 deaths.

Dr. J. G. McDougall, Amherst, N. S., has been appointed provincial examiner in anatomy in connection with the Medical College of Halifax, N. S.

Ottawa's Board of Health have recommended to the Council that the resignation of all its sanitary officers, including that of the health officer be requested.

Montreal's civic hospital is very much overcrowded, and in order to assist the physicians in charge Dr. Charlton, of the Royal Victoria, and Morin, of the Laval University, have volunteered their services.

Tribute from McGill.—On the morning of February 1, the medical students of McGill, to the number of 500, and the entire medical faculty, marched to the Queen's statue to do honor to the memory of their beloved sovereign. Four students headed the procession, bearing on their shoulders a large cushion of natural carnations. Amid a profound silence, as the faculty and students gathered around the statue, the four

students advanced and laid the cushion at the foot of the statue. The cushion was in the form of the star of the Order of the Garter; and the design, including the motto—*Honi soit qui mal y pense*—had been worked out in carnations, violets and daffodils. Attached to it with McGill ribbons was a card bearing the words: "A token of life-long veneration and esteem from her loving and faithful subjects, the McGill medical students."

Royal Victoria Hospital, Montreal.—The annual meeting of this institution was held last week, and a resolution passed referring to the death of Her Majesty, Queen Victoria. The following new appointments to the medical staff were made: Clinical assistant in medicine, Dr. W. S. Morrow; in neurology, Dr. A. Shirres; in surgery, Dr. E. W. Archibald; in ophthalmology, Dr. F. W. Harvey; in laryngology, Dr. W. H. Jamieson; assistant in pathology, Dr. A. G. Nichols; in bacteriology, Dr. H. B. Yates; director of clinical laboratory, Dr. A. A. Brnere. The superintendent's report showed that 2619 patients had been admitted to the hospital during the year. Of these, 1604 were Protestants, 964 Roman Catholics, 34 Jews and 17 of other faiths; 1469 were free, 741 public ward patients, paying 50 cents a day, and 409 private patients; 2006 were residents of Montreal, and 613 were sent from the country districts. There were 82 more entered than for the previous year. On Jan. 1, 1900, there were 157 remaining in the hospital; and during the year 2582 have been discharged, of whom 1420 were cured, 698 improved and 172 unimproved, 164 not treated, 128 died, and 194 remained in on Dec. 31, 1900. Of the 128, 29 died within forty-eight hours of their admission. The death-rate for the year was 4.95 per cent., or, if those dying within forty-eight hours after admission were deducted, the death-rate would have been 3.83. The total cost per day per patient has been \$1.47 as against \$1.55 last year; the cost per day of maintaining each person in the hospital, staff, servants and patients, being 82 cents. The income for the year was \$129,570.34, and the ordinary expenditure amounted to \$99,208.62, the balance of \$30,361.72 being applied toward the cost of the new out-patient department, and the power-house and laundry building. It was announced that plans have been prepared for a pavilion for the isolation of infectious diseases, and it is proposed to proceed at once with its erection.

FOREIGN.

In Vienna the appointment of medical inspectors for schools is being considered.

Dr. Hahn has been sent by the Munich university to study the plague in Egypt and India.

A new journal of hypnotism has commenced publication in France, the *Mouvement Psychique*, the official organ of the Paris Institute of Psychological Sciences.

Professor Behring is recipient of a title of nobility, conferred on the occasion of the 200th anniversary of the Kingdom of Prussia.

Among the deaths abroad occur the names of Dr. A. Spengler, of Davos, and Dr. J. Lehmann, of Copenhagen, the latter noted for his studies in hygiene and tuberculosis.

South American Women Practitioners.—The first woman to take the degree of medicine in Peru is Señorita Laura Rodriguez, who received her diploma in 1900. Ana Galvez, of Bogota, graduated in Switzerland some years ago, and returned to practice in Colombia, where she has acquired a wide reputation for her cures. In Chili, Eloisa Inzunza received her degree in medicine at Santiago in 1887, and has been practising with success ever since, according to the *Cronica Medica*, of Lima.

Tetanus from Anti-Diphtheria Serum.—During the last few months there have been an unusual number of cases of diphtheria in Italy, and antidiphtheria serum has been extensively used, nearly all derived from the Milan Institute of Serotherapy, in charge of Belfanti. According to the *Münchener Med. Woch.*, eight patients in one small town were injected with the serum and were convalescing when, the sixth to ninth day after the injection, symptoms of fulminating tetanus appeared and all but one died. Similar experiences were reported from other points, with a total of thirteen deaths. The boards of health of Milan and Rome met in emergency session, and the institute was closed. The contaminated serum was all of a certain series of 305 vials, delivered November 29, and 230 of them have been recovered, as the prefect of Milan telegraphed at once to all who had purchased the serum. It has been impossible to produce tetanus in animals inoculated with the blood of any of the patients who died, and no tetanus bacilli can be found in the recovered serum. There is no official standardizing of the serum in Italy as in Germany.

The Plague Abroad.—Passed Assistant Surgeon A. R. Thomas, who was detailed by the surgeon-general, U. S. M.-H. S., to investigate the cases of plague reported on board the *Friary*, at Hull, England, has reported that there were five deaths among the crew of that vessel, three of which were undoubted cases of plague as shown by necropsy, while the other two were probably cases, though no necropsy was held in either. The patients had no glandular enlargements, and the symptoms were so like influenza that the first two were thought to be this affection. The ship was 17 days out from Alexandria, Egypt, before the first case developed, but several rats and a cat died aboard ship before it developed. [See also London letter, this week.—Ed.] According to the *British Medical Journal*, a case of plague was reported in Constantinople on January 11, and a strict quarantine of twelve days at once ordered on all vessels arriving at the mouth of the Danube from the Turkish capital. Traffic was also suspended on railway lines between Bucharest and the Black Sea ports. Reports also indicate that the disease is prevalent at Smyrna, and that of 14 persons attacked by the disease in one house, 11 died up to January 20. In Hamburg the steamship *Bergamon*, which arrived there on January 15, was placed in quarantine as the rats on board were found infected with plague. In India the deaths from this disease during the week ending January 5 numbered 2298, a marked increase over the corresponding week of last year, when there were only 1370 deaths so registered. More than one-half the number for all India occurred in Bengal, i. e., 1374, and during the week ending January 10, Mauritius reported 20 new cases of plague and 9 deaths, for the succeeding week 15 new cases and 16 deaths. In a report to the surgeon-general, U. S. M.-H. S., from Hongkong, China, Assistant-Surgeon J. W. Kerr reports, for the ten months ended Oct. 31, 1900, 1082 cases of bubonic plague with 1034 deaths. It is interesting to note that of the 6 Europeans attacked by this disease only 1 died. The method of loading ships will give some idea of how easy it is for ships to become infected while in that port. A large part of the cargo is brought direct from Canton, China, in "junks," a sort of house-boat in which the lowest class of Chinese live. From these junks the cargo is carried on the outgoing ship, and in this way can infect the rats on shipboard, or rats from the junks can get aboard. As evidence that these floating homes are infected, numbers of bodies dead from plague have been found floating in the harbor. Only a few days before Dr. Kerr's attention was called to the body of a child lying on top of a buoy in the harbor. And several instances are given where coolies engaged in loading have dropped in the harbor and been drowned, and on bacteriologic examination were found to present evidences of advanced plague infection; they were no doubt ambulatory cases overcome by overexertion.

Queen Victoria's Last Illness.—The following, from the *Lancet* of January 26, is of interest concerning the late Queen: Her health for the past twelve months had been failing, with symptoms mainly of a dyspeptic kind accompanied by impaired general nutrition, periods of insomnia, and later by occasional slight and transitory attacks of aphasia, the latter suggesting that the cerebral vessels had become damaged, although her general arterial system showed remarkably few signs of age. The constant brain work through a long life of royal responsibilities, and the imperial events, domestic sorrows, and anxieties which have crowded into her later years, may no doubt be held in some measure to account for this discrepancy between the cerebral and general vessel nutrition. The thoracic and abdominal organs showed no signs of disease. The dyspepsia which tended to lower her originally robust constitution was especially marked during her last visit to Balmoral. It was there that she first manifested distinct symptoms of brain fatigue and lost notably in weight. These symptoms continued at Windsor, where in November and December slight aphasic symptoms were first observed, always of an ephemeral kind and unattended by any motor paralysis. Although it was judged best to continue the negotiations for her proposed visit to the continent in the spring, it was distinctly recognized by her physicians and by those in closest personal attendance on her that these arrangements were purely provisional, it being particularly desired not to discourage her majesty in regard to her own health by suggesting doubts as to the feasibility of the change abroad to which she had been looking forward. The Queen suffered unusual fatigue from the journey to Osborne on December 18, showing symptoms of nervous agitation and restlessness which lasted for two days, but afterward improved for a time both in appetite and nerve tone in response to more complete quietude than she had hitherto consented to observe. A few days before the final illness transient but re-

current symptoms of apathy and somnolence with aphasic indications and increasing feebleness gave great uneasiness to her physician. On Wednesday, January 16, she showed increasing symptoms of cerebral exhaustion. By an effort of will, however, she would for a time, as it were, command her brain to work and the visitor of a few minutes would fail to observe the signs of cerebral exhaustion. On Thursday the exhaustion was more marked, with considerable drowsiness; and a slight flattening was observed on the right side of the face. From this time the aphasia and facial paresis, although incomplete, were permanent. On Friday she was a little brighter, but on Saturday evening, the 19th, there was a relapse of the graver symptoms which, with remissions, continued until the end. It is important to note that notwithstanding the great bodily weakness and cerebral exhaustion the heart's action was steadily maintained to the last; the pulse at times evincing increased tension, but being always regular and of normal frequency. The temperature was normal throughout. In the last few hours of life paresis of the pulmonary nerves set in, the heart beating steadily to the end. Beyond the slight right facial flattening there was never any motor paralysis, and except for the occasional lapses mentioned, the mind can not be said to have been clouded. Within a few minutes of her death the Queen recognized the several members of her family.

GENERAL.

Plague Investigation in San Francisco.—The recent appointment by the U. S. Treasury Department of Drs. F. G. Novy, of Ann Arbor, Simon Flexner, of the University of Pennsylvania, and L. F. Barker, of the University of Chicago, to investigate the plague in San Francisco has created consternation among those who have been denying the existence of plague there, as is evidenced by the special message presented by the governor to the legislature on the 31st ult. The governor and his medical advisors are said to have cause to fear the result which an independent investigation by such men will bring forth. The "appropriate action" which the governor, "impelled by his sense of public duty," relies on the discretion of the legislature to take, is embodied in three bills which have emanated from his office. The first adds three new sections to the Penal Code. The first section is as follows: "Any person who willfully or maliciously exposes, handles, or otherwise deals with any disease germs, bacilli, cultures, organisms or seeds of disease, or sources from which diseases may be communicated, for the purpose of communicating such disease, or with the intent to spread or communicate any infectious or contagious disease, or who negligently exposes, handles or otherwise deals with the same in a manner calculated to endanger the public health, or to result in the spread of an infectious or contagious disease, is guilty of a felony and on conviction thereof shall be punished by imprisonment in a state prison for a term of not less than one year nor more than ten years, or by a fine of not less than \$500 nor more than \$5000, or by both such fine and imprisonment." Another new section provided by the bill reads as follows: "Any person or any officer or member of any association, board, committee or corporation who publishes by any writing or printing that Asiatic cholera or the bubonic plague exists, or has recently existed within this state, unless the State Board of Health thereof has first determined such to be the fact and has entered a record of such determination at length upon the minutes of the board, is guilty of a felony." But it is in the second bill that the significant feature of this movement comes prominently into light. In this bill an appropriation of \$100,000 is provided to be expended by the State Board of Health, *under the direction of the governor*, for the prevention of the introduction of Asiatic cholera, bubonic plague, smallpox or other contagious or infectious disease within this state, and for their suppression in case of their origin or introduction. It is provided that the claims for expenditures shall be audited by the board of examiners, except when, in the opinion of the governor, "an emergency arises which demands or necessitates the immediate use of the money, and in that case it is provided that the controller must draw his warrant in the name of the governor, without auditing, for sums not exceeding \$1000 at any time the governor may direct." The object of the third bill is to center in the governor and the State Board of Health most of the power that now belongs to the local boards, and to re-establish the state quarantine service in San Francisco that has been supplanted by the Federal authorities. The effect on local boards of health will be to practically wipe them out of existence in any case of emergency, or to make them no more than sanitary police to assist the state board. Whenever they find anything they must stand aside, leaving the state board

in charge. Orders were given that these bills be rushed through with all possible speed. To further this, type-written copies of the bills were furnished committee members in order that it might not be necessary to await the usual time for printing. [As we go to press we learn that the bill appropriating \$100,000 has passed the assembly.]

LONDON.

The Epidemic of Arsenical Poisoning from Beer Drinking.

Though the outbreak of arsenical poisoning due to beer drinking, which occurred principally in Manchester, and to a less extent in Liverpool and others parts of the north of England, and also in some of the midland counties, has not disclosed any new symptom of arsenical poisoning, yet the observations on such a large scale reveal certain facts not at all generally known as to the frequency or otherwise of the symptoms produced by chronic arsenical intoxication. The most valuable contribution on this subject is the paper read by Dr. E. S. Reynolds at the Royal Medical and Chirurgical Society of London. In my last letter Dr. Reynolds' important discovery that the epidemic of "peripheral neuritis" in Manchester was due to arsenic in the beer has already been fully described in these columns. The patients complained of a variety of symptoms, such as pain in the feet and limbs, a feeling of pins and needles, tingling in the soles, general weakness, difficulty of walking, swollen feet, vomiting, and diarrhea. The aspect of the patients was so typical that a diagnosis could be made at sight by those accustomed to see the cases. There was a puffiness, especially about the eyelids, and a deep crimson color of the face. Of the numerous skin eruptions, erythromelalgia was perhaps the commonest. It consisted of painful red swelling of the feet and hands. The erythema was most intense at the edges, the center of the palm being almost exempt. The pain was so marked that the patients could not sleep. The red patches were followed by keratosis of the hands and feet, scales being exfoliated so plentifully that a 2-ounce bottle could be filled in a short time. This keratosis was very important in the diagnosis in fair-haired persons, because in them pigmentation did not occur. If a fair-haired person had such keratosis and peripheral neuritis there was a strong presumption of arsenical poisoning. There were also scarlatiniform and morbilliform erythematous rashes. The first began like scarlatina, with a collaret around the neck. Sometimes there were papular, sometimes vesicular and bullous eruptions. These rashes came on as late as six weeks after ceasing to drink the beer. Pigmentation was very common and the cases showed that the received description is not quite correct. Though some showed islets of normal skin in a generalized pigmentation, such were not always present. In 21 cases herpes was observed in various situations. The heart was very seriously affected. It became dilated and there was sometimes edema of the feet and chest wall. Arsenic was found in the urine in many cases as long as two weeks after ceasing to take contaminated beer. It was also excreted in the milk. In some cases the temperature was elevated.

Appointment of a Royal Commission.

A royal commission has been appointed to investigate the epidemic of arsenical poisoning. It will consist of Lord Kelvin, Sir W. Hart Dyke, Sir W. S. Church (president of the Royal College of Physicians), Prof. T. E. Thorpe (government analyst), Mr. H. Cosmo Bonsor and Dr. B. A. Whitelegge (H. M. chief inspector of factories). The instructions to the commissioners are to ascertain: 1. The amount of recent exceptional sickness and death attributable to arsenical poisoning. 2. Whether such sickness and death has been due to arsenic in beer or in other articles of food or drink. 3. By what safeguards arsenical poisoning from food may be prevented.

Enormous Pancreatic Cyst Simulating Ascites.

At the Clinical Society, Dr. Sidney Phillips read notes of this case. A man, aged 22, was kicked in the abdomen by a horse. He became subject to attacks of acute abdominal pain, and after five months was quite emaciated and had an enormously distended abdomen, dull everywhere except in the stomach's

area. Ascites with peritoneal adhesions was thought probable. After 145 ounces of clear fluid had been removed by Southey's tubes, without improvement, laparotomy was performed, and a large quantity of fluid, like that of ascites, removed. Death occurred a few days later. The necropsy showed that the fluid had been contained in a thin-walled pancreatic cyst occupying almost the whole abdominal cavity. The cyst originated in the head of the pancreas, with which it communicated by an opening one-sixth inch in diameter. The remarkable point in the case was the unusual character of the fluid, which had a specific gravity of 1002, quite clear, and closely resembled ascitic fluid.

Plague at Hull.

Plague has again visited our shores. This time the important seaport of Hull is the point of attack. A steamer arrived on January 10 from Alexandria, having touched at Algiers on the voyage. Three days before the vessel arrived one of the crew was taken suddenly ill and died after forty-eight hours' illness. Being so near the port the captain, instead of consigning the body to the deep, brought it to land. The vessel was inspected by the port sanitary authorities, and the man having apparently died from natural causes, and there being no more sickness on board, suspicions were not aroused and the vessel was allowed to enter the dock and discharge the cargo in the usual manner. But on the 12th two of the crew sickened. The medical officer of health was called in and diagnosed influenza complicated by pneumonia. Two more of the crew sickened on the 15th. The four died. Post-mortem examination of two of the bodies again failed to show anything inconsistent with the diagnosis of influenza and pneumonia, but owing to the suspicious circumstances the viscera were forwarded to the well-known expert, Dr. Klein, for bacteriologic examination. He has found that the disease was plague. All necessary precautions to prevent the spread of the disease have been taken. Two of the bodies have been cremated and the authorities await permission to cremate the other two. The local government board has dispatched an inspector, who is investigating the matter.

However, the patient gave a tubercular history, and admitted the presence of glandular enlargement for several months. Inspection of the oral cavity and pharyngeal vault revealed absolutely no evidence of inflammation anywhere, and for a moment I was nonplussed. But, as the patient repeatedly touched herself about the inferior border of the thyroid cartilage, and insisted that movements of the tongue were very painful, and that she could still swallow nothing, I made a laryngoscopic examination, and found the epiglottis very much inflamed, of a uniform scarlet hue, also considerably enlarged. There was slight extension of the inflammation to the vocal cords, and also to the aryteno-epiglottic folds. Rectal temperature was 101.5., the tongue slightly coated, gray but moist. The pulse was 88, regular, and tension normal. Parenthetically, I was informed she had been treated for a valvular cardiac lesion, for a year; but it was not discoverable to me.

Treatment.—I prescribed calomel, gr. 1/10, every half hour for ten doses; it had to be dissolved in one-half dram of water, and then kept in the mouth, as the patient could not swallow, even to that extent. In addition, inhalations of turpentine vapor were ordered, to be inhaled through a cone every hour; also a cold spray of hydrogen dioxid and water, equal parts, to be used every hour. The strips of salt pork were discontinued, and hot water fomentations used, to be changed as soon as they would feel cool, during the daytime. Upon retiring, for I encouraged the reclining posture, a cold water pack was applied and left *in situ* till morning. Jan. 11, 1901, the bowels moved freely twice, showing characteristics of the calomel purgation. Hot water fomentations were discontinued, but otherwise treatment continued unchanged. By night, there was a diminution in the size of the lymphatics, the patient felt slight improvement, and was able to swallow about one-half an ounce of milk. Saturday, January 12, there was very little soreness remaining, and she could swallow liquids with very little discomfort. On the 13th her condition was entirely relieved, and, contrary to advice, she ate a hearty dinner, experiencing no deleterious effects, save that la grippe developed next day, from which recovery was prompt and uneventful.

Correspondence.

Angina Epiglottidea Anterior.

JERSEY CITY, N. J., Jan. 23, 1901.

To the Editor:—Having had a case of angina epiglottidea anterior, or acute epiglottitis, I read with interest the account of this malady, in THE JOURNAL of January 18, by Dr. Clement F. Theisen, Albany, N. Y. My one case may, however, throw more light on this peculiar ailment, and it is with this belief I offer it for publication.

J. MORGAN JONES, M.D.

REPORT OF CASE.

Miss K. C. M., aged 21 years, was taken suddenly ill, Jan. 6, 1901, with lancinating pains at the base of the tongue, and with difficult deglutition. She grew rapidly worse until January 9, when she could swallow absolutely nothing; pain at the base of the tongue was much more severe, and she had some temperature and was slightly constipated. She was unable to assume a recumbent posture, on account of dyspnea, and was obliged to resort to oral breathing, to improve that condition. At this time they decided to see a physician, and called on a brother practitioner, at his office. From the history of the trouble, he diagnosed the case as tonsillitis, and prescribed accordingly. The patient continued to get worse, and sent for the physician to call at her home, January 10, but as he was unable to attend, I was asked to take charge. On seeing her for the first time, she was sitting in a chair, the body inclined forward, her mouth open, and with an anxious facial expression. On being asked why she sent for a physician I was told that she was subject to tonsillitis, and supposed she was undergoing a similar attack at that time, only much worse, and feared her throat was going to become entirely closed.

The throat was enveloped in strips of salt pork, covered by a flannel bandage. There was considerable submaxillary lymphatic involvement, which one could see as well as feel.

Association News.

Committee on National Legislation.

The Committee on National Legislation of the AMERICAN MEDICAL ASSOCIATION hereby calls a meeting in annual conference at Washington, D. C., on Feb. 20 and 21, 1901, at 11 a.m., at the Arlington Hotel, to consider various medical matters now pending in the national Congress of the United States, and any other medical matters of local interest to societies.

H. L. E. JOHNSON, M.D.

Chairman Committee on National Legislation.

Chairmen of Committees of the American Medical Association.

Dr. J. W. Chamberlin, Lowry Arcade, St. Paul, Minn., badges.

Dr. J. F. Fulton, Lowry Arcade, St. Paul, Minn., on arrangements.

Dr. C. Williams, 145 West 5th street, St. Paul, Minn., banquets.

Dr. C. A. Wheaton, Lowry Arcade, St. Paul, Minn., on finance.

Dr. H. L. Taylor, Lowry Arcade, St. Paul, Minn., general exhibits.

Dr. H. H. Kimball, Dayton Building, St. Paul, Minn., meeting places.

Dr. Burnside Foster, Lowry Arcade, St. Paul, Minn., entertainments.

Dr. Edw. Boeckmann, Lowry Arcade, St. Paul, Minn., pathological exhibits.

Dr. J. A. Quinn, corner 4th street and Wabasha, St. Paul, Minn., transportation.

Dr. Harry O'Brien, Endicott Arcade, St. Paul, Minn., programs and publications.

Dr. J. T. Rogers, Lowry Arcade, St. Paul, Minn., halls and meeting places.

Dr. E. J. Abbott, Endicott Arcade, St. Paul, Minn., bureau of information.

Dr. J. B. Brimhall, Seven Corners, St. Paul, Minn., registration.

Dr. Arthur Sweeney, Lowry Arcade, St. Paul, Minn., hotel arrangements.

New Members.

The following is a list of new members of the A. M. A. for January, 1901.

ALABAMA.

Brothers, Philip H., Zula.
Baker, D. H., Birmingham.
Due, Malvern N., Birmingham.
Pettus, Claude, Monrovia.
Hudson, W. H., LaFayette.
Sledge, Wm. H., Mobile.

CALIFORNIA.

Evans, Geo. H., San Francisco.
Wilbur, Ray L., San Francisco.
Tooley, L. P., Willows.
Ketcham, L. Y., San Diego.
Haynes, J. R., Los Angeles.

GEORGIA.

Lovvorn, R. M., Bowdon.
Roberson, G. W., Macon.
Barron, Robt. B., Macon.

ILLINOIS.

Stlver, R. J., Lena.
Knoppenberger, H., Macomb.
Schowengerdt, W. E., Champaign.
Dixon, Wm. A., Decatur.
Wells, Wm. H., Monmouth.
Merriman, H. P., Chicago.
Novak, F. J., Chicago.
Martin, Albert R., Chicago.
Wagner, Henry E., Chicago.
Beehler, L. L., Chicago.
Dombrowski, Paul, Peoria.
Corwin, A. M., Chicago.
McKinney, John G., Quincy.
Yolton, John L., Bloomington.
Fringer, G. W., Pana.
Fullenwider, J. A., Champaign.
Heisz, Emily J., Chicago.

NAME OMITTED FROM PUBLISHED LIST OF MEMBERS IN SEPTEMBER.
Gillespie, T. W., Losant, Ill.

INDIANA.

Howat, W. F., Hammond.
Moore, E. P., South Bend.
Oyler, Wm. A., Argos.
Holland, P. C., Bloomington.

INDIAN TERRITORY.

Kennedy, Samuel G., Tulsa.

IOWA.

Rector, Albert E., Spirit Lake.
Allen, Manning L., Tama.
Wedel, J. R., Vincennes.
Boice, J. C., Washington.
Prentice, G. L., Scarsboro.

KENTUCKY.

Smith, Joseph E., Bardstown.
Foster, Wm. E., Owenton.
Fugitt, Walter W., Burtonville.

LOUISIANA.

Girard, Percy M., Lafayette.
McGuire, Marion H., New Orleans.
Gaydon, Agrippa, Norwood.
Alison, Jacob S., Swartz.
Stephens, Jos. S., Natchitoches.
Blum, Henry N., New Orleans.

MASSACHUSETTS.

Weston, George D., Springfield.
Hill, Edgar D., Plymouth.
Dickson, Richard E., Granby.
Hood, Mary G., Newton Center.
McDonald, Wm. J., Boston.
Thorndike, Augustus, Boston.
Shisler, Wm. H., Boston.
Clement, Geo. C., Haverhill.

MARYLAND.

Hocking, G. H., Baltimore.
Grieves, C. J., Baltimore.
Johnson, Thos. B., Frederick.
Orrison, J. E., Baltimore.

MICHIGAN.

Baldwin, Fred'k A., Ann Arbor.
Greene, M. Clayton, Lowell.
Brehm, Theo., Negaunee.
Campbell, J. F., Lansing.
Cornell, D. B., Saginaw.
Otis, F. J., Battle Creek.
Schmalzriedt, Theo., Woodmere.

MINNESOTA.

Holte, H., Crookston.
Shimonek, A., St. Paul.

Archibald, F. N., Atwater.
Maloy, G. E., St. Cloud.
Lumley, W. A., Renville.
Shrader, E. E., Watertown.
McCarthy, Wm. J., Madelia.
Stuart, J. H., Minneapolis.
Lonsdale, J., Royalton.
Law, A. A., Minneapolis.
Curran, G. R., Worthington.
De La Barre, Wm., Minneapolis.
Grivelli, Carl T., Young America.
Wilson, Warren, Northfield.

MISSISSIPPI.

Weissinger, A. J., Days.
Dickens, Wm. B., Woodstock.
Sutherland, H. L., Rosedale.
Johnson, John H., Brook Haven.
Wilburn, Thos. L., Kilmichael.
Dilworth, J. A., Aberdeen.

MISSOURI.

Rice, John J., Kearney.
Weyman, Moritz F., St. Joseph.

NEW HAMPSHIRE.

Morrill, S. C., Concord.
Russell, Julia Wallace, Concord.
Wallace, E. A., Manchester.

NEW YORK.

Appleton, Mary, New York City.
Levison, H. A., New York City.
Forbes, H. H., New York City.
Burrows, C. C., New York City.
Kemp, R. E., New York City.
Irwin, S. N., New York City.
Dudley, R. B., Clinton.
Gravatt, Edwin J., Troy.
Slenker, Milton A., New York City.
Dodin, Henry A., New York City.

NORTH DAKOTA.

Savage, Jas. L., Davenport.
Burrows, Fred'k N., Bathgate.
Moeller, Jess Henry, Devil's Lake.

NEBRASKA.

Neeley, John M., Elmwood.
Little, Wm. Jas., Madison.

NEW JERSEY.

Porter, Katherine, Orange.

OHIO.

Schoepfle, H. C., Sandusky.
Ray, Joseph H., Coalton.
Goodsell, Evander J., Norwalk.
Bernstein, S. L., Cleveland.
Courtright, T. E., Columbus.
Ray, Jas. B., Scioto.
Briggs, Chas. E., Cleveland.
Baker, J. P., Findlay.
Isham, A. B., Cincinnati.

PENNSYLVANIA.

Wiggins, S. L., McKeesport.
Miller, W. W., Jeannette.
Quigley, John M., Shawmut.
East, Albert F., Reading.
Butz, R. E., York.
Crumrine, Clyde W., Charleroi.
Minier, Chas. H., Wilkesbarre.
Woods, Adella B., Erie.
Kirk, Thos. T., Pittsburg.
Messer, Agnes B., Robinson, Philadelphia.
Lear, John, Allentown.
Overmiller, N. A., Yoe.
Mercer, Wm. H., Pittsburg.
Harbaugh, C. H., Philadelphia.
Ritter, Ella N., Williamsport.
Frantz, Jos., Waynesboro.
Hassler, S. F., Harrisburg.
Hayes, R. G. H., Bellefonte.

TENNESSEE.

McCoy, Ambrose, Jackson.
Harris, J. A., Dandridge.

TEXAS.

Mitchel, L. C., San Antonio.

UTAH.

Parkinson, Wm. B., Logan City.

VIRGINIA.

Brown, Israel, Norfolk.
Mosby, Ernest, Mt. Meridian.

Vanderslice, G. K., Phoebus
NORTH CAROLINA.

Lyle, S. H., Franklin.

NEW MEXICO.

Haynes, John R., Albuquerque.

WASHINGTON.

Hamilton, Allan, Tacoma.

WISCONSIN.

Cantwell, W. H., Shawano.

Voorus, C. W., Beaver Dam
Schulz, F. M., Milwaukee.
Farrell, Albert M., Two Rivers
Tibbitts, U. J., Prospect.
Farr, Lyman R., Beloit.
Schauer, Julius L., Milwaukee.
Holbrook, Arthur T., Milwaukee.
Bromley, Fred'k W., Palmyra.
Mack, J. A., Madison.
Hartford, W. P., Cassville.
MacLachlan, Wm. G., McFarland.
Smith, Bryant, Milwaukee.

Book Notices.

RINGWORM IN THE LIGHT OF RECENT RESEARCH. By Malcolm Morris, Surgeon to the Skin Department, St. Mary's Hospital. Price, \$2.00. London, Paris and Melbourne: Cassell & Co. 1898.

This appears in the form of an artistic cloth-bound monograph of 137 pages, illustrated by a colored frontispiece and twenty-two photomicrographs of stained specimens and cultures of the ringworm fungi. The reproductions are of a good order. The subject is introduced by a brief historical treatment and a rehearsal of the parasitic theory of the disease. Gruby is credited with the discovery of the *Microsporon audouini* in 1843, while in 1844 Malmsten discovered the trichophyton fungus. It is explained that through a confusion of terms the discovery fell into disrepute and was entirely forgotten until Sabouraud in 1892 established the parasitic nature of the disease and the plurality of its fungi. The doctrine of Sabouraud is clearly set forth, and his conclusions in the main adopted, the criticisms being offered that the French investigator divides the fungi into too many varieties, and is too positive concerning the clinical differences of the various types of infection. The results of other modern investigators are summarized, and the author offers the results of his own examination of 126 consecutive cases. The hairs of all cases were stained by a modified Gram method—original with the author—and many cultures were made on Sabouraud's maltose agar. The cultural results in the main corroborate those of the French writer. It is suggested, however, that the fine cultural differences of Sabouraud are not essential.

Treatment and prophylaxis receive detailed and satisfactory attention.

No criticism is to be offered on the clearness and easy style of the contributors.

MANUAL OF PATHOLOGY, INCLUDING BACTERIOLOGY, THE TECHNIC OF POST-MORTEMS, AND METHODS OF PATHOLOGIC RESEARCH. By W. M. Late Coplin, M.D., Professor of Pathology and Bacteriology, Jefferson Medical College, Philadelphia; Pathologist to Jefferson Medical College Hospital and to the Philadelphia (Blockley) Hospital; Bacteriologist to the Pennsylvania State Board of Health. Third Edition, revised and enlarged. 350 Illustrations and 7 Colored Plates. Octavo. Pp. 846. Price, \$3.50 net. Philadelphia: P. Blakiston's Son & Co. 1900.

Including, as this book does, bacteriology, the technique of post-mortem examinations, methods of research in pathology, general and special pathology, it is quite self-evident that the 846 pages of which it consists can only give the most important facts of the subjects mentioned. We believe that the work is quite reliable as far as it goes. In some places the classification is somewhat peculiar, thus there is a separate chapter devoted to mucous membranes in the section on special pathology, and then we find that the different mucous membranes are considered again in connection with the organs of respiration and alimentary canal, etc. In the section on technic, there is a large number of illustrations which show the names of the manufacturers in large letters, so that this part of the book looks quite like an instrument catalogue. The type is large and clear; the paper is of a high grade, and many of the illustrations are quite satisfactory.

TERAPIA DELLE MALATTIE DELL' INFANZIA ad uso di medici e studenti del Dott. Prof. Cesare Cattaneo, Libero docente di Clinica Medica Pediatrica alla R. Università di Parma. Cloth. Pp. 507. Milan, Italy: Urico Hoepli. 1901.

This little volume on the diseases of children differs somewhat in its plan from the average of similar publications. It

is a work of treatment almost exclusively, and in alphabetic arrangement. The author accepts as probable, and takes for granted, that the reader is well posted as to the symptoms of the diseases, so, after a few remarks on causation and prognosis, passes at once to the therapeutics of the disorder and its complications. The work contains a large number of prescriptions given according to the Italian Pharmacopeia, but readily transposable and intelligible for the most part to the American practitioner even though the text accompanying them is not. The volume seems to be, in its compass, and with its limitations above noted, a very satisfactory handling of its particular subject.

DISEASES OF THE HEART, BLOOD-VESSELS, LYMPHATICS, BLOOD, AND DUCTLESS GLANDS. A Wall Chart. Published by M. J. Breitenbach Co., New York.

This chart gives the chief points of each disorder under the heads of causation, general symptoms, physical signs by inspection, palpation, auscultation, depression, blood change, pulse characteristics, the complications and sequelæ also noted. So far as we are able to see, the chart is a reliable statement of the main diagnostic points of these diseases, and will be a very convenient office adjunct to a physician for occasional or daily reference.

Married.

ARTHUR E. GILLETTE, M.D., to Miss Mayme Jones, both of Cincinnati, Ohio, January 24.

HORACE HALL, M.D., Tepasals, Mexico, to Miss Camilla Scott, of Dallas, Texas, January 24.

G. W. LAUNSPACH, M.D., Fulton, S. Dak., to Miss Mary Anderson, of Dubuque, Iowa, January 16.

FRANK GRAY KETCHUM, M.D., New York City, to Miss Mary Myers, of Lonaconing, Md., January 24.

F. CULLEN WELTY, M.D., Cleveland, Ohio, to Miss Eleanor Wood, of San Francisco, Cal., February 7.

WILLIS ALONZO BIRD, M.D., Thenev, Texas, to Miss Sara Priscilla Burdeshaw, of Kinsey, Tenn., January 16.

JAMES HARDY PITTMAN, M.D., Jacksonville, Fla., to Miss Myrtice Barnett Cason, of Marietta, Ga., January 24.

WILLIAM FULFORD SAPPINGTON, M.D., of the house staff of the Maryland University Hospital, to Miss Florence Valiant Robertson, of Baltimore, at Elmira, N. Y., January 24.

Deaths and Obituaries.

Martin Hagan, M.D., Starling Medical College, Columbus, Ohio, 1859, Los Angeles, Cal., died at his home in that place, January 23, from apoplexy, aged 68. After service in the Civil War he practiced in St. Paul, Minn., until 1881, when he was placed in charge of the asylum for the insane of the Hawaiian Islands. In 1884 he moved to Los Angeles, and three years later was made health officer. He did efficient work in the smallpox epidemic of 1887-88.

Henry J. Herrick, M.D., Rush Medical College, Chicago, 1861, died from uremia, after an illness of about one year, at his home in Cleveland, Ohio, January 28, aged 67. He was a member of THE AMERICAN MEDICAL ASSOCIATION, for many years professor of state medicine and hygiene in the medical department of Western Reserve University, and surgeon-general of Ohio, during Governor Foraker's administration.

William H. Nevison, M.D., Western Reserve University, Cleveland, Ohio, 1887, and a member of its faculty, died at Lakeside Hospital, Cleveland, Ohio, January 27, from pulmonary tuberculosis. He was 37 years old. At a meeting of the faculty of the medical department of the university, January 30, resolutions laudatory of the deceased and expressing regrets and sympathy at his early death, were adopted.

Homer Octavius Jewett, M.D., New York University, 1843, died at his home in Cortland, N. Y., from pneumonia. He was one of the founders of the New York State Medical Associa-

tion, before which he read many papers. He also early identified himself with THE AMERICAN MEDICAL ASSOCIATION, and was in active practice until about a month before his death.

Charles W. Stevens, M.D., Harvard Medical School, 1870, died at his residence in Charlestown, Mass., January 25, from diphtheria, at the age of 65. He served as city physician and as surgeon on one of the steamship lines between Boston and Liverpool, and was a member of the Massachusetts Academy of Medicine.

Armstrong P. Houston, M.D., Jefferson Medical College, Philadelphia, 1854, of Clarksville, Ga., died in Atlanta, Ga., January 27, while on his way to Florida for his health, aged 69. He practiced at Clarksville for forty years and served during the Civil War as a surgeon on the Confederate side.

Henry L. Stickel, M.D., Jefferson Medical College, Philadelphia, 1873, died in Harrisburg, Pa., January 24, from tuberculosis, aged 48. He served as surgeon in the army and was consulting surgeon of the Harrisburg Hospital.

Isaac Ryall, M.D., Trinity Medical College, Toronto, 1855, medical health officer of Hamilton, Ont., died on January 20, from hemorrhage of the stomach. For twenty-six years he was Hamilton's health officer. He was also surgeon to the Thirtieth Regiment at the time of the fenian raid.

S. D. M. Byrd, M.D., Oglethorpe Medical College, Savannah, Ga., 1856, died suddenly at his home in Scranton, S. C., January 21. He served on the Confederate side in the Civil War, rising to the rank of lieutenant-colonel, and was also state representative and senator for several terms.

Frederick G. Bloom, M.D., died at his home in Martinsburg, Pa., January 23, aged 79. He was one of the oldest graduates of the University of Pennsylvania, and had practiced in Martinsburg for more than half a century.

Albert G. Priest, M.D., Jefferson Medical College, Philadelphia, 1852, died suddenly from apoplexy, January 24, at his home in Shelbyville, Mo., where he had practiced for nearly fifty years. His age was 72 years.

David V. Waite, M.D., Geneva Medical College, Geneva, N. Y., 1851, who had practiced medicine for more than forty years in and around Rockton, Ill., died at his home in that place, January 26, aged 76.

Dennis H. Reardon, M.D., Western Reserve, Cleveland, Ohio, 1883, of Elmira, N. Y., was found dead, January 27. An overdose of chloroform, which he was in the habit of inhaling, was the cause.

Wesley W. Barkwell, M.D., Detroit College of Medicine, 1889, who practiced in Chicago until tuberculosis forced him to go to San Jose, Cal., in 1898, died at Tucson, Ari., January 28, aged 38.

Oliver Newton Murdock, M.D., College of Physicians and Surgeons, Keokuk, Iowa, 1876, died January 29, at his home in Minneapolis, Minn., after a short illness from la grippe, aged 47.

Nathan H. Raynor, M.D., University of Pennsylvania, Philadelphia, 1879, died at his residence in Philadelphia, January 25, after an illness of two months, from Bright's disease, aged 45.

William W. Parker, Jr., M.D., University College of Medicine, Richmond, Va., 1899, died at the Virginia Hospital, Richmond, after an illness of four weeks, from typhoid fever, January 24.

Edson K. Smith, M.D., Dartmouth Medical College, Hanover, N. H., 1891, died at his home in Poultney, Vt., after an illness of two weeks, from typhoid fever, January 24, aged 46.

Frederick C. McCarthy, M.D., Harvard Medical School, 1899, of Malden, Mass., died from typhoid fever at the Massachusetts General Hospital, Boston, January 21, aged 28.

John D. Kremien, M.D., formerly a practicing physician of Baltimore, and a member of the Medical and Chirurgical Faculty of Maryland, died January 23, from typhoid fever.

Erskine E. Hamilton, M.D., College of Physicians and Surgeons, New York City, 1892, recently died from Bright's disease, at his home in Springfield, Mass., aged 34.

William Langdon Simpson, M.D., Medical School of Maine, Brunswick, 1879, died from the effects of a bullet-wound in the head, in New York City, January 26.

William Foster Harvey, M.D., Medical College of Ohio, for many years a practitioner in Hendricks County, Ind., died at his home in Indianapolis, January 27, aged 75.

John Thompson, M.D., Bellevue Hospital Medical College, 1871, died from pneumonia, after an illness of four days, at his home in Amherst, Va., January 23, aged 61.

John H. Miller, M.D., Castleton Medical College, Castleton, Vt., 1859, formerly a resident of New Bremen, N. Y., died at his home in Burbank, Cal., January 24, aged 66.

J. Ranlet Smith, M.D., Vermont Medical College, Woodstock, 1845, died at his residence in Gloucester, Mass., January 25, after an illness of several years, aged 79.

Walter W. Worley, M.D., St. Louis Medical College and Bellevue Hospital Medical College, died after a long illness, January 22, at his home in Ursa, Ill., aged 37.

Henry W. Bryan, M.D., University of Pennsylvania, 1895, died at his home in Wilmington, Del., from pneumonia after an illness of four days, January 27, aged 31.

William D. Craig, M.D., Rush Medical College, Chicago, 1850, who had practiced for forty years in Aledo, Ill., died at his home in that city, January 23, aged 71.

John H. O'Brien, M.D., New York University, 1887, died at his home in Pittsburg, Pa., January 28, after an illness of six weeks, from Bright's disease, aged 41.

Charles C. Allen, M.D., Missouri Medical College, St. Louis, 1850; Bellevue Hospital Medical College, 1872, died at his home in Chillicothe, Ill., January 23, aged 75.

Almon V. Thompson, M.D., Medical School of Maine, Brunswick, 1874, died from Bright's disease, January 25, at his home in Beaver Falls, Pa., aged 56.

J. Stuart Leech, M.D., Jefferson Medical College, Philadelphia, 1841, the oldest physician in Chester County, died January 23, at Downingtown, Pa., aged 87.

John F. McGrew, M.D., College of Physicians and Surgeons, Baltimore, Md., 1888, died from consumption at his home in Finleyville, Pa., January 27, aged 40.

Frank Wertz, M.D., University of Pennsylvania, 1866, died at his home in Longswamp Township, Berks County, Pa., January 18, from apoplexy, aged 64.

Grafton Marsh Bosley, M.D., University of Maryland, 1847, of Towson, Md., died at the Church Home and Infirmary, Baltimore, January 26, aged 75.

Frederick S. Nelson, M.D., University of the South, Sevanee, Tenn., 1900, died January 27 from tuberculosis, at Newmarket, N. J., aged 37.

John A. Keith, M.D., Medical College of the State of South Carolina, Charleston, S. C., 1881, died at his home in Lucknow, S. C., January 23.

Louis R. Warren, M.D., College of Physicians and Surgeons, New York City, 1880, died recently at his home, Orange Ridge, Braidentown, Fla.

Theodore D. C. Miller, M.D., Bellevue Hospital Medical College, New York, 1866, died at his home, New York City, January 29, aged 59.

Arthur W. Langley, M.D., Medical School of Maine, Brunswick, 1891, died suddenly at his home in Kennebunkport, Me., January 23, aged 35.

Edward James Marshall, M.D., University of Pennsylvania, Philadelphia, 1867, died at his home in Northbrook, January 28, aged 60.

Henry W. Holman, M.D., Jefferson Medical College, Philadelphia, 1855, at his home in Inez, Va., from pneumonia, January 23, aged 71.

James Seth, M.D., University of Maryland, 1865, died January 26, at his home near McDaniel, Md., where he had practiced for 35 years.

Andrew J. Norris, M.D., College of Physicians and Surgeons, Iowa, 1870, died at his home in Ten Mile, Mo., January 28, aged 56.

Guthrie Rider Winder, M.D., Long Island College Hospital, Brooklyn, 1898, of Brooklyn, N. Y., died January 25, aged 26.

Joseph E. M. Chamberlaine, M.D., University of Maryland, 1849, died at his residence in Easton, Md., January 30, aged 74.

Luther P. Hess, M.D., Medical College of Indiana, Indianapolis, 1881, died at his home in Oakland, Cal., January 30, aged 57.

Shadrach L. Ferree, M.D., Medical College of Indiana, Indianapolis, 1870, died at his home in Indianapolis, January 30, aged 71.

Paul Jencke, M.D., Missouri Medical College, 1878, died from pneumonia, January 29, at his home in Linn, Mo.

Stephen Chandler Griggs, M.D., New York University, 1849, of Brooklyn, New York, died February 1, aged 81.

Seneca M. Bain, M.D., Tulane University, New Orleans, La., 1861, died at his home in Gatesville, Texas, January 22.

Miscellany.

Neurasthenia Not a Prerogative of the Cultured Classes.—Petren of Lund writes to the *Deu. Zift. f. Nervenheilkunde* that it is an error to assume that neurasthenia is less frequent among the lower classes, the peasants, of Europe than among the cultured. He doubts whether modern civilization is responsible for the increase in nervous degeneration.

Traumatic Etiology of Malignant Tumors.—A recent thesis reviews the material in the Goettingen clinic for nineteen years—a total of 1767 cases of malignant tumors—and notes that in 45 there was a possibility of traumatic origin. This possibility was very slight in 21, which leaves only 24 in which the trauma had actual etiologic significance. This is a very small proportion compared with those reported by others: Wolff, 68 in 462 cases, or 14.7 per cent.; Liebe 28 in 271, or 13.3 per cent.; Rapok, 109 in 553, or 19.7 per cent.; Lengnick, 24 in 579, or 4.1 per cent., while Kempf, the author of the thesis in question, reviewed in the *Cbl. f. Chir.*, found only 45 in 1767, or 2.5 per cent.

Operating by Light from Automobile.—A correspondent of the *Boston Medical and Surgical Journal* (January 26) reports a new use for the electric automobile. A laparotomy having been necessitated in the evening, at a private house, where only open burning lights were available, and etherization was therefore dangerous, he attached a couple of incandescent lamps to his motor battery by insulated wire, thus performing the operation with ease and safety. He offers this experience as a suggestion of a possible enhanced value of the electric automobile to physicians, not only as a magazine of light when needed, but also for cauteries, therapeutic applications of currents, etc., and a similar use of the automobile has been made by others (Caldwell: *THE JOURNAL*, February 2, p. 344.)

Differentiation of Cancer and Liver Abscess by the Blood.—Boinet states that when the leucocytes—especially the polynucleated—are six to ten times more numerous than normally, it is a strong supporting testimony of the presence of an abscess in the liver. The *Sem. Méd.* of January 2 cites cases in which the assumption of an abscess of this kind from the condition of the blood was confirmed by operation. Hartmann also calls attention to the blood as a means of differentiating carcinoma of the stomach. In one case in which the clinical evidence of carcinoma was unquestioned the contradictory testimony of the blood was disregarded and the stomach found intact. The health of the patient has been good since. In another case an ulcer of the stomach was assumed, but the blood and the laparotomy showed the lesion to be a carcinoma.

Therapeutics.

Treatment of Hereditary Syphilis of Nose and Throat.

In addition to the constitutional treatment, Casselberry advises attention to the bowels, diet and general health. As a local application to the ulcers he recommends the following:

R. Iodini		
Acidi tannici		
Potassii iodidi, āā.....	3i	4
Glycerini	3ss	16
Aquæ, q. s. ad.....	3i	32

M. Sig.: Apply to the ulcers directly with a cotton swab.

Pyle recommends the following in local treatment of hereditary syphilis:

R. Acidi borici	gr. v	33
Pot. permanganatis	gr. i	06
Aquæ destil.....	3i	32

M. Sig.: Apply locally.

Or,		
R. Acidi carbol.....	gr. i	06
Sodii bicarb.....	gr. vi	36
Acidi borici.....	gr. v	30
Aquæ	3i	32

M. Sig.: Locally to nasal passages.

The child should be placed in the nurse's lap and the nasopharynx plugged by means of a temporary sponge, the head slightly raised and the nose washed out with a fine syringe. spray or douche, too much force not being used.

OZENA DEPENDENT ON HEREDITARY SYPHILIS.

R. Arsenici iodidi	gr. iiii	18
Hydrarg. biniodidi	gr. v	30
Potassii iodidi	3i	4
Aquæ destil.....	3iv	128

M. Sig.: Four drops three times a day, to be increased according to age.

Fetid Rhinitis.

G. M. Leffert, in *Med. News*, recommends the daily use of the anterior and posterior nasal syringe, the removal of hard crusts with the forceps and washing thoroughly with one of the following alkaline and antiseptic solutions until all offensive secretions have been removed:

R. Sodii boratis	3i	4
Glycer. acidi carbol.....	3iss	6
Aquæ destil.....	Oi	500

M. Sig.: To be used as an atomizer.

Either of the following prescriptions may be used in the same manner:

R. Acidi salicylici	gr. x	66
Sodii bicarb.....	3i	4
Aquæ destil.....	Oi	500

Or,

R. Sodii boratis	3i	4
Sol. potas. permangan.—1 per cent....	3iss	6
Aquæ destil.....	Oi	500

To overcome the dryness of the mucous membrane follow the cleansing with a spray of liquid albolene.

Euquinin in Acute Nasal Catarrh.

Merck's Archives recommends euquinin in the following combination in acute rhinitis:

AS A PILL.

R. Euquinin	gr. xxx	2
Liq. potassii arsenitis	m. x	66
Solutionis atropinae—1 per cent.....	m. iv	25
Ext. gentiana	gr. xx	1
Pulveris acaciae, q. s.		33

M. Ft. pilula No. xii. Sig.: Take one pill every three hours.

AS A TABLET.

R. Euquinin	gr. x	66
Atropinae sulphatis	gr. 1/30	002
Morphinae sulphatis	gr. ss	03
Camphora	gr. x	66

M. Ft. tabellæ No. xx. Sig.: One every half hour for six doses, or until throat feels dry, then one every two or three hours.

Euquinin is slightly bitter and can be given in doses of one and a half times that of quinin sulphate, administered in powder, capsule, soup, milk or cocoa.

Local Treatment of Diphtheria.

Sheffield recommends the following combinations in treatment of diphtheria:

R. Papainæ—glycerin extract	3iv	16
Acidi carbol.		
Pulv. camphora, āā.....	gr. viii	50
Alcoholis, q. s. ad sol.		
Glycerini, q. s. ad.....	3ii	64

M. Sig.: This is to be applied to the throat by means of a cotton swab every two hours until abatement of the symptoms, then less frequently.

Or,

R. Hydrogeni peroxidi	3iv	16
Sodii boratis	3ii	8
Glycerini	3ii	64
Aquæ rosæ, q. s. ad.....	3iv	128

M. Sig.: One tablespoonful to be instilled into the nose every two hours while the diphtheric membrane is present.

Treatment of Follicular Pharyngitis.

Kyle states that, in the early stages of clergyman's sore throat, where permanent structure change has not taken place, he is in the habit of administering drugs that are eliminated by the mucous membrane. Under such circumstances he recommends the following:

R. Phosphori	gr. 1/6	01
Iodini	gr. ii	12
Bromini	gr. ii	12
Vini xerici	3ii	64

M. Sig.: One teaspoonful three times a day.

A local application of chromic acid in twenty per cent. solution to each follicle, touching only a few at one time, may be made being careful to dry the part afterward with a piece of dry absorbent cotton. He recommends as a local application to the entire surface the following:

R. Olei pini sylvestris		
Olei eucalypti, āā.....	gtt. v	30
Menthol	gr. iv	25
Tinct. benzoini	3i	32

M. Sig.: Apply locally every other day to stimulate the mucous membrane and promote resolution.

Treatment of Tuberculosis.

Flich, in *Med. Record*, states that in his opinion drugs containing iodine are the best, and that they are best given by inunction. He further states that the essential oils, and especially peppermint and thyme, unfit the tissues as soil for the propagation of the bacilli. Mendel recommends the following combination in treatment of tuberculosis:

R. Olei thymi		
Olei eucalypti		
Olei cinnamomi, āā.....	gtt. lxxx	52
Iodoformi	gr. xv	1
Olei olivæ steril.....	3i	112

M. Sig.: Introduce 45 minims into the trachea by means of a long-curved syringe.

Nocturnal Incontinence of Urine.

Stumpf, in *Jour. of Med. and Science*, recommends that the child lie in such a position that the head is lower than the hips, so that the urine will not flow into the urethra, and thus irritate and excite the urethral sphincter. He states that after such postural treatment for three weeks the usual position in bed may be resumed.

Guaiacol in Chronic Cystitis.

Gabriel Colin, in *Jour. de Méd. de Paris*, advises the following formula in chronic cystitis of tuberculous origin:

R. Guaiacol3i 4|
Ol. amygdalæ dulcis—sterilized3iiss 80|

M. Sig.: Inject from a quarter to half a teaspoonful into the bladder once or twice a day.

Chronic Prostatitis.

Freudenberg, in the same journal, recommends the following suppository:

R. Ichthyolgr. v to xii |33-72
Olei theobromatisgr. l 3|33

M. Ft. suppository. Sig.: One such suppository to be inserted twice a day, night and morning, after evacuation of the bowels. If a movement occurs in the middle of the day, a third suppository may be used after it.

Treatment of Varicose Veins.

Woodward, in the *Clinique*, states that obliteration of the vein should first be made and if eczema exists over the area of induration and edema he advises the parts to be washed in a solution of bichlorid and carbolic acid morning and evening, and the following ointment applied:

R. Olei picis3ss 2|
Zinci oxidi3ii 64|

M. Sig.: Apply locally night and morning.

If an exudate and blebs appear the following is preferable:

R. Acidi tannicigr. v |30
Bismuthi subnitratiss3ss 2|
Lanolini3i 32|

M. Sig.: Apply locally.

Where radical measures are refused by the patient, or in old subjects, the recumbent posture and elastic bandages will improve the condition; in ulcerations dusting powders of borie acid, iodoform, bismuth subnitrate. A paste made of mild chlorid of mercury and sodium chlorid stimulates granulation tissue.

Infantile Colic.

Dr. P. F. Barbour, in *Pediatrics*, states that in colic of infants the use of warm enemata will generally remove the gas. The enema may contain a few drops of turpentine or half a teaspoonful of glycerin. Hot applications should be applied to the abdomen and the feet and hands kept warm. He also recommends small amounts of hot whisky and water with a drop of the essence of peppermint and a little sodium bicarbonate by the mouth. One of the following combinations is also recommended:

R. Spts. ammon. arom.....m. vi |36
Sodii bicarb.....gr. xii |72
Syr. rhei aromatici.....3i 4|
Aquæ cari3iiss 48|

M. Sig. One teaspoonful as required.

Or,

R. Tinct. asafetidæm. xv 1|
Olei eajuputim. ii |12
Mag. carbonatis3ss 2|
Syr. acaciæ3ss 16|
Aquæ anisi3iiss 48|

M. Sig.: One teaspoonful as required.

Enterocolitis (Mucomembranous) in Adults.

R. Magnesiae (calcined)
Sulphuris loti
Potassii bitartratis, āā.....3v 20|

M. Sig.: One teaspoonful before each meal.

Enteritis of Nursing Infants.

R. Tannigenigr. x |66
Acidi lacticigr. xxx 2|
Syrupi simplicis3i 32|
Aquæ destil., q. s. ad.....3iii 96|

M. Sig.: One teaspoonful before each nursing.

—*Clinica Moderna*.

Tannigen should be given in much larger doses in order to derive the proper benefit from it. It can be given in doses ranging from three to five grains to infants.

Treatment of Atonic Ulcers by Hot Irrigations.

Kindler, in the *Centralblatt f. Chir.*, has treated with good results chronic ulcers by irrigations of two liters of water, as hot as could be borne, flowing with a drop of six feet. These irrigations were repeated two or three times a day and followed by dry rubbing with powdered iodoform or bismuth subgallate. He noted that chronic leg ulcers, perforating ulcers of tabes, the slow and progressive erosions of tertiary syphilis and phagadenic chancreoids were thus cured in a very short time.

—*Ther. Gazette*.

Medicolegal.

Not Liable for Unhealthful Condition of Lockup.—The Supreme Court of Iowa holds, in the case of Lahner vs. the Incorporated Town of Williams, that a municipal corporation is not liable in damages for injury to a person's health caused by his incarceration over night, without food or water or suitable protection against the cold, in a filthy and unhealthful lockup. Under an arrest without legal cause or excuse, the acts complained of having been done by officers of the corporation in an attempt to enforce its police regulations.

Making Mismanagement of Physician a Defense to Crime.—In the homicide case of the State of Iowa vs. Wood it appeared that certain injuries had been inflicted on the 11th of the month. Up to the 6th of the following month the victim of the injuries had improved in health. Then his physician temporarily left the state. Another was called on the 11th, and soon thereafter empyema set in, resulting in death on the 24th. The defendant insisted that the evidence tended to show that, but for mismanagement on the part of this second physician, or those caring for the injured man, he might have recovered, and that the jury should have been instructed, if they so found, that the defendant could not be convicted of manslaughter. But not so thinks the Supreme Court of Iowa. In affirming a judgment of conviction, it holds that to warrant escape for the killing, the subsequent mismanagement or neglect must have been the sole cause of death, and that the jury was rightly instructed that, if the injuries inflicted by the defendant directly contributed to produce empyema, causing death, he was guilty of taking the life of the deceased, while if these did not so contribute, he could not be convicted of murder or manslaughter. No principle, it declares, is better settled than that he who, by his wrongful act, accelerates or hastens death, or contributes to its cause, is guilty of homicide; and whether this be murder of manslaughter necessarily depends on the intent or motive by which the person making it was actuated.

Charitable Hospital Owned by Individual is Taxable.—The state constitution of North Dakota provides that "the legislative assembly shall, by a general law, exempt from taxation property used exclusively for school, religious, cemetery, or charitable purposes." The legislature, in describing the property exempt from taxation, enumerated: "All buildings belonging to institutions of purely public charity, including public hospitals, together with the land actually occupied by such institutions, not leased or otherwise used with a view to profit," etc. Now, the constitutional provision, the Supreme Court of North Dakota holds, *Engstad vs. Grand Forks County*, does not of its own force operate to exempt any property from taxation, is not self-executing; and, under the statute, real estate which is used exclusively for purposes of purely public charity, but which is not owned by an "institution," is not exempt from taxation. Hence, it holds that there is no law in the state which exempts from taxation a hospital, and the land upon which it is erected, when the same is conducted solely by one individual, who owns the same, and who operates it for public charity exclusively. In fact, it declares that real estate which belongs to but one individual, a natural person, can not, under any circumstances, be entitled to exemption from taxation under the statute. Nor does it consider the statute repugnant to the constitution because it is narrower in its terms, or because it limits the exemption of real estate used for charitable purposes to such real estates as is devoted to purely public

charitable uses, and then only to such as belongs to an "institution."

Insanity Produced by Epilepsy.—In the murder case of *State vs. Wright*, where one of the special defenses was insanity produced by epilepsy, the Supreme Court of Iowa not only says that alienists universally recognize epilepsy as one of the most frequent causes of mental disturbance, but that the possible effect of epilepsy on the general mental condition is within the knowledge of all courts who have come in contact with the disease in the trial of cases involving mental unsoundness. Continuing, it states that, in determining the mental condition of a person at a given time, it becomes of the utmost importance to know his mental condition before that time, and to know also the effect of previous attacks of the disease, and whether or not they have left traces of an alteration of the intellectual functions. And, indeed, it declares, it takes it to be the rule that, in all cases involving the question of mental capacity, it is competent to go into the minutest details of the personal history of the one who is claimed to be mentally afflicted. Likewise, it deems it proper to show his physical and mental condition after the transaction in question. It also holds that, the defendant having shown by a certain physician that he had treated a sister of defendant for epilepsy, it was error not to allow him to show when. Moreover, one of the questions for the jury to determine being whether the defendant was drunk or in a fit of epilepsy when the fatal shot was fired, the court holds that the testimony of a witness offered to show the defendant's appearance, color of his face, etc., when drinking, and within a short time thereafter, was improperly refused. It holds that if the defendant was at the time temporarily insane, and his mental condition was caused by epilepsy, and if the attack may have been produced by drug in the liquor given him, it could not be said that he would be responsible for his act, though there may have been intoxication. But it does not consider the victim's dying declaration, that he did not think the defendant intended to shoot him, but thought that he was crazy, admissible in evidence, there being nothing in the evidence to show that this was his deliberate opinion, based on any facts which he had recited, the statement being but an opinion to which he could not have testified without giving to the jury the facts upon which he based his opinion.

United States Supreme Court on Cigarettes.—The Supreme Court of the United States holds constitutional, in the case of *Austin vs. the State of Tennessee*, the act of that state making it a misdemeanor punishable by a fine of not less than \$50 for any person, firm, or corporation to sell, offer to sell, or to bring into the state for the purpose of selling, giving away, or otherwise disposing of, any cigarettes, cigarette paper, or substitute for the same. It first, however, insists that whatever product has from time immemorial been recognized by custom or law as a fit subject for barter or sale, particularly if its manufacture has been made the subject of Federal regulation and taxation, must be recognized as a legitimate article of commerce, although it may to a certain extent be within the police power of the states, and that of this class of cases is tobacco. It admits that the effects of tobacco may be injurious to some, but thinks that its extensive use over practically the entire globe is a remarkable tribute to its popularity and value. Anyhow, it is clearly of the opinion that tobacco can not be classed with diseased cattle or meats, decayed fruit, or other articles, the use of which is a menace to the health of the entire community. Cigarettes, it goes on to say, are but one of the numerous manufactures of tobacco, and it can not take judicial notice of the fact that it is more noxious in this form than in any other. Again, it says that they do not seem until recently to have attracted the attention of the public as more injurious than other forms of tobacco; nor, it says, is it prepared to take judicial notice of any special injury resulting from their use or to indorse the opinion of the Supreme Court of Tennessee that "they are inherently bad and bad only." At the same time, it declares that it should be shutting its eyes to what is constantly passing before them were it to affect an ignorance of the fact that a belief in their deleterious effects,

particularly upon young people, has become very general, and that communications are constantly finding their way into the public press denouncing their use as fraught with great danger to the youth of both sexes. And, without undertaking to affirm or deny their evil effects, it thinks it within the province of the legislature to say how far they may be sold, or to prohibit their sale entirely, after they have been taken from the original packages or have left the hands of the importer, provided no discrimination be used as against such as are imported from other states, and that there be no reason to doubt that the act in question is designed for the protection of the public health. Moreover, it holds that a paper package of 3 inches in length and 1½ inches in width, containing ten cigarettes, is not an original package protected by the Constitution of the United States against any interference by the states while in the hands of the importer. Nor, it says, in the course of its opinion, can it deny to the legislature the power to impose restrictions upon the sale of noxious or poisonous drugs, such as opium and other similar articles, extremely valuable as medicines, but baneful to the habitual user.

Permanency in Practice as Evidence of Qualification.—

The Supreme Court of Iowa holds, in the case of *State vs. Blair*, that the nature and extent of the qualifications required of practitioners of medicine are primarily for the determination of the legislature. No objection can be urged because of their severity, if appropriate to the profession, and attainable by reasonable study and application. They deprive no one of the right to practice medicine so long as all that is exacted is that every one who assumes to do so shall be possessed of the requisite knowledge and skill, and that this be evidenced by a certificate of the board designated by the state to ascertain his fitness. Nor does it consider unconstitutional the provision of the Iowa Code making one of the ways in which qualification might be evidenced prior to Jan. 1, 1899, that the physician had "been in practice in this state for five consecutive years, three of which time shall have been in one locality." It says that the statute recognizes that actual experience in the practice of medicine tends to render the physician capable. Success therein denotes the possession of learning and skill. Continuing in the profession several years in a particular locality indicates a degree of merit not likely to be found in a person moving from place to place. Indeed, it declares, it is a matter of general observation that the itinerant doctor, roving about, without remaining in one locality longer than a few days or weeks, is usually wanting in honesty, and too frequently but a charlatan or quack. Besides, such a professional residence affords the opportunity of becoming known by neighbors, and, if lacking in capacity or character, obstacles may be interposed to the issuance of a certificate; for it must not be overlooked that, notwithstanding continuous practice in one place, a certificate may be denied, owing to incompetency or immorality. In practical operation, the law admits those to practice who have followed the profession at one place long enough to acquire knowledge through experience in the profession, and to become known, unless want of capacity or good character affirmatively appears. Others must be examined or present diplomas. It makes a distinction recognized in all the affairs of life. And if, within the ordinary experience of men, and as a matter of common observation, physicians of learning, skill, and character are generally permanently located, and seldom change the place where their profession is followed, as appears to be true, the court says it can discover no tenable reason why this circumstance might not be treated by the legislature as evidence of qualification under the statute. In short, it thinks the distinction of the Iowa Code in this regard neither arbitrary nor unreasonable, but in harmony with common knowledge of differences which ordinarily exist between persons following the medical profession who have a permanent locus in quo, and those who do not. It adds that it is not unmindful that the Supreme Court of New Hampshire, in construing a somewhat similar statute, has held to the contrary, appearing to have grounded its conclusion on the erroneous assumption that permanency in the practice in a locality furnishes no evidence of qualification. But this, it says it has undertaken here to demonstrate, is not warranted.

Societies.

COMING MEETINGS.

Tri-State Medical Association of the Carolinas and Virginia, Richmond, Va., Feb. 26, 1901.

Medical Society of the Missouri Valley, Omaha, Neb., March 21, 1901.

HILLSBORO COUNTY (Fla.) MEDICAL SOCIETY.—Dr. Louis A. Bize, Tampa, has been elected president of this Society; Dr. George H. Alltree, Port Tampa City, vice-president, and Dr. John S. Helms, Palmetto, secretary and treasurer.

BRASHEAR MEDICAL SOCIETY.—At the annual meeting of this Society, held in Bardstown (Ky.), Dr. Aloysius G. Blincoe was elected president; Dr. William W. Ray, Springfield, vice-president, and Dr. Wiley Rogers, Taylorsville, secretary and treasurer.

ST. JOSEPH COUNTY (Ind.) MEDICAL SOCIETY.—At the meeting of this Society, in South Bend, January 28, Dr. Fred P. Eastman, was elected president; Dr. George W. Van Benschoten, vice-president; Dr. Harry F. Mitchell, secretary, and Dr. Charles M. Butterworth, treasurer, all of South Bend.

KING COUNTY (Wash.) MEDICAL SOCIETY.—The twelfth annual meeting and banquet of this Society was held at Seattle, January 21. The following officers were elected: Dr. Caspar W. Sharples, president; Dr. John B. Loughary, vice-president; Dr. George H. Randell, secretary, and Dr. Frank M. Carroll, treasurer, all of Seattle.

NEWPORT (R. I.) MEDICAL SOCIETY.—The Society held its annual meeting January 18, and Dr. Henry Ecroyd was elected president; Dr. William S. Sherman, vice-president; Dr. Mary E. Baldwin, secretary; Dr. Douglas P. A. Jacoby, treasurer; Dr. Thomas A. Kenefick, curator; Dr. Charles W. Stewart, bacteriologist, and Dr. F. Jerome Davis, librarian.

UTAH COUNTY (Utah) MEDICAL SOCIETY.—At the meeting of this Society, January 10, a committee of three was appointed to co-operate with the medical societies of Salt Lake and Weber counties in presenting the proper and legitimate information to members of the legislature concerning a law governing vaccination and the powers of the boards of health.

SAVANNAH (Ga.) MEDICAL SOCIETY.—At the annual meeting of this Society, January 10, the following officers were elected: Dr. John W. Daniel, president; Dr. Ralston Lattimore, vice-president; Dr. Ralph M. Thomson, recording secretary; Dr. J. Lawton Hiers, corresponding secretary; Dr. J. L. Farmer, treasurer, and Dr. William E. Fitch, librarian.

FOX RIVER VALLEY MEDICAL SOCIETY.—The annual meeting of this Society was held in Green Bay, Wis., January 2. The following officers were elected: Dr. Abbott W. Slaughter, Green Bay, president; Dr. Alphonse M. Kersten, De Pere and Charles D. Boyd, Kaukauna, vice-presidents; Dr. James S. Reeve, Appleton, secretary and treasurer, and Dr. Herbert B. Tanner, Kaukauna, censor.

BLAIR COUNTY (Pa.) MEDICAL SOCIETY.—This Society met for its annual dinner at Altoona, January 24, and elected the following officers: Dr. Samuel P. Glover, president; Drs. Orr H. Shaffer and Robert J. Hillis, vice-presidents; Dr. J. Wesley Rowe, recording secretary; Dr. Mary Irwin Thompson, corresponding secretary and reporter, and Dr. William S. Ross, treasurer, all of Altoona.

ASSOCIATED PHYSICIANS OF LONG ISLAND (N. Y.)—The third annual meeting of this Association was held in Brooklyn, January 26. The following officers were elected: Dr. William B. Gibson, Huntington, president; Drs. Calvin F. Barber, Brooklyn, James S. Cooley, Glen Cove, and William H. Ross, Brentwood, vice-presidents; Dr. James C. Hancock, Brooklyn, secretary, and Dr. John P. Heyen, Northport, treasurer.

JACKSON COUNTY (Mich.) MEDICAL SOCIETY.—This Society completed its organization at Jackson, January 24, by adopting a constitution and by-laws in conformity with the "Code of Ethics of THE AMERICAN MEDICAL ASSOCIATION," and electing the following officers: Dr. Albert E. Bulson, president; Dr. Martha C. Strong, vice-president; Dr. A. H. Wilton, secretary, and Dr. Frederick W. Rogers, treasurer, all of Jackson.

DENVER AND ARAPAHOE MEDICAL SOCIETY.—At the annual meeting held in Denver, Colo., January 8, the following officers were elected: Dr. Horace G. Wetherill, president; Henry Sewall, vice-president; Dr. Walter Holden, secretary; Dr. George H. Stover, financial secretary; Dr. Edwin J. Rothwell, treasurer, and Drs. Edgar P. Hershey, Walter A. Jayne, Edward

Jackson, Josiah N. Hall, and Leonard Freeman, board of censors, all of Denver.

SOUTHWESTERN MEDICAL ASSOCIATION OF TEXAS, NEW MEXICO, ARIZONA AND MEXICO.—This Association met at El Paso, Texas, January 23, for organization, and elected Dr. Charles T. Race, El Paso, Texas, president; Drs. Samuel D. Swope, Deming, N. M., T. H. Swayne, Chihuahua, Mexico, and Hiram W. Fenner, Tucson, Ariz., vice-presidents; Dr. John J. Gilbride, El Paso, Texas, secretary, and Dr. Stephen T. Turner, El Paso, Texas, treasurer.

RENSSELAER COUNTY MEDICAL ASSOCIATION.—The members of the Second District Branch of the New York State Medical Association, 43 in number, met in Troy, January 10, and organized the Rensselaer County Medical Association, adopted by-laws and elected the following officers: Dr. Charles S. Allen, Rensselaer, president; Dr. Matthew B. Hutton, of Valley Falls, vice-president, and Dr. Frederick F. A. Smith, Troy, secretary and treasurer.

ORLEANS PARISH (La.) MEDICAL SOCIETY.—At the meeting of this Society, held January 26, Dr. E. Denegre Martin, New Orleans, read a paper on spinal anesthesia, in which he advocated the theory that disturbance of the cerebrospinal fluid causes the unpleasant after-effects of this mode of anesthesia and suggested the use of small quantities of more concentrated solutions—4 minims of a 5 per cent. solution—as likely to cause the minimum of such disturbance.

MEDICAL SOCIETY OF CITY HOSPITAL ALUMNI, ST. LOUIS (Mo.)—At the annual meeting of this Society, held December 20, the following officers were elected for the ensuing year: Dr. Norvelle Wallace Sharpe, president; Dr. Francis L. Reder, vice-president; Dr. John Green, Jr., secretary, and Dr. Horace W. Soper, treasurer. At a special meeting, held January 31, Mr. Charles F. Longfellow, superintendent of public buildings, exhibited the plans for the buildings of the new city hospital.

WESTCHESTER COUNTY (N. Y.) MEDICAL ASSOCIATION.—The members of the Fifth District Branch of the New York State Medical Association, residing in Westchester County, met for organization at Portchester, January 22. The meeting was called to order by Dr. Frederick Holme Wiggin, New York City, who explained the plan of organization of, and also called attention to the by-laws of, the state association regulating the organization and government of the county associations. After some remarks on the same subject, by Dr. John A. Wyeth, New York City, president of the state association, and by Dr. Parker Synis, president of the New York County Association, Dr. Edward F. Brush, Mount Vernon, was elected temporary chairman. The following officers were then elected for the ensuing year: Dr. Norton J. Sands, Portchester, president; Dr. J. Lindsay Porteous, Yonkers, vice-president, and Dr. Donald D. T. MacPhail, Purdy Station, secretary and treasurer. Dr. Edward F. Brush, Mount Vernon, was elected Fellow of the State Association as delegate to THE AMERICAN MEDICAL ASSOCIATION, and Dr. H. Eugene Smith, Mount Vernon, alternate fellow and delegate.

PHILADELPHIA ACADEMY OF SURGERY.

Meeting held January 7.

Wounds of Venous Sinuses of the Brain.

DR. HENRY R. WHARTON delivered the annual address, on this subject, based on examinations of 70 cases; his personal experiences had been limited to 5 cases.

He cited the case of a boy 12 years old, who had been struck on the occipital bone, a depressed fracture resulting without any marked immediate symptoms, though they appeared the following day, justifying an operation, which revealed that the sinus in this region had been injured, as profuse hemorrhage occurred. Death subsequently followed.

In a second patient, 22 years of age, who had sustained a depressed fracture of the occipital bone, this was elevated, terminating in recovery.

Another case was caused by a compound depressed fracture of the right parietal bone, and at the operation very profuse hemorrhage occurred; recovery followed.

A fourth patient had sustained a fall, striking on the head, but without any immediate symptoms, as he was afterward able to get up and walk into the house. Next day symptoms of compression appeared and he became partially paralyzed on the left side. On the right parietal bone was found a hematoma, and at the time it was not believed that a fracture of the bone

had occurred. An operation was done, the hemorrhage controlled by gauze packing, and the patient recovered.

A male of 18 years, who had been struck on the head by a bucket, afforded the fifth case. He sustained a depressed fracture of the right parietal bone, and on removing the fragments of bone there was severe hemorrhage, controlled by gauze packing; recovery followed.

Summarizing the results obtained in the treatment, as shown by the literature on the subject, it might be said that wounds of the venous sinuses of the brain are of infrequent occurrence on account of the protection afforded. In the 70 cases recorded the superior longitudinal sinus was most frequently injured, the lateral next, then the straight, and lastly the cavernous sinus. Of the 70 recovery occurred in 25 per cent. In some instances hemorrhage resulting from the injury of these sinuses was beneficial, as pressure symptoms might be thus prevented. Wounds of these sinuses generally result from direct violence, as gunshot wounds, injuries during childbirth, etc. Some of the older writers did not regard the prognosis as dangerous. Intracranial hemorrhage was present in 26 per cent. of the above 70 cases. If hemorrhage does not occur it may give rise to a blood clot, causing compression. Air embolism was the cause of death following an operation in two instances. A thrombus may occur at the site of injury.

The symptoms of wounds in these sinuses are not always prominent. Those present were generally found to be due to pressure or were symptoms resembling those of apoplexy. If the pia be torn the blood will accumulate under the dura mater. Unconsciousness is not generally present.

As to the diagnosis, sometimes the character of the blood may determine it, especially when attended by injury in the region of one of the sinuses and when attended by symptoms of compression.

The treatment varies. In depressed fractures trephining should be done and the bone removed. To control hemorrhage different methods have been tried. The best is by gauze packing. Others have used the lateral suture method, some the ligature and Dr. W. J. Taylor once applied hemostatic forceps, controlling the hemorrhage. The gauze may contain iodoform or simply be sterilized. The strips should be about two inches in width and should remain in position from three to six days. The very greatest care should be used to prevent sepsis.

DR. O. H. ALLIS stated that the diagnosis is uncertain. In some cases he had seen prominent symptoms had not been present. In one of severe injury of the head he had at the autopsy noticed thousands of minute hemorrhages. In injuries of the head he considers it best to shave the entire head so the parts can be better examined.

DR. W. G. PORTER reported seeing one case of wound of the longitudinal sinus resulting from a puncture of a hay-rake, and had been astonished at the amount of gauze that could be inserted without causing pressure symptoms in sinus injuries.

DR. R. H. HARTE had been convinced that these wounds were rare, but in these he would not include such injuries as a severe crush of the skull, as in railroad injuries. In 20 cases of fracture of the skull, which he had seen within the past three months, there had been no wound of the sinuses, and of 114 of fracture of bones of the skull there had been but 1, and that a pin-point puncture. As to suturing large veins, he believes it often saves life, and in one instance he sutured a wound of the jugular vein with success.

DR. W. L. RODMAN had been surprised at the infrequency of wounds of the sinuses of the brain, since fractures in this region are so common. He had only seen 2 such cases. He believes that pyemia is a frequent cause of death in these injuries, and urged early operation. For controlling hemorrhage he considered gauze packing the best, but he had in one instance used the lateral ligature.

DR. THOMAS R. NEILSON had seen 3 cases of injuries of the venous sinuses of the brain, 2 of the lateral and 1 of the inferior longitudinal sinus. He had used the gauze packing.

DR. W. J. TAYLOR had seen two of the patients reported by Dr. Wharton. In one, when one of the small spicules of bone was removed there was a sudden gush of blood. He believes that a sudden loss of blood from the brain is a more

serious matter than the same amount of blood from some other portion of the body.

DR. R. G. LECONTE did not understand why hemorrhage from the vein in this region should be so fatal. If it were arterial blood, then it might be a different matter.

DR. G. G. DAVIS thought that probably injuries of the sinuses of the brain occur more frequently than one might think, as reported by the previous speakers. As to hemorrhage in head injuries, it might easily occur from the middle meningeal artery. In other cases it might be from the pia mater, giving rise to subdural hemorrhage, and either might cause pressure symptoms. In one instance he had treated what he believed to be a wound of the cavernous sinus resulting from a fall, the patient striking on the frontal bone. The wound was packed with gauze and the man recovered.

DR. DE FOREST WILLARD had seen 3 cases of wounds of the venous sinuses of the brain, 2 of which were injuries of the superior longitudinal, and 1 of the lateral sinus. He is inclined to the belief that hemorrhage from the brain is not such a very serious matter.

PHILADELPHIA PATHOLOGICAL SOCIETY.

Meeting held January 10.

President, Dr. F. A. Packard, in the chair.

DR. JOSEPH MCFARLAND presented a specimen of "Epithelioma of the Mouth and Skin of a White Catfish," also a "Case of Thrombosis of all Four Chambers of the Heart."

Hourglass Contraction of Stomach.

DR. IDA RICHARDSON and J. D. STEELE exhibited an hourglass contraction of the stomach.

DR. JOSEPH MCFARLAND stated that he had seen two cases of this condition, usually considered to be of congenital origin.

DR. F. A. PACKARD had also seen a similar case to that presented, also undoubtedly of congenital origin.

DR. DAVID RIESMAN thought that, as the stomach is simply a tube formed from the hypoblastic tissue, an examination of the tissues might tell whether it had the characteristics of the bowel, or whether the glandular structures of the normal stomach were present.

DR. STEELE said that most writers are of the opinion that such conditions arise from a scar causing contraction.

Nerve-Fibers in the Pia and Cord Regeneration.

DRS. F. X. DERCUM and WILLIAM G. SPILLER read a paper on this subject. Dr. Spiller said that the existence of medullated nerve-fibers in the spinal cord is a very rare condition. In the instance reported they had been found in the pia. There had been no degeneration in the posterior roots, and the columns of Goll had been only slightly degenerated. From the existence of many nuclei along the outer layers the sheath of Schwann might also have been present. In this case there had been no evidences of restoration of function in the spinal cord.

DR. D. J. MCCARTHY stated that in a case of adiposa dolorosa examined there had been no regeneration in the cord.

Aspergillus in Urine.

DR. L. NAPOLEON, Boston, read a paper entitled "Cultivation of the Aspergillus in Urine." At the Philadelphia Hospital he had frequently met with this micro-organism, and had cultivated it on diabetic urine. Aspergillus grown on urine had never produced an alkaline reaction, but on sterile acid diabetic urine it had become alkaline on the sixth day.

Diagnosis of Rabies.

DRS. M. P. RAVENEL and D. J. MCCARTHY read a paper entitled "The Rapid Diagnosis of Rabies," a continuation of the communication presented last June. Formerly, in making a diagnosis of this condition, from two to four weeks were required. His method of preparing the specimens is to fix the tissues in 10 per cent. formalin, and afterward harden them in absolute alcohol for twelve hours, then carrying them through chloroform, imbedded in paraffin and stained with Weigert's methylene blue, or with eosin and hematoxylin. He has examined 28 cases of rabies occurring in dogs, horses and other lower animals, and in 19 out of 21 he has been able to find the rabid tubercle as well as the chromatolysis heretofore described.

The speaker detailed a case of a girl 8 years of age, who had been bitten on the ear by a dog supposed to be mad, six weeks previous to the onset of the symptoms. The wound had been cauterized by nitrate of silver and had healed promptly. On the appearance of the first manifestations the child complained of distress when her face was cleansed with a dampened towel. On attempting to swallow water, spasm of the muscles of the throat occurred. Later, fever developed, as did convulsive seizures, some of which were followed by periods of unconsciousness, and finally death. At the autopsy minute hemorrhages of the brain were found, and some of the material inoculated into rabbits and carried through four generations produced the disease. Cultures were repeatedly made but always remained sterile, proving that the micro-organism of this disease is different from that of any other type.

DR. F. KRAUSS detailed the clinical history of this case. The child had never been informed that the bite of the dog had anything to do with her disease. The spasm of her throat was most intense, and the temperature ranged from 100 to 103. The condition conformed in all its symptoms to those detailed by Osler.

Bronchial Cyst.

DR. W. M. L. COPLIN reported a case of this condition in a patient of 36 years. It was operated on by Dr. W. W. Keen. Beginning three years ago, within eight months it had grown as large as an almond, and subsequently becoming painful the operation was decided on. The cyst was lined by epithelium resembling that of the pharyngeal mucosa and tonsils.

Infarcts from Enterocolitis.

DR. WILLIAM PEPPER presented specimens of the liver, kidneys and spleen from a case of enterocolitis occurring in a child of three months of age. The liver showed a marked degree of fatty degeneration, and the kidneys exhibited a large number of hemorrhagic infarcts.

DENVER AND ARAPAHOE MEDICAL SOCIETY.

Regular Meeting held January 22.

Aneurysm of Innominate and Aorta. Insertion of Silver Wire. Recovery.

DR. LEONARD FREEMAN exhibited a patient who suffered from aneurysm of the innominate artery with involvement of the arch of the aorta. When the patient came under Dr. Freeman's observation, the right clavicle was dislocated from pressure of the aneurysm, the sternum was eroded, there was dyspnea due to pressure on the trachea, eye symptoms were present and aphonia. The administration of potassium iodid and the injection of gelatin were tried without effect. The aneurysm increased in size and all the symptoms became aggravated. In August, 1900, five feet of silver wire was introduced on an insulated needle, the negative pole of battery attached and 75 milliamperes of electricity used for half an hour. The needle was then removed. The improvement was slow, but steady. Only a slight heaving remains and the tumor is imperceptible. All the symptoms improved correspondingly. The voice returned; no dyspnea. Dr. Freeman reported a similar case in a man of 50 years of age. There was profuse hemorrhage on introducing the needle, which was checked as soon as the electric current was turned on.

DR. JOHN S. MILLER in discussing the subject said that therapeutics has contributed very little to the cure of aneurysm, and we still look to surgery for its relief. Several years ago he ligated the common carotid and subclavian arteries for aneurysm of the innominate artery involving the arch of the aorta. The patient improved considerably, but died sixty days later, from rupture of the sac. The needle should be short, to facilitate the easy and prompt introduction of the wire. It should be directed away from the heart, so that the wire or its kinks may not enter the semilunar valves. If fifteen to twenty feet of wire can be introduced, it is all the better. He suggested that while the current is on the common carotid artery be compressed with a view to preventing the migration of any coagulum that might possibly become detached from the wire during its introduction.

Symposium on Recent Epidemic of Influenza.

DR. W. C. MITCHELL, in speaking of the bacteriology of influenza, dwelt on the importance of making bacteriologic examinations by which the advent of an epidemic may be predicted with certainty and the proper prophylactic measures adopted. He remarked that the bacteriologists of the Chicago Board of Health predicted an epidemic of influenza as early as November last, and then mentioned the tenacity with which the bacteria of Pfeiffer hold to the patient. He found the bacteria in 1898 in a patient who had influenza in 1895.

DR. W. N. BEYZS, in speaking of the pathology of influenza, dwelt on the fact that in sporadic cases the mortality is greater than in epidemic cases.

DR. G. E. TYLER believes in the contagiousness of the disease. The first case occurring in a family should be isolated, and the discharges disinfected. Sudden chilling and public assemblies should be avoided during epidemic.

DR. C. B. VAN ZANT had observed, during the recent epidemic, cases simulating appendicitis and peritonitis. In one the rectum was involved and he noticed swelling of the lymphatic glands, while in another there was dysphagia out of proportion to slight involvement of the pharynx.

DR. A. ZEDERBAUM considered the recent epidemic as mild compared with that of 1889. He had observed a tendency to ear complications, and two cases in the same family were complicated with mastoiditis, and in one both mastoids had to be drained. His youngest patient was 9 months old, and the oldest 78 years.

DR. C. D. SPIVAK had noticed a peculiar yellowish hue of the sclera in almost all of his patients, and in one the jaundice was universal. He mentioned the extraordinary loss of weight in all cases, and reported a case which during convalescence developed grave gastrointestinal sequelæ.

DR. H. B. WHITNEY had administered 10 grains of quinin daily to all his patients. For the headache he gave phenacetin and caffeine every hour, and codein for the pain; also strychnin freely. He has had but two complications in over one hundred treated.

DR. WILLIAM H. BERGTOLD said he had never used quinin. He considers the administration of a coal-tar preparation with salicylic acid almost specific, and prescribes phenacetin with salophen. The dose of salophen should be from 25 to 45 grains. He believes we will have, in the near future, an antitoxin serum for influenza. In the infectious types of influenza he uses Crede's ointment.

DR. J. W. HALL dwelt on the uncertainty of prognosis in influenza complicated with pneumonia.

DR. J. T. ESKRIDGE divided the nervous symptoms into those occurring at the onset of the disease, accompanying it, and the sequelæ. He considers the nervous phenomena as a disease, not symptom. In one patient the disease was ushered in with delirium and death followed the next day. In another, optic neuritis developed early. Neurasthenia is a frequent sequela.

DR. B. OETTINGER reported a case of influenza complicated by abscess in the antrum.

DR. R. LEVY corroborated the statement of Dr. Zederbaum with reference to the prevailing complication of ear troubles.

DR. M. BLACK had several cases of middle ear complication and advises early puncture of the drum. He used leeching with considerable advantage.

DR. T. J. GALLAGHER decried the use of the nasal douches which give directions to hold the head backward and to close one nostril, for the use of this douche has caused many middle-ear inflammations.

DETROIT MEDICAL SOCIETY.

Meeting held Jan. 16.

Surgery of Purulent Otitis Media.

DR. EMIL AMBERG gave a short sketch on this topic, with a demonstration of prepared specimens. He said that a paracentesis, as such, is practically harmless, and that danger accompanies only a delay. The curative value of the incision and the prophylactic were considered. An early paracentesis is especially indicated in otitis after influenza. The necessity

of timely removal of a polypus is obvious. Diseased ossicles should be removed in order to get rid of a focus of infection, and also to make the epitympanic space more accessible to treatment. He pointed out that we frequently find general practitioners, and quite a number of oculists, speaking with a feeling composed of fear, impatience and disgust of the treatment of diseases of the ear. The teaching on ear diseases in general seems not to be carried out with the necessary thoroughness, and it is to be regretted that the combination, oculist and aurist, is still upheld in many parts of the country. We should prefer to be without the expression, "the personal equation of the surgeon." This term is intended to excuse the non-interference in cases requiring interference, if the physician is unable to take a hand. Nothing is more dangerous than an excuse based on hypothetic and unscientific reasons under so plain and simple circumstances. He described the various operations and showed a large number of prepared specimens illustrating the anatomy of the ear, the mastoid and the radical operation.

Non-Operative Treatment of Ear.

DR. EUGENE V. RIKER also read a paper, saying: One of the first things demanded of the physician by a person suffering from acute inflammation of the middle ear is relief from pain. If seen at the commencement, the patient should be put to bed, a saline cathartic administered, and dry heat applied. Avoid all kinds of oils, aqueous solutions and moist heat. Some recommend solutions of cocaine, atropin, and morphin, alone or in combination, but I cannot see how they can be absorbed when the drum is intact, for I have never been able to render a non-perforated drum insensible, even when there was marked inflammation present, by the use of the strongest solution of cocaine. If the alkaloids are not absorbed the relief, if any, is due to the heat, which is far better supplied dry, for when water is poured into the ear and allowed to run out immediately, some is sure to remain in a depression in front of the drum and thus act as a poultice, which would favor the breaking down of tissue in rupture of the drum. Opium, in my mind, should seldom be used, for it is not possible at the outset to tell the nature of the infection, and in case of mastoid involvement it might mask the symptoms until it was too late for successful operative interference.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Medical Record (N. Y.), January 26.

- 1 *Early Diagnosis of Mammary Tumors. George F. Shrady.
- 2 *Some Further Work on the Mosquito-Malaria Theory, with Special Reference to Conditions Around New York. William N. Berkeley.
- 3 *The Causation, Prevention, and Treatment of Gout. Alexander Halg.
- 4 *The Non-Myxematous Character of Nasal Polypi. Jonathan Wright.

Philadelphia Medical Journal, January 26.

- 5 Two Cases of Epilepsy in Cirrhosis of the Liver. John B. Roberts.
- 6 *The Surgery of the Stomach. Albert I. Bouffleur.
- 7 *A Case of Ligature of the Innominate Artery for Aneurysms. S. P. Delaup.
- 8 *Branchial Cysts and Fistulae. W. M. L. Coplin.
- 9 *Method for Rapid Elimination of the Gonococcus. Follen Cabot, Jr.
- 10 *Retardation of Growth as a Cause of Shortening After Coxitis. Henry Ling Taylor.
- 11 *A Report of a Case of Rabies. Frederick Krauss.

New York Medical Journal, January 26.

- 12 *Gastro-enterostomy by the Elastic Ligature. Theodore A. McGraw.
- 13 *Cereals, Emulsions and Proteids in Infant Feeding. T. M. Rotch.
- 14 *Septicemia—Acute Bacteremia; and Pyemia—Chronic Bacteremia. The Indications for Hysterectomy and the Indications for Abdominal Section and Drainage in Puerperal Infection. H. J. Boldt.
- 15 *Observations on Toxic Effects of Some Common Drugs. Philip F. Harvey.
- 16 *The Treatment of Influenza. W. H. Thomson.

Boston Medical and Surgical Journal, January 24.

- 17 A Short Abstract of the Early History of Medicine in Massachusetts to the Year 1800. Elbridge G. Cutler.
- 18 *The Great Toe (Babinski) Phenomenon: A Contribution to the Study of the Normal Plantar Reflex Based on the Observation of One Hundred and Fifty-six Healthy Individuals. Morton Prince.
- 19 A Case of Obliteration of the Right Ureter by a Calcified Fibroid; Removal of Fibroid and Implantation of the Ureter into the Bladder; Recovery. Maurice H. Richardson.
- 20 *A Case of Vesical Implantation of the Ureter by Dudley's Forceps Method After the Failure of Several Plastics. Edward Reynolds.
- 21 *Pregnancy Following Removal of Both Ovaries and Tubes. M. A. Morris.

Medical News (N. Y.), January 26.

- 22 *Lakewood as a Winter Resort. William G. Schaeffer.
- 23 *The Climatic Treatment of Chronic Bright's Disease. James Tyson and T. Mellon Tyson.
- 24 *Treatment of Syphilis at Hot Springs, Ark. James T. Jelks.
- 25 *Some Topographical and Climatic Features of the Florida Peninsula, with Special Reference to Its Adaptiveness as a Winter Health Resort. James K. Crook.
- 26 *The Climatology of Neurasthenia. F. Savary Pearce.
- 27 *The Tonsils as Portals of Infection. Julius Ullman.

Cincinnati Lancet-Clinic, January 26.

- 28 *Etiology and Diagnosis of Acquired Heart Disease in Children. Alfred Friedlander.
- 29 *Resinol Dermatitis. A. Sydney Reynolds.

Virginia Medical Semi-Monthly (Richmond), January 11.

- 30 Malaria: Its Etiology, Symptoms, and Diagnosis. H. Stuart MacLean.
- 31 Locomotor Ataxia. Clifton Mayfield.
- 32 The Modern Cesarean Section. Edward P. Davis.
- 33 A Brief Clinical Report of Three Cases of Perforation in the Alimentary Canal. Thomas H. Manley.
- 34 Diagnosis and Treatment of Purulent Disease of the Nasal Accessory Sinuses. O. A. M. McKimmie.

Pediatrics (N. Y.), January 15.

- 35 *Analysis of Five Hundred Cases of Lateral Curvature of the Spine and Treatment. Chisholm Williams.

Medical Sentinel (Portland, Ore.), January.

- 36 Arizona. Franklin Cauthorn.
- 37 Position in the After Treatment of Abdominal Operation. D. W. Springer.

Interstate Medical Journal (St. Louis), January.

- 38 *The Nephritides of Children. R. B. H. Gradwohl.
- 39 The Surgery and Medicine of Other Times. Thomas C. Minor.
- 40 *Asthma. R. Alexander Bate.
- 41 About Dwarfs. Lawrence Irwell.
- 42 A Few Cases of Secretory Neurosis of the Stomach. M. D. Schmalhorst.

Journal of Medicine and Science (Portland, Me.), January.

- 43 Anatomy and Physiology of the Kidneys. Chas. O. Caswell.
- 44 Urinalysis. Albion H. Little.

Clinical Review (Chicago), January.

- 45 *The Treatment of Epitheliomas of the Skin, with Report of Cases. William A. Pusey.
- 46 Clinical Lectures upon the Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.
- 47 *Substitute Infant Feeding in General Practice. Julius Noer.

Chicago Medical Recorder, January.

- 48 *Malaria—Its Causation and Prevention. Edward F. Wells.
- 49 *Pernicious Malaria. Arthur R. Edwards.
- 50 *The Crescent Form of Malarial Parasite. Robert B. Preble.
- 51 *Treatment of Malarial Infection. Henry B. Favill.
- 52 *Scope of Medullary Anesthesia. Samuel L. Weber.
- 53 A Case of Acromegaly. Joseph Zeigler.
- 54 A Case of Acromegaly. Frederick Menge.
- 55 Surgical Cases. (Case of Intussusception, Case of Extra-uterine Pregnancy.) Sylvan Kunz.
- 56 Hartley-Krause Incision in Gunshot Wound of the Brain. E. W. Andrews.
- 57 Ovarian Cysts in Colored Women, with Notes on the Relative Frequency of Fibromata in Both Races. Daniel H. Williams.
- 58 An Eruption Resembling Pemphigus Vegetans in an Infant. E. A. Fischkin.

University Medical Magazine (Philadelphia), January.

- 59 A Sketch of Dr. Alfred Stille. Charles W. Burr.
- 60 *The Rapid Diagnosis of Rabies. Mazyck P. Ravenel and D. J. McCarthy.
- 61 *Remarks on the Importance of the So-called Specific Lesions of Rabies. William G. Spiller.
- 62 *Experimental Pancreatitis. Simon Flexner.
- 63 *Investigation of the Influence of Kalagua in Experimental Tuberculosis. D. H. Bergey.
- 64 *The Diagnosis of Leukemia from the Standpoint of the Blood Changes. C. Y. White.

Providence Medical Journal, January.

- 65 State Sanatoria for Tuberculosis. Vincent Y. Bowditch.
- 66 State Sanatoria for Tuberculosis. Edward O. Otis.
- 67 Subcutaneous Nutrient Injections. George F. Keene.
- 68 Report of Two Cases of Traumatic Rupture of the Kidney, with Operation. George D. Hersey.
- 69 The Eruptions Attending Epidemic Influenza, with Some unusual Cases. Barnard Arnold.
- 70 Report of Two Cases of Normal Pregnancy and Labor Following the Operation of Ventro-suspension. Jacob C. Rutherford.
- 71 Two Cases of Pregnancy Following Ventro-Suspension. G. W. Porter.
- 72 Two Cases of Normal Labor Following Alexander's Operation. John W. Keefe.
- 73 Diphtheria: Treatment and Mortality at the Rhode Island Hospital. Albert H. Miller.
- 74 The Specialist from the Practitioner's Point of View: A Travesty. W. F. Gleason.
- 75 Anterior Metatarsalgia. J. C. Pegram, Jr.
- 76 Report of a Case of Splenectomy. J. B. McKenna.

Medicine (Detroit, Mich.), January.

- 77 *Every-Day Headaches. Hugh T. Patrick.
- 78 *Relation of Eye-Strain and Pneumogastric Reflexes to Digestive Disorders. A. L. Benedict.
- 79 *Membranous Colitis. John A. Robison.
- 80 Hepatic Abscess. John G. Wishard.
- 81 Examination of the Stomach Contents with Respect to Fermentation Products and Abnormal Constituents—Beside Tests. Frederick A. McGrew.

The Ophthalmic Record (Chicago), January.

- 82 *Hysterical Alopecia of the Eyelids. H. Gifford.
- 83 Corneal Ulcer Following an Advancement Operation on the External Rectus Muscle. Warwick M. Cowgill.
- 84 Has the Cornea no Fixed Dioptric Value? Carl Weiland.
- 85 Traumatic Luxation of the Crystalline Lens; Secondary Glaucoma: Extraction without Loss of Vitreous; Recovery with Normal Vision. C. A. Veasey.

Archives of Pediatrics (N. Y.), January.

- 86 *Congenital Stenosis (Spasmodic) of the Pylorus; Recovery. Thomas S. Southworth.
- 87 *Retropharyngeal Abscess and Adenitis. Irving M. Snow.
- 88 Pyelonephritis in Children, with Report of a Case in Which Nephrectomy was Successfully Performed. Louis Fischer.
- 89 *Clinical Notes on Scurvy in the Island of Cuba and Its Connection with Progressive Pernicious Anemia. J. L. Duenas.
- 90 Remarks on the Pathogenesis and Prophylaxis of Acute Rheumatic Fever in Children. Henry Heiman.
- 91 Malarial Coma in a Boy. E. P. Stone.

Western Medical Review (Lincoln, Neb.), January 15.

- 92 *The Colon Bacillus in Its Causative Relation to Suppurative Inflammations. Walter L. Biering.
- 93 *The Choice of Operation for Stone in the Bladder. Byron B. Davis.
- 94 The Health of High School Girls. Inez C. Philbrick.
- 95 Resection of Radial Nerve for Removal of Very Painful Neuroma. F. A. Long.

The Post-Graduate (N. Y.), January.

- 96 The Symptoms, Diagnosis and Treatment of Fecal Impaction. Samuel G. Gant.
- 97 Notes on Some Affections of the Heart Substance, with Illustrative Cases. Thomas E. Satterthwaite.
- 98 Some Neurological Notes. 1. Case of Congenital Defect in Growth of the Left Lower Extremity. Ichthyosis. 2. A Case of Right Facial Palsy of Mild Degree. 3. A Case of Traumatic Facial Paralysis of the Right Side. 4. A Case of Cerebral Disease Simulating Neoplasm at the Base of the Brain. 5. A Case of Imbecility with Marked Dolichocephaly. 6. A Case of Disturbance of Memory. 7. A Case of Chorea Caused by Mental Emotion in a Predisposed Child. Philip Meierowitz.
- 99 Notes from the Clinics. Dr. Caille.
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- 101 *The Oxygen Treatment of So-called Uric Acid Lesions. Alfred C. Croftan.
- 102 *The Uric Acid Diathesis. James Tyson.
- 103 *Practical Home Methods of Bathing in Typhoid Fever. Simon Baruch.
- 104 The Value of the Tuberculin Test in the Diagnosis of Pulmonary Tuberculosis. J. M. Anders.
- 105 The Consideration of Lithemia as a Factor in Surgical Work. E. E. Montgomery.
- 106 Chronic Vesiculitis (Non-Tubercular), with Special Reference to the Technique of Stripping. J. D. Thomas.
- 107 Some Remarks on Uric Acid and Its Effects upon Pregnancy. John C. Hirst.
- 108 The Prognosis and Treatment of Dilatation of the Stomach. Boardman Reed.

Pacific Medical Journal (San Francisco), January.

- 109 Prognosis and Treatment in Pulmonary Tuberculosis. Robert McGuire.
- 110 Bubonic Plague: Its Prevention and Cure. Winslow Anderson.
- 111 Formaldehyde, Methylaldehyde, Oxymethylene or Formic Aldehyde, with most Important Combinations. P. A. Dubois.

Therapeutic Gazette (Detroit, Mich.), January 15.

- 112 *Lymphatic and Portal Infections Following Appendicitis. John C. Munnro.
- 113 *The Real Value of Quinin in Labor. M. H. Fussell.
- 114 *Medullary Narcosis. W. L. Rodman.
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- 116 Gonorrhea and Its Treatment from the Present Standpoint. Henry J. Scherek.
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- 118 A Report of a Case of Resection of a Large Portion of the Ilium for Chondrosarcoma. W. Joseph Hearn.

New England Medical Monthly (Danbury, Conn.), January.

- 119 The Electric Light in Medical Practice. Richard Kreutzberger.
- 120 A Local Medical Society. Hopkins Pond.
- 121 Burns, Lacerations, Ulcers, A Clinical Study. J. W. P. Smithwick.
- 122 Is Calomel Necessary? G. A. Gilbert.
- 123 Cephalotripsy, with Report of Fourteen Cases. John J. Berry.
- 124 The After Treatment of Malarial Attacks. M. B. King.
- 125 A Curative, Not a Palliative Remedy in Diabetes Mellitus. L. Goldstein.
- 126 The Value of H₂O₂ in the Treatment of Chronic Purulent Otitis Media. G. A. Gilbert.

AMERICAN.

1. **Mammary Tumors.**—The special point of Shrady's paper is the importance of the early diagnosis of malignant diseases of the breast. All cases of breast tumors should be suspected. No growths in this region can be trusted. Fully 90 per cent. of breast tumors in older women are malignant, and the remaining 10 per cent. very objectionable. The safe side, then, is the removal of all growths, whether in the young or in the old.

2. See abstract in THE JOURNAL of February 2, p. 343.

3. **Gout.**—Haig details his well-known theories as to the causation of gout. He thinks it is due to poisoning by flesh, tea, etc., or some substances which introduce uric acid into the body in large quantities, where it may remain and also prevent the excretion of the naturally formed uric acid. In this saturated condition the fibrous tissues may be irritated, producing gout or rheumatism; the capillaries may be disturbed, causing a group of circulation diseases, uric acid headache, epilepsy, insanity, anemia, Bright's disease, etc. All the diseases produced by uric acid fall into these two groups, the local and circulation groups, of which the latter is far more extensive. The indications for treatment are to cut off the poisons so that the introduction shall cease, and to provide for elimination. He thinks that altering the diet alone sometimes produces improvement, but the main point is to get substances which increase the solubility of uric acid in the blood. The action of the salicylates in the circulation are given, cases pointed out and the dietetic rules which should tend to improvement of the conditions.

4. **Nasal Polypi.**—Wright argues that the so-called nasal polypi are not myxomatous, as so commonly held, but simply edematous infiltrations, and that the recognition of this fact is a necessary preliminary to understanding the non-nasal morbid processes.

6. **Surgery of the Stomach.**—Bouffleur's paper is a review of the conditions of the stomach requiring operation and the measures that have been devised for their relief.

7. **Ligature of the Innominate.**—Delaup reports another case of ligature of the innominate artery for high innominate, carotid and subclavian aneurysm, followed by simultaneous double ligature of the common carotid and vertebral arteries at a subsequent operation. Death occurred after the second operation, from exhaustion, twenty-one days after the first. The

author reviews the literature and gives a tabulated list of cases. Of the four successful ones, only one approached being a complete cure, and the patient died from hemorrhage from aneurysm ten years after the operation. He thinks that in the future, with modern aseptic methods, a better record will be made, as the operation is justifiable and advisable under certain circumstances.

8. See abstract on p 402.

9. **Gonorrhea.**—Cabot's plan of treating gonorrhea with argonin is to begin within twelve or thirty-six hours after the first signs of anterior urethritis with no old deep trouble. He first takes a specimen of the discharge for microscopic examination, then the patient passes urine, after which the urethra is washed out with hot water. Then twice a day a 10 per cent. solution of argonin, freshly made, is introduced by Ultzman's deep injection syringe, or better still, by a rubber bulb holding about 6 drams. The bulb should have a rubber tip about two inches long, and be such as are sold under the name of ulcer syringes. The solution is introduced hot, and kept in the front urethra by pressing the lips of the meatus together as the point of the bulb is withdrawn. Then an application of 10 per cent. argonin solution is made with an applicator tightly wrapped with absorbent cotton introduced into the urethra, while the solution previously introduced is allowed to gradually flow out. The cotton swab should be gently applied to all parts of the anterior urethra for two to three inches, and then withdrawn. The solution remaining in the urethra is then allowed to escape and the operation repeated, not using the applicator if the patient suffers much from it. In some cases gentle kneading of the urethra while the solution is in place is advantageous. Everything must be done gently and slowly, and the solution be kept in for five or ten minutes. Cabot disapproves of the use of cocain, as it interferes with the patient's testimony as to his sensations, thus gauging the conditions. The first two or three treatments will usually show how the case is going to turn out. If all is going well, the disease remains stationary for two or three days and then gradually subsides. Internally, citrate of potash may be given to render the urine bland. The patient is directed to soak the penis in hot water three times daily, and the general condition of his health, the use of alcoholics, etc., restricted, and he should be kept as quiet as possible. If the progress is favorable, the strength of the solution is gradually increased up to as much as 30 per cent., and after several days, if he is still doing well, an astringent injection of lead acetate, tannic acid, zinc sulphate, copper sulphate—of each 2 grains, in tablets—in from four to eight ounces of water, is to be used by the patient after each urination. The argonin treatment is additional and must be given by the physicians. He says, in conclusion, that this method of treating incipient gonorrhea is safe, and all his cases have been satisfactory so far as traced, and have shown permanent results, there being no return later from deep lesions. The solution must be freshly prepared each time, and must be used hot, at a temperature of 110 to 120. There is no use in attempting to make a rapid cure this way unless the patient is prepared to implicitly follow the physician's directions in all particulars.

10. **Shortening After Coxitis.**—Taylor has studied the shortening occurring after hip-joint disease, and reaches, rather against his pre-conceptions, the following conclusions: 1. Considerable retardation of growth both in length and thickness of the limbs is the rule after coxitis and other affections causing long periods of lameness or disability in childhood. 2. The amount of retardation appears to bear a distinct relation to the amount and duration of retardation or disability. 3. This inhibitory effect of restraint should be considered in selecting the treatment. Other things being equal, locomotion is desirable and restraint for long periods harmful, though it may be necessary as the least of two evils.

11. See abstracts on pp. 401, 402.

12. **Gastro-Enterostomy by the Elastic Ligature.**—This method is by the application of the elastic ligature binding the viscera together and ultimately cutting its way through.

The special technique, as given by McGraw, is as follows: 1. The ligature should not be a rubber thread or flat band which lacks the necessary strength to cut a way with certainty through the thick walls of the stomach. The surgeon must use a hard, firm rubber cord at least 2 millimeters in diameter. 2. It must include in one loop all the tissue that it is desirable to sever. The formation of several small connected loops is an error. The larger the amount of tissue included in the loop, the more securely and more certainly will the ligature perform its work. The cord must be drawn as firmly as possible, and be fastened by a silk thread tied around the ends. He has himself first knotted the rubber cord and then fastened it with silk. This first procedure may not be necessary. 3. Before inserting the rubber ligature the viscera should be joined together by a row of Lembert sutures for a distance of six or seven centimeters, and when the ligature has been tied a similar row in front should complete the procedure. The author thinks that if the method should ever fail it would be from its too rapid action. He believes that this method is unequalled in the rapidity of its action, its efficiency and its safety, and reports a few cases in which he performed gastro-enterostomy for carcinoma of the pylorus by this method, and one case in which it was performed for the production of a fistula between the gall-bladder and the small intestine. He does not think that it is best for this latter purpose, owing to the thinness of the gall-bladder walls, but for gastro-enterostomy it is the best adapted operation. The matter was made the subject of his address as chairman of the Section on Surgery and Anatomy, before the AMERICAN MEDICAL ASSOCIATION in 1891, and published in THE JOURNAL of May 16, that year.

13. **Infant Feeding.**—Rotch concludes from experiments made by Drs. White and Ladd, under his supervision, that the addition of cereals to cow's milk for young infants is unnecessary, because better results can be obtained by other methods, and it is irrational since it differs from Nature's methods. In a certain proportion of cases where the cream is mixed with milk, water and lime-water, the emulsion at times appears partly disturbed, and this condition has been held by some to counterindicate the general principle of the percentage feeding. This subject has also been investigated and he does not find that the disturbance of emulsion does any special harm. As regards the management of proteids in infant food, he says that an object to be kept in view in regulating the lactation of the first twelve months of life is, in the early months, to start with a low percentage of proteids and to make the composition of this low proteid in the proportion of two-thirds whey and one-third caseinogen. As the infant grows older we should not only increase the proteids so that in the latter part of the year it can take the high total proteids of undiluted cow's milk, but also that the proportion of whey proteid to caseinogen should, as the total proteid becomes higher, be gradually changed from two-thirds whey to the one-sixth contained in the total proteid of cow's milk. He gives a table of prescriptions that it is possible to follow in the milk laboratory, and he believes that it is perfectly possible with the good milk supply, such as comes from the laboratory farm, to prescribe a percentage mixture which will retain its emulsion except under extraordinary circumstances of transit and heat. It need not be Pasteurized excepting for long distances in hot weather, and will not need to have cereals added for their mechanical action. He thinks that a centrifugal cream no more disturbs an emulsion than a gravity cream, and therefore is preferable as about one-half a day fresher.

14. **Bacteremia and Indications for Hysterectomy.**—Boldt objects to the ordinary terms septicemia and pyemia, and after discussing the definitions given by various authorities, suggests the following: Septicemia—or acute bacteremia—is a blood disease caused by parasitic micro-organisms invading the circulatory system or some primary seat of infection. Usually the infection multiplies so rapidly in the blood as to usually carry the patient off in about five days. The germ is usually staphylococcus pyogenes, but other forms may also occur. Pyemia—chronic bacteremia—is an infection of the system by streptococcus pyogenes, alone or with other pathogenic germs.

beginning from an infected thrombus. They are not diffused into the system in one large quantity, nor do they possess the same extreme virulence as in the acute type from a clinical point of view. The production of the abscesses found in the condition called pyemia, on which depends the pathologic differences between the acute and chronic, is due to the organism finding a resting place outside the circulation and there giving rise to abscess. He would therefore call septicemia, acute bacteremia; and pyemia, chronic bacteremia. In the second part of his paper he discusses the indications for hysterectomy, and sums them up as follows: If, after a full-term delivery or an abortion, there are no conception products in the uterus, and the patient has fever with exacerbations, chills, and a small and frequent pulse—120 to 140 or more—if careful observation should show that the infection comes from the uterus alone, that organ being enlarged, and relaxed in its consistency, if there is no evidence of peritonitis, the parametria being free, if streptococci are found in the uterus, and, especially, if the blood shows the presence of pathogenic germs, as in Prochownik's patients; if there are decomposition products in the uterus, as in the instances reported by Schultze, Sippel, Prochownik, Stahl, and others, which can not be removed satisfactorily *per vaginam*; if, on doing a Cesarean section, the uterus is found septic, then an abdominal hysterectomy is indicated. Abdominal section with drainage is indicated in diffuse septic peritonitis when there is no evidence of an exudate in the pelvis. The annexa are to be left undisturbed unless there is some positive indication to do otherwise.

15. **Blood Poisoning.**—Harvey calls attention to the effect of arsenic in large doses, and the difference when given in small quantities, the susceptibility of some persons to mercury, bromids, iodids, and the dangers from the prolonged use of full doses of strychnin or quinin.

16.—See abstract in THE JOURNAL of February 2, p. 343.

18. **Babinski Reflex.**—According to Prince, there appear to be two reflexes comprised under this head, one spinal and the other cerebral, the latter being an extension movement which he considers automatic, as in dodging the head before an expected blow. They may be inhibited largely through the will, though not always. With proper precautions to inhibit cerebral reflexes, extension of the great toe never occurs in health. Extension of some of the other toes may occur, but in some of these cases, at least, it is also a cerebral reflex. The significance, then, of the Babinski phenomenon consists in extension of the great toe, and he thinks the best term for it would be "the great toe phenomenon," (like knee-jerk, etc.) It does not follow, however, that extension of other toes may not be of pathologic importance. He has observed them in certain cases, such as meningeal hemorrhage, and in some obscure ones of cerebral disease. He thinks this recognition of the cerebral element is of practical importance in interpreting the pathologic signification of extension.

20. **Vesical Implantation.**—The case reported by Reynolds is explained in detail. He thinks that the Dudley operation entirely obliterates the danger of slipping away of the ureter from the bladder, and the presence of forceps must at the same time direct the stream of urine into the bladder; in this case it produced no discomfort. The result was remarkably successful. Aside from the high position of the new urethral opening it could hardly be distinguished from the corresponding one on the unoperated side.

21. **Pregnancy After Ovariectomy.**—The case reported by Morris seems to have been one of complete removal of the ovaries and tubes, and yet pregnancy followed. It is suggested that there must have been a supernumerary ovary in this case, and possibly another ostium between the uterus and the ligature of the tubes.

22. **Lakewood (N. J.) as a Winter Resort.**—Schauffler finds that the advantages of Lakewood are due to two factors: 1. The comparative mildness of the temperature and its phenomenal dryness. He thinks it specially beneficial for asthma, bronchitis, laryngitis, and also in the first stages of tuberculosis. It is also a good locality for convalescents from acute

diseases. The soil, location, etc., are, he thinks, particularly good for a northern climate. The average humidity is low and there is no appreciable moisture in the air for any considerable portion of the time.

23. **Climatic Treatment of Bright's Disease.**—The authors find the highest mortality from Bright's disease is in the middle Atlantic Coast region, the next the North Atlantic, next the northeastern hills and plateaus, the South Atlantic Coast region, and, lastly and least, in the Southern Central region. A part of this prevalence in some of these regions is due to other than climatic conditions, urban concentration, etc. The most unfavorable states to those suffering from renal diseases are New Jersey, New York, Massachusetts, New Hampshire and Vermont, and those most favorable are Tennessee, Georgia, Nebraska, North Carolina, Arkansas, Texas, and certain parts of southern California.

24. **Syphilis at Hot Springs.**—Jelks finds the climatic and social conditions of Hot Springs, especially advantageous to cases of this disease. The advantages are regulation of diet and living, such as favor treatment, the unequalled bathing facilities, drinking of hot water favoring elimination, while the drug treatment may be carried to a much greater extent than in other sections.

25. **Florida.**—After describing the climate, geography, etc., of Florida, Crook gives the following as the classes of cases best suited to be sent to that region: 1. Cases of recurring bronchitis or winter cough. 2. A large and important class of cases, hereditary or otherwise, in which there is reason to fear the development of tuberculosis, though there may be no signs of the disease. 3. The majority of cases of early phthisis prior to cavitation. Patients showing great debility or severe anemia should not be sent to a southern climate, nor those in whom acute manifestations are present. As in other localities, cases where the symptoms are prominent are not welcome everywhere, but he knows of no case where comfortable quarters could not be obtained. 4. Cases of so-called fibrous phthisis or chronic interstitial pneumonia are always benefited. 5. A large class of invalids, rheumatics, victims of subacute or chronic gout, asthmatics, intractable cases of chronic rhinitis, pharyngitis, laryngitis, lumbago, general debility, etc., are usually improved by a season in Florida.

26. **Climatology of Neurasthenia.**—Two extremes should be avoided by neurasthenics, a low, windy, treeless climate, and a high altitude, above 2,000 feet, with quiet atmosphere and low atmospheric pressure. As an illustration of the former condition he mentions Portland, Ore.; of the latter, the higher parts of southern California and New Mexico. Aside from idiosyncrasy, he says the ideal condition consists in sea air in a well-wooded country far enough from the coast to avoid its fogs; a sea voyage is an excellent preliminary to other measures. An altitude of over 2,000 feet, a very stimulating climate, districts visited by high winds and frequent fogs, cloudy saturated atmosphere, with slight movements of the air-currents, a low warm sea-level country, etc., should be avoided.

27.—See abstract in THE JOURNAL, xxxv, p. 1171.

28. **Heart Disease in Children.**—Friedlander first notices the relations of the heart to the chest wall in children as compared with adults, and the position of the apex; the area of absolute dulness is somewhat larger. In this paper he follows much the same general line of reasoning as given in Poynter's article abstracted in last week's JOURNAL, p. 361, describing the symptoms of endocarditis, pericarditis, and myocarditis as they occur in infants and children.

29. **Resinol Dermatitis.**—Reynolds defends resinol against the attack made on it by Heidingsfeld's paper, in THE JOURNAL of January 12, p. 137. He thinks that it is a valuable remedy, and if anything is to be called a specific it is, not only in the surgical use, but in a far more important group of diseases, those of the gastro-intestinal tract, particularly typhoid fever.

35. **Spinal Curvature.**—This paper consists in an analysis of 500 cases, mostly hospital patients, and the great majority

of them females. The chief causes seem to have been heredity, rachitis, general weakness, bad posture and habits. The most common form was right dorsal and left lumbar convex, over 50 per cent. of the total being of this type. The patients were treated by attention to the general condition, the use of hypophosphites, cod-liver oil, bland iron preparations, straightening of the spinal column by manual pressure, mechanical pressure and various splints such as Barwell's orthopedic apparatus and Volkman's sloping seat, keeping up the improved position by means of a special apparatus devised by the late E. T. Chance, which consists of a metallic splint between the shoulders, having attached to it two straps which pass through the axillæ, bracing back the shoulders, joined to a perpendicular slotted rod which passes downward to a crescent-shaped metal band—pelvic girdle—joined in front by a strap and situated on a level of the crest of the ilium and great trochanter; over the convexity of each curve a plate is accurately adjusted by means of short metal arms which connect the plates to the perpendicular rod. A broad abdominal belt completes the splint. All parts touching the skin are padded and the adjustment is made by wrenches and keys. The splint must be fitted perfectly at the first adjustment, and be altered as improvement progresses, so as to keep up a better position. The patient should be directed to "keep away from the plates," as every time this is done and better position is gained she can not resume the more faulty position. In addition special exercise for weakened muscles—massage, galvanization, etc.—is employed.

38. Nephritis in Children.—While drug nephritides are not uncommon in children, the specially important types of the disease are those which follow or accompany acute infectious disorders, scarlet fever, diphtheria, etc. The most dangerous types, of the trouble of this sort, which Gradwohl has seen, are those which occur in scarlet fever where the symptoms of the disease itself are almost *nil*. He calls attention to the necessity of making urine analysis of children's urine passed in the whole twenty-four hours, and calls attention to the fact that the amount of albumin present has nothing to do proportionately with the amount of edema. Hemorrhagic nephritis complicating scarlatina has a better prognosis than those acute types accompanied with pale urine and not much albumin—glomerulonephritis acuta. In diphtheria this complication is even more common than in scarlatina, but we seldom see hemorrhagic nephritis with this disease or edema or uremia. It is rare after measles, sometimes occurs with a hacking cough or nephritis, and may occur after gastro-intestinal disorders and eczema. There is also a nephritis of anemic children in which it is well to examine the urine. The peculiar form is the type that comes and goes, disappearing when the child goes to bed and returning when it gets up and goes about again. Although it is rare that chronic nephritis is seen in children, it occasionally follows the scarlatinal type.

40.—See abstract in THE JOURNAL, XXXV, p. 1050.

45. Cutaneous Epitheliomas.—Pusey reports cases of cutaneous epithelioma treated by caustics, with good success in all eleven. He calls attention to the fact that epithelioma of the skin, especially the superficial type, is often slow in progress and has little tendency to metastasis. The cases usually come to the dermatologist in the early stages, hence the favorable results. His method was to first curette and then use a caustic, pyrogallie acid; in all cases working under cocaine. He thinks, however, that pyrogallie acid is less safe than a caustic, which more surely destroys diseased tissue. He has lately used the saturated solution of chlorid of zinc with most satisfactory results. This method of curetting and the use of caustics acts better than the knife, as it is not necessary to cut out into the healthy tissue. The cosmetic effect is also better.

47.—See abstract in THE JOURNAL, XXXIV, p. 51.

48. Malaria.—Well's article is a brief but thorough statement of the present state of our knowledge in regard to malaria.

49. Pernicious Malaria.—The casual factors, the estivo-autumnal parasite, the pathogenesis of pernicious symptoms, the secondary elements in the determination of perniciousness, the symptomatology in detail, the diagnosis and differentiation of the pernicious type of malarial fever are described by Edwards. He recognizes the occurrence of occasional rare instances of the pernicious type from the ordinary tertian parasite, though in most cases it is due to the estivo-autumnal species; it forms, however, only a small proportion of the cases thus caused.

50. Crescent Form of Malarial Parasite.—Preble has formerly expressed the opinion that the crescent form of malaria did not occur in Chicago, but has since learned of a few cases. He describes the crescent parasite and mentions their diagnostic significance. They are not always readily found, and sometimes repeated examinations are required. In a few cases he has been able to find them after a small dose of quinin, when the blood had been repeatedly examined before without their detection. As long as they are found the patient is in danger to others and should be carefully protected against mosquitoes for fear of contagion.

51. Treatment of Malaria.—The first point insisted on by Favill is a positive diagnosis before any treatment is attempted. The fact that other diseases recover under quinin, besides malaria, adds another possibility of misinterpretation. Assuming that we have made a correct diagnosis to determine the type, the treatment is comparatively simple with the ordinary forms; with the estivo-autumnal fevers, however, we have many difficulties. They are very baffling and irregular in their course, but there is no doubt that quinin is also a direct antagonist to these as to other types. What we are to do with these cases that do not yield, is difficult to say. The authorities state that 15 to 30 gr. a day is sufficient for any case of malaria, but we know that there are many where it is not effective and others where it would be too much, and the question arises whether or not we should be heroic in the use of the remedy. Some practitioners say that enormous doses of quinin are not absorbed. If we could be sure of this there would be some comfort. There is some reason to suppose that large quantities are absorbed, but yet ineffective. Favill believes that the hypodermic administration of the drug is possible, though there are objections to it. The danger of local necrosis is great, and he thinks that after all there may be some associated or consequent toxemia in these resistant cases that quinin does not touch. We can not tell, however, whether we are dealing with a continuous infection or the indirect results of infection. Our therapeutists blunder along and we give quinin because we have nothing else to do. What are the terminal aspects of malarial infection? For the most part the lesions are in the nervous system, but when there is a deterioration of blood its rejuvenation becomes an important question in the cases after infection has once been subdued. As regards the administration of quinin, he thinks that much will depend on the characteristics of the case. The question can not be decided off hand. The drug must be administered according to the necessities and possibilities of the case. The point is to get quinin into the blood in sufficient quantities, and this leads to the statement that there is no such a thing as a regular dose of quinin: a dose is that which will produce the desired effect.

52. Medullary Anesthesia.—According to Weber, our aim at the present time is to define the scope and limitations of medullary anesthesia. We can use the method in all gynecologic and obstetric operations, all genito-urinary and intra-abdominal and groin operations, such as hernia, bubos, etc.; all operations of scraping, manipulation, etc., of the abdominal wall, and operations on the lower extremities. He advises against its use in children, partly because of the mental effect of the method and because they take anesthesia so easily. In old age, however, it would be of great value, as aged people, as a rule, bear general anesthesia badly. Men bear the method better than women. The psychologic effect is less. In emergency or accident surgery it is of great value, also in military

or country practice. Operations can be done in the office under this method such as operations for bubo, varicocele, etc. For surgical practice amongst the poor it is valuable, and the non-necessity of a skilled assistant makes it an important gain. Patients suffering from emphysema, chronic bronchitis, pulmonary tuberculosis, fat people, old people, alcoholics, those suffering from chronic nephritis, atheromatous arteries, myocarditis are dangerous risks for chloroform or ether and medullary anesthesia will here come most into play. As regards its dangers, he says we will have no deaths if we do not overdose. The direct toxic effects are mentioned as slight. The other possible cause for death is sepsis, and this can be guarded against. There are some disagreeable effects connected with it, such as vomiting, headache, etc., but they are not dangerous.

60.—See abstract on p. 401.

61. **Specific Lesions of Rabies.**—Spiller holds that the so-called specific lesions of rabies are of diagnostic value, but are not absolutely confined to this disease. From his own experience he thinks that many of these lesions are simply due to irritation or intoxication and it is not necessarily rabid.

62. **Experimental Pancreatitis.**—Flexner, in a previous study, found that the secretion of the pancreas may enter the peritoneal cavity without setting up diffuse inflammation, a conclusion previously arrived at by Senn, and in a certain number of instances the free, sterile pancreas or pancreatic secretion may cause local fat-necrosis. The element of infection plays an insignificant if not altogether unessential part. In the peritoneal fat-necrosis the fat-splitting ferment is demonstrable at certain stages of the peritoneal process. It is present in the greatest amount in the early stages, and may disappear later. Although it can not be confirmed that steapsin is the direct cause of necrosis of the tissue, this is rendered highly probable by its constant occurrence in disease areas, its absence from the healthy fat, and the nature of the pathologic changes. The escape of the pancreatic secretion into the peri- and para-pancreatic tissues is the origin of the necrosis, and this escape is facilitated not only by lesions of the pancreas itself but also by obstruction of its circulation. This may be brought about by injuries of the pancreas, and ligation of the ducts, as well as by the production of passive congestion. He has since made, and here reports, a series of experiments by injections of acids, alkalies, bacilli, etc., into the pancreas of dogs with chemical and microscopic examinations. The results reached are that hemorrhage per se is common in all forms of the pancreatitis, but when excessive, dominates the process. It is usually more pronounced than the inflammatory lesions, and the two conditions may be separate and distinct in the same organism or different parts of the organism. The necrosis is due to perversion of pancreatic secretion, and the direct result of the action of the fat-splitting ferment. The hemorrhage does not commonly occur independently of inflammation, and one of the lesions is disintegration of pancreatic tissue. If we recall the tendency of the pancreatic secretion to act with the pancreas, it follows that these injured foci might better become the starting-point of another form of degeneration leading to necrosis of the glands and reactive inflammation; that this dead tissue might also form a favorable point of location and multiplication of micro-organisms whose presence would still further complicate the condition.

63. **Kalagua.**—Kalagua is a Japanese plant transplanted to South America, which has been reported a specific for tuberculosis, and reports have been made by Stubbart and others and certain claims as to its influence recorded. Bergey reports the results of experiments made on guinea-pigs and rabbits, in tabulated form, some of the animals being inoculated with tubercle bacilli, and others not. In none of the experiments was there any positive evidence of a beneficial specific influence of kalagua. If it is really, as claimed, a specific for the disease, it is most probable that some evidence of its action would be apparent in these experiments, but no effect traceable to the drug was observed.

64.—See abstract in THE JOURNAL, xxxv, p. 1105.

77.—See abstract in THE JOURNAL, xxxiv, p. 1335.

78. **Eye-Strain and Digestive Disorders.**—Benedict's views in regard to the relation of eye-strain to digestive disturbances are rather conservative. He points out that statistics as to the frequency of this relation are not practicable, and that the correction of digestive disorders by glasses is sometimes ineffective, though there is no doubt but that eye-strain in certain conditions may react in pneumogastric reflexes. True pneumogastric reflexes, nausea, etc., are not caused by any sensory disturbance other than those of sight and equilibrium, excepting either change of temperature or psychic translation. He tries to explain the psychic processes by which nausea is thus excited tentatively, the stomach by virtue of its contents and the liver by virtue of its own inertia—and the fact that it is the only body that changes in its inertia can readily be appreciated—are admirably adapted to transmit sensations of equilibrium. Other afferent measures which they transmit to conscious centers must be by the pneumogastric nerve and the overstimulation of the function of a nerve of manifold functions is apt to be associated with sensations apparently representing the nerve in other functions. He is skeptical as to the equilibrium function of the semicircular canals.

79. **Membranous Colitis.**—Robison describes the symptoms and pathology of membranous colitis, which he divides into two classes. 1, those due to enteroptosis, lack of digestive ferment and intestinal calculi. 2, those due to dyspepsia, traumatism, and grave cachectic diseases, septic and infectious conditions and carcinoma. The prognosis must be guarded, though the mortality is low. The treatment depends on the character of the conditions; enteroptosis, dyspepsia, etc. Only surgery can relieve deformities of the internal viscera. In testinal antiseptics by free colonic flushing and by the mouth gives relief. The diet should be ample, varied and digestible. In all cases it is well to exclude rich soups, gravies, etc. Hygienic dress, an abdominal bandage, exercise, change of scene, attention to renal insufficiency, flushing of the bowels are all mentioned as of advantage. He has had benefit from a solution of methylene blue, 1 grain per quart by rectal injection given high. Medicinal treatment is confined to intestinal antiseptics, the best of which he thinks are bismuth salicylate, salol, betanaphthol, thymol, benzoic acid, menthol, guaiacol carbonate and ereosote. It is necessarily symptomatic and should be varied to suit each individual case.

82. **Hysterical Alopecia of Eyelids.**—Under this name Gifford describes cases in which the eyelashes were pulled out by hysterical girls, thus simulating a diseased condition.

86. **Congenital Pyloric Stenosis.**—Southworth reports a case in a child, which lasted for nine days after birth, and in view of the complete cessation of vomiting at this time, he is inclined to think the condition more functional and spasmodic than otherwise. There was no palpable tumor nor dilatation of the stomach.

87. **Retropharyngeal Abscess.**—Three cases of retropharyngeal abscess in infants are reported by Snow, who discusses the diagnosis of the condition. He thinks the failure to recognize the abscess in babies arises from the hesitancy to hurt the child by digital examination of the throat, and insists on the importance of this measure. The condition is such that everything possible should be done to relieve it. The symptoms are usually misunderstood, and hence may not guide us to a correct conclusion.

89. **Scurvy in Cuba.**—Duenas has not found any cases of scurvy described in Cuban literature since 1889, but reports personal observations of his own. He calls particular attention to the connection of anemia with scurvy, and asks whether we should consider it as a special clinical form of progressive anemia? He thinks that alteration of the blood is the first pathogenic link of all manifestations to follow. Further observation would be required to establish the relations of scurvy with progressive anemia, but he wishes to call the attention of his colleagues to this aspect of the subject, and intends to study it further.

92. **Colon Bacillus.**—Four cases are reported by Bierring, presenting local peritonitis from gall-stones and gall-bladder

perforation, abscess of the liver, and septic appendicitis, in all of which were found pure cultures of the colon bacillus. Biering concludes that this bacillus bears the same relation to the intestine that pyogenic cocci bear to the surface of the skin and the upper portion of the digestive and respiratory tracts. Each form, in its natural habitat, is harmless, their pathologic activities corrected by the physiologic resistance of tissue but when this is lessened they become capable of producing disastrous consequences.

93.—See abstract in *THE JOURNAL* of January 12, p. 126.

101. **Oxygen Treatment of Uricacidemia.**—After alluding to the former articles, in which he demonstrated the fact that uric acid is not the cause of uratic dyscrasia, etc., Croftan suggests that it will depend on the activity of the oxygenation processes whether uric acid, a non-toxic substance, is formed, or whether with deficient oxygenation, poisonous alloxuric bases are formed instead. The oxygenating processes in the human organism occur in two places, in the blood and in the periphery of all tissue cells. In one case oxygenation is derived from inspired air, and in order to cause oxygenation in the blood we can increase the proportion of oxygen in the air and promote its absorption, increase the quantity and activity of the red blood-corpuscles and the hemoglobin in the individual cells. To increase oxygenation at the cell periphery we can only act by raising the functional tone and the activity of all the organs. The author describes his method of giving oxygen inhalations, which he claims have the best results, educating as it were the perverted tissue-taint back to normal and possibly effecting a cure. Continued for a sufficient length of time an individual of ordinary chest capacity will get from ten to fifteen inhalations from the ordinary five-gallon bag, each treatment taking about five minutes. The diet is of importance, and in substance the same as that given in an abstract of his paper in last week's *JOURNAL*, page 349. The drug treatment is essentially the same as that for secondary anemia: bichlorid of mercury in small doses, arsenious acid, and iron. High altitude is bad for these patients. That which is best is a dry, equable, semitropical, sea-level climate, or a very moderate elevation, with a large proportion of sunshine, such as is obtained in the Italian Riviera, Algiers, the Nile, and southern California.

102. **Uric Acid Diathesis.**—Tyson says the uric acid diathesis is remediable in two ways: 1. By eliminating the ingestion of nitrogenous food. 2. By increasing the quantity of water constituents of urine and by alkalinizing the blood and urine, favoring solution and elimination. Nitrogenous food should be limited. He sees no contraindication to the use of carbohydrates and hydrocarbons in these cases, provided they can be digested and assimilated and are not productive of acid fermentation. In addition to these foods there should be used, in reason, vegetables and diluent drinks to make up the dietary. He sees no objection to the use of fruits which are not too acid, such as oranges, grapes, peaches, pears, apples, etc., prohibiting acid fruits like strawberries, and especially if the fruit is difficult of digestion. Exercise, baths and massage should also form a part of the treatment. He also believes in the use of the alkalis, and uses chiefly the salicylates, citrates, and bicarbonates. His experience goes to show that the salicylates are the best. Piperazin has a disputed value, and while he does not speak of it strongly, from his own experience he has found it of value in the treatment of uric acid sediments. His point of view, as will be seen, is different from that of Croftan.

103. **Bathing in Typhoid Fever.**—Baruch offers the following method of home bathing in typhoid: Strip the patient and roll him upon his right side. The nurse, standing on the left of the bed, spreads a blanket over its left half and covers it with a linen sheet or old tablecloth. The patient is now rolled toward the left, upon his abdomen; the lower extremities are covered with a blanket. A basin of water at 80 degrees having been prepared, the nurse dips a rough wash-cloth into it, squeezes it lightly, and passes it, with some pressure, rapidly to and fro over the lumbar region. The cloth is again and

again dipped and passed over the same part until it feels cool. Other parts of the back, buttocks and thighs are similarly treated. Any water that may have flowed upon the blanket is now mopped up with a sponge. The whole back is now gently dried with a soft linen towel; the patient is turned over and the anterior part of the body is similarly treated. Chilling must be avoided by rapid using of good friction during the ablution; it will then not be necessary to apply it afterward. If the patient becomes chilly, the applications must cease, though this must not be taken as a demand for warmer water, but as an indication that too much water was used or it was applied too long. In two or three hours, if the temperature has reached 102.5 F., the ablution must be repeated with water 5 degrees colder, and applied with more friction. Thus the water temperature may be gradually reduced with advantage to 60 F. After the patient has been dried and had his gown replaced, a wet compress is applied over the abdomen, as follows: Cut three folds of old coarse linen to fit the anterior part of the body from the ensiform cartilage to the pubis, and lap over well on each side. Wring this out of water at 65 F., so that just enough water remains to saturate the cloth without its dripping. A piece of flannel large enough to pass entirely around the trunk and an inch wider than the linen compress is rolled into a bandage and spread beneath the body. The gown is rolled up under the arms, the wet compress is now applied over the abdomen, and the flannel bag snugly secured over it with three pins. The comfort of the patient and the good effect of the procedure depend on exact technique. The compress is continued hourly until the temperature reaches 100. When it rises to 103, or evidences of nerve depression become more pronounced, some stimulating procedure is required. The towel bath is an excellent measure. It is given by putting a dripping towel on the back, the patient lying on his abdomen, and water at 85 degrees dipped up and poured on the upper part of the back. The part is then rubbed by passing the flat hand rapidly over it until it warms, and another cupful is poured on and friction repeated. This is done three times unless the part fails to warm up. The process is carried successively over the entire back, buttocks and thighs, and they are then gently dried. The precautions to act quickly and stop when the patient's teeth chatter or evidence of chilling occurs must be remembered. If the febrile manifestations do not abate, the water temperature may be lowered five degrees each time until the towel water reaches 60 and the cup water 50 degrees. This last temperature will hardly be required unless stupor, delirium, or subsultus are persistent. In the sheet-bath, the entire body is wrapped in a linen sheet taken dripping out of water at 85 F. Colder water is poured from a cup, followed by friction as in the towel-bath. The ice rub is another energetic procedure. Instead of pouring cold water the patient is vigorously rubbed with cold pieces of ice held securely within a piece of white linen. Each part is thoroughly rubbed afterward with the flat hand, until it thoroughly warms up. Internally, four to six ounces of water at 40 F. should be given regularly every two hours, alternating with the same quantity of milk or other liquid food. The systematic drinking of cold water is an essential element in the hydrotherapy of typhoid fever.

112.—See abstract in *THE JOURNAL* of January 19, p. 205.

113. **Quinin in Labor.**—Fussell finds that the administration of quinin is a valuable stimulant in cases of uterine inertia, especially in cases of multiparæ. He thinks its employment will frequently obviate the use of forceps. He gives about 15 or 16 gr. at a dose.

114. See abstract in *THE JOURNAL*, xxxv, p. 1361.

FOREIGN.

The Lancet, January 19.

Some Cases of Head-Injury, Including One in Which There Was Lesion of the Occipital Bone. HERBERT W. PAGE.—The author details several cases of injuries to the head which present certain points of interest, more especially the visual symptoms in one case which showed hemianopsia with irregularity of the field, following an injury to the occipital

bone with depression and removal of portions of the brain. The other cases were more ordinary. He particularly notices the occurrence of unconsciousness, especially when prolonged, and does not hold that it is in itself an evil omen. He quotes Sir James Paget, who said, in a verbal communication, that all things being equal, a certain amount of unconsciousness by giving rest to the shaken brain, aids sometimes to recovery, the condition of unconsciousness to the patient acting to some extent as the splint to an injured limb. Page remarks that he has taken something of the same view of the case himself, and does not consider that those in whom the loss of consciousness has been most prolonged are necessarily those in whom the prognosis is the most serious.

Ten Successful Cases of Cesarean Section. W. J. SINCLAIR.—The author gives detailed accounts of ten cases of Cesarean section, with general remarks on the subject. The time of the operation is a matter in which there is a great difference of opinion, but, as he says, in the majority of cases there is very little choice. We do not now, as in former days, use it as a last resort. In all cases incision of the uterus was postponed until it could be drawn forward out of the abdominal wound, and it is always best to insert an elastic tube so as to compress the uterine vessels in cases of emergency. It does not necessarily require any very large abdominal incision for, in the majority of cases, after rupture of the membranes, the volume of the uterus is not so great and the advantages of cleanliness and precision in the operation, by drawing up the uterus, are beyond question. The objection to elastic ligation has no basis. If the deep sutures are inserted as quickly as possible, tied tightly and the tube relaxed, hemorrhage is slight and the organ gradually assumes its natural color. If by the time the sutures are inserted and tied it looks bulky, it can usually be made to contract by manipulation, not directly with the hands, but through a suitable cloth. The size of the incision into the uterus should be sufficient to permit rapid extraction of the fetus without further laceration, and a one-half inch incision is a small matter as compared to the accident of tearing the uterine substance. Sinclair rejects the German method of incising the fundus, which he thinks in any case should be left free. When it is made in the most obvious position, the middle third in front and in the median line, it sinks down and comes in contact and adheres to the abdominal wound. A month or six weeks later the uterus is found exactly where it would be after a successful ventrofixation operation. Symphysiotomy, he believes, is dying out and getting to be obsolete, which he thinks is the better for humanity. As regards premature labor, it would be just as well to perform craniotomy as to wait until the twenty-eighth or thirtieth week when a viable child can not pass. If we look at the indications for Cesarean section, and compare them with those for the induction of premature labor, one can not fail to be impressed with the shortening of the one and the extension of the other.

Medical Press and Circular (London), December 19, 1900.

Extirpation of the Gasserian Ganglion.—Prof. Julius Dollinger reports his experience with the Hartley-Krause operation. The point especially made by him is the avoidance of the middle meningeal artery. By examining a large number of skulls he concludes that in 59 per cent. of the cases the place of entrance of the middle meningeal artery lies so far behind the foramen ovale that one can approach it without requiring the ligature and subsequent division of the artery. In 35 per cent. we can also remove the ganglion without ligating the artery, but to do so we must get at the ganglion, going behind in a median direction. The second root leaves the skull further forward; it is therefore accessible without ligature of the artery. He also concludes that in about 96 per cent. of cases the Gasserian ganglion can be removed without ligating and injuring the arteries, and he has thus performed the operation in five cases. The method employed is given as follows: "After opening the skull and bending back the bone flap, I introduce a finger between the dura mater and the base of the skull until I reach the middle meningeal artery. Before this I turned to the second and third division of the

trigeminal and peeled off the dura mater with an elevator with a blunt point. On the way I introduced the elevator from outward and medianward to upward and backward. I could separate the Gasserian ganglion very easily, partly from the base of the skull and partly from the dura. In the same direction I reached the ganglion with forceps, and seizing it, I drew it out, together with the trigeminal root (having, of course, previously cut across the two divisions of the trigeminal mentioned above). I did not use the Krause spatula when lifting the brain, having only made use of this spatula in the first two cases performed according to the old method. Now I avoid its use, because the assistant who holds it can not see into the aperture leading to the base of the skull, and therefore he lifts the brain either too high or too low, to avoid which I have continually to guide his hand. For that reason I lift the brain myself with an elevator which is $1\frac{1}{2}$ cm. wide, and is slightly bent on its flat side; I hold this in the left hand in such a way that I can perform the operation by the aid of light projected by an electric reflector." Following this plan considerably shortens the operation. The second operation which he performed lasted only twenty minutes and the average duration of the other three was thirty-eight minutes. The conclusions which he gives from a summing up of his experience are: "1. The Gasserian ganglion can be extirpated without ligature of the middle meningeal artery. This is proved by my five cases. The operation is thereby much shortened, and the complications arising from the ligature are obviated. 2. The anterior division of the artery in half the cases lies in the closed canal of the parietal bone more frequently than in the open sinus, but even then hemorrhage does not in every case occur on turning down the bone flap. 3. With regard to these rare cases of bleeding, we need not previously cut down on the external carotid artery, because, should hemorrhage occur while compressing the common carotid artery we have plenty of time to plug the foramen spinosum, or, when necessary, to ligature the external carotid artery."

Archives Gen. de Med. (Paris), October, November and December, 1900.

Endocranial Complications of Sphenoidal Sinusitis. TOUBERT.—The sphenoidal sinus is more frequently involved in case of nasopharyngeal infections than is generally appreciated, especially in the course of la grippe, pneumonia, erysipelas and typhoid fever. The sinusitis may then become complicated by fatal meningitis or phlebitis, and it is probable that a certain number of instances of meningitis, supposed to be spontaneous, are probably in fact complications of an ignored sinusitis. Diagnosis of sphenoidal sinusitis is very difficult on account of the variability and lack of precision of the symptoms, both subjective and objective. Exploration of the cavity of the sinus with a catheter or by puncture seems the best means of diagnosis. The endocranial complications are readily diagnosed, but they do not indicate the source whence infection was derived. Jacob's method of inserting the catheter is simple, the point is guided by the bones, after entering the nostril, following the natural curve formed by the deep surface of the bones of the nose, the cribriform plate of the ethmoid and the anterior surface of the sphenoid—the vault of the nasal fossa. When the convex side of the catheter strikes the posterior angle of the vault at the sphenoid-ethmoidal articulation, if the catheter is twisted slightly outward, it can be easily pushed into the sinus.

Sensory Disturbances with Cerebral Lesions. H. VERGER.—More than 140 pages are devoted to the study of the general disturbances in sensibility consecutive to lesions of the cerebral hemispheres in man. Verger's conclusions are that general sensibility is not localized exclusively in the cortex. The terminal ramifications of the nerve-cells establish multiple relations between the inferior and cortical centers, which render possible new associations and the re-education of the cells. Twenty-four cases are described in detail, showing this substitution.

Pathogenesis of Cirrhosis of Liver with Cardiac Insufficiency. PIERY.—The influence of stasis in the production of sclerosis of the liver has been investigated by Piery on twenty-

four patients, with post-mortem and microscopic findings and experimental researches. He states that he has established that sclerosis of the liver, in case of weakness of the heart, is not a direct consequence of the stasis, and also that the latter alone is unable to produce sclerosis of the liver. The stasis, however, acts as a predisposing cause by the dilatation of the vessels and atrophy of the trabeculae which it induces. This offers a favorable soil for the development of intoxications, especially alcoholism, and infections, such as tuberculosis and rheumatism. The resulting inflammation is the direct cause of the sclerosis. He describes his cases in full, 15 of what he calls "cardiac cirrhosis," and 9 of protracted asystolia with no sclerosis of the liver.

Bulletin Medical (Paris), January 5.

Simple Test of Isotonicity of Cerebrospinal Fluid. L. BARD.—Cryoscopy and other means of determining the isotonicity of the cerebrospinal fluid are, comparatively speaking, difficult and tedious measures. Bard finds that the same purpose is accomplished by mixing one drop each of the fluid and the blood of the subject. If the cerebrospinal fluid is hypertonic the red corpuscles remain intact, without even sticking together in rolls. The mixture looks like a combination of ordinary blood and artificial serum. If the cerebrospinal fluid is hypotonic, the blood mixed with it changes its character at once, the color becomes a uniform bright red and the microscope shows that the red corpuscles are dissolved.

Revue de Gynecologie (Paris), December.

Results of Surgical Treatment of Carcinoma of the Ovaries. E. ESTOR and P. PUECH.—The mortality in 372 collected cases of cancer of the ovary was 26 per cent. from 1880 till 1890, and 21 per cent. during the last ten years; 265 were cured and 107 died, two-thirds from hemorrhage or shock. The general mortality in case of sarcoma and endometrial carcinoma was 17.3 per cent.; from carcinoma, 25.9 per cent., and from teratoma 15 per cent.; in those not confirmed by the microscope: sarcoma, 26.3 per cent., and carcinoma, 40.6 per cent. The deaths from carcinoma of the ovary are 8.1 times greater than those from sarcoma. The cases in which there were many adhesions had a mortality of 34.4 per cent.; carcinoma was complicated in this way in 76 per cent., and sarcoma in 66 per cent. When the operation required the sacrifice of some portion of an adjoining organ, the mortality was as follows: Uterus 1 in 8, intestines 3 in 4, and omentum 1 in 4. The cases show that recovery is possible at any age. Among the patients cured was a child of 20 months, and a woman of 67. The remote results of the operation were observed in 176 cases. Recurrence occurred in 59 per cent. In 49 patients, within three months; in 36, in less than a year; in 11, between 1 and three years; in 4, over 3 years, and in 4 the date was unknown. Of the 72 patients without recurrence, 28 were followed for more than 3 years; 16 between 1 and 3 years; 22 between 3 and 12 months, and 6 less than 3 months. This gives a proportion of 15 per cent. who have survived more than three years without recurrence. Among these 1 patient has been observed for 17 years, 1 for 16, 2 for 15, 4 for 12, 2 for 11, 1 for 9, 2 for 8, 2 for 7, 2 for 6, and 1 for 5 years. All those observed for more than eleven years were cases of sarcoma. Of the 54 with carcinoma confirmed by the microscope, recurrence occurred in 22, or 40 per cent.; in 111 cases of sarcoma, in 20, or 18 per cent., and in 6 cases of teratoma in 4, or 66 per cent. In 128 neoplasms not examined microscopically, recurrence was noted in 43, or 33 per cent. of those clinically diagnosed as carcinoma, and in 15 or 20 per cent. of 72 diagnosed as sarcomata. The proportion of cases of recurrence of carcinoma in the 89 cases followed was 73 per cent.; in the 83 cases of sarcomata, it was 32, or 42 per cent., and in the 4 of teratoma, 100 per cent. The tables show that early recurrence was more frequent with sarcoma than with carcinoma. No sarcoma recurred after three years had elapsed, while in carcinoma this happened in 4 cases. The report also emphasizes the greater frequency of survival without recurrence in sarcoma. Ricard gives the mortality after abdominal hysterectomy for carcinoma of the uterus as 23 per cent., and Delagenière as 15 per cent. The general mortality after operation

for cancer of the ovary was only 21.3 per cent. in the cases collected above.

Drainage of Uterus in Treatment of Salpingitis. M. BEAUSSENAT.—Walton's method of forcible dilation of the uterus, followed by curetting and prolonged drainage with a stiff rubber tube, has been applied by the writer in twenty cases of salpingitis consecutive to endometritis. The catarrhal form was always cured. This result was also frequently obtained in non-cystic, purulent salpingitis. Old and painful parenchymatous salpingitis was much improved in nearly every case. Peri-uterine infiltration may be absorbed after dilation, curetting and drainage of the uterus. The same treatment is also indicated for pyosalpinx if it is unilateral, recent, small, and has not caused many inflammatory symptoms, especially if operated on in the intervals between attacks of inflammation. The drainage is kept up from 10 to 22 days, changing the tube every second day, when the uterine cavity is irrigated with sublimate solution, swabbed out with 33 per cent. creosoted glycerin, and the vagina loosely tamponed.

Semaine Medicale (Paris), January 9.

Yeast in the Alimentary Canal. P. NOBECOURT.—Brewer's yeast is being used in the treatment of furunculosis and other affections, but its action on microbes has never been thoroughly studied. Nobécourt has instituted researches in this line and finds that yeast fungi are extremely resistant to the factors to which they are exposed in the alimentary canal. The gastric juice alone is able to kill them after several hours' contact. They require a fermentable substance for a culture-medium in the alimentary canal. The possibility of the fermentation of glucose in this canal under the influence of yeast was also established. The vitality of the fungi was not impaired by contact with microbes, but the latter were affected by the fungi. The bacillus coli, proteus, pyocyaneus, typhoid and cholera vibrio, cultivated with the fungi, developed normally in contact with them, but when the fungus cultures were from two to six days old, these microbes grew very little or not at all. After this age, the cultures did not inhibit the growth of the micro-organisms. The effects in all cases varied slightly with the special fungus. Brewer's yeast diminishes the vitality of the typhoid bacillus. As the yeast fungi grow they impart acidity to the medium and maintain this acidity like a vital process. It may be directly injurious under certain conditions, and cases are cited where this acidity or the presence of fungi was a factor in the pathogenesis of certain affections of the alimentary canal, but he considers these exceptional cases, which should not prevent the therapeutic application of yeast. There is still much to be done, however, in establishing the indications.

Potassium Iodid Injection in Treatment of Eclampsia.—BOLLE.—The disease analogous to puerperal eclampsia, which affects cows, is frequently fatal. A Danish veterinarian conceived the idea that the affection was due to toxins generated in the milk, and treated it by injecting potassium iodid into the mammary glands. Of 412 cows thus treated, 90 per cent. recovered, while the mortality had previously ranged from 40 to 66 per cent. Bolle has applied the same treatment to 15 patients with puerperal eclampsia, injecting 5 to 6 gm. of potassium iodid into the mamma or vicinity. All recovered except one in whom the treatment was not commenced until after the fifth paroxysm, with pronounced ieterus and paralysis. The effect of the iodid is not evident for six hours, consequently it should be applied at an early stage, and possibly as a harmless preventive measure at the first suggestion of eclamptic symptoms.

Improvement in Celluloid Casts. HERSING.—When celluloid is softened in acetone, as usual, it requires several hours to harden. Hersing has discovered that if the strips of celluloid are dipped in hot alcohol they become so soft in two or three minutes that they can be applied at once, while in fifteen minutes they are as stiff again as before they were immersed in the alcohol. He uses strips of celluloid 5mm. thick and nearly four feet long by several inches wide for immobilization of cases of hip joint disease. The cast is so elastic that it can be removed and replaced intact.

Allg. Med. Cent. Ztg. (Berlin), December 22.

Bone Necrosis in Rubber Factories. LAZARUS.—Twenty young women employed in the manufacture of rubber goods, exhibited a necrotic process in the jaws and teeth, similar to that observed in match factories. Lazarus calls this condition "rubber necrosis."

Berliner Klin. Wochenschrift, December 31.

Experimental Alopecia from Thallium Acetate. A. BUSCHKE.—It has been noticed that the administration of thallium acetate to consumptives for night-sweats, has caused the hair to fall out. Buschke has confirmed this curious property of this substance by experiments on animals. The hair dropped off in patches or generally. He considers this phenomenon due to a neurotrophic influence of the drug, which also explains its action on night-sweats.

A Vascular Spinal Affection. F. BRASCH.—In a severe case of nervous spinal disease which terminated fatally in two years, the causal lesion proved to be a dilatation, lengthening and winding course of a trunk vessel in the spinal cord, below the roots of the fifth dorsal nerve. It divided in the lumbar region, pursued a tortuous course, and was so enormously dilated that it assumed an aneurysmatic character. Hypertrophy of the heart was probably the primary factor.

Deutsche Med. Wochenschrift (Leipzig), January 17.

Vaginal Route in Operating for Tubercular Peritonitis. G. BAUMGART.—The details of the 36 cases mentioned in the preceding issue are published in this communication. Of the 24 operated on more than two years ago, 17 were treated by abdominal section, with 64.7 per cent. complete recovery; 5.8 per cent. improvement and 29.4 per cent. mortality. The percentage of recoveries and improvements was practically the same in the seven cases in which the peritoneal cavity was entered through the posterior vaginal fornix, and Baumgart urges the superior advantages of the latter procedure in the treatment of tubercular peritonitis. He calls attention to the important information to be derived from rectal palpation, not only for diagnosis, but in the supervision of the process of recovery.

Tests of Renal Function. L. LIPMAN-WULF.—The methylene blue test of the function of the kidneys produced widely different results in the experimental researches here reported. The only point that seems to be definitely established by them is that the stain is excreted through the epithelium of the convoluted tubules and Henle's loops, before it reaches the urine proper. None was ever found in the Malpighian corpuscles.

New Sensitive Test for Sugar. E. RIEGER.—One gram of pure white phenyl-hydrazin hydrochlorate is placed in a shallow porcelain dish about 3 cm. in diameter. To this 5 gm. of sodium acetate are added and 1 c.c. of the sugar solution or urine. The dish is held over a spirit lamp until the contents are dissolved and begin to boil. It is then replaced on the table and 20 to 30 drops of a 10 per cent. solution of soda are added without moving the dish. The fluid turns a reddish-violet if there is sugar present, if there is no sugar the fluid merely shows a pinkish tint in the course of fifteen to thirty minutes. The red-violet stain must appear in less than a minute to denote a pathologic amount of sugar. The only precaution to be taken is to see that no other aldehyds are present, as they produce the same reaction as sugar.

Therapie der Gegenwart (Berlin), January.

Quinin Treatment of Typhoid Fever. W. ERB.—Quinin proved ineffectual in only one-seventh of the 200 cases of typhoid fever treated by Erb during the last ten years. In all the rest he was impressed with its favorable action, not merely as an antipyretic but in shortening the disease and modifying its manifestations. He commences to give it about the eleventh day, at 7 or 8 p. m., after the maximum temperature has been reached, administering 1 to 1.5 gm.—very rarely 2 gm.—in two doses close together. He continues it every second day thereafter until defervescence. The cases that resisted were all extremely severe, with complications.

Alcohol in Infectious Diseases. C. FRAENKEL.—In a series of experiments on dogs, guinea-pigs, hens, pigeons, etc.,

conducted by Laitinen, under Fraenkel's directions, it was found that alcohol increased the susceptibility of these animals to infections and toxins. Fraenkel reviews his work and concludes that the administration of alcohol in infectious diseases is, to say the least, not an insignificant matter.

Treatment of Leg Ulcers. C. L. SCHLEICH.—Peptone has completely banished plaster at Schleich's clinic for all cases in which a compressing and immobilizing bandage is required. It requires no padding beneath, can be worn for weeks or months, and, in its adhesiveness, porosity and solubility, surpasses all other substances known to date. He has found it peculiarly adapted to ulcers of the leg, and recommends it as satisfactory in every respect. After cleaning the ulcer, the leg is smeared thick with the peptone paste and cambric bandages applied, winding from the toes upward to the knee, with a starch bandage outside. The paste cools so slowly that it adjusts itself to the surface, and he has never noted any interference with the circulation. The bandage is changed in five or six days.

Wiener Med. Wochenschrift, December 22.

Prevention of Otitis After Measles. S. WEISS.—During a recent extensive epidemic of measles, the number of cases complicated by otitis was reduced from 27.7 to 6.6 per cent. by measures adapted to remove the accumulations of mucus from the nose and to keep the nasal passage clear. The nose was swabbed back to the posterior wall of the pharynx with a 1 per cent. salve of yellow precipitate, or the nostrils were plugged with cotton moistened with a few drops of a 5 per cent. solution of silver nitrate, the patient lying on his back and squeezing the nostrils together for a few moments. This application was repeated four times a day.

Gazetta Degli Osp. (Milan), December 2, 16.

Surgery of the Brain. DURANTE.—One of the two operations to remove a tumor on the brain was unsuccessful—no improvement was evident and the patient, a young man, died in coma four months after a second operation. The influence of a tumor in the anterior frontal lobe, in altering the moral character, was very marked in this case. The other patient was a child of 18 months and the tumor, located in the post-Rolandic zone by the symptoms, was found and successfully removed. He is now in perfect health. The tumor was a dural fibrosarcoma. Roncati found blastomycetes in it, as had been observed by other authors in malignant tumors. The fact that blastomycetes can not be isolated and cultivated from them is not surprising, as when they assume the form known as Russell's corpuscles, no cultures can be derived. Blastomycetes will always be found in malignant tumors, Durante asserts, if they are sought for with skill and patience. The coccidii that have been found are in reality blastomycetes, and the latter are the actual etiologic factors of sarcoma and epithelioma.

Spinal Analgesia. BASTIANELLI.—In 36 operations with the aid of spinal cocainization the analgesia was incomplete or entirely absent in 12. The dose was 1 c.c. of a 1 per cent. solution of cocain. In one case there was serious collapse, and in another violent headache for a week. There was more or less intense and protracted headache lasting for variable periods in every case.

Preservation of the Ovaries After Hysterectomy for Myofibromata of the Uterus. PASCALE.—For three years Pascale has been making a special clinical and experimental study of the changes in the ovaries after complete ablation of the uterus for myofibroma. He invariably noted disturbances in the circulation, mostly mechanical, evidences of degeneration and processes of atrophy—a premature senility, which gradually overwhelmed the organ. The degeneration proceeds most rapidly in the parenchyma, while the epithelium does not degenerate with it at first, and this loss of balance between the two parts is probably the reason for the alteration of the ovary, in which it gradually loses its specific characteristics and its functioning power.

Action of Iodin in Tubercular Peritonitis. BIAGI.—Six cases of tubercular peritonitis are reported; all were cured by local injections of 1 to 3 cgm. of iodine a day. The absorption of the fluid was very slow. Ninety-three injections were necessary in one case. The iodine was given in Durante's iodine

iodid mixture. This communication was presented at the Italian Congress of Surgery two months ago, and others confirmed the results obtained with it and with Selavo's iodized milk. It is possible to inject as much as 25 cgm. a day of the latter without pain. In some of the cases the cure has lasted for five years. The iodine is not a specific, but merely assists the organism to increase its powers of resistance.

Experimental Infection in Fasting Animals and Sero-therapy. G. CASTRONOVO.—Experiments on animals at the Naples clinic, in charge of De Renzi and Pane, show that fasting may hasten the fatal termination of infections. Specific serotherapy in experimental pneumonia is unable to save the animal when the infection is too far advanced, but in an early stage it is invariably checked and the animal recovers. Antidiphtheria serum, mixed with diphtheria toxin in such amounts as to neutralize a given quantity in the organism, is unable to produce this neutralization in fasting rabbits and death occurs.

Queries and Minor Notes.

PHOTOMICROGRAPHS.

OMAHA, NEB., Jan. 29, 1901.

To the Editor:—I write to obtain information relative to the making of some micro-photographs. The sections, from a tumor, are stained and mounted. I would like to have a number of negatives taken from which to select the ones I desire; I wish to have four and possibly five. Should I decide to have these micro-photographs colored can you tell me the probable cost and where I can have this work done in the most satisfactory manner? Very truly yours,

J. E. S.

Ans.—In the first place, the term microphotograph is incorrect. Photomicrograph is what the writer evidently means, as microphotograph has a quite different signification. In all probability there are in every large city men who can do the work required above, but the only one we are at present able to refer the enquirer to, is Dr. W. H. Knap, 603 Stewart Bldg., Chicago. The coloring can be done by hand only. A rough sketch of the field desired should accompany the slides: the particular tissue or cells that the sender wishes brought out most clearly in photograph should be indicated.

PRACTICE IN OKLAHOMA.

BLUE HILL, NEB., Jan. 25, 1901.

To the Editor:—What is the law governing the practice of medicine in Oklahoma Territory?

W. C. F.

Ans.—Oklahoma requires that the applicant shall be a graduate of a reputable medical college, of good moral character, and not a habitual drunkard. Presentation of diploma or proof by affidavit. If the same is lost or destroyed, and an affidavit from two reputable citizens in the county where he resides that he possesses the qualifications of a physician, to the superintendent of the public health, will obtain a license; otherwise an examination will be required.

ODOR OF MORPHIN.

KANSAS CITY, MO., Jan. 27, 1901.

To the Editor:—Does morphin impart to the breath of one addicted to the use of it, an odor by which it may be recognized? If so, what is it? Will you kindly give briefly the etiology, pathology, symptoms and treatment of smokers' cramps?

G. B. T.

Ans.—Referred to our readers.—[Ed.]

TUBERCULOSIS TRANSACTIONS.

INDIANAPOLIS, IND., Jan. 28, 1901.

To the Editor:—Where and at what cost can the transactions of the last Congress of Tuberculosis (Germany) be secured?

L. B.

Ans.—The Transactions of the Berlin Congress of Tuberculosis are not published in this country, and the bulk of the papers are in German or French. A copy can be obtained through any importing bookseller at a cost of between \$3 and \$4.

Change of Address.

F. J. Adams, 356 State St., to 325 Fairfield Ave., Bridgeport, Conn.

E. S. Albee, Kansas City, Mo., to 533 W. Monroe St., Chicago.

E. Villiers Appleby, St. Paul, to Duluth, Minn.

A. S. Ashmead, 65 W. 12th St., to 350 W. 23d St., New York City.

G. E. Bellows, Riverside, Cal., to 1810 E. 31st St., Kansas City, Mo.

W. H. Born, Lyons, to McRae, Ga.

C. Van Benschoten, S. Chicago, to 6303 Monroe Ave., Chicago.

J. Beisman, 147 Adams Ave. E., to 156 Montcalm St. E., Detroit, Mich.

W. W. Brown, Genoa Junction, to Leeman, Wis.

E. A. Colley, 304 N. 5th St., to 407 Christian College Ave., Columbia, Mo.

G. W. Crile, 275 Prospect St., to 169 Kensington St., Cleveland, O.

C. O. Decker, 606 Grand Ave., to Milwaukee Medical College, Milwaukee, Wis.

J. B. Doan, 393 Vance St., to 138 St. Paul St., Memphis, Tenn.

W. H. Douglass, Rush Hill, to Benton City, Mo.

A. J. Driskill, Grand River, to Marion, Ky.

N. W. Foster, 546 Mississippi St., to 576 Payne Ave., St. Paul, Minn.

M. R. Gage, Elroy, Wis., to Biloxie, Miss.

J. L. Gish, La Porte, to 215 W. Jefferson St., South Bend, Ind.

E. M. Houghton, 764 Champlain St., to 305 Penn Ave., Detroit, Mich.

G. H. Hocking, Govanstown, to York Road, Station II, Baltimore, Md.

C. J. Holman, Chicago, to St. Clair, Minn.

R. H. Hannah, Cashion, to Bellemont, O. T.

Chas. O. Hook, Chicago, to La Salle, Ill.

G. V. Hackney, 1409 Troost Ave., to University Medical College, Kansas City, Mo.

J. M. Hamblin, St. Joseph, to Westboro, Mo.

O. F. Howe, Graball, Tex., to 716 Campbell St., Kansas City, Mo.

H. T. Irving, 79 N. 3rd St., to 67 W. Main St., Newark, Ohio.

D. W. Jones, Jr., Hazlehurst, to Hermanville, Miss.

A. P. Jensen, 681 Van Buren St., to 240 Winchester Ave., Chicago.

Geo. E. Kincaid, St. Louis, Mo., to Box 11 West Liberty, Iowa.

C. S. Kinzer, Wytheville, to Interior, Va.

A. V. Lodge, Erie to Savonburg, Kan.

G. W. Launsbach, Sioux City, Iowa, to Fulton, S. D.

A. C. Lippincott, Columbiaville, N. Y., to Columbia Falls, Maine.

J. W. Leonard, 517 Bush St., to 502 N. 11th St., St. Joseph, Mo.

Hugh H. Lorimer, Fair Haven, to Iberia, Ohio.

E. J. Miller, Ashton, to Sycamore, Ill.

P. V. Mikell, Lady and Sumter Sts., to 1224 Plain St., Columbia, S. C.

W. T. Newman, 467 Madison St., Memphis, Tenn., to Gillsburg, Miss.

Ida M. Nulton, Hartford, to Columbia, Mo.

E. N. Nash, 126 S. Oak Park Ave., to Cook County Hospital, Chicago.

W. J. Omer, Lamoni, Iowa, to Pana, O. T.

S. F. Porter, 904 Cedar St., to 1031 Jefferson St., Nashville, Tenn.

H. W. Queen, Mercerville, to South Solon, Ohio.

C. L. Reason, 126 Hamilton St., to Health Office, City Hall, Cleveland Ohio.

Paul Van Riper, Niles, to Champion, Mich.

H. W. Rice, 1425 Plain St., to 1205 Gervais St., Columbia, S. C.

I. R. Schoonmaker, Providence, R. I., to Hallstead, Pa.

J. L. Williamson, La Casa, to Wayland, Tex.

I. C. Williams, Nashville, Tenn., to Colvin, Tex.

B. W. Yielding, Forest City, to Starrucca, Pa.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Jan. 17 to 23, 1901, inclusive:

Harry D. Belt, acting asst.-surgeon, former orders directing him to proceed to Manila on the transport *Wright*, revoked; leave of absence granted.

William C. Borden, captain and asst.-surgeon, U. S. A., member of a board at Washington Barracks, D. C., to examine officers of the army for promotion.

Lawrence C. Carr, major and surgeon, Vols., on expiry of present leave of absence to proceed to Havana, Cuba, for duty in the Department of Cuba.

Frederick W. Coon, acting asst.-surgeon, relieved from duty in the Department of Cuba; to proceed to San Francisco, Cal., for duty with troops en route to Manila, P. I., and subsequent assignment in the Division of the Philippines.

A. E. Disney, acting asst.-surgeon, from Washington, D. C., to San Francisco, Cal., for temporary duty at the general hospital, Presidio of San Francisco.

Herbert I. Harris, acting asst.-surgeon, member of a promotion board at St. Paul, Minn., vice Lieut.-Col. Calvin DeWitt, relieved from duty on the board.

William M. Hendrickson, acting asst.-surgeon, from Fort Flagler, to duty at Fort Casey, Wash.

John Van R. Hoff, major and surgeon, U. S. A., member of a board at Washington, D. C., to examine medical officers for promotion.

James P. Kimball, lieutenant-colonel, deputy surgeon-general, U. S. A., president of a promotion board convened at Omaha, Neb.

Louis A. LaGarde, major and surgeon, U. S. A., member of a board at Washington, D. C., to examine medical officers for promotion.

Matthew W. Leeper, acting asst.-surgeon, member of a board at Omaha, Neb., to examine officers of the Army for promotion.

Arthur W. Morse, acting asst.-surgeon, from Odell, Ill., to San Francisco, Cal., for duty in the Department of California.

Edward L. Munson, captain and asst.-surgeon, U. S. A., member of a board at Washington Barracks, D. C., to examine officers of the army for promotion.

Walter Reed, major and surgeon, U. S. A., on the adjournment of the Pan-American Medical Congress at Havana, Cuba, to proceed to Washington, D. C., for the purpose of continuing his investigations at the Army Medical Museum with reference to the cause and prevention of yellow fever.

William E. Richards, lieutenant and asst.-surgeon, U. S. A., resignation accepted, to take effect Feb. 3, 1901.

Anton R. Schier, acting asst.-surgeon, orders directing him to proceed from Burlington, Iowa, to San Francisco, Cal., for duty

with troops en route to Manila, P. I., revoked.

Dwight B. Taylor, acting asst.-surgeon, member of a promotion board at Columbus Barracks, Ohio.

Jesse P. Truax, acting asst.-surgeon, now en route to Fort Casey, Wash., will proceed to Fort Flagler, Wash., to relieve A. A. Surgeon W. M. Hendrickson.

Sanford H. Wadhams, lieutenant and asst.-surgeon, U. S. A., member of a promotion board at Columbus Barracks, Ohio.

Allie W. Williams, acting asst.-surgeon, leave of absence granted, with subsequent assignment to duty at Fort Columbus, N. Y.

Alfred A. Woodhull, lieutenant-colonel, deputy surgeon-general, U. S. A., president of a board convened at the Army Medical Museum, Washington, D. C., to examine officers of the Medical Department as to their fitness for promotion.

In addition to the above, the following medical officers, captains and asst.-surgeons, U. S. A., were ordered to Washington, D. C., for examination for promotion: Charles M. Gandy, Jefferson R. Kean, Henry I. Raymond, Edward R. Morris, Leonard Wood, Jefferson D. Poindexter, and Charles E. Woodruff.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending Jan. 26, 1901:

Asst.-Surgeon C. N. Fiske, detached from the *Wheeling* and ordered to the *Mohican* when the former is put out of commission.

Asst.-Surgeon H. C. Shiffert, appointed assistant-surgeon from Dec. 26, 1900.

Medical Inspector D. N. Bertolette, detached from the medical examining board, Washington, and ordered home, Jan. 31.

Surgeon A. C. H. Russell, ordered to Washington, for duty as a member of the medical examining board, Jan. 31.

Surgeon W. H. Rush, ordered to the Pensacola Naval station for recruiting and other duty.

P. A. Surgeon R. K. Smith, detached from the *Pensacola*, Feb. 2, and ordered to the *Wisconsin*, Feb. 4.

Asst.-Surgeon M. V. Stone, detached from the *Solace* and ordered to the *Isla de Luzon*.

Asst.-Surgeon H. H. Hass, detached from the *Isla de Luzon*, and ordered to the *Solace*.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended Jan. 24, 1901:

Surgeon George Purviance, granted leave of absence for two days.

Surgeon L. L. Williams, granted leave of absence for three days.

A. A. Surgeon L. C. Bean, granted leave of absence for two days from Jan. 18.

A. A. Surgeon R. C. Craig, granted seven days' extension of leave of absence.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the surgeon-general, U. S. Marine-Hospital Service, during the week ended Jan. 26, 1901:

SMALLPOX—UNITED STATES.

District of Columbia: Washington, Jan. 12-19, 2 cases.
Florida: Jacksonville, Jan. 12-19, 7 cases.
Illinois: Cairo, Jan. 5-19, 5 cases; Chicago, Jan. 12-19, 12 cases.
Kansas: Wichita, Jan. 12-19, 6 cases.
Kentucky: Lexington, Jan. 12-19, 2 cases; Louisville, Jan. 4-18, 1 case, 1 death.
Louisiana: Jan. 12-19, New Orleans, 7 cases, 2 deaths; Shreveport, 5 cases.
Massachusetts: Lawrence, Jan. 12-19, 1 case.
Minnesota: Minneapolis, Jan. 12-19, 11 cases; St. Paul, Jan. 5-12, 8 cases.
Nebraska: Omaha, Jan. 8-15, 7 cases.
New Hampshire: Manchester, Jan. 12-19, 39 cases.
New Mexico: Fort Stanton, Jan. 14, 1 case.
New York: Jan. 12-19, New York, 9 cases, 5 deaths; Utica, 1 case.
Ohio: Cincinnati, Jan. 12-18, 3 cases; Cleveland, Jan. 12-19, 57 cases, 1 death.
Oklahoma: Sixteen Counties, Jan. 11, 289 cases.
Pennsylvania: Jan. 12-19, Erie, 1 case; Pittsburgh, 3 cases.
Tennessee: Memphis, Jan. 12-19, 6 cases.
Texas: Houston, Jan. 12-19, 44 cases.
Utah: Salt Lake City, Jan. 12-19, 32 cases.
Wisconsin: Green Bay, Jan. 13-20, 1 case.

SMALLPOX—FOREIGN.

Belgium: Liege, Dec. 15-22, 1 case.
Brazil: Pernambuco, Dec. 8-15, 34 deaths.
Egypt: Alexandria, Dec. 17-24, 2 cases, 2 deaths.
England: Leeds, Jan. 5-12, 1 case; London, Dec. 29-Jan. 5, 1 case.
France: Paris, Dec. 29-Jan. 5, 6 cases.
India: Bombay, Dec. 18-25, 1 death.
Mexico: Vera Cruz, Dec. 29-Jan. 5, 3 deaths.
Scotland: Edinburgh, Dec. 29-Jan. 5, 1 case; Glasgow, Jan. 4-11, 66 cases, 3 deaths; Leith, Dec. 29-Jan. 5, 1 case.
Straits Settlements: Singapore, Dec. 1-18, 2 deaths.

YELLOW FEVER.

Colombia: Cartagena, Jan. 1-7, 2 cases.
Cuba: Cienfuegos, Jan. 14, 1 case; Havana, Jan. 5-12, 2 deaths.
Mexico: Vera Cruz, Dec. 29-Jan. 5, 1 death.

CHOLERA.

India: Bombay, Dec. 18-25, 4 deaths.
Straits Settlements: Singapore, Dec. 1-18, 58 deaths.

PLAGUE.

India: Bombay, Dec. 18-25, 118 deaths.
England: Hull, Jan. 19, 5 deaths on S. S. *Friary*.
Russia: Tsarevsk district, Jan. 5, 19 cases, 15 deaths.

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NEWS.

Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to members of the medical profession. We shall be glad to know the name of the sender in every instance.

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The Journal of the American Medical Association

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No. 7.

Original Articles.

THE MAJOR OBSTETRICAL OPERATIONS.

FROM THE STANDPOINT OF THE GENERAL PRACTITIONER
WITH A TABULAR REPORT OF TWENTY-THREE CON-
SECUTIVE SUCCESSFUL CASES.*

EDWARD REYNOLDS, M.D.

BOSTON.

GENERAL PRINCIPLES.

The recent advances in the study of the contracted pelvis, and the possibility of saving fetal life in such cases, by the extension of the major operations to a wider field, have as yet been confined too exclusively to the practice of professed obstetricians, and too little popularized among the great mass of the profession; perhaps because it has been thought by many that the technicalities involved in the detection of contraction are too great for the general practitioner's use, and probably because there is still too much credence for the former erroneous idea of the comparative scarcity of contraction in America. This belief must, however, now be given up. The results of all those who have recently investigated the subject having yielded about the same percentages of contraction, namely, about 11 per cent., if we except the negroes, in whom it rises to nearly 20 per cent. Only about 2 per cent., however, reach the degree of mechanical obstruction which demands operation; but when we consider that in each of these cases the question of whether the woman shall be delivered by one of the ordinary methods or by a cutting operation, must necessarily be raised, even this percentage is surely large enough to make the question one of living importance to every general practitioner.

The operations to be considered in any such cases are forceps and version, the induction of premature labor, craniotomy, the Cesarean section with or without the extirpation of the uterus, and symphysiotomy. The choice between them must always be determined by a consideration of their respective maternal and fetal mortality, under the conditions of the individual case. The short time allotted makes it impossible for me to discuss in detail both the status of all these operations and their application to practice, and as I have recently published¹ a detailed paper on the status of the cutting operations, I propose to limit myself here to a bare statement of the mortalities, unsupported by argument, in order to afford myself room for a full discussion of the application of these results to everyday practice.

As an essential preliminary to any intelligent consideration of these mortalities, we should first, and for each operation, subdivide the cases into favorable and

unfavorable classes, putting in the favorable class all those in which at the time of operation the woman is uninfected, not exhausted by long labor, and free from complicating diseases; and per contra, into the unfavorable class, all cases in which the woman is already exhausted by neglected labor, infection, or other intercurrent disease.

FORCEPS AND VERSION FOR CONTRACTED PELVIS.

It will, I think, be conceded by any obstetrician of wide experience, that the use of high forceps and version for contracted pelvis has a small intrinsic maternal mortality, yet we shall find that this maternal mortality is insignificant or non-existent in the hands of skilful men and when the operations are undertaken with the mother in thoroughly good condition, but that it will not be insignificant in the unfavorable class of cases.

It is generally and somewhat loosely held that the fetal mortality of high forceps and version is not unduly large, but I think any one who will analyze a large series of cases with regard to this point, will be surprised to find how large the fetal mortality is. I have myself found that analyses both of my own experience, and of a considerable number of reported series of cases, have uniformly yielded about the same result, that is, a fetal mortality of not less than 50 per cent., in cases in which high forceps or version was performed on account of contracted pelvis. (We must, of course, exclude cases in which these operations are done for less important mechanical obstacles; in which cases the fetal mortality is naturally much smaller.)

INDUCTION OF PREMATURE LABOR FOR CONTRACTED PELVIS.

In these aseptic days the maternal mortality of the induction of labor is and should remain exceedingly small, but in this class of inductions the reported fetal mortality is far from small, being about 50 per cent.; a statistical result which is, moreover, supported by the opinion expressed in the more recent text-books.

CRANIOTOMY.

Since craniotomy to the living child is practically never performed until after the failure of determined attempts at extraction by high forceps and version, its maternal mortality is necessarily a little higher than where these operations succeed. Its fetal mortality is, of course, 100 per cent.

THE CLASSICAL CESAREAN SECTION.

Until very recently, it has been generally held that the maternal mortality of the Cesarean section was still not less than 25 per cent., and if all the reported cases are considered together this opinion is probably a true one, but a division of the cases into the favorable and unfavorable classes, defined above, yields surprisingly different results. Thus an analysis which I made a year ago of 150 reported cases, 15 of my own and the remainder

* Read before the Obstetrical Section of the New York State Medical Association.

1. *Obstetrics*, January, 1900.

2. Estimating an unduly prolonged labor at the arbitrary limit of twenty-four hours.

from foreign sources, shows that there were 89 cases in the favorable, and 61 in the unfavorable class.² Among the 89 favorable cases there was no maternal mortality, while the mortality of the unfavorable cases reached the prohibitive figure of 33.3 per cent.

The fetal mortality of the Cesarean section is, of course, the smallest mortality known, amounting to nothing in the favorable class of cases.

PORRO'S OPERATION.

This extirpation of the pregnant uterus has been almost invariably confined to the unfavorable class of cases. There is perhaps not yet enough material for estimating its maternal mortality when done early in labor and in selected cases. It is probably but slightly greater than that of the uncomplicated section. Its mortality in the unfavorable cases is somewhat lower than that of the Snger section, but reaches about 30 per cent. Its fetal mortality is that of the Cesarean section, that is, it is never fatal to a child which is in good condition at the time the operation is undertaken.

SYMPHYSIOTOMY.

When the reported cases of symphysiotomy are separated into the favorable and unfavorable classes, the operation is found to have a somewhat larger maternal mortality than the section in the first set of cases, those in which women were in good condition, the small mortality which exists being due to an occasional improper selection of cases, that is, to the performance of symphysiotomy in pelves of too high a degree of contraction to admit of easy extraction after it had been performed. Its fetal mortality is practically confined to the same mistaken cases; but, though this is a mortality of mistake, the fact that it has been frequently made by men of world-wide reputation makes it necessary to consider it. In contrasting symphysiotomy with the classical Cesarean section in the favorable class of cases, it must, moreover, be remembered that even if it attains an equally low maternal mortality, its morbidity is considerably higher than that of Cesarean section, that is, serious injuries to the soft parts occur not infrequently, and loss of locomotive ability from permanent mobility of the pelvic bones is not unknown. In the unfavorable class of cases, however, the maternal and fetal mortality of symphysiotomy both compare favorably with those of any other operation, and, in my opinion, it here finds its chief indication. It is unattended by shock; it does not open the genital canal, and can therefore be performed in infected cases; it makes the subsequent extraction by forceps or version easy instead of difficult.

CONCLUSIONS.

The conclusions to which I have been forced by my study of the subject, which have since been supported by the results of every reported case that has come under my observation, and which have led me to an unbroken success in dealing with all the major cases that I have seen since I finally formulated them—23 cases in four years—are as follows:

1. When the conditions are such that the child can be delivered with anything like reasonable ease by forceps or version, one of these operations is preferable to any cutting operation.

2. When the mechanical relations would render forceps or version unusually difficult, forcible and prolonged, and when the mother is in the favorable class, the equally low maternal mortality and the far lower fetal mortality of the Cesarean section render it the operation of choice.

3. When the mechanical conditions make the intrapelvic delivery of an intact child at term impossible or unduly difficult, the great superiority of the Cesarean section over the induction of premature labor in fetal mortality, and its extremely low maternal mortality render it again the preferable operation.

4. When the ordinary operations fail and the woman is in the unfavorable class, symphysiotomy is the operation of choice, and may be expected to lead to a favorable result for both mother and child in the great majority of cases, provided always that the degree of mechanical difficulty permits of its application.

5. When in the unfavorable class of cases, the degree of relative disproportion between head and pelvis is too great to admit of a safe symphysiotomy, craniotomy to the living child should be unhesitatingly chosen, since the maternal mortality of either form of the section is so enormous, and because I can not doubt that the life of the potential mother of many children is of more value than that of any unborn fetus.

APPLICATION TO PRACTICE.

If these principles be true, it follows that there are but few, if any, cases of uncomplicated mechanical obstruction in which a happy outcome for both mother and child is not easily within the power of ideally prompt and intelligent medical care, if applied at the beginning of labor. I believe this to be a fact and I think that this happy state of affairs is sufficiently possible of accomplishment to encourage us in every effort toward its attainment. The method which is commonly laid down as a necessity to this end is the routine measurement of every case at the time it first comes under the practitioner's care. I am far from underestimating the value of routine pelvimetry, and hope to see the day when it will be a part of every obstetric examination, but I believe that there is no use in disguising from ourselves the fact that it is not now, and for the present is not likely to be, generally practiced; if only from the fact that the attainment of an accurate conception of the mechanical possibilities of a given pelvis by mensuration is not an easy matter to any one, and that, moreover, the active general practitioner of to-day has not been educated in it, and can hardly be expected to perfect himself in this particular. The popularization of pelvimetry must be expected from the graduation of students who have been carefully taught it during their course in the medical schools. Valuable as mensuration is, moreover, it is fortunately not essential to the attainment of very fair results in mechanically obstructed labor. Every day of increasing experience makes it more certain that the supreme test of the adaptation between head and pelvis is the test of actual labor, and that the all-important thing is the clinical recognition of a mechanical obstruction early in the course of labor. The variations in the size and hardness of the fetal head are so great that there are, in my opinion, few cases of contracted pelvis in which any one is justified in performing a major operation without applying to the case the supreme test of an actual labor, or the history of past labors; and this clinical test is easily within reach of the general practitioner if he will conceive the case properly. Let us then discuss his duty in the course of his care of pregnancy and labor, from the standpoint of the cruder methods which are possible to everyone.

The importance which attaches to the actual clinical test necessarily places primiparæ and multiparæ in

widely different clinical classes, and it is natural to discuss the primiparæ first.

PRIMIPARÆ.

I would, then, advise the general practitioner that when a primipara comes under his care during the course of pregnancy, he should always include the possibility of marked mechanical obstacles as among the contingencies to be considered in his mental estimate of the case. If the woman be especially small, if she has a history of early caries, either of the hip or spine, or if any other symptoms point to a possible dystocia, he should take her to an expert for the estimation of the size of the pelvis, in consultation, early in pregnancy, precisely as he would treat any other certain grave surgical complication in his practice. Even if no such threatening symptoms exist, he should, preferably a few weeks before labor, and at all events at his first visit in labor, notice whether or not the head is unusually high. This, though not ideal, is, I think, the best test which we can expect at present to have applied to general practice in the case of primiparæ; it is, moreover, a fairly good one. If the head is, at the beginning of labor, well crowded down into the brim it will very rarely if ever happen that the case is beyond a possible delivery by forceps, and if such a delivery results fatally to the child, the question of choice of operations can be taken up at the next pregnancy. On the other hand, if in a primipara with the rigid abdominal and uterine walls which belong to her condition, the head is at the beginning of labor high above the brim, the question of serious relative disproportion between the head and pelvis is always prominent. The point which must now be remembered is that the chance for a successful Cesarean section is limited to the early part of labor and that the choice must be made then and can not be deferred to a later time. What the practitioner should do in such a case must depend on varying factors, such, for instance, as his methods of practice, his relation to the individual patient, and the locality in which his practice is situated. He may choose between an immediate and careful measurement of the pelvis, externally and internally, himself, if he feels competent for it, or an immediate consultation with an expert, not necessarily on the subject of an immediate delivery, but on the question of whether there is a sufficiency of room; and this consultation will seldom be objected to by the family if it is put before them in this way. If a contraction of the pelvis is found, preparations for a section should be made on the chance that its performance may be necessary. If then the dilatation of the os progresses with fair rapidity and without the appearance of any exhaustion of the patient, nothing is done until toward the termination of the first stage. If the first stage is tedious and exhausting, the patient is etherized while still in good condition and the os gently dilated manually. The hand is then passed into the pelvis, under anesthesia, of course, and made to palpate and measure it with the greatest care; it is next passed up to palpate the head, both to ascertain its size and the relation which its greatest diameter bears to the pelvic brim when it is strongly crowded down into the pelvis by a suprapubic hand. If this test is inconclusive, the forceps are applied to the sides of the head with the greatest care and a few gentle tractions made in order to determine the amount of resistance which is to be expected, and to study the application of the individual head to the individual pelvis by the introduction of the fingers alongside the forceps during the tractions. At the same

time the fetal heart is carefully watched to judge of the effect of the tractions on the child. It is manifest that this method of studying the case requires an extended obstetrical experience for a due appreciation of its results, and I believe that in case of doubt the decision should be given in favor of the lesser operation, in primiparæ at all events, since in the present state of our knowledge it is better that we should risk losing one child than perform an unnecessary Cesarean section; but with due care and caution and in sufficiently skilled hands, I believe that this test will yield nearly certain results, and that the doubtful cases will consequently be rare. I believe that the adoption of this simple rule—that an unusually high or inaccessible position of the head at the beginning of labor should be regarded as ground for a consultation—will lead to greatly improved results.

In the present condition of medical practice we can not doubt that the children of primiparæ will occasionally be lost, who might have been saved by an early resort to a cutting operation, and that symphysiotomy will be done in other cases where the preferable Cesarean section might have been selected had the gravity of the case recognized earlier; but when the primipara has become a multipara, the case is much more simple.

MULTIPARÆ.

Once the general practitioner realizes what the public is already beginning to know, that the loss of a child in labor from mechanical obstacle is a loss which might probably have been avoided; once he recognizes what will, in my opinion, before many years be recognized by the profession far and wide, that the mortality and morbidity of the major operations done at the beginning of labor are no greater and probably less than those of violent and prolonged forceps extraction, very few children of multiparæ will owe their death to any mechanical cause. The rule which will save them is again a simple one. When a woman has once lost a child in labor from mechanical obstacle, that is, from difficult delivery by forceps or version, the question of a major operation at term should always be taken up during the next pregnancy of that woman, that is, a consultation should be held, at latest a few weeks before delivery. The pelvis will then be measured and the relative size of the pelvis and the individual head will be estimated by the hand. If distinct disproportion already exists, the case may conceivably be treated by Cesarean section at the beginning of labor, or at a date set just before it. In a larger number of cases, the estimation of relative size will be repeated at term and the woman will be allowed to go through the earlier hours of labor, but with every preparation for the performance of a Cesarean section already made, and with an operator at hand, so that in the event of another failure of the powers of nature the favorable moment can be seized and another fetal death in labor avoided.

Is not all this a simple and rational application of our recent advances to ordinary general practice? It may be objected that I have insisted too much on the employment of an expert wherever the question of relative disproportion is a prominent one. I would reply that every great advance works harm by the over-enthusiasm and rashness of the ill-prepared. That the decision in favor of or against a major operation in a given case is, in my opinion, in most cases, a very delicate and difficult one: one which should be submitted to a man with a professed proficiency in the subject. Obstetrics is rapidly reaching a position in which its

No.	Name.	Birthplace	Patient of—	Age.	Married or Single.	Number of Confinement.	Previous Labors.	Date.	Pelvis.	True Conjugate.	First Seen When	Weight of Child.	Operated upon During Labor.	Presentation and Position.
1	R. R. 1.	Massachusetts	Boston Lying-in Hospital	38.	Single.	1.	None	July 26, 1896	Pelvic Nana	7 cm.	6 months	3 lb., 10 ozs	During labor	Transvers., not given
2	K. P.	Massachusetts	"	32.	Married.	3.	First, 1896; forceps—stillborn. Second, 1897; induction at six months—child died.	Sept. 10, 1896	Justo-minor	9 cm.	6 months	8 lb., 1 oz	Elected date	Vertex, not given.
3	M. R.	Ireland	"	26.	"	4.	First, August, 1892; forceps—child alive. Second, January, 1893; forceps—child lived ten minutes. Third, April, 1896; prolapsed cord—stillborn.	Aug. 6, 1897	Justo-minor.	9 cm.	4 months	8 lb., 2 ozs	During labor	Vertex O. L. A.
4	K. R.	Massachusetts	"	28.	"	3.	First, 1894; forceps—child born dead. Second, 1895; forceps—child born dead.	Sept. 30, 1897	Justo-minor.	8.5 cm	4.5 mos	7 lb., 4 ozs.	"	"
5	L. S.	Massachusetts	"	23.	"	2.	First, November, 1896; spontaneous at seven months child lived eight months.	Jan. 16, 1898	Oblique Kyphotic	8 cm.	At term.	7 lb., 4 ozs.	Elected date	"
6	Mrs. W.	Massachusetts	Referred by Dr E. T. Galligan.	37	"	2	First, March, 1898; forceps (by E. R.)—dangerously hard pulling; child 7½ pounds; badly marked but living.	Mar. 24, 1898	Justo-minor.	8.5 cm.	2 months	8 lb.	During labor	"
7	D. F.	Germany	Boston Lying-in Hospital	24.	Widow.	2.	First, 1896; high forceps—child lost in labor	April 11, 1898	Generally contracted, flat.	8.5 cm.	8.5 mos	8 lb., 4 ozs.	"	"
8	M McH	Ireland	"	26.	Married.	2.	First, May, 1897; high forceps.	July 17, 1898	Justo-minor.	8 cm.	At term.	8 lb.	"	Not given.
9	V. McM	Massachusetts	"	24.	Single.	1.	None	Mar. 22, 1899	Generally contracted, flat.	7.5 cm.	At term.	6 lb., 8 ozs.	"	Vertex O. L. A.
10	F. S.	Russia.	"	27.	Married.	5.	First Feb. 7, 1887; craniotomy. Second, April, 1888; induced labor eight months—child died. Third, January, 1890; premature delivery—child died. Fourth; craniotomy; version; rupture of uterus; peritonitis.	April 2, 1899	Justo-minor.	7.5 cm.	5 months	8 lb., 9 ozs	"	S. L. A. breech
11	Mrs. W	Massachusetts	Seen with Drs. C. W. Townsend and W. A. Putnam	28.	"	2	First, Aug. 18, 1896; craniotomy	June 5, 1899	Justo-minor.	Not taken ²	At term	8 lb., 8 ozs	"	Not noted.
12	A. P.	Massachusetts	Seen with Dr. O. E. Johnson.	38.	"	1.	None	July 18, 1899	Justo-minor.	8 cm.	At term	7 lb.	"	O. L. A.
13	H. B. K	Massachusetts	Seen with Dr. J. P. Torrey.	29.	"	1.	None	Oct. 18, 1899	Justo-minor.	8.5 cm.	5 months	10 lb.	"	Not noted.
14	K. R.	Massachusetts	Boston Lying-in Hospital	30.	"	4.	Third, 1879; Cesarean section. (Case 4 above).	Dec. 27, 1899	Justo-minor.	8.5 cm	6 months	7 lb., 8 oz.	Elected date	Vertex O. L. A.
15	K. D.	Ireland.	"	38.	"	8.	Three miscarriages; four full-term pregnancies (1889, 1891, 1892, 1896), all still-born.	July 9, 1898	Generally contracted, flat.	8.5 cm.	In labor.	8 lb., 6 ozs	During labor	Vertex O. D. P.
16	M. M.	Ireland.	"	35.	"	4.	First, February, 1884; forceps—child living. Second, 1886; Still-born. Third, 1897; miscarriage (3 mos.).	July 25, 1898	"	Meas. not recorded.	In labor.	9 lb., 8 ozs	"	"
17	M. M.	Ireland.	"	35.	"	5.	First, February, 1884; forceps living. Second, 1896; forceps—living. Third, February, 1897; miscarriage at three months. Fourth, July, 1898; symphysiotomy (Case 16 above); high forceps.	June 15, 1900	Not recorded.	Not recorded.	In labor.	8 lb., 12 ozs	"	Vertex.
18	L. L.	Italy	"	41	"	9.	All operative; high forceps and version	Jan. 11, 1900	Generally contracted.	8.5 in.	In labor.	8 lb.	"	Vertex O. D. P.
19	E. R.	Nova Scotia	"	25.	"	1.	None	June 18, 1900	Generally contracted.	8.5 cm.	In labor.	7 lb., 11 ozs.	"	"
20	L. S. 3.	Boston	"	24.	"	3.	First, November, 1896; premature at seven months. Second, January, 1898. Cesarean section (B. L. H.) (C. R.) (Case 5, above)—child living.	June 20, 1900	Oblique Kyphotic	8.5 cm.	At term.	6 lb., 2 ozs.	"	Vertex.
21	J. W. 4.	Boston	"	26.	"	1.	None	Sept. 10, 1900	Oblique.	"	At term.	8 lb.	"	Vertex O. L. A.
22	A. C.	Ireland.	"	24.	Single.	1.	None	Sept. 28, 1900	Generally contracted, flat.	7.5 cm.	At term.	6 lb., 5 ozs	"	Vertex O. D. P.

1 An idiotic Cretin dwarf, whose development was both mentally and physically about that of a 3-year-old child.
2 External measurements all small. Previous labor had been a craniotomy by an expert obstetrician, and this labor was seen with the same gentleman, who had examined and found the head wholly disproportioned to the pelvis. He was prevented by the head from measuring the conjugate. I made no vaginal examination. The child proved much larger than the former one.
3 No. 20 had hip-disease at 14, with shortening of right leg and fixation.
4 No. 21 had hip-disease when a child. Left leg adducted and hip-joint ankylosed.

No.	Operation.	Length of Labor Before Operation.	Previous Operative Measures.	Abdominal Sutures.	Uterine Sutures.	Ergot.	Cervical Drain.	Length of Operation.	Convalescence.	Sat up Day.	Nursed.	Result.	
												Child.	Mother.
1	Cesarean Section	Uncertain, os size of 10-cent piece.	None	Through and through silk worm gut.	Interrupted; braided silk in two layers.	Subcutaneously	Gauze..	29 min. 15 sec	Interrupted by sloughing a b o u t subcutaneous punctures. Nervous and apprehensive; pain in chest; otherwise normal.	29th.	No	Male	Well
2	"	None	None	"	Interrupted; braided silk in two layers.	"	"	42.5 min.	"	23d	Yes.	Female	"
3	"	19 hours . . .	Tentative traction with high forceps. High forceps failed	"	Interrupted; medium twisted silk with fine silk serous coaptation stitches. Interrupted; braided silk in two layers.	" twice.	None...	31 min.	Normal...	27th.	"	Male	"
4	"	11 hours . . .	"	"	"	Subcutaneously.	"	45 min..	Severe after pains; some distention and flatulence till cathartic on 2d day. Uneventful	24th.	"	"	"
5	"	None	None...	"	Interrupted twisted silk, with fine silk serous coaptation stitches.	" twice.	"	40 min..	"	21st.	"	"	"
6	"	5 hours . . .	Tentative forceps	"	Interrupted medium twisted silk with fine silk serous coaptation stitches.	Subcutaneously.	"	Not taken	Normal...	22d	"	"	"
7	"	6 hours and 40 minutes.	None...	"	Interrupted medium twisted silk with fine silk serous coaptation stitches.	"	"	28 min..	Normal except for trouble-some cough present before operation.	29th.	"	"	"
8	"	3 hours . . .	None...	"	Interrupted twisted silk with fine silk serous coaptation stitches.	"	"	26 min..	Normal	20th	"	Female	"
9	"	14 hours and 35 minutes.	None...	"	No. 8 twisted silk down to endometrium; running sutures of fine twisted silk for uterine peritoneum. Through and through silk with fine serous coaptation stitches.	"	"	35 min.. 35 sec.	Slight pyrexia. No cause developed.	29th.	"	"	"
10	"	7 hours	None...	"	"	"	"	44 min.	Normal.	23d	"	Male	"
11	"	30 hours mild, 6 hours good	None...	"	Silvered silk	"	"	Not taken	"	30th.	No	Female	"
12	"	18 hours	Tentative forceps	"	"	"	"	"	Normal. Some tympanites	Abo't 18th	Yes.	"	"
13	"	2 hours	"	"	"	"	"	"	Normal.	21st.	"	Male	"
14	"	None	None...	"	Twisted silk	"	"	40 min..	"	23d	"	Female	"
15	Symphiotomy	9 hours . . .	Manual dilatation and prolonged high forceps before entrance. High forceps failed	"	Not given.	By mouth	"	Not taken	Obstetric sepsis. Wound normal.	"	No	"	"
16	"	20 hours . . .	"	"	Not given.	"	Un-stated	Not taken	Normal.	"	Yes..	"	"
17	"	Probably in second stage	None...	"	Not given.	"	None...	"	"	28th.	"	"	"
18	Cesarean section	None	None	"	Interrupted fine twisted silk.	Subcutaneously.	None...	27 min..	"	25th.	"	Male	"
19	"	1 hour and 30 minutes.	None...	"	Interrupted fine silk	"	"	29 min..	Phlebitis in left leg and slight attack of grippe	70th.	"	"	"
20	"	None	None...	"	Interrupted fine twisted silk.	"	"	31 min..	Normal.	26th.	"	Female	"
21	"	hours	None...	"	Interrupted fine silk.	"	"	33 min..	Normal.	25th.	"	Male	Well
22	"	19 hours and 30 minutes.	None...	"	Interrupted fine twisted silk.	"	"	39 min..	Difficult; severe pain, much distention until catharsis on 2d day; some pyrexia; mild delusion at times.	21st.	"	Female	Well

best exponents are able to exhibit as definite results as are obtained in other branches of modern surgery, and I believe that the profession will before many years be compelled by the public to feel its obstetrical responsibilities with the same seriousness which has long been accorded to surgery. Once the public and the general practitioner feel that almost every fetal death from mechanical obstacle must be charged to the want of exceptional skill on the part of the attendant, we shall have far fewer deaths in labor. In every large city the men who are ready to consider this question are plentiful, and when cases of the sort occur at a distance from such a center they must be settled by the best man accessible.

I wish finally to repeat my firm belief that in all cases of doubt we should be guided by the general proposition that a manufactory is always of greater value than any single sample of its products, and that the potential mother of many children is always of more value than a single child; though I believe that in well-handled cases the interests of mother and child are to-day almost invariably identical. In illustration of the position which I am supporting I wish to close my paper with a short history of the twelfth case on my list, one which illustrates unusually well that position.

Early in the winter of 1898 and 1899, Dr. O. F. Johnson, of Winthrop, Mass., wrote to me that he had a primiparous patient whose small size had led him to apprehend difficulty in labor, a fear which had been encouraged by the slightly small external measurements which he had taken. He informed me of the calculated date of delivery, and asked that I would make a note of it and come to his assistance prepared for any method of delivery if the early part of labor did not progress satisfactorily. On July 18, 1899, he telephoned me that the patient was in labor, and later in the day telephoned that the progress of labor was not quite satisfactory to him, and asked me to see her. I went at once, prepared with assistants and instruments for any form of delivery, including the Cesarean section. The patient was a primipara, fifteen years married, and a very small woman. She had had moderate labor pains for about eighteen hours, but was in excellent condition, with slow pulse, and not exhausted. The membranes were unruptured, the os about the size of a fifty-cent piece. The pelvis measurements were as follows: Spines of the ilium 21 cm.; iliac crests 26 cm.; external conjugate 18 cm.; diagonal conjugate 9.5 cm. The symphysis was erect, the promontory high, the form of the pelvis justo-minor, and I estimated the true conjugate at not over 8 cm. It was thus decidedly a small pelvis, but on dilating the os, which was done with greatest ease, the patient being under ether, and seizing the child's head with the hand, it was evident that the head was not large, the fontanelles and sutures were wide, the bones were soft, and I was inclined to believe that an intrapelvic delivery was possible. The occiput was anterior, O. L. A. I easily applied the forceps and easily brought the head into the brim, but two strong tractions failed to advance it farther, and on listening to the fetal heart, which had previously been strong and regular, I failed to hear it. The forceps were at once removed, the head pushed back and the hand passed into the uterus in search of the cord, which was found to be beating faintly and intermittently. I felt that even the few tractions which I had made had been too powerful for the soft head and feared that I had lost the child, but after a few minutes spent in watching the cord with the fingers its pulsations became good and regular,

having steadily improved during the interval. The hand was then removed, and some minutes spent in watching the fetal heart with the stethoscope. It continued good and strong. The child's condition was evidently re-established, and as the mother's pulse was slow and good, and I was confident I had done no harm to the soft tissues with the forceps, I felt warranted in still considering the Cesarean section. I informed the doctor and the husband that I had no question that I could deliver an intact child by forceps without material danger to the mother, but I was equally sure that the child would be a dead one, and that I thought the Cesarean section could be performed without essentially increasing the risk to the mother. Both of them assenting, my assistants were called up, the necessary preparations rapidly made, and a classical Cesarean section done. The child had passed meconium into the liquor amnii and was somewhat asphyxiated, but was resuscitated without great difficulty and has done thoroughly well ever since. The mother's recovery was uneventful. I criticise myself as having in this case gone a little too far in the use of forceps in so small a pelvis, but I believe if a mistake is made it is better to make it on the side of conservatism, and I hoped to be able to deliver safely with forceps. The case is, with this exception, a fair illustration of what I consider a rational method of deciding between the Cesarean section and the forceps.

TREATMENT OF SESSILE AND CERTAIN OTHER OVARIAN CYSTS.*

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Other things being equal, our operative methods should follow lines which involve a minimum of injury to important structures, the greatest preservation of tissue, including the blood, and the least amount of shock possible.

The question at issue is whether in dealing with some of the cysts under consideration we might not obtain the same results with less radical measures, and therefore with less risk to the life of the patient. The object then, of this paper, is to give the clinical results of a method that is simple, applicable in a certain percentage of these cases, and so far as I know not usually employed and to call attention to the success of the same plan in similar pathologic conditions in other organs.

The non-pedicular cysts of the female adnexa as a rule develop either from the ovary—*paroöphoron*—or the *parovarium*; for the most part they grow between the layers of the broad ligaments and thus are in intimate relation with the cellular tissue, vessels, ureter and bladder beneath and in front, the muscular and serous coats of the broad ligaments and ovary on the sides, the superimposed tube and peritoneum above.

The *parovarian* cyst is usually unilocular; when small the walls are exceedingly thin and transparent and the fluid contents limpid and sterile; as the tumor increases in size the epithelial lining undergoes change, the walls become thicker, more dense, and slightly opaque, while the fluid becomes turbid, but usually remains sterile. These cysts develop from the *paroöphoron* and *parovarium* as a result of the stimulation due to the advent of puberty (Sutton), and are often mistaken for *oöphoron* cysts and so treated. As stated, they grow within the *mesosalpinx* and are thus literally

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part subperitoneal and part intraligamentous. If the development is upward the tube becomes quite tense, so that its lumen may be occluded and its function destroyed; if downward, it may simply displace the ligamentous structures, lying imbedded in a sac of dense connective tissue, from which it may be readily enucleated, or become intimately associated with these structures and thus be difficult of removal.

After removal, in the former case, we may simply have to deal with a dead space; in the latter a formidable hemorrhage, injured structures and a veritable cavity are the conditions which may either endanger the patient's life or protract convalescence by the defect becoming an infection atrium, or a circumscribed pus sac. In some of these cases, especially those which show signs of malignancy and some multilocular cysts, ligation of the ovarian and uterine vessels previous to enucleation is quite imperative, and in these the obliteration of the undisturbed sac would be impracticable, but in the monocysts and non-malignant growths, even if hemorrhage is controlled by previous ligation, the patient still does not escape the danger of injury to the ureter and bladder, either in the enucleation of the tumor or the obliteration of the sac, and if the latter be impossible it may only be successfully drained per vaginam; in which case, in spite of our best efforts it usually becomes infected before it is completely closed. This infection is protracted because of the dead space that necessarily is formed by the removal of the cyst and which is not effaced by approximation of the broad ligaments; in endeavoring to bring these together the task becomes both difficult and dangerous because the growths frequently displace and deform the contiguous structures to such a degree that it becomes almost impossible to recognize them by anatomical differentiation.

It seems to me, therefore, that the proposition becomes simpler, if, instead of trying to enucleate these cysts, we should instead, after having carefully evacuated the cyst contents and removed the redundant portions of the wall, destroy the lining by the use of proper escharotics and close the orifice by suture.

The cautery or the curette is sometimes advised in the most difficult cases, but reasoning from analogy the hyperstimulation resulting from chemical irritation would accomplish all that is necessary and yet be attended with less danger. The result of such application is the destruction of the epithelial or other structural layer of the cysts by albuminous coagulation which subsequently liquefies and is absorbed, leaving a sterile dead space, or by connective-tissue proliferation becomes obliterated through adhesive inflammation.

A resultant dead space is not an unnatural termination under the circumstances, for while Nature naturally abhors a cavity, nevertheless we frequently find an unoccupied sterile pleural cavity owing to a collapsed and adherent lung, or spaces of varying size in the soft tissues due primarily to pressure necrosis and subsequent absorption, owing to the presence of some metallic or other foreign substance. In an unusually thick sac, in which fatty degeneration does not occur, it is quite natural to suppose that after dehydration, the tissue would undergo mummification similar to the papyraceous ectopic ovum. There need be no fear in leaving a portion of the sac, since in extensive intestinal adhesions to an ovarian cyst or other neoplasm, if separation of the intestines produces serious trauma, the adherent portion is frequently left without serious results.

In the commonly accepted treatment of hydrocele, glandular and simple unremovable congenital or reten-

tion cysts, whether by the aseptic open method or the injection of tincture of iodine, or carbolic acid with the adhesive obliteration of the sac, we have the analogue of the method suggested in dealing with the cysts under discussion.

The disposition of an ovarian cyst, whether pedunculated or sessile, without resorting to the usual manipulation of adjacent organs which is frequently necessary in ligation or enucleation seems of still greater value when coexistent with pregnancy. While gentleness is required in all intra-abdominal manipulations, still, in handling the gravid uterus, we can not be too careful, and yet in spite of the greatest precautions in endeavoring to ligate a pedicle or enucleate a cyst it may become so displaced that in recovering its position, or in becoming adjusted to its environment, forces may be excited that eventually result in premature labor. It seems that here also the obliteration of at least a portion of the sac, in view of the fact that it could be done with less disturbance of the viscera, especially if the blood-vessels were not unusually large, would be the preferable operation. I believe, moreover, that the complication of premature labor which so frequently follows operation in these cases, is due not primarily to the operation per se, assuming that there has been no infection, but as has already been suggested, to the readjustment which necessarily takes place in the restoration of the uterus subsequent to the removal of the cyst, whether that readjustment be a return to the position which it previously held and from which it was disturbed by our manipulations, or a new relation in consequence of the removal of a cyst which caused either lateral or upward displacement. In either event it is easy to conceive how a train of forces may be set in motion which sooner or later may result in labor.

In removing the support which especially a pelvic cyst affords, the uterus naturally sinks into the pelvis, just as in normal pregnancy, a short time previous to labor, a fact which I am sure we do not sufficiently appreciate nor guard against by keeping the patient at least partially on her side during and after the operation in case of an abdominal cyst, or in the elevation of the hips and lower extremities under the same circumstances, and maintaining this position, combined with cautious tamponing of the vagina, if from the pelvis. The contention therefore is, that in destroying or obliterating a portion of a cyst, instead of removing it, we are accomplishing all that an operation can accomplish, and that since this can be done in less time, with less violence, and consequently less risk, it should more frequently be the course of election.

The following case, with its varied pathology, will suffice for illustration:

Mrs. A., aged 35; nullipara; presented symptoms showing marked dyscrasia. Examination revealed ascitic fluid, with a fluctuating abdominal tumor. History and symptoms pointed likewise to tubercular peritonitis. At the operation, a central abdominal incision exposed a thickened parietal peritoneum forming the anterior wall of an abscess which filled the greater part of the pelvic cavity, being circumscribed and limited by matted coils of adherent intestines on which were characteristic tubercular deposits.

After emptying the sac, and thorough irrigation, permanent drainage was obtained by passing a T tube through the floor into the vagina, and another tube was secured in the dependent angle of the wound through the abdominal wall, the wound closed and

sealed with iodoform collodion and cotton. On either side of the sac a fluctuating tumor could be recognized; that on the left was diagnosed as an ovarian cyst, but the pathology of the one on the right was not so clear.

An incision in the median line above the umbilicus disclosed the same studded tubercular deposit on the intestines, with ascitic fluid, and a left unilocular, ovarian cyst, with a short pedicle, extending to the umbilicus; on the right a pyosalpinx, firmly adherent to the remaining unoccupied portion of the right pelvis, containing about four ounces of pus. It was utterly impossible either to ligate the pedicle of the cyst or remove the pyosalpinx, 1, on account of the height of the incision; 2, because of the immobility of the adherent intestines and the circumscribed abscess sac which occupied the bulk of the pelvic cavity.

After carefully walling off the intestines, the cyst was aspirated and about three-fourths of the collapsed wall removed; the interior of the remainder was thoroughly painted with tincture of iodine and, by the aid of a long dissecting forceps and needle holder, the marginal ends were turned in with an over-and-over continuous stitch. The pyosalpinx was aspirated in the same manner, the sac laid open, as much as could be reached removed, and, after careful sponging, the cavity cauterized with a solution composed of equal parts of carbolic acid and alcohol, care being taken to sponge out an excess of fluid which might remain. After closing the sac in a manner similar to that employed with the cyst, the abdominal wound was sutured and sealed.

Except for the through-and-through irrigation of the pelvic abscess, the convalescence of the patient presented no special points of interest, and the recovery from the lesions of the adnexa was ideal.

The case represents a type of those in which it is very difficult to remove the pathologic lesion, owing either to the location of the tumor or its structural intimacy or relation with some important organ, and furthermore illustrates the feasibility of cyst obliteration where removal is impossible. In the evolution of medicine we are not only developing more exactness, but greater simplicity; instead of prescribing for a disease we quiet a vasomotor disturbance by an agent of known physiologic action. In surgery we are in pursuit of the same ideals, and these are being realized as a result of more accurate anatomic differentiation and by the application of well-established and tried general principles in specialism. And thus, in dealing with the pathology under discussion, with greater experience and more extensive observation, the principle will appeal to us because it is rational, and while, surgically, pedicle ligation and extirpation may seem the more logical, the alternative suggested will be employed more frequently because of its signal advantage, becoming the operation of election, instead of, as now, the one of necessity.

217 South Broadway.

PARALYSIS AGITANS WITHOUT TREMOR.*

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PHILADELPHIA.

It is probable that no system of nomenclature yet devised is capable of meeting all requirements, because of constant additions to knowledge and corresponding variations in classification. This difficulty is especially manifest in medicine, where names are chosen sometimes from fancied resemblances, or from the prominence of certain symptoms or certain lesions, or on the basis of current and varying clinical or pathologic conceptions; or, worst of all, in intended honor of the discoverer or exploiter. With the progress of knowledge and with more extended observation, however, it not rarely happens that symptoms or lesions considered so distinctive as to be incorporated into the name given a disease, are found to be not invariably present, but are at times so ill developed as to be inconspicuous. Thus, we have learned from experience that typhoid fever may be unattended with typhoid symptoms, or elevation of

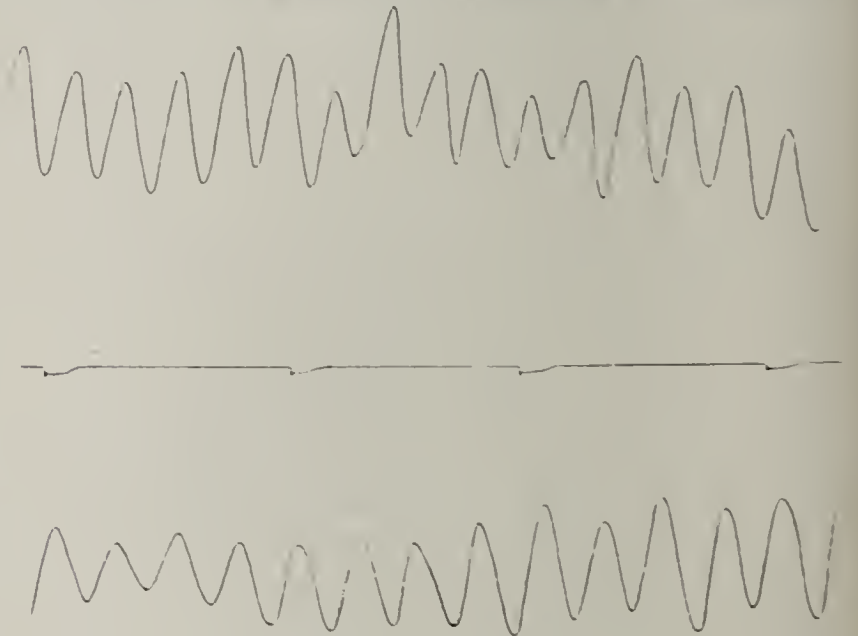


Fig. 1.—Both curves exhibit the inhibiting influence of passive extension of one of the fingers. The interrupted straight lines represent time in seconds. To be read from left to right.

temperature, or intestinal lesions; exophthalmic goiter, without either protrusion of the eye-balls or enlargement of the thyroid gland; scarlet fever or smallpox, without exanthem; paralysis agitans or shaking palsy without tremor or agitation or true palsy.

The tremor of paralysis agitans is so distinctive and so constant that one might consider the diagnosis exceedingly difficult if at all possible in its absence. Even then, however, there is something in the *tout ensemble* of the case that makes the recognition comparatively easy and certain, if one be on his guard. The tremor is, further, the earliest symptom in the majority of cases. When present, it is rhythmic and relatively slow and coarse, while its range is variable. It almost invariably persists during rest and is temporarily inhibited by voluntary action as well as by passive movement, and probably also by other influences, although subsequently it may be resumed with its original or even with increased intensity. Rarely it has been absent or slight even during rest, and it has been induced or increased by voluntary action. It is ag-

* Read before the Medical Society of the State of Pennsylvania, at Wilkesbarre, Sept. 20, 1900.

OBLIGATIONS OF PHYSICIANS RECEIVING SALARY.—

The French courts recently decided against a physician sued for damages by the widow of a pauper, on the ground that he did not respond promptly and made but the slightest examination, although he was the official, salaried physician to the poor of the community. The courts said that a verbal or written contract compels the physician to respond to calls and to continue his attendance in such a manner that no one can accuse him of negligence.

gravated by observation and emotional influences, but it ceases during sleep, and sometimes also in members paralyzed as a result of intercurrent organic disease of the brain. It often differs in degree upon the two sides of the body, more especially in the upper extremities, although when both sides are involved, the movements of the two sides are synchronous, it generally appears first in the upper extremities, especially the hands and fingers, and it may extend in monoplegiform, hemiplegiform or paraplegiform manner. The movements sometimes appear purposive, and resemble those that would be made in rolling pills or in holding a pen or in spinning wool. I am in the habit of describing them as intrinsic, because, unlike those that attend other forms of tremor, they appear to take place within the member rather than at its extremity merely. They seem, at times, to consist almost wholly in active flexion with reactive extension. I have found the frequency of movement to vary between 4.5 and 8.9, averaging, how-

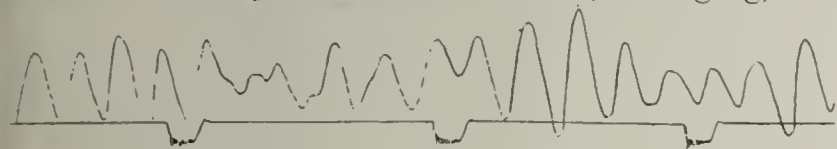


Fig. 2.—The movements of both hands recorded simultaneously. The upper curve represents the movement of the right hand; the lower, that of the left. In the latter the inhibiting influence of voluntary action is illustrated. The tracing exhibits the synchronousness of movement on both sides. The interrupted straight line represents time in seconds. To be read from left to right.



Fig. 3.—The upper curve represents the movement of the right hand; the lower that of the left. The interrupted straight line indicates time in seconds. Movement from left to right. Frequency, 6 1-3 per second. The tracing exhibits synchronousness of movement on the two sides, although the range of movement is greater on the right.

ever, 5.9 oscillations per second.¹ The accompanying tracings will illustrate the frequency of the movement, its range—magnified—and its synchronousness on the two sides of the body, notwithstanding its predominance on one side, as well as the influence of voluntary and of passive movement. It has long been recognized, however, that the tremor is not absolutely constant, and its absence does not invalidate the diagnosis.

Not less distinctive than the tremor is the impairment of mobility. This has been attributed to muscular rigidity, to delayed transmission of volitional impulses from the cortex, and to muscular weakness. It attends efforts at both active and passive movement. It is this symptom that is responsible for the peculiar appearance and attitude of the patient. The face has, as a rule, a fixed, stolid, unemotional expression. The body often presents a forward inclination, the shoulders being round and stooped and the patient has a tendency to run

forward. The knee-jerks are at times irritable and excessive, and occasionally there is abortive ankle-clonus. When rigidity is marked, the reflexes may be inhibited mechanically.

Among other symptoms of a subordinate character, are a sense of undue heat and increased sweating; a feeling of restlessness is also not an uncommon manifestation, necessitating frequent changes of posture and interfering with sleep. The patient is often depressed, though occasionally cheerful. There is, as a rule, no pronounced mental impairment, although failure of memory may be complained of.

Little is known of the etiologic factors responsible for the development of paralysis agitans. Direct inheritance of the disease is rare, although an indirect neurotic heredity is not infrequent. The disorder is more common in men than in women, and most so between the ages of 40 and 50. Antecedent infectious disease or intoxication has in some instances been thought to be

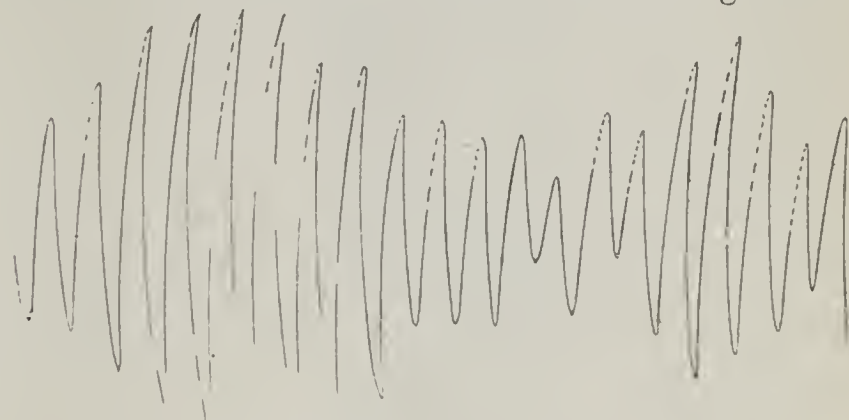


Fig. 4.—The above represents 3½ seconds. Movement from left to right. Frequency, 6 per second.

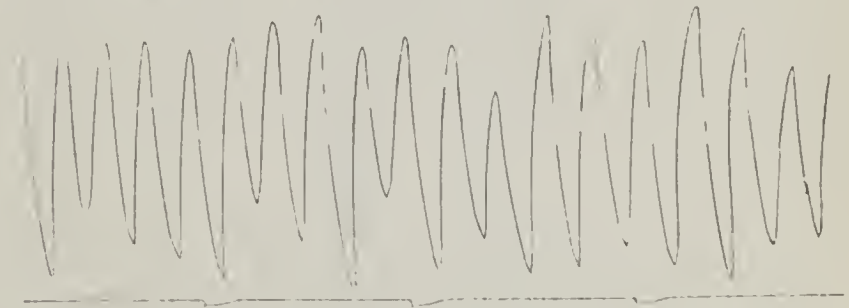


Fig. 5.—The upper curve exhibits the frequency and rhythm of movement, the lower apparently spontaneous inhibition, as well. The interrupted straight lines represent time in seconds. To be read from left to right.

operative. The onset is generally insidious, exceptionally acute, and the course is slowly progressive. The first symptoms not rarely follow profound emotional disturbances, long-continued overexertion or traumatism, and they may appear in the member specially affected.

The disease is one of the predegenerative period, and such lesions as have been found are not unlike those that attend senility. The disease is progressive and generally protracted in course, and not amenable to curative treatment. There may be remissions and exacerbations in the symptoms, or they may appear to be stationary. The patient eventually becomes incapacitated for his usual pursuits and death ultimately results from exhaustion or intercurrent disease.

Various palliative measures may, however, be employed, such as the administration of hyosein or hyoseyamus, gentle exercise, active and passive, and the observation of general hygienic precautions.

¹ Journal of Experimental Medicine, vol. II, No. 3, 1897.

The tremor of paralysis agitans is to be differentiated especially from that of senility, of alcoholism and other forms of intoxication, from the incoördinated movements of multiple cerebrospinal sclerosis and from hysterical tremor. Senile tremor, however, rarely, if ever, begins in one member or on one side, but generally is distributed uniformly. It is usually fine and frequent, slight or absent during rest, is increased by violent effort, is not associated with rigidity, occurs later in life, and is not progressive in course. The various forms of toxic tremor, likewise, are fine, frequent, general, slight or absent during rest, increased on voluntary action, and unassociated with rigidity. They may, of course, occur at any time of life, although more common during active adult existence, and in conjunction with other more or less distinctive symptoms. A history of exposure to the exciting influence is of decisive importance in the diagnosis. The movements of multiple sclerosis are coarse and somewhat unlike ordinary tremor, being rather incoördinate and wanting in rhythm. They are also generally absent during rest and are induced only by voluntary effort, and are often associated with lesions of the fundus of the eye, with nystagmus, scanning speech and derangement of micturition, while rigidity is not likely to be present and the peculiar facies of paralysis agitans is wanting. The tremor of paralysis agitans is to be differentiated from that of hysteria by the association with the latter especially of other hysterical stigmata and by the influence of suggestion.

Paralysis agitans without tremor is not so common that the report of two cases recently under observation in which tremor was the least conspicuous of the symptoms may not be without interest. Both patients were seen at the Orthopedic Hospital and Infirmary for Nervous Diseases, the one in the service of Dr. S. Weir Mitchell and the other in that of Dr. Wharton Sinkler, to both of whom I am indebted for the privilege of making this report.

S. S., a plumber 50 years old, presented himself for what he designated nervousness. He suffered from mental confusion, with depression and introspection. There was also weakness of the legs, more marked on the left. For several years there had been stiffness, which began with a cramp-like feeling in the left foot, and extended to the shoulder and elsewhere. Slight tremor was noted and this the patient stated occasionally became quite marked, although at times it was scarcely, if at all, appreciable. The patient presented the typical appearance and facies of a case of paralysis agitans. The face was fixed and immobile, the attitude was stooped forward, the speech was slow, the voice low and monotonous, and all movements and apparently also cerebration appeared slow. The knee-jerks were small and station was steady. The pupils were full, equal, regular, reactive to light. The grasp was firm, the dynamometric register being 170 on the right and 130 on the left. There was some tendency to propulsion. The action of the heart was rhythmic and the sounds clear. The radial artery was stiff and the tension plus. Memory was impaired; sleep was poor; the bowels were constipated. The patient was easily chilled and suffered readily from cold, and under such circumstances the hands became cyanotic. The urine presented no abnormality. The man once had gonorrhea, but there was no evidence of syphilis. He had used alcohol, tobacco, coffee and tea only in moderation. He had suffered business reverses and one of his daughters was neurasthenic from overstudy.

J. H., a woman 68 years old, presented herself on account of weakness in the lower extremities and in the back, with difficulty in walking. There was slight tremor in the right hand on voluntary movement. The countenance was rather fixed. Speech was slow and the gait decrepit. The knee-jerks were

slightly exaggerated, but there was no ankle-clonus. On inspection it was found that both hands were tremulous when held out, but not when in action or at rest. The tremor was said to be more marked on some days than on others. Station was unsteady, the patient yielding toward the right, as she did also in walking. In attempting to walk there was some delay in starting out, and all movements were performed slowly. The action of the heart was rhythmic, the first sound clear, the second greatly exaggerated. The pulse, though not strong, was of increased tension. The pupils reacted to light. The patient suffered from no sense of undue heat, and from no excessive sweating. An additionally interesting feature of this case is the fact that a daughter 47 years old, who merely accompanied her mother and did not seek treatment, presented a distinctly cretinoid appearance. She had not learned to walk until the age of 3, although she spoke clearly and subsequently did well at school. Menstruation had not begun until the age of 22. The patient was short of stature, measuring only 4 feet 6 1/2 inches in height. The thyroid gland, especially the right and middle lobes, was found enlarged, and is said to have been so for seven or eight years. The complexion was pale and muddy, and the skin wrinkled; but there was no thickening of the subdermal tissues. The tongue was rather large and rough, and intelligence appeared deficient. There was no tachycardia and the eyes were not prominent. The knee-jerks were active, but there was no ankle-clonus.

While it can not be strictly said that in the two cases of paralysis agitans which I have reported the tremor was wholly absent, it was at times so inconspicuous as not to be viewed as a symptom of importance, much less of diagnostic utility. The main object of this communication is to invoke renewed attention to the fact that the disorder under consideration may be unattended with tremor, and further that this, when present, may be accentuated by voluntary action.

NEW METHODS FOR THE APPLICATION OF OLD PRINCIPLES IN THE TREATMENT OF FRACTURES AND DEFORMITIES OF LIMBS.

JAMES G. HUGHES, M.D.

SHEBOYGAN, WIS.

In all cases of fracture, to restore and maintain the limb in its normal position, extension and counter-extension between bony prominences, or a flexed segment of the limb, above and below the fracture, must be employed.¹ To this must be added immobilization, when normal position of the limb is accurately secured. In addition to the above principles, the open dressing, in compound fractures, is of primary importance for obvious reasons. Every splint should permit of inspection, bathing, ventilation, etc. There should be no circular constriction of the limb to retard the circulation. The effects of impaired circulation, delayed union, ischemia, stiff joints, and in some cases non-union, can be ascribed to this interference.

It is safe to say that fully one-half the fractures of the leg should be treated by the ambulatory method. Many patients assume the erect position in spite of the warnings of their medical attendant. The patient suffering from a fracture of the leg, or thigh, is asked to assume the recumbent position until nature repairs the solution. The principles governing the treatment of fractures are the same in the erect as in the recumbent position, and can be applied in one case as well as in another, and if these principles are fulfilled, displacement can not occur in either position.

With a view of embodying the above principles in

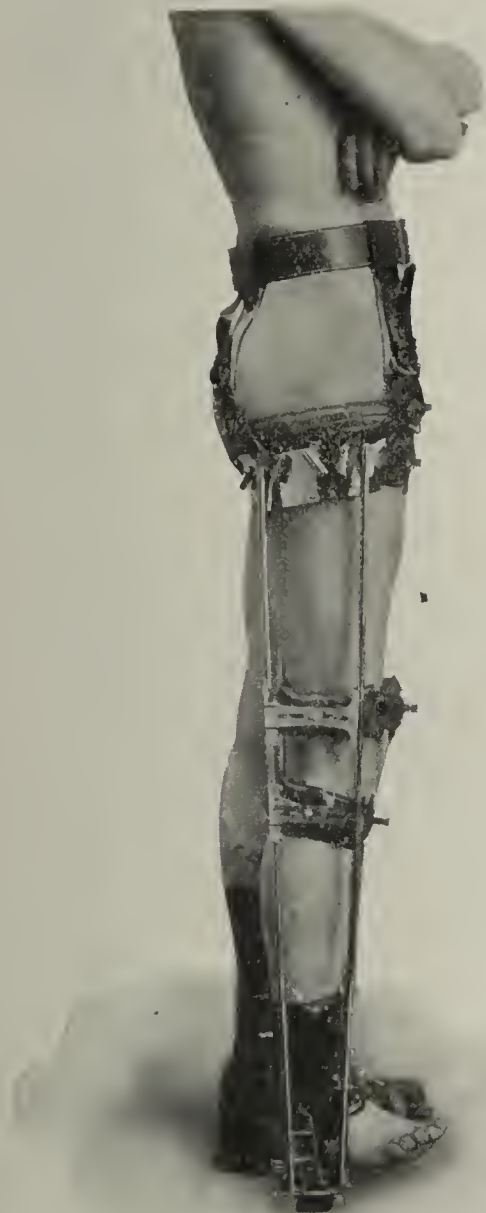
1. American Text-Book of Surgery, 1893, p. 287.

the treatment of fractures of the arm, and of fractures, deformities and diseases of the leg and hip-joint, the writer has constructed splints for the upper and lower extremities, each embodying the same general principles, so that a description of any one will suffice. The splints consist of inflatable cushions, in combination with adjustable stays, arranged in such a manner that there is no solid contact any where on the limb.

Each part of the splint is simply and easily adjusted. The cushions prevent any injury from pressure, and over the ankle they are arranged vertically with interspaces to permit of free circulation while securing extension. The leg or immobilizing cushions may be segmented if desired, but as the bones are not so superficial as at the ankle, and as there is no traction on the

In the ambulatory treatment, when the weight is placed on the foot-plate, it is received by the pelvis, the leg being in a "sling," suspended from the pelvis. A cane should always be carried, but where desired, a crutch may be substituted.

The shoe of the opposite foot should be raised, to match the raised foot. The erect position, with a limited amount of exercise, will tend to preserve the general health, increase the circulation, hasten absorption, and promote growth and repair, this, with the accuracy of adjustment which preceded it, and can be secured by this method, limits the amount of softening and absorption, hastens the time of healing, and avoids the usual muscular atrophy which accompanies fractures owing



Pneumatic splint with belt suspender attachment for walking.

cushions, this is not necessary. The hip-cushion grasps the thigh at the angle of the pelvis, and is arranged so that it can be made to follow the angle of the right or left thigh, as desired. The sock grasps the leg at the ankle, with interspaces between its vertical cushions. By means of the adjustable stays, extension and counter-extension is made between these points with turn-screws and key. With solid metallic connection between these cushions, the degree of separation on which the adjustment depends remains the same, no matter what position is assumed.

Shortening is prevented in fractures of the leg and thigh. Immobilization is secured by the aid of the leg-cushions, and clips connecting the stays, and is under full control, deformity being prevented, as well as shortening. When the splint is applied, the foot does not come into contact with the foot-plate.



Pneumatic splint with immobilizing hip-joint attachment for walking, the adjustable belt not shown in illustration.

to disuse of limbs and circular constriction.

Bandaging to assist in retaining the fragments in apposition should pass from the leg or arm to the stays, for better support and to avoid circular constriction.

The suspender attachment supports the weight of the splint, from the body, and is adjustable.

The accurate coaptation secured by this method reduces pain, lessens the amount of softening and absorption, and hastens convalescence. By avoiding circular constriction, we limit the amount of exudation, facilitate growth, repair, and absorption; avoid ischemia and stiff joints.

Is circular compression adequate to maintain the apposition of the fragments? Experience in fractures of the upper third of the femur has shown that circular compression, no matter how applied, can not by itself maintain apposition. What is true in the upper third

is also true, in a lesser degree, in other places. The beneficial effects of circular constriction with bandage and cast, has been over-estimated, while its dangers and disadvantages have been too little commented on, if they have been fully appreciated. Open dressings facilitate inspection, dressing, bathing, ventilation, massage, and any indicated treatment, the importance of which needs no emphasis. The attachment for immobilizing the hip-joint is applied in fractures of the neck of the femur, and also used in hip-joint diseases, and is on the same principle as that now in vogue. When the key is removed and the caps replaced, the splint is locked, and the adjustment can not be interfered with. The pneumatic pads are covered with satin-finished waterproof leather, and can be cleaned with warm water and soap when necessary.

The splints are easily worn under the regular clothing, and are so well constructed that they will last practically a life time.

They have been tested by the writer in some severe cases, with perfect results; among them, one case of compound, comminuted, multiple fracture of both legs. The bones in the right leg penetrated the skin in five different places, and in the left leg, in three. Several loose fragments of bone had to be removed. The usual dressings were tried, but had to be abandoned on account of the excruciating pain and stasis. Amputation of both legs was considered necessary by attending physicians, but the patient would not submit to it, and further counsel was called, resulting in the application of pneumatic splints to both legs. The pain ceased at once, on application. The absence of circular constriction allowed complete restoration of the circulation, and permitted of proper open dressings for the wounds. The splints were only worn thirty-three days; ankle and knee motion was in no way impaired; the union and result was perfect.

I mention another case, on account of the attending circumstances, one of simple fracture of the tibia. The patient was erecting a house at the time, and hauled lumber seven miles daily, without discomfort and with perfect result.

Before bringing the appliances to the notice of the profession, they were submitted to some of our most eminent surgeons, whose unqualified endorsement has demonstrated the unparalleled excellence of the treatment.

POSSIBILITIES OF LIQUID AIR TO THE PHYSICIAN.*

A. CAMPBELL WHITE, M.D.
NEW YORK CITY.

It is now over a year since I began the use of liquid air in the hospitals of New York, and less than a year since I published in the *Medical Record* a preliminary report of the results obtained by its use up to that time; and I am led to-day to accept your invitation to present this subject to your Section, no less by the pleasant recollections of the last time I appeared before you, than by the many communications I have received since publishing my report, from all parts of the world, demonstrating the lack of knowledge of the public as well as physicians as to what liquid air really is. I have received requests from physicians from nearly all parts of the United States, from Mexico, from Germany and even from New

Zealand, asking that a small package be sent and all expense would be paid at the other end. I have been asked whether it were given hypodermatically, and whether it would not be good taken in small doses internally for abscess of the liver. One physician, who has represented many drug houses, wanted to know if it could not be put up in small packages and retailed at the drug stores and whether he could not act as my Southern agent. Nearly all physicians say, in discussing the subject, "Oh, we have tried extreme cold before and know it is no good." Possibly there are some of you here this afternoon who have never seen liquid air, and if so, I shall demonstrate that you really never knew what cold was before. I intend at least to show you what liquid air really is, and have brought with me, through the courtesy of the Tripler Liquid Air Company, a generous supply in order that I may show you its physical properties and demonstrate some of its applications, as well as show you some of the appliances which more directly concern us.

After doing this, I desire to briefly tell you of some of the things we have accomplished with it at the Vanderbilt clinic of Columbia University, and elsewhere; and then call attention to some of the things which may be done in the treatment of internal diseases. [Dr. White gave several demonstrations with liquid air.]

In my former paper I told of the results of our attempt to kill germs with liquid air. With Dr. William H. Parks, we tested the effects of liquid air on typhoid, anthrax and diphtheria bacilli. In order first to test the effect of extreme cold on these germs without bringing them in direct contact with the liquid, we put into a number of capillary tubes pure cultures of virulent anthrax, diphtheria and typhoid bacilli. These capillary tubes were marked for identification, sealed at both ends, and dropped into a glass of liquid air. The liquid was renewed at intervals, so that the tubes were at all times completely submerged. Some were removed in thirty minutes, others in forty-five minutes, sixty minutes, and ninety minutes. After they were removed from the liquid and the sealed ends were broken, they were dropped into separate culture-tubes containing fresh sterilized bouillon, and these in turn marked for identification. These bouillon tubes were placed in incubators kept at a temperature of 38 C., where they remained for over forty-eight hours, when they were all examined and found to contain pure cultures of anthrax, typhoid and diphtheria bacilli according as they had been inoculated. In order to test whether liquid air itself in addition to its temperature would have any effect on germ life, a culture-medium containing numerous colonies of anthrax bacilli was dropped into a glass of liquid air and allowed to remain over an hour. When removed, a fresh sterile culture-medium was inoculated with the one exposed to liquid air and placed in the incubator as before. The same result was obtained as when the capillary tubes were exposed.

Dr. J. H. Huddleston tried the effect of liquid air on vaccinia virus, and found that fifteen minutes' or less exposure to the liquid air had no effect whatever on the power of the virus to produce vaccination.

Longer exposures to liquid air have been tried with the same result. Dr. Park has recently made further experiments, making the exposure over two hours and exposing all kinds of germ life in form of pure virulent cultures, from hay infusion to anthrax bacilli. With this exposure, taken all together, from the weakest germs to the strongest, it kills from 98 to 50 per cent. Of the typhoid germ it kills about 75 per cent. in two

* Presented to the Section on Diseases of Children, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

hours' exposure, the staphylococcus about 50 per cent., and the diphtheria typhoid, about 65 per cent. This exposure does not completely destroy the virulence of any pure culture, but of course the activity or virulence of all these germs is suspended for a long time after exposure to the liquid air, and they are only brought back to activity by the most careful handling and under the most suitable conditions. Professor Dewar, of London, is reported to have given bacteria exposure to liquid air for two weeks, with practically the same results.

Now the question is, knowing these facts, what is the effect of liquid air upon germs existing in the living tissues of the body. We know that the human organism is the natural enemy of the bacillus. We have reason to believe that the human system develops an antitoxin when invaded by the ptomain-producing bacteria, which under most conditions is successful in withstanding this invasion. Is it not possible that the temporary suspension of the vitality of these germs, due to the application of liquid air, gives nature the opportunity to completely destroy them, particularly when we remember that the local circulation is much increased shortly after the application.

Buchner,¹ in an article on the natural defenses of bacteria, speaks of the results obtained by us in the use of liquid air, and attributes all our success to the subsequent local hyperemia produced.

CLINICAL USES OF LIQUID AIR.

Liquid air, applied to the healthy living tissues, causes a temporary local anemia accompanied by anesthesia, or a slough, depending upon the amount used.

The results obtained by an excessive application are best explained by the experiment performed on the rabbit. before we had used the liquid air on the human body. About three-quarters of the ear of a rabbit was completely frozen by placing it in liquid air for some minutes. The ear was frozen so stiff that a small piece of the tip was broken off with the fingers without pain or hemorrhage. In less than ten minutes' time the circulation was entirely re-established with hemorrhage at the point where the piece had been broken off; the frozen part had regained its normal temperature—possibly a little higher—and color. The ear remained perfectly normal for about five days, when it began to swell somewhat, and by the end of two weeks about one-half of the frozen part had shriveled and dropped off. The remainder of the ear regained its normal condition. The part to which the liquid air is applied—with the spray—immediately loses all the blood, becomes perfectly colorless and is accompanied in the application by no pain excepting a slight tingling sensation which is only felt at the very beginning of the application. If only a slight amount is used the circulation almost immediately returns, the part becomes congested and frequently elevated, looking like a wheal or urticaria; this subsides soon and may or may not for a while itch to a slight extent. The anesthesia lasts not only while the anemia exists, but for some time after, owing to a temporary paralysis of the sensory nerve terminals. A freezing sufficient to produce anesthesia for ten minutes can be given without causing any more destruction of tissue than a slight desquamation of the superficial epithelium, which in no way interferes with primary union.

I recently did an operation under the influence of local anesthesia produced by liquid air, for the purpose of relieving a deformity of the hand resulting from a

poorly-treated burn of childhood. The hand was freely incised, and the fascia cut here and there, relieving whatever adhesions existed. The operation caused no pain, the result was perfect, and primary union was in no way interfered with. I could mention any number of cases equally successful where liquid air has been used as an anesthetic.

I think you can readily appreciate in how many cases this anesthesia would be preferable to any other, for example, opening of an abscess, where there is always an element of some danger in the use of cocaine; incising a paronychia; and of what great value it would be in a cardiocentesis, paracentesis thoracis or abdominis, where the vital functions are already at so low an ebb as to preclude the use of anesthetics.

In this connection I will just mention the almost invariable success resulting from the application of liquid air in the same way over the spinal end of the nerve in neuralgias and herpes zoster. The pain ceases almost immediately; rarely is more than one application necessary, and the only bad result has been some ulcerations at the point of application in some patients of advanced years, where the vitality of the skin was exceptionally low. These ulcerations readily heal with proper treatment, and are, as a rule, a pleasant substitute for the pain of neuralgia and herpes zoster.

As a cold application to allay or abort an acute inflammation, its use is ideal, and should be applied intermittently with the roller. The same would apply to an acute adenitis—not neglecting to treat the cause.

In the treatment of a boil I would use the spray, and, if just beginning, I would completely freeze it, possibly pricking it while frozen here and there with a needle, in order to relieve any subsequent congestion. If pus to any extent had formed I would freeze and make small incisions. It will always abort a boil if taken in time, although of course not preventing others forming.

From my experience in the local treatment of carbuncle with liquid air I am satisfied from every point of view that this is by far the best form of treatment. It is less painful to the patient than any other form of treatment. Only one application is necessary; within twelve hours of the first application, the pain entirely ceases, not to return again, and at the end of a few days only a small ulcer is left—representing the tissue between the openings of the carbuncle—which readily repairs with usual dressings. In the treatment of the carbuncle the spray is used, first projecting it into the openings and using the air quite freely, then quite thoroughly freezing the external surface, which must be well cleansed of discharge resulting from sending air inside of the carbuncle before freezing. After freezing, the carbuncle should be dressed with a dry absorbent dressing, so that the discharge, which will be abundant and accompanied with considerable bleeding, can be readily absorbed. The reaction from the freezing takes place in about twenty minutes, and it is to this extreme hyperemia that I attribute the success of liquid air in the treatment of this affection more particularly.

Before using liquid air in lupus we anticipated success, and our expectations have been realized, both in the treatment of the erythematous form and in lupus vulgaris. In the former variety we use the cauterizing instruments frequently, not freezing to any great extent at each application. Excessive desquamation results after each application, until good healthy skin appears, slightly reddened. The applications are then stopped and the redness soon disappears. Lupus vulgaris is treated rather generously with the spray once

1. Münch. Med. Wochschr., Oct. 3, 1899.

or twice. This causes a slight acute inflammation, which results in a healthy ulcer that quickly heals.

As a stimulant in the treatment of chronic ulcers, varicose and non-specific, one application, not to the point of freezing, but intermittently for about five minutes with the spray, is of great utility.

Liquid air as a cauterizer is probably the first thing that would occur to us after having seen and handled it, particularly for the removal of the benign foreign growths. For this purpose we now use liquid air to the exclusion of almost all other methods. For the quick and comparatively painless removal of a nevus, without any resulting scar, it is not equaled by anything we now have at our disposal. I have already shown you the instruments for its application in this direction for the destruction of adenoids, polypi, nevi and other hypertrophies.

The study of carcinoma has been universal and popular during the last few years, and this study promises to disclose the true cause of this dreadful and undoubtedly increasing malady. No doubt when its true etiology has been established we will find some treatment which will prove either prophylactic or curative. I think we must all have been impressed who have seen many of these cases, with the utter futility of almost every method of treatment at our disposal; even surgery seems to give in nearly all cases only a temporary relief, to be followed by even more malignant growth. The consideration of cancer is certainly not a subject of discussion for this Section, but I would not be doing justice to my subject did I fail to mention the great good liquid air has done in these cases. Even in cases in which the treatment has failed to cure, which were far beyond operative interference, where the patient has had two or three operations, where the patient has had every "special treatment," quack and otherwise, in the country; even in these cases, the great good done in the relief of pain and the destruction of bad odor, both so characteristic of this disease, places liquid air in efficiency far above any other treatment we have to-day.

In my previous paper I said I could make no claim for liquid air in the treatment of cancer, for my limited experience at that time, though promising, did not warrant my offering any encouragement; I can truly say to-day that I believe that epithelioma, treated early in its existence by liquid air, will always be cured, and that many cases inoperable can also be cured by its application. Prof. George H. Fox, in one of his lectures in the College of Physicians and Surgeons, New York, presented last autumn one of the first cases treated at his clinic by liquid air. This patient, a woman some 60 years of age, had an epithelioma on the right face, involving the outer canthus of the right eye. Professor Fox, in presenting this case, said, "No treatment at our disposal could have destroyed an epithelioma of this character in so short a time and with so slight a scar remaining as liquid air has done in this case." This subject requires a paper devoted entirely to its consideration, and I am sorry I can not present the history of some of these cases in detail, those which have recovered and those less fortunate, for every one bears testimony to the efficiency of liquid air in the treatment of carcinoma.

When we come to consider the use of liquid air in the treatment of non-cutaneous diseases, there is a very broad field open to us and many obstacles present themselves which are difficult to overcome. I think it will at once occur to us all that we ought to be able to use this cold, dry vapor given off by liquid air, for the reduction

of temperatures in fevers in something the same manner as we now give hot air and steam baths to promote activity of the skin. We are now having made an apparatus which we hope will accomplish this result; if so, it will be much more simple than the cold plunge and be much more pleasant and agreeable to the patient, accomplishing at the same time the desired results.

I have also thought that the inhalation of this vapor, which is almost pure oxygen, would be of great value in the treatment of certain diseases of the air-passages, such as hay-fever, acute laryngitis, tubercular laryngitis and possibly pulmonary phthisis. For this purpose I am having made an inhaler which will carry the vapor well back over the glottis before it becomes warm; and, furthermore, this vapor can be medicated, and in this way carry with it some remedy which might possibly add to its efficiency. The results of this treatment are, of course, purely speculative, but I anticipate success in this direction in the treatment of at least some of the diseases mentioned.

I regret that time does not allow me to go more fully into details regarding some of the cases I have treated with liquid air; but if I have given you all a fair idea of what liquid air is, what it looks like and what some of its possibilities are to us and to our patients, I shall feel well repaid for undertaking this demonstration, and I hope the discussion which is to follow will bring out many new points we have not thought of before.

DISCUSSION.

DR. LOUIS FISCHER, New York City—It seems to me that the question of local anesthesia is one of great importance to pediatricists, as for instance in the treatment of scrofulous manifestations, local abscesses, suppurative adenitis, various forms of peritonsillar abscess and the removal of adenoids of the pharynx.

DR. WAHER.—In the treatment of carbuncle, is your object to establish a slough?

DR. A. CAMPBELL WHITE—There are usually four openings around the center, forming, so to speak, the corners of a square. These corners will slough, but not the edges. The good results in carbuncle I believe to be partially due to the fact that these openings exist. The excessive congestion which comes on after the application of the liquid air is relieved by a free discharge through these openings. There is only a temporary suspension of the activity of the bacilli.

DR. L. J. LAUTENBACH, Philadelphia—Did you freeze and operate with the knife upon the case of epithelioma at the side of the eye?

DR. WHITE.—No, we used the liquid air cauterizer and simply closed the eye. When liquid air strikes the skin it is for the moment at a temperature of 312 F. below zero. I should freeze slightly, then wait and repeat the operation perhaps three or four times. The woman referred to had twelve treatments. There was a marked and edematous inflammation of the side of the face. It subsided in about three days. After that the improvement was very decided. This has been true of almost all cases. I have applied liquid air in epithelioma of the tongue. Here there is so much moisture that inflammation is easily excited, so that this agent must be used with great care. In two cases, one in the anterior part, and the other in the posterior part of the tongue, I have used the liquid air. After about three or four applications it was necessary to temporarily stop treatment because of the inflammation induced. Great care must be observed in posterior cases for fear of the possibility of edema of the glottis arising. Almost no sloughing follows the application of liquid air. The destruction is very superficial as we use it. In a case of carcinoma of the face we break up the intercellular substance of the epithelioma by freezing, and destroy the nutrition of the superficial cells. When the patient first returns there is a small ulcer, and we repeat the application. Eventually there is no further return. I would not dare to put a glass instrument into a child's throat

for removing adenoids; I should prefer to make use of one made of thin aluminum. I have treated erysipelas by filling a glass globe with liquid air and rolling it over the surface. For local refrigeration I have made use of a brass roller into which liquid air is introduced, and then the roller is passed over the part.

MOVEMENTS OF INTESTINES.*

ALBERT BERNHEIM, M.D.

PHILADELPHIA.

During treatment of a woman for floating kidney, nervousness and general debility, I administered—in the course of a rest-cure—enemas of cottonseed-oil; one time, about five hours after the injection, the patient vomited, the vomit for a greater part proving to be cottonseed-oil, this incident showing the possibility of a retrograding current of the oil from the rectum to the stomach. These oil enemas were administered for over two weeks and it was only this one time that oil was vomited. I was induced by this fact to make some experiments with injections into the rectum of a negro; these will be mentioned later on; besides I used a black-and-tan dog for experimenting, and, later on, in treating a woman for mechanical gastric insufficiency with a sub-acid condition, in which vomiting was not infrequent, the nutrient enemas used served as experiments.

It is for the research into the consumption of such nutrient enemas that various investigators experimented on the movement of the intestines, to learn of possible antiperistalsis of the gut.

Celsus (3-5 B. C.) mentioned the efficiency of nutrient enemas; in 1869 Voit and Bauer, in Munich, investigated their value as to absorption in the body, and found that an egg-emulsion, with the addition of a pinch of sodium chlorid, will be easily absorbed by the mucous membrane of the rectum and colon. Eichhorst, two years later, observed the same results. Czerny and Latschenberger, experimenting on men, found that not only albuminates, but also fat in emulsion and paste of starch, would be absorbed, when introduced into the rectum; they could not determine whether the starch is converted into sugar or not before the absorption, and it remained doubtful where the absorption occurred. Leube thought it necessary to peptonize the enema by mixing it with pancreas before injecting it into the rectum. Ewald, making a greater series of experiments, declared the peptonizing process superfluous, finding that an emulsion of egg-albumen will be absorbed even without the addition of sodium chlorid. Huber took an intermediate position between Voit and Bauer and Eichhorst on the one side and Ewald on the other; he recognized the fact of absorption without sodium chlorid, but the absorption was better with an addition of salt. Hemmeter explains the absorption without an addition of sodium chlorid, because this salt is naturally present in the egg. The absorption of the enemas was always said to occur in the lower and lowest parts of the bowels. L. Landois, in his book on physiology, says that the ileocecal valve prevents in general the contents of the colon from re-entering the ileum. When liquid masses are injected gradually into the rectum through a tube, they may get above the ileocecal into the ileum. In 1884, Nothnagel saw antiperistaltic movements of the gut when he touched the exposed intestinal section with a crystal of sodium chlorid or injected a salt solution by means of a Pravaz syringe. Grützner thought the fact of this antiperi-

stalsis a chief point as to the effect of nutritive enemas. His experiments were made on white mice, rabbits, guinea-pigs and cats, which had hungered for twenty-four hours. The injection mixtures consisted of a physiologic salt solution, with animal coal or starch or finely cut horse-hair or sawdust or poppy seeds. Four or six hours after the injection Grützner found the introduced particles in the stomach and in the entire course of the gut, except in the rectum. When, instead of salt solution, distilled water or a solution of .1 per cent. hydrochloric acid or of .6 per cent. potassium chlorid had been used, the introduced particles could not be discovered in the upper parts of the alimentary canal. Grützner at the same time took such precautionary measures that the animals could not have swallowed any excrements. The same positive results were found by him in experiments on man, in whose rectum he had injected starch emulsion.

Christomanos imitated these experiments and found that his researches corresponded to those of Grützner, if he followed the latter's method, but if he subjected the animals to extraordinary measures, such as severing and ligating the esophagus or fastening them down to the vivisection table for up to six hours, or applying the mouth-clamp, the experiments were negative. The latter series of experiments were made under rather pathologic conditions, and therefore can not prove what they seem to show. His experiments were made with carmin, Prussian blue, lycopodium dyed red or blue, and alcan-na-oil, on white mice, rabbits, frogs, pigeons and men. Only two out of ten experiments made on men were positive; in these cases he used either lycopodium or bismuth subnitrate, but lycopodium is often unseen in the microscope, and the bismuth crystals are not always to be recognized as such, even if stained black through the abode in the intestines.

Dr. Swieczynski, in the clinic of Professor Riegel, tried the same kind of experiments on men and dogs. In 12 cases, unstained lycopodium had been introduced 7 times, in 6 instances in a physiologic salt solution; the 6 times were positive; in the seventh case 1 grain of lycopodium; in the eighth and ninth cases, lycopodium stained with nitrate of silver in a salt solution was used, and in both instances grains of lycopodium were found in the stomach. In 2 other cases lycopodium stained with gentian violet was introduced, once with sodium chlorid and with positive result; the other time without addition of salt was negative. In the twelfth case bismuth subnitrate was used; this experiment could not be regarded as absolutely positive. Six other experiments were made with gentian violet lycopodium, 4 times in sodium chlorid solution, and twice without the salt; these were more or less positive.

Dr. Dauber made 17 experiments on white mice, white rats, rabbits and dogs, with indigo or einnabar; 6 experiments were positive, 11 negative, the positive result occurring in cases where animals were subjected to rather physiologic conditions; the 11 negative ones, I should think, were due to a too severe restraint, whereby the animals were subjected to a pathologic condition. The experiments on animals under physiologic but precautionary measures are, in my opinion, only proving if positive, and not disproving if negative. The chief proof must lie in the human experiment. Hemmeter regards this Grützner antiperistaltic motion as only a very feeble marginal ascending movement, effected by surface contact of the particles with the epithelium, which in turn is moved by the muscularis serosa; further, he says, it is never visible to the eye, and it is not

*Presented to the Section on Physiology and Dietetics, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

capable of propelling food masses. Among the abnormal conditions that may cause this visible antiperistalsis, Nothnagel mentions solution of sodium chlorid and introduction of food at an unphysiologic entry, which in man we must consider the rectum. Hemmeter differentiates between two antiperistaltic motions, Grützner's physiologic marginal invisible antiperistalsis and Nothnagel's pathologic visible one. I can not see the difference between Grützner's and Nothnagel's antiperistaltic motions, as Grützner did what Nothnagel stated as a cause of a visible antiperistalsis, namely, the introduction of food at an unphysiological point of entry.

Hemmeter's opinion that food masses can not be propelled upward is not to be considered as entirely correct, as there are reports of undoubted propulsion of food masses. As early as 1827, Leslie reported a case of gastritis, in which on the fourth day an enema of turpentin and oil was rejected through the mouth; in 1857, Hall spoke on diaperistaltic and antiperistaltic action. Another case of antiperistalsis was reported by J. Frank, in 1883, where a nutrient enema was expelled by vomiting. Riegel joins Grützner and Swiezynski as to the positive result of the experiments and considers the antiperistaltic movements after injections into the rectum as proved.

As an antiperistalsis we have to regard the sensation of *globe hystérique*, and not so seldom nervous persons, especially women, complain of a sensation as if the bowels and stomach moved upward; it is true, as a rule, we consider these complaints as hysteric, i. e., often imaginary, while in other cases hysteric women tell us that they vomited excrements; even persons not nervous may tell the physician that they feel an upward motion in the intestines, which is followed by ructus.

The ruminating animals re-empty, physiologically, the contents of the rumen and reticulum into the mouth in order to swallow anew into the psalterium; pathologically we find regurgitation in certain cases of stomach disorders. Some of the animals of the lowest classes (celenteratæ) have the mouth and anus form one and the same opening, so that we have to assume that the excrements are propelled and evacuated by the same route through which food is ingested. Thus we learn by the way of comparative anatomy that antiperistaltic movements of the intestines are not impossible. In recent years a method of treatment of cholelithiasis consisted of oil enemas, and Blum observed that the oil migrates far up into the intestines till it comes in contact with the pancreatic juice, whereby the oil is saponified and thus becomes a cholagogue. In other cases of intestinal disorder, the same treatment with oil enemas has been used, and it is no doubt the covering of the mucous membrane rather than the possible absorption that has been said to have a curative effect; the same has been the case with enemas of solution of extract or infusion of whortleberries, of which I have seen good results in cases of enteritis.

In my above-mentioned experiments, for the injections I have used physiologic salt solutions, with additions of grape seeds, minute globules of tinfoil and kaolin granules, and regular nutritive enemas, to which I added dried whortleberries and oil with menthol. Grape seeds and whole whortleberries I thought suitable particles, because I knew that these pass the alimentary canal practically intact. I did not think the danger of possible inflammation of the vermiform process very great, because the foreign bodies are the last cause of appendi-

citis;* I should have liked to use the smallest aluminum globules, but not being able to obtain them, used the tinfoil. When using this it should be only such as is not adulterated with lead.

The experiments made are as follows:

Series 1.—To a healthy mulatto, 27 years old, the morning of April 14, 1898, after a movement of the bowels, three doses of calomel—3 grains each—in the course of three hours were given; two hours later, 1 table-spoonful of magnesium sulphate in $\frac{1}{2}$ pint of warm water; during the afternoon there were six copious movements; no food of any kind was given, except water and whisky, and he had two evacuations during the night. On the following morning he received a cleansing soap and water enema, which was followed by two almost entirely watery evacuations; $1\frac{1}{2}$ hours after this enema, 300 c.c. of a physiologic solution of sodium chlorid with the addition of twenty-five grape seeds were injected high up into the rectum—twenty inches—by a fountain syringe—Hegar's funnel, kept about 75 cm. above the body in the knee-elbow position; in order to have a very slow flow, I often compressed the tube; after injection, the mulatto had to take the left side position for one-half hour, and then he could take any position he liked; I thought he ought to be in the one a patient is supposed to assume when the nutritive enemas are administered. Soon he became rather hungry, as he had not taken any solid food for twenty-four hours. Five hours after the enema, I tried to introduce the stomach-tube, but he would not allow it; so at last I gave him a hypodermic injection of apomorphin and at the same time had him drink one-half pint of water with whisky; the effect was very prompt. He soon vomited a fluid of a slightly greenish-yellow color, which he said was very bitter, and in this three grape seeds were discovered. He then took a hearty meal of meat, potatoes, spinach and beer.

During the following days, I persuaded him to allow the introduction of the stomach-tube, and I performed the second experiment on April 19. In the morning of this day, I washed his stomach out as much as possible, again gave him three doses of calomel, 3 grains each, and then a solution of Epsom salts; he had several movements during the day, but no food except water, whisky and beer. The following morning an injection of soap and water was given and followed very soon by an evacuation; an hour later an enema of physiologic salt solution mixed with twenty-five minute globules of tinfoil; $5\frac{1}{2}$ hours later, I introduced the stomach-tube, and poured 1 pint of a solution of bicarbonate of soda through it, with the intention of loosening particles in the stomach that might be too much attached to the gastric mucosa. Then I let the water off and by washing for a longer time—I used about a gallon of warm water—I recovered four globules of tinfoil.

The third experiment, a few days later, was made by the same method, again using globules of tinfoil, but I recovered only one.

In the fourth experiment I used physiological salt solution and globules of tinfoil, but could not find any of the latter afterward.

In the fifth experiment, globules of tinfoil in distilled water were used, but none found later.

In the sixth experiment, using globules of tinfoil in physiologic salt solution, three globules were found.

Series 2.—The next experiments were made on the black-and-tan dog. He was very much attached to me, and I had trained him several tricks, among them to "lie down and be dead," and he would lie on his back with outstretched legs

* We have all heard of cherry stones, grape seeds, and many similar foreign bodies finding lodgment in the appendix vermiformis, but these are all foreign immigrants into the United States of Anatomy (N. Y. Med. Jour., May 26, 1900). Dr. J. Bauer says (Aerztlicher Verein in München, Jan. 17, 1900, *Deutsche Med. Woch.*, May 10, 1900, *Vereinsbeilage* No. 18, p. 116): In connection with catarrh of the vermiform process fecal concretions may be formed; foreign bodies in the appendix do not exist; the fecal concretions may cause ulceration. Dr. O. Bollinger says (*ibid.*): The foreign bodies in the vermiform process are always fecal concretions. The vermiform process in the dog, very like that in man, is never diseased, though the dog swallows many foreign bodies.

for many minutes without moving. The dog hungered for twenty-four hours. I put a cloth-covered muzzle around his head and injected 100-150 c.c. of salt solution with the addition of grape seeds, globules of tinfoil, little granules of kaolin and Arminian bole into the rectum. I did not wish to kill the animal and so resorted to the hypodermic use of apomorphin. The before-mentioned mulatto willingly aided me in experimenting on the dog, which I tied very short. Seven experiments were made on this animal. Of 5 made with physiologic salt solution 4 proved positive, 1 negative. The sixth and seventh with distilled water, were negative.

Series 3.—I made the third series of experiments in August and September, 1899, in the course of treatment of a woman suffering from mechanical insufficiency of the stomach with a subacid condition (total acidity: Phenolphthalein, 24; HCl, .04 per cent., Toepfer). I excluded any food or drink by the mouth, and nutritive enemas were administered for eleven succeeding days; the result of the treatment was everything that could be wished for. The first enemas—all given in the knee-elbow position—were evacuated very soon, undoubtedly on account of the nervous condition of the patient. But from the third day on the remainder of the enemas were not expelled before five or six hours had passed; frequently no movement of the bowels followed from the evening to the morning. The quantity of the enema was 250 to 300 c.c. in general three times a day, in intervals of six to seven hours. The woman had been treated by lavage before she came under my treatment and was well used to the stomach tube. The enema itself consisted of a mixture of 250 c.c. of milk and cream, 2 eggs, 1 tablespoonful of a mixture of tropon and cornstarch and a pinch of sodium chlorid, and was brought up 15 to 22 inches into the rectum. A part of the treatment was also the injection of cottonseed-oil—250 c.c.—emulsified with oleic acid or rather sodium oleate (eunatrol). Several times, a few hours after the injection of the enemas the patient complained of eructations and a sensation of tasting eggs, other times tasting of grease or oil. These complaints induced me to start the experiment, the experimental additions being without the knowledge of the patient. To the nutriment enemas I added small, dried, uncooked whortleberries, which I knew would as a rule pass the alimentary canal quite unaffected by the digestive juices of the intestines. Four experiments were made and, by means of the stomach-tube, through which I introduced 1 quart of water, I twice recovered whortleberries; the other two times I could not discover any. Two experiments were made with oil emulsion, to which menthol—validol—was added. One time the patient noted a marked peppermint flavor, and both times I recovered, during lavage of the stomach, about 10 c.c. of the emulsified oil with a marked flavor of menthol. The stomach lavage occurred between five or six hours after the injection of the enema.

Reviewing the series of experiments, we find: One spontaneous experiment on a patient, 6 experiments on the mulatto, 7 experiments on the dog, 6 experiments on the woman patient—a total of 20. Of these 3 made with oil and 10 made with NaCl solution proved positive; 4 made with the latter solution proved negative, as far as the stomach is concerned, while 3 made with distilled water also proved negative.

The result of my experiments may be put down as positive in the meaning of Grützner, Swiezynski and Riegel. In this matter we can better understand the good effect of the nutritive enemas, especially when we consider cases in which patients have been nourished exclusively by rectal feeding, not only for days or weeks—among others, Donkin, up to 23 days; Boas, up to 14 days; D. D. Stewart, 23 days; the writer, 11 days—but also for months—Leube 6, and Riegel 10 months. The occasions of temporarily suspending the ingestion of food into the stomach are not too rare, particularly in cases of stenosis of the esophagus, cardia and pylorus, gastric ulceration and hemorrhage, certain poisonings,

when the mucous membranes are destroyed, gastric hyper-irritation and dilatation of the stomach; besides these, rectal injections can be effectively used as carriers of medicine in cases of intestinal affections.

In conclusion, I should like to suggest to my colleagues that they make further experiments along this line, so that no doubt will prevail whether antiperistalsis is the rule or the exception.

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THE ETIOLOGY OF YELLOW FEVER.

AN ADDITIONAL NOTE.*

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At the Twenty-eighth Annual Meeting of the American Public Health Association,¹ held in Indianapolis, Ind., Oct. 22-26, 1900, we presented, in the form of a preliminary note, the results of our bacteriologic study of yellow fever, based on cultures taken from the blood in eighteen cases, at various stages of the disease, as well as on those which we had made from the blood and organs of eleven yellow fever cadavers. We also recorded the results obtained from the inoculation of eleven non-immune individuals by means of the bite of mosquitoes (*Culex fasciatus*, Fabr.) that had previously fed on the blood of patients sick with yellow fever. We were able to report two positive results, in which the attack of yellow fever followed the bite of a mosquito within the usual period of incubation of this disease.

In one of these cases all other sources of infection could be positively excluded. From our several observations we drew the following conclusions: 1. *Bacillus ieteroides* (Sanarelli) stands in no causative relation to yellow fever, but, when present, should be considered as a secondary invader in this disease. 2. The mosquito serves as the intermediate host for the parasite of yellow fever.

*Read at the Pan-Am. Med. Cong., held in Havana, Cuba, Feb. 4-7, 1901.

1. Phila. Med. Jour., Oct. 27, 1900.

Since the publication of our preliminary note, we have continued our investigations, especially as regards the means by which yellow fever is propagated from individual to individual, and as to the manner in which houses become infected with the contagium of this disease. The results already obtained are so positive and striking that, with the permission of Surgeon-General Sternberg, we have concluded to present to this Congress an additional note, in which we will record these later observations. We desire to here express our sincere thanks to the Military Governor of the Island of Cuba, Major General Leonard Wood, U. S. V., without whose approval and assistance these observations could not have been carried out.

In order to exercise perfect control over the movements of those individuals who were to be subjected to experimentation, and to avoid any other possible source of infection, a location was selected in an open and uncultivated field, about one mile from the town of Quemados, Cuba. Here an experimental sanitary station was established under the complete control of the senior member of this Board. This station was named Camp Lazear, in honor of our late colleague, Dr. Jesse W. Lazear, Acting Assistant-Surgeon, U. S. A., who died of yellow fever, while courageously investigating the causation of this disease. The site selected was very well drained, freely exposed to sunlight and winds, and, from every point of view, satisfactory for the purposes intended.

The personnel of this camp consisted of two medical officers, Dr. Roger P. Ames, Acting Assistant-Surgeon, U. S. A., an immune, in immediate charge; Dr. R. P. Cooke, Acting Assistant-Surgeon, U. S. A., non-immune; one acting hospital steward, an immune; nine privates of the hospital corps, one of whom was immune, and one immune ambulance driver.

For the quartering of this detachment, and of such non-immune individuals as should be received for experimentation, hospital tents, properly floored, were provided. These were placed at a distance of about twenty feet from each other, and were numbered 1 to 7 respectively.

Camp Lazear was established Nov. 20, 1900, and from this date was strictly quarantined, no one being permitted to leave or enter camp except the three immune members of the detachment and the members of the Board. Supplies were drawn chiefly from Columbia Barracks, and for this purpose a conveyance under the control of an immune acting hospital steward, and having an immune driver, was used.

A few Spanish immigrants recently arrived at the Port of Havana, were received at Camp Lazear, from time to time, while these observations were being carried out. A non-immune person, having once left this camp, was not permitted to return to it under any circumstances whatever.

The temperature and pulse of all non-immune residents were carefully recorded three times a day. Under these circumstances any infected individual entering the camp could be promptly detected and removed. As a matter of fact only two persons, not the subject of experimentation, developed any rise of temperature; one, a Spanish immigrant, with probably commencing pulmonary tuberculosis, who was discharged at the end of three days; and the other, a Spanish immigrant, who developed a temperature of 102.6 F. on the afternoon of his fourth day in camp. He was at once removed with his entire bedding and baggage and placed in the receiving ward at Columbia Barracks. His fever, which was

marked by daily intermissions for three days, subsided upon the administration of cathartics and enemata. His attack was considered to be due to intestinal irritation. He was not permitted, however, to return to the camp.

No non-immune resident was subjected to inoculation who had not passed in this camp the full period of incubation of yellow fever, with one exception, to be hereinafter mentioned.

OBSERVATIONS.

Having thus sufficiently indicated the environment of Camp Lazear and the conditions under which its residents lived, we will now proceed to a narration of the observations thus far made at this experimental station. At the time these inoculations were begun, the several tents were occupied as follows: Tent No. 1 by 1 immune and 1 non-immune; No. 2 by 1 immune and 2 non-immunes; No. 3 by 2 immunes; No. 4 by 3 non-immunes; No. 5 by 3 non-immunes; No. 6 by 2 non-immunes; and No. 7 by 1 non-immune.

For the purpose of experimentation subjects were selected as follows: from Tent No. 2, 2 non-immunes, and from Tent No. 5, 3 non-immunes. Later, 1 non-immune in Tent No. 6 was also designated for inoculation.

CASE 1.—Private John R. Kissinger, Hospital Corps, U. S. A., aged 23, a non-immune, occupant of Tent No. 2, with his full consent, was bitten at 10.30 a. m., Nov. 20, 1900, by a mosquito—*C. fasciatus*—that had bitten a severe case of yellow fever on the fifth day, eleven days previously; another severe case, on the third day, six days before, and a third severe one on the third day, three days before. As Kissinger had not absented himself from Columbia Barracks for a period of more than thirty days, it was considered safe to inoculate him without waiting for his period of incubation to pass.

Nov. 23, 1900, Kissinger was again bitten by the same mosquito. The result of both inoculations was negative. The mosquito, therefore, was incapable of conveying any infection on the eleventh or fourteenth day after it had bitten a severe case of yellow fever on the third day of the disease. This insect had been kept at ordinary room temperature and died November 26, 1900.

Dec. 5, 1900, at 2 p. m., twelve days after the last inoculation, Kissinger was again bitten by five mosquitoes—*C. fasciatus*—two of which had bitten fatal cases of yellow fever, on the second day, fifteen days before; one a severe case on the second day, nineteen days previously, and two a mild case on the third day, twenty-one days before.

The record of temperature and pulse, taken every three hours, following this inoculation, showed that the subject remained in his usual state of health during the following three days, except that on December 8, on the third day, Kissinger had slight vertigo, upon rising, which soon passed away. At 4.30 p. m.—commencement of fourth day—he complained of frontal headache; otherwise he felt well and partook of supper with appetite; at 9 p. m., temperature was 98.4 F., pulse 90; at 11.30 p. m., he awoke with a chill, his temperature 100 F., pulse 90; he complained of severe frontal headache and backache; his eyes were injected and his face suffused. December 9 at 3 a. m., his temperature was 102 F., pulse 102; he had violent headache and backache with nausea and vomiting. He was then removed to the yellow fever wards. His subsequent history was that of a case of yellow fever at moderate severity. Albumin appeared in the urine on the fourth day, increased to one-fifth by volume on the sixth day and disappeared on December 22. Granular casts were present in considerable numbers from the fourth to the eighth day. The conjunctivæ were jaundiced on the third day. The diagnosis of yellow fever in this case was made by Drs. Juan Guit  ras, Carlos Finlay, W. C. Gorgas, and A. Diaz Albertini, the board of yellow fever experts of the city of Havana, who saw the patient on several occasions during his illness. (See Chart I.) The period of incubation in this case was 3 days, 9½ hours.

CASE 2.—John J. Moran, aged 24, an American, non-immune occupant of Tent No. 2, with his full consent, was bitten at 10 a. m., Nov. 26, 1900, by a mosquito—*C. fasciatus*—which twelve days before had bitten a case of yellow fever of moderate severity, on the third day of the disease. This insect had also bitten a well-marked case of yellow fever—second day—ten days previously.

to speak of the infection of a building by means of contaminated mosquitoes.

CASE 3.—A Spanish immigrant, aged 26, a non-immune occupant of Tent No. 5, with his full consent, was bitten at 4 p. m., Dec. 8, 1900, by four mosquitoes—*C. fasciatus*—which had been contaminated as follows: one by biting a fatal case of yellow fever, on the third day, seventeen days before; one a

Chart I.

Yellow fever, produced by the bite of *Culex fasciatus*
Period of incubation, 3 days 9½ hours.

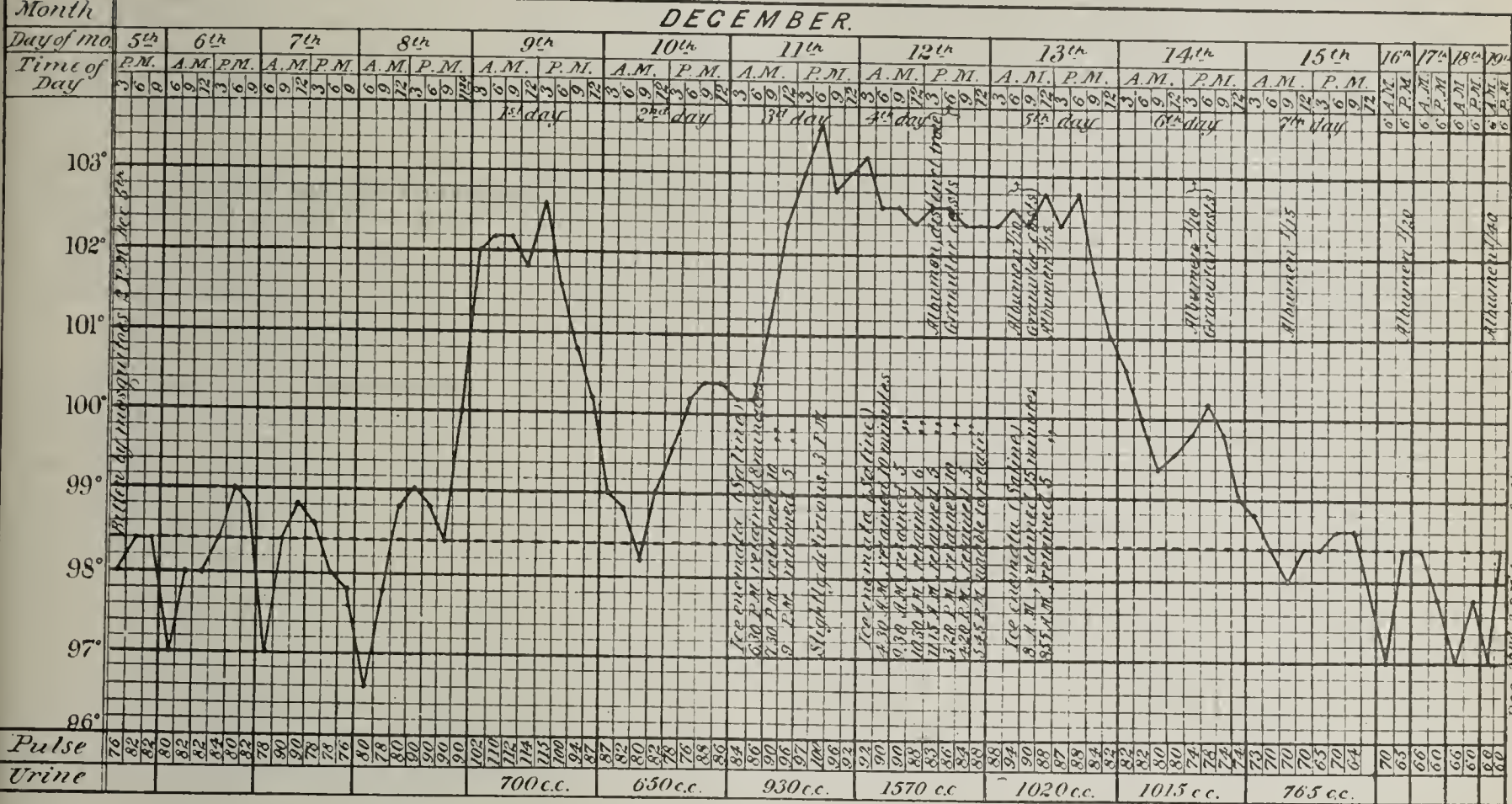
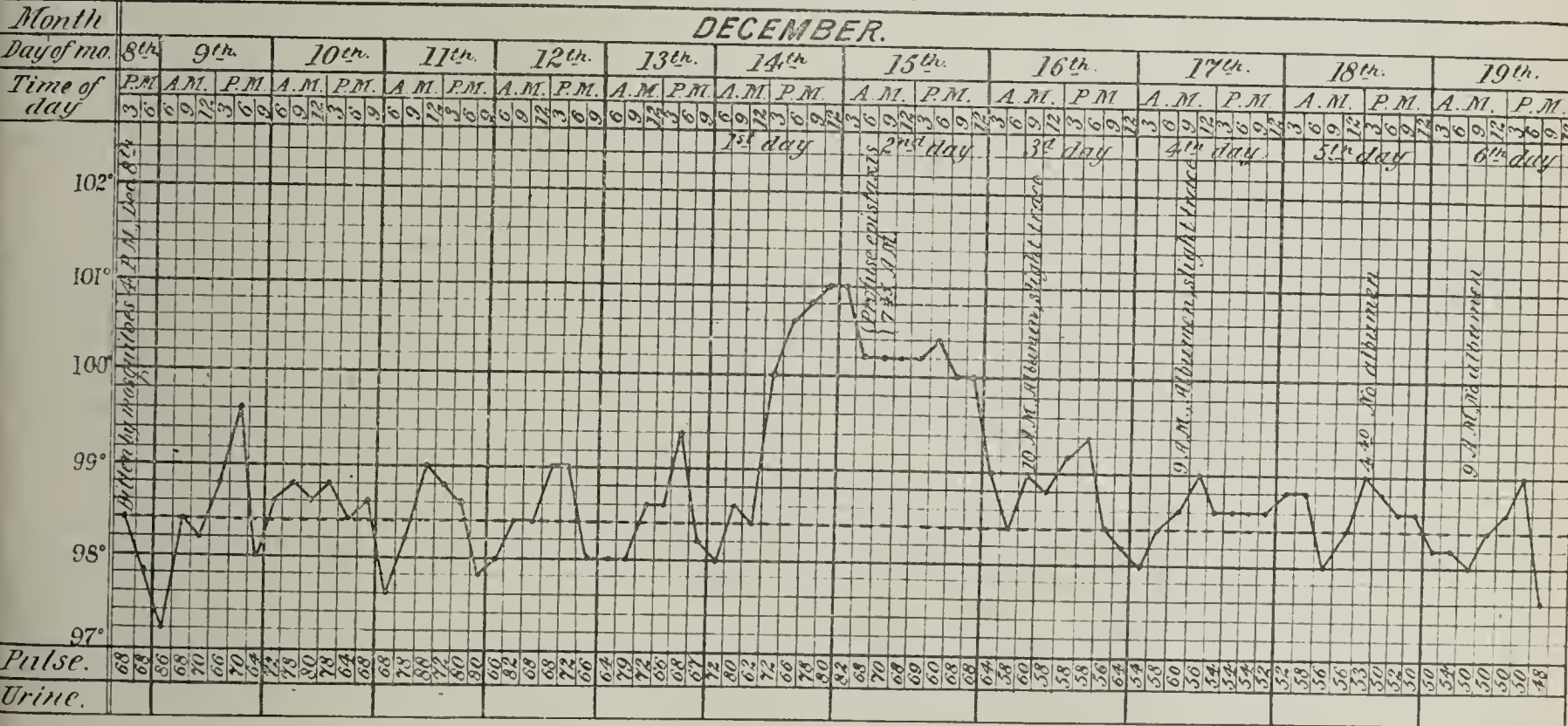


Chart II.

Yellow fever, produced by the bite of *Culex fasciatus*
Period of incubation, 4 days 20 hours.



November 29, at 2.20 p. m., Moran was again bitten by the same mosquito. The result of both of these inoculations was negative. This insect was, therefore, incapable of conveying the infection fifteen days after having bitten a case of yellow fever of moderate severity on the third day, and thirteen days after it had bitten a well-marked case of this disease on the second day. This mosquito had been kept at room temperature. Moran's case will be again referred to when we come

severe one, on the third day, eighteen days before; one a severe case, on the second day, twenty-two days before, and one a case of moderate severity, on the third day, twenty-four days previously.

The record of temperature and pulse, taken every three hours after the inoculation, shows no rise of temperature above 99 F. until 6 p. m., December 13, on the sixth day, when 99.4 F. is recorded; pulse 68. The subject, who was of a very lively

disposition, retained his usual spirits until noon of the 13th, although he complained of slight frontal headache on the 11th and 12th. He took to his bed at noon of the 13th, the fifth day, complaining of increased frontal headache and a sense of fatigue. At 9 p. m., his temperature was 98.2 F., pulse 62.

December 14, at 6 a. m., temperature was 98 F., pulse 72, and he still complained of frontal headache and general malaise. Profuse epistaxis occurred at 7.45 a. m.; at 9 a. m., temperature was 99.6 F., pulse 80; at 1.15 p. m., temperature was 100 F., pulse 80, and he complained of a sense of chilliness, with frontal headache increased, and slight pain in the back, arms and legs; at 3 p. m., temperature was 100 F., pulse 80; at 4.15 p. m., temperature 100.7 F., pulse 68; his face flushed and eyes congested. He was removed to the yellow fever wards. A trace of albumin was found in the urine passed at 3.30 p. m., December 15; a few hyaline casts were present. He was seen at this time by the Havana board of experts and the diagnosis of mild yellow fever confirmed. (See Chart No. 2.)

The period of incubation in this case was four days and twenty fours, counting from the time of inoculation to the hour when the patient took to his bed; if reckoned to the onset of fever, it was 5 days and 17 hours.

CASE 4.—A Spanish immigrant, aged 27, a non-immune occupant of Tent No. 5, with his full consent, was bitten at 10 a. m., Nov. 26, 1900, by a mosquito—*C. fasciatus*—which had bitten a severe case of yellow fever, on the second day, ten days before. Three days later, November 29, he was again bitten by the same insect. December 2, after an interval of three days, he was again bitten by the same insect, and also by a second mosquito—*C. fasciatus*—which, twelve days before, had been contaminated by biting a fatal case of yellow fever on the third day. No unfavorable effects followed any of these attempted inoculations. The first-mentioned mosquito, therefore, was incapable of conveying any infection on the seventeenth day after biting a severe case of yellow fever on the second day; the other also failed to infect on the twelfth day after biting a fatal case of yellow fever on the third day. Both of these mosquitoes had been kept at ordinary room temperature.

December 9, after an interval of seven days, the subject was again bitten, at 10.30 a. m., by one mosquito—*C. fasciatus*—which had been infected nineteen days before by biting a fatal case of yellow fever on the second day of the disease. He remained in his usual health until 9 a. m., December 12, the third day, when he complained of frontal headache; his temperature was 98.8 F., pulse 96. This headache continued during the entire day. At 6 p. m., temperature was 99 F., pulse 94; at 9 p. m., temperature 99 F., pulse 84; at 9.30 p. m., temperature 99.4 F., pulse 82. Severe headache and backache was complained of; his eyes were injected and his face suffused. The following morning he was sent to the yellow fever wards. Urine passed at 4.20 p. m., December 15, the third day, gave a distinct trace of albumin. Many hyaline casts were present on the same date. The conjunctivæ were jaundiced on the third day.

The patient was seen by the board of experts on December 14, and the diagnosis of yellow fever made. (See Chart No. 3.)

The period of incubation in this case was 3 days, 11½ hours.

CASE 5.—A Spanish immigrant, aged 26, a non-immune occupant of Tent No. 5, with his full consent, was bitten at 10 a. m., Nov. 26, 1900, by a mosquito—*C. fasciatus*—that had bitten a well-marked case of yellow fever, on the third day, twelve days before. November 29 he was again bitten by the same insect. December 2 he was for the third time bitten by two mosquitoes—*C. fasciatus*—both of which had bitten a well-marked case of yellow fever, on the third day, eighteen days before. As no bad results followed any of these inoculations, it follows that these mosquitoes were incapable of conveying any infection eighteen days after they had bitten a well-marked case of yellow fever on the third day. Both of these insects had been kept at room temperature.

December 11, after an interval of nine days, the subject was again, at 4:30 p. m., bitten by the same mosquitoes, four in number, that had been applied to Case 3, three days prior to this time, with positive results.

The record of temperature and pulse, taken every three hours following the inoculation, showed no change till December 13, the second day, at 9 a. m., when the temperature was 99 F., and the pulse 78. From this hour till 6 p. m. the temperature varied from 99.2 to 99.6 F. The subject complained of frontal headache, slight in degree, during the entire day. At 9 p. m. his temperature was 98.4 F., pulse 62.

December 14, the third day, he complained of slight frontal headache during the entire day, and was indisposed to exertion. From 6 a. m. to 6 p. m. the temperature averaged 99.2 F., and the pulse varied from 64 to 90; at 9 p. m. it was 98.4 F., the pulse 78. December 15, the fourth day, at 6 a. m., temperature was 98.2 F., pulse 78. He still had frontal headache. At 9 a. m., temperature was 99.2 F., pulse 80; at 12, noon, the former was 99.2 F., the pulse 74. The subject now went to bed, complaining of headache and pains throughout the body. At 2 p. m., the temperature was 100 F., the pulse 80; eyes much congested; face flushed. At 6 p. m. his temperature had risen to 102 F., and the pulse to 90. He was then transferred to the yellow fever wards. Albumin appeared in the urine at 7:30 a. m., December 17. Bleeding from the gums and roof of the mouth occurred on the sixth and seventh days of his illness.

This case was examined by the board of experts on the 16th and 19th, and the diagnosis of yellow fever made.

Albumin disappeared on the sixth day, the temperature falling to normal on this date, and remaining near this point till December 23, the ninth day of sickness, when a relapse occurred, attended with bleeding from the gums on December 24 and 25, with the appearance of red blood cells and pus cells in the urine in moderate numbers. Fever subsided on December 26, and the urine became normal on December 29. (See Chart iv.)

The period of incubation in this case, if reckoned from the time of inoculation to the hour when the patient took to his bed, was 3 days, 19½ hours.

The four patients whose histories we have given above were also examined by a number of physicians of Havana, among whom we may mention Dr. Bango, of "La Covadonga," Dr. Sanchez, of "La Benéfica," and Dr. Moas, of "La Purissima Concepcion," by all of whom the diagnosis of yellow fever was confirmed. Let us now rapidly review the circumstances attending these cases of experimental yellow fever, in order to emphasize certain points of interest and importance in connection with their occurrence. (We omit any reference to the clinical histories.)

It should be borne in mind that at the time when these inoculations were begun, there were only 12 non-immune residents at Camp Lazear, and that 5 of these were selected for experiment, viz., 2 in Tent No. 2, and 3 in Tent No. 5. Of these we succeeded in infecting 4; viz., 1 in Tent No. 2 and 3 in Tent No. 5, each of whom developed an attack of yellow fever within the period of incubation of this disease. The one negative result, therefore, was in Case 2—Moran—inoculated with a mosquito on the fifteenth day after the insect had bitten a case of yellow fever on the third day. Since this mosquito failed to infect Case 4, three days after it had bitten Moran, it follows that the result could not have been otherwise than negative in the latter case. We now know, as the result of our observations, that in the case of an insect kept at room temperature during the cool weather of November, fifteen or even eighteen days would, in all probability, be too short a time to render it capable of producing the disease.

As bearing upon the source of infection, we invite attention to the period of time during which the subjects had been kept under rigid quarantine, prior to successful inoculation, which was as follows: Case 1, fifteen days; Case 3, nine days; Case 4, nineteen days; Case 5, twenty-one days. We further desire to emphasize the fact that this epi-

demie of yellow fever, which affected 33.33 per cent. of the non-immune residents of Camp Lazear, did not concern the 7 non-immunes occupying Tents No. 1, 4, 6 and 7, but was strictly limited to those individuals who had been bitten by contaminated mosquitoes.

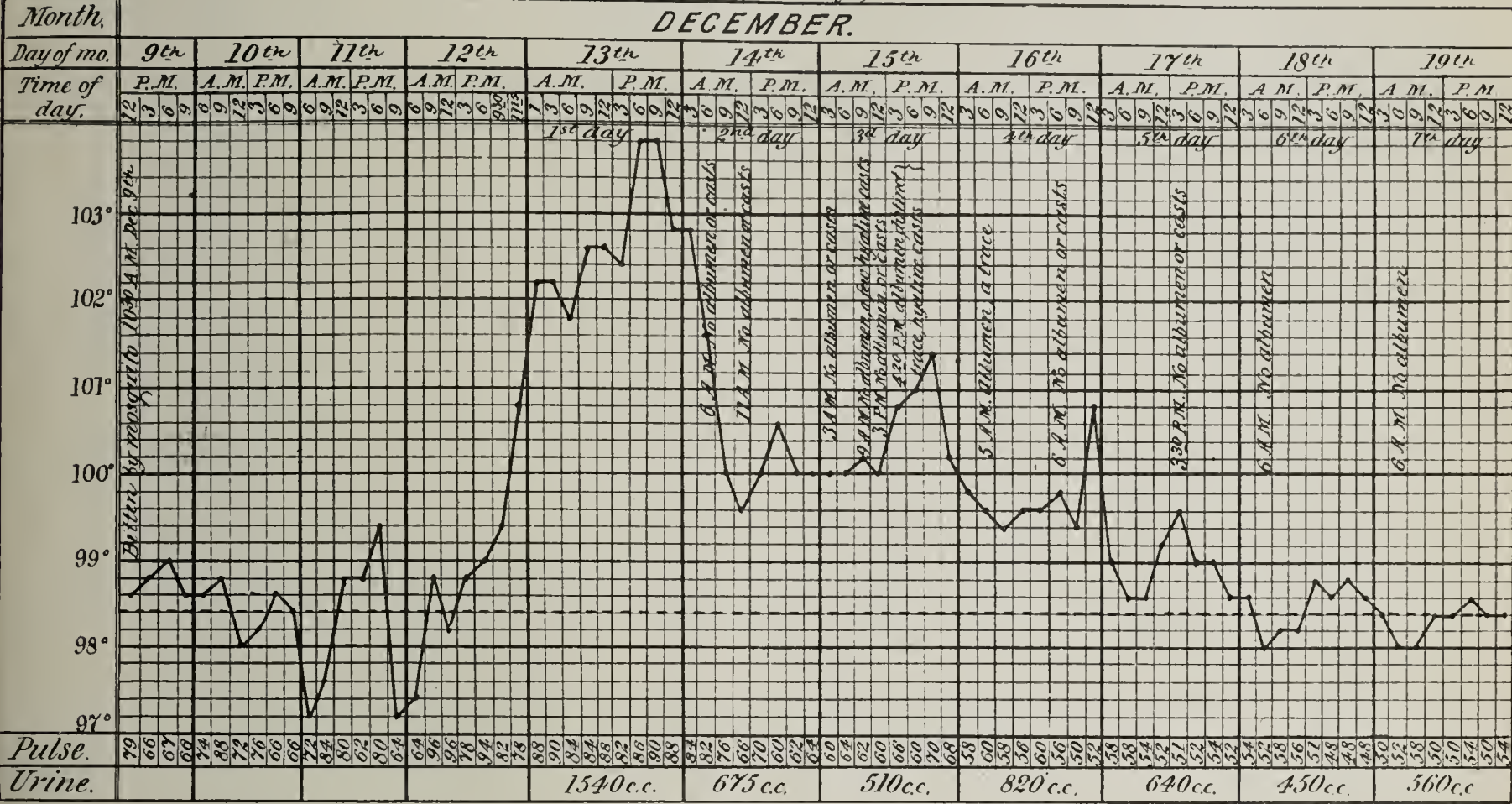
Nothing could point more forcibly to the source of this infection than the order of the occurrence of events at this camp. The precision with which the infection of the individual followed the bite of the mosquito left

a mild case of yellow fever on the first day of the disease (Case 4). These insects had been kept at a temperature of 82 F.

The subject remained in his normal condition until the evening of Jan. 2, 1901, the third day, when he complained of frontal headache. At 6 p.m., his temperature was 99 F., pulse 64. He slept well, but still complained of headache on the following morning, January 3. He partook sparingly of breakfast, and afterward lay on his bed, being disinclined to exert himself. At 9 a.m., the temperature was 99 F., the pulse 96; at 10:30 a.m., temperature 100 F., pulse 80. A

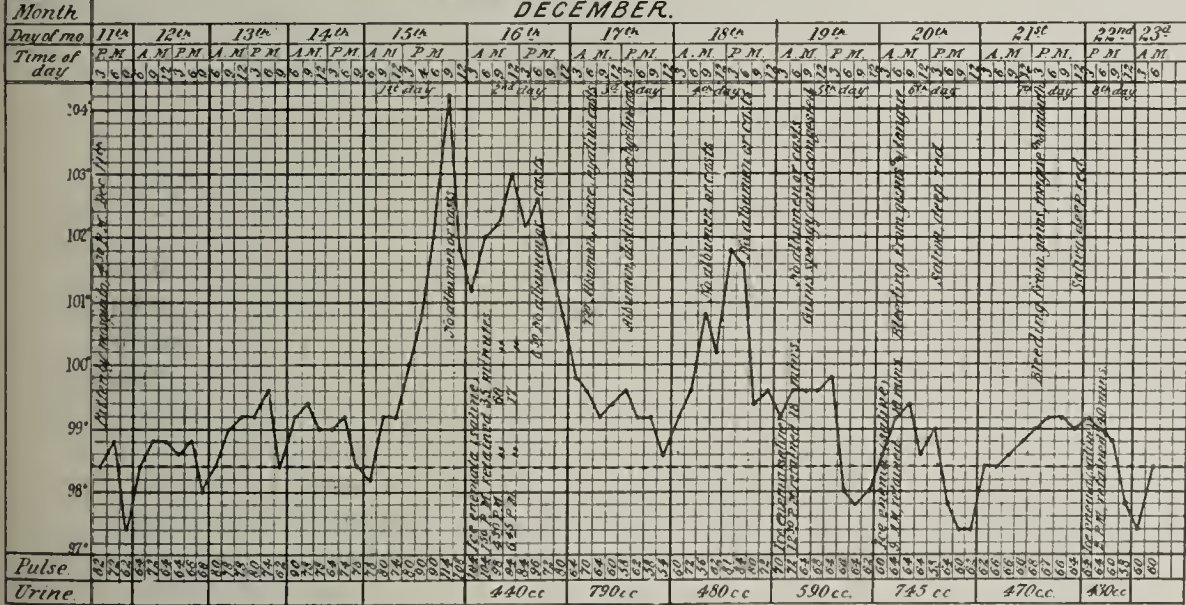
Yellow fever produced by the bite of *Culex fasciatus*.
Period of incubation 3 days, 11 hours.

Chart III.

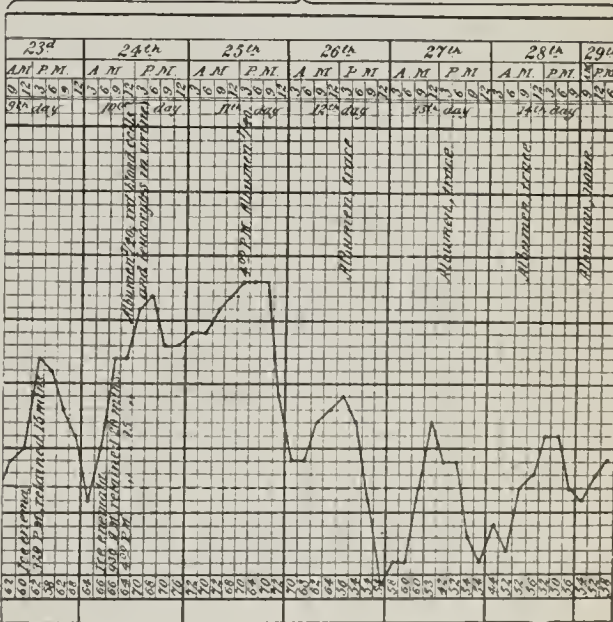


Yellow fever, produced by the bite of *Culex fasciatus*.
Period of incubation, 3 days, 19 1/2 hours.

Chart IV.



Relapse, 9th day



nothing to be desired in order to fulfill the requirements of a scientific experiment.

The epidemic having ceased on Dec. 15, 1900, no other case of yellow fever occurred in this camp until we again began to expose individuals to inoculation. Thus fifteen days later we made the following observation:

CASE 6.—A Spanish immigrant, aged 27, a non-immune occupant of Tent No. 6, with his full consent, was bitten at 11 a.m., Dec. 30, 1900, by four mosquitoes—*C. fasciatus*—that had been contaminated seventeen days previously by biting

sense of chilliness and sharp frontal headache was complained of, and at 3 p.m. his temperature was 100.8 F., his pulse 89, and his eyes were congested and face flushed. He was removed to the yellow fever wards. A specimen of urine passed at midnight, January 4, contained a distinct trace of albumin. Slight bleeding from the gums occurred on the fifth and sixth days. The patient was seen by the board of experts on the second and seventh days of his attack, and the diagnosis of yellow fever confirmed. (See Chart v.)

The period of incubation in this case was three days, 22 1/2 hours. The subject had remained in strict quarantine for twenty-two days preceding his inoculation.

In considering the character of the attacks and the course of the disease in these five cases of experimental yellow fever, it must be borne in mind that these infected individuals were all young men, in good general physical condition and placed amid excellent hygienic surroundings. Further, it must not be forgotten that, upon the earliest manifestation of an approaching infection, they were each and all put to bed at once, and were even carried to the yellow fever wards while occupying the same bed. In other words, these men were kept at absolute rest from the first inception of the disease. Just what bearing this may have had on the subsequent course of the fever, we can not say, but since so much stress is laid on absolute rest of the patient by those having most experience in the treatment of yellow fever, the influence of this enforced rest, in our cases, upon the subsequent course of the attack, was doubtless of much importance. We reserve a consideration of the clinical side of these cases for a future report.

In our opinion the experiments above described conclusively demonstrate that an attack of yellow fever may be readily induced in the healthy subject by the bite of mosquitoes—*C. fasciatus*—which have been previously contaminated by being fed with the blood of those sick with yellow fever, provided the insects are kept for a sufficient length of time after contamination before being applied to the person to be infected.

Our observations do not confirm Finlay's statement that the bite of the mosquito may confer an abortive attack of yellow fever, when applied to the healthy subject two to six days after it has bitten a yellow fever patient. We have always failed to induce an attack, even of the mildest description, when we have used mosquitoes within less than twelve days from the time of contamination, although the insects were constantly kept at summer temperature. We could cite instances where we have applied mosquitoes at intervals of two, three, four, five, six, nine, and eleven days following the contamination of the insect with the blood of well-marked cases of yellow fever, early in the disease, without any effect whatever being produced by the bite. Thus in one case no result followed the bite of fourteen mosquitoes which four days previously had been contaminated by biting a case of yellow fever on the first day. Again, seven days later, or eleven days after contamination, the surviving seven of these insects failed to infect an individual. On the seventeenth day after contamination, however, the bite of four of these mosquitoes—all that remained of the original fourteen—was promptly followed by an attack of yellow fever in the same individual. These insects had been kept, during the whole of this time, at an average temperature of 82 F.

Our observations would seem to indicate that after the parasite has been taken into the mosquito's stomach, a certain number of days must elapse before the insect is capable of re-conveying it to man. This period doubtless represents the time required for the parasite to pass from the insect's stomach to its salivary glands, and would appear to be about twelve days in summer weather, and most probably about eighteen or more days during the cooler winter months. It follows, also, that our observations do not confirm Finlay's opinion that the bite of the contaminated mosquito may confer immunity against a subsequent attack of yellow fever. In our experience, an individual may be bitten on three or more occasions by contaminated mosquitoes without manifesting any symptoms of disturbance to health, and yet promptly sicken with yellow fever within a few

days after being bitten by an insect capable of conveying the infection.

ACQUIREMENT OF THE DISEASE.

Having shown that yellow fever can be conveyed by the bite of an infected mosquito, it remains to inquire whether this disease can be acquired in any other manner. It has seemed to us that yellow fever, like the several types of malarial fever, might be induced by the injection of blood taken from the general circulation of a patient suffering with this disease. Accordingly we have subjected four individuals to this method of infection, with one negative and three positive results. Reserving the detailed description of these cases to a subsequent occasion, we may state that in one of the positive cases, an attack of pronounced yellow fever followed the subcutaneous injection of 2 c.c. of blood taken from a vein at the bend of the elbow, on the first day of the disease, the period of incubation being three days and twenty-two hours; in the second case, 1.5 c.c. of blood, taken on the first day of the disease, and injected in the same manner, brought about an attack within two days and twelve hours; while in our third case, the injection of 0.5 c.c. of blood taken on the second day of the disease, produced an attack at the end of forty-one hours.

In the case mentioned as negative to the blood injection, the subsequent inoculation of this individual with mosquitoes already proved to be capable of conveying the disease, also resulted negatively. We think, therefore, that this particular individual, a Spanish immigrant, may be considered as one who probably possesses a natural immunity to yellow fever.

It is important to note that in the three cases in which the injection of the blood brought about an attack of yellow fever, careful cultures from the same blood, taken immediately after injection, failed to show the presence of Sanarelli's bacillus.²

Our observations, therefore, show that the parasite of yellow fever is present in the general and capillary circulation, at least during the early stages of this disease, and that the latter may be conveyed, like the malarial parasite, either by means of the bite of the mosquito, or by the injection of blood taken from the general circulation.

CAN YELLOW FEVER BE PROPAGATED IN ANY OTHER WAY?

We believe that the general consensus of opinion of both the medical profession and the laity is strongly in favor of the conveyance of yellow fever by fomites. The origin of epidemics, devastating in their course, has been frequently attributed to the unpacking of trunks and boxes that contained supposedly infected clothing; and hence the efforts of health authorities, both state and national, are being constantly directed to the thorough disinfection of all clothing and bedding shipped from ports where yellow fever prevails. To such extremes have efforts at disinfection been carried, in order to prevent the importation of this disease into the United States, that, during the epidemic season, all articles of personal apparel and bedding have been

2. A fourth case of yellow fever, severe in type, has been produced by the subcutaneous injection of 1 c.c. of blood taken from the general circulation on the second day of the disease, the period of incubation being three days and one hour. The patient from whom the blood was obtained was an experimental case which was in turn produced by the injection of blood—0.5 c.c.—derived from a non-experimental case of fatal yellow fever. As "controls," Cases 1, 4, 6 and 7 of this report were also injected subcutaneously with 1 c.c. of the same blood without manifesting any symptoms whatever. The blood which produced this fourth case of yellow fever, when transferred at the same time to bouillon tubes in considerable quantities, gave no growth whatever.

To determine, therefore, whether clothing and bedding, which have been contaminated by contact with yellow fever patients and their discharges, can convey this disease is a matter of the utmost importance.

Period of incubation, 3 days, 22 hours.

Month	DECEMBER.								JANUARY.																																																																																							
Day of mo	30 th				31 st				1 st				2 nd				3 ^d								4 th				5 th				6 th				7 th				8 th																																																							
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Pulse.	56	68	71	66	60	63	58	61	66	61	58	64	70	64	62	59	63	59	66	59	70	64	61	66	66	80	70	74	56	89	104	111	104	95	94	70	62	66	58	64	62	70	70	70	70	84	88	82	84	86	80	72	73	67	68	64	64	60	62	60	60	58	60																																	
Urine.																	810cc.																390cc.																115cc.																725cc.																425cc.															

Period of incubation, 3 days, 23 hours.

[illegible]

Although the literature contains many references to the failure of such contaminated articles to cause the disease, we have considered it advisable to test, by actual experiment on non-immune human beings, the

theory of the conveyance of yellow fever by fomites, since we know of no other way in which this question can ever be finally determined.

For this purpose there was erected at Camp Lazear a small frame house consisting of one room 14x20 feet, and known as "Building No. 1," or the "Infected Clothing and Bedding Building." The cubic capacity of this house was 2800 feet. It was tightly ceiled within with "tongue and grooved" boards, and was well battened on the outside. It faced to the south and was provided with two small windows, each 26x34 inches in size. These windows were both placed on the south side of the building, the purpose being to prevent, as much as possible, any thorough circulation of the air within the house. They were closed by permanent wire screens of .5 mm. mesh. In addition sliding glass sash were provided within and heavy wooden shutters without; the latter intended to prevent the entrance of sunlight into the building, as it was not deemed desirable that the disinfecting qualities of sunlight, direct or diffused, should at any time be exerted on the articles of clothing contained within this room. Entrance was effected through a small vestibule, 3x5 feet, also placed on the southern side of the house. This vestibule was protected without by a solid door and was divided in its middle by a wire screen door, swung on spring hinges. The inner entrance was also closed by a second wire screen door. In this way the passage of mosquitoes into this room was effectually excluded. During the day, and until after sunset, the house was kept securely closed, while by means of a suitable heating apparatus the temperature was raised to 92 to 95 F. Precaution was taken at the same time to maintain a sufficient humidity of the atmosphere. The average temperature of this house was thus kept at 76.2 F. for a period of sixty-three days.

Nov. 30, 1900, the building now being ready for occupancy, three large boxes filled with sheets, pillow-slips, blankets, etc., contaminated by contact with cases of yellow fever and their discharges were received and placed therein. The majority of the articles had been taken from the beds of patients sick with yellow fever at Las Animas Hospital, Havana, or at Columbia Barracks. Many of them had been purposely soiled with a liberal quantity of black vomit, urine, and fecal matter. A dirty "comfortable" and much-soiled pair of blankets, removed from the bed of a patient sick with yellow fever in the town of Quemados, were contained in one of these boxes. The same day, at 6 p.m., Dr. R. P. Cooke, Acting Assistant-Surgeon, U. S. A., and two privates of the hospital corps, all non-immune young Americans, entered this building and deliberately unpacked these boxes, which had been tightly closed and locked for a period of two weeks. They were careful at the same time to give each article a thorough handling and shaking in order to disseminate through the air of the room the specific agent of yellow fever, if contained in these fomites. These soiled sheets, pillow-cases and blankets were used in preparing the beds in which the members of the hospital corps slept. Various soiled articles were hung around the room and placed about the bed occupied by Dr. Cooke.

From this date until Dec. 19, 1900, a series of twenty days, this room was occupied each night by these three non-immunes. Each morning the various soiled articles were carefully packed in the aforesaid boxes, and at night again unpacked and distributed about the room. During the day the residents of this house were permitted to occupy a tent pitched in the immediate vicinity, but were kept in strict quarantine.

December 12, a fourth box of clothing and bedding was received from Las Animas Hospital. These articles had been used on the beds of yellow fever patients, but in addition had been purposely soiled with the bloody stools of a fatal case of this disease. As this box had been packed for a number of days, when opened and unpacked by Dr. Cooke and his assistants, on December 12, the odor was so offensive as to compel them to retreat from the house. They pluckily returned, however, within a short time and spent the night as usual.

December 19 these three non-immunes were placed in quarantine for five days and then given the liberty of the camp. All had remained in perfect health, notwithstanding their stay of twenty nights amid such unwholesome surroundings.

During the week, December 20-27, the following articles were also placed in this house, viz.: pajamas suits, 1; undershirts, 2; night-shirts, 4; pillow-slips, 4; sheets, 6; blankets, 5; pillows, 2; mattresses, 1. These articles had been removed from the persons and beds of four patients sick with yellow fever and were very much soiled, as any change of clothing or bed-linen during their attacks had been purposely avoided, the object being to obtain articles as thoroughly contaminated as possible.

From Dec. 21, 1900, till Jan. 10, 1901, this building was again occupied by two non-immune young Americans, under the same conditions as the preceding occupants, except that these men slept every night in the very garments worn by yellow fever patients throughout their entire attacks, besides making use exclusively of their much-soiled pillow-slips; sheets and blankets. At the end of twenty-one nights of such intimate contact with these fomites, they also went into quarantine, from which they were released five days later in perfect health.

From January 11 till January 31, a period of twenty days, "Building No. 1" continued to be occupied by two other non-immune Americans, who, like those who preceded them, have slept every night in the beds formerly occupied by yellow fever patients and in the night-shirts used by these patients throughout the attack, without change. In addition, during the last fourteen nights of their occupancy of this house they have slept, each night, with their pillows covered with towels that had been thoroughly soiled with the blood drawn from both the general and capillary circulation, on the first day of the disease, in the case of a well-marked attack of yellow fever. Notwithstanding this trying ordeal, these men have continued to remain in perfect health.

The attempt which we have therefore made to infect "Building No. 1," and its seven non-immune occupants, during a period of sixty-three days, has proved an absolute failure. We think we can not do better here than to quote from the classic work of La Roche.³ This author says: "In relation to the yellow fever, we find so many instances establishing the fact of the non-transmissibility of the disease through the agency of articles of the kind mentioned, and of merchandise generally, that we can not but discredit the accounts of a contrary character assigned in medical writings, and still more to those presented on the strength of popular report solely. For if, in a large number of well authenticated cases, such articles have been handled and used with perfect impunity—and that, too, often under circumstances best calculated to insure the effect in question—we have every reason to conclude, that a contrary result will not be obtained in other instances of a sim-

3. R. La Roche: Yellow Fever, vol. ii, p. 516, Philadelphia.

ilar kind; and that consequently the effect said to have been produced by exposure to those articles, must—unless established beyond the possibility of doubt—be referred to some other agency.

The question here naturally arises: How does a house become infected with yellow fever? This we have attempted to solve by the erection at Camp Lazear of a second house, known as "Building No. 2," or the "Infected Mosquito Building." This was in all respects similar to "Building No. 1," except that the door and windows were placed on opposite sides of the building so as to give through-and-through ventilation. It was divided, also, by a wire-screen partition, extending from floor to ceiling, into two rooms, 12x14 feet and 8x14 feet respectively. Whereas, all articles admitted to "Building No. 1" had been soiled by contact with yellow fever patients, all articles admitted to "Building No. 2" were first carefully disinfected by steam before being placed therein.

On Dec. 21, 1900, at 11.45 a.m., there were set free in the larger room of this building fifteen mosquitoes—*C. fasciatus*—which had previously been contaminated by biting yellow fever patients, as follows: 1, a severe case, on the second day, Nov. 27, 1900, twenty-four days; 3, a well-marked case, on the first day, Dec. 9, 1900, twelve days; 4, a mild case, on the first day, Dec. 13, 1900, eight days; 7, a well-marked case, on the first day, Dec. 16, 1900, five days—total, 15.

Only one of these insects was considered capable of conveying the infection, viz., the mosquito that had bitten a severe case twenty-four days before; while three others—the twelve-day insects—had possibly reached the dangerous stage, as they had been kept at an average temperature of 82 F.

At 12, noon, of the same day, John J. Moran—already referred to as Case 2 in this report—a non-immune American, entered the room where the mosquitoes had been freed, and remained thirty minutes. During this time he was bitten about the face and hands by several insects. At 4.30 p.m., the same day, he again entered and remained twenty minutes, and was again bitten. The following day, at 4.30 p.m., he, for the third time, entered the room, and was again bitten.

CASE 7.—On Dec. 25, 1900, at 6 a.m., the fourth day, Moran complained of slight dizziness and frontal headache. At 11 a.m. he went to bed, complaining of increased headache and malaise, with a temperature of 99.6 F., pulse 88; at noon the temperature was 100.4 F., the pulse 98; at 1 p.m., 101.2 F., the pulse 96, and his eyes were much injected and face suffused. He was removed to the yellow fever wards. He was seen on several occasions by the board of experts and the diagnosis of yellow fever confirmed. (See Chart 6.)

The period of incubation in this case, dating from the first visit to "Building No. 2," was three days and twenty-three hours. If reckoned from his last visit it was two days and eighteen hours. There was no other possible source for his infection, as he had been strictly quarantined at Camp Lazear for a period of thirty-two days prior to his exposure in the mosquito building.

During each of Moran's visits, two non-immunes remained in this same building, only protected from the mosquitoes by the wire-screen partition. From Dec. 21, 1900, till Jan. 8, 1901, inclusive—eighteen nights—these non-immunes have slept in this house, only protected by the wire screen partition. These men have remained in perfect health to the present time.

December 28, after an interval of seven days, this house was again entered by a non-immune American, who remained twenty-five minutes. The subject was bitten by only one insect. The following day he again

entered and remained fifteen minutes, and was again bitten by one mosquito. The result of these two visits was entirely negative. As the mortality among the insects in this room, from some unknown cause, had been surprisingly large, it is possible that the subject was bitten by insects not more than thirteen days old, in which case they would probably not infect, since they had been kept for only five days at a temperature of 82 F., and for eight days at the mean temperature of the room, 78 F.

Be this as it may, nothing can be more striking or instructive as bearing upon the cause of house infection in yellow fever, than when we contrast the results obtained in our attempts to infect Buildings No. 1 and No. 2; for whereas, in the former *all* of seven non-immunes escaped the infection, although exposed to the most intimate contact with the fomites for an average period of twenty-one nights each; in the latter, an exposure, reckoned by as many minutes, was quite sufficient to give an attack of yellow fever to one out of two persons who entered the building—50 per cent.

Thus at Camp Lazear, of 7 non-immunes whom we attempted to infect by means of the bites of contaminated mosquitoes, we have succeeded in conveying the disease to 6, or 85.71 per cent. On the other hand, 7 non-immunes whom we tried to infect by means of fomites, under particularly favorable circumstances, we did not succeed in a single instance. Out of a total of 18 non-immunes whom we have inoculated with contaminated mosquitoes, since we began this line of investigation, 8, or 44.4 per cent., have contracted yellow fever. If we exclude those individuals bitten by mosquitoes that had been kept less than twelve days after contamination, and which were, therefore, probably incapable of conveying the disease, we have to record eight positive and two negative results—80 per cent.

CONCLUSIONS.

1. The mosquito—*C. fasciatus*—serves as the intermediate host for the parasite of yellow fever.

2. Yellow fever is transmitted to the non-immune individual by means of the bite of the mosquito that has previously fed on the blood of those sick with this disease.

3. An interval of about twelve days or more after contamination appears to be necessary before the mosquito is capable of conveying the infection.

4. The bite of the mosquito at an earlier period after contamination does not appear to confer any immunity against a subsequent attack.

5. Yellow fever can also be experimentally produced by the subcutaneous injection of blood taken from the general circulation during the first and second days of this disease.

6. An attack of yellow fever, produced by the bite of the mosquito, confers immunity against the subsequent injection of the blood of an individual suffering from the non-experimental form of this disease.

7. The period of incubation in thirteen cases of experimental yellow fever has varied from forty-one hours to five days and seventeen hours.

8. Yellow fever is not conveyed by fomites, and hence disinfection of articles of clothing, bedding, or merchandise, supposedly contaminated by contact with those sick with this disease, is unnecessary.

9. A house may be said to be infected with yellow fever only when there are present within its walls contaminated mosquitoes capable of conveying the parasite of this disease.

10. The spread of yellow fever can be most effectually controlled by measures directed to the destruction of mosquitoes and the protection of the sick against the bites of these insects.

11. While the mode of propagation of yellow fever has now been definitely determined, the specific cause of this disease remains to be discovered.

[For discussion see p. 461.]

THE METRIC SYSTEM.*

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"Frenchmen have beheaded their king, declared there is no God, and are now trying to enforce the metric system!" said a member of the English parliament in the course of an alleged argument against the system. This is a fair sample of the arguments advanced against it. It is not my purpose to make any extended argument in favor of it, taking it for granted that THE ASSOCIATION is already, theoretically at least, converted to it. If there are any who are still in doubt upon the subject, I ask them to consider the following résumé:

The system is recommended: 1, because it is simple; 2, it saves time; a good authority on the subject estimates that its employment would save one year of school life for each child; 3, it is cosmopolitan; 4, it is scientific; 5, it is in use in the United States Coast Survey Service, in the Marine-Hospital Service and in the U. S. Navy.

Against its use are the following considerations: 1, it discards an old and familiar system; 2, it is impossible to forget the old system; 3, the accuracy of the standard meter has been questioned by some mathematicians.

Leaving the question here, I propose to consider its present status in the medical profession, and suggest some measures that would hasten its general adoption. Although legalized in 1866, and advocated by a very large majority of the scientific men of the country, a very small number of medical men make use of it to-day. After a somewhat extended investigation in regard to its use in Boston and vicinity, I am of the opinion that Whelply, of St. Louis, was entirely safe when he made the statement in Washington recently that 5 per cent. or less of those writing prescriptions to-day employ the decimal notation.

An inquiry regarding the standing of the men using the metric system was universally answered by the statement that they are the leading men in the profession. So I am inclined to think that while numerically the percentage is perhaps disappointingly small, if we consider quality rather than quantity the showing is quite satisfactory. And when we consider the radical nature of the change, and that natural inertia of which we are all more or less victims, perhaps we shall agree that the progress is as great as we could reasonably expect.

What can we do as individuals to increase this percentage? First, learn to think in the new system, and teach others to do the same. Just so long as we spend our time comparing the new system with the old, and devising rules for their easy interconversion, just so long shall we make slow progress. The equivalent of a grain in terms of the new system is, in my judgment, enough to remember, and when the new system is fully established, forget even that.

There are, besides this individual action, three important factors that would help to a solution of the problem. Let the Association of Medical Colleges and the Pharmaceutical Association, and the Association of Dental Schools, insist that hereafter no one shall receive a degree either in medicine, dentistry or pharmacy, until he has a working knowledge of the system. Let all three associations urge on the writers of text-books the exclusive use of the system. Let the manufacturers of pharmaceutical products label their packages exclusively in the new system. If these conditions could be fulfilled, a tremendous stride would be made toward the universal use of the metric system. Of these three propositions, I am inclined to think the latter is the most important. So universal has become the use of tablets, that if they were all labeled as suggested, almost every practicing physician would be taking daily lessons. In talking with drug houses on this subject, they say if it could be brought about by general agreement, it would be a good thing, but if one or two firms only should adopt the plan, loss of trade is feared. E. R. Squibb & Sons have for many years adopted this method, and the firm deserves much credit, not only for this, but for their persistent and intelligent presentation of the subject in their publications.

DISCUSSION.

DR. E. H. BARTLEY, of New York City, by invitation, opened the discussion. He has been using the metric system in writing his prescriptions for twenty years, and adopted a prescription blank with a vertical line near the right hand margin, to take the place of the decimal point. To the left of this line he had printed "gram," and, to the right, "milligram," and is in the habit of filling out all the three places, if necessary, using ciphers. He uses only these two denominations. He thinks the use of the terms centigram and decigram is confusing and unnecessary and they ought to be dropped. Having been a chemist before he studied medicine, he has learned to use the metric system, prefers it for prescription writing, and has always used it. He has learned the doses of remedies in the English system, and has continued to do so because it is difficult to carry in the mind the doses in two different systems and it increases the danger of errors. He thinks it much safer, for the present at least, to carry in the mind the dosage in grains and minims and make the conversion at the time of writing the prescription. This is very easy if we adopt the plan of always writing for two, three, or four ounces. When he first began writing prescriptions, he learned a rule which has worked very well, viz.: In 60 c.c., or fii , the number of grams to be written for will equal the number of grains or minims of the active ingredient in each teaspoonful of the mixture. Thus, if you wish to give ten grains of iodid of potassium at a dose, you would write

Potassii iodidi	10|000
Aquæ q. s. ad	60|000

M. ft. sol. To be given in dram doses.

Each dram contains ten grains of the salt. This prescription contains fifteen doses. In a three-ounce mixture, or 90 c.c., the number of grams to be taken would be $1\frac{1}{2}$ times the dose, and in a four-ounce mixture, 120 c.c., it would be double the dose, in grains, in each dram, or just equal to it if the dose be increased to two drams, or a dessertspoonful.

As regards the liability of mistakes on the part of the pharmacist in dispensing a prescription written in metric form, he has only twice in twenty years, had a pharmacist make a mistake in the quantity prescribed. In one case the pharmacist put in double the quantity of water ordered, and the patient got less than the prescribed dose, and the other was similar to it. But the danger of this is getting less every year. The pharmaceutical schools now make the use of the metric system compulsory with their students, so that all druggists will soon be familiar with it, and the danger, from their side, will become extremely small. The dangers even now are very little from that source. The only one is that arising from physicians

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attempting to translate from one system to the other; but by adopting the method just described, there can be very little danger from that side.

PROF. JOS. P. REMINGTON, Philadelphia—With regard to the remark just made about teaching the metric system in pharmaceutical schools, in the College of Pharmacy of Philadelphia, the metric system is used almost exclusively. In the laboratory work no other is used. One point raised in the paper was the question of competency of the pharmacist and his liability to error; every educated pharmacist throughout the country would fill the prescriptions in the metric system just as well as by the old method. In 1890, the United States Pharmacopeia introduced in its liquid formulæ the metric system, so that the use of this system is extending. The great difficulty is in getting physicians to abandon the old and take up the new. In Germany, the matter was regulated by law and physicians were given one year in which to learn the metric system, and were obliged to use it thereafter; but we can not adopt such summary methods in this country.

DR. FRANK WOODBURY, Philadelphia, said that he thought that the decimal point and the eiphers repelled many physicians, and the adoption of the plan of writing quantities in grams, centigrams and milligrams in whole numbers, without the use of the decimal point, might greatly assist the transition from the old to the new and reduce the liability to error.

DR. J. N. UPSHUR, Richmond, Va., wished to say very emphatically that what Dr. Wheatley said about the indolence of old doctors is true; in this connection, he was much impressed with the truth of the saying that you can not teach an old dog new tricks. Speaking for himself, he did not believe that he could learn that metric system, and carry it into effect in writing his prescriptions, without killing somebody. At the same time he urges his students to learn the metric system. His son, who uses it in the U. S. Marine-Hospital Service, complains of the unprogressiveness of the druggists in his locality, which compel him to write his prescriptions for his private patients in the old system.

DR. F. G. WHEATLEY, in closing, said that the point raised that the writing of eiphers constituted an objection was not very practical. His own method is to only keep two denominations in mind, the grams and the centigrams, just as we have dollars and cents. Notwithstanding what had just been said, he thinks that it is the physicians who are at fault in this matter. The druggists who have graduated during recent years say that when they graduated they knew nothing about any other system than the metric, but they had to learn the old method on account of the prescriptions received. The fault lies with the teachers in the medical colleges. As long as the text-books teach both systems, the average physician will learn the old and leave the new.

EVOLUTIONAL AND INVOLUTIONAL TYPES OF MENTAL AND NERVOUS DISEASE.*

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The different epochs of life are factors of great moment both in the production and in the exacerbation of nervous instability. They are rarely passed through, even in the most healthy individual, without some psychical or physical manifestation. Each crisis in life determines new impulses, new thought, and new actions, which give each epoch a distinct physiology and psychology. We purpose to discuss in this paper the effect these periods have upon the brain and nervous constitution, considering chiefly the minor and transient disorders influenced or excited by them, and to attempt to explain the preventive measures necessary and advis-

able, possible and ideal, which may determine their development. The territory that we especially wish to cover shades insensibly into the two extremes, mental soundness and mental disease. This borderland is especially important on account of the fact that the psychoses as a rule gradually pass through a prodromic stage of nervous instability or one of recedent psychical action instead of being ushered in or terminated abruptly. Such conditions are psychopathic, but can not be grouped under the psychoses *sensu strictiori*. There is no disease which does not alter the mental state of the patient, nor is there any one whose physical state is not influenced by his mental condition. We desire to emphasize this point, as it illustrates a common law of cause and effect present in many disorders. The brain then controls the body just as much as physical states influence the mental. Each successive epoch adds a new burden upon the nervous system, and in unstable individuals it is only a question of time until the inherited instability reveals itself. The types of each period differ according to the intensity and rapidity of incidence and the physical manifestations. Nevertheless the disturbances do not include any disorder which can not be caused by other factors also. As an etiologic classification, however, we are justified in grouping them in this manner.

In childhood inherited strain is rarely noticed. At this period there is great difficulty in determining what is physiologic and what is psychologic. For instance, every experienced mother knows that a child does not always reveal a tired condition by a desire to sleep and a feeling of listlessness, but often by excitability and restlessness. When irritability and peevishness is observed as a result of physical exhaustion, we must regard it as evidence of the influence of physical states upon mental conditions, though it is natural and not pathologic. When threats of whipping, etc., are added to this, we find an artificially produced nervous instability with conditions of anxiety predominating, expressed by night terrors, loss of appetite, restlessness, etc.

Mental exhaustion may, however, without any such stimulus as whipping, terminate in diseased over-exhaustion. Here also irritability is the chief sign, but it is more marked than in the common evening exhaustion or is accompanied by other phenomena, particularly if a nervous taint is inherited. The child becomes quarrelsome, envious and imperious, or is timid and anxious, awkward and easily moved to tears. It tires easily, but does not sleep readily, tosses around, emits a shrill cry in its sleep, or talks to itself and does not awake refreshed as do normal children. These symptoms are too often looked upon as being due to gastric disturbances, without any efforts being made to combat them, and are allowed to take their course. It is unmistakably a diseased type of exhaustion, expressed in a transient disturbance of physical and mental functions.

Another condition at this period, due to inherited strain, is morbid depression. Children of this type are always reserved and gloomy, precocious and hypersensitive. In some this condition only exists in the early morning for a short time after awakening. This transient depression or melancholy is the precursor of melancholia in the adult.

We have in childhood different dislikes identical with those in adults, but which are often mistakenly supposed to be natural in children.

A child who may have been bathed many times before without evincing any signs of fear, may suddenly

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become restless when immersed, crying and drawing up his legs, as if in pain. It may be due to many causes and always demands investigation. More easily recognized and more common is the fear of being alone. In some, of course, this is due to the mother or nurse spoiling the child, but in others it comes on suddenly without any such cause and may be indicative of some general nervous disorder. Fear of strangers is also not always physiologic. Every physician can probably recall some child formerly friendly to him who suddenly became fretful and cried at his approach, who steadily refused to allow him to touch it, and in time acted similarly to all except its mother, the latter being compelled to stay with it constantly until as suddenly as it came, the fear vanished.

The best known form of infantile fear is *pavor nocturnus*. As this is generally so pronounced as to be a true psychosis, it will only be lightly touched upon. The onset of the nervous storm in such children can generally be predicted. Such a child is paler than usual, more irritable, can not go to sleep unless its mother is with it, and awakes as soon as she attempts to leave. Close observation will reveal some muscular twitchings, which increase in intensity, until suddenly the outburst comes on, during which the child may even be in a condition of transient mania. Nightmare must, however, not be confused with these night terrors.

Transient exaltation of spirits is common in children. Anticipation of the slightest pleasure will make its eyes sparkle, make it become restless and babble incessantly, cause it to laugh unceasingly and act somewhat as does an adult under the influence of alcohol. Parents generally stand complacently observing it and do not seek to repress this unnatural excitation until suddenly the picture changes. The child becomes listless, cries, and upon being taken to bed tosses about, and after it has gone to sleep, awakes frequently with a cry of anxiety.

A child who has inherited a neurotic constitution is generally below the normal weight and is apt to be precocious. Even the laity is apt to be suspicious of a too bright mind in a frail body. It may be due to malnutrition, rachitis, etc., or to the fact that the parents are small in stature and that the psychic life has simply been developed too early. But most often a neurotic taint is back of it.

Single nervous symptoms observed at this period are senseless laughter, a staring look, twitchings of the facial muscles, spasms, both local and general, stammering and stuttering, and strabismus. These symptoms may occur particularly during teething. A healthy child generally teethes without trouble. But when the nervous resistance is congenitally weak, the physical strain makes excessive demands upon the nervous system whose instability then manifests itself. Such children reveal their "nervousness" in other ways. Their facial color may rapidly change from bloom to pallor, they vomit easily, cry in their sleep, are domineering, early learn to comprehend spoken language and have pronounced retentive powers. Such symptoms reveal a nervous temperament. When in addition we find stubbornness, viciousness and perverse habits, as instinctive masturbation, it reveals an inherited taint in addition to a nervous temperament. When we also find the so-called stigmata of degeneration, we are dealing with a case of congenital degeneration. No single symptom, however, proves anything; it is only by a combination of symptoms that we can determine such conditions. As the child grows older, other neurotic manifestations

may come on. These include a marked and unexplainable anemia, nervous shuffling, peculiar stubborn headaches and slight variations of character, mentation and habits occurring periodically.

The older the child is the more diverse are the conditions found, environmental influences being added to the autochthonous. This is the period of life when hypochondriac ideas, excessive desire for order and cleanliness and even religious exaltation first become evident.

The earlier the signs of nervous disturbance occur, the more frequent and pronounced they are, the more probable is the belief that they are due to congenital degeneration. It is natural, therefore, to find the hereditary ataxias and muscular atrophies, Thompson's disease (toxemic?) at this period of life.

The next period of life, the school or prepubescent age, is very similar, except that the physiologic and pathologic states are more difficult to separate. Emotion is no longer supreme, the muscular system now asserts itself, and the faculty of judgment and cognition comes into play. Children at this age are able to facilitate as well as to hinder the development of their faculties, and parents may consciously or unconsciously inculcate bad habits in their children by example or by improper methods of training and discipline. Chorea, "insanity of the muscles," is the type of motor disturbance and is found at this age; also *petit mal*, unconscious automatism or somnambulism, and migraine. The brain is now rapidly developing and the cortex is asserting itself. Muscular impulses dominate the scene and hence the nervous disorders are largely muscular.

The signs of degeneration noticed are flat-pointed teeth, hacking cough, a capricious appetite, and a scanty urine. The objective signs are slowness in movement, stooping, and twitching. We can at this age already observe a tendency to neurasthenia or hysteria, one child having hysteric tendencies, another neurasthenic.

In this period the influence of school-life is the most important factor. Incomplete development, undue sensitiveness, excessive restlessness, the frequent and perplexing changes from one room and teacher to another with entirely different methods, the exactions demanded by educators in their senseless rivalry, the anxiety attendant upon competition for prizes, etc., have a harmful result upon the pupils. There are, of course, some advantages in our system. A timid child becomes accustomed to association with strangers, peculiarities are influenced and often repressed through the ridicule of classmates, improper home training is counteracted, the energy of a child is turned into a particular channel, an irregular life is made methodical, carefulness tends to replace carelessness, etc. But under our present system, where the mental capacity of all children is regarded as equal, and the mental energy is drained to the last drop, in accordance with the forcing process now in vogue, which uses up all reserve power and inhibits the growth of other parts of the brain and prevents the preparation of the body for the momentous crises of life which are yet to come, all the advantages are multiplied. "There is no time nor place of organic repentance provided by nature for some of the sins of the schoolmaster."

The next period of life embraces puberty and adolescence. We include these two epochs in one because they are so intimately associated, one being the termination of the other. Before this time boys and girls are much alike, they are not very different sexually, mentally, or physically; then they gradually develop sex-

nally, and finally mentally; the boy comes to use his judgment and reasoning powers more and more, and the girl becomes more impulsive and emotional. This is not an abrupt change, but is only accomplished after the lapse of some years. The emotions of a girl up to her 21st year are not stable or deep-seated and are soon forgotten; her conversation only then becomes coherent, her actions womanly. A boy becomes manly at about his 24th year, commences then to become precise and settled and deliberate.

Inasmuch as this is the period when the mind develops, it follows that inherited mental characteristics would now show themselves, perhaps for the first time, or more strongly than before. This is, then, the time when we expect hysteria and hemiparesis, epilepsy, innate immorality and arrested development, to show themselves. Clouston includes acne, ugliness, many forms of impaired vision, and perhaps phthisis and acute rheumatism as neuroses of this period, but why I do not see. Eccentricity and incompatibility of temper, sexual aversion and religious asceticism, decrease of volitional power, reveal themselves during this period. Many of the first convictions for crime are in those of the adolescent age.

Many diverse factors now come into play. The combat with the outer world begins in earnest; the ability for self-culture and self-responsibility increases; production replaces acquisition. The transition from childhood to this period in woman occurs with the interaction of certain periodical changes which strongly influence the mind. These may come on early or late. It is an unfavorable sign if they come on long after the development of the mind. The effects of an improper education, sexual desires, the emotional development with its alternate display of fear, hope, and disappointment, the indulgence in religious contemplation, the fostering of egotism and self-introspection, the exhaustion attendant upon the exacting duties of social life with its balls, theaters and parties, the daily tyrannizing of an overstrict and zealous father, with perhaps compulsory attendance at church and forced restraint in all daily actions, are the forces at work at this period. The onset of a hysteric attack can often be traced to the preparation for confirmation. In males this is the age when sexual abuse and alcoholism assert their sway and play havoc with the system. The strain of making up new functions is such a burden that it takes little more to upset the system.

The next period, that of adult life, including pregnancy, lactation and parturition in woman is a momentous one. This is a time of trial to a female, even though she is not congenitally predisposed to instability. Reproduction of the species, although it is the duty of women, is likewise a menace to her health. Pregnancy generally evokes mental depression, irresistible longings, irritability, foolish jealousy, anxiety, etc. Hysteric symptoms are also prone to occur at this time. Similar occurrences take place in childbirth and lactation. Chorea and hebephrenia are also common during this time. In the male, family cares, business worries; political, church and social duties; alcoholism and syphilis, and business speculation combine to keep up a ceaseless cerebral congestion. Neurasthenia is for this reason the nervous disease of adult manhood. We may find also eccentricities of character, curious habits, recurrent attacks of depression or of forced gaiety, and in luetic individuals the syphilitic nervous diseases.

Suppression of the menses in females causes many nervous symptoms, particularly stupor, listlessness and

headache. Illicit intercourse generally produces pathologic mental changes in woman and if children are begotten the shame and distress often suffice to produce a transient mania.

With the cessation of the power for reproduction, vital energy is lessened. Unstable nervous systems are just as apt to be upset by the process of decadence as they were in their development. The body loses in weight, the circulation slows up, the lymphatic and arterial systems commence to degenerate, the emotions quiet down, the imaginative power disappears, the mental processes alter, etc. These changes do not take place quickly, but cover some years. In woman the disappearance of menses is not coincident with the climacteric. We may find in females at this period, super-sensitiveness, sleeplessness, depression of spirits, different phobias and general apathy, and in both sexes, various trophic disturbances. In men the climacteric is not as definite or as complete and occurs later and more gradually than in women. The mental alterations are therefore rarely as pronounced, irritability and a transient depression of spirits are all that is noticed. This is the time of life when cerebral hemorrhage and encephalomalacia are prone to occur.

Physiologic senility is not only slow and insidious in its onset, but has no set time for its occurrence. In general we may say that it commences when atheroma and arcus senilis comes on. Boy-Tessier well says that "the coefficient of the organic faculties varies for each individual. Each by reason of his lessened organic resistance carries from birth a certain predisposition to disease, that is to say, a special grouping of lessened organic resistance upon which depend the time of the appearance of senescence." All functions suffer except that of reproduction, which answers to laws of its own. The springy step, the elastic frame, the lustrous hair, the quick mind become things of the past. The process of thought, though still deliberate and accurate, becomes less rapid, and the association paths seem to become less responsive to the will. The organs become sluggish in action and more susceptible to disease; co-ordinated movements are more difficult; all thoughts, tastes, habits approach again those of youth.

Senility becomes abnormal, according to Clouston, if hereditary cerebral weakness exists, if the brain has been overtaxed, or if its blood-vessels become diseased. Motor impairment is characteristic of this period, revealing itself in paralysis agitans and similar disorders. The melancholia which is often observed is not a "conscious sensitive mental pain, but an automatic motor misery." In others again we find a transient mania due to sudden alterations of the cerebral circulation and to vasomotor paralysis.

Senile abnormalities are however, when not so pronounced as these three types, difficult to distinguish from the physiologic occurrences of senility, because the latter themselves consist in mental and motor changes which at other times of life would be considered abnormal. The senile speech so characteristic of this period, the loss of ideation and of affection, the lessened memory and concentration of thought which are found in physiologic senility, render it difficult to draw appropriate conclusions. But in general, when excessive volubility, desire for unfit marriages, peculiar perversities of temper, wandering tendencies and restlessness—the normal senile always desires rest—indifference, carelessness in habits and hypochondriacal ideas are found, we can regard senescence as having exceeded its physiologic limits.

DISCUSSION.

DR. GREGG, Hollins, Va.—I wish to express my own peculiar views in regard to what was said in connection with the evolution of nervous disease from its mental aspect. I have never believed in mental evolution. I can conceive of no evolution of mind, but only of organic evolution. I can conceive of nervous evolution. I can understand brain development; improvement of the various centers of the brain. I understand improvement in the intellectual centers of the brain, the psychic centers; but I can not understand any evolution, or impairment or advancement in mind, and I believe we often confound mental and cerebral functions. I can understand how machinery can be perfected for the application of the power of electricity, and a very ordinary machine can be converted into a very fine machine, but this would not be the evolution of electricity.

DR. EDWARD E. MAYER—I confess my inability to exactly understand the gentleman; it seems to me that he is indulging in a play of words. I wish that he would exactly define what he means by mental functions and by cerebral functions. He assuredly has not in mind the old metaphysical views on this question. The mental functions must certainly develop with the development of the mind. The mind of a child is perfectly blank, and to a certain extent we can write on it what we wish. The older it becomes, the more developed its brain is; the more receptive is its mind. The doctor's comparison with a machine is rather inappropriate in our estimation. We are not dealing with material actions or products, but with chemic and vital forces. At the present day, metaphysical abstractions are certainly not in place among a body of physicians.

ANASTOMOSIS OF THE URETERS WITH THE INTESTINE.

A HISTORICAL AND EXPERIMENTAL RESEARCH.*

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CHICAGO.

The experimental work forming the basis of this article was undertaken with the view of studying the changes resulting from anastomosing the ureters with the intestinal tract, and of determining whether the procedure could with safety be employed in human beings. The labors of other experimenters in this field have abundantly demonstrated that in dogs, at least, the large bowel can be employed as a receptacle for urine and the animal have good control over its anal sphincter, and liquid feces be evacuated at regular intervals without resulting proctitis. But the more important and far-reaching changes in the kidneys and ureters, resulting from the bacterial invasion from the septic cavity into which the ureteral orifices open, has not been satisfactorily studied.

Will infection of the kidney invariably follow its ureteral union with the intestine? If this be true, can perfection of operative technique reduce this infection to a minimum, so that the kidney can recover and remain a useful organ? To the thoughtful, conscientious surgeon these questions are paramount, and must be carefully answered before he decides to subject his patient to an operation from which, once performed, there is no retreat.

My work, as the title indicates, has been in two directions: First, I have carefully, and I trust exhaustively, gone over the literature of the subject. This was a task of considerable magnitude, as some of the cases were hidden away in transactions or obscure reports. In many instances the original had been quoted incorrectly and the error handed down from one writer to

another. In most instances the abstracts have been made from the original sources, or, at least, the original has been gone over carefully to verify the abstract. I have endeavored to arrange the material in such a form as to be of service to future investigators.

The second portion of the article is devoted to my own experiments, from which, together with the work of others, my general conclusions are drawn.

From a historical standpoint Richardson's⁸³ case merits the first consideration, since it is the only one of its kind on record. The case was reported in the "Philosophical Transactions" in the year 1713, and is as follows:

"One John Woosnape, of North Bierly, a poor boy, lived till he was 17 years of age and never made water, and yet was very healthy, vigorous, and active. He had constantly diarrhea on him, but without much uneasiness. The obstruction must have been in the kidneys, for he never had any inclination to make water. The serous part of the blood, which should have been thrown off by the urine, was discharged by the celiac and mesenteric arteries by the mediation of the glands into the guts. He died of a fever."

It is certainly difficult to decide from this report whether the author actually saw or only heard of the case. At any rate, from a scientific standpoint it is practically useless, and certainly does not warrant the deduction that the human being can live seventeen years with a blending of the urinary and intestinal tracts. Yet, after a mention of the cloaca in certain animals, and deducing from this that the same condition may be produced in man and be compatible with life, certain writers have endeavored to clinch the argument by referring to Richardson's case. That some of them have never read the original is apparent, from the fact that the reference is incorrectly given.

ANIMAL EXPERIMENTS IN URETERO-INTESTINAL ANASTOMOSIS.

Can the results of animal experimentation with uretero-intestinal anastomosis be used to advantage in establishing the place of the operation in human surgery?

In a general way this query can be answered in the affirmative. In spite of the technical difficulties of the operation in an animal, such as the dog, it is possible to so perfect the technique as to greatly reduce the primary mortality, and the same may be said of the operation in man. Gross errors in technique should not be counted in determining the value of the operation either in animals or human beings. While it may be true, as claimed by some, that the human kidney is a more highly developed organ than is that of the dog, it is true only to a limited extent that its power of resisting infection is thereby greater.

Various objections to animal experimentation as a test of the value of uretero-intestinal implantation in man have been raised, but they can not be said to be upheld by facts. Certainly the upright or prone position can have absolutely no influence on the action of the colon bacillus in producing an ascending pyelonephritis. A septic cavity, such as the rectum, is filled with myriads of these bacteria, and no action of gravity or the mere flushing out of this cavity can make it aseptic to any appreciable degree. Nor is it at all probable that the colon bacillus in the dog's rectum is any more virulent than the same germ in the human intestine.

Yet all these theories have been advanced to explain the cause of the failures on the experimenter's part. A careful study of the literature of the subject as well as the results of my own experimental work have con-

* Read before the American Gynecological Society, Washington, D. C., May 1, 1900.

vinced me that identical changes take place in both animals and man when the ureters are anastomosed with the intestinal tract. Hence, I have by means of brief abstracts placed the work of other experimenters in this field in such a form as to be readily available to the student of the subject.

GLÜCK AND ZELLER,⁷ 1881. *Four dogs; both ureters in rectum; death from peritonitis from giving way of sutures.*

Uretero-intestinal anastomosis in animals dates from the attempts of these experimenters to implant the ureters in the rectum after removal of the bladder in dogs. Different methods of disposal of the ureters were studied. They succeeded in saving a number of animals where the ureters, either alone or with the trigonum, were fastened in the abdominal incision, but the attempts to anastomose the ureters with the rectum were complete failures. In these last experiments, after removal of the bladder and careful hemostasis, the rectum was incised for 3 or 4 cm. and both ureters secured in the incision by a row of Lembert's sutures. In all four dogs operated on the sutures gave way, with resulting peritonitis and urinary infiltration. In the case of one dog, which lived four days, it is noted that the evacuations were thin and mixed with the urine.

BARDENHAUER,¹ 1886. *Single ureter implanted extraperitoneally in five dogs, with three recoveries; uretero-intestinal stenosis; dilatation of ureters, hydronephrosis, pyelitis, and pyonephrosis.* Bardenhauer experimented on five dogs by exposing extraperitoneally the ascending and descending colon and corresponding ureters. The ureter was then divided and drawn over a curved needle. The needle was made to penetrate the posterior wall of the colon and brought out again 1.5 cm. below the point of entrance. The bowel was invaginated at the site of the puncture and the ureter held in place by sutures, which united the borders of the invaginated portion. The end of the ureters which presented at the deeper opening was cut off and slipped back into the lumen of the bowel and the second opening closed by suture. The operation is mentioned as difficult, owing to the thinness of the ureteral walls, yet in three cases was successful. Two of the surviving animals were killed after four weeks. The union of the ureter with the rectum was perfect, but at the site of the operation there was cicatricial contraction, together with dilatation of the ureters and hydronephrosis. The third dog was allowed to live a year. Toward the last the animal's stools were copious and bloody. The post-mortem showed pyelitis and pyonephrosis.

NOVARO,¹⁶ 1887. *Three dogs, one recovery; both ureters in rectum; one killed at end of four months; ureteral orifices patent; one kidney normal; other dilated from stenosis.*

Novaro reported the pathological findings in a dog in which the ureters had been implanted in the rectum four months previously. Two other dogs failed to survive the operation. The animal passed all his urine by the rectum, was continent, and remained well up to the time of his death. The bladder had shrunk to the size of a hazelnut and the ureteral orifices were patent. The right ureter and kidney were normal; the left ureter and corresponding kidney were dilated, probably from a stenosis of the uretero-rectal opening. The rectal wall showed no changes except muscular hypertrophy. From these findings Novaro recommended the operation, and emphasized the fact that it would be much less formidable in man on account of the larger caliber of the ureters and the possibility of employing more stringent antiseptics.

I have been unable to consult Novaro's original article. Van Hook, in speaking of the paper, says that "a microscopic examination of the kidneys was made. The testimony of the pathologist who made the examination is not absolutely unequivocal as to the inflammatory changes, and no bacteriologic examination of the mucous membrane of the pelvis of the kidneys and the mucous membrane of the ureters was recorded."

TUFFIER,²³ 1880. *Two dogs; single ureter in rectum; death in four days from peritonitis; uretero-rectal stenosis.* Tuffier endeavored to implant the ureters into the rectum in two dogs. Under the strictest antiseptic precautions the abdomen was opened and 2 cm. of the inferior third of the ureter was isolated, care being taken to preserve the fatty and peritoneal coverings. An elastic ligature was applied about the ureter to prevent the escape of urine. Two strands of fine catgut were passed 1 cm. above the severed end. The intestine was opened by a small incision and the ureter carried into the bowel cavity 1 cm., where it was left freely hanging. The ureter was then carefully sutured to the intestinal wall and the incision closed with a Lembert suture. The animal lived but three days. The

autopsy showed an intestinal fistula at the level of the suture and a general peritonitis. The ureter was partially stenosed at the rectal opening, and was already filled with a purulent fluid. The same experiment in another dog resulted in death on the fifth day, and the ureter was again found filled with pus.

TIZZONI AND POZZI,²² 1888. *Two dogs, one recovery; both ureters implanted into loop of isolated bowel, and latter sutured to neck of bladder.* These experimenters isolated a piece of the small intestine, 7 cm. long, and united its ends, as well as the ends of the remaining bowel tract. A month later the ureters were implanted into this isolated portion of the intestine and the loop sutured to the neck of the bladder. At first the animal was incontinent, but after a while continence was established. The post-mortem two years after the operation showed the isolated loop of bowel empty and a new bladder formed from the neck of the bladder. An attempt to do the operation in one stage was a failure, the dog dying eight days after the operation.

These experiments have been included here, although, strictly speaking, the ureters were not implanted into the intestinal tract. The survival of the animal for such a long period of time shows what would result could the septic nature of the cavity into which the ureters are implanted be dispensed with.

PAOLI AND BUSACHI,¹⁷ 1888. *Four dogs, one recovery; both ureters implanted; stenosis; pyelonephritis.* In four experiments made on dogs the ureters were sutured into the intestine. In nearly every case a constriction developed at the point of exit of the ureter. Two of the dogs died—one of a pyelonephritis, the other of infiltration of the urine; the third presented a dilatation of the intestine with anemia of the corresponding kidney. The fourth animal made a good recovery.

REED,¹⁹ 1892. *Nine dogs; three recoveries; pyelonephritis; hydronephrosis; one kidney normal.* Reed succeeded in implanting one ureter in the rectum in three dogs, but six animals in which a bilateral implantation was attempted died. In the three dogs that survived the ureter was passed through a small slit in the rectum six inches above the anus and held in place by sutures passed through the sero-muscular edges of the bowel and the peritoneum, which had been dissected away with the ureter. The first dog lived ten weeks, but the specimen was lost. The kidney of the second dog was congested and showed evidences of acute nephritis and hydronephrosis. There was a perfect union of ureter and rectum. The third dog was killed twenty-five days after the operation. The left kidney was normal and there was no renal congestion or hydronephrosis. The uretero-rectal opening was patent.

In the six bilateral uretero-rectal anastomoses the ureters were inserted into the bowel three-quarters of an inch. The remainder of the operation was as described above. All the animals died in a few days of peritonitis or nephritis. Post-mortems showed in most instances hydronephrosis. From these experiments Reed concludes that the implantation of one ureter into the rectum is a possible and practical procedure, but that the simultaneous implantation of both ureters is still a questionable surgical procedure.

RÓSCISZEWSKI,²⁰ 1892. *Six dogs; one recovery; autopsy after three months; ureter thickened; hydronephrosis.* Rósciszewski implanted a single ureter into the rectum in six dogs, of which five died in three to five days of peritonitis due to giving way of the sutures. One dog survived three months. Death resulted from peritonitis following implantation of the other ureter. The post-mortem showed that the uretero-rectal union in the first operation was complete, and that a probe could be passed into the ureteral orifice quite easily. The rectal mucosa was normal. The ureter itself was thickened, and the pelvis of the kidney, which contained a purulent fluid, was considerably dilated. The kidney substance showed evidences of the interstitial changes. Rósciszewski ascribes the failure of the operation to imperfect technique.

(To be continued.)

Doses in German Pharmacopeia.—In the new edition of the Pharmacopeia Germanica patent-protected names are avoided as much as possible and the scientific term used. Salol, for instance, is recorded as phenyl salicylate, etc. The new names introduced in this class are: dermatol as basic bismuth gallate, trional as methyl sulphonol and salipyrin as phenyldimethyl-pyrazolon salicylate. The *Berliner klin. Woch.* quotes some of the new maximal doses with an exclamation point after each. Among them are bromoform, .5 to 1.5; hydrargyrum salicylicum, .02; the single dose of creosote has been changed from .2 to .5. The daily dose of tincture of strychnin is given as 1 to 2; of folia digitalis .2 to 1, and of the tincture, 1.5 to 5.

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HEREDITY AS A FACTOR IN THE ETIOLOGY OF PULMONARY TUBERCULOSIS.

Conflicting opinions have at different times existed as to the importance of heredity in the etiology of pulmonary tuberculosis. It is, however, scarcely maintained any longer that the disease itself is so transmitted, but rather that it is some vice of tissue—and therefore some aberration of function—that is thus conveyed from parent to child. Rarely tuberculosis is congenital, but even then the disease is not inherited, but merely acquired by the fetus *in utero* from the mother through the placenta. There can be no tuberculosis without tubercle bacilli, and these bacilli can not be inherited, although the susceptibility to their invasion can be and is. Some interesting data bearing on this subject are presented in a lecture delivered recently by Thomas Oliver.¹ From the statistics of the Mutual Life Insurance Company, of New York, it appears that a family history of tuberculosis indicates a liability to the disease on the part of an applicant for life insurance, and that the amount of this increased liability may be estimated at 30 per cent. This liability is naturally the greater when there is a history of two or more tuberculous persons in a family, and also when the disease occurs in a parent than when it occurs in a brother or sister.

By some it is believed that, of the parents, the mother is more likely than the father to transmit the liability if she herself or her family be tuberculous. The statistics of the Mutual Life Insurance Company, however, indicate the reverse, showing that the percentage of liability to pulmonary tuberculosis between 20 and 29 years is 43.3, when the father, and 36.5 when the mother has died from that disease; between 30 and 39 years the figures are 16.1 and 17.1 respectively; between 40 and 49 years, 10.4 and 7.5 respectively; and above 50 years, 9.6 and 4.6 respectively. In the experience of the Scottish Widows Fund, however, undoubted pulmonary tuberculosis is more frequently transmitted by the mother than by the father, the ratio being 6.29 on the side of the latter, as against 8.97 per cent. on the part of the former.

Tuberculous patients are below the normal in weight. It is an accepted fact that the highest mortality-percentage from tuberculosis and the highest proportion of underweights are encountered before middle age, and

the lowest mortality-percentage and the highest proportion of overweights after middle age. In persons with no history of pulmonary tuberculosis in the family twice as many deaths occur among those below as among those above the average weight, while in families with such a history the percentage is greater—a circumstance that indicates that poor physique and enfeebled nutrition play some part in the etiology of the disease. In the experience of the Scottish Widows Fund, 80 per cent. of sufferers from pulmonary tuberculosis fall short of the average weight for height. Light weight and especially losing weight are precursors of pulmonary tuberculosis. Robust bodily development, on the other hand, while not without a favorable influence, does not prevent pulmonary tuberculosis, for the strongest athlete with a splendid physical frame, if a member of a tuberculous family, may succumb to the inherited disease. Neither does robust physical development, even in the absence of a tuberculous family history, insure against the danger of the disease. All are liable, but unequally so.

A study of all the cases admitted into Brompton Hospital for Consumptives, from 1855 to 1880, shows that when there is a family history of pulmonary tuberculosis, the members of that family who become tuberculous do so at an earlier age than do those of a family free from the disease who acquire it; also that when there is a history of tuberculosis in both parents, there is not only greater liability to the disease, but it develops at a still earlier age than when there is but a single inheritance. Among 3000 cases, 38 per cent. occurred in males and 58 per cent. in females who gave a family history of pulmonary tuberculosis. In 80 cases of well-marked family tuberculosis there was a history of paternal inheritance in 24, of maternal inheritance in 30, of double heredity in 24, and of atavism in 12. In these 80 families 385 children were born, 203 males and 182 females. In these tuberculosis appeared in 98 males and 96 females; and there died from this disease in childhood, 21 males and 16 females, while 84 males and 70 females remained apparently healthy. From these figures the conclusion is reached that the effect of paternal inheritance on males is to cause pulmonary tuberculosis to appear at an earlier age than in the parent and to reduce the constitutional resistance of the individual to the disease, while in females also it causes an earlier manifestation of the disease, but if anything, increases their resistance to it. The influence of tuberculous mothers, on the other hand, on their male offspring, is to increase the tendency to rather copious bleedings from the lungs, a circumstance that is not noticeable in females.

THE ETIOLOGY OF YELLOW FEVER.

The belief is growing that insects are important, even essential factors in the etiology of certain diseases. That malaria is inseparably connected with a mosquito that acts as an intermediate agent in the dissemination of

1. Lancet, Nov. 10, 1900, p. 1335.

the disease, has been proved definitely by suitable experiments, and the mosquito theory of malaria is in accord with the epidemiologic facts of the disease. Certain observations in the American typhoid camps of the Spanish-American War have brought the fly to the fore as a probable and dangerous carrier of typhoid fever. For some time past great interest has been taken in the etiology of yellow fever, and since the recent studies of Reed, Carroll and Agramonte on the rôle of the mosquito in this disease,¹ additional data have been awaited with much eagerness. Important additional evidence of the etiologic importance of mosquitoes—*Culex fasciatus*, Fabr.—in yellow fever is given in the paper presented by these investigators at the recent Pan-American Medical Congress in Havana, and published in this issue of *THE JOURNAL*. A few comments on this important paper may be ventured. At first thought one might be tempted to characterize the experiments carried out on the human beings as unwarrantable, but as we are assured that everything was done with the full consent and full knowledge of the nature of the experiments on the part of the non-immunes who placed themselves at the disposal of the experimenters, there can be no adequate reason for complaint on this score. Whatever the opinion concerning this phase of the experiments, it in no way modifies the scientific value of the results. The non-immunes that allowed themselves to be bitten by mosquitoes that previously had sucked the blood of yellow fever patients, as well as the persons who slept in the "Infected Clothing and Bedding Building," seem to have submitted themselves unreservedly to the requirements of the experiments. There are examples here of unselfish devotion to the cause of humanity and of science.

The results of the experiments support the mosquito theory of yellow fever. The data are as yet rather scanty for the establishment of absolute conclusions with regard to all phases of the etiology of this disease, the specific cause of which is unknown. It seems well settled, however, that mosquitoes that have fed on the blood of yellow fever patients may transmit the disease to non-immunes. No one will doubt the far-reaching importance of this demonstration! Some evidence is also brought forward to show that exclusion of the intermediate host for the parasite of yellow fever renders the disease intransmissible. The results of experiments with infected clothing and bedding must be viewed in this light. The statement that "disinfection of articles of clothing, bedding, or merchandise, supposedly contaminated by contact with those sick with this disease—yellow fever—is unnecessary," seems to go a little further than the facts warrant; for it has not yet been shown that the intermediate host might not pick up, as it were, the parasite of the disease from these contaminated materials. In the future it is possible that the prevention of yellow fever may be reduced to the protection of both sick and well from the bites of *Culex*

fasciatus, and to the destruction of this mosquito, should it be found to be the only intermediate host capable of transmission of the disease.

THE PATHOLOGY OF AKROMEGALY.

Lesions of the pituitary body have been found in so large a proportion of cases of akromegaly in which post-mortem examination has been made that, according to the prevailing view, the symptoms of the disease are to be attributed to such lesions, the pituitary body being believed to exercise some influence—of an inhibitory nature—on the growth and development of the skeleton, and the removal of which permits of hypertrophy of the bones. Some enlargement of the pituitary body has been observed also in cases of myxedema and cretinism; while, on the other hand, tumors of the pituitary body are sometimes unattended with symptoms of akromegaly and, as has been indicated, no change in the pituitary body has been noted in some cases of akromegaly, this body having been entirely wanting in at least one case. In many, further, the thyroid gland has been enlarged; and the thymus has been persistent in some. Enlargement of the spleen, hypertrophy of the breast, and changes in the pancreas and the ovaries—together with menstrual derangement—have also been occasionally observed. In view of the facts, therefore, the question can reasonably be asked whether the change in the pituitary body may not be merely one part of the morbid anatomy, in turn giving rise to certain symptoms peculiar to itself, and, together with the other changes due to some as yet undiscovered underlying common cause.

To the growing list of cases of akromegaly presenting lesions of the pituitary body, Mendel¹ adds another, in which this gland was the seat of a sarcoma. The patient was a woman, 29 years old, in whom characteristic symptoms had been present for six years. In addition to the typical changes in the skeleton—the hyperplasia of the supraorbital margins, the malar arches, the lower jaw, the hands and feet—there was temporal hemianopsia, with enlargement of the thyroid gland, abolition of the knee-jerks, and amenorrhea. Subsequently there developed also intense frontal and occipital headache, and severe and at times incoercible vomiting. Remissions occurred from time to time, but these were attended with polyphagia and polydipsia. The breasts were enlarged, notwithstanding the general emaciation. Treatment with a preparation of pituitary gland was without avail. Death occurred suddenly in an attack of pain. On post-mortem examination a tumor rather larger than a walnut was found at the base of the brain, in the region of the optic chiasm. The growth measured 6.5 cm. in its greatest width, and 3.5 cm. in its greatest thickness, and it was of soft, spongy consistence and grayish-red in color. On histologic examination, it proved to be a large, round-cell sarcoma, with connective-tissue septa in places, in part

1. *JOURNAL A. M. A.*, Nov. 3, 1900, p. 1156 and p. 1170.

1. *Berlin. klin. Woch.*, 1900, No. 46, p. 1031.

in process of myxomatous transformation. The tumor extended forward into the substance of the orbital temporal convolutions. On section, it was found that posteriorly it virtually occupied the third ventricle, extending symmetrically from below and the middle line into the greatly dilated lateral ventricles. The head of the eandate nucleus, a large part of the fibers of the knee of the corpus callosum, as well as both optic thalami, and the substance of the orbital temporal convolutions, were involved in the growth. The optic tracts were reduced to fine threads and were displaced by the tumor. The chiasm was represented by a thin band, resembling connective tissue. The sella tureica was excavated and enlarged in all directions. Its walls were thinned anteriorly as well as posteriorly, but the bone was not invaded by the new-growth. There was no trace of the normal structure of the pituitary body. The thyroid gland was greatly enlarged from the presence of colloid material; the thymus gland was persistent; the spleen was enlarged and softened; the right ovary was cystic; the mammary glands were excessively developed. Apart from uniform increase in size, the bones of the skeleton presented no abnormality; and the heart, lungs, liver and kidneys also were normal.

NEW FIELD FOR TRAINED NURSES.

From an editorial paragraph in a British contemporary¹ we learn that one of the latest fads over there is having trained nurses for pet dogs. We have heard of women nursing dogs before, but this is the first notice of that function of trained nurses. There is so much said nowadays of the high ideal, etc., of the nursing profession that it is something of a shock when this evidence comes to hand that, to some extent at least in Great Britain, it is literally "going to the dogs." So far as known this bestial fad has not appeared as yet in this country, though a combination of zoophile and anglomaniae possibly exists that may introduce it.

DIPLOMA-MILL GRADUATES IN MICHIGAN.

The Armstrong diploma-mill products located in Michigan are making a fight for their professional existence, and are unscrupulously using all means to that end. As an example of their zeal a circular explaining itself as "an appeal to the medical profession of the state" has been sent out seeking signers for a petition to the governor and legislature asking that the law be amended in their behalf. One argument used by them is that the present law will be declared unconstitutional by the U. S. Supreme Court. "Having a knowledge of all this," says their spokesman, "we do not think it wise or prudent to open up Michigan once more as a dumping ground for quacks." Whatever the judicial opinion may be on technical points of the law, the anxiety of these fellows whose medical qualifications were derived from the convicted fraud Armstrong and his quack manufactories to keep Michigan from being a "dumping ground" is sufficiently peculiar and conspicuous to be noteworthy.

EXPERIMENTAL TRANSPLANTATION OF INTESTINE INTO THE STOMACH.

Experimental operations on the gastro-intestinal tract have been long a favorite field for the investigator. The contributions to experimental intestinal surgery by Senn have exercised a marked stimulus on the workers in this field. The purpose of these investigations is an exceedingly practical one, namely, to lay a sound foundation for the complicated and difficult surgical measures necessary to meet the numerous and varying indications presented in curative abdominal surgery. Recently Reerink¹ undertook to demonstrate whether large defects in the anterior wall of the stomach could be filled satisfactorily with implanted pieces of the intestine. For this purpose he excised a segment of the colon in dogs, reunited the divided ends of the colon, and sutured the piece of intestine, after laying it open, into a corresponding defect in the anterior wall of the stomach. After the first two or three mishaps he succeeded in securing firm fibrous union of the implanted intestine to the walls of the stomach. The final fate of the implanted piece has still to be determined by new experiments. Contingencies are easily imagined in which this procedure may be of advantage in human surgery—after excision of tumors and of ulcers of the stomach, for instance. In few fields is the ingenuity of the experimenter more quickly rewarded by increased facilities for expansion of surgical intervention than in experimental surgery of the abdomen.

MEMBRANOUS ANGINA DUE TO OTHER MICRO-ORGANISMS THAN DIPHTHERIA BACILLI.

It is by no means always safe to make a diagnosis of diphtheria from the presence of so-called false membrane in the throat or upon any other mucous or epithelial surface, as it is perfectly well known clinically, and has been demonstrated bacteriologically, that such a condition may be due also to the activity of other micro-organisms than diphtheria bacilli, and even without the intermediation of bacteria; for instance, as a result of the action of hot liquids or corrosive poisons or vapors. Thus, it has been shown that the angina of scarlet fever is not dependent on the activity of diphtheria bacilli, but is probably due to that of streptococci, and the oidium albicans is capable of giving rise to depositions of thrush that may cause some doubt in diagnosis. In addition to these, it is pointed out by Dr. W. G. Bissell² that the micrococcus of sputum-septicemia may cause the formation of a membranous deposit in the throat indistinguishable clinically from that of diphtheria. In the experience of the Bureau of Bacteriology of the Buffalo Department of Health there has been no fatal case of membranous angina due to the oidium albicans, although several cases of this character, due to streptococci and the micrococci of sputum-septicemia, have been observed. It is thought that these disorders, if at all communicable, are less so than diphtheria. These facts emphasize the necessity, already appreciated, of submitting to bacteriologic examination material from diseased throats, and governing the stringency of

1. Ziegler's Beitr., 1900, xxviii, 524-540.

2. Buffalo Med. Jour., December, 1900, p. 312; JOURNAL A. M. A., Dec. 15, 1900, p. 1584, 59.

isolation in accordance with the identity of the micro-organisms present.

MARRIAGE LEGISLATION.

In no less than three states at the present time enactments regulating marriage are before the legislatures, and apparently with some prospects of success. They are alike in their general provisions, prohibiting the union when one or the other of the candidates for matrimony is not physically sound, is subject to insanity, epilepsy, tuberculosis or other hereditary disease. In one state the proposed law apparently prohibits marriage if one or both the parties are members of a family tainted with these disorders, and in one there is an age limit established for women at 45 years, according to the newspaper reports of the bill. This probably is the same provision as is contained in a similar enactment in an eastern state in which marriage was permitted after the presumed reproductive period had been passed, and not a prohibition of marriage after that age. The difficulty with these and any similar laws is the impossibility of executing them; there may be a heavy penalty for the forbidden marriage in one state, but the ceremony can be legally performed a few miles away in another, and then the relations must be recognized as legal everywhere within the United States. So long as there is any part of the country where such laws do not prevail, they can be rendered ineffective. There is still another objection—if legal marriage is made difficult, illegal births become more frequent and illegitimacy may be added to degeneracy in a considerable portion of the population, a result certainly not to be desired. It would be an excellent thing could we prevent the propagation of diseased heredity. The sum of human happiness would be increased if fewer people were almost inevitably predestined from birth to suffering and disease, but the question is how far can we prevent it by law with our present social and political institutions. The experiment seems likely to be tried, possibly on an extensive scale, and the results will be of interest.

USE AND PRESCRIPTION OF ALCOHOL.

The Woman's Christian Temperance Union has issued a circular to physicians asking their aid "in the efforts being made to remove as far as possible all tendencies and temptations toward the formation of the drink habit." It particularly requests physicians to warn patients against the home prescription of alcohol and the use of proprietary medicines containing alcohol and other narcotic drugs. The circular would, however, be more effective with the medical profession generally did it not imply in other statements it contains, that alcohol has no value under any conditions as a medicine. There are, we know, physicians of acknowledged reputation who hold this view, but there is a much larger number, most of them, we believe, in full sympathy with the objects of the Woman's Christian Temperance Union, who maintain that it has its uses and that in certain morbid conditions nothing can well supply its place. These views are honestly held by, we believe, the great majority of the medical profession, and are perfectly compatible with the strictest temper-

ance principles. A conscientious physician, holding that alcohol is a poison, but like many other poisons useful as a medicine under certain circumstances, would employ it as he would other poisons with all precautions against arousing appetite; he might even consider the dangers of alcohol to contraindicate its use in certain cases, notwithstanding its therapeutic value. The W. C. T. U. would have done better, we think, to have recognized the possible value of alcohol as a medicine, or at least the difference of opinion in regard to it, while not abating in any way the general condemnation of its indiscriminate prescription for ailments when it is not needed, and they would have then had the unqualified support of a vast majority of the medical profession.

SERUM TREATMENT OF MALIGNANT TUMORS.

Wlaeff immunized geese with blastomycetic organisms obtained from malignant tumors by Curtis, Plimmer and Sanfelice. He then subjected some 26 patients with carcinomas and other tumors to treatment with the serum of the immune geese.¹ The results are reported to show that the serum, which for some reason not stated is called anti-cellular, is quite harmless and free from danger; there forms a swelling at the seat of injection; the tumor itself swells up; later it diminishes in size, and eventually after repeated injections it may become encapsulated; regional lymphatic glands return to their normal size in case they are the seat of inflammatory enlargements, and those that are invaded by metastases diminish in volume. In favorable cases it is claimed that the serum may cause diminution in the size of the tumor and arrest of its evolution. Some abatement follows serum injections, also in advanced cases with ulceration and metastases. Among the general effects of the serum are noted: Some rise in temperature, shooting pains in the tumor, increase in strength and weight, return of sleep and appetite, marked leucocytosis, and occasionally an urticarial eruption. Seven to twelve cubic centimeters are injected subcutaneously in the thigh, the injections being repeated every 5 to 8 days. Wlaeff regards this treatment as the most valuable we now have. Whether a complete cure is obtainable by his method remains to be seen. At present he is working with asses, hoping to thus obtain a more efficacious serum. It is safe to say that this method as yet rests on a rather insufficient scientific basis. It is true that Curtis, Plimmer, and Sanfelice isolated blastomycetes from human tumors; and Wlaeff as well as Sanfelice claim they have produced true tumors in animals by injection of some of these organisms; but this claim has not been generally accepted, the common opinion being that the resulting growths are of inflammatory origin. In some of Wlaeff's experiments, however, epithelial proliferations with much similarity to adenoma are recorded, concerning the nature of which, whether inflammatory or truly neoplastic, there seems to be room for well-founded doubt. Wlaeff says that his serum cures infected animals, whereas the controls die from "tumors" and cachexia. It is also rather singular that serums produced by injections of different organisms from different kinds of tumors should have similar action on various tumors in human patients. The "anti-cellular" serum lacks the

1. *Compt. Rend. de Soc. de Biol.*, 1900, III, 1030-32.

specificness, which is expected from analogy with other sorts of anti-serum. Naturally, the results here referred to must be confirmed by others before they may be accepted as at all decisive. They show, however, the direction in which the blastomycetic theory of malignant tumors is leading investigation.

CALIFORNIA'S PLAGUE LEGISLATION.

THE JOURNAL has already editorially noticed some extraordinary recommendations in the recent message of the Governor of California. These have since borne fruit in a bill offered in the state legislature which makes it a felony for any person "to publish by any writing or printing that Asiatic cholera or bubonic plague exists or has recently existed within the state unless the State Board of Health thereof has first determined such to be the fact and has entered a record of such determination upon the minutes of such board." This proposed law would therefore require a physician recognizing one of these diseases to suppress the fact until the State Board of Health chooses to investigate the matter and have the diagnosis regularly entered on its minutes, a procedure that would be eminently incompatible with the interests of the public as regards precautions against the spread of the disease. It is hard to understand how any rational legislator can fail to see this aspect of the case, and should the measure pass it can only be ascribed to a wave of acute imbecility involving the legislature. The bill as it stands is, as a California paper expresses it, "An act to make perjurers out of reputable physicians under penalty of being felons if they tell the truth." It is satisfactory to see that some newspapers in that state take a sensible course in regard to the matter, in spite of the apparent unreasoning craze that seems to have taken possession of the authorities. Unless the people of California come to their senses about the plague they may find themselves more seriously involved than they expect. The San Francisco Board of Health is undoubtedly doing what it can to check the spread of the plague, and so far with much apparent success, but there can be no assured confidence that it will be entirely stamped out as long as the state authorities adopt the ostrich policy of denying its existence, and the presumption exists that their action is in accordance. Such legislation as is proposed and the course of Governor Gage and the San Francisco press will do the state much more harm than good. What this country and other countries wish to know is that the California authorities are doing what they can to eradicate the pest. So far they have apparently done nothing but protest, and that altogether too much.

THE RELATION OF MALARIA TO THE GEOGRAPHIC DISTRIBUTION OF THE MALARIA-BEARING MOSQUITO.

Grassi asserts that the geographic distribution of the genus *Anopheles*, the mosquito of malaria, in Italy coincides with that of malaria. He thinks that a like coincidence will be found the world over. In the first number of the *Journal of Hygiene*, a new publication from Cambridge, England, founded for the purpose of the publishing in the English language of original work

in hygiene, Nuttall, Cobbett and Strangeways-Pigg show quite clearly that Grassi's claim has no general application; for they have found *Anopheles* in many parts of England "where there is no record of malaria having previously existed, and where there is certainly no malaria to-day." Celli also has found *Anopheles* in healthy places in Italy in which there has never been malaria. The disappearance of malaria from Great Britain consequently does not depend upon the extinction of mosquitoes capable of harboring the parasites of malaria. The English investigators mentioned found *Anopheles* most numerous in low-lying land with stagnant water, in every way suitable for their habitat, and corresponding to former malarious districts. The disappearance of malaria is therefore attributed to several causes other than extinction of *Anopheles*, such as reduction of the numbers of this mosquito due to drainage of the land, reduction of the population by emigration, and possibly the use of quinin. Emigration would reduce the number of infected persons and thus lessen the source of infection of *Anopheles*, and the same result would follow the use of quinin, which checks the development of parasites in the blood. Probably drainage was the most efficient cause; at all events the older authors largely ascribed to it the disappearance of ague. As the geographic distribution of *Anopheles* is wider than that of malaria, it would seem as if an essential factor in the etiology of malaria is the number of *Anopheles* in any one place. The occurrence of *Anopheles* in non-malarious districts explains the occasional development of malaria in unexpected places without refuge to the assumption that malaria-bearing mosquitoes have been imported, as a malarious patient might well infect the local insects. Investigators studying malaria in various parts ought to follow the lines laid down in this report and search as carefully for *Anopheles* in non-malarious as in malarious regions. Only by such work is definite knowledge obtainable in regard to this phase of malaria and whether other blood-sucking insects may be the hosts of the malarial parasites.

THE DISSEMINATION OF THE TUBERCLE BACILLI FROM COWS IN COUGHING.

Inasmuch as the lungs are the most common seat of tuberculosis, and infection occurs through the dissemination of the discharges of the morbid lesions, the sputum constitutes the most frequent medium of communication. It has been shown that the milk of tuberculous animals may assume this rôle, even when the mammary gland and the nipples are not the seat of the disease; and occasionally infected flesh used as food, and imperfectly cooked, may act in a similar way. Human beings, however, are considered the worst offenders in this connection, by reason of the pernicious practice of promiscuous spitting, although it has been shown that tubercle bacilli may be contained in the fine particles ejected in the act of coughing. While the lower animals can not be charged with the offense of spitting, they do, however, cough; and it has, perhaps, not been sufficiently appreciated that in this way they may additionally aid in the spread of tuberculosis. That such a mode of dissemination is at least possible is demonstrated by some experimental observations made

by Dr. M. R. Ravenel,¹ in the laboratory of the State Live Stock Sanitary Board of Pennsylvania, which illustrate, besides, one of the beneficent objects to which intelligently administered boards of this character can devote themselves. By means of an ordinary nose-bag, near the bottom of which was arranged a shelf of sterilized soft pine wood, and kept in place for varying periods of time, the smallest particles ejected by tuberculous cows in the act of coughing were caught, then removed with a platinum needle to a cover-slip and examined microscopically. In this way it was possible to invariably demonstrate tubercle bacilli in the bronchial secretion from five tuberculous cows—twenty times in thirty-four examinations. In some instances, in which microscopic demonstration failed, inoculation experiments yielded positive results. As is pointed out, the danger to human beings from such atomized sputum is confined to those who come into contact with the animals, but it is much more constant and more pronounced for other animals in the same stable.

Medical News.

CALIFORNIA.

Dr. Luther M. Powers was re-elected health officer of Los Angeles, January 29.

Dr. Myrtle Aplin, East Highlands, formerly house physician at the Lane Hospital, San Francisco, has been appointed resident physician at the State Insane Asylum at Napa.

COLORADO.

New Medical Bill.—Dr. Benjamin F. Jefferson, Steamboat Springs, senator from Routt County, has introduced a bill into the senate which places the practice of medicine in the state entirely under the control of the State Board of Medical Examiners, which consists of five regulars, three homeopaths and one eclectic, to be named by the governor.

A Glenwood Springs physician set at defiance orders issued by the mayor to report to the municipal authorities all cases of contagious disease, and treated five cases of smallpox, reporting later to the secretary of the State Board of Health that he had the patients under supervision. The local board of health has instituted legal proceedings against him.

Prize Essay on the Dangers from Quackery.—The Colorado State Medical Society offers a prize of \$25 for the best essay, deemed worthy of the prize, pointing out the dangers to public health and morals, especially to young persons, from quackery as promulgated by public advertisements. The competition is open to all. Essays must be type-written, in English, and submitted before May 15. Each essay must be designated by a motto, and accompanied by a sealed envelope, bearing the same motto, and enclosing the name and address of the author. The essay receiving the prize will become the property of the Society for publication. Others will be returned on application. Essays should be sent to the Literary Committee, room 315, McPhee Building, Denver, Colo.

ILLINOIS.

The Use of the Title "M.D." or "Dr." by those who have not first obtained a license to practice medicine under the laws of the state is prohibited in a bill introduced by Representative Jones, of Cook County, February 6.

Medical Legislation.—If Senator Stubblefield's amendment which provides that nothing in the act shall be construed to apply to any person who ministers to or treats the sick or suffering by massage or by mental or spiritual means without the use of any drug or material remedy prevails, the new medical bill will be detrimental to all. The word "massage" will let down the bars to a great horde of quacks and charlatans who will work the gravest injury to public health and demoralize the medical profession. A committee has been appointed by the Illinois State Medical Society to combat the amendment, and is now conducting a most active campaign against the proposed measure. The co-

operation of the sixty medical societies throughout the state has been invited and physicians all over the state are enlisted in the cause and are using all endeavor to defeat the bill.

Chicago.

Dr. William H. German will continue the work of the late Dr. Charles W. Purdy, of which he has been in charge for some months past.

Medical Students in parties of ten are being taken three times a week, by health department officials, to the Isolation Hospital to learn more of smallpox by actual observation of patients in that institution.

Wesley Hospital has received two donations of \$5000 and \$1000 from donors whose names are not to be announced until the dedicatory exercises of the new hospital, in May. The donations thus far received by the hospital amount to \$191,000.

Hospitals benefit to the extent of \$50,000 each by the generosity of the late Albert A. Munger. The institutions named are the Women's and Children's Hospital, the Chicago Foundlings' Home, the Chicago Nursery and Half-Orphan Asylum and the Home for Incurables.

A Hindu victim of the "International Medical College" has made an appeal to the world to prove his genuineness as a physician. He paid for his diploma, but his practice suffered when the president of the "college" was convicted of fraud. He supplements his appeal by testimonials, protests and other documents signed by high officials of India.

Health Conditions.—In every respect, except as to influenza, public health conditions continue to be satisfactory. The weekly bulletin of the health department announces that the threatening indications of the first three weeks of the year, during which the death-rate was 16.5 per 1000, as against 16.1 during the corresponding period of 1900, have subsided during the last three weeks, in which there were 125 fewer deaths than last year and a change in death-rates from 15.5 per 1000 in 1900 to 14.2 this year. Typhoid fever, diphtheria, scarlet fever, bronchitis and pneumonia death-rates are unusually low for the season of the year and remarkably so in the presence of influenza.

Scarcity of Ripe Vaccine.—Subsidence of the smallpox outbreak is especially fortunate in view of the scarcity of ripe vaccine. This scarcity has led producers to furnish lymph that has not been exposed to the action of the glycerin long enough to sterilize it properly. Such lymph produces very severe symptoms and the old-time "sore arms" of the vaccine "point." So serious had this become that school vaccination was suspended temporarily by the commissioner of health on February 8. It is expected to resume in a short time—as soon as the daily examinations in the laboratory show that the lymph is in proper condition. The emergency is not deemed grave enough to warrant the use of lymph which causes so much useless suffering and disability. Added severity of vaccination adds nothing to its protective power against smallpox; it is simply an evidence of impurity in the lymph—impurity which is removed by the action of the glycerin in from fifty to sixty days.

INDIANA.

Dr. Joseph L. Bell, Richmond, has been appointed assistant-surgeon in the army, and is ordered to report at Fort Crook, Neb.

An anonymous benefactor has added \$10,000 to the \$4000 already subscribed for the projected Union Hospital at Crawfordsville. This donation will assure the establishment of the hospital.

Hospital for Inebriates.—The committee on inebriety, of the State Board of Medical Registration, met at Indianapolis, February 1, and prepared a bill asking for an appropriation of \$100,000 to found a state hospital for inebriates.

"Christian Science."—Senator Wood, of Lafayette, is making a fight in the legislature against "Christian Science." His bill makes it a felony for one having the care of a dependent person to withhold medical attention from such person on account of "Christian Science," death resulting from such withholding.

IOWA.

Smallpox is reported in more than forty localities in the state.

Dr. Benjamin W. Searle has been appointed pension examiner at Ottumwa.

Dr. Benjamin F. Campbell, Burlington, has been appointed physician of Des Moines County, vice Dr. Albert C. Zaiser, resigned.

1. Proceedings of Path. Soc. of Phila., N. S., iv, No. 2, p. 26.

The new coroner for Clinton County, to fill the position made vacant by the death of Dr. Charles Osborn, for the unexpired term, is Dr. Schuyler C. Hamilton, of Lyons.

Dr. Charles R. Russell, Ottumwa, has been reappointed physician of Wapello County, and Dr. E. A. Shaafe, also of Ottumwa, physician for three townships in the county.

Dr. Joseph A. Scroggs, Keokuk, has retired from the State Board of Health and the State Board of Medical Examiners, February 1, after serving for seven years, the latter part of the time as president.

MARYLAND.

Dr. William Osler, Baltimore, has given \$1000 to the endowment fund of the library of the Maryland Medical and Chirurgical Faculty.

Dr. Lindsay Peters, formerly an assistant to Dr. Howard Kelly, has been made one of the resident staff of the insane department of Bayview Hospital, Baltimore.

Dr. William Whitridge, Baltimore, was elected president of the Maryland Society for the Prevention of Cruelty to Animals, at the twenty-eighth annual meeting, held January 19.

Dr. Thomas B. Owings, health officer of Howard County, recently discovered three cases of smallpox at Hanover Switch, near Elkridge. Many persons had been exposed and the cases had not been reported. A general outbreak is feared.

MICHIGAN.

An unlicensed Practitioner, of New Troy, has been arrested at the instance of the officers of the Berrien County Medical Society, for practicing in violation of the state law.

Dissection material in quantity sufficient to supply the needs of the students of the University of Michigan is difficult to secure, as the number of students has increased disproportionately with the number of unclaimed bodies of those who die in public institutions.

January Health of Michigan.—The report of the secretary of the State Board of Health shows that in the month of January, compared with the average in the ten years preceding, typhoid fever and smallpox were much more prevalent, and diarrhea, intermittent fever, erysipelas, remittent fever, measles, cerebrospinal meningitis and whooping-cough were less prevalent than usual.

New Medical Registration Board.—The governor appointed, on January 31, a new state board of medical registration, the appointments of the previous board having never been confirmed. As the board now stands, only four of the ten members hold over. It is composed of the following: Drs. Joseph B. Griswold, Grand Rapids; George E. Ranney, Lansing; Walter H. Sawyer, Hillsdale; Austin W. Alvord, Battle Creek; Henry B. Landon, Bay City, and five from other schools of medicine.

MINNESOTA.

Dr. David N. Jones, Gaylord, has been appointed a trustee for the state hospitals for the insane.

State Medical Examiners.—The governor has appointed Dr. Albert G. Stoddard, Fairfax; Dr. William Davis, St. Paul, and Dr. Albert F. Groves, Brainerd, members of the board.

Sanatorium for Consumptives.—A bill was introduced in the senate February 2 providing for a state sanatorium in the pine woods, for the treatment and cure of consumptives. It carries an appropriation of \$150,000, with an annual appropriation of \$50,000 for maintenance.

Osteopathic License.—A bill was introduced in the senate, February 2, providing that graduates of any legally incorporated school of osteopathy, may, on presentation of their diplomas and the payment of a fee of \$2 to the secretary of state, secure a certificate authorizing them to practice osteopathy in the state. A penalty of from \$50 to \$100 is provided for practicing without such license, or obtaining one by fraud. Osteopathy is declared not to be the practice of medicine within the meaning of the state medical law.

MISSOURI.

Non-resident physicians are prohibited from practicing medicine in the state by proxy, by a bill passed by the state senate, February 5.

A State Hospital is proposed for the benefit of the sick poor of Missouri who now are sent to St. Louis for treatment, thus imposing a disproportionate burden on the municipal finances.

Under the new law Dr. James K. Graham, St. Joseph, has been appointed physician for the newly organized county board

of health, and Dr. Carl Bitter, St. Charles, for that of St. Charles County.

The Smallpox Bill.—This, the first bill passed by the state legislature, provides for the creation of a county board of health in each county, which shall appoint a reputable physician. These county boards shall have the same powers and authority as are already given to the State Board of Health, within their respective limits, exclusive of incorporated cities and towns, regarding quarantine regulations and the prevention of the spread of communicable diseases therein.

NEW YORK.

Dr. Eugene J. Hanratta, Watervliet, has been reappointed city physician.

Dr. John C. Brown, Albany, has been appointed penitentiary physician, vice Dr. Charles H. Richardson, resigned.

A Smallpox Expert.—The State Board of Health has sent a smallpox expert to tour the state as an inspector, visiting the various places where smallpox has developed, and giving such advice to the local health authorities as may be needed.

Consumptive Hospital.—A bill has been introduced in the senate appropriating \$100,000 to apply on the construction of the State Hospital for Incipient Consumptives. An appropriation was made some time ago, and if this bill passes, there will be enough money available to build a hospital with accommodations for 100 patients.

A Practitioner of Medicine.—According to an amendment to the Bell bill, approved by the state and New York City and County Medical associations a practitioner of medicine is one "who shall give treatment to any other person by the use of any remedy, agent, or method whatsoever, whether with or without the use of any medicine or instruments, or other appliances for the relief or cure of any wound or fracture, bodily injury or infirmity, physical or mental disease."

Buffalo.

Dr. Harry Mead has tendered his resignation as captain and assistant-surgeon of the Sixty-fifth regiment, N. G., N. Y.

Dr. Frederick W. Barrows, professor of histology and biology, at the University of Buffalo, was elected president of the New York State Association of Science Teachers at its recent meeting held at Rochester.

Dr. Eugene Wasdin, U. S. Marine-Hospital Service, now stationed at Buffalo, has been tendered by the Italian government the cross of officer of S. S. Maurizio et Lazzaro in recognition of his services in verifying and confirming the Italian studies and discoveries regarding the nature of yellow fever.

Charges Against Fitch Hospital.—Recently one of the daily papers made sensational charges against the superintendent and house physicians of the Fifth Accident Hospital. The hospital committee of the institution has found the charges without foundation, but the trustees of the Charity Organization Society of which the hospital was a branch, by resolution, welcome an inquiry by any responsible public authority, and charge and instruct all committees and employees of the society to give every facility for the full discovery of the facts and to render all assistance in their power.

New York City.

Home for Male Cancer Patients.—The Dominican sisters, who have in charge the recently established St. Rose's Free Home for Incurable Cancer Sufferers, have taken steps toward raising \$40,000 to establish a similar home for such male patients.

Insanity Laws.—The New York Neurological Society and the State Charities Aid Association have each passed resolutions condemning any amendment to the state insanity laws, which would do away with the provision that the medical member of the commission shall have had five years' actual experience in the care and treatment of the insane.

Testimonial to Prof. Quinlan.—A complimentary dinner was tendered to Dr. Francis J. Quinlan, January 31, at which a loving-cup suitably inscribed was presented to him. Many distinguished members of the profession were present, and representatives from the various hospitals and medical schools. The dinner was given under the auspices of the New York Celtic Society.

Bellevue Hospital Abuses.—The report of the medical board to Commissioner Keller, shows that during 1900 24,300 patients were admitted to the hospital, 11,370 of which were ambulance cases. The five other principal hospitals of New York City cared for 2300 less patients than Bellevue Hospital alone. The report recommends that the insane be placed in

charge of two well-qualified, salaried physicians who shall be held responsible for the condition of every one of their patients. Pupil nurses are not considered fitted for work in the insane pavilion. Special stress is laid on the absence of proper discipline and of a system whereby all nurses are held strictly and directly accountable to the superintendent of the hospital. The present system of poorly-paid and poorly-housed helpers is found to be a source not only of discomfort but of actual disease.

OHIO.

Dr. Harry H. Hatcher, Dayton, has succeeded Dr. John C. Reeve, Jr., as district surgeon of the Erie Railway.

Dr. John C. Larkin, Hillsboro, has been appointed local surgeon for the Baltimore and Ohio Southwestern Railroad.

Dr. and Mrs. Samuel W. Kelley, Cleveland, sailed January 31 on the *Augusta-Victoria* for a seventy-day cruise of the Mediterranean.

Dr. Caroline B. Culver, Sandusky, has been appointed a member of the medical staff of the State Hospital for the Insane at Massillon.

Lakeside Hospital, Cleveland, has received \$10,000 from Mr. L. C. Hanna, to complete the erection and equipment of a ward for communicable diseases.

PENNSYLVANIA.

New Insane Hospital.—Representative Calder, of Harrisburg, on recommendation of the State Board of Charities, has introduced a bill in the house appropriating \$500,000 for the construction of a new Pennsylvania state lunatic hospital in Harrisburg. It is hoped that if the appropriation is made the building now located there will be torn down and other buildings erected, 2 for convalescents, and 2 for destructive and dangerous patients. The sum of \$350,000 will be required to erect these buildings, while the remainder of the amount is required for additional buildings.

Philadelphia.

A gift of \$1000 has been given the Episcopal Hospital.

Medical Inspection.—During January, the medical inspectors acted on 457 cases of diphtheria, 329 of scarlet fever, 352 of typhoid fever, 210 of tuberculosis, and 1 case of smallpox.

Friction at Germantown Hospital.—Owing to friction between the board of managers and the staff of regular physicians of the Children's Hospital of Germantown, the latter have withdrawn as a body and left matters in the hands of the homeopaths, who are in full control of the institution.

"Knockout Drops."—So common has it become to report deaths due to "knockout" drops and other poisons that Coroner Dugan has been urging the enforcement of the laws regarding the sale of poisonous drugs, and of preventing their sale unless on physicians' prescription.

Antivaccination Bill.—A special meeting of the board of health was held February 11, to protest against the antivaccination bill recently introduced in the legislature. The immunity from smallpox in this city at this time has been attributed largely to the enforcement of the existing laws on this subject. Only a few cases have been discovered during the year, and these ordinarily occurred among negroes who had come in contact with others from infected districts of the South.

TENNESSEE.

Dr. J. S. Dye, Chattanooga, has returned after several months spent in study in Vienna.

Chattanooga is to have an ambulance and an isolation hospital, the latter being accessible only by a special pest-boat.

Dr. Howard K. Edgerton, Lebanon, sustained a fracture of both legs, February 1, by a tree falling across his buggy while he was driving.

The Nashville Board of Health reorganized January 28 and elected Dr. William G. Ewing, president. Dr. William Bailey is the new member.

Dr. Walter S. Nash, who sued the City of Knoxville for more than \$1000 for services in the treatment of smallpox, has had his claim disallowed by Chancellor Shields.

The House of Representatives has again refused to give the State Board of Health power to control contagious diseases, where county and city officials fail in their duty. Efforts were made to exempt the cities, and otherwise make the bill acceptable over the opposition, but without avail.

UTAH.

Dr. Harry N. Mayo has been appointed to succeed Dr. Hyrum A. Anderson as physician of Salt Lake County.

Efficacy of Vaccination.—The Salt Lake Board of Health statistics show that from October 1 to December 31 there were 314 cases of smallpox in Salt Lake City, of which 291 were persons who had never been vaccinated. Of the remaining 23 cases 14 had not been vaccinated for more than twenty years.

Anti-vaccinationist Victory.—A bill introduced into the house of representatives, making it unlawful for any board of health or other board, having police powers or otherwise, to compel vaccination, or to make it precedent to the attendance of public or private schools recently passed by a vote of 37 to 6.

The State Board of Medical Examiners, in the biennial report, states that during the two years ended Dec. 31, 1900, 42 persons were examined, 38 of whom received licenses to practice. The suggestion is made that the act of the legislature regulating the practice of medicine be so amended that the board can issue certificates from other recognized state boards of medical examiners, who would accept the state board's certificates in the spirit of reciprocity.

The medical men of Ogden have entered into a combination against irregular practitioners. At a joint meeting of the two medical societies, January 18, resolutions were passed stating that the members will sign no death certificates where the dead person was treated by a non-graduate or an irregular practitioner. No specific class is mentioned, but it is understood that the doctors intended the resolutions to apply to christian scientists, faith healers and similar practitioners.

VIRGINIA.

Protest Against License.—The physicians of the state have inaugurated a movement having for its object the abolition of the special license fee for physicians in the state. At present the physician pays a license fee to the city and another to the state, graded to the extent of his practice. In addition, he pays registration fees, income tax, etc.

Physician Indicted.—A practitioner, who, it is claimed, has never taken the state examination, although he has practiced in Newport News for several years, has been indicted by the grand jury for practicing as a physician and surgeon without securing a certificate from the State Board of Medical Examiners.

WISCONSIN.

Dr. John Madden, professor of physiology, Milwaukee Medical College, has resigned.

Dr. John Phillips has been appointed special physician in charge of smallpox patients in Stevens Point, at a salary of \$15 a day.

Dr. William B. Lyman, superintendent of the State Hospital for the Insane, at Mendota, has resigned and will return to practice in Eau Claire.

Dr. Arthur L. Payne, Eau Claire, has been awarded damages of \$5300 against parties who claimed that the plaintiff had been guilty of fraud and deception in his treatment and report of a case.

CANADA.

Leprosy in New Brunswick.—According to the annual report of the Minister of Agriculture of the Dominion Government, at the Lazaretto at Tracadie, N. B., there were 4 deaths during the year among the lepers, and 3 new admissions. At the present time there are 20 lepers in the institution, 13 males and 7 females.

Counter Prescribing.—This has been a much-talked-of subject among the druggists of Toronto during the past week or two. Over a dozen have recently been in the police court, at the instance of the detective of the Ontario Medical Council, and those of them whose cases have been heard have been fined \$25 and costs or thirty days in jail without hard labor. This has been due to violations of the medical act, and is commonly called "counter prescribing."

Amalgamation of Medical Colleges.—The subcommittee for arranging a plan for amalgamation between Trinity and Toronto Medical Schools has placed its report in the hands of the general committee. It represents the labors of the subcommittee for the past twelve months. Dr. Irving Cameron was chairman of the sub-committee for Toronto while Dr. Charles Sheard acted in a similar capacity for Trinity. This report will now be sent on to the faculties of the two bodies concerned, when, after being confidentially considered by them, it will become the property of the public.

Ontario's Health.—The Ontario Provincial Board of Health held its quarterly meeting in Toronto last week, under the presidency of Dr. E. H. Vanx, of Hamilton. In his annual

address, the chairman referred to the outbreaks of smallpox in several American states, and in other places in Canada. In Ontario, smallpox has broken out during the past year in twenty districts, but the department, through prompt measures of Dr. Bryce, has succeeded in completely stamping it out in each district. Regarding diphtheria, this had shown a falling off during the year, with the single exception of Toronto, where the disease had been very prevalent for some time past, and where the deaths from it alone reached 149 during the past year. This number was remarkable, when it was known that the total death-rate from diphtheria in Ontario was 486. In the month of January there were 21 deaths from it in Toronto. Tuberculosis caused an increase in the death-rate during the year. An important item dealt with by the board was that in reference to consumptives traveling in Pullman cars, and their proper disinfection thereafter. In this connection, the board will seek to co-operate with the railway companies.

FOREIGN.

The French minister of war has ordered that lectures be delivered at army posts on the dangers of drunkenness.

In Budapesth compulsory disinfection of the residence after the death of a tuberculous person is now enforced under penalty.

Dr. G. Holzknecht has been appointed Roentgen-ray expert in Vienna, the courts having created that office on account of the frequency of legal proceedings in which the rays play a part.

Physicians' Tour.—The Paris *Presse Médicale* has organized a "tour of the universities" for a party of forty physicians, to leave May 1. The route includes Lille, Liège, Cologne, Bonn, Heidelberg, Strasburg and Paris.

Serumtherapy.—Three medico-surgical societies of Paris have arranged for a joint meeting March 7, to discuss the question of serums in therapeutics. An address on the subject is to be distributed to all the members ten days before. Similar sessions are to be held from time to time.

Supervision of Medical Journals.—A bureau of medical literature has been organized by the German minister of public instruction as a supplementary measure to his recent decree prohibiting therapeutic or other experiments similar to those for which Neisser was condemned. A complete oversight of all the medical periodicals in the country is the task of the bureau. Our German exchanges have not mentioned this innovation, but it is described in a dispatch to the Paris *Semaine Méd.*, January 30.

Tetanus from Antidiphtheria Serum.—Dispatches to the *Semaine Méd.*, dated January 19, in regard to the cases of tetanus that followed the injection of antidiphtheria serum from the Milan Institute, noted in last week's JOURNAL (p. 391), state that the deaths now number twenty. A portion of the institute building was being demolished at the time the serum was prepared, and contamination may have occurred in this way. The officials of the institute have decided that henceforth the departments in which the various serums are prepared must be entirely separate and remote from each other, and the vials are also fused instead of corked as heretofore. The *British Med. Jour.*, February 2, states that four cases of tetanus following injections of hemostatic gelatin in typhoid fever have also recently occurred in the large hospital at Rome. It was found that the gelatin was prepared in a private pharmacy. An order has since been issued by the board of health that only gelatin prepared in laboratories of recognized scientific standing is to be used.

Vaccination Difficulties in Yucatan.—The surgeon-general of the Marine-Hospital Service has received an interesting report from the United States consul at Progreso, Yucatan, regarding the smallpox in that city and vicinity, and the difficulties encountered in enforcing vaccination. He states that a portion of the population consists of half-breeds known as Mestizoes and full-blooded Maya Indians. Regarding the opposition to vaccination, he writes as follows: "In their old pagan religion the great god 'Kak' was the god of fire and of smallpox, and as God-given the disease was not only to be received without question but to a certain extent courted. Young children were sometimes actually carried to the sick one's bedside to receive the divine fire. This old belief, while not now expressed in words still holds place in their inherent superstition, hence their indifference to the vaccination and the cases of smallpox that, despite all efforts, they will conceal amid the huts. Only when death occurs and the secret can not be hid is the case made public. Fines and remonstrances are in vain with such people. They pay the one and listen to the

other with equal impassivity. Compulsory isolation in a public pest-house was tried, but this seemed to turn the passive into open menacing resistance and it was deemed best to modify the decree."

LONDON.

Report of the South African Hospitals Commission.

The report of the commission appointed to investigate the condition of the South African military hospitals, after the publication of Mr. Burdett-Connors' serious charges, has been issued. The forecast already ventured in THE JOURNAL, that the army medical corps had well performed their duties, but that the red tape of a more or less obsolete war office was at fault, has been verified. It may be remembered that the commission first met in London on July 23 and held six sittings in London, and one at the great hospital and army school of Netley. They then sailed for Cape Town and proceeded up the country, inspecting all the hospitals on the line of route of the troops and taking evidence. They visited Bloemfontein, Kroonstadt, Pretoria and Johannesburg. They then went into Natal and examined the hospitals on their way down to Durban. A difficulty was experienced in getting the evidence of private soldiers, because they were slow in making complaints, more from a feeling of loyalty to their cloth than from being punished by their superiors. But in the hospital they were no doubt deterred by fear of the consequences. Except in certain instances, the complaints against the administration of the army medical corps, against individual hospitals, and against individual officers were found to be somewhat exaggerated, and were based on an insufficient understanding of the peculiar difficulties of the campaign. But there were very serious defects in the medical organization, for which a number of thorough-going reforms are suggested. These reforms are in the main those advocated by Mr. Burdett-Connors in his letters to the *Times* which produced such a profound sensation.

Inadequacy of the Medical Staff.—The general inadequacy of the medical staff for a war of such unexpected magnitude is insisted on, but this is only part of the inadequacy of the whole military system. The medical corps was insufficient in both staff and equipment, and means were not provided by which its staff could be enlarged or its deficiencies promptly made good. This was not the fault of the medical director general and his staff, because a considerable time before the outbreak they urged upon the military authorities the necessity of an increase of the corps, but for the most part without avail.

Obsolete Ambulance Wagons.—The ambulance wagons were almost universally condemned. They were very heavy, requiring a large number of mules, and were very jolty and uncomfortable. The type used appears not to have been materially changed or improved upon for many years. The commission recommended they should be supplanted by a better type.

Lack of Transport in the General Hospitals.—The fixed general hospitals were generally not furnished with their own transport for the purpose of conveying patients between railway and other stations and the hospital. The transport was ordinarily supplied by requisition on the army service corps. This occasionally led to delay in patients being conveyed to and from the hospital, especially when convoys with sick and wounded arrived unexpectedly at railway stations. The delay was unavoidable because the hospitals had not their own means of transport at hand.

General Efficiency of the Medical Corps, but Need of Reforms.—The report does not endorse the many sweeping charges which have been leveled at the medical corps, and declares that as a whole they deserve great praise for their devotion and capacity and regrets the large number who have died in the discharge of their duty. But it admits that a feeling against the corps exists and that there is need for improvement. Many military officers distrust the skill and professional experience of the army doctors as compared with civil doctors. To a great extent the commission believes that this mistrust is unfounded. That it is not wholly unfounded is explained by the difficulties under which these army doctors work. Even in peace the corps is undermanned and overworked. The majority of the doctors have not sufficient holidays or leave of absence and no adequate opportunities of studying or keeping abreast of recent advances in medicine and surgery. In consequence there is some difficulty in obtaining men of good professional standing to join the corps. Again, the practice of appointing men to important posts by mere seniority is too rigidly followed. The commission recommends that: 1, the staff be permanently enlarged; 2, inducements be offered to ensure a supply of men of good professional attainment; 3, the men who have joined be kept, as a body, acquainted with the general progress of professional subjects.

Deficiency of Staff and Equipment for the War.—At the outbreak of the war there were available staff and equipment only two army corps. An army corps is approximately composed of three infantry divisions of 10,000 men each, and 6000 corps troops—cavalry, artillery, engineers, etc. Even the two army corps which were first employed were staffed and equipped with difficulty. When they were supplied there remained only a reserve equipment sufficient for one general and two stationary hospitals. The explanation for so small a reserve was that improvements were so often made in various articles that it was undesirable to keep a large stock of what might prove useless. For the other corps the deficiency was made up by private hospitals, civil doctors and untrained orderlies. The field-hospitals were ten short of their proper number, which caused a great strain throughout the campaign. At the time of greatest pressure—March, 1900—the total forces amounted to 207,000 men, for whom 800 medical officers—including civil doctors—6000 hospital subordinates, and 800 nurses were employed.

The State of Affairs at Bloemfontein in May.—The condition of the hospitals at Bloemfontein was the *pièce de résistance* of Mr. Contts' charges. The commission finds that when the army began to advance toward Kroonstadt the field-hospitals had to be cleared in order to accompany the troops and the patients had to be discharged into the general hospitals. As the advance continued the sick and wounded were sent back toward Bloemfontein, with the result that there was great overcrowding of the hospitals. There were deficiencies in bedsteads, mattresses, commodes, bedpans, feeding cups and hospital clothing and an insufficient staff. But this condition was almost impossible to remedy, owing to the congested state of the single line of rail on which the whole army had to rely for food. In certain cases typhoid patients, but not very ill ones, had to attend to themselves.

Skiagraphy in Diseases of the Chest.

At the Medical Society of London, Dr. H. Walsham and Dr. Clifford Beale read an important paper on this subject. In order to obtain a satisfactory shadow, either on the fluorescent screen or the sensitive plate, a powerful coil, capable of yielding a 12 to 14-inch spark, is necessary. The patient should lie prone over the sensitive plate, with the tube two to three feet above the couch, the anticathode in the tube being placed exactly vertical to the part to be examined. Stereoscopic views can be obtained by Mr. Mackenzie Davidson's apparatus. An exposure of two minutes is, as a rule, sufficient. It is always advisable to examine with the screen at the back as well as the front, and useful information can be obtained by diagonal observations. There is no danger of dermatitis when the rays are passed only for a few minutes at a time. Cases of dermatitis have been reported, but the exposures have been excessive—one-half hour to two hours. To interpret morbid shadows, normal ones must be studied. Skiagraphs were thrown upon the screen clearly showing the shadows of the heart, diaphragm and mediastinal tissues, and in addition faint streaks by the left side of the heart shadow, and both sides of the mediastinal shadow. These have been shown by Dr. Walsham's and Dr. Beale's observations to be due to the pericardium and visceral pleura. The shadow of the scapula, the anterior axillary fold and in some cases the shadow of the nipple are easily identified by moving the arms. The very earliest deposit of tubercle does not yield any appreciable shadow. Cases were quoted showing that tuberculous shadows can be detected before there are abnormal physical signs. Cavities are indicated by light areas in dense shadows. Fibroid changes only give a shadow after they attain a definite density and their shadows differ considerably from those of tubercle. Empyema is indicated by exceptional translucency. In early dry pleurisy only a faint shadow can be detected. Serous effusion causes a faint blurring of the rib shadows, but does not obliterate them. Purulent effusion gives very dark shadows. Abscesses and caseating nodules give dark shadows. By far the most important use of skiagraphy in chest disease is for the detection of aneurysms and morbid growths. It may give evidence far more precise and definite than that obtained by ordinary methods.

Uremic Convulsions Successfully Treated by Bleeding and Saline Transfusion.

At the Liverpool Medical Institution, Dr. R. T. Glynn recently related the case of a man, aged 31, who entered the hospital with acute nephritis, apparently of ten days' duration, and probably the result of alcoholism and a chill. The urine was scanty, of high specific gravity and very albuminous. The pulse was tense and the heart enlarged. Notwithstanding the administration of purgatives and diaphoretics, including the hypodermic injection of pilocarpin and the restriction of

food to diluted milk, uremic symptoms developed four days after admission. One fit followed another, with coma, stertor, cyanosis and contracted pupils. The condition having lasted several hours, two pints of blood were removed and one of saline solution was injected into the connective tissue of the axilla and shortly afterward one-half pint into the rectum. The convulsions ceased and consciousness returned. He perspired freely for the first time and on the next day passed 46 ounces of urine, 20 ounces having been the maximum in the twenty-four hours previous. In the following ten days he passed on an average 70 ounces of urine in twenty-four hours. The albumin disappeared, the arterial tension decreased, the apex of the heart returned to its normal site, and he left the hospital in about a month, apparently quite well.

Correspondence.

Water in Typhoid Fever.

SARATOGA SPRINGS, N. Y., Jan. 29, 1901.

To the Editor:—In THE JOURNAL of January 24 there was an article by Dr. Anders, of Philadelphia, on the use of large quantities of water in typhoid fever, and I was particularly pleased that so eminent an individual as Dr. Anders endorsed the procedure in this manner and thought it worthy of attention at a meeting of the AMERICAN MEDICAL ASSOCIATION. In 1898 I read an article on the use of water in typhoid fever before our local society, emphasizing the great quantities required in some cases, the difficulties in teaching nurses to give the required amount, the very great influence it exercised over all the symptoms, that the patient's condition was not so critical with a very high temperature if plenty of water was given, that if a sufficient quantity were given tub-baths were not imperative, which in private practice will be appreciated by most of us, and lastly, that the guide to the quantity of water required in each individual case was the tongue—this member must be moist at all times regardless of the quantity consumed.

I sent this manuscript to a weekly medical journal for publication, and it was returned to me with the information—though I can not give the exact wording—that the article was too visionary. It was, however, promptly published by the *Albany Medical Annals*, and I am glad to have the commendation expressed by Dr. Anders' article for the thoughts expressed at that time.

I have been using quantities of water as suggested in my practice since 1895, with the greatest comfort to myself and benefit to my patient. In 1898 I had only treated nineteen consecutive patients without a death, now the number is something over fifty. Many of these have been most desperate cases, and we are sure that the use of water has been a factor in their recovery. Surely no one who has been in the habit of treating typhoid fever without quantities of water internally can realize what it means to see the patient going through such an illness with the high temperature, nervous manifestations, sordes, dry tongue, and, practically, all the complications mitigated or absent. I find that patients require much larger quantities of water than mentioned by Dr. Anders. He speaks of 5 or 6 quarts as being often required in twenty-four hours, but I find that it is often necessary to use very much more, and I frequently note that the patient has taken from 8 to 16 quarts in twenty-four hours. To one who has not used this quantity the administration would seem almost impossible. It requires determination on the part of the physician, with a consciousness that it is the proper treatment, to insist that the nurse does as directed, and this is the particular thing which seems very difficult for them to understand, appreciate or execute.

The guide to the amount of water required is a very important one, and is not mentioned by Dr. Anders, or others, so far as I know, at all; that is, that the tongue must be moist at all times. This will necessitate the patient's being disturbed at least every half hour, perhaps oftener, to be given from 4 to 8 ounces of water, but unless this is done no conclusions can be deduced concerning its value in these cases. Yours truly,

511 Broadway.

D. C. MORIARTY, M.D.

The New Method of Inducing Sleep Without Drugs: One-Hundred-Dollar Prize.

NORTHAMPTON, MASS., Jan. 30, 1901.

To the Editor:—The one grand step in scientific medicine during the centuries has been that just accomplished at the close of the nineteenth. Tuberculosis is now to be cured by sunshine, open-air exercise and plain food. Drugs, predigested foods and the poisonous inhalations of the closed wards are recognized as causes rather than cures of tuberculosis.

A revolution of no less importance is in process to liberate the non-sleeping, hypnotic, drug-taking brain-workers now on duty in all the great centers of this country. Drug unconsciousness is causative, not curative, of insomnia. By well-trained will power we may command quiet in the workshop of the brain, as we may in the mill. It is all a matter of turning on and off the belts.

"The New Method of Inducing Sleep Without Drugs" consists in bringing under control two functions of organic life at the retiring hour. The organs of respiration and circulation respond at once to our bidding, and automatic brain activity is rendered impossible. To "stop thinking" is to begin sleeping. Normal sleep is reparative. Drug unconsciousness is destructive.

Believing the medical profession has power to turn the attention of suffering humanity from the chimerical and damaging drug agents they now resort to and depend on, and that it is our duty to shed light rather than darkness, I offer a prize of \$100 for an essay describing any method that will equal or surpass the one above referred to.

Judges of the merits of essays offered will be representative men of scientific medicine. The time allotted for preparing the essay is the first half of the year 1901, the essay not to exceed four thousand words. Only type-written or printed matter will be examined. All names will be withheld until the award is given.

J. B. LEARNED, M.D.

Married.

JAMES S. DAWSON, M.D., Perry, N.Y., to Miss Verdi Denison, of Canisteo, January 30.

PETER E. HYRUP-PEDERSON, M.D., to Miss Marie Louise Alsop, both of Laramie, Wyo., January 24.

MOLLIE V. LEWIS, M.D., Madison, Ind., to Mr. John Sarraan, of Indianapolis, at Vevay, Ind., January 30.

Deaths and Obituaries.

Abraham Bettman, M.D., an old resident of Cincinnati, Ohio, who settled there in 1846, and with the exception of three years spent in Chicago, lived afterward in that city, died after an illness of a week, from kidney disease, at his home in Cincinnati, January 14, at the age of 95. He studied medicine in the universities of Wurtzburg, Erlangen, Heidelberg and Munich, and graduated from the latter in 1842. He then took a post-graduate course in Vienna under Professor Skoda. He retired from active practice in 1880. In 1892 the University of Munich, in honor of the fiftieth anniversary of his graduation, sent him an honorary diploma.

William W. Lane, M.D., New York University, 1855, died at Wilmington, N. C., from cirrhosis of the liver, February 4, aged 69. After his graduation, Dr. Lane studied two years in Paris, and then settled in Vicksburg, Miss., and on the outbreak of the Civil War, served on the Confederate side. 1870 he moved to Wilmington and was put in charge of the U. S. Marine-Hospital in that city. In 1881 he was placed in charge of the City Hospital, a position which he filled until his death.

Benjamin Franklin, M.D., New York University, 1868, died at his home in Newark, N. J., from la grippe on February 6. During the Civil War he was a prisoner for seven months

at Andersonville and he also served with the Cuban patriot army in the ten-years war. He was a member of THE AMERICAN MEDICAL ASSOCIATION.

Emery A. Merrifield, M.D., Albany Medical College, Albany, N. Y., 1853, of Macon, Mo., died at the Baptist Hospital, St. Louis, December 7, aged 74. He practiced in Herkimer county, New York, until 1860, when he went into the service as surgeon of the 58th Illinois Volunteers and served throughout the war.

Michael Royston Pigott, M.D., University of Virginia, Passed-Asst. Surgeon, U. S. Navy, died suddenly at the Naval Academy, Annapolis, Md., January 31, aged 35. He was a native of Massachusetts and instructor in physiology and hygiene at the Naval Academy.

Newton J. Wedgewood, M.D., Medical School of Maine, Brunswick, 1870, of Lewiston, Me., and a member of the Androscoggin, Maine Medical, and THE AMERICAN MEDICAL ASSOCIATIONS, died at his home in Lewiston, February 5, from Bright's disease, aged 54.

Walter Myers, M.D.—The Liverpool School of Tropical Medicine announces, with deep regret, the death, from yellow fever, of Dr. Walter Myers, one of the members of the yellow fever expedition of that school, who lost his life in the cause of humanity and science.

Henry F. Baxter, M.D., University of Pennsylvania, 1864, a member of the County Medical Society and of THE AMERICAN MEDICAL ASSOCIATION, died at his home in Philadelphia, February 1, after a prolonged illness, at the age of 57 years.

John M. Hundley, M.D., Jefferson Medical College, Philadelphia, 1849, at one time a prominent physician of Essex County, Va., died after an illness of three years from paralysis, at his home in Montague, January 30, aged 75.

Lincoln Johnson, M.D., Columbian University, Washington, D.C., 1894, died January 2 from yellow fever, at Bocas del Toro, Colombia, South America, where he had gone to engage in practice. He was 32 years old.

Clayton A. Cowgill, M.D., Pennsylvania Medical College, Philadelphia, 1846, who retired six years ago after nearly half a century of practice in Dover, Del., died at his residence in Philadelphia, February 2, aged 74.

Daniel W. Hazelton, M.D., Vermont Medical College, Woodstock, 1848, of Springfield, Vt., the oldest practicing physician in the locality, died in Bellows Falls, Vt., January 31, from pneumonia, aged 76.

David N. De Tar, M.D., University of Michigan, Ann Arbor, 1880, died January 31, at his home in Boone, Iowa, from cerebral hemorrhage, following an attack of cholelithiasis. He was 48 years of age.

William H. Scott, M.D., Meharry Medical College, Nashville, Tenn., 1886, a colored physician of Houston, Texas, died at his home in that city, February 1, after a prolonged illness.

Ira Doan, M.D., Medical College of Indiana, Indianapolis, 1880, of North Bend, Neb., a member of THE AMERICAN MEDICAL ASSOCIATION, died suddenly, at Fremont, Neb., February 6.

Charles Osborn, M.D., Rush Medical College, Chicago, 1890, of Lyons, Iowa, coroner of Clinton County, died February 2 from apoplexy, at Mercy Hospital, Dubuque, Iowa, aged 35.

Jacob H. Putnam, M.D., Long Island College Hospital, Brooklyn, N. Y., 1867, of Rutland, Vt., died from pneumonia at the Buffalo General Hospital, January 28, aged 61.

Rosier Middleton, M.D., Columbian University, Washington, D. C., 1889, died from consumption after a long illness at the Columbian University Hospital, January 31.

Lewis Buffett, M.D., who went to Maryland from Cleveland, Ohio, in 1891, died at his home near Easton, Md., January 27, from carcinoma of the stomach.

Samuel H. Cade, M.D., Medical College of Alabama, Mobile, 1874, died at Negreet, La., where he had resided for the past twenty-five years, February 7.

Augustine Shurtleff, M.D., Harvard University Medical School, Boston, 1849, died at his home in Brookline, Mass., January 27, aged 74.

John E. Garner, M.D., College of Physicians and Surgeons, Baltimore, Md., 1876, died suddenly at his home near Union, S. C., February 3.

Wiley W. Bloodworth, M.D., Jefferson Medical College, Philadelphia, 1850, died at his home in Pratt City, Ala., January 28.

J. B. Darling, M.D., Starling Medical College, Columbus, Ohio, 1857, died at Austin, Ill., February 2.

James Harty Kennedy, M.D., McGill University, Montreal, died recently at Michipicoten, Ontario.

Henry C. Hill, M.D., University of Michigan, 1859, died at Lockport, N. Y., February 8, aged 60.

Samuel C. Busey, M.D., of Washington, D. C., died February 12. His obituary will appear next week.

Association News.

Chairmen of Committees of the American Medical Association.

Dr. J. F. Fulton, Lowry Arcade, St. Paul, Minn., on arrangements.

Dr. C. A. Wheaton, Lowry Arcade, St. Paul, Minn., on finance.

Dr. J. W. Chamberlin, Lowry Arcade, St. Paul, Minn., badges.

Dr. C. Williams, 145 West 5th street, St. Paul, Minn., banquets.

Dr. H. L. Taylor, Lowry Arcade, St. Paul, Minn., general exhibits.

Dr. H. H. Kimball, Dayton Building, St. Paul, Minn., meeting places.

Dr. Burnside Foster, Lowry Arcade, St. Paul, Minn., entertainments.

Dr. Edw. Boeckmann, Lowry Arcade, St. Paul, Minn., pathological exhibits.

Dr. J. A. Quinn, corner 4th street and Wabasha, St. Paul, Minn., transportation.

Dr. Harry O'Brien, Endicott Arcade, St. Paul, Minn., programs and publications.

Dr. J. T. Rogers, Lowry Arcade, St. Paul, Minn., halls and meeting places.

Dr. E. J. Abbott, Endicott Arcade, St. Paul, Minn., bureau of information.

Dr. J. B. Brimhall, Seven Corners, St. Paul, Minn., registration.

Dr. Arthur Sweeney, Lowry Arcade, St. Paul, Minn., hotel arrangements.

Book Notices.

MALARIA ACCORDING TO THE NEW RESEARCHES. By Prof. Angelo Celli, Director of the Institute of Hygiene, University of Rome. Translated from the Second Italian Edition, by John Joseph Eyre, M.R.C.P., L.R.C.S. Ire., D.P.H. Cambridge. With an Introduction by Dr. Patrick Manson, Medical Adviser to the Colonial Office. With Maps and Illustrations. Cloth. Pp. 275. Price \$3.00. London, New York, and Bombay: Longmans, Green & Co. 1900.

"We owe to the Italians not only the name but also much of our knowledge of malaria." Thus Dr. Patrick Manson begins his Introduction to the work, and one of the most eminent of these Italian students of the epidemiology of paludism is Professor Celli. Dr. Manson further says: "I saw the peasants whose sordid lives he describes so graphically, and I saw in operation the economic system which, together with malaria, has reduced these wretched people to what is practically a position of slavery."

In the chapter on the history of malaria the author dwells upon the drainage system, the cloacæ and aqueducts of the early Romans, and shows how they had maintained a sanitary city, although surrounded by a deadly malarial zone. Many

passages from the ancient Latin writers—Horace, Pliny, etc.—are quoted, and show the dread with which the surrounding Campagna was regarded at that time. Later, foreign invasions and civil strife destroyed the work already done and nullified the efforts of the popes to drain the Agro Romano, and thus reduced it to an uninhabited waste.

The scientific consideration of malaria is fully taken up by the author, and numerous illustrations render the text clear. The book affords instructive and interesting reading.

MANUAL OF THE DISEASES OF THE EYE. For Students and General Practitioners. With 243 Original Illustrations including 12 Colored Figures. By Charles H. May, M.D., Chief of Clinic and Instructor in Ophthalmology, College of Physicians and Surgeons, New York. Cloth. Pp. 406. Price, \$2.00. New York: William Wood & Co. 1900.

This concise and useful little manual is intended for the student and general practitioner. The text is elucidated by numerous illustrations both of ocular diseases and the instruments in general use by the ophthalmologist. There are several colored plates of the normal and pathologic fundus. Errors of refraction are fully explained and the different methods of their recognition and correction made clear. We confidently recommend the work.

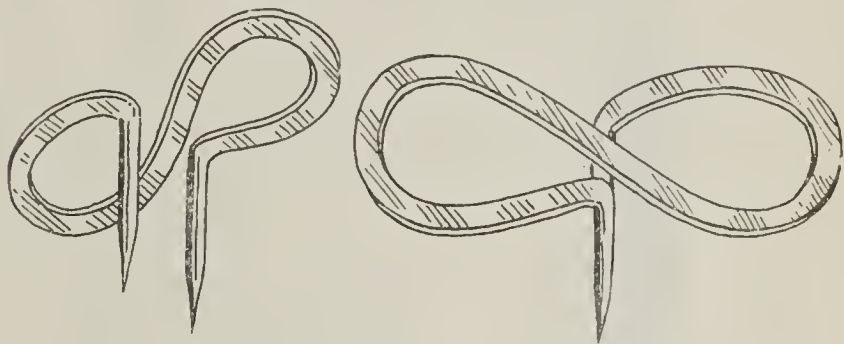
New Instruments.

New Bandage Pin.

GEORGE D. McLEAN.

NASHVILLE, TENN.

I present illustrations of a bandage-pin recently devised by me. The pin is made as follows: A figure-of-eight piece of wire having the two ends turned at right angles to the plane of base and the ends sharpened. The base is flattened and the two prongs extend one-half to five-eighths of an inch up from the base, perpendicular to it and parallel to each other. These two are about one-fourth of an inch apart. In applying a bandage, say a recurrent of the scalp, after making one turn around the head to fix the bandage place one pin on theinion and one just above the sinciput; this will enable the surgeon, by pressing the bandage down over the extending prongs, and



returning over them, to apply this bandage alone and with a single-headed roller bandage. After enough has been put on, separate the prongs and turn down against the head, making, if desired, one turn around to hold them down and protect the points. This pin will work in any spica, figure of eight, or recurrent, as of a stump, absolutely preventing slipping at the point of application. The device is simple, and it is strange that it is not already in use; but I have been unable to find any one who has heard of one used by surgeons. The pin has been commended by many of the physicians of Nashville, and will, I think, meet the approval of all who have to use bandages.

A Nasal Irrigator, Intratracheal Spray and Laryngeal Applicator.

OTTO T. FREER, M.D.

CHICAGO.

The instruments here described have grown out of the needs of practice and have all seen lengthy service in my hands. To avoid the danger of fluid penetrating the middle ear, incident to the use of the nasal douche or syringe, I have devised the little irrigating tube shown in the cut. It is made of hard

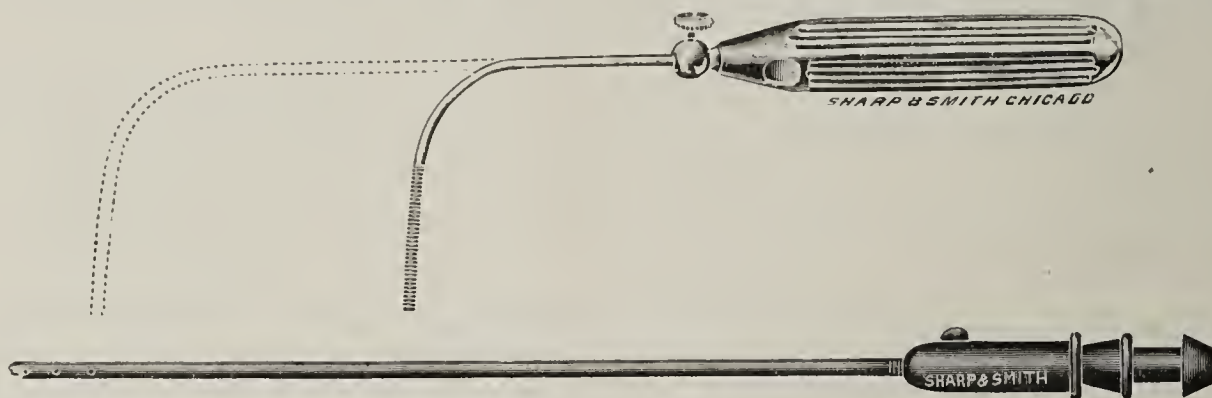
rubber, hence has some elasticity, and is perforated near its end by three minute holes, $1/64$ inch in diameter. The tube is connected to a fountain syringe by the usual coupling for Eustachian catheters, and emits three tiny but forcible jets that are not large enough to flood the nose or nasopharynx, but undermine and wash adherent pus or crusts from these regions. I give the tube to the patient to use at home, and during many years of its employment have never had any complaint of ear symptoms, while the patients, even in marked cases of ozena, keep the nose and nasopharynx clean. In aggravated cases I aid the use of the tube by means of oily applications to soften the crusts. The advantage of the instrument over the post-nasal syringe is that during the use of the latter the patient is apt to raise the soft palate and so diminish or entirely obliterate the postnasal space, thus preventing irrigating fluids from reaching the parts to be cleansed. By rotation of the tube the streams can be made to reach any part of the nasal fossæ from the roof to the floor. More than three holes were found to unduly diminish the force of the streams and to emit too great an amount of fluid. Metal tubes are too stiff and cause pain.

hand if the extremity touched any part of the pharynx or the epiglottis. The weight and firmness of the instrument fits it especially for vigorous applications of lactic acid to the tubercular larynx, or for massage of thickened laryngeal mucous membrane.

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Miscellany.

The Duration of Life.—The question is often raised whether the great advances in the arts and sciences have, after all, contributed to the prolongation of life. Such evidence as is accessible would seem to point in the affirmative. Thus, in England and Wales, during the period of 1841 to 1850, the death-rate among males of all ages was 23.1 and among females 21.6 per 1000, while during the years from 1886 to 1889, the death-rate was 20 per 1000 for males and 17.8 for females. It therefore appears that within fifty years there has been a clear gain of more than three lives in every thousand. The birth-



The second instrument shown is a spray tube that I have designed for intratracheal applications in chronic tracheitis, especially the dry form with crusts. The appliance screws on to the regular Davidson atomizer with nasal tip, and its end can be easily passed between the vocal cords, by aid of the



mirror. In sensitive larynges local anesthesia of slight degree is needed. The instrument emits a coarse spray within the trachea. It has been suggested that a laryngeal syringe passed into the trachea would do equal service. The advantages of a spray are that minute amounts of concentrated solutions can be evenly applied to a large surface while the irritation caused by the necessarily large amounts of fluids of the same strength used in a syringe would be intolerable. Even in large quantity the fluid so injected would not apply itself as uniformly as if sprayed. For certain cases the tubes need to be of extra length to reach far enough down to enter the trachea.

The third instrument is a strong laryngeal applicator with a heavy handle through which the shank of the applicator passes so that it can be adjusted in length. The end of the instrument is fitted with a screw thread. It is quite impossible for cotton swabs wound on this to become detached. I devised the instrument as I found that the ordinary light laryngeal applicators with small handles were apt to rotate in the

rate in England has, however, declined during the corresponding period, having been, in 1842, 32.6 per million of population, while from 1886 to 1890 it was 31.4.

The Postural Treatment of Bronchial Affections.—The physician often has reason to doubt the efficacy of his treatment of bronchial affections, particularly when these have become chronic, and some suggestions made by Jacobson (*Berliner Klin. Woch.*, 1900, No. 41, p. 904) in a recent communication, may prove of practical utility in this connection. It is pointed out that the first indication in the treatment of all bronchitic disorders consists in removal of the morbid bronchial secretion. This is especially attended with difficulty in the presence of chronic processes, when the sensitiveness of the mucous membrane to irritation is diminished. Under such circumstances it is customary to replace the physiologic irritation resulting from the contact of the secretion with normal mucous membrane by chemical irritants—so-called expectorants. The resulting effect is general and not local, and stimulates increased production of secretion. Bronchiectatic processes, however, do not yield to such treatment; nor is the outlook for surgical intervention hopeful, inasmuch as the lesions are often multiple and bilateral. Quinke has proposed the removal of the accumulated secretion by gravitation, placing the patient in a prone position, with the head below the level of the body. In its gradual escape the secretion reaches healthy mucous membrane, which it irritates. It thus excites cough and expulsion, while at the same time air enters previously airless portions of lungs, respiration assumes more the costal type and the pressure of the abdominal organs upward on the diaphragm facilitates expiration. Besides, the expectoration can be regulated, so that it shall take place at stated intervals and not be continued throughout the day. Further, extension of the morbid process and the development by aspiration of bronchopneumonia and putrid decomposition are by this means prevented. The procedure is also applicable in the presence of fetid bronchitis. It is contraindicated when acute conditions or a single large abscess exists. Cylindrical bronchiectases are more favorably influenced than saccular. Pulmonary abscess and empyema are not well suited to this means of treatment. The patients are placed in the desired position for an hour morning and evening.

Therapeutics.

Renal Colic.

The following outline of treatment is given by Gould: For the acute attack hypodermic injections of morphin, gr. 1/4 combined with atropin, gr. 1/120 and repeated in two hours if necessary. Hot flannel cloths, stupes or poultices should be applied over the affected area. In recurrent attacks attention to elimination by the bowels, skin and kidneys should receive the proper notice. Rochelle salts 3iv, Epsom salts 3iv, or Carlsbad 3i-ii for the bowels, and one of the following prescriptions to promote diuresis and render the urine alkaline:

R. Lithii citratis 3i 4
Ext. hydrangæ flu. 3iv 16
Infusi tritici q. s. ad. 3vi 192

M. Sig.: One tablespoonful every four hours in water.

Hydrangæa is an unofficial preparation, but is classified by Potter as of special importance in treatment of renal calculus by relieving the pain during the passage of renal concretions through the ureters or in promoting the removal of gravel from the bladder; or

R. Lithii citratis 3i 4
Pot. citratis 3iiss 6
Ext. zcæ fluidi 3i 32
Infusi uvæ ursi q. s. ad. 3vi 192

M. Sig.: One tablespoonful every four hours.

As a Laxative for Children.

R. Mannæ 3ss 16
Magnesiæ—calcined
Sulphuris loti, āā 3iiss 48
Mellis despumati q. s. ad. 3iv 128

M. Sig.: A tablespoonful to be taken in a cup of hot milk. The dose can be increased if necessary.

Follicular Tonsillitis.

R. Creosoti m. x 65
Tinct. myrrhæ
Glycerini, āā 3i 32
Aquæ q. s. ad. 3iv 128

M. Sig.: Use as a gargle or spray four or five times daily.

ACUTE FOLLICULAR TONSILLITIS.

Dr. D. R. Brower has always derived splendid results from the use of the following combination, having first administered a mercurial or saline purgative:

R. Potassii chloratis 3ss 2
Acidi hydrochlor. dil 3ii 8
Tinct. ferri chloridi 3iii 12
Glycerini 3i 32
Syr. tolutani q. s. ad. 3iii 96

M. Sig.: One teaspoonful in water every two hours.

ABORTMENT OF FOLLICULAR TONSILLITIS.

The *Medical Council* states that follicular tonsillitis, if seen early, may be checked by swabbing the throat with the following:

R. Potassii chloratis gr. xxx 2
Tinct. ferri chloridi
Glycerini, āā 3iiss 10
Aq. destil. q. s. ad. 3i 32

M. Sig.: Swab the throat every two hours with this solution, alternating with a solution of peroxid of hydrogen, to be used in the same way.

After swabbing, a tablet of hydrargyri chloridum mite and sodium bicarbonate is to be dissolved in the mouth after each swabbing.

For the headache, soreness and other disturbances the following is recommended internally:

R. Acetanilidi gr. xxxv 2 33
Camphoræ monobromatæ gr. viii 5
Sodii salicylatis gr. xv 1
Extracti hyoseyami gr. ii 12

M. Ft. capsulæ No. xv. Sig.: One capsule every hour until relieved or until five have been taken.

For children the same treatment is recommended, except the mercurial tablets are stopped as soon as the bowels have moved freely and the last-mentioned capsules are proportionately reduced to the age of the child.

To Remove Tattoo Marks.

The "Cyclopedia of Med. Surgery" describes the method of Variot as follows: The skin is first covered with a concentrated solution of tannin, and retattooed with this in the parts to be cleared. Then an ordinary nitrate of silver crayon is rubbed over these parts, which become black by formation of tannate of silver in the superficial layer of the derma. Tannin powder is sprinkled on the surface several times a day for some days, to dry it. A dark crust forms, which loses color in three or four days, and in two weeks comes away, leaving a reddish scar, free of tattoo marks, which in a few months is but slightly noticeable. It is well to do the work in patches about the size of a dollar at a time. The person can thus go on with his usual occupation.

PAPAIN IN REMOVAL OF TATTOO MARKS.

Ohmann-Dumesnil recommends the following for removal of tattoo marks:

R. Papainæ 3iiss 6
Acidi hydrochlorici dil m. xv 1
Aquæ destil 3i 32
Glycerini 3iii 96

M. Rub the papain in a mortar while adding the mixture of water and acid, allow the paste to stand an hour, add the glycerin and in three hours filter. Sig.: For local application three or four times daily.

Eczema Capitis.

In this form of eczema, Joseph Max, in *Med. News*, prescribes the following to destroy the pediculi when present:

R. Hydrarg. chloridi corros. gr. i 06
Vinegar 3i 32

M. Sig.: Apply twice daily.

In a few days apply the following ointment:

R. Hydrarg. oxidi rubri gr. iv 25
Sulphuris sublim. gr. xx 1 33
Ol. bergamotæ gr. viii 5
Vasellini q. s. ad. 3i 32

M. Sig.: Apply locally once or twice daily.

Treatment of Diabetes.

The *Ther. Gazette* contains the following combination containing boric acid, which it is claimed has been of curative benefit in treatment of diabetes. The cases in which it was used were young persons:

R. Acidi borici gr. xx 1 33
Glycerini 3i 4
Liq. arsenici hydrochlor. m. v 33
Liq. strychn. hydrochlor. m. x 66
Aquæ destil. q. s. ad. 3i 32

M. Sig.: To be taken at one dose and repeated three times a day.

The arsenic and strychnin preparations are of one per cent. strength as contained in the British Pharm., and consequently the above dose of strychnin is on the border line of danger and probably should never be prescribed in such size doses. It should be prescribed in doses of three to five minims.

For the Neuralgic Pains in Tuberculosis.

The following liniment is prescribed by the *Monthly Encyc. of Pract. Medicine*:

R. Menthol.
Spts. chloroformi, āā 3iii 12
Chloralis hydratis 3ss 16
Spts. camphoræ 3iii 12
Alcoholis q. s. ad. 3iv 128

M. Sig.: To be applied locally and thoroughly rubbed in.

For the night sweats, the afternoon bath and friction, or the administration of atropin or argaræin, are usually sufficient; in persistent cases potassium tellurate in daily doses of one-half grain to be taken at night. For the irritating cough, unaccompanied by expectoration, heroin in doses of one-twelfth to one-sixth grain is valuable.

Headache from Eyestrain.

Dr. Casey A. Wood, in *Med. News*, states that this form of headache is most frequently encountered in strain of the ciliary muscles. He recommends very cold or very hot compresses, gently pressed over the closed eyes and forehead and advises them to be repeatedly changed for ten minutes, and repeated every hour while the headache lasts. For local application he recommends:

R. Spts. camphoræ $\bar{3}$ ss 16
Spts. lavendulæ $\bar{3}$ ss 48
M. Sig.: Apply locally: or:

R. Camphoræ $\bar{3}$ i 4
Tinet. aconiti $\bar{3}$ ss 16
Ol. menthæ pip. $\bar{a}\bar{a}$ $\bar{3}$ iii 96
Chloroformi $\bar{3}$ iii 96
Alcoholis q. s. ad $\bar{3}$ iii 96

M. Sig.: Shake well and apply every two or three hours.

He further states that relief may be obtained by applying the galvanic current to the eyes, using a current strength of three to five milliamperes, and placing the positive pole to the nucha, and the negative to the closed lids, for five or six minutes.

Ointment for Acute Eczema.

Wendle, in *Jour. de Méd. de Paris*, recommends the following:

R. Acidi camphoricæ $\bar{3}$ i 4
Bismuthi subnitratæ $\bar{3}$ i 4
Zinci carbonatis $\bar{3}$ i 4
Pulveris amyli $\bar{3}$ i 4
Vasellini $\bar{3}$ i 4
Lanolini (anhydrous) $\bar{a}\bar{a}$ $\bar{3}$ ii 8

M. Sig.: Apply locally to the affected parts.

Ergot in Diseased Conditions of the Prostate.

E. R. Corson, in *Merk's Archives* recommends the following, which he finds useful, especially in congestion and inflammation caused by gonorrhœa:

R. Tinet. aconiti $\bar{3}$ i 4
Tinet. gelsemii $\bar{3}$ ii 8
Antipyrini. $\bar{a}\bar{a}$ $\bar{3}$ ii 8
Ergotol $\bar{3}$ i 32
Aquæ destil. q. s. ad $\bar{3}$ iv 128

M. Sig.: One dessertspoonful in a wineglass of water every two or three hours.

He states that the action of ergot is aided by a combination with a potash salt, generally the bromid.

Ointment for Varicose Ulcers.

R. Acidi carbol. $\bar{3}$ ss 2
Acidi borici $\bar{3}$ ii 10
Camphoræ $\bar{3}$ ii 8
Ichthyol $\bar{3}$ v 20
Ol. amygdalæ dule. $\bar{3}$ ii 10
Ung. zinci oxidi $\bar{3}$ ii 112

M. Sig.: Apply externally night and morning.

Treatment of Epistaxis from Any Cause.

Dr. P. Chevallier, as quoted in *St. Paul Med. Jour.*, recommends injections of gelatinized serum prepared as follows:

R. Sodii chloridi $\bar{3}$ ii 8
Aq. destilOii 1000

M. To this solution add gelatin in proportion of 10 parts to the 100 and sterilize. This becomes solid when cooled, but can be warmed in a waterbath when needed. As an astringent powder the following is recommended:

R. Acidi borici $\bar{3}$ ii 5
Pulv. sacchari. $\bar{a}\bar{a}$ lxxv 5
Antipyrini $\bar{3}$ ii 5
Acidi tannici, $\bar{a}\bar{a}$ gr. xv 1

M. Sig.: To be blown upon the bleeding surfaces.

If it is not then checked, packing the nostril will have to be resorted to.

Treatment of Furuncles.

Philipson, as published in the "New Year-Book of Med.," recommends salicylic acid in 50 per cent. strength in treatment of well-formed furuncles. The following paste is applicable for such conditions:

R. Acidi salicylici $\bar{3}$ i 32
Pulveris amyli $\bar{3}$ i 4
Lanolini $\bar{3}$ i 32

M. Sig.: Apply locally and change three or four times a day in order to hasten the necrotic process.

When the core has been eliminated, he advises treatment which will favor granulations. Minute furuncles may be checked by applying the following:

R. Tincturæ benzoini $\bar{3}$ i 4
Alcoholis—puri—q. s. ad $\bar{3}$ iii 96

M. Sig.: Apply locally three times a day.

In generalized furunculosis the parts should receive a warm bath daily and then be rubbed with the following:

R. Acidi salicylicigr. xxv 166
Vasellini q. s. ad $\bar{3}$ ii 64

M. Sig.: To be well rubbed in over the affected area.

Societies.

COMING MEETINGS.

Southwestern Iowa Medical Association, Creston, Ia., Feb. 21, 1901.

Tri-State Medical Association of the Carolinas and Virginia, Richmond, Va., Feb. 26, 1901.

Medical Society of the Missouri Valley, Omaha, Neb., March 21, 1901.

West Texas Medical Association.—At the meeting of this Association, held in San Antonio, January 3, resolutions passed opposing the unrestricted sale of morphin, cocaine and other poisonous drugs and favoring legislation in that direction.

Calcasieu Parish (La.) Medical Society.—The physicians of St. Charles and of Calcasieu Parish organized this Society, February 4, and elected Dr. Erastus J. Lyons, St. Charles, president; Dr. V. A. Miller, Lake Arthur, vice-president, and Dr. C. Pearl Munday, West Lake, secretary and treasurer.

Cripple Creek District (Colo.) Medical Society.—At the semi-annual meeting of this Society, held at Cripple Creek, January 30, the following officers were elected: Dr. William J. Chambers, president; Dr. Harry S. Torrance, and Francis J. Crane and Marion A. Latimer, Victor, vice-presidents; Dr. Benjamin B. Frankle, secretary, and Dr. J. Ernest Meiere, treasurer.

Quarter-Century Medical Club.—This Society, whose membership is made up of those who have practiced medicine for five-and-twenty years or more in Detroit, Michigan, held its annual meeting and banquet, January 30. Dr. Eugene Smith was elected president; Dr. H. A. Cleland, vice-president; Dr. John G. Johnson, treasurer, and Dr. Robert A. Jamieson, secretary.

Northeastern District Medical Society of Michigan.—This Society held its forty-ninth annual meeting in Flint, January 31, and elected Dr. Philip A. Knight, Utica, president; Dr. George S. Ney, Port Huron, vice-president; and Dr. A. Henri Cole, Port Huron, secretary and treasurer. This is said to be the oldest medical society in Michigan and takes in St. Clair, Macomb, Lapeer, Genesee and Sanilac counties.

Shawnee County (Kan.) Medical Society.—The Topeka Academy of Medicine and Surgery has been disbanded and the Shawnee County Medical Society was organized in its place, at Topeka, February 4, in accordance with the plan of the committee of THE AMERICAN MEDICAL ASSOCIATION. There were 24 charter members present, and the following officers were elected: Dr. Lewis Y. Grubbs, president; Dr. Herbert L. Alkire, vice-president; Dr. Josiah P. Lewis, treasurer, and Dr. William E. MeVey, secretary.

Salt Lake Medical Society.—The last meeting of this Society was devoted to the steps to be taken to prevent the passage of the anticomulsory vaccination bill now pending in the legislature. A committee was appointed to guard the

prerogatives of the health board against any invasion. This committee will go before the legislative committee that has the bill in hand and lay before it the reasons for their opposition to the bill.

Eastern Hampden (Mass.) Medical Association.—The twenty-first annual meeting of this Association was held at Springfield, January 31, when these officers were elected for the ensuing year: Dr. Walter R. Weiser, Springfield, president; Dr. George W. Rawson, Amherst, vice-president; Dr. Vincent J. Irwin, Springfield, secretary and treasurer; Dr. George L. Woods, Springfield, censor. Dr. J. M. Fay, Northampton, read a paper on "Etiology." Dr. Angelo O. Squier, Springfield, was toastmaster.

PAN-AMERICAN MEDICAL CONGRESS.

Held in Havana, Cuba, February 4.

The Third Pan-American Medical Congress can not be said to have been a success in every particular. The scientific program, as printed, made one anticipate a large amount of scientific work, an anticipation that was not realized. A large number of those whose names appeared on the program were not present, and while a few of these sent their papers, many did not. This was especially noticeable as regards those from the United States.

The number present was far from satisfactory, and as a result the sections were very poorly attended. The following was the registration according to countries: Mexico, 7; Guatemala, 2; Nicaragua, 1; Argentine Republic, 3; Porto Rico, 3; Peru, 2; Venezuela, 2; Brazil, 1; Cuba, 26; United States 77; Canada, 2; Honduras, 1. The Congress being divided into twenty-two sections, many of these did not materialize as far as was observed. The sections on gynecology and abdominal surgery, general medicine and ophthalmology, seemingly, were the most interesting and attractive, and the number in attendance on the first two mentioned was often as great as fifteen or twenty, but a half dozen to a dozen was a common average in most of the sections.

The general sessions, from the point of view of those who understand Spanish, were more or less successful, but to those who did not speak the language of the Cubans it could hardly be said that they were entirely satisfactory. The first general session, which was dignified by the appellation "Solemn Inaugural Session," was held on Monday evening at the "Gran Teatro de Tacon," the largest theater in Havana. The house was filled with the elite of the city, in all the glory of full dress and Spanish beauty. The meeting was presided over by Dr. Wood, the Governor-General, whose few choice words of welcome were the only ones spoken in the English language. The secretary-general made his report, and the president of the Congress, Dr. Fernandez, delivered an address of welcome occupying about twenty minutes. Then followed the principal address of the evening, an hour long, by Dr. Eusebio Hernandez, the subject being obstetrics, certainly not a very appropriate one for a mixed audience, that is, from the view point of an American. Thus the entire evening, with the exception of the five minutes by General Wood, was occupied by those speaking Spanish.

Etiology of Yellow Fever.

The most important scientific development of the Congress was the report made by Dr. Reed of his experiments on yellow fever. Major Reed's request to General Leonard Wood for \$5000 for the purpose of hiring men to submit to these experiments and to the bite of the mosquito was granted on condition that the men should be apprised of their danger and sign papers to that effect: "that it should be of their own free will in every particular, and that, in case of Spaniards, the Spanish consul's permission should be obtained." They were paid \$250 each. Major Reed's paper is printed in full in this issue of THE JOURNAL, p. 431, also an editorial comment, p. 446.

DISCUSSION.

DR. LOUIS PERNA, Cienfuegos, Cuba, in opening the discussion, said that it is sophism to believe that *post hoc ergo propter hoc*, that is to say, that as Carmona, Freire, Sanarelli and others have fallen to this error, we must not be too precipitate in accepting the result of statistics. The studies made of mosquitoes are very old. A French physician, who died about 1850, expressed the opinion that malaria, yellow

fever and cholera were propagated by mosquitoes. Dr. Perna also criticised the methods employed by the Commission in making experiments on human beings and is entirely opposed to such experiments.

DR. SAN MARTIN eloquently defended, and with strong arguments, the high scientific standard of the experiments as carried out by this Commission, and also brought out the point that it was not statistics but facts that this Commission presented.

DR. H. B. HORLBECK, Charleston, S.C., expressed his opinion that the problem of 200 years was about to be solved, that the old quarantine regulations should be greatly modified. He also described the existence of a pine belt within a short distance of Charleston, S. C., in which yellow fever never developed as an epidemic, although the afflicted therewith would go there during the existence of the epidemic in Charleston, would die from the disease and yet it would not spread. Mosquitoes are not known in that region, and probably this is the true explanation of the above fact. He concluded by emphasizing the inestimable value of these experiments if they prove to be true.

DR. EMILIO MARTINEZ, Havana, laid emphasis on Dr. San Martin's views. He took up the moral question and claimed that without these no truth could have been found.

DR. MANUEL GUTIERREZ, Mexico, who up to within a short time had been adverse to the theory of the transmission of this disease by mosquitoes, now accepted as incontrovertible the results of the experiments of the Commission. He followed with interest many of the experiments, and as a member of the Commission saw most of these cases, which he had no hesitation in pronouncing typical cases of yellow fever. A fact which impressed him forcibly was the absolute control of the epidemic by Dr. Reed. The cases would develop or not as he wished. He does not think that the mosquito should be called the *Culex fasciatus*. Giles' description of the *Culex tiniads* mosquito agrees more closely than with the *Culex fasciatus*. He describes the difference between them. He is inclined to consider them a genus apart because they lay different eggs.

DR. C. FINLAY, Havana, expressed his admiration for the work of the Commission. He believes that this session of the Congress will go down in history as of great importance, and that the differences between his opinion and that held by the Commission will disappear in the course of time. He states that they were based on the fact that he investigated with three varieties of mosquitoes, while the Commission has been restricted to one variety; that the board was placed upon better footing for obtaining satisfactory results; that the negative result obtained by the inoculation of mosquitoes of short infection should not induce the Commission or the board to make such hard and biased rules as are evidenced in its conclusions.

DR. REED, in conclusion, said he was profoundly impressed with the interest and attention given to these experiments. In regard to the moral aspect of the case, he did not think that any one appreciated the position in which he found himself—the difficulties that beset his path. The first experiment was made on a member of the board, Dr. Carroll. The senior member expected to take his bite in turn, but was unexpectedly called north. As no animal could be given the disease, and it was useless to follow the previous indefinite experiments, it was absolutely necessary to make these experiments on human subjects, or otherwise volumes could have been written and discussed and yet we would have been no nearer the truth than at first. No progress could have been made toward an exact knowledge of the disease unless human subjects had been used. All experiments were performed upon persons who had given their free consent.

In reference to the remarks of Dr. Holbeck, of Charleston the disinfection of vessels should by no means be dispensed with, but only of such articles as bedding and clothing, though it is necessary to get rid of the mosquitoes, and this simplified the process of disinfection.

In regard to the remarks of Dr. Gutierrez, in reference to the name of the mosquito, Dr. Howard, of Baltimore, told him that *Culex fasciatus* is identical with *Culex tiniads* as described by Giles. Theobolt separates *Culex tiniads* from the genus *Culex* and places it in a new genus, *Stegamina*. These

lay their eggs in a peculiar way, and there is also a difference in the anterior claws of the male insect from those of the other *Culex*. There is also a difference in the larva of the *Culex fasciatus*. It is very interesting also to note the fact that this is the very mosquito that Dr. Finlay used in his experiments, and that this particular mosquito does not belong to the genus *Culex*, therefore malaria has a genus of its own, *Anopheles*, and yellow fever the genus *Stegamina*.

Resolutions on Dr. Wm. Pepper.

A committee consisting of Drs. R. G. Curtin and Hudson Makuen, both of Philadelphia, was appointed to prepare resolutions on the death of Dr. Wm. Pepper. It reported the following, which was adopted:

It is with unfeigned sorrow that we mourn the death of our honored president, Dr. Wm. Pepper, who organized the Pan-American Medical Congress, and who so ably and successfully presided over the first two meetings. To his wise supervision is due much of the success of the Congress since its inception. At this time we especially feel the loss of his guiding hand and his executive ability to help us in achieving still greater success. In our grief we are not alone, for many and various enterprises are hampered by the absence of his painstaking care. Let his example of untiring industry and the memory of his useful life spur us on to carry out the important work planned by our beloved president, Dr. Wm. Pepper. May the crown of glory which he richly deserves be his, is the prayer of his associates of the Pan-American Medical Congress.

Officers for 1903.

The next place of meeting is Buenos Ayres, in 1903. The committee representing the United States consists of Drs. C. A. L. Reed, Cincinnati, Ohio, president; A. Vander Veer, Albany, N. Y., vice-president; Ramon Guiteras, New York City, secretary, and H. L. E. Johnson, Washington, D. C., treasurer.

Attendance from the U. S.

The following registered from the United States: E. W. Andrews, Chicago; T. E. Bamford, New York; T. J. Bennett, Austin, Tex.; C. E. Bruce, New York; H. T. Byford, Chicago; S. Carnes, Washington, D. C.; S. C. Carson, Greensboro, Ala.; H. D. W. Carville, Manchester, N. H.; William Chandler, South Orange, N. J.; T. D. Crothers, Hartford, Conn.; Roland C. Curtin, Philadelphia; W. E. B. Davis, Birmingham, Ala.; Thomas McDavitt, St. Paul, Minn.; Arthur B. Duel, New York City; W. H. Earles, Milwaukee, Wis.; D. S. Fairchild, Clinton, Ia.; W. H. Findley, Altoona, Pa.; J. S. Foote, Omaha, Neb.; Louis Frank, Milwaukee, Wis.; Mamel R. Gatell, New York City; Frank Greene, Chicago; Jefferson D. Griffith, Kansas City, Mo.; J. F. B. Guillet, Ocala, Fla.; Ramon Guiteras, New York City; Henry Hammond, Killingly, Conn.; J. D. C. Hoit, Elmwood, Ill.; J. W. Holiday, Burlington, Ia.; E. Hollinghead, of New Jersey; William Jepson, Sioux City, Ia.; H. L. E. Johnson, Washington, D. C.; H. A. Kornemann, Newark, N.J.; George N. Kreider, Springfield, Ill.; Frank Le Morque, West Virginia; Hudson Makuen, Philadelphia; W. P. Manton, Detroit; J. L. Medina, New York City; H. Mitchel, Asbury Park, N.J.; J. B. McGaughey, Winona, Minn.; L. H. Montgomery, Chicago; N. C. Morse, Eldora, Ia.; J. Mullen, Houston, Tex.; Henry Parker Newman, Chicago; Arthur H. Nichols, Boston; Wm. P. Nicholson, Atlanta, Ga.; George H. Noble, Atlanta, Ga.; A. M. Phelps, New York City; S. Pilcher, Brooklyn, N. Y.; Nestor Ponce de Leon, New York; J. Porter, Key West, Fla.; W. E. M. Ranchous, Columbus, Ohio; A. J. Read, Battle Creek, Mich.; C. Roberts, New York; Reginald Sayre, New York City; George H. Simmons, Chicago; A. G. Sprague, River Point, R. I.; Thomas L. Stedman, New York City; J. H. Stoddard, Pueblo, Colo.; C. B. Sweeting, Key West, Fla.; F. C. Valentine, New York City; W. A. K. Vanece, Bristol, Tenn.; A. Vander Veer, Albany, N. Y.; E. Van Hood, Ocala, Fla.; B. T. Whitmore, New York City; M. C. Wyeth, U. S. A.; Walter Wyman, Washington, D. C.; Henry B. Young, Burlington, Ia.

(To be Continued.)

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Section on Gynecology.

Meeting January 17.

John C. DaCosta, M. D., Chairman.

Cancer of the Cervix and Pelvis Following Supravaginal Hysterectomy.

DR. CHAS. P. NOBLE read a paper, on this topic. He said that one of the arguments used in favor of total as against supravaginal hysterectomy for fibroid tumors of the uterus or for extensive inflammatory disease of that organ and its appendages, was that in a definite percentage of cases the cervix, if left in the pelvis, subsequently becomes the seat of carcinoma. A few cases of this kind have been reported, and these are always referred to in papers written from this standpoint, so that it is made to appear that there is considerable risk of carcinoma if the supravaginal hysterectomy is employed instead of total hysterectomy. His own experience, which embraced more than 175 supravaginal hysterectomies for fibroid tumors, and a larger number for inflammatory diseases of the appendages, had not borne out this contention, but on the contrary indicates that carcinoma following supravaginal hysterectomy is an exceedingly rare occurrence. On March 7, 1895, the following case was operated on in his own service at the Kensington Hospital for Women. Mrs. D., aged 35, who had had three children and one miscarriage, had suffered from menorrhagia and had had numerous attacks of pelvic peritonitis. Abdominal section disclosed a fibroid tumor of the uterus the size of a cocoa-nut, a left ovarian cyst and a right hydrosalpinx. These structures were adherent in the pelvis and the tumors were edematous and infiltrated with inflammatory products. Supravaginal hysterectomy was performed, removing the ovarian tumor and appendages, the fibroid tumor and the corpus uteri. The atypical condition of the tumor was noted but attributed to the repeated attacks of peritonitis, from which the patient had suffered. She made a fairly good recovery, and was discharged from the hospital on April 7. Unfortunately no detailed study of the specimen was made and no microscopic sections were examined.

Four months after the operation the patient began to bleed irregularly from the vagina. Eight months after the operation Dr. Applebach made a pelvic examination and found that the pelvis, vagina and cervix were involved in an extended carcinoma. The patient died a few months later, about one year after the operation. As the specimens from this case were not examined it is impossible to say definitely which was the primary seat of the carcinoma, but in view of the history both before and after the operation there is good reason to believe that a carcinoma of the body of the uterus existed as a complication of the fibroid tumor at the time of the operation, and that this disease had already involved the broad ligament when the hysterectomy was performed. This case was reported not so much because of its value in itself as because of the negative value of his own experience with reference to the appearance of carcinoma in the cervix left after a supravaginal hysterectomy. This was the only one which he had made and in this there was every reason to believe that unrecognized carcinoma existed at the time of operation.

Ovarian Cyst: Suppuration: Hematocele.

DR. GEO. ERETY SHOEMAKER read a paper on this subject. D., married, aged 48, with eight children and no miscarriages, was a patient of Dr. Fries. She had been tapped several weeks before coming under observation, and ten quarts of thin chocolate-colored fluid removed, disclosing a remaining mass in the upper abdomen. The abdomen had rapidly become again distended on her admission to the Presbyterian Hospital, and then contained a large cystic tumor which was somewhat irregular on its upper surface and presented many of the characteristics of an ovarian cyst, except that a possible origin in the upper abdomen could not be disproved. Eighteen months before, when her last child was born, no tumor was felt. The patient was very stout, was jaundiced, and had a very irritable stomach, while a trace of albumin and a few hyaline casts ap-

peared in the urine. At the operation the tumor was found to be a cyst of the left ovary and was removed. The ovary of the opposite side contained a small hematogenous cyst and was removed with the hydrosalpinx of the same size. The semi-solid contents of chocolate-colored fluid measured about 10 quarts. Adhesions were marked over the anterior surface of the tumor, probably owing to the tapping. There were considerable adhesions to the transverse and descending colon and a considerable stripping of the peritoneal cover occurred on the left side. Some uncertainty was felt as to the complete control of hemorrhage from an area in the mesocolon near the sigmoid flexure. There was some tendency to subperitoneal bleeding; as it did not appear to be persistent or definite after some hesitation irrigation with hot saline solution was used and the abdomen closed. There was much fatty deposit behind the peritoneum and about the large intestine, the patient being somewhat obese. She recovered slowly, after much vomiting for the first day or two, a symptom to which she had been subject for some time. The patient was most unruly and difficult to manage. The slight jaundice persisted. About a week after the operation a pelvic examination was made and there was found, distending the tissues around and between the rectum and the vagina, and on both sides of the uterus, a more or less indurated mass. This became quite hard, but about four weeks after the operation gradually softened and obscure fluctuation was obtained behind the cervix, the temperature being at this time irregular, with some sweating and a feeling of rectal pressure. The diagnosis of pelvic hematocele which was undergoing supuration was made. The source of the blood was thought to have been the vessels in the mesocolon and in the neighborhood of the sigmoid which had been injured in the separation of the strong adhesions in this region. Incision immediately behind the cervix gave exit to several ounces of blood and of pus with small black clots. The cavity from which this came was shallow, very irregular in outline, and appeared to contain shreds of blood-clots which had not yet broken down. A drainage-tube was inserted and iodoform gauze packed in the vagina. Under careful irrigation the discharge became rapidly diminished and the patient's temperature became normal and remained so. Complete recovery followed. This collection of blood must have been subperitoneal, as it surrounded and more or less fixed the rectum. After it had become consolidated the pressure on the rectum was a source of great distress to the patient, who complained rather of pressure than of pain. She had considerable difficulty in having a stool, owing to the presence of this induration. The vaginal incision was made about five weeks after the laparotomy. The jaundice disappeared in about eight weeks. She was discharged in good condition.

Salpingitis: Obscure Localized Symptoms.

DR. SHOEMAKER also reported this case: H. H., 25 years old, single, colored, was admitted to the wards of the Presbyterian Hospital with a history as follows: Her previous health had been good. She menstruated normally. In August, 1900, three months before admission, she had an attack of abdominal inflammation characterized by vomiting, pain in the right abdomen opposite the umbilicus, slight jaundice, and irregular temperature—103 degrees. She slowly recovered, but afterward had more or less distress in the lower abdomen, referred to the region of the appendix. This distress was increased by lifting and working. Two days before her admission the patient, while menstruating, had gotten her feet wet washing a pavement. The next day she had chilliness, great pain all over the abdomen, vomiting, constipation and elevated temperature. She was admitted to the surgical ward with the supposed diagnosis of appendicitis. The doctor was asked to see her in consultation with the surgeon on duty. When seen by him she had been ill five days. The tongue was coated a dirty white, somewhat dry, and while vomiting had been severe it had ceased. There was slight jaundice, the face was anxious and the greatest pain complained of was in the region of the gall-bladder; the epigastric tenderness, however, was most marked on both sides, just above Poupart's ligament, and the muscular rigidity, while not marked, was present in the left abdominal

quadrant, and the tenderness extended up over the region of the appendix. The tenderness being too great for a pelvic examination, ether was given for diagnosis, with the result that nothing could be felt in the upper abdomen and no mass in the region of the appendix. In Douglas's cul-de-sac were felt prolapsed coils of intestine which, when displaced, gave the sensation of the parting of very slight adhesions. Both tubes and ovaries were slightly enlarged and thickened; the uterus was restricted in mobility and forward.

The diagnosis of acute salpingitis was made, with the reservation of a possibility of a coincident involvement of the appendix. On this diagnosis the patient was transferred to the gynecological department, under his care. As the attack was five days old, the temperature range was improving, vomiting had ceased, and the pulse was good, ranging below 40. The expectant treatment was continued and ice was ordered over the lower abdomen. During the next week the point of greatest tenderness varied from the epigastrium to McBurney's point, and across the whole lower abdomen. At times palpation of the epigastrium was impossible. The muscular rigidity, however, disappeared in the lower abdomen, and the general condition gradually resumed its normal appearance, except for the slight pelvic tenderness. The patient was confined to bed and the attack allowed to subside, and, five weeks after the onset, abdominal section was performed. Owing to the slight jaundice, the persistent high location of pain and tenderness, and the rather slight situation of the inclination, it was supposed that the appendix would be found involved with the tubes. The incision was, therefore, made one inch to the right of the median line and through the right rectus muscle. The inflammatory disease was found to involve chiefly the uterus and adnexa, the appendix dipping down into the pelvis, however, and was slightly adherent by its tip to the enlarged right ovary, but its walls were not inflamed and there were no adhesions throughout its continuity. It was, therefore, not removed. There was capillary congestion and a roughening of the peritoneum over several coils of small intestine in the lower abdomen. The omentum was slightly adherent to the anterior pelvic brim. Both tubes and ovaries were buried in dense adhesions. The right tube was contorted and the uterine extremity normal for about an inch. The fimbriated extremity was completely destroyed by inflammation. Two pockets of inflammatory material occupied the lumen of the tube, the outer one containing yellowish pus in flakes, the inner one swollen rugæ covered with flakes of inflammatory lymph. The right ovary was buried with the tube and under the inflammatory exudate contained a cyst of 1½ inches in diameter. Its contents were thickened and bloody fluid. The tube and ovary were with some difficulty freed, tied off and removed. The left ovary, when freed from adhesions, was found to be nearly normal in size. The left tube was inflamed and three-fourths of an inch in diameter. After separation from its bed of adhesions, bloody, semipurulent material could be squeezed from its outer opening. There was free oozing from the fimbriæ and from the adhesions, even after irrigation and sponge pressure. The lifting of the tube was considered unsafe on account of the free oozing and the danger of infection from the tubal contents. It was, therefore, removed with a portion of the corresponding ovary, the remaining portion of the ovary being left with the hope of maintenance of some function. Irrigation with saline solution, careful peritoneal toilet of the wound by through-and-through silkworm gut sutures and catgut to the aponeurosis was followed by satisfactory recovery.

DR. C. P. NOBLE cited the case of a patient treated for salpingitis by an able medical man. She had had three recurrent attacks in his hands, when the speaker was called in consultation. Three physicians agreed that the patient had salpingitis, so he operated. The appendix was in the pelvis, was inflamed, and agglutinated in a mass of exudate was the appendix, the ovary and tube. Under these circumstances a correct diagnosis was impossible; the exudate was in the pelvis, where it would be found if the disease was salpingitis. In the appendicular region the parts felt normal on palpation. Under these circumstances it was impossible to make a diagnosis. In the case referred to by Dr. Shoemaker, where the tubes were

thickened and could be definitely made out. he thought the diagnosis was much more simple.

DR. SHOEMAKER, in closing the discussion, said, in regard to the post-operative hemorrhage that he thought it was subperitoneal for the probable reason that, on opening the collection, it was found occupying the median line, involving Douglas's pouch. In one case the mass was as large as a child's head, obliterating the vagina behind but not involving the sides of the uterus, vagina or rectum. In two other cases, occurring recently, the Douglas pouch had been opened and there the same definite location of the collection in the median line found. Subperitoneal hemorrhage is quite possible and is sometimes seen in operations where the vessel is low down, particularly in extrauterine pregnancy. Sometimes the whole floor of the pelvis has filled with blood and there is considerable difficulty in controlling the hemorrhage.

His second case was not reported as one of pelvic abscess due to appendicitis, but as a case of salpingitis with some few symptoms of appendicitis, probably reflex. He had been in the habit of examining the appendices and in 10 per cent. of all cases of abdominal section also removed the appendix.

The differential diagnosis can usually be made between appendicitis and salpingitis by the menstrual history being abnormal in the case of salpingitis; by the normal feeling of the tubes when examination is conducted under the influence of ether, bimanual examination demonstrating the normal condition of the tubes; by the lower situation of the inflammatory mass in case it is tubal—this is particularly demonstrable through the rectum; by the characteristic history of appendicitis, the short onset without the causes which would tend to produce salpingitis, the sharp onset of localized pain and muscular rigidity being alike in both conditions. Vomiting is not common in salpingitis as it is in the intestinal lesion, and the pain is referred to the epigastrium in appendicitis but not in salpingitis. In the case reported this symptom made the diagnosis more difficult.

CHICAGO SOCIETY OF INTERNAL MEDICINE.

Regular Meeting held January 15.

The President, Dr. John A. Robison, in the chair.

Chlorosis.

DR. GUSTAV FUETTERER read a paper on "Chlorosis, Its Diagnosis and Treatment, and Its Relation to Tuberculosis and to Round Uleer of the Stomach." This will be printed in THE JOURNAL.

The Blood in Anemia.

DR. JOSEPH A. CAPPS followed with "A Preliminary Report on Some Observations of the Blood in Anemia." He said that, in order to fully understand the pathology of the various anemias, we must definitely determine whether the destruction of blood is general or selective in character; whether the blood loss takes place in the serum or corpuscles; whether the cell in giving up its hemoglobin also loses its protoplasm. The brunt of the attack is undoubtedly borne by the corpuscles, for however important a rôle the serum may play in its chemical functions, it undergoes relatively slight physical changes in either health or disease. No material alteration takes place in the specific gravity of the blood serum in most of the severe pathologic conditions, with the exception of hydremia and post-hemorrhagic states, while the influence of the physiologic taking in and excretion of liquids is slight (Schmaltz). The researches of Hammerschlag, V. Limbeck, and others have taught us that variations in specific gravity of red corpuscles, e. g., changes in their chemical affinity for iron, of the blood as a whole depend primarily on disturbances of the changes in their number and their size and changes in their ability to absorb or lose water.

A priori an increase or diminution of the hemoglobin might be explained entirely on the basis of chemical affinity without regard to the size of the cell body, and this view is held by many hematologists. From this standpoint we may consider that in anemia qualitative changes of a degenerative character lessen the power of the corpuscle to take up iron. On the other

hand, there is much evidence to show that quantitative as well as qualitative changes take place in the cell and influence the hemoglobin content.

Several methods have been used to calculate the size of the red cells. Measurement of the cell diameter with a micrometer ruling has afforded fair results, but this gives one dimension only. The depth can be told roughly by the presence or absence of a central light area in the red corpuscle which takes a faint stain; or by observing the thickness of the disc when lying on edge in a fresh drop. These methods obviously are inaccurate and unreliable.

The centrifuge yields the only satisfactory results, taken in conjunction with a careful count of the red cells with a Thoma-Zeiss instrument. The percentage volume of the red cells as a whole, as obtained from the graduated capillary tube, is divided by the percentage number of red corpuscles, which gives the percentage volume of the individual corpuscle.

For this quotient he is aware of no term that has been employed; he therefore suggested the name of "Volume Index," which is self-explanatory and is easily associated with the familiar term "color index." Thus a reading of 45 on the tube=90 per cent.; the red cells number by count 3,750,000 or 75 per cent.; then $90/75=1.20$ volume index or an increase of 20 per cent. above the normal in the volume of the average cell.

It is generally believed that the erythrocytes are smaller than normal in chlorosis and larger than normal in pernicious anemia, but very few observers have accurately measured these variations and studied their relations to the hemoglobin and blood as a whole.

Herz (*Virch. Archiv*) claims to have found acute swelling of the cells without a rise in the hemoglobin after hemorrhage and peritonitis. He says that the cells in chlorosis are swollen or normal, never small. A chronic hypertrophy was found by him in Hodgkin's disease and in cachexia, while an atrophy of cells occurred in certain secondary anemias. Von Limbeck observed enlargement of the cells by measurement of diameters in catarrhal jaundice.

Thus we see that in chlorosis and most secondary anemias we have a lowering not only of the color index, but of the volume index as well. Without doubt the color loss precedes in time the loss in size and is always much more pronounced. In one case the color index fell to .45, whereas the volume index never fell below 5.7. Mild cases, or those recovering, exhibit a normal volume index while the hemoglobin is still deficient.

The process of impoverishment seems very similar in chlorosis, and the so-called secondary anemias except for the tendency of the red corpuscles in chlorosis to resist more successfully a reduction in number. As a result of this fact recovery is more rapid in chlorosis. There are, however, many cases of chlorosis where the number of cells and the volume index are much lowered, and these patients get well slowly, resembling secondary anemias. Conversely we must bear in mind instances of secondary anemia that are poor in hemoglobin, but almost normal in the number of red cells. Many examples occur, therefore, where it is impossible to state from the blood examination whether they are chlorotic or of the secondary type, and lead us to believe that chlorosis is but one of the clinical varieties of secondary anemia.

In pernicious anemia, instead of a shriveling of the red cell, we have a hypertrophy to correspond with the heightened color index. This hypertrophy does not simply *keep up* with the high color index—it nearly always surpasses it by a safe margin. Since the most sweeping destruction of red corpuscles takes place in this disease, we may look upon this increased size of the remaining cells as a sort of compensatory hypertrophy that largely enhances their efficiency in carrying on the work of oxidation. The highest volume index was 1.93, which indicates an average cell capacity almost twice the normal. This makes it easier to understand how life can be maintained with 500,000 red corpuscles or less to the cubic millimeter.

Bearing on this idea of compensatory hypertrophy he has observed that a similar process tends to operate in *all forms* of anemia where the red cells have been depleted to 2,000,000 or less. As the count falls below this point we see more and

more macrocytes, the volume index tends to increase, the color index rises until both the latter may be normal or above. Hence it is possible for a secondary anemia which has been characterized by a steady loss in cell size and color to reach such a low point that the cells must grow larger in order to sustain life.

There are many other conditions where a knowledge of the volume of the cells may be able to throw some light on pathology, such as jaundice, hydremias, cyanosis and hemorrhage, and these he hopes to study before completing his report.

A study of 14 cases of chlorosis shows that the red corpuscles in all cases have a smaller average diameter than in normal blood. The color index is constantly very low, while the volume index is decreased to a less degree.

The red cells in 24 cases of secondary anemia are also subnormal in diameters. The color index is not so low as in chlorosis. The volume index falls also, but never so much as the color.

The size of the corpuscles in 17 cases of leukemia and the relation of hemoglobin to volume is essentially the same as in secondary anemia. Thirty-one cases of pernicious anemia give a decided increase in the average diameter of the cells. The color index is high and the volume index still higher.

Hydriatics in the Treatment of Chlorosis.

DR. G. W. McCASKEY, Fort Wayne, Ind., read a paper on this subject. He especially disclaimed any intention of advocating hydrotherapy as an exclusive method of treatment, but urged its careful use in selected cases as a most valuable aid. The treatment, he maintained, should be based on a proper conception of the principal pathologic facts, among which were mentioned the oligochromemia, oligocythemia and oligemia. Especial stress was laid on the oligemia as not being fully recognized in dealing with chlorosis, and as indicating a great impairment of the hematogenic organs. Because of the marked decrease in the total mass of blood which undoubtedly exists the blood count may be normal with a serious degree of oligemia. The weakness of the heart with more or less dilatation; a general lowering of the blood pressure because of the heart conditions and vasomotor states; the resulting impairment of function of all the principal organs as a necessary result of the preceding conditions; and the retention of subcutaneous and intravisceral fat and hypoazaturia as a result of defective oxidation and lowered metabolism; and hypoplasia of cardiovascular and genital organs the common embryonic origin of which from the mesoblast was pointed out as a possibly significant fact, furnish the principal indications for therapeutic procedure.

While the administration of iron was advocated, the exceedingly small amount absorbed, coupled with the better therapeutic results claimed from tremendously large daily doses, points to an indirect action of the iron upon the alimentary tract.

The rest treatment in conjunction with iron, the importance of which most recent authorities emphasize, was pointed out as an important factor in permitting recuperation of cardiovascular tone, and in so doing improving the functions of the digestive organs and of the red bone-marrow upon which hematogenesis is absolutely dependent. Some recent writers report cases treated by rest alone, without iron, with favorable results. The writer believes that there is a radical fault in the organ concerned in making red blood cells—which in the human subject is the exclusive function of the red bone-marrow and that the treatment must be directed toward improving the functional activity of this important tissue. The quality of chlorotic blood is the same as that produced by overworked blood-making organs, the parallelism with the final stage of post-hemorrhagic anemia being especially striking. No single therapeutic measure can so directly influence the nutrition and functional activity of the bone-marrow as hydrotherapy. Its anatomical surroundings remove it from all but indirect methods, and after supplying abundance of iron with such a degree of rest as is indicated, forced feeding and special treatment of any organ that may need it, the indirect results of hydriatic measures can favorably modify the bone-marrow in accordance with well known physiologic laws. The obser-

vations of Schüller on the vessels of the pia mater after thermal stimulation of the skin; of Naumann, who demonstrated the partial reflex character of these phenomena, and of Winternitz, whose plethysmographic tracings demonstrated the increased volume and tension of blood in areas removed from the direct impress of cold and heat, were cited as a physiologic basis of hydriatic treatment, concerning the efficacy of which the writer has satisfied himself by a considerable personal experience, supporting the views of Strnempell, Winternitz, Immermann, Baruch, and others.

Various methods are available, such as the full bath, spray, douche, etc., the guiding principles being to use that degree of stimulation from which the patient will show a healthy reaction, and to use cold very guardedly and as a rule preceding its application by a storage of heat which will permit of the stimulating and tonic influences of cold without resulting depression.

- Chlorosis and Metabolism.

DR. FENTON B. TURCK followed with a paper in which he discussed metabolism and the advent of puberty at considerable length. He likewise dwelt on Herring's view of metabolism and its possible applications, and then passed on to a consideration of the relation of metabolism to function. The selective power of cells and the assimilation of inorganic compounds were mentioned. Relapses and failures of treatment by iron were largely due, in his opinion, to the non-recognition of the important rule of metabolism. He detailed his observations on methods of treatment based upon physiologic laws.

DR. FRANK BILLINGS stated that chlorosis occurs in young women somewhere between 13 and 14 and 22 years of age, on the average. It also exists in young men at that age, but the majority of writers do not accept this. Men in whom chlorosis occurs are of a feminine type, and show it in their physique. Chlorosis occurs in girls where there is a large number in the family, though there are exceptions to this. Dr. Billings touched briefly on the different theories that have been advanced regarding chlorosis. If it is a question of metabolism, why does chlorosis select girls? It is a disease one finds in all climates and under all conditions of life. He has seen quite as many cases among servant girls as among others, and has had a large number of cases among the well-to-do. He does not think there is any hygienic basis for chlorosis. It is not due to impaired nutrition, because it occurs among the children of the rich as well as those of the poor. When he had charge of ward 24, in the Cook County Hospital, he had on an average one case of chlorosis in every fifty patients.

In the treatment, he mentioned beef juice. His objection to it is that patients soon disliked it. To take a pint of beef juice every day requires not only great moral force on the part of the patients, but considerable persuasion by the physician to get them to do it. More people can afford milk than the juice which comes from five pounds of beef. He has gone on year after year, until simply at sea, so to speak, as to whether one preparation of iron is any better than another. On the whole, however, he considers the old tincture of iron the best, because it contains hydrochloric acid. It can be given in good doses, say five or ten, or even fifteen or thirty minims. By diluting the iron with pure glycerin, the patients do not object to it, and they feel and do better on tincture of iron than upon any other preparation.

DR. JAMES B. HERRICK said that there are many cases of chlorosis unrecognized, consequently untreated, and a great many, though recognized, are neglected by the patients themselves, or by the families, and allowed to go untreated. This is important, because untreated chlorosis may give rise to serious results. It is probable that a permanent impression is made on these patients that is never removed. Tronseau made the statement that when a patient had well-developed chlorosis, the impression made on her was never eradicated, and it was such a patient who, in later years, became nervous, neurasthenic or prematurely old, so that it was very important that the cases should be recognized early and properly and promptly treated. He emphasized the importance of watching patients for a long period of time. The greatest difficulty he

has had in treating cases of chlorosis is to get them to return to him for observation for as long a period as he desires. As soon as these patients improve a little, and feel so much better, many of them believe themselves fully recovered, consequently the physician sees no more of them, even though the nature of the disease is fully explained to them.

He regrets the tendency that prevails, to look upon chlorosis as a secondary anemia. It can not be denied that the blood findings are those of secondary anemia. If chlorosis is to be considered as a secondary anemia, it is a class by itself, and it is a secondary anemia in the sense that pernicious anemia is secondary, but physicians do not know the cause of it, and until they do know the cause of pernicious anemia, and of chlorosis, they should look upon them as distinct entities, as the essential anemias, so-called. If physicians looked upon chlorosis and the secondary anemias as practically one and the same thing, the profession would be in great danger of making serious mistakes in diagnosis—at least, so far as the welfare of patients is concerned. He hesitates to make a diagnosis of chlorosis until he has excluded tuberculosis, and on his history sheets not infrequently there is written "Chlorosis," with a note, which reads: "Look out for tuberculosis." And whenever he has a patient with what he calls chlorosis, and has given to her iron in considerable quantity, and fails to see a primary response to the iron, he begins to think there is a mistake in diagnosis; just in the same way that when a diagnosis of late syphilis is made, and the iodid of potassium does not produce immediate response, he fears, perhaps, it is not syphilis; or when a diagnosis of malaria is made and quinin does not promptly relieve the fever, and that then, perhaps, some mistake in diagnosis was made.

DR. CHARLES S. BACON alluded to the habit of tight lacing among young girls during puberty or early adolescence, as a possible causal factor of chlorosis. Tight lacing, he thinks, interferes with respiration and with digestion, and by interfering with digestion it also interferes with the intestinal functions. As tight lacing had some influence in causing constipation, so it will have a bearing on the production of auto-intoxication, to which several observers have directed attention as being a probable important causal factor. In the hydrotherapeutics of chlorosis the impairment of respiration demands the removal or abandonment of tight lacing.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Meeting held January 21.

Parker Syms, M. D., president.

Pathologic Condition of Houston's Valves.

DR. JAMES P. TUTTLE, in presenting a specimen of this condition, stated that although seventy years had elapsed since Houston had first described these valves in the rectum there were some at the present day, notably Matthews, who even disputed their existence. The specimen, which had been taken from a man of 45, settled conclusively the question of their existence, and showed them in this instance to be markedly hypertrophied. The rectum was almost occluded by two folds of mucous membrane. It was supposed that they afforded additional support to the column of feces, and he is disposed to believe that in some cases at least they may be responsible for the occurrence of obstipation.

Lupus Treated with Galvanocautery.

DR. W. S. GOTTHEIL exhibited a young woman in whom a lupus of the face had been converted into nearly normal skin by the use of the galvanocautery.

Lupus Vulgaris Treated by Static Electricity and the X-Ray.

DR. A. C. GEYSER read a paper on this topic, and exhibited two patients. One of these, a young woman, had been treated unsuccessfully for considerable periods of time, at almost every dispensary in the city. The other was a man on one side of whose face the x-ray had been used, and on the other the static spray. The former was free from hair and smooth. The author said that many methods of treatment had been devised, but none had so nearly approached being a specific treatment as

the Roentgen ray. His method consisted in placing between the patient and the x-ray tube a screen of lead, with a perforation opposite the diseased area. A "soft" tube should be employed, and daily exposures given at first. The worst case that he had treated by this method, one of nine years' duration, had required forty treatments, but others only eight or ten applications.

DR. W. S. GOTTHEIL said that some of those present had seen this woman's condition prior to this treatment, and did not hesitate to say that the result was very remarkable. It was certainly new to him, and while elaborate apparatus was required, it should certainly prove very useful for the more obstinate cases.

Exophthalmic Goiter of Syphilitic Origin.

DR. R. ABRAMS reported three cases, giving a direct and undoubted history of syphilitic infection, and improving with significant rapidity under appropriate syphilitic treatment. The first had come under observation with an early syphilitic eruption. This had been dissipated by mercurial inunctions, and she had then been lost sight of for six months. On returning, there were mucous patches in the mouth, and a noticeable exophthalmic goiter, associated with dyspnea, tachycardia and great nervousness. This complication had not been benefited by the use of the ordinary remedies for this disorder, but on giving large doses of the iodid of sodium for the relief of nocturnal headache, the exophthalmic goiter had disappeared. The other two cases were quite similar.

DR. C. W. ALLEN said that syphilis had often been mentioned as a predisposing cause of exophthalmic goiter, but it was new to ascribe to it such a prominent rôle in the etiology. Iodin and mercury have long been known to be of service in exophthalmic goiter, even when applied externally, yet he has never heard of any postmortem findings in this class of cases pointing to syphilis as a cause.

DR. W. M. LESZYNSKY said that in a rather large experience he had not seen a single case of exophthalmic goiter which had seemed to him to have been caused by syphilis, though it was not improbable that the mental depression associated with syphilitic infection might act as a predisposing cause. The so-called therapeutic test should not be interpreted too rigidly, for it is well known that many non-syphilitic inflammatory exudates are dissipated by the use of iodid or mercury.

Cystoscopy in the Female by an Improved Method, with Demonstration on the Cadaver.

DR. WILLIAM R. PRYOR read a paper on this subject and gave a demonstration of the method. His cystoscope consists of a main tube for inspection and a tube at the side for illumination. The latter extends beyond the inspection tube so that no rays can enter that one. It is important to remember that if the patient assumes the knee-chest position, as in Kelly's method, the very part of the bladder which it is most important to examine will be hidden from view unless certain special devices are used. To obviate this difficulty he recommended that the patient be placed in the lithotomy position and then the head of the table lowered to an angle of about 45 degrees. The refraction which the rays of light must necessarily undergo when the examination is made through water makes this method undesirable, and for other reasons it is apt to introduce other sources of error. With the patient in the position mentioned, on admitting air to the bladder, the latter assumes the shape of an equilateral triangle, and readily exposes to view even the pubic and peritoneal surfaces.

DR. F. TILDEN BROWN said that the instrument presented was worthy of high praise, and most useful for purposes of class demonstration, as well as for the simultaneous collection of separate specimens of urine from the two ureters. He insisted that the results of such an examination and analysis are far more exact if the two specimens are collected simultaneously. For this purpose he preferred to use a double-barreled instrument.

DR. PRYOR said that with the double-barreled instrument if tubercle bacilli are found in both specimens it is no proof that both kidneys are tuberculous, and Harris's method is an absolute failure.

PHILADELPHIA COUNTY MEDICAL SOCIETY.*Meeting held Jan. 9.*

President, Dr. J. H. Musser, in the chair.

Gunshot Wound of the Head.

DR. W. L. RODMAN presented a patient who had been wounded in the Philippines. He was 24 years of age and had, in October, 1899, received a gunshot wound in the parietal region, and point of exit was found in the upper part of the occipital. The patient had been under the impression that the wound was produced by a Mauser bullet, and stated that after the injury he became dazed, while afterward unconsciousness came on. The wound being on the left side of the head, there was slight paralysis on the right side. The man suffers from intense headache, and at times appears to be in a state of non compos. Skiagraphs have been taken, showing a foreign body imbedded in the brain substance, and located several inches from the point of entrance of the wound. The question to decide is whether to operate or not.

DR. L. WEBSTER FOX had made an examination of the eye-ground of the man and found the veins and arteries normal. He believed, however, that an operation would prove beneficial.

DR. F. SAVARY PEARCE read a few notes of the case. The optic center had doubtless been injured to a certain degree, as had the internal capsule. He believed that an operation was indicated. Skiagraphs were then exhibited demonstrating the location of the foreign body.

Hemoglobinuria Complicating Typhoid Fever.

DRS. J. H. MUSSER and A. O. J. KELLY read a paper on this subject. The latter referred to the literature on the subject, and spoke of the infrequency of this complication. Many modern text-books do not mention it at all. Curschmann had seen two such cases, and Osler had reported one. The patient was a colored man, aged 23 years. The family history had been negative. On Aug. 27, 1900, he had complained of headache, anorexia and, later, fever set in. A typical attack of typhoid became manifest, with rose spots, diarrhea, etc. The Widal reaction had been positive, and tub baths had been used to control the fever. After a few days' treatment hemoglobinuria came on and lasted six or seven days.

Perforation and Perforative Peritonitis in Typhoid Fever.

DR. WILLIAM OSLER, by invitation, read a paper on this topic, pointing out that until a comparatively recent date, when perforation in typhoid fever occurred, the physician could only fold his arms and await the inevitable consequence. But through the efforts of Leyden, of Germany, and J. C. Wilson, in this country, a change in opinion is apparent, and we can congratulate ourselves that the mortality in typhoid is lower than it was a quarter of a century ago. It is not the complications, such as hemorrhage and perforation, which produce death in the majority of cases, but it is the fatal toxemia. He had found that of 63 cases of typhoid treated at the Johns Hopkins Hospital during a certain period, only one-third had died of perforation. This same rate had not diminished by continuous observation, but there had been a reduction in the number of deaths from toxemia. Accidents of the former character may be divided into two stages: 1, the perforation, and 2, the peritonitis. The indications in such cases are to operate within the first twelve hours after a perforation has occurred. The speaker then detailed the history of 3 cases of typhoid, in order to demonstrate the symptoms and clinical signs of a perforation of the intestine.

In the best equipped hospitals a typhoid patient should not be left in the care of a resident physician, but a skilled man should be constantly in charge. He had drawn up a series of instructions to guide the residents at the Johns Hopkins Hospital: 1. Notify the house physician at once of any marked change in the patient's condition, or any evidences of collapse. 2. The house physician should note the onset of this change, whether intense pain, and whether relieved by ordinary measures, or whether it increased in severity. 3. The state of the abdomen, whether flat or scaphoid, or distended, the character of the respiration, sweating, muscular rigidity; the percussion note, and area of liver dulness. Auscultatory percussion may be of advantage. Examination should be made every three

hours. 4. Whether there had been any change in the facial expression, or sudden drop in the temperature with sweating and acute pain. 5. A study of the leucocytes—whether increasing. The speaker stated that in some cases he had noted an increase, but not in all. The red cells should be counted and the hemoglobin estimated. A diminution of the last two might denote impending hemorrhage.

Comparing the results obtained in the treatment of cases of typhoid fever as observed in the war in South Africa, and in the Spanish-American War, it should be noted that in the former instance the mortality had reached 20 per cent., while in the latter it was 7.6 per cent. The speaker believed that the statistics furnished by the physicians composing the army board was the greatest indictment against the diagnostic ability of the members of the profession yet presented.

Of a large number of cases of typhoid operated on for perforation of the bowel, 42.5 per cent had recovered. At the Johns Hopkins, of 16 so treated, 6 recovered, and the speaker believed that when this complication was promptly recognized and treated we would have a means of saving 50 per cent. of the patients.

DR. MORDECAI PRICE, in discussing the paper, detailed a history of several cases of typhoid which he believed might have recovered had an operation been done. He was under the impression that it was best to operate in all cases of perforation.

DR. ERNEST LAPLACE thought that the lesson to be drawn was clear—the surgeon should stand in close relation to the physician in the treatment of typhoid. This relation might be the same as that in the treatment of appendicitis.

DR. JAMES TYSON believes that the main point in this condition was the difficulty of diagnosis. He detailed a case in which there had been sudden abdominal pain, great tympany and other evidences of perforation which had subsided within a short period, and he believes there had not been a perforation. Another important point in the treatment of this condition was the area of the bowel involved. He had also observed, in one instance, pain referred to the end of the penis, referred to by Dr. Osler.

DR. JOSEPH PRICE was glad that a paper of this kind had been read by a physician and not by a surgeon. He had a series of 22 cases, with 10 recoveries. As to resection of the bowel in cases of typhoid, he believes that most die. He believes in an open wound and drainage in these cases.

DR. G. G. DAVIS referred to the difficulty in finding a perforation during an operation for this condition. In one instance he had operated on a patient with typhoid under the impression that there was a perforation, but none could be found. In this instance he observed that the patient made an uneventful recovery and stood the operation well. Simple flushing out of the abdominal cavity seems to do good.

DR. M. H. FUSSELL referred to a case in which there had been obliteration of the liver dulness. Four hours later all symptoms had disappeared. He did not know what the real condition was.

DR. W. L. RODMAN thought that if an operation was done at all it should be done early. He referred, however, to the reports of Treves and Sir William MacCormac, who had frequently detailed instances in which soldiers had been shot through the bowel, and in whom no operation had been done, and yet recovery had taken place.

DR. OSLER, in closing, stated that he could not recall one instance in his experience in which there had been a recovery from typhoid when a perforation existed. The first fifteen or twenty hours is the most important to the patient. In these cases, what if one should make a mistake when we have a means at hand which if employed might restore to health 50 per cent. of the patients?

Current Medical Literature

Titles marked with an asterisk (*) are noted below.

Medical Record (N. Y.), February 2.

1 *Radical Cure of Inguinal Hernia. A. M. Phelps.

2 The Treatment of Puerperal Fever. H. J. Boldt.

- 3 *An Operation for the Relief of Stoppage of the Tear Passage, Abscess of the Sac, etc. Erasmus A. Pond.
- 4 The Malarial Mosquito on the Susquehanna. Harvey B. Bashore.
- 5 Placenta Previa or Detached Placenta. George W. Squires. Philadelphia Medical Journal, February 2.
- 6 *Scurvy, Not Rheumatism. J. P. Crozer Griffith.
- 7 *Whey-Cream Modifications in Infant Feeding. Franklin W. White and Maynard Ladd.
- 8 *Proper Methods of Handling Milk for Infant Feeding. George T. Palmer.
- 9 *The Importance of Instruction in Medical Schools on the Modification of Milk for Prescription Feeding. Andrew H. Whitridge.
- 10 Intracranial Hemorrhage in the Newborn. W. Reynolds Wilson.
- 11 *The Causes and Treatment of Urgent and Serious Conditions in the New-Born. Samuel Wolfe.
- 12 *Otitis Media in Children and Its Treatment. H. V. Würdemann.
- 13 *A Critical Review of the Literature of Mastoid Disease and its Complications. Seymour Oppenheimer.
- 14 *Diseases of the Ear in Relation to General Medicine. Nathan G. Ward.
- 15 *Infantile Colic and Colic in Infants. H. Iloway.
- 16 *The Diagnosis and Treatment of Some Functional Forms of Defective Speech. G. Hudson Makuen.
- 17 *The Summer Cold: Swimming Pools as an Etiologic Factor. Lawrence F. Flick. New York Medical Journal, February 2.
- 18 *A Preliminary Communication with Projection-Drawings, Illustrating the Topography of the Paracoles (Lateral Ventricles) in their Relations to the Surface of the Cerebrum and the Cranium. Edward C. Spitzka.
- 19 A Case of Arsenical Dermatitis. A. H. Ohmann-Dumesnil.
- 20 *On the Sterilization of Milk; Its Advantages and Limitations. A. D. Blackader.
- 21 *Gall-Stones and Empyematous Gall-Bladders. Edwin Ricketts.
- 22 Appendicitis in the Female. Floyd Wilcox MacRae.
- 23 *Pharyngeal Adenoids, their Frequency and Sequelæ. Philip D. Kerrison. Medical News (N. Y.), February 2.
- 24 *Fatty Degeneration of the Heart. Thomas E. Satterthwaite.
- 25 A Case of Puerperal Sepsis from Retained Lochia (Lochio-metra), with Remarks. George P. Shears.
- 26 *Medical and Sociological Aspects of the Galveston Storm. H. A. West.
- 27 Infantilism. W. T. English. Boston Medical and Surgical Journal, January 31.
- 28 *The Treatment of the Later Phases of Heart Diseases. John L. Heffron.
- 29 Peritonsillar Abscess. F. C. Cobb.
- 30 Retropharyngeal Abscess in the Adult. J. L. Goodale. Cincinnati Lancet-Clinic, February 2.
- 31 Inguinal Hernia. B. Merrill Ricketts.
- 32 *Mechanical Means for Inspection of the Rectum. J. Ambrose Johnston.
- 33 *Some Theories for Which I Should Like to See the Profession Try. W. O. Owen. St. Louis Medical Review, January 26.
- 34 A Résumé of the Literature of Spinal Anesthesia. M. B. Clifton. February 2.
- 35 The Evolution of My Technique in the Treatment of Fibroid Uterine Tumors. Howard A. Kelly. Is it Extra- or Intra-Peritoneal Treatment of the Pedicle, Total Hysterectomy or a Combination of Both. Mary Dixon Jones. Medical Fortnightly (St. Louis), January 25.
- 36 Observations Based on the Probable Mode of Formation of Urinary Stone Relative to its Recurrence and Prevention. Reginald Harrison.
- 37 Huntington's Chorea; Hysterical Insanity with Generalized Analgesia. Charles G. Chaddock.
- 38 Diseases of the Stomach. J. M. G. Carter.
- 39 Women in Medicine in Germany. Josephine Milligan. Medical Age (Detroit, Mich.), January 25.
- 40 Adenoid Growths of the Post-Pharynx. George H. Gorham.
- 41 The Perversions of the Sexual Instinct. N. E. Aronstam.
- 42 Hysterical Phenomena Simulating a Diverticulum of the Esophagus. Carl Weidner.
- 43 A Plea for Pay Hospitals for Contagious Diseases. J. H. Adams. American Practitioner and News (Louisville, Ky.), January 1.
- 44 Epilepsy. Thomas H. Baker.
- 45 Osteomyelitis. Irvin Abell.
- 46 The Two Sides. (Relations of Physician and Public.) J. J. Wakefield.
- 47 Is Vivisection Useful? Symington Brown.
- 48 A Case of Appendicitis in Which a Lumbricoid Worm Passed Through the Ruptured Appendix into the Peritoneal Cavity. Paul H. Schwankhaus.
- 49 A New Obstetrical Forceps. Ernest G. Mark. Journal of Nervous and Mental Diseases (N. Y.), January.
- 50 Diffuse Degeneration of the Spinal Cord. (To be continued.) James J. Putnam and E. W. Taylor.
- 51 Report of a Case of Brain Injury, with Peculiar Whistling Spells Following Operation. William C. Krauss.
- 52 *Brush Massage. Frank R. Fry. American Journal of Obstetrics (N. Y.), January.
- 53 Dermoid and Other Cysts of the Ovary; Their Origin from the Wolffian Body. (To be continued.) Samuel W. Bandler.
- 54 *Arteriosclerosis of the Uterus; with Report of a Case of So-called "Apoplexia Uteri." Palmer Findley.
- 55 The Element of Time in Operations. James N. West.
- 56 *Two Rare Tumors. (1) A Calcereous Uterine Fibroma, and (2) a Fibromyoma of the Urethra. H. G. Wetherill.
- 57 A Case of Pregnancy in the Rudimentary Horn. Emil Ries.
- 58 Cesarean Section for Cancer of the Rectum. J. M. Baldy.
- 59 A Case of Malignant Chorion Epithelioma or So-called Deciduoma Malignum. Abram Brothers.
- 60 Vaginal Hysterectomy. Carl Strobell. Kansas City Medical Record, January.
- 61 Rabies. Arthur H. Wall.
- 62 Report of Cases—Infected Tumors—Removal. Herman E. Pearse. Annals of Gynecology and Pediatrics (Boston), January.
- 63 *Gastro-Enterostomy with the Murphy Button in Malignant Obstructions of the Pylorus. Frank T. Meriwether.
- 64 *Anteflexion—Its Importance and its Operative Treatment. Rufus A. Klingman.
- 65 *Clinical Memoranda Relating to Appendicitis. Andrew F. Currier.
- 66 Abdominal Drainage. A. L. Beahan.
- 67 *Does a Hole in the Drum-Head Destroy the Hearing: A Popular Delusion Regarding the Human Ear. Edmund D. Spear. Albany Medical Annals (N. Y.), January.
- 68 On the Influence of a Hospital upon the Medical Profession of a Community. William Osler.
- 69 Address: Historical Sketch of the Troy Hospital, 1850-1900. C. E. Nichols.
- 70 Further Notes on Abnormalities of the Urinary System. George Blumer.
- 71 Surgical Anesthesia by Spinal Subarachnoid Cocainization—The Corning-Bier Method. Willis G. MacDonald. Journal of Tuberculosis (Asheville, N. C.), January.
- 72 *Tuberculosis of the Middle Ear. Alfred Bruck.
- 73 Tuberculosis of the Knee-Joint and Other Cases of Orthopedic Surgery. Daniel W. Marston.
- 74 *The Use of Iodol in the Treatment of Tuberculosis of the Lung. T. Mellor Tyson.
- 75 A Case of Tuberculous Polyneuritis. Charles J. Aldrich.
- 76 Care of Tuberculosis. Mrs. Lew Wallace, Jr. Toledo Medical and Surgical Reporter, January.
- 77 The Early Diagnosis of Gastric Cancer with a View to its Radical Cure. G. W. McCaskey.
- 78 Diabetes Mellitus. C. Storx. Canadian Journal of Medicine and Surgery (Toronto), February.
- 79 Furuncle in External Ear—Nasal Obstruction and Paresis of Soft Palate. Percy G. Goldsmith.
- 80 Electro-Therapeutic Stms. H. Newman Lawrence.
- 81 Rhus Glabra in Enuresis. J. J. Cassidy.
- 82 Among the Tones. (Early Canadian Medical Literature, etc.) W. A. Young. New Yorker Medicinische Monatsschrift, January.
- 83 *Erfahrungen mit Cocainanaesthesia. F. Kammerer.
- 84 Sanatogen in der Kinderpraxis. J. G. Wm. Greeff.
- 85 *Aspirin. A. Toepfer. The Laryngoscope (St. Louis), January.
- 86 Some Critical and Desultory Remarks on Recent Laryngological and Rhinological Literature. Jonathan Wright.
- 87 *Rheumatic Fever in Relation to the Throat. St. Clair Thomson.
- 88 *Spongyfying of the Labyrinth. J. Holinger.
- 89 Improvements in Ear Specula. S. S. Bishop.
- 90 Sarcoma of the Naso-Pharynx, with Report of Cases. John O. McReynolds. American Journal of Surgery and Gynecology (St. Louis), January.
- 91 Bottini's Operation for Enlarged Prostate. Geo. M. Phillips.
- 92 *Drainage in Abdominal Surgery. J. W. Long.
- 93 How a Country Doctor Treats Chronic Cystitis. Fred S. Clinton.
- 94 Abdominal Section for Pus-tubes. A. C. Bernays.

- 95 Operation for Appendicitis which Did Not Exist. E. N. Wright.
- 96 Abdominal Section for Old Adhesions—One for Fibroid Tumor and One for Complicated Pelvic Lesions. Emory Lanphear.
- 97 A Reply to Dr. Lanphear's Criticism of the Methods of Eastern Surgeons. Seneca D. Powell.
- 98 Who Should Operate, and When?—Something of the Relation between the Physician and the Surgeon. Clarence H. Vaught.
- 99 A Case of Double Intra-Ligamentous Cyst, with Remarks. C. Jeff Miller.
- 99½ The Treatment of Noma. G. W. West.
- 100 Removal of a Child's Head by Abdominal Section—Recovery. J. A. Walker.

Medical Herald (St. Joseph, Mo.), January.

- 101 Double Ureter—Report of a Nephrectomy Done upon a Young Child with this Condition Present. J. E. Summers, Jr.
- 102 *Spondylolisthesis. John P. Lord.
- 103 *Contusions of the Eye Producing Obliterating Hyphema. N. F. Weymann.

Carolina Medical Journal (Charlotte, N. C.), January.

- 104 A Case of Syncytioma Malignum with Metastases in the Vagina. H. A. Royster.
- 105 The Management of Cardiac Dilatation. Herman B. Ailyn.
- 106 A Plea for the Early Treatment of Hypertrophied, Faucial and Pharyngeal Tonsils. L. E. Norfleet.
- 107 Drinking-Water and the Mosquito as Causes of Malarial Fever. Charles R. Grandy.

Merck's Archives (N. Y.), January.

- 108 *The Rational Treatment of Pulmonary Hemorrhage. William J. Robinson.
- 109 Therapeutic Management of Typhoid Fever. Aurele Nadeau.

Southern Practitioner (Nashville, Tenn.), February.

- 110 Anesthesia and Anesthetics. W. R. Sifford.
- 111 Successful Hip-Joint Amputation for Tubercular Osteomyelitis by Wyeth's Bloodless Method. Tilman Ramsey.

Dominion Medical Monthly (Toronto), January.

- 112 *Notes on Gastroptosis, with Reports of Cases. Graham Chambers.
- 113 Double Conical Stump Following Amputation of Both Arms in Utero. Walter McKeown.

Alabama Medical Journal (Birmingham), January.

- 114 An Unusual Case of Late Syphilis of the Testicle. Dyer F. Talley.
- 115 Vital Questions in Medicine (Tuberculosis, etc.) T. A. Casey.
- 116 Broncho-Pneumonia. F. P. Hixon.
- 117 Eclampsia. E. O. Williamson.
- 118 Scarlatina. W. M. Cunningham.

Southern California Practitioner (Los Angeles), January.

- 119 Meniere's Disease—Report of a Case. S. D. Hopkins.
- 120 *The American Cigaret. F. A. Seymour.
- 121 Treatment of Acute Opium Poisoning. F. D. Bullard.
- 122 The Lodge Question. John C. King.
- 123 Climatology of California. C. G. Stivers.

Southern Medical Journal (La Grange, N. C.), January.

- 124 Address before Seaboard Medical Association. R. H. Lewis.
- 125 Oration. The Excellence of Enlightened Effort. J. Emmett Sebrell.
- 126 *Comparative Value of Laboratory and Bedside Diagnosis. E. C. Levy.

Charlotte Medical Journal, January.

- 127 *Concerning the Etiology of Asthma. John Dunn.
- 128 Osteoplasty of the Cranium for Tertiary Lesions of syphilis—Details—Recovery. J. E. Massey, Jr.
- 129 *Perineal Lacerations. W. C. Brownson.
- 130 The Syringe and How to Use it. H. S. Lott.
- 131 The Treatment of Neuralgic and Rheumatic Affections. D. S. Maddox.
- 132 The Surgical Treatment of Cancer of the Stomach. Frank T. Meriwether.

AMERICAN.

1. **Inguinal Hernia.**—Phelps reviews the methods and history of the operative treatment of hernia and describes his own method of using the silver-wire mattress. He contrasts the Bassini and Halsted operations, pointing out their distinctive features, and claims as original in his own operation the reproduction of large masses of inflammatory material to restore the abdominal wall and the introduction of fine silver-wire filigree through the entire inguinal canal, over the transversalis fascia, adding to the strength of the weakened parts, and preventing stretching of the new material. The cutting off the hernial sac and retreating from the operation exactly as from an abdominal operation, and stitching of the peritoneum and transversalis fascia with a continued suture of fine

silver wire, and also the use of fine silver wire with continued suture are claimed as original. He sterilizes this by thorough boiling and steaming, and by putting it in pure carbolic acid a few minutes before operation, after which he dips it into alcohol, holds it over an alcohol flame and thus thoroughly sterilizes it. Drainage should be avoided if possible.

3. **Drainage of Lachrymal Sac.**—The operation described is devised for the free drainage of the lachrymal sac, relieving epiphora and obviating any danger of abscess in one operation. Probing, Pond finds, has been unsatisfactory. The operation is very simple; a long silver probe, with one end blunt and the other with an eyelet large enough to carry a coarse silk string, is threaded and passed through the canal into the nose, where the end is seized with a pair of forceps and drawn out through the nostrils. The probe is then unthreaded and the string left in position with the ends tied together. The string is worn about one week, being drawn through the nose two or three times a day. In tying he makes quite a knot which, when pulled through the canal, makes an opening. He has used this operation for the past four years with good results. The canaliculus may be slit or not as deemed advisable. Most of the operations have been under cocaine, but in some he has used ether. There is no pain after the first operation and the string can be drawn without causing any harm. In abscess of the sac the string gives good drainage. Three cases are reported which were severe and of long duration, but were promptly and permanently relieved.

6. **Infantile Scurvy.**—Crozer Griffith reports sixteen cases of infantile scurvy in which the symptoms illustrate the likeness which the title of his article indicates. In all the cases it was evident that a dietetic fault was at work, but just which one was not always clear. He believes that the use of commercial infant foods may have causal relation to the condition in children, and there are cases on record in which sterilized milk seemed to be the cause. He thinks this, however, is overrated; still it is to be considered. The earliest symptom is usually pain in the legs, and disorders of the gums naturally can not be found in children who have no teeth. They may occasionally have scurvy without pain, and failure to make the diagnosis is not to be regarded as a reproach to any physician. The treatment of the disease is simple. The use of fresh fruit juice has worked almost miraculous cures.

7. **Whey Cream.**—White and Ladd summarize the results of their studies on the effect of whey-cream modifications in infant feeding as follows: By the use of whey as a diluent of cream of various strengths they are able to modify the proportion of caseinogen and whey proteids of the cow's milk closely to the proportion of human milk. The best temperature for destroying the rennet enzymes is 65.5 C. Whey or whey mixtures should not be heated above 69.3 C. to avoid coagulation of the whey proteids. The percentage of whey proteids obtained by them was 1 per cent., while in the analysis of the whole milk, approximately three-fourths of the total proteid was caseinogen and one-fourth whey proteid. On the basis of this analysis they were able to obtain whey-cream mixture with a maximum of .9 per cent. and a minimum of .25 per cent. of whey proteid, with percentages of caseinogen varying from .25 to 1 per cent., fats from 1 to 4 per cent., milk-sugar from 4 to 7 per cent. The emulsions of fat in whey, barley-water, gravity cream, and centrifugal cream mixtures were the same, both in their macroscopic and microscopic appearances. The combination of heat and transportation which may act together in hot weather, partly destroys the emulsion in all forms of modified milk, but this can be prevented by keeping the milk cool during delivery. Whey-cream mixtures yield a much finer, less bulky and more digestible coagulum than plain modified mixture with the same total proteids; the coagulum is equalled in fineness only by that of barley-water mixtures. The coagulum from gravity cream mixture and centrifugal cream mixtures is the same in character.

8. **Proper Methods of Handling Milk.**—Palmer describes the methods in the Gurler farm, at De Kalb, Ill., the results of which seem to be very successful.

9. **Milk Modification.**—Whitridge pleads for instruction, in medical schools, on the methods of modification of milk for prescription feeding. He thinks that especially in the South there is a deficiency in this respect, but more or less in all parts of the country.

11. **Urgent Conditions in the Newborn.**—The conditions mentioned by Wolfe are those of premature births, plural births, pressure on the umbilical cord, on the head, and on the thorax, and toxic states of the fetal blood incident to parturition, as well as certain conditions which seem to be inherent in the germ. He gives directions as to reviving asphyxiated infants, maintaining that the method first adopted should be carried out as far as possible uniformly and the after-treatment of the child be given careful attention. He advises clean lard imunctions over the whole body, afterward rubbed off in the first cleansing of the child, and in the case of a weakened child we should always have enough absorbent cotton on hand to make a cotton envelope for the infant. He calls attention to the necessity of sometimes using stimulants, of which he advocates atropia or nitroglycerin made up from the ordinary hypodermic tablets, a teaspoonful of the solution containing from 1/2000 to 1/3000 of a grain of atropin, while the trinitrin solution should contain a similar fraction of a drop of the 10 per cent. solution. A dose of either may be given and the effects watched, and ordinarily repeated from two to six times in twenty-four hours as a stimulant to circulation and respiration.

12.—See abstract in THE JOURNAL. XXXV, p 51.

13. **Mastoid Disease.**—Oppenheimer reviews the symptoms and authorities in mastoid disease and its more serious complications.

14. **Ear Disease in General Medicine.**—The relation of ear disease to various disorders, mumps, influenza, nasal and nasopharyngeal affections, lung disorders, diseases of the alimentary tract, typhoid fever, syphilis, rheumatism, neuritis, cardiac disorders, kidney disease, gastro-intestinal diseases, eye diseases and drugs are all noted.

15. **Colic.**—This disorder is an irregular peristalsis of the small intestines, a contraction of the various muscular coats of the intestinal tract accomplished with such violence that the nerve filaments are unduly compressed and pain produced. The causes of infantile colic are enumerated: 1. Flatulence, which may be due to some congenital deformity of the child itself, in its defective development, etc., or it may be the fault of the mother either in her diet or attention to the bowels. Drugs, emotional disorders, etc., on the part of the mother, may have their effect, and it may be due to overfeeding or to improper quality of the food, and sometimes underfeeding may be the cause of colic. Refrigeration, leaving the child lie too long in a wet condition, may be the cause. Illoway does not think swallowing of air has any special effect in this way. It is possible that malarial influence may be at work. The symptoms are discussed in detail, with special reference to the cause, which is an important matter of treatment. For immediate relief the aromatics or carminatives have been employed from time immemorial, and several prescriptions are given. At first, in his early practice, he employed opium, but has found that certain simple remedies were as efficient. He has found nothing superior to milk of asafetida, which is taken readily by most infants and is innocuous. One of the principal things, however, is removal of the cause. When it lies in the infant there is not much to be done except to relieve as far as possible the pain and give attention to the bowels. The diet in the mother and child should be given careful attention.

16. **Speech and Its Defects.**—Makuen discusses the defects of speech due to various causes, to defective hearing and to defective psychic apparatus. In the development of the child attention should be given to this last point, and babbling and prattling should be encouraged in a quiet way. Early examination of the organs of speech should be made whenever there is

any sign of defects, and hypertrophied tonsils and all irregularities be looked after. Stammering is not due to arrest of development, but to certain defects of the nervous system. He describes his plan of treatment in these cases. The approximate cause of stammering is a functional derangement of the nervous mechanism of speech causing an incoordinated action of the hitherto automatic peripheral apparatus. There is only one rational way and scientific method of producing normal action, that is physiologic exercise, the patient conscientiously endeavoring to gain control over the entire muscular system with especial attention to those parts immediately concerned with the processes of speech. Some ingenuity may be necessary sometimes to determine just what particular exercise is best suited to each individual case, and great care and perseverance may be needed.

17. **Summer Colds.**—Flick gives his experience and that of his family with summer colds, which he attributes to the use of a swimming bath. There is very little doubt in his mind that the infection was conveyed in this way, directly through the water. He regrets that he was unable to give a bacteriologic study, but at the time his attention was called to the facts and the material was available he had not the opportunity.

18. **Lateral Ventricles.**—Spitzka gives diagrams, taken from life, of the position of the ventricles, with special reference to the surgical procedure of tapping, which he assumes has a future. The diagrams are very instructive. He calls attention to the sources of uncertainty that will have to be taken into account, such as variability in relation to portions of the brain, that is, of the external surfaces of the cranium. The condition differs in different individuals. For the purpose of effecting an entrance into the cavity of the ventricles, the safest road would seem to be the one which is directed into the trigonum, the roomiest part of the ventricle and the least variable. The article is most intelligible in connection with the illustrations.

20. **Milk Sterilization.**—The effects of heat on the bacterial flora of milk are described by Blackader, who sums up his results by saying that milk, in sterilization by heat, is altered to an extent varying according to the elevation and duration of the temperature used. The proteids are modified and rendered apparently less digestible, though our knowledge is yet imperfect in this regard. The combination of saline ingredients is probably more or less broken and the salts assume conditions in which they are less readily absorbed. The natural ferments, whose presence in milk it may be inferred is to assist digestion in the infant's stomach, are destroyed. An alteration takes place in the emulsion, which may also have a distinct effect in lessening the digestibility of cow's milk by the infant. He also points out that it is very important that the milk, after sterilization, must be kept at a low temperature, and this, used for many days, is not free from danger. He therefore thinks it very desirable in infant feeding, to use fresh milk drawn with careful precautions against contamination, and in which the lactic-acid-producing bacteria are present in such small numbers as to induce no important alteration. Such milk had better not be sterilized, but since we can not always obtain it, the lesser of two evils is to have the milk sterilized at the lowest efficient temperature, viz., 60 C. maintained for fifteen minutes.

21. **Gall-Stones.**—Ricketts protests against dependence upon the internal use of drugs and methods of poulticing in cases of pus formations, and favors cholecystotomy with drainage. The latter, through the abdomen and gall-bladder, must be maintained until we are confident that no stones remain in any biliary space that can be explored by a probe. He thoroughly washes out the bladder after removal of the calculi, and frequently finds others brought away. He thinks that if cholecystotomy is the primary operation for removal of the gall-stones, the few cases in which there may be recurrence can be dealt with more successfully by a secondary cholecystotomy if need be, than by any one of the other procedures named for their primary removal. As regards surgical intervention, he objects to two tempo operations, which he thinks are to be condemned.

22. Appendicitis in Females.—McRae reports several cases of appendicitis in women, and thinks that the disease is frequently overlooked in the female. Diagnosis is much more difficult. It usually occurs at or about the menstrual time, and is often attributed to genital troubles. The pain of appendicitis, he says, is more sudden in its onset and more acute than that of pelvic disease. It is frequently combined with nausea and vomiting. Muscular spasm is marked; while practically absent in pelvic disease, disturbance is very much greater and progress more rapid. An intact hymen argues strongly for appendicitis. When in doubt and the symptoms are aggressive it is safer to make a diagnosis of appendicitis and operate than to delay until the case is hopeless.

23. Adenoids.—The conclusions of Kerrison's article are that pharyngeal adenoids are much more common than generally supposed in children; that cases of moderate development are often not recognized; that growths of moderate size, though not necessarily accompanied by marked symptoms at the time of their development, are often responsible for grave conditions during adolescence or in adult life; that unless removed, in nearly all cases they are accompanied by more or less impairment of hearing; that the presence of adenoids does not greatly add to the gravity of the intercurrent disease and makes the patient more susceptible to tubercular and diphtheric infection; that the periodic examination in children for this should become a routine measure; that moderate cases, no less than the extreme ones, demand surgical treatment; that the treatment should aim at complete ablation and removal of the growth and is best done under general anesthesia.

24. Fatty Degeneration of the Heart.—According to Satterthwaite, this is a common affection, though it is not to be classed as a disease *sui generis*, but rather as a metamorphosis or process attending on loss of compensation and valvular disease and nearly as often in non-valvular. It is caused by fevers, toxemias, dyscrasias, disorders of nutrition, and mechanical injuries. It may also be a physiologic process, as in senility or after parturition. For practical purposes he divides it into three stages: 1. Early, in which the prognosis is best for a complete recovery. 2. Intermediate, in which the arrest of fatty processes *in toto* is hardly probable, but the affection may be so improved that the patient need not be seriously disabled. In this we may have a physiologic if not a pathologic cure. 3. In the final stage, marked by such profound implication of internal viscera that their functions are in abeyance, the prognosis is always bad and the end will hardly be delayed beyond a few months.

26. Galveston Storm.—West gives his experiences and observations in connection with the recent Galveston storm, and notices the unsanitary conditions of overcrowding and filth and general impairment of sanitation that followed the disaster, together with the excessive high temperature, increase of disease-bearing insects and temporary failure of the water-supply. There seems to have been an increase of malaria in the place since the storm, and gastro-intestinal catarrh and dysentery were prevalent for a while. Typhoid fever also made its appearance and scarlet fever, diphtheria, epidemic influenza and dengue occurred, though thus far not epidemic. Many cases of mixed infection were noted. The city is still far from a sanitary condition, as there is no proper system of sewage.

28. Heart Disease.—Heffron thinks the treatment of the later stages of heart disease should be guided: 1. By the condition of the heart, that is, when compensation fails, it should be relieved of all extra work, and absolute rest in bed is what he recommends for this purpose. 2. The volume of the blood should be diminished as much as possible, and mainly by the use of such hydragogue cathartics as least disturb the general conditions. The remedies he advocates, in order of their importance, are elaterium, calomel and salines, but at the same time the diminution of ingested fluids must be insisted on. 3. The nervousness of the patient which increases the work of the heart must be controlled. For this he recommends ice-bags for temporary relief, but medicines that act upon the nerve centers have to be relied upon. The alkaloids of

opium, codein and morphin are first, and he thinks heroin is a fraud. In some cases where the nervousness is not extreme, he has good results from the use of the abstract of cannabis indica made by the late Dr. William Maunius Smith, which is uniform and efficacious. He uses this first as a rule, often adding the others. The next point is the diet, which must be managed so as to be nutritious, not very bulky, and easily digested. When dropsy comes on he recommends hot-air cabinet baths together with a purgative. The use of cardiac stimulants is also noticed as affecting the muscles of the heart, and also the Schott treatment, and general exercises under the direction of a physician. If compensation can be restored, as it often can, the patient should still be kept under observation and avoid excessive demands on his powers.

32. Inspection of the Rectum.—Johnstone describes the instruments, protoscope and anoscope, used in examining the rectum, and the technique of their employment, also a table specially adapted for this purpose. He considers, in conclusion, Houston's valves, noticing particularly Mathews' opinion that they do not exist. He is as certain that they do exist as that the soft palate does, though whether they should be called valves he does not venture to say. In fact, he thinks they are comparable to the soft palate to some extent in efficiency and function.

33. Some Medical Questions.—Under the heading, "Some Theories for Which I Should Like to See the Profession Try," Owen notices the lay management of hospitals, which he thinks should give way to medical administration, the discipline of irregular and non-ethical practitioners, etc. He does not think, however, that a physician should be prevented from patenting a valuable medicine or appliance. The principal point is that the physicians should try to obtain control of hospitals and all their details, also of boards of health, and should insist that all men who are allowed to practice medicine should at least be qualified by education. He thinks there should be a branch of the judiciary whose sole function should be the control of public health matters, and all practitioners of medicine should be within that court's jurisdiction.

52. Brush Massage.—Fry recommends the use of a dry bristle brush for the purpose of massaging, and claims it has many advantages over the ordinary methods. It is easily learned and can be taught to the ordinary nurse. As he employs it, it consists in kneading all exposed portions of the body with the brush, keeping it in contact with the skin and manipulating with a circumduetory and creeping movement with varying rapidity and pressure. The dry brush adheres to the skin, bringing with it the superficial structures in a way that can hardly be described, but can be appreciated on trial. Specially constructed brushes are not necessary. From a good assortment of flesh brushes, one can always select a suitable one for the purpose. He claims that it has an excellent effect on ties, tabes, neuralgia, neurasthenia, hysteric and neurasthenic aches and pains, especially on the neck and back paresthesias.

54. Uterine Arteriosclerosis.—This condition has not been much mentioned in English literature though its existence is not questioned. Findley reports several cases and discusses the literature of the subject. He thinks that the finding of arteriosclerosis in the uterine arteries is what should be expected in advanced life and it is not surprising that the clinical picture, pain in the hypogastrium, uterine hemorrhage, anemia and impairment in a woman 70 years of age should be mistaken for carcinoma of the uterus. He thinks that while it must be proven that it is responsible for uncontrollable uterine hemorrhage, there are many cases in which it is overlooked, as in senility; hemorrhagic metritis of the menopause may be in reality hemorrhagic infarction of the uterus based on arteriosclerosis and calcareous degeneration of the uterine vessels. So long as the condition does not rest upon a toxic basis, but rather on senile conditions, the control of the hemorrhage is all that we can expect. If the patient is dependent upon her labor for a livelihood, and the hemorrhages are taking her strength, then vaginal hysterectomy will be indicated. If it is possible for the patient to refrain from

work during hemorrhage, Findley advises rest and the use of ergot, styptics and tamponing. If, however, this is ineffective and the patient's general condition demands it, vaginal hysterectomy must be resorted to.

56.—See abstract in *THE JOURNAL* of January 12, p. 128.

63. **Gastroenterostomy.**—Meriwether discusses the use of the Murphy button in malignant strictures of the pylorus; even in benign strictures the trend of opinion is growing more and more favorable to the use of the button. The saving of time it offers is valuable, and since in suture operations the statistics give the same mortality the button operation should be preferred. The suture operations have usually been performed in selected cases, while the button cases have frequently been in very bad shape. The technique is given in detail. The author advises that the longer half of the button should be used in the stomach; possibly this is not in accordance with others' experience. He advises gastroenterostomy in all cases of malignant disease of the pylorus when the ordinary operation can not be done, even if the patient is weakened and the case far advanced; the Murphy button is to be used in preference to sutures as being equally as good in results and requiring much less time.

64. **Anteflexion.**—Among the causes of anteflexion aside from corsets, overstudy during the period of puberty and other things, Kingman suggests that excessive dancing and bicycle riding are important factors in many cases. The operation he seems to favor is the Dudley, which he has come to use of late with increasing frequency and great satisfaction. He also insists on the importance of cutting the posterior ligaments, which he thinks is a distinct step in advance.

65. **Appendicitis.**—After reporting a series of cases, Currier remarks that two classes in which he would think it wise to avoid surgery are: 1. Those who promise with great certainty to get well, provided they can be watched and operation performed later is necessary. 2. Those in which there is absolutely no hope. In all others operation is advisable. He does not think it well to give up drainage and irrigation where there has been much suppuration nor gauze packing in cases where hemorrhage is likely to occur, though he admits that it may do much damage in its adhesion to tissue. He is firmly convinced that it is good routine practice to open the bowels with calomel twenty-four hours after operation, unless shock is still continuous.

67. **Drum Perforation.**—Spear's article is a protest against the ordinary idea held by many, even in the profession, that perforation or rupture of the drum is necessarily serious in its consequences to hearing, etc. In certain diseases of the middle ear the intact drum is a positive hindrance to cure. While under ordinary circumstances it serves a useful purpose of protection and tends to perfect reproduction of all sounds, in some cases excellent hearing can be secured without it, and in others it is itself a hindrance to hearing, yet perforations or ruptures in it can be made with indifference and its tendency to heal is emphasized.

72. **Middle Ear Tuberculosis.**—The special features of middle ear tuberculosis, according to Bruck, are absence of pain, slight reaction on surrounding parts and its tendency to cause in a short time excessive destruction in the most cases. There are, however, cases where the progress is slower, suppuration diminished, and even spontaneous cure may take place. In some instances the cases simulate an acute purulent otitis media, but in middle ear suppuration no tubercular patient is to be considered as tubercular with absolute certainty until the bacillus can be demonstrated. The prognosis is nearly always bad; complete healing is rare. The general condition of the patient must be looked after and careful local treatment given to the ear. Boiled water douches one to two times daily, followed by loose tamponing with sterilized gauze, are advised. In cases of fetid suppuration, Bruck uses formalin solution, 4 to 6 drops to the quart of luke-warm boiled water. Where the defect in the drum membrane is great, the powder treatment may be employed, the powder containing eucrophen and boric acid, applied after first syringing and wiping the

ear carefully, softening tough masses of secretion with carboglycerin, etc. For small granulations absolute alcohol diluted with water, using gradually less until pure alcohol can be used. Larger granulations should be cauterized. Surgical treatment should largely depend on the patient's general condition.

74. **Iodol in Treatment of Tuberculosis.**—Tyson has been using inunctions of iodol for the last two years in cases of consumption, with marked improvement in the symptoms. This was only temporary in advanced cases, though in incipient ones it continued as long as they were under observation. The cough and expectoration sometimes disappeared entirely, or in every case diminished gradually, and the abnormal breathing signs became decidedly diminished in intensity. The weight was increased, expectoration decreased, strength and appetite improved. In addition to the iodol inunctions, the patient received 1/25 gr. of strychnia three times a day, with good nourishing food and proper outdoor exercise. The inunctions contained 20 gr. to an ounce of olive-oil. The quantity rubbed in was 3i three times daily, increased gradually to 3ss, say about 3i a week, and requiring about ten minutes for the patient to rub it on.

83. **Spinal Cocainization.**—Kammerer gives his experience with spinal cocainization, in all 39 cases. Among these there were 10 unsatisfactory results, 6 in which it was impossible to obtain the cerebral fluid by puncture and 4 in which analgesia failed to appear. As regards the causes of failure in the 6 cases, there is no explanation. It is hardly possible that the needle was misdirected; there may have been some peculiar condition existing. As regards dosage, he uses, on an average, 10 or 11 drops of a 2 per cent. solution of cocain, sometimes exceeding this a little. He has seen anesthesia come late, even after thirty or forty minutes, and yet be very complete. In 4 of his cases there was more or less pronounced analgesia of the upper extremities, and in 1 it extended so far over the whole body that the lips, forehead and scalp could be pricked without pain. The patient was a strong, powerful man of 30, and only 1/4 grain of cocain was employed. In the great majority, however, analgesia only extended to the ensiform process, and there were no unpleasant by-effects, excepting in a few instances. He concludes that they are more pronounced where the anesthesia is most perfect. They were not observed in the 4 where the analgesia failed. In 2 gastroenterostomies there was a certain amount of discomfort complained of on tension of the abdominal wall and manipulation of the stomach and bowel; in others there was more or less sensibility remaining. He thinks that at present we can only use the method in operations on the lower extremities and the pelvis; the higher we operate the more likely we are to have unpleasant accompaniments and defective analgesia.

85. **Aspirin.**—Toepfer has employed aspirin for its analgesic effects in acute rheumatism and other rheumatic disturbances, measles, malaria, intestinal colic, ovarialgia and other neuralgias, hemicrania, lumbago, sciatica, spinal irritation, arthritis deformans and uterine carcinoma. He finds it more or less effective in these conditions and quite satisfactory in some. It should not be employed with alkalis, like carbonate of soda. It is insoluble and must be given as a dry powder or shaken up in a cold watery mixture with neutral reaction. It is usually only a palliative. Only very rarely did he find any unpleasant effects, such as tinnitus, vertigo and headache, from its use.

87. **Rheumatic Fever in Throat Affections.**—According to Thomson and other authorities, there is a general acceptance of the view that there is an undoubted association between rheumatism and the tonsil, which is expressed from two points of view. One is that the rheumatic poison enters the system through the tonsil, the inflammation of which is the first sign of disease. The other is that tonsillitis in certain cases is one of the manifestations of the rheumatic diathesis. Both of these views are supported by observation. He thinks the various theories that have been propounded are somewhat premature. It is safer to await further pathologic investigation. We also want to know more about rheumatism itself and the

various causes and forms of tonsillitis associated with it. Thus far peritonsillar abscess or quinsy is one form which is not accepted as being rheumatic. The present state of our knowledge in relation to tonsillar affections may be summarized as follows: 1. Undoubtedly a certain number of cases of rheumatism are preceded by angina, a proportion varying from 30 to 80 per cent. Both rheumatism and angina have many etiologic points in common, seasons of wet, cold, fatigue, depression, vitiated air, etc. The connection of angina and rheumatism, though undoubted, is not yet clearly established. The tonsil may be the point of entrance of the rheumatic virus, though showing no indications of being affected. The particular affection of the throat associated with rheumatism is not clear. Peritonsillar inflammation does not seem to be arrested by antirheumatic remedies. Many cases, however, of parenchymatous and lacunar tonsillitis are considerably benefited by salicin and salicylate of soda. It does not follow that this proves the rheumatic nature of the disease. The question requires further research in two directions: 1. In differentiating the various forms of angina and settling the one which is connected with rheumatism. 2. In discovering the true nature of rheumatism itself. The relations of the pharynx and larynx to rheumatism are also noticed.

88. Spongyfying of Labyrinth.—Holinger attempts to show that this condition, associated with gradually "progressive deafness," forms a clinical picture which he thinks is best impressed by the name given above. The diagnosis can be made in the living in a comparatively early stage, from history and the trio of functional tests: 1. Short or negative Rinne. 2. Increase in hearing of low sounds (A) by bone conduction. 3. A large part, one to seven octaves, of the lowest sounds can not be heard by air conduction. 4. The prognosis as to life is good: as to recovery of hearing bad. 5. The treatment must be very judicious. We can judge and compare of its effects in a given disease only when we are able to make an absolute diagnosis. The patients who have been treated from the start are often in a worse condition after years than those who have been left alone.

92.—See abstract in THE JOURNAL, xxxv, p. 1425.

102. Spondylolisthesis.—This condition, consisting of a sliding of the body of one of the lower lumbar vertebræ, is noticed by Lord, who describes a case which apparently followed typhoid fever. So far as he is aware this has not been before mentioned as a cause of the condition.

103. Obliterating Hyphema.—This term seems to Weymann the best suited to describe the condition found in the cases here reported. It applies to contusions, copious enough to obviate all view of either of the anterior chamber or the fundus. The impossibility of intraglobular inspection, puzzling surface signs and complete loss of sight, the absolute necessity of constitutional prognosis and the uniform measures of treatment until clot-absorption, make the subject worthy of some attention. He offers the following deductions: 1. Contusion of the eyeball resulting in obliterating hyphema may, or may not, be complicated with deeper lesions, but uncomplicated cases are in the minority. 2. They are apt to be followed by glaucoma, the chief cause of the suffering. 3. In the absence of infection acute iritis is rare. 4. When the contusing force at the same time secures non-infected drainage from the anterior chamber the immediate reaction, though perhaps very severe, subsides within six to twelve hours, glaucomatous tension not being able to appear. 5. The stippling of the anterior epithelium and the parenchymatous haze are due chiefly to profound shock to the local lymph system, for clouding does not disappear with the reduction of intra ocular pressure. 6. Drawing off the effused blood is neither practicable nor desirable, for it clots in a few moments, and the fibrin binds the clots closely to the iris which tend to narrow the pupil. On the other hand it shuts off the light and serves as an iris splint, but a painless subacute iritis occurs, tending to cause synechiæ. 7. Atropia should always be instilled, not only for dilatation, but on account of its analgesic effect. 8. Glaucomatous tension should be at once relieved by passing a

cataraet knife into the anterior chamber parallel to the plane of the iris, making a valvular wound which may be made to drain at will. 9. For the inflammation he orders calomel, 6 gr., which has an excellent revulsive effect, and compresses as hot as can be borne, for thirty minutes out of every hour for twenty-four or forty-eight hours. 10. The prognosis should be guarded until the clot absorption is complete. 11. The commonest deeper complications are: luxation of lens, consecutive cataract, iridodialysis, fundus hemorrhage and retinal detachments.

108. Pulmonary Hemorrhage.—The treatment of pulmonary hemorrhage, according to Robinson, may be summarized as follows: 1. Relieve the patient's anxiety; unloosen or remove clothing, and place him in a semi-recumbent position. 2. Injection of 1/4 or 1/3 gr. of morphin with 1/120 to 1/60 of atropin. 3. A teaspoonful of common salt, dry on the tongue, or 20 to 60 minims of aromatic sulphuric acid in a small quantity of water may also be given. 4. Order an ice-bag on the chest. 5. If the above fails to check hemorrhage within a short time, cord the extremities, not too tight, but sufficiently to prevent return of venous blood. 6. Under no circumstances give ergot, alum, gallic and tannic acids or any other local astringents. These have no special effect on the lung and irritate the stomach and cause constipation. 7. Insist on absolute mental and physical rest with scanty, nutritious and chiefly a fruit diet, and relieve constipation either by Epsom salts or by enemata. 8. As a prophylaxis against further hemorrhage, have the patient consume large amounts of gelatin prepared in various forms. 9. Mild collapse can be left alone. In severe collapse administer camphor hypodermically and nitroglycerin, also strychnin, not digitalis. Apply hot water bottles to the lower extremities. 10. It sometimes becomes necessary to resort to enteroclysis and large amounts of saline solution or to give the latter subcutaneously or intravenously.

112. Gastropsis.—After describing the conditions, its anatomy, symptoms, etc., Chambers says that the objects sought for in the treatment are: 1. Increase of intra-abdominal tension. 2. To correct any error of secretion or motility. He frequently commences by applying strips of adhesive plaster, which gives relief until the patient is able to obtain an abdominal bandage. This should be fitted carefully so it will press firmly upon the hypogastrium. As a rule it is not needed at night. Before applying it in the morning the intestines are forced up and the bandage laced from below upward. The strength and tone of the abdominal muscles are encouraged by massage, electricity, exercise, deep breathing, etc. The medicinal and dietetic treatment varies. In hyperacidity, acids, alcohol, fruits, etc., should be strictly prohibited. The diet should be nutritious and digestible. Liberal quantities should be given at least four times a day. In severe cases a more strict diet is necessary. The drugs which he has found most useful are those which are sedative to the stomach, and assist in the digestion of starches, correct acidity and relieve constipation. Irritating cathartics should be avoided. Mixtures of bismuth carbonate, extract of cascara sagrada, tincture of belladonna and two teaspoonsful of calcined magnesia two hours after meals give good results in many cases. In some cases taka-diastase is useful. A number of cases are reported.

120. The American Cigaret.—Seymour maintains that the cigaret deserves its bad name even though it may not be found to contain harmful foreign substances other than tobacco. The toxins of tobacco are developed by combustion and carried directly to the mouth. The material of the cigaret is often refuse tobacco from old cigar stumps, and moistened by the maker's tongue, which may be syphilitic. He concludes that the prepared cigaret is too vile for any defense.

121. Acute Opium Poisoning.—Bullard prefers the stomach-tube in this condition, first washing out the stomach with boiled water and then the rectum and bladder. Hypodermic injections of salt solution, he thinks, might be rational, together with bleeding and forced artificial respiration. Atropia, though a functional antidote, must be used with great caution.

and the combination of the two poisons may not improve matters. Ether, camphor, strychnin, caffeine, coffee and electricity are all used. Flagellation and rough attempts at rousing the patient are objectionable.

126.—See abstract in *THE JOURNAL*, xxxv, ¶39, p. 1659.

127. **Asthma.**—Dunn reports cases and discusses the etiology of this disease, maintaining the opinion that it is in most cases a reflex from irritation of the nasal mucosa due to retained products of tissue metabolism. This places asthma in the same class of disorders as gout and epilepsy, the difference in the focus of irritation causing the difference in the symptoms.

129. **Perineal Lacerations.**—Brownson finds that perineal tears are often unavoidable, but perineal support is useless and often dangerous. Pressure should be applied directly to the head when it seems to be advancing too rapidly for the safety of the perineum. Pressure on the head by the whole hand and not by the finger tips, with profound anesthesia in most cases, if assistance is at hand, and then if the head can not be delivered readily, slow, gradual and careful delivery by the forceps can be done. Such measures will save at least some of the perineum from laceration.

FOREIGN.

British Medical Journal, January 26.

Summary of Researches on the Propagation of Malaria in British Central Africa. C. W. DANIELS.—Malaria prevails all through Central Africa at a height of 5000 feet near the equator, and up to at least 3200 feet at 15 degrees south latitude. It is more prevalent in some districts than in others. The estivo-autumnal is the only parasite that was found alike in Europeans, natives and Indians, with one exception, and in this case it was probably imported. The chief agent in the distribution of malaria in Central and South Africa is *Anopheles funestus*. Man appears to be the only intermediate host. Native children are generally infected, immunity occurring rather earlier apparently than in some other countries. The percentage of natives with enlarged spleen was decidedly marked between the ages of 2 and 4 years, while in adults this was seldom met with. As regards the prevention of malaria the author lays considerable stress on the value of drainage under proper methods. The habitual protection from mosquitoes would require irksome confinement, as the African *Anopheles* are less exclusively nocturnal than the Italian for example. Isolation from native settlements here may have some value, but no method is of general application to the exclusion of others. A combination of methods strictly in accordance with local conditions promises the best results. The author thinks the greatest difficulty in exterminating malaria will be to overcome the scepticism on the subject in the tropics, which he himself shared until within the last two years. We have not yet learned all the natural history of malaria-bearing mosquitoes and possibly much help may be obtained from important facts as yet unknown.

Notes on the Life History of "Anopheles Maculipennis" (Meigen). LOUIS W. SAMBON.—This paper, with its illustrations, is a valuable contribution to the natural history of malaria, giving as it does a full account of the life history, so far as known, of *Anopheles maculipennis*, which the author thinks is identical with the American *Anopheles quadrimaculatus* and the Italian *Anopheles elaviger*. The species is, therefore, very widely distributed; it seems to have followed man in his migrations and is usually found in connection with habitations. Observations were made on the spreading habits during a recent malarial outbreak at Ostia, in which Dr. Sambon shared. He found that it does not migrate far from its breeding ground, but is often carried by coaches and railway carriages for long distances. During strong winds this species always takes shelter in thick foliage, and there is not much danger of its thus disseminating. The water collections chosen by the *Anopheles* are not so likely to be dried up as those chosen by the *Culex*, but this may happen in extreme drought. They can live, moreover, in moist ground for several days, and pupæ continue to

develop perfectly well even when the mud is dried up entirely. The conditions at Ostia were not favorable for experiments with larvæ. The authors think that more may be hoped from filling up and draining or stocking with fish than from other measures.

Preliminary Note on an Unclassified Type of the West African Fever. S. D. THOMPSTONE, R. A. BENNETT AND H. E. ANNETT.—The authors describe a new form of West African fever, generally ushered in by slight rise of temperature, followed by profuse perspiration, and a partial fall of temperature to about 99 degrees. After about a twenty-four hours' period of apyrexia the temperature again begins to rise, at first slowly, but when 105 is passed, with alarming rapidity. It may reach 107 on the second day. For fourteen or even thirty days there is absolutely no tendency for it to fall, the skin acts either very slightly or not at all and all antipyretic drugs fail. The tongue is at first furred on the dorsum and red on the edges, but later it becomes dry and shriveled. There is no enlargement of the liver and spleen. The bowels are regular or loose. The conjunctivæ are injected and pupils contracted. The mind remains reasonably clear in most cases, excepting at the highest temperature; great anxiety and restlessness are constant symptoms in the earliest stages. No plasmodia or pigmented leucocytes have been found in the blood. In two of the later cases the blood tended to coagulate the moment it was exposed to air, and satisfactory films were hard to obtain. The treatment of the condition is summed up in one word—baths. The cold bath is used until the temperature is brought down to 100 or 99 degrees. The patient usually sleeps for about an hour and then feels fairly comfortable, but the temperature usually tends to creep up, and in eighteen or twenty-four hours it is back to its old point. It was found, in one patient who recovered, that after the cold bath the temperature could be kept down by cold packs renewed at hourly intervals. If the patient is to recover, some change for the better is to be looked for at the end of the third week, the temperature falling and keeping down to a certain extent. Convalescence is gradual, and it may be six weeks after the onset before it becomes normal again. About 50 per cent. of the cases terminated fatally. In the addendum to the paper, by Dr. Annett, it is stated that examination of the blood gave nearly the normal number of red corpuscles, over 4,000,000, and there were 15,000 white, with 90 per cent. hemoglobin. No micro-organisms were cultivated. The disorder occurs during the dry season, when malaria is less prevalent. The onset, symptoms and course of the disease are atypical to malaria; no rigors or shivering, hot or cold stages, vomiting or enlarged spleen. The continued hyperpyrexia is characteristic, continuing over a long period, and then gradually declines. The resistance to drugs, absence of hemebæ and pigmented leucocytes, the especial tendency of the blood to coagulation and its richness in red corpuscles and hemoglobin are also notable characteristics.

The Lancet, January 26.

Suggested Method of Preventing Water-Borne Enteric Fever Amongst Armies in the Field. LOUIS C. PARKES AND SAMUEL RIDEAL.—The authors give the results of experiments for destroying the water-borne germ of enteric fever, and the remedy which they seem to find most effective is acid bisulphate of sodium, of which it was found that 1 gram will render a pint of water sterile in fifteen minutes, even if the water contains as many as 50,000 colonies of typhoid bacilli to the centimeter. They recommend the use of it in 5 gr. tablets, put up in boxes containing about 350, enough to sterilize 100 pints of water. One of these boxes should be carried by every soldier, in his haversack, and supposing him to consume five pints a day, the box would last for three weeks. Instructions should be given by the medical officer to the rank and file, as to the use of the tablet, especially as to the desirability of allowing it to remain for at least fifteen minutes in solution before the water is consumed. The bacillus typhosus is not by any means resistant to such acids. By this simple means the combating of infection has a future before it, especially under conditions where means of sterilizing by boiling and filtering are not readily available.

Gazette Med. Belge (Liege), January 17.

Technique of Cryoseopy. BIENFAIT.—About 15 c.c. of the serum or other fluid to be examined are placed in a large test-tube, which is set in a vessel containing salt and chopped ice. The temperature falls to two or three degrees below the freezing point, but the fluid does not freeze—there seems to be a sort of supersaturation by the cold. A minute piece of ice is then dropped into the fluid and at once it freezes solid. The temperature rises to .55 C., where it remains as the normal freezing-point of the serum of the blood. [Waldvogel attributes the higher freezing point for blood serum which he observed in typhoid fever, to the presence in the blood of the typhic antitoxin, mentioned in THE JOURNAL, Dec. 22, 1900, p. 1667. He consequently assumes that when the freezing-point is only slightly above normal, it demonstrates a defective production of the antitoxin and an unfavorable prognosis. Ed.]

Presse Medicale (Paris), January 9, 12 and 16.

Importance of Zymases in Infant Feeding. A. B. MARFAN.—The presence of a zymase in human milk has been established, and Marfan has also found a lipase and an anaerobioxydase. He believes that milk is not an inert fluid, but that it partakes of some of the properties of the tissues. It is possible that the ferments in it have a stimulating and regulating action on the nutrition until the organism has developed sufficiently to supply its own stimulating and regulating substances. Each kind of milk has probably its special ferments, and it may be a mistake to destroy them in sterilizing the milk. The aim in artificial feeding, therefore, should be to add to sterilized cow's milk the zymases peculiar to human milk.

Tests for Sugar in Children.—P. NOBECOURT.—Very little information in respect to the functional activity of the intestinal mucosa can be derived from alimentary lactosuria and saccharosuria in children. Alimentary glycosuria, on the contrary, may afford considerable insight into the functional capacity of the liver and tissues. The childish organism in physiologic conditions is able to fix large amounts of glucose—as much as 5.9 gm. per kilogram in some cases.

Revue De Chirurgie (Paris), January.

Ectokelostomy for Hernia. J. VITRAC.—In operating for inguinal hernia, for instance, an incision is made in the abdominal wall above and the mobilized hernia sac is drawn up and out through this second incision. It is then trimmed close to the skin and fastened provisionally. The hernial wound is then sutured and a drain inserted in the marsupialized sac above. When this is removed in a few days the secondary wound is sutured. The chief advantages of this method are its simplicity, rapidity, freedom from danger to the viscera and the possibility of dispensing with general narcosis. The results were most satisfactory in the two cases in which Vitrac has applied it. One patient did not require even local anesthesia.

Obturator Hernia. P. FREDET.—Obturator hernia with a double sac has been noted, the external sac formed of the pre-vesical fascia. The hernial sac may be arrested in its downward course by a branch of the obturator nerve and may cause pain and symptoms of paralysis by traction on this nerve. These symptoms vanish as the sac emerges from the foramen and leaves the nerve behind it. In some cases the nerve offers such resistance that the hernial sac is diverted from its direct course and lodges behind the external obturator muscle.

Progres Med. (Paris), January 5, 12 and 19.

Latent Epilepsy. ARDIN-DELTEUIL.—This article is concluded from Nos. 50 and 52. It states that the etiology, evolution and prognosis of the latent forms of epilepsy are the same as for the ordinary form, and may blend with the latter. The final dementia even seems hastened in psychic epilepsy, as the thought-cells are used up more rapidly. The prognosis is, therefore, exceptionally grave from this point of view; the mind of the patient is threatened and confinement will become necessary sooner or later. It is also grave from the point of view of society on account of misdemeanors and deeds of violence which may result. Suspicion should be aroused by any

motor, sensory, vasomotor, nervous or psychic manifestations of stereotyped reproduction and photographic repetition, sudden, brief, and followed by depression, stupor and forgetfulness. In regard to the psychic phenomena, the violence, publicity, ferocity, marked readiness to take offense and cherish stubborn animosity, are distinctive characteristics. Besides investigating the personal and hereditary record, the toxicology of the urine should be determined as the urine in even the latent forms of epilepsy is usually remarkably hypotoxice in the intervals between the seizures. It should also be examined immediately after an attack, for increased urea and phosphates with a tendency to inversion of the formula. The temperature also, after the latent seizure, will show a slight elevation, with return to normal in a few hours. Mydriasis may also be observed during the seizure with myosis at the end. When latent epilepsy is determined, a medical certificate to that effect should be given the patient, which he should always carry. In regard to the criminal responsibility, the subject is absolutely irresponsible during a seizure, whatever its character and the amnesia, and comparatively irresponsible just before and just after one, according as the pre-epileptic and post-epileptic stage are more or less pathologic. In the intervals there is complete responsibility if the mental faculties are still sound; attenuated if the subject exhibits tokens of the epileptic character. If the mental faculties are affected, the irresponsibility is complete. The degree of responsibility should not be determined from the apparent preservation of the conscience during the psychic paroxysm. Still less is it possible to accept as a criterion of the retention of conscience, the more or less complete retention of memory.

January 19.

Anomaly in the Frontal Sinuses. SUAREZ DE MENDOZA.—In the case of a patient operated on for double frontal sinusitis, the inflammation recurred and two supplementary sinuses were found, separated by a thin partition from the true sinuses, but each with its separate passage into the nose. Mendoza has found a similar anomaly on two cadavers. Anger has mentioned this anomaly and Beco has recently reported a similar case.

Calcium Chlorid in Hemorrhagic Variola. ROGER.—This article calls attention to the marked benefit derived from the use of calcium chlorid in many cases of hemorrhagic variola. Roger administers it in the following formula: crystallized calcium chlorid, 4 to 6 gm.; syrup of bitter orange peel, 40 gm.; brandy or rum, 30 gm.; tincture of cinnamon, 5 gm.; aq. dest., 50 gm. A tablespoonful is given every hour, supplemented by local hemostatic applications, gelatin, etc. If the hemorrhage is from the intestines they should be flushed with salt solution containing tannin or extract of rhatany.

Centralblatt f. Chir. (Leipsic), January 26.

Substitute for Gastroenterostomy. M. SCHMIDT.—In case of circumscribed stenosis or spasm of the pylorus, Schmidt suggests, after severing the duodenum from the pylorus, to insert the stump of the duodenum in the stomach, below the closed stump of the pylorus, and suture it to the posterior wall, "end-to-side," maintaining in this way the natural course of the passage, merely moving it a little farther down and farther inside the stomach.

Deutsche Med. Wochenschrift (Leipsic), January 24.

Instruction in the History of Medicine. E. BRAATZ.—Virehow wrote thirty years ago that the scientific knowledge of young physicians reaches only three to five years back, and this is equally true of the present generation. The history of medicine was taught as a regular branch in fifteen German-speaking universities, a few years ago, but it is kept up now in only two or three. Nevertheless the medical graduate needs the story of the past in order to appreciate the present, to uphold the traditions in professional ethics, and for many other reasons. Braatz pleads that this instruction should not be neglected, and also that more attention should be paid to the things necessary in general practice.

New Form of Hemoglobinuria. L. MICHAELIS.—In case of extrauterine pregnancy terminating in abortion through the

abdominal ostium of the tube, and extensive hemorrhage into the abdominal cavity with severe clinical symptoms, no blood was evacuated through the vagina, and a small retro-uterine hematocele was the only palpable lesion. The patient rapidly recovered. During the absorption of the accumulation of blood, pronounced hemoglobinuria was present on two occasions, once for two and again for four days. Michaelis suggests that possibly the hemoglobin in the extravasated blood was absorbed unaltered into the blood and eliminated through the kidneys, but this phenomenon has never been observed before and is scarcely probable. Still more plausible, he thinks, is the assumption of the formation of a hemolysin by the rapid absorption of the extravasated blood. This hemolysin in turn acted on the blood corpuscles, dissolving them and inducing the hemoglobinemia and hemoglobinuria noted in the case. The formation of the autolysin is followed by the production of an anti-autolysin, as Ehrlich has established, but the latter does not keep pace with the former at first, and more or less hemolysis occurs before the latter is able to counteract the action of the autolysin.

Muenchener Med. Woch., January 8, 15 and 22.

Test for Indican in Urine Containing Iodin. A. KUEHN.—In testing urine for indican, the presence of iodine disturbs the reaction to the test. Kuehn announces that even one drop of a 5 per 1000 solution of sodium thiosulphate will combine the iodine in urine containing 1 per 1000 indican, into a colorless sodium compound.

Atavistic Deformities. G. KLEIN.—In this preliminary communication Klein mentions, as examples of deformities in the female genitalia, which are merely a return to atavistic conditions, uterus bipartitus and double vagina and tubes. Opossums have normally a double uterus, double vagina and double tubes. In the hen, only one of Mueller's ducts develops; the other atrophies, in normal conditions.

January 15.

Subcutaneous Laceration of the Spleen. JORDAN.—A case of traumatic, isolated laceration of the spleen is described, the patient, a young officer, who was thrown from his horse and fell on the hilt of his saber. The immediate pain was intense, but there was not much shock. Symptoms of inflammation of the peritoneum followed, and, later, of internal hemorrhage. The pain was localized in the liver region and there was also an area of dullness on the right as well as the left side. But the dullness of the spleen did not change with altered position, and consequently a liver lesion could be excluded. The abdominal wall was retracted and hard. A tear of the mesentery or omentum seldom entails such rapid and profuse hemorrhage as laceration of the spleen. The dullness over the liver, in addition to that in the left flank, indicated hemorrhage, as there is no area of dullness over the liver in case of isolated perforation of the intestine. Vincent could find only six spontaneous recoveries, with 134 deaths from more or less extensive laceration of the spleen. Lewerenz, however, has collected 15 spontaneous recoveries in 135 cases in which the injury to the spleen was the predominant or only serious trauma (*Langenbeck's Archiv* lx, 1900), 16 were saved by extirpation of the organ. The remaining 104 all died; no attempt at surgical intervention was made in 90 cases. Death occurred in less than twenty-four hours in 85 per cent., and in two or three days in 10 per cent., invariably from the hemorrhage or its consequences. The absence of anatomic confirmation of the spontaneous recoveries renders some of them doubtful. These statistics proclaim the necessity of immediate operation to arrest the hemorrhage. The operation of splenectomy has been performed in more than 300 cases besides innumerable experiments on animals, and there is not a single instance known to date in which the extirpation of the organ was in itself the cause of death. On the contrary, even when the blood-producing organs are taxed as after the extensive hemorrhage, the composition of the blood returns to normal in a few weeks or months. In Jordan's personal case the spleen was promptly removed, and two liters of blood were evacuated from the peritoneal cavity. Meteorism, vomiting and atony of the intes-

tines ensued, probably the results of the contusion. Symptoms of circumscribed peritonitis in the vicinity of the stump of the spleen were also observed. Notwithstanding these complications, the patient had completely recovered his health in four months, with the exception of an occasional twinge of pain in the region, possibly caused by some adhesion. Nothing occurred during the entire course of the case which suggested a vicarious activity on the part of any other blood-producing organ. [In Savor's case, described in *THE JOURNAL* xxxii, p. 188, the removal of the spleen did not seem to have an unfavorable influence on the pregnant patient nor on the child delivered normally later. Riegner has recently reported that the patient whose spleen he removed eight years and nine months before, is in good health to date. This was the first case of extirpation of the spleen on account of rupture.—Ed.]

January 22.

Hereditary Transmission of Tuberculosis. E. KLEBS.—The transmission of tuberculosis from a tuberculous father is ten times more dangerous for the offspring than from a tuberculous mother. Klebs bases this assertion on his experience and observation, particularly in Switzerland, where there is less shifting of population than in most countries. He tabulates the pathologic tree of two families with 55 descendants in five and six generations. It shows that when both parents were tuberculous, all the children became affected; that 46 per cent. became tuberculous when the father was infected, and that in twenty cases healthy children were raised by tuberculous mothers while only two healthy ones were born to tuberculous fathers. He remarks that if a life insurance company had insured these families—excluding children with tuberculous mothers and accepting those with infected fathers—it would have lost by the transaction. Tubercular peritonitis or nephritis was usually the first manifestation of infection in the children of tuberculous fathers, while the lungs and cervical ganglia were usually primarily affected in the children of infected mothers. The route of the infection in the latter case is probably through the lymphatic gland situated behind the sternoclavicular articulation, as Grober has established that stains injected into the tonsils pass not only into the cervical lymphatics, but also into the pleura and the apex of the lung. Tubercular infection of the apex is probably derived in many, if not in most, cases from infected glands in the neck and not from inhalation into the lungs. The percentage of descendants in the two families who died early or childless was 71.8. Only 28.2 per cent. had more than one child, and many of these were tuberculous.

Alcohol Vapor for Disinfection. G. FRANK.—Anthrax spores exposed, between sheets of filtering paper, to the vapor of boiling 40 per cent. alcohol were invariably killed in five minutes in Frank's numerous tests. Steam alone and alcohol vapor alone are ineffectual. The bactericidal power is due to the combination of 90 per cent. alcohol and 12 per cent. water which pass off in the steam and vapor when 40 per cent. alcohol is boiled.

Condition of the Blood-Forming Organs in Anemia. C. S. ENGEL.—As the results of his researches, Engel concludes that it is possible to determine the condition of the bone-marrow in anemia from examination of the blood. He distinguishes four phases of the marrow: "normal, insufficient, metaplastic and aplastic." The normal red bone-marrow in the epiphyses contains orthochromatic and polychromatic normoblasts. The blood shows only one kind of red corpuscle, normal orthochromatic erythrocytes. In case of "insufficient" bone-marrow, the size and shape of the red corpuscles are the same as in normal conditions, but sometimes the nucleated reds in the bone-marrow are increased, as in case of pernicious anemia, in which metaplastic cells are observed in the marrow. The blood may be characteristic of chlorosis or of anemia, or pathologic reds may pass into the blood, normal in size, but such as remain in the marrow under normal conditions, orthochromatic and polychromatic normoblasts and polychromatic erythrocytes. In metaplastic marrow the yellow portion is entirely or partially red. Megaloblasts and metrocytes are found in the marrow, such as are noted in the earliest em-

bryonal stages in the blood of the heart and liver, before any bone-marrow has developed. The cells of metaplastic bone-marrow are therefore identical with the blood cells of the premedullary period of blood formation, and show all the transitions from normal size to pathologically large red corpuscles with and without a nucleus. Megaloblasts are found frequently and macrocytes regularly in the blood. In the rare condition which he calls "aplastic" bone-marrow, no nucleated reds nor leucocytes are found. The red marrow of the epiphyses has become transformed into fatty marrow and ceases to be a hematopoietic organ. No pathologic cells are found in the blood; the normal red corpuscles diminish without being substituted by others. Even granulated leucocytes are absent. Engel urges, in conclusion, microscopic examination of the red marrow at every autopsy as a routine measure.

Evacuation of Abscesses in Retrovesical Pouch Through a Parasacral Incision. K. PORT.—Rotter recommends the rectal route for opening abscesses in the rectovesical pouch, but Port is convinced that a much simpler and safer way is that described by C. Koch (*Muench. Med. Woch.*, 1899, 1.) He had occasion to perform this operation recently and found it extremely satisfactory. The broad, funnel-shaped, parasacral opening afforded ample view of the conditions in the region. The incision was carried around the left of the anus to the apex of the coccyx and along its left margin. The coccyx was then turned back. The dressings were changed with the patient in the knee-elbow position. The abscess was consecutive to appendicitis, and after a necrotic fragment of tissue, possibly the appendix, had been expelled the wound rapidly healed. There was considerable pain during the first day or so from the luxated coccyx, but it soon subsided. As the pus has such a free outlet there is no fear of infiltration of adjacent tissues.

Perforation of Hydatid Cysts Into Lungs. S. ZERVOS.—In six cases of hydatid cysts perforating into the lungs, Zervos found the cysts in the upper surface of the liver. The French method of treating hydatid cysts by capitonage is not only ineffectual, but it exposes the patient to the greatest dangers. The cysts form again and as the hermetic suturing of the liver prevents them from developing forward and downward, they can only grow upward. This, in time, leads to perforation into the lung and death from immediate asphyxia or from pneumonia later.

Grece Medica (Syra), December.

Malaria and Antirabic Treatment. PAMPOUKIS.—At the Pasteur Institute in Athens it has been noted that a malarial chill and fever frequently follow the antirabic injection in patients who have previously suffered from malaria, but have had no attacks for a year or more.

Hematoblasts in the Omentum. MELISSINOS.—Hematoblasts such as are found in the other blood-producing organs have been discovered by Melissinos in the great omentum of cats, dogs, pigs and man during the embryonal stage. They are most numerous in that portion of the omentum between the spleen and the greater curvature. The great omentum and the spleen are both derived from the posterior mesogastrium, and as similar hematoblasts are found in each, this fact may throw some light on the origin of hematoblasts in general.

Gazetta Degli Ospedali (Milan), January 6, 13 and 20.

Physiology of the Cerebrospinal Fluid. CAVAZZANI.—The alkalinity of the cerebrospinal fluid was less than half that of the blood in a series of tests on dogs and cattle. The animals were under the influence of curare or morphin in some of the tests; in others the fluid was aspirated through the atlanto-occipital membrane or obtained post-mortem, and in another series of experiments, acids and alkalis were injected. The results all tend to demonstrate the existence in the nerve-centers of an acid substance resulting from their functional activity. Cavazzani also announces that he has succeeded in precipitating a substance from the cerebrospinal fluid which behaves like a ferment, an oxydase. Further researches indicated that the variations in pressure are due to the venous circulation. He noticed that at the commencement of asphyxia the pressure was diminished and the fluid ceased to flow from

the fistula, followed soon by an increased flow. He also observed that the flow subsided in dogs on stimulation of the central stump of the vago-sympathetic nerve.

January 13.

Regeneration of Nerve Fibers. A STEFANI.—This work won the prize offered by the Royal Institute of Lombardy. The researches therein detailed confirm the assumption that nerve fibers possess the property of maintaining the isolation of the central stumps as long as they remain normal. On the other hand, if one of the fibers or of the disconnected centers is in course of degeneration, union between the fibers may occur. The facts observed corroborate the conception of the neuron as an elementary organism with the property of keeping itself distinct from all other elementary organisms of the same species and of regenerating a lost part.

January 20.

Surgical Intervention in Bubonic Plague. BANDI.—The benefits of excising the buboes in oriental plague were proclaimed by Terni during his experiences in Brazil. Bandi has been conducting a long series of experiments in this line at Messina, and announces that the results completely confirm Terni's statements. He considers bubonic plague essentially and exclusively an affection of the lymphatic system. The bacillus settles in the gland first invaded and remains there for a time. Before the suppurative stage has been reached the bacilli start on their invading progress, passing into adjacent glands, but without penetrating the capsular filter of the glands. The infection in his experiments always proceeded to the superficial glands before invading those that lay deeper. Prompt, aggressive extirpation of the primary foci is indicated. The bacilli do not pass into the blood except as a septicemic process in extremely severe cases, or when the resistance of the organism has been overcome. Salomoni states that he has removed tumefied glands as a local curative and general prophylactic measure in tuberculosis. He has systematically removed all the inguino-crural and pelvic glands in fourteen cases. He has also proved on the cadaver the feasibility of the enucleation of the peribronchial lymphatic glands.

Klinitchesky Journal (Moscow), November.

Two Cases of Cortical Epilepsy Treated by Operation. M. A. LUNTZ.—Both of the patients were women, one a cook, 53, and the other 22 years of age. There was no history nor indication of syphilis or trauma in either case; the typical cortical epilepsy was recent and the absence of general symptoms and other signs excluded the idea of a tumor. The epilepsy in the older woman had commenced after a very severe cold which had left great weakness; the seizures recurred at intervals of two or three weeks and sometimes for two or three days in succession. Luntz was able to diagnose positively the site of the lesion in the upper part of the central convolutions, but the alterations found at the spot were comparatively insignificant, merely a thickening of the dura mater and slight adhesions between the membranes, bone and brain. The lesion was evidently, he considers, a relic of an organic process, in all probability tubercular. Although none of the organs showed tubercular involvement, the patient had had, twenty-eight years before, an obstinate suppurating lesion in the left shoulder, which persisted for five years and left a deep defect. After craniectomy, in July, 1899, the slight paresis of the lower extremity persisted unchanged, but the seizures did not recur during the three months the patient was under observation. In the second case the operation proved a failure, as the seizures were uninfluenced. The lesion in this case was located in the lower and partly in the middle parts of the central convolutions. In the review of the current Russian periodicals, which is a new feature of this journal, another case of cortical epilepsy is described by Vassilieff, of fifteen years' standing, the epileptic and later the paralytic symptoms being limited to the left side. The patient died of intercurrent pneumonia, and a dark-red focus the size of a pea was found in the depths of the right fissure of Rolando. During the epileptic seizures in this case, the patient invariably lost consciousness if he were turned on his back.

Change of Address.

E. S. Alexander, 6424 Lowe St., to 267 S. Hermitage Ave., Chicago.
 Jos L. Bell, Richmond, Ind., to A. A. Surg., U. S. A., Fort Crook, Omaha, Neb.
 E. Bates, 18 W. Orange, to 209 N. Prince St., Lancaster, Pa.
 R. H. Born, Montoursville, Pa., to Wichita, Kan.
 H. W. Copeland, 191 S. Pryor, to 46 Houston St., Atlanta, Ga.
 L. DeChesne, Sawyer, to Sturgeon Bay, Wis.
 H. H. Daily, 746 Jackson Boul., to 348 Ogden Ave., Flat K, Chicago.
 J. C. Egelston, New Ridge Bldg., to City Hospital, Kansas City, Mo.
 M. L. Hill, Memphis, Tenn., to Paris, Miss.
 F. C. Keck, 508 Montgomery, to 1415 Castro St., San Francisco, Cal.
 D. B. Lanting, 663, to 628 W. Congress St., Chicago.
 E. B. Ling, 474 Ogden Ave., to 633 Van Buren St., Chicago.
 F. J. Leavitt, 742 W. Adams St., to 736 Jackson Boul., Chicago.
 Chas. Lucas, Shelton, to Glenville, Neb.
 F. H. May, Huntsville, to Birmingham, Ala.
 H. M. Manning, U. S. Jail, to Wash. Asyl. Hospt., Washington, D. C.
 C. W. McCarty, Scottsville, to Portis, Kan.
 H. T. Marshall, Johns Hopkins Hospt., to 213 W. Lonvale St., Baltimore, Md.
 M. Popper, 3413 Laclede Ave., to Mermod & Jaccard Bldg., St. Louis, Mo.
 H. E. Prather, 210 E. Chestnut, to 605 W. Broadway St., Louisville, Ky.
 J. M. Parrington, Durango, Colo., to Emporia, Kan.
 R. C. Payment, 1011 Grand River Ave., to 961 12th St., Detroit, Mich.
 H. F. Patten, Nashville, Tenn., to 265 Conover St., Dayton, Ohio.
 J. J. Ratcliffe, Wankon, to Spilville, Iowa.
 S. Rothenberg, 639 W. 8th, to 22 W. 7th St., Cincinnati, Ohio.
 R. Russell, Sunbright, to Box 853, Knoxville, Tenn.
 Bryant Smith, 136 Wisconsin St., to 6 Prospect Ave., Milwaukee, Wis.
 W. F. Seymour, Chicago, to Tengchowfoo, Shantung Prov., via Chefoo, China.
 W. F. Sihler, Grand Harbor, to Devil's Lake, N. D.
 J. O. Strickland, Atlanta, to Stilson, Ga.
 C. H. Stoddard, 1201 State, to 1201 Vilet St., Milwaukee, Wis.
 W. E. Shook, 740 Jackson Boul., to 588 Congress St., Chicago.
 S. L. Stevens, 722 Jackson Boul., to 212 S. Lincoln St., Chicago.
 R. B. Sweet, 775 Polk St., to 119 Seeley Ave., Chicago.
 N. M. Spradley, Selvin, to Tennyson, Ind.
 Percy Shields, 22 W 7th St., to 5 Garfield Pl., Cincinnati, Ohio.
 W. D. Shields, Holdrege, to Insane Hospt., Lincoln, Neb.
 A. L. Sherman, Hudson St. Hospt., to New York Hospt., New York City.
 R. T. Strange, Memphis, Tenn., to Vandervoort, Ark.
 E. J. Thayer, Yoakum, Tex., to 1645 Welton St., Denver, Colo.
 N. K. Vance, Baton Rouge, to Shreveport, La.
 J. M. Womeldorf, Hartley, to Schleswig, Iowa.
 John Wehrly, St. Louis, Mo., to San Bernardino, Cal.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Jan. 24, to 30, 1901, inclusive:

Dallas Bache, colonel, asst.-surgeon-general U. S. A., president of a promotion board convened at the War Department, Washington, D. C.

Joseph L. Bell, acting asst.-surgeon, from Richmond, Ind., to duty at Fort Crook, Neb.

W. Fitzhugh Carter, major and surgeon, U. S. A., member of a board at Fort Totten, N. Y., to examine officers of the corps of engineers for promotion.

William D. Crosby, captain and asst.-surgeon, U. S. A., member of a board in New York City, to examine officers of the Ordnance Department.

Lawrence A. Felder, acting asst.-surgeon, member of a board at Mobile, Ala., to examine officers of the corps of engineers.

Alfred C. Girard, lieutenant-col., deputy surgeon-general, U. S. A., member of a board at San Francisco, Cal., to examine officers of the corps of engineers.

Louis T. Hess, lieutenant and asst.-surgeon, U. S. A., now on temporary duty at the general hospital, Presidio of San Francisco, Cal., is relieved from further duty in the Division of the Philippines.

John Van R. Hoff, major and surgeon, U. S. A., member of a promotion board at the War Department, relieving Colonel Dallas Bache, asst.-surgeon-general.

Deane C. Howard, captain and asst.-surgeon, U. S. A., former orders from Fort Hancock, N. J., to the Division of the Philippines revoked.

Henry S. Kilbourne, major and surgeon, U. S. A., member of a board in New York City, to examine officers of the Ordnance Department.

Thomas J. Kirkpatrick, captain and asst.-surgeon, U. S. A., member of a board at Mobile, Ala., to examine officers of the corps of engineers.

Louis A. LaGarde, major and surgeon, U. S. A., member of a promotion board at the War Department, relieving Lieut.-Col. Charles Smart, deputy surgeon-general.

William C. LeCompte, acting asst.-surgeon, from Washington, D. C., to duty at Fort Du Pont, Del.

Thomas K. Mullins, acting asst.-surgeon, leave of absence granted.

George Newlove, acting asst.-surgeon, former orders modified so as to assign him to temporary duty at Fort Sill, Okla.

Robert M. O'Reilly, lieutenant-col., deputy surgeon-general, U. S. A., member of a board at Fort Monroe, Va., to examine officers of the army.

Adrian S. Polhemus, captain and asst.-surgeon, U. S. A., now on duty at Fort Leavenworth, Kan., to proceed to Fort Riley, Kan., for temporary duty, and as a member of a promotion board.

Benjamin F. Pope, lieutenant-col., deputy surgeon-general U. S. A., member of a board at San Francisco, Cal., to examine officers of the corps of engineers for promotion.

Irving W. Rand, captain and asst.-surgeon, U. S. A., former orders assigning him to Fort Hancock, N. J., from the Division of the Philippines revoked.

Charles Smart, lieutenant-col., deputy surgeon-general, U. S. A., member of a promotion board at the War Department, Washington, D. C.

James K. Stockard, acting asst.-surgeon, now in San Francisco, Cal., is assigned to duty in the Department of California.

Blair D. Taylor, major and surgeon, U. S. A., member of a board at Honolulu, H. I., to examine candidates for admission into the U. S. Military Academy, West Point, N. Y.

Adrian D. Williams, acting asst.-surgeon, from Brooklyn, N. Y., to temporary duty at Fort Adams, R. I.

Roy A. Wilson, acting asst.-surgeon, member of a board at Fort Totten, N. Y., to examine officers of the corps of engineers for promotion.

Navy Changes.

Changes in the Medical Corps of the navy for the week ending Feb. 2, 1901:

Medical Inspector W. A. McClurg, commissioned medical inspector, Nov. 19, 1900:

Asst.-Surgeon H. C. Shiffert, ordered to the *Franklin*.

Asst.-Surgeon E. J. Grow, detached from the *Culgoa*, and ordered to the *Glacier*, and also to duty at Olongape, P. I.

Pharmacist J. Cowan, detached from the *Culgoa*, and ordered to the *Glacier*, and also to duty at the Naval Hospital, Cavite.

P. A. Surgeon M. R. Pigott, died at Annapolis, Md., January 31, 1901.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended Jan. 31, 1901:

Surgeon W. P. McIntosh, to proceed to Jeffersonville, Ga., for special temporary duty, Jan. 30, 1901.

Surgeon T. B. Perry, granted leave of absence for thirty days from Feb. 11.

Asst.-Surgeon John McMullen, upon expiration of leave of absence, to proceed to Wilmington, N. C., and assume temporary command of the service during the absence of Surgeon T. B. Perry.

Asst.-Surgeon G. M. Corput, to proceed to Cleveland, Ohio, and assume temporary command of the service during the absence of Surgeon W. J. Pettus.

BOARD CONVENED.

Board convened to meet at Washington, D. C., on Tuesday, Feb. 5, 1901, for the physical examination of Second Asst.-Engineer R. F. Halpin, R. C. S. Detail for the board—Surgeon Preston H. Bailhache, Chairman; Surgeon G. T. Vanghan, and Asst.-Surgeon B. S. Warren, Recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Feb. 2, 1901:

SMALLPOX—UNITED STATES.

District of Columbia: Washington, Jan. 19-26, 2 cases
 Florida: Jacksonville, Jan. 12-26, 10 cases.
 Illinois: Chicago, Jan. 19-26, 25 cases, 1 death.
 Indiana: Michigan City, Jan. 20-27, 1 case.
 Kansas: Wichita, Jan. 19-26, 9 cases.
 Kentucky: Lexington, Jan. 19-26, 2 cases.
 Louisiana: Jan. 19-26, Shreveport, 5 cases; New Orleans, 11 cases, 3 deaths.
 Maryland: Baltimore, Jan. 19-26, 1 case.
 Pennsylvania: Jan. 19-26, Erie, 1 case; Pittsburg, 2 cases.
 Tennessee: Jan. 19-26, Memphis, 8 cases; Nashville, 4 cases.
 Texas: Houston, Jan. 19-26, 44 cases, 1 death.
 Utah: Salt Lake City, Jan. 19-26, 31 cases.
 Wisconsin: Milwaukee, Jan. 19-26, 1 case.

SMALLPOX—FOREIGN.

Belgium: Antwerp, Dec. 29-Jan. 5, 1 case.
 Brazil: Pernambuco, Nov. 15-30, 30 deaths.
 China: Hongkong, Dec. 8-15, 1 case.
 Egypt: Alexandria, Dec. 24-31, 2 cases, 1 death.
 England: Jan. 5-12, London, 1 case; Newcastle, on Tyne, 2 cases.
 France: Paris, Jan. 5-12, 11 deaths.
 India: Bombay, Dec. 24-Jan. 1, 4 deaths.
 Mexico: Mexico, Jan. 13-20, 1 case; Tuxpan, Jan. 14-21, 1 death; Vera Cruz, Jan. 6-13, 3 cases.
 Russia: Moscow, Dec. 22-Jan. 5, 9 cases, 4 deaths; Odessa, Dec. 22-Jan. 12, 137 cases, 24 deaths; St. Petersburg, Dec. 22-Jan. 5, 6 cases 2 deaths; Warsaw, Dec. 22-Jan. 5, 23 deaths.
 Scotland: Glasgow, Jan. 11-18, 121 cases, 2 deaths.

YELLOW FEVER.

Cuba: Havana, Jan. 12-19, 2 deaths.
 Mexico: Vera Cruz, Jan. 6-20, 5 cases.

CHOLERA.

India: Bombay, Dec. 24-Jan. 1, 2 deaths.
 Straits Settlements: Singapore, Nov. 16-27, 36 cases, 36 deaths.

PLAGUE.

India: Bombay, Dec. 24-Jan. 1, 154 deaths.
 Turkey: Constantinople, Jan. 7, 1 death.

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Original Articles.

THE BACTERIAL TOXINS.*

VICTOR C. VAUGHAN, M.D., AND THOMAS B. COOLEY, M.D.
ANN ARBOR, MICH.

Our object in presenting this paper is merely to outline the theory of the nature and action of the bacterial toxins which we are endeavoring to demonstrate, and to describe our method of work and the results which we have reached through the experiments we have so far made, which are very incomplete and really only a beginning toward the thorough working out of the subject.

We have been led by observation of many facts concerning the pathogenic bacteria and their action in the various infectious diseases, their resistance to heat, to disinfectants and stains, etc., and by the results of some investigations carried on by others and by ourselves with certain species of these organisms to formulate a theory which we believe to be in some respects new, and which may be stated as follows: The specific poisons of the pathogenic bacteria are formed within the bacterial cells, and constitute a part of the organism itself. As we shall mention later, this idea has been held by others, notably by Buehner and by Pfeiffer. Bacteria probably consist of cell membranes with contents in which the poison exists. In at least some of the pathogenic bacteria the toxin does not appear to be an essential part of the cell. We mean by this that some of the pathogenic bacteria may retain their vitality and still not manifest their pathogenic properties. This is well illustrated by de Schweinitz and others in their studies of the tubercle bacillus.

The pathogenic properties of a given bacterium are dependent on the poisonous character of the cell contents and the readiness with which the content is diffused through the cell wall, and this diffusibility is dependent on the solubility of the toxin and the permeability of the cell wall.

An increase or decrease in the virulence of a given bacterium can be explained in only one of two ways. The first possibility is that it is due to a chemical change in the toxin itself. This seems to us highly improbable. The second possibility is that heightened virulence is due to an increase in the amount of the toxin formed within the cell or to a greater permeability of the cell wall, one or both. The third possibility, that increased virulence may be due to more rapid cell proliferation, we reject as a rule, because it is well known that from some cultures of the diphtheria bacillus a more active toxin may be obtained than from other cultures in which there is more abundant cell growth. The relative pro-

portion of cell membrane and toxin content is probably a variable one. It is furthermore probable that with increased cell content the cell wall becomes both thinner and more permeable.

It is probable that the toxins of the different pathogenic bacteria belong chemically to the same group of bodies and that they are proteid in character. Apparently these toxins vary in stability of constitution. This is indicated by the difference in the effect of heat upon them. As we shall show, the toxin of the colon bacillus may be heated with water in a sealed tube, to 184 degrees for one-half hour without decrease in virulence while the cells of the diphtheria bacillus become inert after prolonged exposure to a temperature of 60 degrees. That the cell walls differ in the readiness with which their toxin contents diffuse through them seems evident from the way in which diphtheria and tetanus bacilli induce intoxications while their growth is confined to a very limited area, as compared with the relative innocuousness of the colon bacillus growing abundantly in the intestines, and at the same time containing a highly active toxin.

This theory will require a long series of observations of the characteristics and action of many bacteria before its truth or falsity can be determined, but we believe that we have in the investigations we have carried on during the past few months established, in regard to the bacillus, the bacterium coli commune, certain facts which have an important bearing on the question, and which we hope may lead us in time toward further light on the chemistry of the bacterial toxins; and we feel sure that only when we have light on the chemistry of these toxins will the nature and action of the antitoxins be understood.

The literature of bacteriology and hygiene gives little information concerning our subject. A thorough examination of the publications within our reach shows that although a vast amount of work has been expended on the isolation and identification of some of the bacterial toxins, the progress made has been slow. In fact, it may safely be said that in no case has the chemical nature of the essential toxin of any of the pathogenic bacteria been shown. In the case of the group with which we are at present working, that of the colon bacilli, almost nothing of any real importance has been done toward showing the nature of their toxin; and investigations with any of the pathogenic bacteria along the line in which we are working, namely, the isolation and identification of a poison which is an essential part of the cell content, aside from any poison which may or may not be dissolved in the medium surrounding the cell, are very rare.

A few communications are, however, worthy of especial notice. Two prominent observers have emphatically stated their belief in bacterial toxins which are an essential part of the bacteria themselves—Buchner in regard to the pathogenic organisms in general, and

*Presented to the Section on Pathology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

Pfeiffer in regard to the vibrio of Asiatic cholera. Buchner¹ describes his investigations on pus-producing substances in bacterial cells. The chief interest of these papers in the present connection lies in the statement of his belief that there is nothing in the whole category of decomposition products, caused by bacteria, to account for the phenomena of the general infectious diseases, but that the cause of these must be looked for in the albuminates of the bacterial cell itself, and that in some cases, at least, these poisons are only set free on the death and dissolution of the bacterial cell. By this theory he explains the fact that suppuration may be caused by dead cultures of germs which, when living, have not the pyogenic property. Further interest attaches to the similarity of his method of extracting the toxin to those used by ourselves. He first mentions various experiments going to show that sterilized cultures of certain bacteria have the same effect as the living cultures, and others showing that this effect is not due to the mechanical irritation caused by the dead germ. He showed also, by heating with steam under pressure at 120 degrees and by distillation, that the poisonous properties of the culture—in this case the pneumobacillus of Friedlaender—were not due to a readily decomposed or volatile substance. He then boiled his bacterial emulsion in a flask with a reflux condenser, and allowed it to settle, thereby obtaining a bacterial layer under a layer of clear fluid. Comparative injections showed that the poisonous principle was contained only in the germ layer. He carried out similar investigations with seventeen different varieties of bacteria, among which was the colon bacillus. In these he took the growth from agar or potato, rubbed it up to a thick emulsion with water, heated for one hour at 100 degrees and allowed it to settle. In all cases the injection of 1 c.c. of the emulsion after heating produced sterile pus-infiltration at the point of injection. In three cases only after settling did he obtain a clear fluid overlying the germ layer, and in these cases the fluid was non-toxic, while the germ layer caused intense pus formation.

In order to isolate the pyogenic substance from the bacterial cells, he added to the bacterial mass obtained from agar or potato about 20 volumes of .5 per cent. solution of potassium hydrate, obtaining thereby a mucilaginous mass which dissolved at the temperature of the water-bath. A clear fluid was obtained by repeated filtration, and from this the proteins were precipitated by acidifying and purified by resolution in alkali, reprecipitation and final resolution in just enough soda to neutralize the acid in the precipitate. The proteid thus obtained was found to have the pyogenic properties of the original bacterial emulsion. Similar results were obtained with a number of germs, though the most work was done with the pneumobacillus. Although the colon bacillus was one of those worked with, it is to be noted that no mention is made of a poisonous proteid being isolated from it by these methods, and, in fact, we were unable to extract any poisonous substance from this germ by means of dilute alkali.

Pfeiffer's² work on the cholera vibrio was carried out with the purpose of proving that the specific poison of this particular disease is a part of the cell content of the organism which is liberated and absorbed only on the death of the vibrio. His method was as follows: Having secured a virulent culture of the vibrio, he made a series of comparative inoculations with cultures treated: 1, by boiling; 2, by passing through a porcelain filter, and afterward heating in the steam

bath for one-half hour; 3, by boiling and then passing through porcelain; 4, simply by rubbing up with small quantities of bouillon, living cultures; 5, by killing with chloroform vapor; 6, by killing with thymol; 7, by killing with absolute alcohol; 8, with concentrated solution of ammonium sulphate for twenty-four hours; 9, by drying; 10, by dry heat sterilization; 11, by passing a twenty-days-old 4 per cent. glycerin bouillon culture through porcelain; 12, by passing the glycerin extract of a fresh culture through porcelain. In 1, 3, 4, 5, 6, 7, 8, 9, and 10, the results were positive, the animals either dying or being severely affected, with very similar symptoms in all cases, the most marked of which was the rapid fall of temperature. In 2, 11 and 12 the animals were either not affected or affected very slightly. In 4, a minimum dose was established, smaller for intraperitoneal than for submucous injections, and smaller doses caused an illness terminating in recovery. Cultures made after death, from intra-abdominal injections, did not show multiplication of the germs, and, as a rule, showed diminution in number. Nor were the germs found in the intestines or organs. Pfeiffer did not succeed in isolating and purifying a chemical poison. His conclusion that the cholera poison was a constituent of the cell and liberated only on its death and dissolution was combated more than once, especially by Metchnikoff, Roux, and Salimbeni,³ who put in collodion sacs living bouillon cultures of the cholera vibrio, and cultures killed by chloroform, and found that when these sacs were placed in the peritoneal cavities of animals the living cultures caused death in a short time with all the symptoms of cholera, while the dead germs had much less poisonous power. Whether or not these experiments of Metchnikoff and his associate disprove Pfeiffer's theory that the poison of the cholera vibrio is liberated only after the death of the organism, is questionable, but at any rate they have no bearing on our theory.

The literature relating to the toxin of the colon bacillus is very meager. Kiessling⁴ gives a thorough summary of all work done on this bacillus up to that time. Under the heading of "The Pathological Significance of the Colon Bacillus," he describes the investigations of a number of observers, beginning with those of Emmerich on his "Bacillus Neapolitanus," in 1885, most of which are not of interest in the present connection, as they were concerned with the pathogenic action of the living germ. However, Gilbert,⁵ in 1893, demonstrated the poisonous properties of filtered cultures of this bacillus. He injected these cultures intravenously into rabbits, and though they were not uniformly poisonous in the same degree, there resulted paralysis of the striped muscle fibers with blunting of sensibilities and coma; then convulsions, nystagmus, and heightened sensitiveness and reflexes; and finally contractures and death. During the first two stages recovery was still possible, but in the last death was inevitable. Gilbert also concluded from his observations, that the poison was destroyed in the liver and kidneys. Roger,⁶ in 1893, described an analogous action of the toxin on frogs. Wyssokowitsch,⁷ in 1886, observed that the colon bacillus, when injected into the blood, appeared quickly and in large numbers in the intestines, and as this is possible only through alteration of the intestinal walls he concluded that with the micro-organism there is brought into the circulation some poisonous substance which causes marked gastro-enteritis and deep lesions of the mucous coat of the intestinal wall. On the other hand, Baginsky⁸ was unable to obtain from nitrogenous

food contaminated with this organism any substance having a poisonous action on animals.

Though numbers of observers have contributed to the literature of the pathogenesis of the living colon bacillus, since Kiessling's summary was written, the journals within our reach do not show anything having any significant bearing on the question of its toxin.

In 1898, Vaughan and McClymonds,⁹ working on the pathogenic germs in cheese, made some observations on the toxin of the colon bacillus found in green cheese, of which the experiments now to be described are really a continuation.

Our own work, so far as we have carried it, has been briefly as follows:

EXPERIMENTS, SERIES 1, FEBRUARY AND MARCH, 1900.

The germ used in these experiments was obtained from a sample of drinking water which was supposed to have caused typhoid fever. It gives the typical colon reactions. One c.c. of a twenty-four hour bouillon culture kills guinea-pigs of 300 to 400 grams weight, within twelve hours, with the usual post-mortem appearances.

On January 31, 17 Roux flasks were inoculated. The growth was removed on February 28, with sterile water and a platinum wire. Centrifugation failed to separate the germs. Absolute alcohol was then added and the suspension was boiled in a beaker and allowed to stand for twenty-four hours, and the germ mass was then collected on a filter. The filtrate was evaporated on a water-bath to a small volume and injected into the abdominal cavity of a guinea-pig without effect. The form of the bacilli was not visibly—microscopically—affected by these manipulations, and they stained readily. The germ mass was then rubbed up in an agate mortar and dried to constant weight in a box water-bath. The dried germ still retained its form and staining properties. One hundred mg. of this dried mass, emulsified with water by boiling, and cooled, killed a guinea-pig on injection into the abdominal cavity, within twelve hours. Section showed the greater part of the germ mass lying in the cavity unchanged and the germs still unaltered in form. Boiling with .25 per cent. potassium hydrate solution does not extract any poison from 100 mg. of the dried germ, nor lessen the toxic effect of the dried germ itself, nor does heating in the autoclave at 130 to 140 degrees, for one-half hour.

Heating in a sealed tube, with water to 184 degrees for one-half hour, forms a milky emulsion which, on microscopic examination, shows granular material with a few unbroken cells. Injection of an amount of this emulsion corresponding to 100 mg. of dried germ into the abdominal cavity of a guinea-pig causes death with the same symptoms as before heating. When the germ mass is separated from the fluid by the centrifuge, both fluid and sediment cause death in the guinea-pig, with the irritant symptoms slight in both cases, but more marked in that of the fluid. Boiling with .2 per cent. HCl and neutralizing has no apparent effect on the toxin.

Two hundred mg. of the dried germ were subjected to forty-eight hours' artificial gastric digestion with a pepsin which was shown by control to be active. At the end of this time the supernatant fluid was poured off from the undissolved portion and an attempt was made to neutralize, but by mistake too much alkali was added. This fluid proved fatal when injected into a guinea-pig, but the symptoms were those of alkali poisoning rather than of the poisoning by the toxin of the germ. The undissolved portion, which proved to

be partially soluble on the addition of more water, was fatal when injected in suspension in water—after boiling—while the small amount dissolved in 5 c.c. of water was not fatal, though the animal was markedly affected. In the guinea-pig killed by the suspension, a mass of the undissolved substance was found in the abdominal cavity on post-mortem examination.

The bacterial powder used in this series of tests gives the xanthoproteic and biuret reactions beautifully.

EXPERIMENTS, SERIES 2, APRIL AND MAY, 1900.

For this series a culture of the same bacillus used in the first was taken, but it was rendered more virulent by passing through rabbits until 3 c.c. of a twenty-four-hour bouillon culture killed a large rabbit in one and one-quarter hours.

Sixty moist chambers of 2 per cent. agar were planted with this bacillus, and left for a month at a temperature of about 25 to 30 degrees, and at the end of this time the growth was removed from the greater number and subjected to artificial digestion in an incubator. At the end of three days there was no separation into layers, but there was a cloudy fluid which could not be separated by the centrifuge. At the end of five days there was a separation into a deposit covered by a brownish opalescent fluid, colored probably by the coloring matter from the agar, and apparently free from suspended matter. A drop dried and stained showed only amorphous substances. A flocculent precipitate was slowly formed on dropping into absolute alcohol. The fluid gave the biuret, xanthoproteic and Adamkiewicz tests, and became less cloudy on neutralization with sodium bicarbonate. Ammonium sulphate gave a flocculent precipitate after neutralization. The germ mass was treated with four volumes of absolute alcohol, filtered, washed with absolute alcohol, and the residue on the filter scraped off, dried, and rubbed to a powder in an agate mortar. This powder is rather dark in color and amorphous. It is almost entirely soluble in water and more readily so on the addition of a small quantity of NaHCO_3 . When boiled with water, cooled and injected into guinea-pigs, it is uniformly poisonous in doses from 4 mg., the largest, to $5/16$ mg., the smallest, tried. There is little variation in the symptoms or the time required for killing with these various doses, the pig which received $5/16$ dying within twelve hours as well as one that received 4 mg. All the pigs showed marked symptoms shortly after inoculation, often falling within a few minutes and exhibiting some convulsive movements, but rising again and sitting motionless until a few hours later spasmodic movements of the legs began, then shortly they fell on their sides and remained there, continuing the spasmodic motions until shortly before death.

The bacterial powder used in this series of experiments also gave the biuret and xanthoproteic reactions.

These investigations need to be supplemented by a number of others regarding both the toxic action and the chemical nature of the substance we have obtained; and we hope later to be able to carry on similar investigations in regard to other species of bacteria—in fact, we have already begun a study of the bacillus of anthrax. We believe, however, that we are able to draw with some degree of certainty a few conclusions from what we have done already. These are as follows: 1. The colon bacillus in virulent form contains within the cell a toxin which is fatal to guinea-pigs of from 200 to 300 grams weight, in quantities of less than 1 mg. 2. The aqueous extract of the cells of the colon bacillus grown on agar is inert. 3. The entire germ is

highly resistant to heat and to dilute acids and alkalis. 4. The cell wall of the colon bacillus is digested by the prolonged action of artificial gastric juice, which does not alter the toxin. 5. The toxin as thus obtained is insoluble, or but slightly soluble, in dilute acid, but is slightly soluble in water and more readily in dilute alkalis. 6. This toxin responds to the ordinary proteid reactions. 7. The toxin, after being freed from the cell membrane, is not destroyed by being boiled. We will endeavor by further research to determine more definitely the nature of this toxin and will extend our investigations to other bacteria.

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3. Annales de l'Institut Pasteur, x, 257; JOURNAL A. M. A., xxxi, 1898, p. 1117.
4. Hyg. Rundschau, 1893, p. 724.
5. Sem. Med., xiii, 1897.
6. Progrès Méd., xxii, 369.
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THE TRUE ROLE OF DRUGS IN THE MANAGEMENT OF CONSUMPTIVES.*

SOLOMON SOLIS-COHEN, M.D.

PHILADELPHIA.

Tuberculosis is curable, or rather, if we may use the word, it is recoverable. It is never cured by the physician, but by the patient himself; that is to say, by the natural powers of recovery. These however may be, and usually need to be, stimulated, assisted and directed by wise medical guidance. Under favorable surroundings at least three-fourths of those affected with pulmonary tuberculosis should recover. Many recover spontaneously, even under unfavorable conditions.

SECONDARY ROLE OF DRUGS.

In the physician's management of consumptives—that is to say, of persons affected with pulmonary tuberculosis—drugs play a useful, but a secondary part. The principal means of treatment for the relief or recovery of these patients are included under the general term of hygienic measures; that is to say, life in the open air, with abundance of sunlight; properly selected diet and clothing; the use of water freely, both internally and externally; rest and exercise, prescribed carefully and definitely, according to the stage of the disease and the general characteristics of the patient; the use of air at modified pressures, and the like. These bring about a physiologic reinforcement of the patient's recuperative energy, and this conquers the disease.

HYGIENIC MANAGEMENT NOW RECOGNIZED.

When I began writing on the subject of the treatment of pulmonary tuberculosis some fifteen years ago and in most of my communications on the subject since, these measures in whole or in part have been emphasized; and it is with the greatest gratification that I have observed this much neglected but ancient gospel, emphatically preached by Rush, in America, and Beddoes, in England, more than one hundred years ago, by Sydenham and others much earlier, and of which I have been an humble modern apostle, at last beginning to make itself felt, not alone in medical literature, but in contemporary practice.

* Presented to the Section on Materia Medica, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

THE OCCASION FOR DRUGS.

I may be pardoned, therefore, if on this occasion I speak of the use of drugs, of what may be accomplished with their aid, and of what it is useless to expect from them. Both in the general course of the disease—whether in its development toward destruction or in its progress toward recovery—and in the incidents and accidents accompanying this course, occasions arise in which the aid of drugs may usefully be sought to promote comfort, to prolong life, or to assist recovery. It is essential, however, that the physician should know definitely the powers and the limitations of the agents employed; that they should be used with definite purpose; and that their use should be sufficiently persistent while needed, but discontinued when its purpose has been accomplished.

What then are the indications for the use of drugs, and what their limitations? To answer these questions it is necessary to have a clear idea of the nature and progress of the pathologic conditions and processes embraced under the head of pulmonary tuberculosis. This is not the place to enter into detail, but certain broad outlines may be noted.

DEVELOPMENT AND PROGRESS OF PULMONARY TUBERCULOSIS. HYPOTROPHY.

In every instance of pulmonary consumption we have to deal with three distinct stages—with a fundamental or primary (*trophic*) stage, and with secondary (*bacillary*) and tertiary (*micrococcal*) stages of epiphenomena. The fundamental stage is a condition of lessened vital energy, lowered resistance, or malnutrition, which is not a mere vague "susceptibility," but a definite morbid state. For this, lacking a better term, we can adopt that proposed by Jaecoud, namely, "hypotrophy." I have elsewhere suggested the term "abionergy," but this involves a hypothesis not accepted by the profession or by science in general, and need not be insisted on. By whatever name we may term this state, it is not merely a general depression of function, but is accompanied with structural changes. In their intimate nature these escape our present methods of research, being probably molecular, and possibly located in the cell nuclei. When the hypotrophic status is inherited, or when it is congenital although not inherited, or when it has been acquired early in life, certain gross structural changes can sometimes be made out. Among these are especially to be noted relative deficiencies in the size of the heart and vessels and certain changes in the shape of the chest and in the physiognomy, to which attention has elsewhere been directed.¹ When it is acquired later in life these gross structural changes are not manifest.

It is in this stage that the recognition of the disease is of the highest importance and that hygienic treatment as well as roborant medication may succeed in averting the succeeding stages of destruction; but unfortunately there are no positive criteria by which it can be infallibly recognized. We can suspect, and the experienced observer can be nearly sure, that he has before him a subject of hypotrophy, but it can not be proved. The early recognition of the early tuberculization of the patient is less difficult.

SECOND OR BACILLARY STAGE. TUBERCULOSIS.

The second or bacillary stage follows the invasion of the bacillus of Koch, and is characterized by the definite histological changes giving rise to the term

1. Consult my article on "Tuberculosis," in Vol. i, of Hare's "System of Therapeutics," Phila., 1891, pp. 724, et seq.

"tuberculosis," and by an accompanying toxemia, of which the principal symptoms are irregular fever, cough, digestive disturbance, some degree of anemia and progressive loss of strength and flesh. The physical signs are now definite; slight percussion change, impairment or exaggeration of resonance with heightening of pitch, progresses to dulness perhaps just below one apex: the respiratory murmur progressively changes toward the bronchial type, cogwheel respiration being often the earliest sign; and there is progressive development, darkening and spreading of fluoroscopic shadows. Anemia of the pharyngeal and laryngeal mucous membranes is often to be observed. Sometimes the earliest overt manifestation is hemorrhage, a fortunate circumstance usually, as it leads to the prompt institution of treatment, and thus often to recovery. Cough is not infrequently absent. In this bacillary stage we have then as functional pathology, impairment of respiratory power, impairment of circulatory power, further failure of nutrition, further bacillary invasion, toxemia.

THIRD OR MICROCOCCAL STAGE. PHTHISIS. CONSUMPTION.

The third and most dangerous stage follows the invasion of various bacteria, principally belonging to the tribes of streptococci and staphylococci, for which the ground has been prepared by the destructive changes (caseation, etc.) of the preceding group of epiphenomena; those, namely, dependent on the invasion of the tubercle bacillus. Further destruction and further toxemia with hectic fever and increased emaciation, perhaps frequent hemorrhages, greater cough, progressive feebleness, sleeplessness, night sweats, diarrhea, dropsy, and the like, together with recurrent attacks of lobar and lobular pneumonia and other complications, local and general, mark the progress of phthisis toward death.

Histologically we speak of the secondary epiphenomena as the stage of infiltration; of the tertiary epiphenomena as the stage of softening or cavity-formation. Both processes may be present in different degree and extent in the same lung or in two lungs of same patient.

ACUTE AND RECURRENT TUBERCULOUS BRONCHOPNEUMONIA.

I have excluded from consideration acute disseminated or miliary tuberculosis, of which the pulmonary phenomena are but part of a general process, from which recovery is at least doubtful. Attention must be called, however, to the group of cases of acute tuberculous bronchopneumonia, in which the secondary and tertiary groups of epiphenomena can not strictly be separated, occurring either coincidentally or with but slight interval. Then, too, there is a group of cases in which destructive tertiary phenomena occur early, but in limited areas, and with but slight tendency to extension. The progress of the case is frequently interrupted by remissions or even by intermission of long duration.

COMPLEXITY OF SEMEIOLOGY.

Thus a varied and apparently contradictory semeiology arises, but analysis will always show that in some portion of the lung the secondary or tertiary phenomena predominate, and that the general symptoms depend partly on the local conditions, and partly on the predominant toxemia. There are thus minor stages or phases within the major stages.

NECESSITY FOR INDIVIDUALIZATION.

Quite obviously the treatment applicable at a given stage or phase of these complex processes differs from that applicable at any other stage, preceding or succeeding.

Moreover, individual patients present great differences in their response to hygienic measures, these differences being dependent on the same constitutional powers or weaknesses that have enabled them to resist, or have made them succumb to some or all of the morbid influences. Thus each case becomes an individual study, and so continues throughout its different phases, and whatever is said concerning the general management of patients at various stages of the disease is to be understood as being thus qualified.

NO SPECIFIC.

We are now prepared to discuss the use of drugs. In the first place, it must be evident that no specific against the exciting causes of the disease or against any of the morbid processes is to be looked for. As the hygienic management of consumptives is designed to build up their vital resistance, so the auxiliary medication must have this for its primary object, incidentally combating special morbid phenomena or groups of phenomena which of themselves introduce special dangers. While I can not go so far as my friend, Dr. Mays, in looking on consumption as a neurosis, there is little doubt that among the failures of nutrition, which prepare the ground for tuberculosis, the nervous system is involved.

NERVINES.

Drugs useful from this standpoint are arsenic, strychnin, cod-liver oil, hypophosphites and other preparations of phosphorus, among which are probably to be included the nuclein group and thymus-gland extract. Strychnin should be given at first in small doses, and according to circumstances may sometimes be increased to very large doses, though only for limited periods. Its use should not be continued indefinitely, as this tends to exhaust nervous structure and nervous energy. Cod-liver oil is a fatty food and seems to have some special suitability to the needs of the nervous structures for aliment. Whether arsenic affects the nerves directly or indirectly through its action on the blood and other tissues, I do not know; but it is to be placed in the first rank as a nerve tonic. These agents are useful in the primary stage, before the invasion of the bacillus, and in the early stages of bacillary action. Their usefulness is less apparent in the later stages, though if recession of morbid phenomena takes place in these stages they may again be used.

DIGESTANTS.

Agents to improve digestion are useful from the standpoint of general nutrition. These do not differ in principle, in method of application, or in character, from the agents used for similar purposes in other affections. Strychnin and arsenic again have application; while lavage or the drinking of hot water and the use of gastric and intestinal antiseptics, sedatives and stimulants; of phosphoric, hydrochloric and nitric acids; of digestive ferments, pepsin, pancreatin, diastase, papain and the like, must be guided by the special symptoms and responses of the individual case.

HEMATINICS.

As a rule there is very little positive anemia in the early stages of tuberculosis, but the same group of hematinic agents that are used in other anemias are applicable here. Thus again arsenic is of service; and iron, gold and sodium chlorid, palladium chlorid, the nucleins, bone-marrow and the like also prove useful.

ELIMINANTS.

It is necessary that the skin should be kept in good condition and that all the eliminative functions should

be properly performed. The daily bathing and sponging tends to keep up the tone of the peripheral vessels and of the skin, while diuretics and laxatives, of which spartein and cascara may be taken as types, are employed from time to time if indicated.

AGENTS ACTING ON THE CIRCULATION.

The condition of the circulation needs separate study, and more specially in the primary stage and in the acute manifestations of the tertiary stage. I desire therefore to call special attention to the usefulness of nitroglycerin in the early stages and of digitalis in the acute processes of the tertiary stage.

Nitroglycerin by its action in relaxing the peripheral vessels both in the systemic and pulmonary circulations, permits the work of the heart to be performed better and with less expenditure of vital energy. Vascular insufficiency is, as we have already noted, one of the characteristics of congenital hypotrophy, and the absence of blood-channels from the histological tubercle is not without significance in this connection. One of the greatest advantages of the use of the inhalation of compressed air with expiration into rarefied air, as well as one of the chief factors in the altitude cure of pulmonary tuberculosis, is the increased distribution of blood and nutrient lymph into the ultimate vascular channels and pericellular spaces. Even without the inhalation of compressed air, nitroglycerin aids such dissemination of reconstructive pabulum, as well as the better collection and excretion of waste which accompanies the improved ultimate circulation.

Digitalis was especially commended by Beddoes as the result of his empiric observation, in cases of galloping consumption, with high fever and rapid pulse, and he reported striking instances of the benefit following its use. I have no rational explanation to offer of this action, unless the inhibition of the heart may account for it, but empirically I can confirm Beddoes' observation. I have frequently seen remarkable reduction of fever and the accompanying group of hectic phenomena follow the use of large doses of digitalis, both in the late stages of chronic pulmonary tuberculosis and in the recurring acute attacks of tuberculous bronchopneumonia, or of lobar pneumonia in tuberculous patients. It must, however, be given continuously and fearlessly, up to the point of tolerance, the only counterindication being evidences of untoward effect on the stomach. Merck's German digitalin may then be used in its place; the dose being from 1/24 to 1/8 of a grain, or even more, thrice daily.

IODIN GROUP.

Of drugs used to combat more or less directly the local and hemic results of bacillary invasion, two groups of agents have stood the test of time—the iodine group and the creosote group. The first is applicable especially in the early stages of pulmonary infiltration; the latter, when destructive changes belonging to the bacillary phenomena have begun, and also when the pyemia and increased destruction of the tertiary processes are manifest. The most useful of the iodine group is iodoform, which must be given in comparatively large doses and over large periods. The dose, however, is to be small at the beginning and to be increased very gradually to the point of tolerance. If there is any disease whatever in which it is a mistake to look for results quickly or to be in a hurry to make changes in the administration of drugs, it is the one under consideration. Chronic cases require chronic, that is to say, persistent treatment, and the organism must often be accustomed gradually

to the remedy. Beginning with 1/2 grain of iodoform three times daily, after meals, the dose may be increased, little by little, until in the course of two or three months it reaches 5 grains, three times daily. Balsam of Peru is an excellent excipient and the addition of a digestive ferment sometimes enables it to be borne by stomachs otherwise intolerant. Iodoform may usefully be combined with iron, with arsenic, with strychnin, and with digitalis, in cases in which these latter drugs seem indicated.

A favorite formula of my own in the early stages of the bacillary disease is as follows:

R. Iodoformigr. i-iii
Strychninae sulphatisgr. 1/40
Arsenii iodidigr. 1/12
Balsami Peruvianagr. ii-v

Mix and encapsulate. Dose: one capsule after meals three times daily.

Sometimes ichthyol is used as the excipient, with or without the Peruvian balsam. Ichthyol has itself been recommended as of use in pulmonary tuberculosis, in doses of 5 grains or more, thrice daily. Crude or refined petroleum may be used similarly.

Flick, of Philadelphia, a careful observer and accurate reporter, states that he has seen much benefit from the inunction of iodoform in cod-liver oil or lanolin. Lately he has substituted eucophen for the iodoform, on account of the disagreeable odor of the latter. For the benefit of those who prefer to use iodoform in this way, I would state that attar of rose in very minute proportion will successfully mask the odor. My own experience with the inunction method is slight, and it did not seem to possess any special advantage over the administration of the drug by the mouth. Iodoform dissolved in sterilized olive-oil, in the proportion of 1 to 10, may be given likewise by intratracheal injection, in quantities not exceeding 1/2 dram.

Powdered iodoform may be insufflated into the larynx, or iodoform dissolved in ether—1 to 10—be applied by sponge, especially in cases of tuberculous laryngitis, after the application of lactic acid or formalin, and the dose need not be measured especially. There is no objection to covering the entire area of laryngeal and perilaryngeal tissues accessible, and doubtless some good effect is due to systemic absorption as well as to the local action. Other iodine preparations are Lugol's solution, compound tincture of iodine, arsenic iodid, iron iodid, and metallic iodine encapsulated with some fatty or mucilaginous vehicle or emulsified with cod-liver oil; all of which may be used under special conditions not necessary to detail here.

CREOSOTE GROUP.

The creosote group is large and contains a number of useful agents—carbolic acid, creosote, guaiacol, and combinations of creosote and guaiacol. I have not used carbolic acid for internal administration, though it may sometimes be usefully employed locally, in proper dilution, and has been given hypodermically in sterilized olive-oil, in strength of from 1 to 10 per cent., and in doses of from 1 grain to 10 grains. The urine must be carefully watched when carbolic acid or creosote is used in this way. Beechwood creosote is a sufficiently good preparation, provided a pure article can be obtained. Much of the commercial creosote contains impurities that irritate the stomach and the kidneys, but there are at least two good preparations in the market, and if care be exercised to obtain one of these the drug can be given in very large doses without untoward effect. Beginning with 1/2 minim three times

daily, it is my custom to increase cautiously up to the point of tolerance, maintaining at that point or decreasing, according to the results in the individual case. I have given as much as 40 minims three times daily. An average dose is 10 minims three or four times daily. It may be given in milk, in which case two hours after meals is a very good time for its administration, as thereby the patient is induced to drink a glass of milk at that time. It may be shaken up with cod-liver oil and taken immediately after meals, or it may be made a part of a compound emulsion of cod-liver-oil. It should not be given in capsule unless associated with at least 5 minims of an oily vehicle to each minim of creosote. Capsules may thus be prepared with morrhual or cod-liver oil as excipient. When creosote can not be taken by the stomach in sufficiently large doses, it may be given emulsified with cod-liver oil or milk, by the rectum, and some have given it in sterilized olive-oil hypodermically. Creosote carbonate, commercially known as creosotal, is perhaps the best form in which to give creosote, as it rarely upsets digestion, the taste is not objected to, and in many cases it can be given in dram doses without untoward effect. Such doses may be persisted in for prolonged periods. I frequently give it in hot milk two hours after meals, though it may be given in water or without vehicle, if taken at meal time. The objection to it is its high cost. Recently creosote valerianate and other creosote combinations have been brought forward and are said to possess advantages over those mentioned. I have had as yet too little experience to speak positively concerning this.

Guaiacol, to which some attribute all the good effects of creosote, may be given in the liquid form, just as creosote is given; or its salts, which are tasteless powders, may be substituted. Of these, I prefer on the whole guaiacol carbonate, though in certain cases the benzoate and the salicylate seem to have advantages; the benzoate especially when there is a tendency to diminution of urine and the salicylate when high fever is a marked symptom. The dose is 10 to 60 grains daily, 20 grains being an average dose. Guaiacol potassium sulphonate is a recent addition to the list of combinations and is highly lauded by some writers. The objection to the guaiacol salts also is their cost. Their great advantage is the readiness with which they can be administered, and their lack of untoward local effect. Liquid guaiacol sometimes has seemed to be useful as an analgesic and antiphlogistic application topically in cases of laryngeal infiltration. As its pain-relieving effect is preceded by intense burning, the latter should be guarded against by a preliminary application of cocain, as in the case of other local agents. It is a useful ingredient in external applications to relieve pain; and slowly rubbed in drop by drop, in doses of 20 to 40 drops, the site of application being then covered with cotton and oiled silk, it may serve as a temporary expedient to reduce high temperature otherwise uncontrollable. One must guard against chill following this method.

BALSAMICS AND TEREBINTHINATES.

Another group of drugs useful in controlling morbid conditions, especially catarrhal processes, in the lungs and bronchi, in relieving cough, and in correcting the character of the expectorated matters, is formed by the balsamics and terebinthines. Of these I would call special attention to myrtol, which may be given in doses of from 5 to 10 minims, dropped on sugar, encapsulated, or emulsified, just as one would give turpentine, terebene, eucalyptol, or other agent of this group. For the production of results, its use must be

persisted in for several weeks at least. Ichthyol also may be given internally in capsule, alone or combined with some of the drugs already mentioned, and seems to have especially good effect in the correction of collateral fetid bronchitis.

For the correction of local conditions in the throat, trachea, and bronchial passages, and in combating the septic processes of the tertiary stage, so much more destructive than tuberculosis in itself, as well as for sedative effect, drugs may be employed by inhalation or by intratracheal injection.

INHALANTS.

For inhalation, myrtol, eucalyptol, thymol, menthol, oil of peppermint, camphor, chloroform, bromoform, creosote, formaldehyde, and ethyl iodid may be used singly or variously combined. The little perforated zinc respirator, designed by Dr. Burney Yeo, is an extremely useful appliance for this purpose, and for continuous respiration by its aid combinations like the following may be used: chloroform, eucalyptol, creosote, alcohol, equal parts; myrtol, chloroform, terebene, equal parts, etc.

ETHYL IODID AND FORMALDEHYDE.

Among these drugs, however, I desire especially to signalize two, ethyl iodid and formaldehyde. The former may be used very simply by merely unstopping the amber-colored, little-necked, ounce vial in which it should be kept. The heat of the hand is sufficient to volatilize the medicament. The vial may be held to the mouth or nostrils and deep breaths taken for from one to five minutes, according to the effect. This may be repeated as necessary; in cases of irritative cough, as often as every half hour. It is especially useful in cases of laryngeal tuberculosis. I have experimented in various ways to obtain formaldehyde in proper shape for inhalation. The little lamp, by means of which paraform is converted into formaldehyde gas, has seemed on the whole the best. This is allowed to impregnate the air of the room in which the patient remains, menthol or eucalyptol being sometimes volatilized concurrently; or, covering his eyes, the patient sits by the lamp and every now and then gathers in his incurved palm some of the gas diluted with atmospheric air and inhales that: or paraform tablets may be crushed in the hand, and the endeavor made to get a certain amount of diluted gas from this. Or in a simple wash-bottle inhaler of 12-ounces capacity a solution of formaldehyde in water may be added to glycerin and aromatics, the whole mixture making about 3 ounces. The strength of the formaldehyde solution is from 1 per cent. to 2 or 3 or even 5 per cent., as the patient bears it. None of these methods, and no other method that I have employed, is entirely satisfactory. If formaldehyde gas, properly diluted, could be collected in a reservoir and from this inhaled, as oxygen, nitrous oxid, and the like are inhaled, it would undoubtedly be useful.

PALLIATION OF FEVER.

In the course of the disease, whether toward recovery or death, there are a number of special symptoms and symptom-groups developed, for which palliative measures may be employed. Some of these may be referred to briefly. Fever, that is to say, temperature persisting at, or persistently recurring to, 100 F., or more, needs palliation, preferably by rest and the application of an ice-bag over the heart. And I may here interpolate that a long sea-voyage is the best possible treatment for patients exhibiting this tendency. The coal-tar products may be used cautiously if necessary to give the patient

comfort; they are not curative of the conditions—the intoxication—causing the fever. Much better in many cases is the inhalation of nitrous oxid in the forenoon—i. e., before the expected rise of temperature—usually in two sittings, two hours apart; about 8 gallons mixed with atmospheric air, at each sitting. The mixture is obtained by inhaling pure nitrous oxid through the mouth, the nose being left uncovered. The ordinary cylinder and wash-bottle form the preferable apparatus. Oxygen inhalations are counterindicated.

TREATMENT OF HEMORRHAGE.

Hemorrhage, an alarming accident to the patient, the family and the inexperienced physician, will subside spontaneously in nine cases out of ten, if the patient be put at rest. Cold applications are generally useful, an ice-bag being applied over the heart, or over the seat of bleeding, if that can be located without undue disturbance to the patient. Cold food only is to be given, and in small quantities. Use of the voice is to be interdicted, and laxatives should be given to prevent straining at stool. When necessary, the force of the heart's action can be reduced by aconite in appropriate doses, and cough be checked by opium, codein, or morphin. It is possible that heroin may serve better than the natural morphin. In severe cases, morphin may be given hypodermically up to the point of tolerance. The most generally useful drug to promote coagulation of blood and the formation of permanent clot, sealing the wound in the vessel or vessels, is crystallized calcium chlorid. With this, codein, turpentine, or thymus extract may be associated. The calcium salt is to be given in dilute solution in comparatively large doses, say 15 grains every second hour, for not more than four days consecutively. If medication is still necessary, lead acetate may then be given—say 3 or 5 grains in pill with an equal quantity of tannic acid and perhaps a grain of opium, three or four times daily. After two or three days, aromatic sulphuric acid should then be given, after which, if necessary, the calcium salt may be resumed. Ergot is useless in most cases. Atropin sulphate, say 1/120 grain, given hypodermically at the beginning of hemorrhage will often cut it short. Hydrastinin hydrochlorate is among the useful astringents.

NIGHT-SWEATING.

For night-sweating, agaracin, hyoscin hydrobromate, potassium tellurate, camphoric acid, atropin, strychnin, picrotoxin, and the like, are useful internally, while sponging with alcohol and alum, or with an alcoholic solution of quinin, or dusting with zinc oxid or zinc oleostearate will sometimes render internal medication unnecessary.

DIARRHEA.

Diarrhea is often exceedingly troublesome and not to be controlled by regulation of diet. Among the drugs useful in different cases are arsenic, mercuric chlorid, cupric sulphate, iron sulphate, tincture of ferric chlorid, opium, tannic and gallic acids, bismuth salicylate, benzonaphthol, salol, guaiacol salts, etc. Before using either astringents or opium, the bowel should be thoroughly washed out by the administration of calomel in small doses, followed by a saline laxative, and this by irrigation with hot—physiologic—saline solution. Notwithstanding, however, the combined use of astringents, opiates and antiseptics, this symptom proves rebellious in many cases.

CONCLUSION.

The object of this paper, however, has not been to go into details of treatment or to advocate the use of

any special agent in any special condition; above all, not to seem to prefer drugs to the hygienic and nutritional measures already sufficiently alluded to, and of which may again be specified open-air life with abundance of sunlight, as the most important of all. I have wished simply to indicate for what purposes drugs may wisely be employed, and to suggest different groups of agents applicable for these purposes, from which choice is to be made according to all the circumstances of the particular patient, time and place. Bearing in mind the limitations of drugs as well as their powers, and carefully selecting them for definite purposes, they may thus be made to fulfil their useful, but secondary part in the treatment of patients having pulmonary tuberculosis.

THE IMPORTANCE OF AN EARLY DIAGNOSIS OF TUBERCULOSIS.*

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The failure to recognize tuberculosis in its incipency is the result of several causes: Tuberculosis has an insidious beginning. Most patients do not recognize the nature of their trouble until a lesion is well established, and frequently when they consult a physician the disease is well advanced. The symptoms which belong to the incipient stage are not easy of recognition and are frequently misinterpreted by the examining physician. Many patients will not accept the facts until it is too late. Many physicians fail to give the facts at this stage for fear of frightening patients.

These are the principal reasons why tuberculosis is frequently unrecognized until it is too late to hope for relief; and, also, furnish an explanation for the widespread belief that tuberculosis is incurable.

Before beginning to discuss the subject of the early recognition of tuberculosis it seems essential that some definite method of classification should be understood. Almost as many methods of subdividing the disease have been considered as there are those who have given the subject special study. There seem to be few distinct lines of demarcation which serve in making a subdivision that is without criticism. The pretubercular state, the early stage, and the advanced stage are terms which are frequently used; but these terms convey very little definite information, unless they are qualified by a more minute description.

This subject, however, is of too serious import to justify the useless discussion of mere technicalities. The classification which I shall adopt in this discussion rests upon a histological basis, supplemented by the bacteriological principle that a congenial culture-medium is essential for the growth of pathogenic germs. This classification will admit of three fundamental stages:

1. *Pretubercular Stage*.—This stage is accompanied by a diminished resisting power. We have an impairment of function without a change in the structure of the tissues. The tissues are reduced to a more or less weakened state and furnish a congenial soil for the development of bacilli; but the bacilli have as yet not gained an entrance into the tissues and commenced active development.

2. *Stage of Tubercle Formation, or of Constructive Tissue Changes*.—This stage begins with the introduction of bacilli into the weakened tissues and is known as

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early incipency. We have rapid cell-proliferation and the formation of tubercles or small neoplasms. We have a transformation of tissue without disintegration, accompanied by a further impairment of function. This stage extends to the beginning of tissue disintegration.

3. *Stage of Destructive Tissue Changes.*—We have softening and breaking down of tissue or fibroid transformation and atrophy of tissue, with more or less complete loss of function.

Nature of Tuberculosis.—Many views have been entertained as to the nature of tuberculosis, and may be arranged into three groups: that bacilli constitute the sole factor of tuberculosis; that the soil is the sole factor and that bacilli play a secondary part; the dual theory that the germ and the congenial soil are equally responsible factors.

It is foreign to our purpose to discuss the merits of these views. Let it suffice to say that the dual theory is accepted as the basis of the remarks which are to follow.

THE PRETUBERCULAR OR PREPARATORY STATE.

The conception of the dual nature of tuberculosis renders a pretubercular or preparatory state indispensable. This brings us to the nature of the resisting power of an organism and the methods by which this resistance is reduced.

It is a well-conceded point that the resisting power to disease is measured by protective substances which are elaborated by the organism itself. These substances are believed to be the products of cell-metabolism and are known as antitoxins. When the changes are brought about in an organism which diminish the production of this protective material, the natural defense of the organism is thereby weakened and invading germs meet with little resistance.

Since the resisting power of an organism can be traced ultimately to but one source—the cellular elements of the organism—a strong resisting power is the manifestation either of a strong phagocytic power, or of a strong antitoxic power, or of both combined. Furthermore, since antitoxins are the metabolic products of the body-cells, a potent antitoxin presupposes vigorous cells; and inversely, if the potency of the antitoxins is feeble, it presupposes a feeble cell-activity. Hence, if the vital forces of the body-cells of an organism are too feeble to produce antitoxins of standard potency to protect it against a certain species of germs—which normal organisms of the same species are able to resist—its resisting power is impaired.

On the other hand, if it should be claimed that the resistance to tuberculosis depends on a vigorous phagocytosis, a strong resistance to the disease presupposes vigorous body-cells; and inversely, a feeble resistance presupposes weak and poorly nourished body-cells.

With this explanation of the pretubercular state we have a rational hypothesis on which we can rest. It furnishes an explanation why persons in this state readily develop tuberculosis, and offers an argument why we should strive to recognize this condition.

The pretubercular state, therefore, may be defined as the condition of feeble activity of the body-functions, producing in consequence a diminished potency of the protective substances of the organism, thereby furnishing a fertile soil for the development of the bacilli of tuberculosis.

The influences which aid in the development of tuberculosis are of two varieties: predisposing factors, and exciting factors. The first variety comes with a bad family history. Persons possessing these factors may be

recognized as possessing the following characteristics: a frail organism with feeble functions; narrow chest; drooping shoulders; diminished chest expansion; weak nutritive processes and feeble powers of endurance. The existence of these predisposing factors is evidence of a weak resistance to disease and often may be recognized early in life. To those familiar with the early signs of tuberculosis the significance of these factors needs no comment. To the predisposing factors we must add a class of exciting factors. These are the influences which tend to diminish the already weakened resistance of the individual. To a great degree these factors are under the control of the individual. Examples of this class are insanitary surroundings; sedentary or irregular habits; dissipation; indoor occupation; prolonged overwork; and serious illness. Few persons can withstand the prolonged action of these exciting factors without yielding their resisting power. Especially is this true of individuals who have inherited a weak resistance. Sooner or later opportunity for infection will be presented and persons with a weak inheritance will imperceptibly and unconsciously pass from the pretubercular state into the stage of actual tubercle formation.

The duration of the pretubercular or preparatory state varies according to the degree of the impaired resistance of the individual and the nature of the existing factors. An early recognition of the pretubercular condition as described, and an early attempt to correct it, may enable the individual to recuperate his forces before bacilli gain a lodging in his tissues. Many a person may thus, by judicious care, prevent the actual development of tuberculosis, although there may be a strong predisposition, and ultimately he may die of some other disease. Unfortunately, however, much time is frequently allowed to elapse; the unfavorable influences are allowed to continue; the patient refuses to heed the signals of alarm, and before he is aware of his condition, active incipient tuberculosis is established.

THE STAGE OF TUBERCLE FORMATION.

This stage dates from the time when tubercle bacilli gain admittance to the weakened tissues and begin active development. The chief object of this paper is to collect and classify the evidence which points to the existence of the incipient stage.

Classification of Evidence.—The total evidence of this most critical period of the patient's history may be classified as follows: 1, family and personal histories; 2, clinical symptoms; 3, physical signs; 4, microscopical evidence—blood and sputum; 5, X-ray evidence; 6, tuberculin test.

The early evidences are by no means uniform in the order of their development. The evidences most frequently observed and significant of approaching danger, if properly interpreted, are the following: Impaired nutrition, loss of appetite, gastric and intestinal disturbances, accompanied by loss of weight and strength; dyspnea and fatigue after light exercise, accompanied by small, rapid and variable pulse; slight but persistent cough in mornings and on deep inspiration; impoverished blood state; hectic flush, hemorrhage, altered or suspended menses; sore throat, hoarseness and aphonia; pleurisy pains; glistening eye, dilated pupils, leaden hue of the sclera; insomnia, night sweats; subnormal morning temperature and afternoon or evening fever.

The Value of Early Evidence.—As to the importance to be attached to the early symptoms of tuberculosis it is well known that many erroneous opinions prevail. In this connection it might not be amiss to note a few

points, although on account of limited space many valuable points must be left unnoticed.

Chief among the misinterpretations of diagnostic evidence is the altogether too-prevalent opinion that the presence of tubercle bacilli in the sputum is one of the earliest manifestations of the disease. During the period of tubercle formation bacilli are located in the deeper tissues of the body. During this period bacilli rarely make their appearance in the sputum, notwithstanding patients are already suffering from tuberculosis. When bacilli are found in the sputum it is evidence that the disease is well established; while if bacilli are not found, their absence is not sufficient evidence to exclude tuberculosis. Therefore, for diagnostic purposes in the early stages of tuberculosis I am of the opinion that we overestimate the importance of the examination of the sputum.

A series of clinical symptoms invariably precedes the breaking down of tubercles and the appearance of expectoration containing bacilli. For the purpose of making an early diagnosis it is therefore of special importance that we should be able to recognize and properly interpret these early symptoms.

The cogwheel respiration has for some time impressed me with its diagnostic value of early areas of pulmonary infiltration. This, to my mind, is underestimated as an early symptom of pulmonary tuberculosis. This phenomenon is frequently observed when no other stethoscopic evidence of the disease can be detected, and subsequently other symptoms of tuberculosis develop. I have observed this phenomenon more distinctly during the latter part of forced inspiration and also find it synchronous with each cardiac systole. The areas over which it is elicited are local and circumscribed. It seems to be increased with the force of the heart and therefore is more distinct after light exercise.

Let us briefly consider the factors involved in the production of this symptom. During forced inspiration the entire available lung space is occupied by air; the lung tissues are compressed and, for the time being, make greater pressure against the pulmonary vessels; this in turn tends to prevent the vessels from expanding under the heart's contraction. Infiltrated tissue possesses diminished elasticity. Therefore the blood-vessels in a circumscribed area of infiltration are unable to enlarge their caliber under the increased blood-pressure accompanying each beat. This diminished compensation of the blood-vessels of the infiltrated tissue necessitates an increase of friction of the blood against the walls of the vessels in these areas; and this increased friction is further increased during inspiration. I would not be understood as believing that this phenomenon is always present or that it is always significant of tuberculosis. I believe, however, that it is evidence of impaired functional activity of small areas of lung tissue. Therefore whenever I recognize this characteristic respiration I suspect areas of diminished resistance and endeavor to keep the patient under close observation for further evidence of tuberculosis.

A rapid and variable pulse is an early symptom of pulmonary tuberculosis of no small significance. This is especially pronounced after moderate exercise. Therefore the recognition of this symptom invariably calls for a careful physical examination of the chest for initial areas of infiltration.

Cough is often the first symptom to attract the attention of the patient. I have, however, frequently seen patients in incipient and well-advanced stages in whom there had been no complaint of cough or chest symptoms.

Pleuritic friction sounds may almost always be considered of tuberculous origin, and are often early symptoms.

Râles do not properly belong to the early stage of tuberculosis. They are frequently present when the area of infection is very limited. But in such patients the diseased area may have existed some considerable time before the tubercles undergo softening; then râles become recognized.

Hemorrhages are often the first symptom of the local disease. Hemorrhages are not always due to a tubercular lesion. They may result from violent exercise, physical injuries or other causes; but a hemorrhage should serve as a warning to a patient that a lesion exists in the lung which offers a fertile soil to tubercle bacilli; and furthermore, while such a condition exists, the patient is in constant danger of becoming infected. Such persons should exercise great precaution to avoid infection and at the same time make use of every possible means to restore the injured tissues to their normal state by appropriate rest and tissue nutrition.

I have found a study of the blood an important factor in revealing impaired metabolism and a low state of the vital functions. For years I have kept records of the blood and sputum in all cases of tuberculosis. A study of these records is evidence that the blood phenomena are of greater service in revealing the actual condition of the patient than those furnished by the sputum. The nature of the study has been a differential estimate of the leucocytes made from a stained film of blood and a study of the morphological appearance of these cells. The limited time allotted to a paper of this nature will not permit of a description of the phenomena presented by tuberculous blood, especially since a description of these phenomena has been attempted in former articles.¹

A subnormal morning temperature is one of the earliest and I believe most valuable means of revealing the pretubercular and incipient stages of tuberculosis. When persistently present we may be certain of a low vital state. Frequently a subnormal morning temperature is unaccompanied by an afternoon or evening fever. I am inclined to believe that when a subnormal morning temperature persistently continues it points to a pretubercular state, and that the patient is approaching dangerously close to the incipient stage; also, that when it is accompanied by afternoon or evening fever it is strong evidence of actual tubercle formation. It should be remembered that many tuberculous patients do not develop fever, and yet these persons almost invariably have a subnormal morning temperature. It should be noted, however, that before a marked subnormal temperature or any other symptom should be accepted as evidence of tuberculosis it should be supported by other signs of danger.

This suggests the inter-relationship of symptoms. We should bear in mind that though a single symptom is evidence it is not sufficient to confirm a diagnosis. We rarely, if ever, find an important diagnostic symptom of incipient tuberculosis unaccompanied by other important symptoms. The intimate relationship between symptoms is therefore a point not to be overlooked in making a diagnosis. For example, with impaired nutrition, loss of appetite and gastric disturbances loss of weight and strength will follow. Let these symptoms continue and the patient will soon experience fatigue after light exercise, accompanied by a rapid and variable pulse. An impoverished state of the blood is also inev-

1. Medical Record, Sept. 5, 1896, p. 325; March 13, 1897; JOURNAL A. M. A., xxix, 17, p. 828.

itable. Thus the symptoms will multiply and the resisting power of the patient will imperceptibly diminish; and yet, notwithstanding the accumulation of evidence the patient will rarely acknowledge that he is in danger. He realizes, however, that he is more susceptible to exposure; takes cold more readily; recuperates more slowly. A slight catarrhal condition often remains. The patient continues his occupation and makes no effort to remove the influences which are daily increasing the danger. Up to this point how many patients suspect tuberculosis? How many consult a physician? And if the physician is consulted, how often is tuberculosis overlooked for the grip, bronchitis, or some other less dreaded malady?

The Neglect of the Early Signs of Warning.—Examples are all too numerous where the early signs of warning have been unheeded. Inevitably the symptoms progressively develop and the patient passes from the realm of doubt to one in which the most positive evidence is present. The diagnosis is finally accepted after the disease has made rapid progress; but during this period of delay a large percentage of patients lose their only chance of recovery.

Finally, unless we become familiar with the symptoms which accompany the "pretubercular state"—symptoms which develop during the period which leads up to actual tubercle formation—the most valuable period for treatment is lost. Therefore with each case of suspected tuberculosis an important question is presented. How can doubt be removed and the diagnosis confirmed?

On this point I feel that we are safe in adopting the following rule: When the characteristic symptoms which usually accompany incipient tuberculosis are present and persistently continue and we are unable to account for them from other causes, we are justified in suspecting concealed tuberculosis.

The Tuberculin Test.—After having considered the symptoms, the history, the physical signs and the general appearance of the patient, if doubt remains we have a court of last appeal—the tuberculin test. Until recently we were often obliged to remain in doubt in incipient cases, but since the diagnostic value of tuberculin has been established we have no excuse for delay when the symptoms are sufficiently marked to point to tuberculosis. I wish to record my confidence in this means of settling doubtful cases. The danger of tuberculosis is too great to justify our remaining in doubt when we have a reliable diagnostic agent at our command, and especially so since there is little or no danger when it is properly administered.

I prefer to administer the tuberculin late in the afternoon or evening. If a tubercular lesion exists, the reaction usually comes from six to twelve hours later. As previously stated, I find the subnormal morning temperature quite as significant of tuberculosis as the afternoon fever. Therefore if the tuberculin is administered in the evening and a morning fever follows its use, it is evidence of a reaction and points to a tubercular lesion. If no reaction follows the initial test an interval of a few days is allowed to elapse and a second test is administered, and finally a third.

If the tests are properly administered and no reaction is experienced we may feel safe in excluding tuberculosis. It is well, however, to repeat the test at short intervals if the patient's condition remains unimproved.

The use of tuberculin as a differential agent is a subject with many problems awaiting solution. The nature of the reaction, if any, which may be experienced by

persons in the pretubercular state and the dose that will be tolerated before a reaction may be expected, are subjects which should call forth our best efforts and most careful observations.

Treatment.—The essentials of successful treatment are alimentation, medication and environment. Malnutrition is a constant condition in tuberculosis. Poor digestion and non-assimilation are always present to a greater or less degree. Hence, a correction of this condition is one of the first points to be considered in therapy. Overmedication is too frequently practiced. Any treatment which impairs digestion is injurious.

The ability to react to treatment depends upon an early recognition of the disease, the degree of impairment of the nutritive processes, and an early correction of unfavorable environment and modes of life.

A properly-selected climate is essential, but patients must seek it early. The advantages to be gained from climate will depend upon the amount of time spent in the open air and sunshine, the thorough ventilation of the living and sleeping rooms, and the maintenance of a normal state of the digestive functions. In conclusion we may summarize as follows:

1. The fact should be more generally recognized that if the vital forces become impaired from any cause whatever, the resistance to the tubercular infection is diminished and the danger of infection increased. Prolonged overwork, dissipation or exposure weaken an organism. The tissues of such persons constitute a fertile soil for the infecting germs. When the germs are brought in contact with the weakened tissues they find favorable conditions for propagation. This marks the actual beginning of tuberculosis.

2. It should be remembered that an early diagnosis is of supreme importance. If we hope to secure good results we must resort to means of examination which will enable us to detect the disease before it has become firmly established.

3. There are early symptoms which make their appearance long before the stage of expectoration.

4. Expectoration is frequently present for a considerable time before bacilli can be found.

5. The diagnostician who delays for the appearance of bacilli in the sputum fails to diagnose the disease in its incipency and loses the most valuable period for treatment.

6. When the early symptoms are present and no other cause can be found to account for them, we are justified in suspecting tuberculosis.

7. Before arriving at a definite diagnosis we should consider well the previous history, the general appearance of the patient, and the symptoms. After carefully weighing all that can be secured from such a study we should resort to early and repeated physical examinations of the chest; a bacteriological examination of the sputum, if the disease has advanced to this stage; a microscopical examination of the blood; and if doubt remains we should finally resort to the tuberculin test.

8. After the disease is discovered the fact can not be too strongly emphasized that patients can not remain surrounded by insanitary conditions and regain their health.

9. With the exercise of greater care on the part of both physicians and patients in recognizing the early symptoms of tuberculosis, and a more rational use of means to prevent infection, we may expect fewer cases of tuberculosis and a greater percentage of cures.

DISCUSSION ON PAPERS OF DRs. SOLIS-COHEN AND HOLMES.

DR. WM. H. THOMPSON, New York City, by invitation, opened the discussion. He said that the subjects for discussion that had been initiated already, by these two papers, were so numerous that the Section might spend not only the rest of the afternoon, but a day or two in going over them. He, therefore, would refer to but one or two points. In the first place, when we speak of tuberculosis, it appears as if we have in mind two almost distinct diseases. The first is uncomplicated tuberculosis, the second is complicated tuberculosis. In the former, the tubercle bacillus is not associated with other bacteria. This condition we do not find in the lungs, but we do find it in serous membranes, the peritoneum, for example. Take a case of general tuberculosis of the peritoneum. He had seen the abdomen opened by surgeons and they had found the peritoneum a mass of tubercles; they had then closed it up, for the patients to die, but to their surprise the patients got well. This is not the course of pulmonary tuberculosis. One reason for this is that we have the infection in a tissue or organ that is never at rest, but twenty or thirty times a minute, it moves in the respiratory act. Just as a sore on the leg, if it were rubbed twenty or thirty times a minute, night and day, it would not get well. So if you have an infection with tuberculosis, the constant movement and irritation sets up an ulcerative process and there is secondary infection with pus organisms. Further, wherever the ulcerated process occurs, there is an opening for additional tubercular infection. There are, therefore, in some parts of the body, simple infections with the tubercle bacilli, but in the lungs there is always compound infection. Another point is that the tubercle bacillus can have no antitoxin, because its duration is not self-limited. In acute pneumonia, on the contrary, you have a condition which passes through its course in a few days and then ceases its activity; not so with the tubercle bacillus, it has an unlimited life. The speaker said that he was the first physician in New York who had a supply of Koch's tuberculin. He never personally had any faith in tuberculin, but had a great deal of faith in diphtheria antitoxin. Diphtheria being a self-limited disease can have an antitoxin, but tuberculosis can not. Professor Loomis, who followed him in hospital service, also had doubts as to the specific effect of tuberculin. An important point in pulmonary tuberculosis is to know the time when infection takes place. You see a man 20 or 30 years of age, with signs of beginning pulmonary tuberculosis. When was he infected? He might have become infected as a child, when he was 1 year old, and the disease for some reason did not find a favorable moment for development until twenty or thirty years had passed. This is now the general view of the pathologist. About two years ago there was a discussion at the Pathological Society of London, published in six numbers of the *British Medical Journal* and *The Lancet*, in which the fact was brought out prominently that there are many cases of infection in childhood, but that it does not develop into pulmonic tuberculosis usually until in adult life. Hirsch, who found in adult autopsies more than 75 per cent. which showed tubercular lesions, is of the opinion that the entrance of the tubercle bacilli into the body is usually with the milk, as in a child. This has been demonstrated over and over again. The tubercle bacillus finds its nidus with the serous membrane, and keeps on doing its specific work, and emaciation and other physical changes finally result. What do we mean by emaciation? It is not a simple loss of fat, but it means a loss of every part of the body, except the nervous system, which never emaciates. The peculiar tubercular facies, or physiognomy has been referred to. He would recognize it at a glance. Every long bone is thin, the muscles of the neck are ribbon-like; every rib is long and thin, the hands and lips are bloodless—therefore, before examining the chest, you recognize that you have to deal with a condition in which there is a deposit of tubercle. That is in an adult, and these changes of development have been brought about because he has been suffering from that very thing since early life. He fully believes that we can do almost nothing against pulmonary tuberculosis. He feeds his patients fresh meat, gives them cod-liver oil for its influence on nutrition, and gives them iodine, arsenic, for the

same reason, to improve the nutritive powers. But when he has done that, he asks what he has done with the tubercular infection per se? If the patient has a soft pulse, he gives him nitroglycerin. He needs protection from pus organisms. Have we any remedy for this? Yes. Oxygen. Turn the patient out-of-doors. There is one remedy that will aid, that is creosote, if the stomach bears it. Other remedies may be employed for special needs, but none of them are of more importance.

DR. J. N. UPSHUR, Richmond, Va., believes the cardinal principle in the treatment of tuberculosis is to preserve the integrity of the stomach, so as to antagonize action of these agents which cause loss of nutrition; further, that the great means to promote this action of the stomach are abundance of sunlight and fresh air and allowing only such foods as are easily digested. And in this line, the fewer drugs you put into the stomachs of patients, the better for them. He considers no drugs of use except in the line of improving nutrition of the body. He has faith in strychnin, because it strengthens the heart's action, increases the general integrity of the muscular system, and because it puts the patient in a position where he can take best advantage of the fresh air and sunlight. One of the most important questions is that of environment. He referred, in illustration, to the present condition of the southern negro, in contrast to his ante-bellum condition. Then his black, greasy skin and well-nourished body, showed that he worked in the country where he got the most fresh air. He had an abundance of corn bread, of fat bacon and fresh vegetables. He lived in well-ventilated apartments, and was obliged to keep early hours. The speaker remembers these happy creatures, whose songs were heard all over the land. Their health was an object of intelligent care, at that time, and they were rarely sick, and, when ill, they were cared for. But now the picture has changed. The environment of the negro is different. He moves to the town. He lives upon partly-tainted meat and stale vegetables, and eliminates from his diet corn bread and bacon. He is overcrowded in his sleeping-rooms, his habits are irregular, and he often uses alcohol to excess. Now, what is the result of this contrast? Before the war, pulmonary tuberculosis in the pure negro was unknown. At the present time it is so general that the race is becoming decimated. It is increasingly frequent and of itself will solve the social race problem. The speaker differs with Dr. Solis-Cohen in the recommendation to use nitroglycerin. It causes prostration and nausea, and a soft pulse, with dilatation of the retinal vessels; but the cardinal principle is that the weak suffer from it more than the strong. Moreover, it reduces the oxygen-carrying power of the blood and interferes with the function of the red blood-corpuscles. The nitroglycerin produces its effects by paralyzing the blood-vessels and reducing blood-tension. What is desired, on the contrary, is to obtain increased circulatory power to improve general nutrition. Strychnin is the preferable agent. Nitroglycerin is positively contraindicated in a condition like pulmonary tuberculosis in his opinion.

DR. S. SOLIS-COHEN said that he had been misunderstood with regard to the use of nitroglycerin and that he does not consider it applicable in the late stages when the pulse is rapid and of low tension. On the other hand, in the prebacillary stage, when improved circulation, local and general, is necessary for nutrition, it is extremely useful. He does not rely on drugs and holds the view that there is no true specific for consumption, but in certain conditions, as stated certain drugs are useful.

DR. A. MANSFIELD HOLMES—It is a recognized fact that the best results are obtained in the treatment of pulmonary tuberculosis when we attack the disease in the early stages: whether we discover the bacillus or not, it is very vital to the patient that we recognize the disease early. It was not the purpose of my paper to claim that it is possible to detect the very moment when the bacilli find a lodgment in the tissues. I wish to lay special stress on the point of localizing the disease at this early period as offering the greatest opportunity for therapeutic measures and the favorable moment for successful treatment.

THREE CASES ILLUSTRATING CEREBRAL COMPLICATIONS OF OTITIS MEDIA SUPPURATIVA.*

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It is not to be wondered at that, however brilliant the diagnosis may be, and however skilfully the operation may be done, success does not always attend work along the line of otitic cerebral surgery. The localization of the lesion is not always clear. Lesions may exist other than those made clear through the grouping of symptoms, and the pathological changes exposed may have progressed so far as to preclude the possibility of successful issue, all of which are independent, in the light of our present knowledge and skill in diagnosis and surgical intervention. It therefore becomes incumbent upon us to report not only our successes, but more imperative to report our failures, as through them not only we, but likewise others may profit. I fear that we are too prone to report our successful cases and too apt to forget our failures. To be sure it is no disgrace for one to fail in relieving a helpless or moribund patient, but nevertheless the human mind is so constructed as not to wish to subject failures to the close scrutiny of criticism. I shall report to you two fatal cases of sinus thrombosis and one of cerebral abscess.

CASE OF SINUS THROMBOSIS, No. 1.—On Sunday evening, Nov. 18, 1898, I was requested to see in consultation a patient who had been sick for six or seven weeks with chills and fever, and was told that the reason for my being called was on account of an otitis media purulenta, which had been latterly thought to have some relationship with the general condition. The patient was a man of 60 years of age, probably the average height, and well nourished. The physician in attendance gave me the following history. The patient had had a suppurative otitis of the right ear for many years, and during the past year, under the care of Dr. W. K. Butler, a polypus had been removed from this ear. The patient had been sick about two weeks previously with symptoms that simulated those of malarial fever. He had had chills followed by fever, the temperature rarely going above 101. The sweating stage was usually very pronounced. There had been almost constant head-pain, located over the parietal. Several days before calling me in attendance he developed vertigo, and the Doctor noticed that there was tenderness over the mastoid region. On examination of the patient, I found him apparently mentally normal. He recalled incidents and answered questions intelligently, and in various ways showed perfect cerebration. There was pain noted on deep and firm pressure over the antrum mastoideum, and tenderness of an exquisite character on slight pressure over the point of exit of the emissary vein. The jugular region appeared quite normal, although there was some tenderness on pressure along the vein high up in the neck. The patient complained of intense vertigo and persistent headache. The facial expression was bad, and the skin sallow. The tongue was dry and foul and the bowels constipated. The pulse was good in volume, but slightly irregular. The pupils reacted normally, and there was no evidence of facial or other paresis.

Examination of the ear elicited no noticeable swelling or redness about the mastoid. The auditory canal was

filled by an offensive pus, which was cleared away by syringing. Inspection showed that there was complete destruction of membrane, with exfoliation of ossicles. A small granulation was noticed at the posterior superior margin of the meatus. I confirmed the Doctor in his fears of intracranial complication, and gave as my opinion that we had before us a case of sinus thrombosis of the right sigmoid sinus and advised operative intervention. An ice bag was applied to the mastoid and calomel given. The next day the patient was seen again, and we found he had had a bad night, slightly delirious, and had a severe chill, with a temperature of 104. The mental condition was not quite as clear as on the previous evening. There were doubtful evidences of aphasia. Pulse was intermittent. The patient was immediately removed to the Columbian University Hospital and operated on at once.

At the time of commencing the operation the patient's condition was bad. A free incision was made through the soft tissues, as in the usual mastoid operation, and the mastoid well exposed. From the superior end of the incision, a second incision was carried backward almost to the occipital protuberance. The flaps were dissected up, exposing a roomy field. The mastoid was opened through an ivory-like process. Just before reaching the antrum, a nasty, offensive, syrupy, currant-colored fluid was exposed. The mastoid was cleaned up into the antrum and the exposure of the sinus was immediately resorted to. With the aid of rongeur forceps, the sinus was exposed throughout its whole length. The walls were found to be gangrenous, varying in color from a pasty white to green and black in spots. The wall was opened and the vessel found to be filled with a nasty, broken-down clot. The curette was used, and by following up the blood-clot posteriorly within the sinus wall the circulation was restored in this direction. The blood was stilled by a packing of iodoform gauze. Dr. Van Rensselaer then exposed the jugular in the neck. The vessel was found to be collapsed, and the clot therein had undergone organization, so that it was almost impossible to separate the walls of the vessel from each other or from the clot. The vessel was removed. No circulation was established from below. The wounds were closed and dressed and the patient placed in bed. The patient showed only slight shock after the operation and his general condition was about the same as previous to the operation. After recovering from the ether he was as rational as in the pre-operative period for several hours, when he lapsed into a semi-comatose state with muttering delirium. The patient died twenty-six hours after the operation, as a result of the intense sepsis. During the period following operation and before death he had two distinct chills, with a temperature ranging from 102 to 106. Autopsy was not permitted.

CASE OF INFECTIVE THROMBOSIS, No. 2.—On Nov. 25, 1899, there was admitted into my service at the Episcopal Hospital, John J. Murphy, white, aged 25, a farmer by occupation. This man had had during the previous summer an otitis media suppurativa, which ran its usual course until the middle of October, when there was developed considerable pain back of the ear over the mastoid region. This pain continued for about two weeks, when there was added to it another symptom, a swelling over the mastoid, which gradually increased until the patient presented himself at the hospital. As will be seen by the history of the patient, he evidently had a mastoid abscess of about six weeks'

* Presented in a Symposium before the Section on Laryngology and Otology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

duration when he entered the hospital. The mastoid swelling was intense and extended up to near the vertex of the skull and well down to the tip of the mastoid, showing a great, boggy, fluctuating mass. His general condition was bad, his temperature 100.8, pulse 70, respiration 18. His skin was sallow and he presented a decidedly emaciated appearance. I saw him first on November 25 at 8 p.m. He was operated on the next day at 4 p.m. This was the ordinary mastoid operation, and the whole cellular structure of the mastoid was found to be completely destroyed. At the time of the operation there was a slight inflammatory swelling in the neck just below the tip of the mastoid. As is often the case, where there is no fluctuation, this cervical cellulitis subsides after the opening of the mastoid cells and the evacuation of the pus, so it was therefore decided not to interfere with this condition. The patient continued in good condition until November 30, when the first dressing was made. The temperature that morning was 102.6, the first decided elevation of temperature since the primary operation. When the dressings were removed it was noticed that the induration in the neck had broken down and formed a large abscess cavity. A free incision was made, extending down over the neck to a point on a line with the upper border of the larynx. This was followed by the evacuation of a great amount of pus and broken-down tissue. The pus cavity extended up under the lower jaw and back under the trapezius muscle. The patient's condition continued along fairly favorable, with nearly normal temperature, varying from 98 to 99.6, until December 15. At this time there was noticed a commencing induration in the anterior portion of the temporal region. The patient was then etherized and this condition was opened up, when it was found that deep down under the temporal muscle there was a collection of pus. On pressure over this boggy mass, I noticed that the pus issued, not between the temporal fascia and the periosteum, but into the depths of the wound in the mastoid itself, showing that there was a direct connection between the pus cavity in the temporal region and the mastoid cells, or in other words, that the pus was evidently entirely within the bony walls. I therefore decided to continue the incision from the anterior portion of the temporal region directly backward to my mastoid wound, and upon opening this flap and throwing it back I found that just above and in front of the zygoma there was a carious perforation of the outer table. I then inserted a probe and found that it would extend well up through the squamosa into the parietal bone between the outer and inner table. It is quite evident that I had a decided case of osteomyelitis. I, therefore, with a rongeur cleared off the whole outer table of the squamosa and the lower half of the parietal bone until I came to healthy osseous tissue. This was followed by a curetting of the outer surface of the inner table of the squamosa and parietal bone. The patient's condition then continued fairly well, with a slight septic temperature, varying between 99 and 100 for four or five days, when the temperature again dropped to the normal and so remained, the patient apparently improving in his general condition during this period. On December 25 the temperature again showed a slight elevation, running up to 102.2. At this time he complained of pain in the occipital region and showed slight indisposition to sleep. On December 26 the temperature ran up to 104.2. At this time there was noticed a collection of pus well back in the occipital region. The abscess cavity was opened, and an incision was carried forward, connecting

with the original mastoid wound. It will be seen by these frequent small abscess formations and the osteomyelitis which developed in the squamosa and the parietal bone, that the patient was in an intensely septic condition. The patient's condition then continued fairly well, the temperature dropping back to the normal, and with improvement in his general condition again, until January 2, when another alarm was sounded by the temperature jumping up to 102.4. I watched carefully for any evidences of further infection on the surface of the head and neck, and could see no reason for suspecting pus about the wound in the neck or elsewhere in contiguity to the wound. There was practically no pus issuing from the wound and it was granulating up in excellent style. At 11:30 on January 3 the temperature ran up to 104, and at 1:30 of the next morning, January 4, it reached 105.2. This was followed by profuse perspiration. The same day at 3:30 he complained of chilly sensations and nausea, the chill lasting twenty-five minutes. The temperature ran up to 104.8. On the next day, although his temperature remained normal practically throughout the morning, I decided that the patient had evidently a septic sinus thrombosis involving the sigmoid sinus and that immediate operative interference was demanded. The operation was done in the afternoon of Jan. 5, 1900. The old wound was opened up and an opening made into the osseous structure, which was found to be very dense over the sigmoid sinus. The sinus was exposed at the knee and carried backward an inch or more and opened up well down toward the bulb. The walls of the sinus were tense and slightly discolored, and upon opening it was found to be filled with broken-down clot. I curetted out down to the bulb and obtained a return circulation from below. On curetting backward, toward the torcular, at first a well-organized clot was brought out, then a softened clot, and going back as far as I could, nearly to the torcular, I could not get a return circulation in this direction. It was deemed best not to interfere further, and after thoroughly cleansing out the wound, the patient was put to bed. On the next day the temperature did not rise above 100. The wound was irrigated daily. The second day after the operation the temperature was 99.8 in the morning and 99.6 in the evening. The third day the patient was eating, sleeping, and feeling better than at any period during the whole stage of his illness. On January 9 the temperature was 100 in the morning, 100.2 in the afternoon, and 99.8 at night. The bowels, which for the week previous had been very loose and attended with a good deal of mucus and bloody discharge, had now returned to the normal condition and had been so since the first day after the operation. On January 10 the temperature did not rise above the normal. This evening, for the first time since the operation, the patient complained of pain in the head again. This pain was more general than at any previous stage of his illness. On January 11 the patient's morning temperature was normal, the evening temperature 100.2. The patient felt, slept and ate well, and had large, well-formed movements. On January 12 the temperature was 100 throughout the day until evening, when it went up to 100.8. The patient appeared very restless and could not sleep; seemed to be growing anxious about his condition and extremely irritable. On January 13 he suffered a great deal of pain in the head; felt chilly; temperature throughout the day was 102.2. Irritability was very marked. The patient vomited a quantity of green fluid. January 14, temperature was 103.8. He suffered intense pain

in head; was extremely restless, irritable, and could hardly be kept quiet in his bed; complained of feeling badly and uncomfortable. Urine was passed involuntarily. There was no evidence of muscular paralysis or loss of sensation. Stimulants and food were refused. It was evident that the patient was developing or had developed a meningitis, and there seemed to be no apparent hope from further operative intervention. The case went from bad to worse until January 18, when he died. Vain efforts were made to obtain an autopsy, but the family absolutely refused it.

CEREBRAL ABSCESS, CASE No. 3.—On September 15, I was consulted by a gentleman 63 years of age, who had, during a visit to Atlantic City, while in bathing, developed an abscess of the right ear. This continued under treatment until September 15, when he called upon me. At that time, on examination of the ear, I found a small perforation of the membrana tympani at the posterior superior quadrant. His general condition was good and there was no tenderness or other evidences of involvement of the deeper structures of the auditory apparatus. I watched the case for several days, treating it in the usual manner, and then, as the drainage did not seem good, I enlarged the opening in the membrana tympani. During this time, and until about October 10, the case progressed favorably, with a greatly diminishing amount of purulent discharge, until about October 15, when there was absolute cessation of purulent discharge with closure of the opening in the membrana tympani. There was considerable impairment of the hearing and the patient was kept under observation and treatment in order, if possible, to bring the hearing up to normal. About the first week in November I noticed that the patient was a little more excitable than at any previous period of the treatment of his case. On about November 12 I became so impressed with his nervous state and his tendency to become excited and the alteration of his general manner that I consulted his family in regard to these facts to elucidate if they had noticed any alterations in his general demeanor. They rather assured me that he was about the same as he always had been. This continued for a period of about four or five days, when the family began to notice those things to which I had called their attention. He became morose, with a tendency to have crying spells, getting excited on slight provocation and unusually irritable to his wife and children. For about five days before this, that is, about November 7, the patient called my attention to an intense frontal headache, which had persisted now for about a week or ten days without interruption, and seemingly situated over the supraorbital notch. At this time I thought it best to confine him to the house and to bed, and on November 18 I first noticed that the patient showed some evidences of amnesic aphasia. I then told the family that I feared the patient was developing an intracranial complication, and at my suggestion, Dr. A. B. Richardson, superintendent of the Government Insane Asylum, was called into consultation. With Dr. Richardson, I went carefully over the case, and he was rather disinclined to accept my views with regard to the possible existence of a cerebral abscess. The temperature had been normal throughout. There was no alteration in the circulation nor in the respiration. There was no motor paralysis nor alteration of sensation and the reflexors were all normal. Examination of eye-ground was made by Dr. Shute, but on account of the existence of a cataract, it was impossible to learn anything from this investigation. On the 23d this aphasic

condition had increased a great deal, his irritability had become more marked, and there was elevation of temperature for the first time, the temperature registering 99.5. The pulse showed a slowing, dropping five beats from the normal with this patient. Dr. Richardson was again called in consultation on the 25th. We then went carefully over the case again, and we noticed that besides the amnesic aphasia there was also commencing evidence of word-blindness. There was still no alteration in sensation or motion, the patient locomoting with perfect ease. Dr. Richardson then became of the same opinion with me, and located the abscess in Broca's triangle. The patient was taken to Providence Hospital, and on the following day at 2 o'clock he was operated on. The headache had subsided about four or five days before the operation. I first did the preliminary mastoid operation, opening up into the mastoid cells without finding any evidence of a diseased condition therein. I then exposed the skull in the usual manner and took out a button of bone about an inch and a quarter above the external auditory canal. On exposing the dura there was distinct bulging and absence of pulsation. I then felt tolerably certain that there was pus within the cranial cavity. I first went in with a large-sized aspirating needle in the region forward and inward, where we had expected to find the pus. I then went inward and then downward and inward, and then backward. This was followed by the use of a grooved director in the direction that had been previously used, without the detection of any pus. Dr. W. P. Carr, who assisted me, was then given free rein in the cerebral cavity. He also failed to locate pus. At Dr. Foster's suggestion, the wound was enlarged backward, so that a better opening could be obtained, so as to get into the occipital lobe of the brain. Probing back in this direction also failed to evacuate pus. We all felt that sufficient exploration had been made, although we were confident that there was pus within the cerebral contents. The patient's condition remained about the same for twenty-four hours; on the second day he relapsed into a semi-comatose condition, and died on the third day. On post-mortem, a small abscess about the size of a hickory-nut was discovered on the mesial side of the uncinate convolution of the temporo-sphenoidal lobe. It is almost impossible to conceive how this abscess was missed during the probing. Of course, many reasons can be surmised as probable causes. On examination of the brain, which I have brought with me, it can be seen that the opening was made in a direct line with the abscess, and only about an inch and a half from the outer wall of the capsule of the abscess. In all probability, during one of my manipulations, the instrument in use must have entered the abscess cavity, the pus being either too thick to flow, or the softening of the contents of the abscess not being sufficiently advanced to admit of its readily passing out through the opening made.

With regard to operative intervention in septic thrombosis of the sigmoid sinus, early diagnosis and prompt intervention is the keynote to a successful result. The operation in itself is not a dangerous one, and should not be attended with much more shock and disturbance of the general system than the ordinary mastoid operation. Unfortunately, in this condition in the formative stage of infection, we have no symptoms or groups of symptoms which would lead us to suspect that a septic phlebitis is about to take place. Usually the first positive symptom manifested is that showing that the general system is infected, as is evidenced by the pyemic

rigor and fever curve. Occasionally we may have slight fever curve preceding the pyemic chill for several days, but this does not point to any particular condition, only serving to put us in the expectant state. Here it is well to bear in mind the observation of Ernest Leutert in this connection, and that is that continuous fever lasting for several days after the subsidence of the acute symptoms in acute otitis suppurativa, wherein there is free exit to the purulent discharge, but more particularly in the chronic otitis suppurativa, without acute exacerbation of symptoms or retention of pus in the middle-ear cavity, is almost an exceptional symptom of a forming sinus thrombus. In the early stages of thrombosis the local symptoms do not indicate more than a possible mastoiditis, even if they indicate that, and if thrombosis is detected, it is only done during the mastoid operation. Gerhardt's symptom is one that may be of aid to us during this stage of the affection. What is particularly desired in connection with the symptomatology of infective sinus thrombosis is careful scrutinization of all mastoid cases with regard to their symptoms, in order that in those in which there follows thrombosis, or in which it is present at the time of operation, although undetected, we may by so doing pick out a group of symptoms which would render probable a diagnosis of infective thrombosis at this early stage of its formation. During the second stage, characterized by the formation of the thrombus and its commencing disintegration, the symptoms are usually so characteristic in most cases as not to escape the detection of the skilled aurist. While it is true that the aurist would invariably diagnose a thrombus at the first rigor and chart reading, it invariably is not so in the case of the general practitioner. We must recognize the fact that the general practitioner is, and has a right thereto, treating very many cases of chronic and acute suppurative otitis, but unfortunately he does not recognize the possibility of these cases as the aurist does, nor is he prepared to recognize the import of distinctive symptoms of grave intracranial lesions. We can not too often call to the attention of the general practitioner the fact that the occurrence of a chill, a high temperature and a sweat in a patient suffering with a suppurative ear is not an evidence of malaria, but is a symptom of extreme gravity, indicating an involvement of the sigmoid sinus, and which should be given immediate operative attention. In the present day no one practicing otology hesitates at operating at once upon an exposed diseased sinus, or in exposing and opening the sinus when the symptoms indicate that an infective thrombus is forming therein. The technique is recognized as comparatively simple, and all are universally a unit, excepting with regard to the treatment of the internal jugular. One can not but accede to the fact that the line of safety lies in the ligation of the jugular. Even though a return circulation be obtained, this does not prove conclusively that the walls of the jugular are not already involved in the phlebitic inflammation, and that thus below our seat of operation and apparent safety we may still have a source of general systemic infection. That cases recover without jugular ligation does not prove that many more might have been saved had jugular ligation been resorted to in all cases. The ligation and excision of the jugular does not add much to the gravity of the case, and may add greatly to its future welfare. Whether the ligation should be resorted to previous or subsequent to the exposure of the sigmoid sinus depends largely upon the condition manifested at the time of operation.

With regard to cerebral abscess, the diagnosis is not

always an easy question, although at times, owing to its distinctive localization and non-involvement of other structures, the signs are clearly marked. Subdural abscess gives rise usually to no distinctive signs until the meninges are involved. The early and most characteristic symptoms of cerebral abscess are those of alteration of the general demeanor of the patient, the patient becoming anxious, irritable, morose, and semi-hysterical. I should look upon this symptom as an exceedingly suspicious sign in a person affected with a suppurative ear. Another symptom which I think can not be too often called to our minds is the evidence of aphasia, especially in cases of left-sided otitis in right-handed persons. As the usual seat of lesions in otitic cerebral abscess is in the temporosphenoidal lobe of the brain, and as we know that the localization of the speech center is not limited to one small area of the brain, we can readily understand how an abscess anywhere in the temporosphenoidal region is apt to involve some of these centers or some of the associate fibers, giving rise as its earliest manifestation, to some alteration in the function of speech. Unfortunately the speech center is not a simple affair, localized in a single center, but rather a complex thing, resulting from the action of many brain centers. It extends from the Rolandic region backward into the temporal region and upward as far as the angular gyrus in the occipital lobe. While we see that the presence of aphasic symptoms in a person suffering with suppurative otitis is quite a positive sign of cerebral abscess, yet it does not give us the positive seat of the lesion or its localization. The most probable seat of such an abscess is in the white matter of the under surface of the brain in the region of the uncinate or third convolution. The seat of such an abscess would be in a direct line inward, varying from an inch to an inch and a half in depth from an opening made in the skull cap one inch above the external auditory meatus.

SUPPURATIVE TYMPANO-MASTOIDITIS IN CHILDREN.*

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When you did me the honor to invite me to address this Section I thought tympano-mastoiditis in children might be an appropriate subject to open a discussion on that part of otology, which, at present, receives the greatest attention—the surgery of the tympano-mastoid.

Like others, I have found the affections of the tympano-mastoid particularly difficult to manage in children. Not only the difficulty of the subject, gentlemen, but also its paramount importance, determined me to submit some remarks for your consideration. As to the importance I need only repeat what has often been said, viz., that he who has no hereditary tendency to deafness and guards his hearing organ safe through all the diseases of childhood, is almost immune from ear trouble in after life. What causes the management of ear disease in childhood to be so difficult and irksome? This question leads one to the etiology of ear disease. In order to learn at what age cases of serious ear disease are most numerous I have tabulated the mastoid operations performed on children under 8 years at the New York Ophthalmic and Aural Institute, during the last six years. They are 39 in number. Of these 7 (18 per cent.) occurred in the first year, i. e., from birth

* Presented in a Symposium before the Section on Laryngology and Otology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

to the completion of the first year; 9 (23 per cent.) the second year; 3 (7.6 per cent.) in each of the third, fourth, and fifth years; 4 (10.2 per cent.) in the sixth year; 5 (12.8 per cent.) in the seventh year; and 5 (12.8 per cent.) in the eighth year. Of the children who had mastoid abscess in the first year, 2 were two months old; 1 four months; 2 seven months; 1 ten months, and 1 eleven months. This classification shows that the greatest percentage was in the second year; then came the first which gives the first two years of life 41 per cent., against 59 per cent. in the six subsequent years. As to the deductions suggested by these numbers, I dare say that they are not conclusive, because the material of a public clinic deals chiefly with patients that are more or less transportable. Children in the first year of their lives are not so movable as those that can walk. Yet, small as the above numbers are, they demonstrate a preponderance of this disease in the earliest childhood over following years.

The grave ear diseases, I mean those that show mastoid affections and their complications, are not only more frequent, but also more dangerous, and more difficult to treat in childhood than in adult life. What is the cause? I think we are all agreed that the cause lies in the anatomical conditions in the infantile ear and its adjacent parts, the nasopharynx. Lodged in the nasopharynx, the great originator of ear disease, is the belt of adenoid tissue in the upper part of the pharyngeal cavity which, among other parts, encroaches on the Eustachian tubes and even dips somewhat into their mouths. It would be carrying owls to Athens were I to say more about it before this Section. The peculiar conditions of the auditory organ are responsible for the easy transportation and pernicious development of infective material from the nasopharynx into the ear. The anatomy of the ear is difficult to master. It is not only most intricate in its finished state at the age of maturity, and later, but it is so undeveloped at birth, and grows so slowly that the ear surgeon should make a special study of the condition of the ear nearly every year in the first decade of his patient's life.

The shortness and comparatively large caliber of the Eustachian tube present favorable conditions for the ready admission of material from the nasopharynx into the tympanic cavity. This accounts for the frequency of tympanic disease in children, but also for the favorable condition of spontaneous liberation of serum, phlegm and pus from the middle ear back into the nasopharyngeal cavity and thence into the respiratory and digestive tracts. The easy inflation of children's tympanic cavities, even without the act of swallowing, is well known.

The particular importance of an early diagnosis and treatment of suppurative otitis media in children resulted from the anatomical conditions, viz., a resistant drumhead, easy transfer of infective material from the nasopharyngeal cavity into the tympanum, attic, and both outside and inside the skull. As there are not yet any mastoid cells, but pneumatic cancellous tissue in the base of the squama, we see the abscess rather above than back of the ear. In some cases, these abscesses, characteristic and well developed, disappear over night and the patient gets well quickly and permanently. Where have they gone? They have passed through the large infantile Eustachian tube into the throat. When we evacuate them, by operation, we must not plunge a knife boldly into them, down to the bone, as we may do in adults, but make the incision carefully, layer by layer, bearing in mind that the bones of young children

are soft and connected with one another by membranous sutures, more or less broad, all of which can be clearly seen on the skull of a 6-months' old child. The easy path which, in another case, leads the pus into the middle cranial fossa, with its fatal consequences, is just as plainly demonstrable. The masto-squamous and petro-squamous sutures as ready channels of morbid material are now generally known and appreciated. The petro-squamous sinus of children which in some cases does not obliterate very early, exceptionally remains persistent, is seen on the inside of the skull, passing through a foramen which outside is situated behind the glenoid fossa and the tympanic ring. This sinus, well described and depicted in William Macewen's inexhaustible book—in Figs. 1 and 2, opposite page 2—has of late drawn the attention of the otological world through a case, published by Dr. Cleveland, of Philadelphia.¹ Mr. Arthur Cheattle, of London, has made "une étude approfondie" on this subject, exhibiting 6 or 7 skulls where the foramina were well seen, at the unique museum of the Sixth International Otological Congress, at London, last summer. He gave a good description of that sinus, acknowledging, as the speaker does, his gratitude to Dr. Cleveland for having given him his first knowledge on this not well-known subject.

SOME OBSERVATIONS IN MASTOID OPERATIONS.*

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ATLANTA, GA.

So much has been written upon this subject that it would seem that little remained to be said; yet the gravity of mastoid disease is such as to promptly arouse our attention and apprehension, and lead us in each instance to vigorous treatment, and therefore every observation should be of interest.

The disease, in certain seasons of the year, often prevails in almost epidemic form, and again occurs at such wide intervals as to attract notice by its infrequency, but I dare say no case ever presents itself to any one of us without causing us the deepest concern for the welfare of our patient. The anxious, distressful countenance of a typical mastoid subject at once elicits our earnest consideration and demands our most thoughtful care and treatment. The possible unfavorable result in each case brings before us vividly the fact that we have a grave disease to deal with, and that we must act promptly and decisively.

During the last year I have treated twelve or fourteen cases of mastoid disease, varying in age from 8 to 50 years, and the operations I propose to speak of were made while attending these and previous cases, running back through a series of years. I do not intend to recite details of each individual case with accompanying symptoms, but will say they were just such as we all see—some very severe, some less so—but all requiring operative measures more or less radical; most of them necessitating the removal of the outer wall of the mastoid bone and the thorough curetting of the cavity, and all fourteen making good and complete recoveries.

Reviewing these cases, and studying them and the disease as it occurs in my section of the country—Middle Atlantic States—has led me to the following conclusions:

In the first place, I would call attention to the infre-

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1. Archives of Otology, xxiv, p. 236, 1895.

quency of mastoid disease as compared with the total number of cases of acute and chronic middle-ear suppurations. It has occurred to me that we have more than our proportion of middle-ear suppurations, running their course and getting well, or going over into the chronic state and becoming often a fixture with the individual. But even with a large number of these latter cases the comparative rarity of mastoidal complications has been conspicuous and a matter of observation. On the contrary, in other sections of our country I learn from medical friends that the disease is very frequent, occurring much oftener in an equal number of chronic and acute middle-ear suppurative inflammations. This has been particularly the case during the past winter in many of the large eastern cities, where, as a sequel to la grippe, mastoidal complications have prevailed to an alarming degree. Doubtless, the mildness of the climate will furnish the explanation of the small number of cases, as compared with their frequency in other sections having a harsher climate. The observation to which I would like to call your attention is that while mastoiditis is more frequent in some sections than others, it is yet an uncommon complication everywhere when the vast number of the acute and chronic suppurations of the middle ear are taken into consideration. One would naturally expect to find a large percentage of such cases, after viewing the intimate relationship of the tympanic and mastoidal cavities, remembering the violence of the inflammation in the former cavity.

The mild type of the mastoid inflammation in the cases treated during the recent winter also deserves attention. In each the usual symptoms were present, viz., fever in most cases, but absent in some; the characteristic swelling, not always great; pain, and the ever-present distressed countenance, etc. Owing, doubtless, to climatic influence, there has been marked freedom from cerebral and other dangerous complications. This has not been the history of the disease, as recently occurring in more northerly sections. In a great majority of the cases the damage to the hearing has been slight, the patient regaining much if not all the hearing lost as the result of the mastoid complication. This is a matter of surprise when one recalls to mind the changes and disturbances which take place from the inflammation and the operative procedures within the mastoid cavity.

Age has played no rôle in the series of cases more recently in my hands, the disease occurring about equally often in children and adults. I know no reason why the negro should be exempt from this affection, but I recall but one case of mastoid inflammation in the negro. I have had abundant opportunity to study the many diseases of the black race, and after a large experience can state that the negro is much less susceptible to middle-ear diseases than the white race; and being thus less susceptible it follows that mastoidal complications should be very rare with him.

I have observed sometimes very serious mastoid disease without any such marked symptoms as swelling, pain, etc., and but little abnormal temperature. Recurrent slight acute attacks would finally lead to the decision that operative measures were needful, and the operation would develop the fact that very serious inflammation existed in the cavity. In a case recently operated, I found the inflammation and the destructive processes in the cavity out of all proportion to the external and constitutional symptoms. Cases also now and then present themselves where the mastoid inflam-

mation exists apparently without middle-ear involvement. There must have been an acute otitis media, with an extension of the inflammation into the mastoid cells, but no suppuration of the middle ear had taken place. Such a case was operated upon, in which the patient had never complained of pain, impaired hearing, suppuration or other middle-ear symptoms, yet evidences of mastoid inflammation were so pronounced that a radical operation was deemed necessary. It is an error to suppose that every case of mastoiditis is preceded by suppurative otitis media, as experience teaches us the contrary.

Again, there can be no doubt of the tendency to spontaneous and complete recovery in many cases of the disease of even severe types, for in some of these reported an operation was refused and yet a perfect cure was attained. A good result is not infrequently reached only by resorting to the Wilde incision. Such recoveries occur often enough to cause one to pause and consider whether the severe and radical operation for mastoid disease is not frequently made when a little delay might have led us to much simpler and just as satisfactory treatment. I would not like to be considered as advocating anything but prompt and thorough surgical treatment in well-marked typical acute or sub-acute mastoiditis, but there are cases where intelligent delay and milder measures yield just as good results as are invariably produced in the more violent cases by the most radical surgical treatment. The fact I wish to lay stress upon here is that not in every seemingly severe case of mastoid disease is it necessary to rush to radical operative treatment, but that not an inconsiderable number make good recoveries under milder measures. One of the chief advantages of the surgical treatment is the rapid and complete cessation of the middle-ear inflammation, discharges, etc., in a large majority of cases.

My experience has led me to the conclusion that such radical measures as the Stacke operation are seldom required, the disease yielding readily and satisfactorily to the less severe operative procedures; indeed, my records do not show in a single instance that it was needful to resort to the severer operations.

To recapitulate, my conclusions, based upon a large number of mastoid operations, are:

1. Infrequency of mastoid disease as compared with the large number of cases of suppurative otitis media.
2. Mild type of the disease, freedom from cerebral and other dangerous complications.
3. Comparative exemption of the negro race.
4. Presence of serious mastoid disease without marked outward symptoms, fever, etc.
5. Presence of mastoid disease without apparent middle-ear involvement.
6. Not every case requires radical operation.

[The discussion will appear with other papers of the Symposium, to be printed in succeeding issues of THE JOURNAL.—Ed.]

MALARIA AND MOSQUITOES.—Dr. Dionisi, of Rome, has involuntarily contributed another example of the infallibility of the transmission of malarial infection by mosquitoes. A number of which he was cultivating for purposes of research escaped from their cage and stung him. After a few days of incubation he was prostrated with a violent attack of typical estivo-autumnal fever in the middle of January.

DIFFERENTIAL DIAGNOSIS BETWEEN CHICKENPOX AND SMALLPOX.

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CHICAGO.

In conversation with an eminent dermatologist recently, he made the remark that he had never seen chickenpox in an adult. I thought it a remarkable statement in so experienced a man, inasmuch as I had seen a large number of such cases while connected with the Department of Health of Chicago. I subsequently noticed a statement published in the *Cleveland Journal of Medicine*, by Dr. William Thomas Corlett, to the effect that he had never seen a case of chickenpox in an individual after puberty. A little later THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION editorially said that chickenpox in an adult was so rare an occurrence that "it might be a safe rule in some respects to call every case in an adult smallpox that one feels tempted to diagnose as varicella."

An adult with a supposed case of chickenpox either

saw the case later and also pronounced it varicella. The following is the history:

Wm. S., 22 years old, was vaccinated with a typical result seven years previous. There were no prodromal symptoms experienced, no chill, no headache, backache, nausea nor fever. The eruption came on rapidly, but irregularly, first on the body, then the face, hands and limbs. It appeared as described, as "small blisters."

I saw him on the fourth day of the eruption and found large vesicles, large pustules, some papules and scabs from broken vesicles. This was at the height of the disease. I was unable to procure a photograph that day, but the following day Dr. Drake of the Department photographed the man. The lesions show well in the photograph, but had dried down some and are not so well marked as they were the day before. The man felt well and but for the appearance of his face would have preferred to continue about his work. Eight days after this photograph was taken he was again "tending bar."

As to the diagnosis, there was a history of exposure to a case of chickenpox in a child. In the same room with



Fig. 1.—Varicella. Aged 22 years. Fifth day of the eruption. Macules, papules, vesicles, pustules and scabs from broken and dried vesicles.

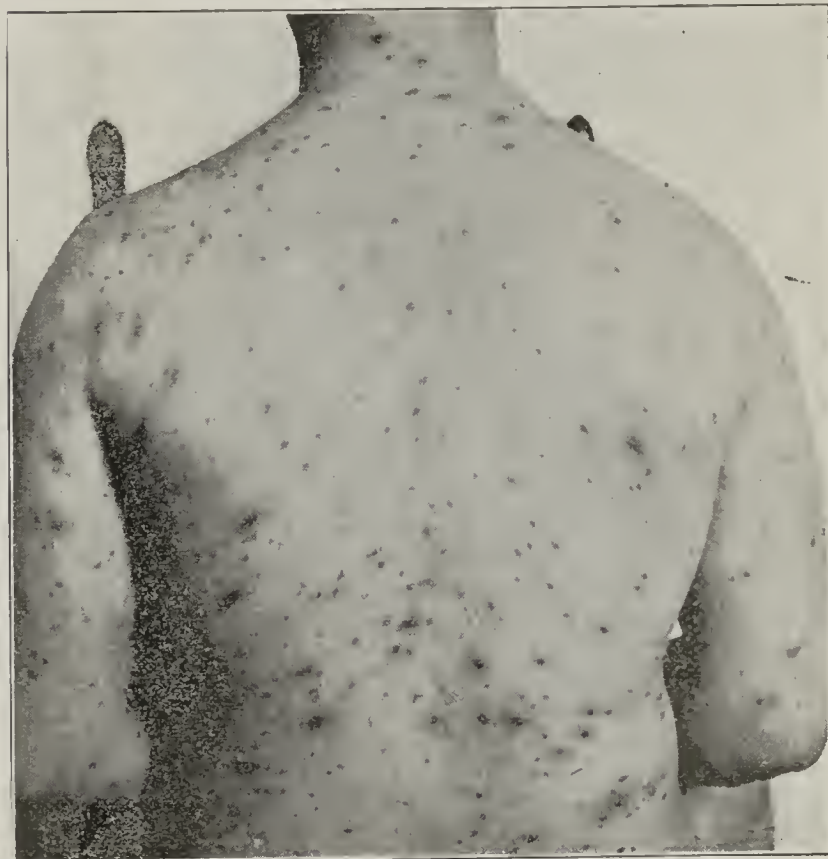


Fig. 2.—Varicella. Aged 22 years. Fifth day of the eruption. Macules, papules, vesicles, pustules and scabs from broken vesicles.

has or has not chickenpox. If he has it, he should not be treated for something else. Chickenpox, like other eruptive diseases, as measles or smallpox, delights to visit its wrath upon children, but if by some chance a child escapes chickenpox, as often happens, there is no known physiological law that will with certainty protect this child when grown to manhood, from contracting chickenpox if exposed to that disease.

I will present a case with some notes on the diagnosis. The accompanying illustrations, Figs. 1 and 2, are from photographs of a case of chickenpox in a man 22 years old. The photographs were taken on the fifth day of the disease, which was also the fifth day of the eruption. Dr. W. S. Orth, of this city, was called to see the man and pronounced the disease chickenpox. Dr. L. E. Smith saw the case with Dr. Orth, and agreed with him as to the diagnosis. I was then requested to see the patient and concurred in the opinion that it was chickenpox. Dr. John R. Neely, of the Department of Health,

the patient was his 11-year old sister with a typical case of chickenpox represented in Fig. 3. There were no prodromal symptoms. Eruptions were vesicular and rapidly became large vesicles, quickly turning to pustules or breaking and forming dried scabs. None were deeply seated except those showing secondary infection. The vesicles and pustules were thinly covered and easily broken, and many of them were broken. The pustules on the fourth day were as mature and as large as they would be in variola on the ninth or tenth day of the eruption. There was no uniformity of development—macules, papules, vesicles, pustules, and dried scabs were abundant on the fourth day. This variety of lesions in so marked a degree could not be found in smallpox. In smallpox a man would have some prodromal symptoms with so profuse an eruption.

There were visitors and several unvaccinated children at this house. An unvaccinated child, sister of the patient, came home while the patient was scaling. Nothing was done to destroy contagion. The man went

to his work behind the bar at a time when, if it had been smallpox, he would have conveyed the disease to others; yet no one took the disease, except one child, and she had chickenpox.

I have seen many examples of perfectly typical chickenpox in adults. The early part of 1899 Prof. Henry M. Lyman reported a case of chickenpox in a man 22 years old. I had an opportunity to see the case with Dr. Lyman. It was typical in every way, except the presence of headache for two days preceding the eruption.

It has frequently happened during mild epidemics of variola, such as is now prevalent over various parts of the country, that a mistaken diagnosis of varicella has been made, and disastrous results have followed, and I do not want to encourage any one in the belief that varicella is always easily distinguished from mild variola, but a correct diagnosis ought always to be made, for it is a serious matter to send a non-variola patient to the smallpox hospital.

There are cases of variola and varicella with clinical symptoms of both diseases present which will puzzle

in the size of the lesions, except in the exceptional ones, which have received extraneous infection.

The occasional occurrence of chickenpox in adults has been a source of confusion to medical men who are not in constant touch with variola and varicella and have not become perfectly familiar with the clinical aspect of the two diseases in all their forms.

A diagnosis is easily made in a typical case of either of these diseases, but in the mild form of smallpox now prevalent throughout the country, a perfectly typical case is not often seen.

These irregular forms of variola present numerous deceptive aspects. In a large proportion of the cases the eruption will appear after two days of prodromal symptoms instead of on the evening of the third or the morning of the fourth day, as is usual. In some instances there will be violent prodromal symptoms; chill, high fever, headache, backache and vomiting, followed by so insignificantly few eruptions as to be disappointing and misleading to a physician who is inexperienced in the diagnosis of smallpox.



Fig. 3.—Varicella. Aged 11 years. Second day of the eruption. On right elbow three lesions caused by scratching owing to presence of urticaria.



Fig. 4. Variola. Sixth day of eruption.

the most experienced diagnostician. It must not be lost sight of that varicella does quite frequently attack adults.

In contrast to the above case, observe the character of the eruption in the case of smallpox represented in Figs. 4 and 5. This shows smallpox at the sixth day of the eruption and ninth day of the disease. There is a marked difference in the appearance of the lesions. In Figs. 4 and 5 there is no sign of the vesicles breaking down and drying into scabs, though the lesions are a day older than those in the case of chickenpox, represented in Figs. 1 and 2.

The vesicles now turning pustular are covered with the entire skin, making a protection to the vesicle so strong that it is not easily broken. These lesions are still growing in size and will continue to enlarge for four days more. The lesions in Figs. 1 and 2, five days old, are smaller than they were the day before the photographs were taken, and each day will see a diminution

More often the prodromal symptoms are insignificant as well as the eruption. There may be an absence of headache, or slight headache with no backache. Nausea has been very frequently present in these mild forms of the disease. These symptoms are often so mild as not to stop the subject from his work. He always feels better as soon as the eruption appears, no matter if the disease is so mild that only one or two papules appear, and if he has stopped work for a couple of days because of feeling a little sick, he will go to his work in most instances when this eruption occurs, if he is not stopped. I have found men with this form of smallpox, in the pustular stage of the disease, working in printing houses, packing houses, and factories. They felt no inconvenience and were not aware of the nature and danger of the disease with which they were afflicted.

In the mild form irregularity in development is frequently found. The vesicles fail to fill completely, will become pustular as early as the fourth or fifth day of the eruption, their contents are found to be hardened,

become dry and horny and scale off before the tenth day. Some scale earlier than this. In the mild form modified by an old vaccination we frequently find a condition which is generally recognized to be a characteristic of chickenpox, but not present in smallpox, viz., as many as three stages of development of the lesions side by side. A few papules, numerous vesicles and some pustules and even scabs are found at the same time. The scabs would be the result of tearing the vesicles by scratching. These cases run their course and the lesions dry up and scale off in less than ten days.

In a few of these cases the pustules seem to involve the deeper layer of the skin so slightly that some have thought the cutis vera is not a part of the covering of the pustule. I believe the smallpox pustule always involves the cutis vera. I think this fact is the most valuable distinguishing feature about the smallpox lesion for diagnostic purposes.

The papule seems to be pushed up from below the skin, bringing in front of it as a covering, all the layers of the integument. Hence the tenacity of the covering

It must not be forgotten that sometimes there are slight prodromal symptoms in varicella, and that in cases of mild smallpox sometimes the prodromal symptoms are very slight, so that we are compelled to make the diagnosis on the character of the eruption as presented to the eye. The diagnosis can be made, for there is a difference in the appearance to the eye, in the clinical course and development of the lesion.

In Chicago we have had an excellent opportunity to see and study mild smallpox as it has come to us during the past eighteen months from sixteen different states under the various names of "giant chickenpox," "Cuban itch," etc. Dixon, Ill., contributed six cases of smallpox to Chicago, though the disease in that city was generally known by another name. We placed all these case in the Isolation Hospital, where they ran a typical course of mild smallpox in every fact and detail. I visited three of the neighboring states where this mild type of smallpox was under discussion and found that in every instance the disease was smallpox.

While as a rule the attack is mild in this outbreak, it is not always so. We have had the confluent and the

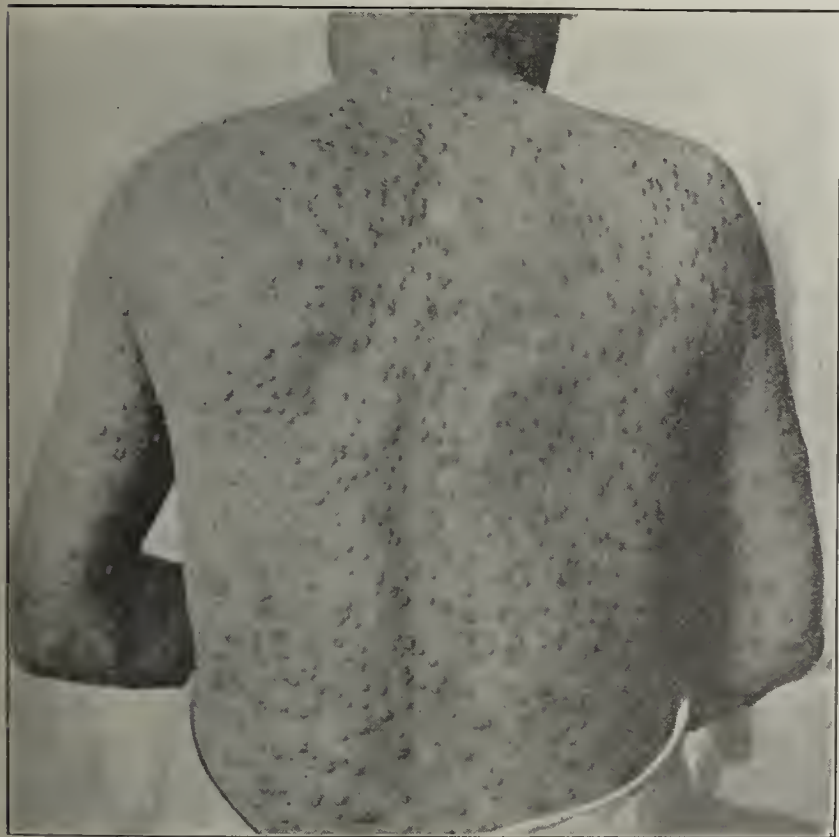


Fig. 5.—Variola. Sixth day of eruption.



Fig. 6.—Variola. Tenth day of eruption.

of the smallpox vesicle or pustule. It is not easily broken and as a rule is not ruptured till the eleventh day of its growth.

Observe in Fig. 6 the deep-rooted pustules, ten days old, with thick investment, thick and strong enough to resist decay and external violence for ten days. The pustules of chickenpox, no matter how robust, will not resist decay and accidental pressure more than four or five days. Chickenpox lesions have for a covering only the outer layer of the skin. This covering is fragile, easily broken and is broken the first, second, third or fourth day after the appearance of the vesicle.

In the adult negro chickenpox lesions on the wrists and hands have such a thick covering that they resist destructive influences for fully five days, and if there were no typical varicella lesions over the body the diagnosis would be extremely difficult. The external layer of skin in an adult negro is thick and the eruption of varicella here looks and feels like the papule of variola, but the eruption over the body will aid in determining the nature of the disease.

hemorrhagic form of the disease in our hospital.

A patient from Minnesota, with a mild case, diagnosed by two physicians as chickenpox, was permitted to mingle with others and visit her home in Chicago. Two of her sisters, a brother and her father, none of whom had been vaccinated, contracted the disease from her. The father and two sisters had a very mild form of the disease, but the brother had the disease in the confluent form, which resulted in his death in about two weeks. Here we had four people taken sick at the same time after an exposure to a supposed case of chickenpox, three of them having the disease in as mild a form as the sister who was supposed to have chickenpox, while the fourth had the disease in one of its worst forms.

In making a diagnosis of variola, remember that there will be some prodromal symptoms in the mildest cases if you are successful in getting the truth out of the patient, that when the eruption appears the patient will always feel better unless there is present some intercurrent disease, and that the fever will subside as the eruption

appears. Look for the early appearance of the eruption on the vascular parts, on the face, in the throat, on the wrists and hands, on the foreskin and glans penis. If you find a papule on the ear, it will help in the diagnosis. Do not depend too much on finding umbilication of the vesicles. You will be disappointed in the mild cases, as it is often absent.

Of all the cases of smallpox sent to the Isolation Hospital in the last eighteen months, but sixteen had ever been vaccinated and these had either doubtful or very old scars.

MISSTATEMENTS ON ANTIVIVISECTION.

CORRESPONDENCE WITH AMERICAN HUMANE ASSOCIATION.

W. W. KEEN, M.D., LL.D., F.R.C.S. (HON.)

Late President of the American Medical Association; Professor of Surgery, Jefferson Medical College.

PHILADELPHIA.

*Letter from President of American Humane Association.**

TOLEDO, OHIO, Oct. 4, 1900.

PROF. WILLIAM W. KEEN, late President of the AMERICAN MEDICAL ASSOCIATION, Jefferson Medical College, Philadelphia.

Dear Sir:—My attention has just been called to a passage in the published "Report of the Hearings" before the Senate committee, held at Washington last February, on the bill for regulation of vivisection. In this volume the following conversation between Senator Gallinger and yourself is recorded:

SENATOR GALLINGER—What knowledge have you of the advances made by vivisectionists that have led them to progress from the brute creation to the human creation in making these so-called vivisection experiments?

DR. KEEN—I presume that you refer to a pamphlet issued by the American Humane Society. I have only to say in reference to it that there were a number of experiments which I would utterly condemn. Of the experiments narrated in that pamphlet, I have looked up every one that I could. Only two are alleged to have been done in America. Many of them are so vague and indefinite that I could not look them up, but as to those that I could, some are garbled and inaccurate; not all of them, observe.

SENATOR GALLINGER—Some of them?

DR. KEEN—Some of them.

A statement of this character, based upon such authority, it is impossible to ignore. Proceeding from one less eminent than yourself in that profession which you represent and adorn it might pass without notice, but coming from you, sir, such a charge must be investigated and probed to the fullest extent. Its importance is evident, and in testing its accuracy you will give me, I trust every assistance within your power.

First: Regarding the cases of experimentation upon human beings recorded in our pamphlet, "Human Vivisection," you informed the Senate committee that "*Many of them are so vague and indefinite that I could not look them up.*" We challenge the accuracy of that statement, and ask for proof. Of the various series of experiments upon human beings, made for the most part upon women and children in hospitals and infirmaries, the authorities given in this pamphlet are as follows:

1. Bulletin of the Johns Hopkins Hospital, July, 1897.
2. Boston Med. and Surg. Jour., Aug. 6, and 13, 1896; Phila. Polyclinic, Sept. 5, 1896.
3. N. Y. Med. Record, Sept. 10, 1892.
4. British Med. Jour., July 3, 1897; New England Med. Mo., March, 1898.
5. Medical Press, Dec. 5, 1888; British Med. Jour., Aug. 29, 1891; London Times, June 27, 1891; and other journals.
6. Medical Brief, June, 1899.
7. Ringer's Therapeutics, pp. 585, 588, 590, 591, 498, 503; The Lancet, London, Nov. 3, 1893.
8. Newcastle Daily Chronicle, Sept. 21, 1888.
9. Med. Press and Cir., March 29, 1899; The Lancet, London, May 6, 1899, p. 1261.
10. Allg. Wiener med. Zeitung, Nos. 50 and 51.
11. Deutsche med. Woch., Nos. 46-48, 1894.
12. Ibid., Feb. 19, 1891.
13. Lecture before Medical Society of Stockholm, Sweden, May 12, 1891.
14. British Med. Jour., Oct. 15, 1881; Medical Reprints for May 16, 1893; Nineteenth Century, December, 1895.

For one series of experiments in the above list, those made by Dr. Jansen upon children of the "Foundlings' Home"—with the "kind permission" of the head physician, Professor Medin—because, as he said, "calves were so expensive," it appears that

the only authority given was a reference to his lecture delivered before a Swedish medical society upon a certain date. Although, so far as known, the facts there stated have never been denied, yet the reference may, perhaps, be called indefinite. But *one* case is not "*many*." To what other of the references above given did you refer when you informed the Senate committee that "*Many of them are so vague and indefinite that I could not look them up?*" Had you stated that your library—ample as it is—did not contain, and could not be expected to contain, all of the foreign authorities to which reference was made there would have been nothing to criticize. I must assume, sir, that you have not put forth an aspersion of another's reliability merely to have acknowledgement of the inadequacy of your sources of reference; that the proofs of your statement, covering "*many*" cases, are available, and, in the interest of accuracy, I ask you to produce them.

Second: There is yet another point to which I ask your attention. You made the statement before the Senate committee that in regard to our published account of cases of human vivisection, "*many of them are so vague and indefinite that I could not look them up; but, as to those that I could, some are garbled and inaccurate; not all of them, observe.*"

This, sir, is a most serious charge. You distinctly declared that of the cases personally investigated by yourself, as quoted in the pamphlet on "Human Vivisection," some are "garbled and inaccurate." We deny the charge, and again challenge production of evidence upon which it is made.

A "garbled" quotation is one which, by reason of omission and perversions, is essentially unfair. Sometimes it is a statement from which parts are omitted or transposed for the purpose of conveying a false impression. To omit quotation of parts not directly bearing upon the question for the sake of brevity—this is not "garbling," for all quotations would then be impossible. We assert that in quoting accounts of the cases of human vivisection no omissions of essential facts have been made sufficient to impair the accuracy or fairness of the quotation. Let us put the matter to the test. Point out, if you can, the "some cases" which you found "garbled and inaccurate," and in proof of the charge quote the omitted sentences or words which, had they been inserted, would cause you and the general public to justify and approve the experiments on human beings which we have so severely condemned.

Third: You stated, sir, before the Senate committee that only two experiments upon human beings "are alleged to have been done in America." I question, sir, whether that remark is quite in accord with the highest ideals of truth; it is the language of doubt; it seems to signify and imply that even you are aware of no other experiments upon human beings than two cases which are thus "alleged." I am very confident, sir, that you will not venture formally to assert—what you have seemed to imply—that you know of but two experiments upon human beings made in this country and recorded in the medical literature of the United States. There is indeed need of further enlightenment, if the medical profession of this country, so worthily represented by yourself, is ignorant of what has been done by men without pity and without conscience.

Trusting to have response from you at an early date, I am,

Yours most truly, JAMES M. BROWN, President.

DR. KEEN'S REPLY.

1729 Chestnut Street.

PHILADELPHIA, PA., Jan. 21, 1901.

JAMES M. BROWN, Esq., President American Humane Association, Toledo, Ohio.

Dear Sir:—Your letter of October 4 reached me promptly, but as I then notified you would be the case, very pressing engagements, absence, etc., prevented an earlier reply. Now that I have a little leisure, I can answer your letter and furnish you in detail the proofs for which you ask.

There are two pamphlets, both entitled "Human Vivisection." First, one of thirty pages, "printed for the American Humane Association, 1899;" the other of seven pages, "published by the Humane Society, Washington, D. C.," without date, but from its contents published a little later, as it is chiefly a synopsis of the same instances reported more fully in the

* Printed by permission.

larger pamphlet. Hereafter when I speak of "the pamphlet" I mean the larger one, unless I specifically mention the smaller one.

This larger pamphlet consists of two parts: first, (pp. 3-12) a reprint of a portion of "Senate Document No. 78" and the rest of it of various quotations, translations and comments. No name is attached to either part to indicate who is responsible for the accuracy of the references, the translations or the quotations. As the whole is preceded by an open letter signed by the president and secretary of the American Humane Association, and as you refer to the pamphlet as "ours," I presume the association holds itself responsible for such accuracy, especially as you as its new president challenge me for proof.

The pamphlet purports to furnish a reprint of a portion of "Senate Document No. 78," and refers to this document in a way that would lead uninformed readers to suppose that this is a document expressing the sentiments of the United States Senate. It is, therefore, important to call your attention to the fact that Senate Document No. 78 is simply a collection of statements and papers by various persons, printed by order of the Senate, but in no sense expressing the opinions or convictions of that body. The last paper in this document is one on "Human Vivisection," by "A. Tracy."

In two respects "A. Tracy" has a right to complain that the reprint is inaccurate: First, it omits to print the name of the author "A. Tracy." Surely he—or she(?)—should receive whatever credit there is attaching to his work. Secondly, on page 30, line 8, of Senate Document No. 78, I read "A. Tracy's comment. ["This patient, therefore, was scientifically murdered.]" This statement the reprint very wisely omits—but there are no indications of the omission. Of this, more hereafter.

Your letter challenges the accuracy of my statements in three particulars: 1. I stated that many of the references in the pamphlet are "vague and indefinite." 2. I said that some of the accounts of the experiments are "garbled and inaccurate." 3. I stated that of the experiments narrated in the pamphlet only two were alleged to have been performed in America.

You will pardon me if I indignantly resent your imputation of untruthfulness in regard to this last statement. You entirely misinterpret my statement, which had no reference to my knowledge or ignorance of any other American experiments. I said that the pamphlet only contained two instances of such experiments which were alleged to have been done in America. These are recorded on pages 4 and 5 of the pamphlet. All the rest were done in Europe, South America, and Hawaii, years before it came into our possession. If you still question the accuracy of my statement and believe that there is a third instance of experiments done in America and described in the pamphlet, point it out by page and paragraph.

Turning to the other two really important matters referred to in your letter, let me again state clearly the question at issue. It is not whether the experiments meet with my approval, but solely whether the reports of them in the pamphlet issued by the American Humane Association are reliable and accurate both as to their sources and substance.

1. MANY OF THE REFERENCES ARE VAGUE AND INDEFINITE.

The references are so vague and indefinite in many cases that the statements and quotations made can not be verified by consulting the originals. The preface of your president and secretary states that "in each case the authority is given," and what sort of "authority" do you depend upon? Newspaper medicine and surgery are notoriously inaccurate. I have personally had so much experience and observation of this that I am always certain that at least one-half or more of the statements in newspapers in reference to medical matters are inaccurate, not purposely, but only because the writers are not medical men. Yet you depend for the accuracy of your statements upon newspapers as follows (I follow the inaccurate spelling of foreign names in your pamphlet):

1. The Vienna correspondent of the London Morning Leader, Jan. 26, 1899 (p. 3), of whom more hereafter.
2. The Deutsche Volksblatt, Jan. 25, 1899, (p. 3.)
3. The Washington correspondent of the Boston Transcript Sept. 24, 1897 (p. 9), of whom more hereafter.

4. The N. Y. Independent, Dec. 12, 1895 (p. 11).
5. The London Times, June 27, 1891 (p. 16).
6. The Tagliche Rundschau of Berlin (p. 17); no year, month or day being given.
7. The Vossische Zeitung of Berlin, no year, month or day being given (p. 18).
8. The Vorwartz, no year, month or day being given (p. 18).
9. The Danziger Zeitung, July 23, 1891 (p. 18).
10. The Schlesische Volkszeitung, July 24, 1891 (p. 18).
11. The Hamburger Nachrichten, July, 1891, no day stated (p. 19).
12. A correspondent of the Newcastle (England?) daily Chronicle, Sept. 21, 1888 (p. 22).
13. Dr. R. E. Dudgeon, in the Abolitionist, April 15, 1899 (p. 24).
14. A letter by Dr. Edward Berdoe to the London Chronicle, without year, month, or day (p. 29).

Few of these fourteen newspaper references can be consulted in this country; five of them (Nos. 6, 7, 8, 11, and 14) are impossible of consultation for want of any date whatever.

In no case would I be willing to admit a newspaper paragraph, a non-professional and usually unsigned statement—even if correctly quoted—as a sufficient authority for a grave charge against an individual or the profession.

Look for a moment what stuff Senator Gallinger stated at the "Hearing" he had himself caused to be printed. It is published on page 31 of the "Hearing" and on page 3 of the pamphlet. It consists of cable dispatches printed in some newspaper—Senator Gallinger did not even remember its name. The author of the dispatch from London is utterly unknown. The dispatch states that "the Vienna correspondent of the [London] Morning Leader says" so and so. Who and how reliable is the Vienna correspondent? He says that "the physicians in the free hospitals of Vienna" do so and so. Who are the physicians? In what hospitals were these deeds of darkness done?

And upon such evidence it is seriously proposed to indict the medical profession! Whether these dispatches are "garbled and inaccurate" in their alleged facts who can find out?

If a lawyer tried to convict a man of petty larceny on such testimony, he would be laughed out of court. An yet a senator of the United States and the American Humane Association actually adduce such statements as evidences of the gravest charges and spread them broadcast!

I now add six other "vague and indefinite" references not to newspapers.

15. On page 13 there is a quotation from Tertullian. The reference in the foot-note is "Tertullian, De Anima, Vol. ii. pp. 430, 433, Tran., by Holmes." I have compared the quotation with Clark's Edinburgh edition of the Translation of Tertullian by Holmes, the date of the edition being 1870. No such quotation exists on pages 430-433. Possibly it may be that the quotation is from another edition. No edition is named in the pamphlet; another instance of a "vague and indefinite" reference.

16. On page 17 a formal accusation is quoted as made by a Dr. Eugen Leidig against certain surgeons. No reference whatever to any book or journal is given by which the accuracy of the quotation can be tested. Is not this again "vague and indefinite?"

17. On page 24 is a reference to a paper by "Professor E. Finger, of Vienna (*Allg. Wiener Med. Zeitung*, Nos. 50 and 51." No year is given, a somewhat essential part of the reference, as there are over forty volumes of this journal, each with the weekly numbers 50 and 51. No such paper by Finger is published in that journal, at least from 1890 to the present time. The reference is quoted from a paper by Dr. R. E. Dudgeon in the *Abolitionist*—an English journal—of April 15, 1899. I have been unable to consult this journal. If Dudgeon gave the year, then the Humane Association pamphlet has misquoted him. If he did not, then both the Association's pamphlet and he have been "vague and indefinite."

18. On page 25 again is a reference to a statement in a "lecture before the Medical Society of Stockholm," by Dr. Jansen, of the Charity Hospital, reporting certain experiments. No reference whatever is given even to a newspaper, much less to any medical journal. As the statement is in quotation marks it purports to be the exact words used and ought to have had some source to which a reference was possible, especially as the preface of the pamphlet says: "In each

case the authority is given." I am glad to see that in your letter you recognize this as one in which the reference is really inadequate. I notice, however, that even in your letter you do not supply this missing reference. You say the facts asserted in the Jansen paragraph have never been denied. Of course not. The first requisite is to know whether they are correctly quoted.

Turning now from the larger pamphlet to the smaller one, which was spread broadcast by house to house distribution in Washington at the time when the hearing on this matter took place last winter, I find repeated in this a number of the same vague and indefinite references and garbled and inaccurate quotations already or to be described, to which are to be added the following:

19. On page 3, an extract from a report referring to experiments upon insane patients is printed in quotation marks. The only reference is to a "published report" in 1890 of the "Medical Staff of the Public Insane Asylum in Voralberg, Austria." The librarian of the Surgeon General's office informs me that there are two small insane asylums in the Voralberg, namely, at Hall and Valduna. Some reports of the former are in the library and in them no account of the experiments referred to can be found. No reply has been received to a letter addressed to this asylum as named in the pamphlet and written over a year ago.¹

20. On the same page is an account of some experiments on bacteria from boils, and the reference is to the "*Deutsches Volksblatt*;" no day, no month, no number, no page, nor even the year is given. If this is not "vague and indefinite," what is?

21. On page 24 there is an account of Kroenig's experiments, to which I shall recur later. No reference whatever is given to the source from which the account is taken.

2. SOME OF THE STATEMENTS ARE GARBLED AND INACCURATE.

To be vague and indefinite in charges affecting the morals and the reputation not only of individuals, but, in fact, of a whole profession is bad enough, but to make statements that are "garbled and inaccurate" is, as your letter recognizes, a much more serious matter. Let me consider the instances in detail.

1. "Vivisection Experiments Upon the Insane," pages 4 and 5: In the following quotation, the words of the original, which I enclose in brackets, are omitted. "To these patients the thyroid tablets [each pill representing five grains of the fresh sheep's gland] were administered," etc. This omission is of moment, because any one familiar with the administration of thyroid extract knows that the doses used by Dr. Berkley are frequently given to human patients, including the insane, without producing symptoms dangerous to life, but on the contrary with benefit. I have myself given such tablets to patients with goiter for weeks together in larger doses than Dr. Berkley used.

In the following paragraph the quotation is garbled by omitting the words which I enclose in brackets: "Two patients became frenzied and of these one died before the excitement had subsided [the immediate cause of the exits being an acute disseminated tuberculosis]." And again in the next paragraph giving a report of the same case, the pamphlet quotes: "The thyroid extract was now discontinued, but the excitement kept up . . . for seven weeks, at the end of which time she died." One would think this was the end of the sentence and that she died from the effects of the thyroid tablets. Not at all. The original continues as follows: She died "with the clinical evidences of acute miliary tuberculosis"—galloping consumption. Does this not come within the definition of garbling given in your letter? "A 'garbled' quotation is one which, by reason of omission and perversions, is essentially unfair." To say that this patient, who actually died of galloping consumption, died from the effects of the thyroid extract, which had not been given for seven weeks before death, is as absurd as it would be to say she had died from the effects of moderate doses of laudanum given seven weeks before. Yet "A. Tracy's" comment on this case is: "[This

patient was, therefore, scientifically murdered]." Your Association mutilates its reprints by wisely omitting this piece of absurdity, though the omission is not indicated. Moreover, the pamphlet states: "there is no intimation that the administration of the poisonous substance was given for any beneficial purpose to the patients, for he took care to select patients that were probably incurable." On the contrary, Berkley's original paper expressly states that instead of being incurable, one (Case 1) was cured and another (No. 3) was improved. Besides this, though the pamphlet is dated 1899, it omits all reference to Dr. Berkley's letter to the *British Medical Journal* for October 30, 1897, in reply to your friend Dr. Berdoe, which shows that, as a result of the administration of the thyroid tablets to these eight patients—a well recognized remedy for insanity,² not one died from the effects of the drug but that, on the contrary, two of those alleged "incurables" were cured—25 per cent.

In his admirable letter to *Life*—Dec. 6, 1900—Dr. Berkley says: "The purpose for which the article was written was to show to the medical profession that a certain medicament in common use was not free from objection, and should not be given in unsuitable cases. In proper ones the results are among the most resplendent attained by modern medicine, converting the drooling dwarf into an intelligent, well-grown man or woman; or in other instances, as in myxedematous insanity, affording the otherwise hopelessly insane with almost a specific to recover their reason." [See the addendum at the end of this letter.]

2. The Cases of Lumbar Puncture by Dr. Wentworth, of Boston, (p. 5): "Lumbar puncture," I may remind you, is the simple insertion of a hypodermic needle between the vertebrae into the sheath of the spinal cord, but below the cord itself, to obtain a few drops of the cerebro-spinal fluid for diagnosis.

The pamphlet gives what is called a "brief abstract" of five of the experiments related. The abstracts are indeed brief, so brief as to give a wholly erroneous impression as to the causes of the patients' death. The omissions are glaring instances of what the logicians call a *suppressio veri* equivalent to a *suggestio falsi*. Let me point this out in detail.

Case 2. It is correctly quoted that the last puncture (where there were several punctures I only give the last date) was made "Feb. 16, on the day of patient's death." The pamphlet fails to add, however, the important fact stated by Dr. Wentworth that the postmortem showed an empyema [abscess in the chest] which had burst into the lung, pneumonia, and inflammation of the brain with pus as the cause of death.

Case 3. The pamphlet correctly says "puncture Jan. 17, 1896; patient died Jan. 22." What Dr. Wentworth adds is omitted, namely: "No symptoms attended or followed the operation." Moreover, the post-mortem showed that the patient died from the widespread changes common to infantile wasting.

Case 5. The pamphlet says: "Puncture Feb. 3, 1896; patient died Feb. 4." It omits to state what immediately afterward follows, that the post-mortem showed "primary tuberculosis of the intestines. Double pneumonia," as the causes of death.

Case 6. The pamphlet quotes "Puncture Feb. 1; patient died in convulsions three weeks later." It neglects to state what Dr. Wentworth particularly mentions, "no reaction on the part of the patient attended the operation," and it also fails to state that the child was seen only once and that the diagnosis then made was tubercular meningitis, which was clearly the cause of the child's death, three weeks later.

Case 7. The pamphlet quotes "Punctured Feb. 27; patient died Feb. 28." It omits the fact that the post-mortem showed that the child died from defective development of the brain and other causes; and that the history showed that the child, who was 7 months of age, had "frequent convulsions, which began when he was about 3 months old. While in the hospital

2. I quote the following from the eighth edition of Hare's Therapeutics, as to the use of thyroid extract: "In the dose of from 5 to 20 grains (0.35-1.3) three times a day [i. e. 15 to 60 grains a day] according to the degree to which it produces its effects, it has proved of value in acute mania and melancholia, puerperal and climacteric insanities, and in stuporous states with primary dementia." Berkley's maximum dose was 15 grains a day.

1. This letter was written by myself and not by the librarian.

the convulsions occurred not less than twenty times a day. Oftentimes he had several in an hour."

The inference from the pamphlet's "brief abstracts" of these cases is clearly, and it seems to me by these omissions was meant to be, that the deaths were due to the lumbar punctures, whereas the evidence is that the deaths were due to other causes and in two instances the operation is expressly stated not to have done any harm. Are not these abstracts "garbled and inaccurate?"

3. On page 7 the pamphlet refers to some experiments on the inoculation of lepers with syphilis, made in Hawaii, but published in the *N. Y. Medical Record* of Sept. 10, 1892. It is stated that the patients "were already suffering from one incurable disease and the object of the experiment was to ascertain whether with another, and even worse disorder, they might not be infected." This statement is incorrect. Most writers recognize only three stages of syphilis, primary, secondary and tertiary. The writer of the article in question believed that leprosy was a fourth and final stage of syphilis and not an independent disease. It is a well recognized fact by all scientific writers that a patient suffering from syphilis in any stage is immune to an inoculation of the virus; that is to say, the inoculation will not "take" if he is already a syphilitic. It was for the purpose of determining whether leprosy was a fourth stage of syphilis that the attempt was made. *None of those inoculated took the disease.*

4. Sanarelli's Experiments on the Inoculation of Yellow Fever, page 8: The references here are to the *British Medical Journal* for July 3, 1897, and the *New England Medical Monthly*, March, 1898. The extracts marked with quotation marks are from the *New England Medical Monthly*. Between the first and the second sentences of the quotation there should be some stars to note an omission, but none such appear. The omitted words state that *not* the germs of the disease, but the carefully filtered and sterilized germ-free fluid was used. Besides this and many other minor inaccuracies many of the scientific terms are changed into non-medical terms, which is not objectionable in itself. But such changes and inaccuracies should exclude quotation marks, for when used they mean that the words quoted are the *ipsissima verba* of the author, if in the same language, or an exact translation if from a foreign language.

But this is the least of all. The pamphlet says that the injection produced certain symptoms, among which are mentioned "the jaundice, the delirium, *the final collapse*," the last three words being in italics in the pamphlet to call special attention to them. In the *British Medical Journal* and in the *New England Medical Monthly* the words "the final" are *not to be found*. We see not a few patients suffering from "jaundice, delirium and collapse" who recover, but when the expression is changed to "the final" collapse it means to every one that the patient died.

Moreover, the end of the quotation is as follows: "I have seen [the symptoms of yellow fever] unrolled before my eyes thanks to the potent influence of the yellow fever poison made in my laboratory." *This entire sentence does not occur* either in the *British Medical Journal* or in the *New England Medical Monthly*. Whether it is quoted from some other source not indicated, or has been deliberately added, I leave you or "A. Traey" to explain.

Moreover, immediately afterward, on the authority of the Washington correspondent of the *Boston Transcript*, it is stated: "It is understood that some, if not all, of the persons inoculated died of the disease." and then seven times afterward are repeated "the final collapse," the "unrolling before the eyes," "scientific assassination," "death," and "murder" quoted from a public speech before the American Humane Association. Let us see if these *were* "murders."

In the two references given there is no indication whether any of these patients died or not. How, therefore, "it is understood that some, if not all, of them died." I do not know. *As a matter of fact none of the human beings inoculated by Sanarelli died*, as any one desirous of learning the truth could have ascertained by consulting Sanarelli's original publication

reporting his experiments with full details. (*Annali d'Igiene Sperimentale*, 1897, vol. vii, Fascic. iii, pp. 345 and 433.)

What hysterical oratory about "the final collapse," which was not final; "scientific assassination," which did not assassinate; and "murder" of those who were so disobliging as still to live! And this on the authority of the Washington correspondent of the *Boston Transcript*, who the pamphlet assures us is a person "who would seem to be unusually well informed in matters of science!" An excellent example of "newspaper medicine" and a good reason for my refusal to accept it as evidence, especially from other correspondents who may not be as "unusually well informed." May I ask whether "the Vienna correspondent of the London Morning Leader" is also one of those who, in your opinion, is "unusually well informed in matters of science," and whether his testimony is as wholly false as the one under consideration?

5. On page 23, the pamphlet quotes an account of some experiments of Dr. Neisser from the "Medical Press and Circular [England], of March 29, 1899." This is an instance again of misquotation and omission which can scarcely be other than intentional. The last sentence of the first quotation states: "of these eight girls, four developed syphilis." No stars indicate that any words have been omitted. The original reads: "of these eight girls [five were prostitutes, and of these five] four developed syphilis." The words in brackets are entirely omitted in the pamphlet. They make a deal of difference, for what is more probable than that four out of five prostitutes should develop syphilis? Whether it makes any differences or not, however, is at present not the question. The issue is whether the quotation is "garbled and inaccurate." Does it not fulfill another of the definitions of "garbling" given in your letter, viz: "omissions of essential facts . . . sufficient to impair the accuracy or fairness of the quotation?"

Moreover the pamphlet's comment upon this case is as follows: "Does the London journal which reports these awful experiments denounce them as a crime against every law of morality? Not at all. It simply says that 'it would be difficult to acquit Dr. Neisser of a large measure of responsibility in respect of the causation of syphilis in these cases!' Could reproof be more gentle?"

Is that really all that the *Medical Press and Circular* "simply says?" On turning to that journal, after the above sentence, which is correctly quoted, the editorial continues thus: "We, however, are less concerned in establishing the culpability of Dr. Neisser than in condemning the spirit which prompted such experiments. All measures, even if novel, which may reasonably be expected to assist in bringing about the recovery of the patient without injury to his health may legitimately be resorted to with the consent of the patient, but measures, whether by drugs or by operation, which have not for direct object the cure of the patient and which may prove inimical to his health or condition, are inadmissible under any circumstances and must expose the perpetrator to professional ostracism and to penal rebuke."

Is "professional ostracism and penal rebuke" a reproof than which nothing could be "more gentle?" If this statement is not "garbled and inaccurate," what do words mean? How could this misrepresentation be otherwise than intentional?

6. On page 24 again, reference is made to the experiments of Menge.³ The extracts being in quotation marks would purport to be exact translations. This is not the case. The collocation of the paragraphs, also—especially in the smaller pamphlet—is such that it would be supposed even by a careful reader that the babies experimented upon were inoculated with the germs taken "from the pus in the abdominal cavity of a person who had died of peritonitis," without any precautions or preliminary experiments, and that, therefore, these babies were exposed to a fatal infection. This is not true. Four columns of text in the original intervene between the first and the second paragraphs alleged to be quoted, and these detail experiments which proved that the inoculations which he then carried out would almost certainly be harmless. The result showed that he was right, for not the slightest ill effects followed. I have only words of

3. Deutsche medicinische Wochenschrift. 1894, Nos. 46 to 48.

condemnation for Menge's experiments, but to misrepresent these experiments is scarcely less culpable than to perform them.

7. Then follows a brief account of Kroenig's experiments. The objects of these, the pamphlet says, were "to observe the surest way of *breeding* purulent bacteria." This is not true. On the contrary, his object, like Menge's, was to determine how these bacteria are normally *destroyed* in the part of the body in which the experiments were made. In only a single instance did any ill effects follow, and in this case the inflammation was brief and not dangerous either to life or health. In fact, the very *titles* of these two papers proclaim the destruction of the bacteria and not the surest way of breeding them, as Menge's title reads: "On a quality (Verhalten) of the vaginal secretion in non-pregnant females, which is *hostile* to bacteria," and Kroenig's is on the same peculiarity in pregnant women.

In the comment on these two series of experiments, they are spoken of as inoculations "with loathsome diseases," which would suggest to any one that the patients were successfully inoculated with syphilis or other similar diseases. This was not the case. Only inflammation would follow even had the inoculations been successful.

Moreover, to show the vague looseness of the alleged quotations, the two paragraphs on the experiments of Menge are in quotation marks and are introduced by the words, "He says: The bacteria I used, etc.," as if they were exact continuous translations. "He says" nothing of the kind. Instead of being exact translations, the first paragraph is made up of partly correct and partly incorrect translations from page 891 near the top of the second column and near its middle; and the second paragraph of partly correct and partly incorrect translations from page 907 near the bottom of the first column. No reference whatever is given to Kroenig's paper either by number, date or page. Is not this "vague and indefinite?" As a matter of fact it is the same journal (No. 43, p. 819) as Menge's paper, but published three weeks earlier.

8. On page 25 is one of the most outrageous instances of garbling, and mistranslation, or worse, which I have ever known to be perpetrated, even in antivivisectionist publications. It relates to observations and experiments of Professor Schreiber, reported in the *Deutsche medicinische Wochenschrift* of Feb. 19, 1891. The subject is introduced with the startling caption: "Inoculations with Tuberculin and Germs of Consumption." In the smaller pamphlet the caption is simply: "Injected Germs of Consumption." What was injected was not the "germs of consumption" at all, but tuberculin, a substance which at the date of Professor Schreiber's publication was engaging the attention of physicians throughout the civilized world as a therapeutic and diagnostic agent. To describe inoculations with tuberculin as "inoculations with the germs of consumption" can be attributed only either to gross ignorance or to wilful disregard of the truth.

In the first paragraph occurs the sentence: "He began with one decimilligram and continued to inject the tuberculin in ever-increasing quantities, until he at last injected as much as 5 centigrams, about 50 times as much as Koch said was the maximum dose for children of 3 to 5 years old." Any fair presentation of these experiments would have included Professor Schreiber's sentence, which he prints in bold-face type: "But even with so large a dose injected at one time, the children showed *no trace of a reaction*." It would perhaps be too much to expect your society to have indicated on what grounds Professor Schreiber was led to the employment of such large doses, and that his observations demonstrated for young infants an exceptional tolerance of tuberculin, a phenomenon for which there are analogies with other drugs.

But the worst falsification is the succeeding account, in the form of what purports to be an exact translation, of Schreiber's inoculation of a boy with tuberculin. The alleged quotation begins: "I am sorry to say that it is very difficult to obtain subjects for such experiments. There are, of course, plenty of healthy children in consumptive families, but the parents are not always willing to give them up." The words: "I am sorry to say that," and the entire next sentence, "There are, of course, plenty of healthy children," etc., *are not in the*

original, but are additions made out of the whole cloth. The next following sentences contain many inaccuracies, such as the translation of the German words *beträchtlich anschwellen* as "swelled up enormously," instead of "swelled up considerably." But the worst is the deliberate insertion of the following sentence, italicized in the pamphlet, *which also does not occur in the original*: "I can not yet say whether the boy will be consumptive in consequence of my treatment." The correct translation of Schreiber's words at the point where this closing sentence appears in the pamphlet is as follows: "I could discover no other alterations in the otherwise apparently healthy boy." [*Andere Veränderungen konnte ich an dem sonst gesund scheinenden Knaben nicht entdecken.*"]

While I have said enough about this case to substantiate my charge of garbling and inaccuracy, I can not refrain from utilizing it also to show the utter misapprehension which the citation of detached sentences and paragraphs from medical articles is calculated to create in the mind of a non-medical reader. Even when the words are quoted correctly, they are likely, when detached from the context, to give rise to entirely false impressions. This is a criticism which applies not only to other examples cited in this pamphlet, but to a very large number of reports of experiments and of quotations from medical journals and books current in anti-vivisectionist writings, and the resulting dissemination of erroneous conceptions is often greater even than that caused by inaccurate or garbled quotations. A brief explanation of the present example will show the justification of this charge.

For what purpose did Professor Schreiber inoculate the boy with tuberculin? His article leaves no doubt as to the answer. He points out the importance of the earliest possible recognition of tuberculosis in a patient in order to secure the best curative results. The boy's mother had consumption and the author calls attention to the frequency of unrecognized tuberculosis in the offspring of tuberculous parents. The boy received a small dose—1 milligram—of tuberculin, which, if he were free from tuberculosis would produce no effect but which if he had unsuspected tuberculosis would produce a transient—though possibly a severe—fever, and a local reaction indicative of tuberculosis. Such reaction followed the injection of tuberculin, and the diagnosis of tuberculosis, which had not been, and very likely could not have been, made in any other way, was established. I do not know what could have been more fortunate for this boy than the recognition in its incipency of a disease previously unsuspected and which, recognized thus early, should in all probability be cured by proper treatment. This tuberculin test is constantly employed to prevent the spread of tuberculosis in our cattle. In our children it enables us to discover the same disease in an early, curable stage. Shall we care for our cattle better than for our children?

Its use is not properly to be called an "experiment" at all. As I write this, I find in the *JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION* for Jan. 12, 1901, page 75, three cases of the use of tuberculin in human beings by Prof. J. M. Anders, who points out its value in enabling us to diagnose consumption "in latent forms and dubious cases, however incipient," long before percussion or the stethoscope will reveal the disease. I can imagine his surprise if he were charged with making three horribly cruel "experiments" and injecting the "germs of consumption!"

It is euphemism to call such an alleged quotation, in which words and one entire sentence are interpolated and another wholly changed in meaning, a "mistranslation" or even a "garbled and inaccurate" account. Does it not amount to literary forgery? It is another illustration of the fact that when an anti-vivisectionist attempts to say anything about scientific experiments either the moral sense is blunted or the truth-telling faculty is in abeyance. A good English example is the misstatements in Miss Frances Power Cobbe's book, laid bare by Victor Horsley, and Schreiber's and Sanarelli's cases will serve as excellent examples of American misrepresentation—if so long a word is needed to describe them.

I am sorry my reply is so long, but in fewer words I could not explain the many and gross errors to be pointed out. I

have given you indeed "many" instances in which the references are "vague and inaccurate," and "some" in which the accounts are "garbled and inaccurate." These adjectives are, I submit, very mild ones to apply to such a pamphlet.

You can hardly be surprised after the extraordinary and repeated interpolations, mistranslations and worse which I have demonstrated in this letter that I am unwilling to accept *any* alleged quotation or translation emanating from the American Humane Association as accurate and truthful unless I can compare it with the source from which it is derived.

In conclusion let me commend to the "Humane" Association the closing words of President Eliot's letter, to be found on pages 218-9 of the "Hearing": "Any attempt to interfere with the necessary processes of medical investigation is, in my judgment, in the highest degree inexpedient and is fundamentally inhuman."

I shall take the liberty of publishing my reply. I suppose that you will not object to the publication of your letter with it in order to explain the reason for the reply.

Very respectfully yours, WILLIAM W. KEEN, M.D.

ADDENDUM.

Since this letter was written I have seen an article in "Gould's Year Book of Medicine and Surgery," 1901 (Medical Volume, p. 327), from the *Archives of Pediatrics* for June, 1900,

ally, therefore, with this low grade of intelligence, she was uncleanly in her habits.

The treatment was begun on October 30, with 2.5 grains of thyroid powder, once daily. This was reduced on November 2 to 1.25 grains once a day, and was continued for several weeks. As early as November 7, improvement was noticed. On November 17 the pulse at the wrist, which was scarcely perceptible through the swollen tissues at the beginning of the treatment, was distinctly felt, and by the 24th, the puffiness of the eyelids and forehead were diminishing and the expression of the face becoming more intelligent. The dose of the extract was now increased again to 2.5 grains. The results I quote as follows: "In about three months' time very few traces of cretinism remained and the child was able to walk about easily without assistance and was making use of the short words and gestures of early childhood. . . . After four months of the thyroid treatment, the improvement seemed so complete that the second photograph was taken and the likeness produced is that of a bright, happy, pretty child, to all appearances normal, both physically and mentally. The improvement continued till the middle of June, 1895, when, unfortunately, she contracted an attack of malignant measles and died on July 16, after three days' illness."

If Dr. Berkley's use of the thyroid extract, which cured two



Illustrating Nicholson's article on thyroid treatment in a cretin (*Arch. of Ped.*, June, 1900). Result of four months' use of thyroid extract.

p. 431, by H. Oliphant Nicholson of Edinburgh, Scotland, reporting the case of Annie C., a girl of 2 years and 8 months old, with pictures (see plate), which, with a brief statement of the case, well illustrates what Dr. Berkley has asserted, that "in proper cases, the results [of the treatment by thyroid extract] are among the most resplendent attained by modern medicine, converting the drooling dwarf into an intelligent, well-grown man or woman."

This child was first seen by Dr. Nicholson on October 23, 1894, and the picture shews the "swollen, myxedematous-looking face and body, a markedly curved back and a pendulous abdomen." The child "could not walk without support and dragged her limbs slowly after her." Her vocabulary was confined to calling her mother and father "mum" and "ah," and "her wishes were wholly made evident by signs." Very natur-

ally, therefore, with this low grade of intelligence, she was uncleanly in her habits.

Tuberculosis Among Postoffice Employees.—The French statistics recently published indicate that tuberculosis is much more prevalent among the picked indoor employees of the post and telegraph service than in the general population, reaching 62 per 10,000, while the general mortality from tuberculosis at Paris is only 49 per 10,000. Tubercular affections represent 15.45 per cent. of the total mortality among the indoor employees, and 10 per cent. among those employed out of doors. Stricter regulations are to be enforced, according to a notice in the *Semaine Méd.* Each employee is to have "a health book" and at the first indications of a tubercular affection is to be sent to a special sanitarium.

ANASTOMOSIS OF THE URETERS WITH THE INTESTINE.

A HISTORICAL AND EXPERIMENTAL RESEARCH.

REUBEN PETERSON, M.D.

Professor of Gynecology Post-Graduate Medical School; Assistant Clinical Professor of Gynecology, Rush Medical College; President of the Chicago Gynecological Society.

CHICAGO.

(Continued from page 445.)

MORESTIN,¹¹ 1893. *Twenty-four dogs; ten bilateral, fourteen unilateral implantations; all died, except one, of peritonitis, nephritis, or hydronephrosis; survivor died several weeks later of hydronephrosis and infection.* Morestin experimented on twenty-four dogs with a view of uniting the ureters with the rectum. In ten cases a bilateral implantation was made. The method employed in six cases was to whip-stitch the intestinal mucosa about the ureter after the latter had been thrust into the rectum. The six animals died of peritonitis or ascending renal infection. In four cases the ureteral mucosa was sutured to the rectum. Of these, two died of infective peritonitis and two from uremia from compression of the ureters. In fourteen dogs unilateral implantation was tried, four times without and ten times with preliminary dilatation of the ureter by the application of temporary ligature. The first four animals died from peritonitis. In four cases where simple dilatation was practiced, three died of peritonitis, and one lived several weeks and died from hydronephrosis and infection. In the six remaining dogs, after previous dilatation, the ureter was sutured to the rectum laterally. All died from hydronephrosis or infection.

Morestin's conclusions are that bilateral implantation of the ureters into the rectum is entirely inadmissible, and single implantation only admissible in extreme cases. The primary mortality in man should be less than in animals, because of the larger size of the ureters and the possibility of securing better asepsis.

THOMPSON,¹² 1893. *Number of implantations not stated; one dog survived; after three weeks ureter and pelvis of kidney markedly dilated.* Thompson makes a brief mention of a successful implantation of the ureter into the small bowel. The exact method employed is not stated. The post-mortem at the end of three weeks showed the uretero-rectal union good, the ureteral orifice patent, but the ureter and pelvis of the kidney markedly dilated.

The hydronephrosis was ascribed in part to the stenosis and partly to the mobility of the intestine. The attempts to unite the ureter with the colon or rectum were failures.

GIORDANO,⁶ 1894. *Sixteen dogs, three survived; pyelonephrosis; uretero-rectal stenosis.* Giordano, in order to do away with the dangers of implantation of the ureters into the bowel by the intraperitoneal route from his experiments on animals and cadavers, proposed the removal of a portion of the sacrum and an extraperitoneal route. In 1894 he published in detail a series of experiments in sixteen dogs, where the ureters had been implanted into the bowel extraperitoneally by lumbar incisions or through the sacral region. No microscopic or bacteriologic examinations of the specimens were made, and the descriptions of the gross specimens are exceedingly vague.

Out of sixteen dogs only three lived more than a week. In one case both ureters were implanted in the colon by lumbo-dorsal incisions. Death on third day; obstruction in left ureter; both kidneys congested.

In three cases this same operation was performed in two stages, first one and then the other ureter being implanted. One dog died from anesthetic at second operation, seven days after the first; ureter normal; kidney not enlarged.

The two other dogs lived one hundred and twenty-one and eighty-four days. The post-mortems revealed uretero-cutaneous fistulæ in both, associated with dilatation of the pelves of the kidneys, stenosis of the ureteral orifice and pyelonephritis.

In eight instances both ureters were implanted into the rectum. Of these, five died of peritonitis or sepsis, with congestion of the kidneys. One dog died from hemorrhage from the anus. In this case tubes had been used in the ureters. One animal lived seventy-seven days; autopsy showed fluid in abdominal cavity, due to intraperitoneal rupture of kidney abscess, other kidney being of normal size. In three cases the ureters were implanted in the rectum with the formation of an artificial anus: wounds were always infected and kidney congestion marked.

Giordano's conclusions are: that if the ureters are not obstructed there does not necessarily follow any infection of the kidneys. It is best to implant the ureters extraperitoneally and at two sittings.

VAN HOOK,²⁴ 1893. *Sixteen dogs; seven recoveries; two with one ureter in small intestine; pyelonephritis and uretero-rectal stenosis; five with one ureter in rectum; pyelonephritis in each case; uretero-rectal stenosis.* Van Hook implanted a single or both ureters into the small or large intestine in sixteen dogs. This experimenter's primary mortality has not been equalled before or since. This fact, together with the accuracy with which the post-mortem findings are recorded, warrants a careful study of his cases.

The following method of implantation was employed: After isolating the ureter with an ample fold of the peritoneum, it is severed and its end split upward with scissors a short distance. Two small needles armed with a single fine silk or cat-gut thread are passed from within outward through the split end of the ureter. The two needles are now carried downward through a small slit in the bowel and made to penetrate the bowel one-half inch below the point of entrance. The ends of the thread are tied, retaining the ureter in place. The knot is covered with Lembert sutures and the bowel opening closed as tightly as possible without compressing the ureters.

In two dogs a single ureter was implanted in the small intestine, eighteen inches above the ileocecal valve. Both recovered and were killed ten days later. The kidneys corresponding to the implanted ureters were found smaller and showed pyelonephritis. The opening into the bowel in both instances was somewhat stenosed and there were two drams of purulent fluid in the pelvis of the kidney and ureter.

In eight dogs one ureter was implanted into the rectum, with three deaths. Corresponding kidneys violently inflamed, being swollen, turgid and heavy, with muco-pus on the mucous membrane of the pelvis. Pelvis of the kidney, opened with a red-hot knife, contained a few drops of mucopurulent fluid. Uretero-rectal orifice patent. Microscopic examination showed violent hemorrhagic inflammation of the pelvis and pyramids of the kidney. Cultures showed numerous bacteria.

Five dogs recovered, and were killed from fourteen to twenty-one days after the operation. In three dogs, kidney corresponding to implanted ureters showed suppurative inflammation. Only the smallest probe could be made to pass the rectal opening.

In six dogs both ureters were implanted into the rectum. All died within six days. Four deaths due to general peritonitis. In two cases there was obstruction of the ureter and retention of urine in the pelves of the kidneys. Conclusions are that implantation of one of both ureters into the rectum is absolutely unjustifiable under all circumstances, because: 1, the primary risk is too great; 2, there is great liability to stenosis of the duct at the point of implantation; 3, suppurative uretero-pyelonephritis is almost absolutely certain to occur either immediately or after the absence of months or years.

CHAPUT,³ 1894. *Numerous dogs; number not stated; all died.* Chaput performed many experiments on dogs, making use of a great variety of methods in his attempts to anastomose the ureters with the rectum. His efforts were entirely unsuccessful. He ascribes his failures to the small size of the dog's ureter and to the great rigidity of the intestinal walls, causing the sutures to cut through and rendering union almost impossible. He thought that experiments on dogs would prove of but little value in determining the effects of ureteral anastomosis in man, as the bacterial contents of the dog's intestine were much more virulent and consequently more liable to give rise to serious lesions in the ureters and kidneys.

MAUCLAIRE,¹⁵ 1895. *Number of dogs not stated; upper part of rectum cut off and ureters implanted therein; all died.* Mauclore, in order to avoid ascending infection when the ureters are implanted in the rectum for the cure of exstrophy of the bladder, amputated the rectum and inserted the ureters in its upper part after first establishing an artificial anus in the inguinal region. All the animals died of infection from the intestinal resection or from uremia resulting from the uretero-rectal implantation. For fear of leakage, he advises extraperitoneal implantation. While he was obliged, in dogs, to make the artificial anus in the inguinal region, his studies of the cadavers of young children have shown that the superior intestinal fragment can be brought down into the pelvis and the artificial anus established in the left ischio-rectal region.

VIGNONI,²⁵ 1895. *Seven dogs, with one recovery; V-shaped flap; no report of findings.* Vignoni performed seven experiments on dogs, and succeeded in making only one live more than two months with one ureter in the rectum. He made use of a V-shaped flap cut out of the anterior wall of the bowel: after placing the ureters on this flap, the former are covered by suturing over them the lateral folds of the bowel wall. From these experiments Vignoni concludes that it is advisable to implant one or both ureters into the rectum for certain conditions.

LINDNER,¹¹ 1895. *Number of dogs not stated; implantation into transverse colon, with satisfactory results.* Lindner, in a discussion of Trendelenburg's case of removal of the bladder, mentioned that in a series of experiments made a few years before on very large dogs, he had transplanted the ureters into the transverse colon and found that the urine passed per anum in a very satisfactory manner. The dangers of infection are increased when both ureters are implanted, and in order that the ureters may not pull out it is advisable to retain a portion of the bladder wall.

KRYŃSKI,⁹ 1896. *Numerous dogs, number not stated; uretero-rectal stenosis, hydronephrosis, and infection; by new method all recover.* Kryński states he has proved that infection of the kidneys, stenosis of the ureteral orifices, and hydronephrosis will result from implantation of the ureters into the intestine by the usual methods. He then describes an operation, by following which he has never seen a single case of disease of the ureters or kidneys.



FIG. 3.

A triangular incision is made (Figs. 1, 2 and 3) through the serosa and muscle on the anterior inner margin of the gut just below the sigmoid flexure. The longest side of this triangle is 2.5 to 3 cm. in length; the shortest, 1 cm. A small incision is made in the mucosa at the apex of the triangle. The ureter is cut off obliquely, and is united to this incision by four interrupted sutures joining the rectal to the ureteral mucosa. The triangular flap is now sewed over the implanted ureter, a continuous suture being used for the long side and interrupted sutures for the short side. Too tight sewing of the triangular flap will produce an obstruction of the ureters.

PISANI,¹⁸ 1896. *Two dogs; both died; collapse and peritonitis.* Pisani performed the following operation on two dogs: The abdomen was opened and a rectangular flap removed from the bladder, containing the ureteral orifices. The rectum was now isolated and an incision 3 to 4 cm. long made in its anterior wall. A portion of the posterior rectal mucosa corresponding to the bladder flap was freshened, and to this was sutured the flap containing the ureteral orifices. The anterior rectal wall was now sutured and the abdomen closed.

One dog died in sixty-two hours. Collapse and obstruction assigned as causes of death. Ureters not dilated. The flaps were united; kidneys normal; urine evacuated easily through rectum. The second animal died of septic peritonitis, caused by rupture of the abdominal wound. Evacuation of urine satisfactory; no dilatation of ureters.

BOARI,² 1896. *Four dogs; four recoveries; two still living; in two dogs kidneys macroscopically normal.* (?) Boari, by means of his anastomotic button, succeeded in uniting the ureters to the rectum in two dogs. The first animal lived fifty-two days after the left ureteral implantation and fifteen days after the right. The ureters were not dilated. The right ureteral opening was surrounded by a small papilla-like valve. The kidneys macroscopically showed no grave lesions. There was no hydronephrosis, although the pelvis of the right kidney was slightly dilated. The second dog was killed thirty-two days after the implantation of the right ureter into the rectum. The macroscopic appearance of the kidney was normal and the pelvis of the kidney was not dilated. Two more animals had been operated on successfully, and were still alive at the time of the report.

LESTRADE,¹⁰ 1898. This experimenter implanted the ureters into the rectum in four dogs, using Chalot's anastomotic button, but the animals all died of sloughing of the sutures and escape of urine into the peritoneal cavity.

MARTIN,¹² 1899: *Forty-two dogs, five recoveries; pyelonephritis; numerous bacteria in kidneys; chronic interstitial nephritis.* Martin presented before the Chicago Gynecological Society the specimens and post-mortem findings from three dogs where the ureters had been implanted in the rectum. The animals had lived four, eleven and ten months, respectively, after the operations. In one case both and in another a single ureter was implanted in the rectum. In the third dog one ureter was implanted in the jejunum eight and one-half inches from the pyloric orifice. The rectum acted as a perfect substitute for the bladder in all cases.

The post-mortem showed marked changes in the kidneys corresponding to the implanted ureters. There were evidences of an active pyelonephritis in two dogs, as shown by the presence of purulent fluid and numerous bacteria. In one dog a very few coli bacilli and diplococci were found in the pelvis of the kidney. The kidney was smaller than the other and presented interstitial changes, resulting from an old pyelonephritis. Thirty-four dogs were operated on and only three survived. The implantation was made perpendicularly to the axis of the intestine.

The author publishes in the same month a new method of implantation of the ureters, having for its object the making of subsequent infection of the ureters and kidneys impossible. The ureters are buried in the walls of the rectum for a distance of an inch or more longitudinally, so that the ureters may be milked downward by the contraction of the bowel-muscles artificially surrounding the ureters. The ureters are dissected away from the peritoneum for three inches by the finger. Longitudinal incision, two inches in length, is now made in the peritoneal and subperitoneal tissue of the bowel. The remaining coats of the bowel are opened by a small incision, through which are passed two needles, to which are attached silk ligatures passed through the coats of the bowel below the incision and the ureters made taut and attached to the fibrous and muscular coat by silk sutures, care being taken not to penetrate more than the fibrous coat of the ureters. The peritoneum is now closed about the ureters by a continuous suture.

Dr. F. R. Zeits' examination of a dog operated on three months previously by this method showed both ureters patent; suppurative nephritis existed in the right kidney; pelvis normal; bacteriologic examination negative. Left kidney shows chronic interstitial nephritis; capsule slightly adherent; pelvis normal. Bacteriologic examination of right kidney showed coli communis present; none in the left.

MATAS,¹³ 1899: *Four dogs—two with Boari button and two Maydl's operation—all died; first two, renal infection; last two, peritonitis.* Matas employed Boari's technique in two dogs and united the intestine to the ureters, but the dogs died from acute ascending renal infection. In two dogs in which the Maydl operation was tried, one died in twenty-four, the other in thirty-six hours. In both the vesico-ureteral grafts were perfect. In both there was septic peritonitis, caused by infection from the bowel at the time of the operation, and in the dog that survived thirty-six hours there was also intense hyperemia of the kidney.

KALABIN,⁸ 1899. *Thirteen dogs; Maydl's operation five times, five deaths; one dog survived one month; kidneys normal; ureteral orifices patent; one survived thirteen months; showed interstitial nephritis.* Kalabin, to verify Morestin's experiments of implantation of the ureters into the rectum, experimented on thirteen dogs. Maydl's operation was performed on five dogs; three died of peritonitis, two of uremia.

In four dogs he implanted a single ureter into the rectum. Three of the four died; two of peritonitis, one of uremia. The fourth dog lived a month; post-mortem showed kidneys normal. In four other dogs where a single ureter was implanted in rectum, two died of peritonitis and one of uremia; one dog survived thirteen months. The kidneys showed an interstitial nephritis. The ureter and rectal mucous membrane were normal.

FRANK,⁵ 1900: *Uretero-rectal anastomoses; number of dogs not stated; infection in every case; vesico-rectal anastomosis with Frank coupler, fifteen dogs, ten recoveries; five post-mortems show but slight changes in kidneys.* From his experiments on implantation of the ureters into the rectum, Frank's conclusions were that infection of the kidney supervenes in every case and that no better results could be looked for in the human being. In order to preserve the ureteral orifice intact and thereby prevent an ascending kidney infection, Frank, by means of his bone coupler, made a communication between the bladder and the rectum in fifteen dogs, with ten recoveries. For a week after the operation urine and feces were voided oftener than after this period. The feces are always passed in a liquid form, being softened by the urine. Two dogs operated on six months previously are alive and well. In the five dogs in which post-mortem findings are reported, two show colon bacilli in the kidneys; one is not free from bacteria, but they are neither colon bacilli nor staphylococci; two cases show histologic changes in the form of rounded infiltration. In one case the left kidney is noted as congested and the ureter enlarged to double its normal size.

Frank's conclusions are that the recovery of the dog and the macroscopic appearance of the tissues do not necessarily signify absence of infection; that the dogs killed thus far show that the operation of vesico-rectal anastomosis can be performed without a resulting kidney infection.

(To be continued.)

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YELLOW FEVER AND ITS TRANSMISSION.

The results of the experiments of Drs. Reed, Carroll and Agramonte, as published in our last issue, are certainly remarkable and convincing. That yellow fever is transmissible by the mosquito is proved, and that our previously-held theories of its propagation must be amended can not be denied. Some even hold that it leaves us nothing to do in the way of quarantine and disinfection, and this view is largely taken at once, offhand, by the lay press generally, and by some of the members of the medical profession. These seem to have at once assumed that the questions are settled and that the quarantine precautions of the past have been useless and can be dispensed with in the future. The problem of yellow fever is held by them to have been solved.

This we feel assured is not the conclusion that the more conservative authorities will admit. The results were most striking and must assuredly throw a doubt upon all former theories of infection, etc., but any one accustomed to weighing evidence must acknowledge that much yet remains to be demonstrated before we can positively say that the disease is not transmitted in other ways than those indicated by the experimenters. The comparison with the malaria discoveries, which themselves still lack something of absolute completeness, is not entirely applicable. We know the malarial organism and to a great extent its life history, though there are yet some points requiring knowledge. The germ of yellow fever, however, is still in dispute and these investigations themselves oppose the validity of the only organism heretofore recognized as such. Not knowing even the existence of the germ except by justifiable inference, we know nothing of its peculiarities except that it appears, like the malaria germ, to be transmitted by mosquitoes and to require a certain period for its life cycle. As far as the investigations have been reported, it does not seem positively proved that it has for its host any one exclusive form of mosquito, and there are yet variances between the views of such an experienced clinical observer as Dr. Finlay, the originator of the mosquito-transmission theory, and the findings of the experimenters. There is a close resemblance in method and results between these experiments and those of Drs. Sambon and Lowe on malarial transmission, but the latter only finished off in full the chain of facts that led almost inevitably to the conclusions they demonstrated.

Admitting, however, as it seems probable we shall be compelled to do, that the mosquito-borne theory of yellow fever transmission is correct, it does not necessarily follow that all the former precautions are useless or even that there may not be other methods of introduction of the infection into the human system. The experiments with fomites appear to be almost, if not absolutely, conclusive, but conditions might occur that were not realized in these experiments. We have to consider the fact that the subjects of experimentation were men in good general health, and their morale and the psychic surroundings, so to speak, were of the best character to make them resistant to contagion. This last—the psychic element—is one that is not to be slighted, as clinical experience has amply proved on numerous occasions.

The utility of disinfection, if not of quarantine, has been repeatedly demonstrated; if ships, cargoes, and fruits can not convey the germs in a way to be directly dangerous, they can none the less convey the infected mosquitoes. These insects, as is well known, are often carried long distances by public conveyances, and this is very probably the origin of many local outbreaks of yellow fever, hitherto attributed solely to fomites.

The experiments of Drs. Reed, Carroll and Agramonte mark a great advance in our knowledge of yellow fever, and we do not in the least discredit them. For them to be accepted as conclusive, however, and as overthrowing at once all former notions, is not exactly the scientific course; they point the way to other observations which must be chiefly clinical and confirmatory. The organic cause of yellow fever must be sought out and its life history determined. The facts already obtained must guide us to others, but though it seems to us probable that all the apparent consequences of these experiments may yet have to be accepted, in the meanwhile it would be foolish to think of neglecting all hitherto accepted safeguards against the disease, as some are intimating should be done.

A PLEA FOR ADEQUATE DOSAGE OF ANTITOXIN IN THE TREATMENT OF DIPHTHERIA.

It seems like a repetition of ancient history to dwell at this day upon the life-saving power of diphtheria antitoxin and to cite statistics showing the reduction in mortality that has been effected by its employment. The time has passed when there can be any difference of opinion on these points. One feature, however, can, it seems, be profitably discussed, inasmuch as the antitoxin is not universally administered in doses capable of yielding the maximum beneficial effects, partly as a result of a not unnatural conservatism and partly from the want hitherto of comparative data of convincing value. From a number of sources the recommendation has of late been made for the employment of larger doses of antitoxin than has been customary, especially as the agent is capable only of good, and no seriously ill consequences can be attributed to its action. For those who

may have felt any doubt in this connection the publication, recently, by Dr. J. H. McCollom,¹ of the statistics for the South Department, a hospital opened in Boston in 1895, for the treatment of cases of diphtheria exclusively, must bring conviction.

It appears that since a record of cases was begun in 1878, Boston has suffered more from the inroads of diphtheria than any other large American city. Although a marked reduction in the mortality has been effected in recent years, the number of deaths from this disease in 1894 was 817, and in 1898, 170. The case-mortality has ranged from 35.7 per cent. in 1881 to 9.76 per cent. in 1899, and the disease in the latter year was of an extremely virulent type. While the ratio of mortality from diphtheria, for 10,000 of the living in Boston, in 1893 was more than 11 and in 1894 more than 19—being higher than in London, Liverpool, Glasgow and Paris, as well as New York, Philadelphia, Brooklyn, Chicago and St. Louis—by 1898 it had fallen to 3, and in 1899 it was 4.9, as low as in some and lower than in others of the cities named. This reduction coincides with the opening of South Department in 1895, when every case of diphtheria admitted was treated with the antitoxin. Prior to this year only about 10 per cent. of the reported cases were treated in hospitals, while in succeeding years 50 per cent. were so treated.

The excessive prevalence of diphtheria in Boston is shown by the fact that the ratio of morbidity in 1895 was 81, and in 1899, 51; while in Glasgow it was in 1898 only 5.9, in London 25.62, in New York 37.06, and in 1899 in New York 38.77. With the reduction in the morbidity ratio in Boston there has been also a reduction in the mortality ratio per 10,000, from 11.73 in 1895 to 4.99 in 1899, and in the case-mortality, from 14.48 per cent. in 1895 to 9.76 in 1899. Prior to 1895 the mortality rate from diphtheria in the Boston City Hospital was 46 per cent., while in the five years that the South Department has been in operation—and 7657 cases were treated—the mortality has been 12.09 per cent. Of this number 772, or 10 per cent., required operative intervention. In 100 others, marked laryngeal symptoms were present, but the stenosis was relieved by the antitoxin. The mortality in cases requiring intubation was 34 per cent. This is due in part to the fact that the serum was administered in large doses when there was any indication that the membrane was extending into the bronchi.

The guiding rule in the administration of the serum is that it must be given until the characteristic effects are produced, namely, shriveling of the membrane, diminution in nasal discharge, correction of fetid odor and general improvement in the condition of the patient, whether 4000 or 70,000 units be required. The injunction is laid down that no case of diphtheria in the acute stage should be considered hopeless, but antitoxin should unconditionally be administered. In illustration of the advantage of the early administration of anti-

toxin, it is pointed out that, since September, 1895, there have been 101 cases of diphtheria among the staff of South Department, contracted in the line of duty, without a single death. Each patient received a full dose of 4000 units at the outset, or as soon as there were any symptoms of the disease. In some instances it was not necessary to repeat the dose, while in others it was repeated two or three times. In none was there any marked paralysis or any heart complication, and the duration of the illness was comparatively short. Altogether, small doses of antitoxin proved of little avail in the treatment of grave cases, but the best results were yielded by heroic doses. When death occurred it was due to nerve degeneration or septicemia. In no instance was any injurious effect produced by either large or small doses of the antitoxin.

In view of all of the evidence there can no longer be any excuse for failure to administer the antitoxin in every case of diphtheria, mild or grave, and the earlier the better, in dosage sufficient to bring about the desired result.

SCIENTIFIC USE OF HOSPITALS.

Sir Michael Foster discourses upon this interesting topic in a recent magazine article.¹ While much that is already known must be learned by the medical student, there remains a vast extent of unknown that must be learned before the healing art may gain the mastery of disease desired so much by all. Our hospitals offer great opportunities for gathering new truths, but unfortunately adequate use is not made of these opportunities, not only in England but also in this country, and quite likely elsewhere as well. Sir Michael Foster meets the constantly recurring agitation against hospitals being used for the purposes of experiment—which is the favorite phrase of those misdirected persons who hold that hospitals ought not to serve for advancing knowledge—by pointing out that every sick person who seeks medical aid makes himself the subject of an investigation, that no physician or surgeon is ever absolutely sure of the result of his act, while the knowledge gained by the result thereof is always made of use to others.

Thus every hospital and every doctor's office becomes the daily scene of a continued series of experiments, each for the special and immediate benefit of the patient who is subjected to them. And rightly used this newly gained knowledge makes for the welfare of succeeding patients, each increment of knowledge meaning decrement of human suffering. The welfare of the individual patient and the advancement of knowledge go hand in hand. Looking at the daily work of a hospital in this broad way, is not Sir Michael Foster in the right when he ventures the criticism that the analysis of the phenomena observed at the bedside and in the laboratory is only too often not so exact, so complete and so systematic as it ought to be?

1. Boston Med. and Surg. Jour., 1900, No. 25, p. 627.

1. The Nineteenth Century and After, January, 1901, 57-63.

Such analysis demands the use of exact methods and of the instruments of precision of physics, chemistry, and biology.

A few test-tubes, an alcohol lamp, and a microscope are no longer adequate for the exact and complete analysis of the phenomena of disease, which now requires clinical and other laboratories fully equipped with a variety of appliances. These laboratories are distinct from educational laboratories because they are to be used for the direct and special benefit of the patients. A complete study and analysis of this character may be of great use in determining facts of signal importance as regards the nature of the patient's disease; data may accumulate for the purpose of subsequent inquiry and study; but the highest value of the results of proper analysis lies in their use to throw light on the nature of disease. This means the institution of a series of inquiries with definite ends in view. Every surgeon and every physician, from the chief down to the lowest grade, should be animated by the spirit of inquiry and research; even then but a fraction of the problems presented could be properly handled. "The harvest of truth is plentiful, but the laborers are few."

Sir Michael Foster's assertion that the great hospitals of London are behindhand in equipment and in the kind of work that advance medical knowledge is true when applied to most of our own hospitals as measured with his standard even though it was what he heard on this side of the water during his recent stay here that led to the thoughts put forth in this article! The organization of the majority of our large hospitals is utterly inadequate to make scientific use of the opportunities offered for advancing medical knowledge. A hospital with its wards and its scientific equipment is in reality a great medical laboratory whose duty it is to heal the sick and to increase knowledge, the two being inseparable. It may confidently be asserted that where the second duty is not or can not be performed properly, there the first also suffers neglect.

THE ARMY MEDICAL SERVICE.

Under the army reorganization act, which has now become a law, the medical corps is enlarged from a total of 192 to 321 medical officers, including the surgeon-general with the rank of brigadier general, 8 assistant surgeon-generals with the rank of colonel, 12 deputy surgeon-generals with the rank of lieutenant-colonel, 60 surgeons with the rank of major, and 240 assistant surgeons with the rank of first lieutenant, mounted, for the first five years, and the rank of captain, mounted, thereafter until promoted to major. There are now, therefore, 129 original vacancies in the corps of assistant surgeons, and the war department has published a circular of information for candidates seeking these positions, which can be obtained by application to the Surgeon-General of the Army, Washington, D. C. The examinations, which will be held at an early day, are both physical and professional. Candidates

must be citizens of the United States, between the ages of 22 and 29, except in cases where they have served honorably in the Army of the United States as commissioned medical officer of volunteers or as acting assistant surgeon when the age limit is raised to 34 years. Permission to appear before the board is obtained by letter to the Secretary of War, which must be in the applicant's handwriting, giving date and place of birth and be accompanied by certificates, based on personal acquaintance, from at least two reputable persons, as to citizenship, character and habits. The examinations are thorough, the professional one both oral and written and including also clinical bedside diagnosis and prescriptions and operations on the cadaver. Candidates must also show evidence of at least one year's hospital experience or at least two years of private practice since graduation. Degrees from other than medical schools approved by the board, or first-class teachers' certificates, will usually exempt the candidate from examination in other than professional subjects, but any evidence of deficiency in general education on elementary subjects will subject the candidate to a special oral examination in arithmetic, history, geography, literature, and physics, which if not satisfactory will be cause for his rejection. Candidates claiming especial knowledge of higher mathematics, languages, drawing, chemistry, or branches of natural science will be examined in those subjects as accomplishments, and will receive due credit therefor according to their proficiency.

To save needless expense to candidates, a preliminary physical examination may be undergone by special permission, at the nearest military post or recruiting station, but any opinion from such will not be binding on the regular examining board.

The merits of the candidates in the several branches, and their relative merit as shown by the whole examination, will be reported by the board, and in accordance with such report, approved candidates will be appointed to such vacancies as may exist within two years. No allowance will be made for expenses of persons undergoing examination.

The pay of an assistant surgeon for the first five years is \$1600 per annum; after promotion to captain's rank it is \$2000, which, with the 10 per cent. increase for five years' service, is \$2200. After ten years' service as captain the pay is \$2400. The pay of a surgeon with rank of major is \$2500 with 10 per cent. added for each five years of service, till after twenty years it is \$3500. Liberal allowance for quarters, where not furnished, traveling expenses on duty, and other perquisites should be counted as adding to the remuneration.

Since 1893 an army medical school or special course has been authorized and maintained at the Army Medical Museum, Washington, for the purpose of instructing medical officers who have been appointed since the last preceding term of school and such others as may be authorized to attend. The course covers five months, commencing in November, and includes the subjects

of the special duties of army medical officers, customs of the service, military hygiene, etc., so that the newly-appointed officers do not go at once unprepared to their new duties.

It will be noted that the chances for appointment are not limited to the vacancies now existing, but include whatever vacancies may occur within two years of a successful examination. At no time in the past have the opportunities been better for qualified young physicians to enter the regular army medical corps, than at the present time.

The army career promises to the young surgeon steady employment with constantly increasing pay and the prospects of retirement with reasonable compensation at the age when one would feel ready to be relieved of active duties. While it does not promise the rewards of exceptional success in general practice, it certainly does give better prospects than the average practitioner can reasonably expect. The social position is good, the chance for self-improvement and scientific work is ample. The government is liberal at its posts, with instruments, means and journals, and any physician with a scientific turn of mind will find himself favorably situated to follow out his specialty. While in some respects the practice is limited and some of the posts to which a physician may be sent are not desirable, changes are always likely to take place for the better.

PROPRIETARY MEDICINES AND THE REVENUE STAMP.

A portion of the lay press is up in arms against the senate modification of the revenue bill that keeps up the stamp tax on proprietary medicines with secret formulæ. It is easy to see the motive of the opposition: the patent medicine advertiser is one of the chief sources of income of many newspapers and whatever is against his interests is against theirs also. This is no reason, however, why the interests of the public should not be held as above those of owners of private formulæ and advertising publishers. Patent medicines, so-called, are as a class directly harmful to the public, and it is unfortunate that the tax is not great enough to put them out of existence. But failing this, there is no reason why they should not contribute to the government revenues. It will, moreover, be a distinct advantage to the medical profession to know by a government mark, at sight, what preparations are ethical and what are not. The amended bill is now before a conference committee, and we trust that this senate amendment will go through unchanged.

A CENSORSHIP FOR ARTICLES OF THE MATERIA MEDICA.

The choice of drugs in the treatment of disease is daily becoming increasingly difficult, not only on account of the large number being constantly exploited, but more especially by reason of uncertainty as to their nature and efficacy. Only one who has been placed in a position requiring a clear-cut decision can realize how great, at times, is the difficulty of forming an opinion

as to the medicinal value and the ethical standing of a large number of preparations on the market at the present day. We fear that often the most advertised remedies—sometimes irrespective of their merits—are those that are most largely used. For these reasons we sincerely join in the hope recently expressed editorially,¹ that the near future may see established “a proper censorship, to act as a directing agent, protecting the profession from deception,” whose duty it shall be to decide as to the therapeutic value and the ethical character of all, and especially new, drugs and combinations of drugs, as well as a host of allied substances, such as glandular extracts, artificial foods, food-substitutes, and the like, offered to the medical profession. As matters stand, guilty and innocent among manufacturing pharmacists must suffer alike, to the detriment and the disadvantage of the practitioner of medicine.

FATALITY OF THE RATTLESNAKE.

A paragraph is going the rounds of the lay press that, according to the statements of a prominent professor in the University of Chicago, death from rattlesnake bite is a great rarity. He is reported as saying that for twenty years he has sought in vain for an authoritative case of death from that cause, and though many reports have been investigated they have proved unfounded. Only recently has he come upon a genuine case, and it is sufficiently remarkable to make it especially notable as an exception to the general rule of the non-fatality of rattlesnake bite. It is only fair to state, in this connection, that the professor referred to is not a medical man and is not connected with the medical department of the university. This will probably account for the ill success of his researches to discover fatal cases; if he had consulted medical literature or had a wide acquaintance with medical practitioners, the results would have been different. It is true that popular ideas of the deadliness of snake bites are exaggerated, and that the bite of some of the smaller and more common species of the *Crotalidæ* are not as serious as those of the larger ones. There is, however, ample reason to avoid such accidents, and if deaths are rare they nevertheless are frequent enough to justify the common dread of these reptiles. It would be unfortunate should such utterances be credited to the extent of leading any one to needless risks or to avoid necessary precautions as regards bite from poisonous snakes.

JAMAICA-GINGER DRINKERS' AMBLYOPIA.

Since 1897 a number of cases of amblyopia from the use of extract of Jamaica ginger have been reported in medical journals, two of which having appeared within the last month. In all cases the cause of the symptoms has been credited to the ginger constituent, and some speculation has been indulged in as to how it could produce the retrobulbar neuritis or whatever other lesion was assumed to be its underlying pathologic condition. Aside from these observations, there is no evidence of any such special toxic action of ginger. It may, if taken in excess, be irritating to the stomach or throat, but it has otherwise no record to place it among the active poisons to the nervous system. This fact has been one

1. Merck's Archives, January.

of the puzzles to the reporters of these cases. Alcohol in excess, especially with tobacco, can cause the symptom, but the ginger-essence drinkers do not appear to have imbibed enough alcohol to thus account for it; at least it was not so credited. Now, however, there comes a report from Baltimore that certain manufacturers or wholesale druggists have been putting out on the public an essence of ginger the alcoholic constituent of which is methyl alcohol, or possibly what is called methylated spirit, instead of the more expensive ethyl alcohol, a substance which Casey A. Wood¹ and others have shown to be quite capable of producing amblyopia, not merely when ingested internally, but also when inhaled or otherwise absorbed in its concentrated form. This, if true, and it is said that the accusation is backed by the Medico-Chirurgical Faculty of Maryland, will go far to account for the misfortunes of the ginger-essence toppers who are said to exist in large numbers in the dry towns of Maryland, West Virginia and Pennsylvania. The way of the transgressor whose appetite for alcohol leads him to indulge in drug substitutes is hard in many ways, and this is only one of them. It is likely moreover, that the transgressing druggists may also find themselves embarrassed with damage suits and a more or less dilapidated reputation.

THE HEALTH OF THE ARMY IN THE PHILIPPINES.

The annual report of Col. Charles R. Greenleaf, assistant surgeon-general U. S. A. and chief surgeon of the division of the Philippines, contains a number of interesting facts. He shows that the percentage of non-effectives in the forces has decreased, but he thinks that sickness and mortality can not be expected to decrease in the future as the effects of tropical exposure are cumulative. In cases of reduced vitality from tropical diseases, a return to the United States is an imperative necessity, and this is accentuated by the effects of nostalgia and mental strain due to the special character of the service in the small posts and the assassinating methods of the insurgents. For want of a better name, the mental state thus induced is called insanity, but it is often completely cured by the journey home. It is evidently a state of neurasthenic depression hardly deserving the name of insanity. While somewhat pessimistic in tone in some respects the report still gives encouraging facts. With improved sanitation, Dr. Greenleaf believes the sickness could be reduced by nearly one-half; the embarrassments in obtaining this are due chiefly to the shortage of medical officers—there are only 233 effective to supply over 400 posts, supervising duties, general hospitals, China details, etc., taking up the remainder of the already inadequate force of 336 surgeons in the archipelago. This is one of the worst features of the situation and is aggravated by the unavoidable inexperience of many of the acting assistant surgeons, who have to fill out the number and supplement the small number of regular army officers. Other features of interest in the report are the data as to prevalent disorders, among which we find that venereal disease, that special scourge of the British army in the tropics, has only a very subordinate place; the remarks on the army ration, on leprosy, etc. The report,

while brief, is a most interesting medical document, and one that is an important contribution to military medical literature.

TREATMENT OF CHRONIC CATARRHAL DISEASE OF THE MIDDLE EAR BY MEANS OF INTRATUBAL INJECTIONS OF PILOCARPIN.

In many cases of impaired hearing dependent on catarrhal and adhesive processes in the middle ear, considerable improvement can be effected by patient, persistent and systematic treatment of the nasopharynx and the ear itself through the Eustachian tube. In some, however, the auditory defect is extremely resistant, and, together with tinnitus and other manifestations, may be a source of great annoyance and distress. Surgical measures have been proposed in the treatment of such cases, but the results can not be said to be as brilliant as the character of the therapeutic procedure would justify hope of their being. Some twenty years ago Dr. Adam Politzer, the distinguished Vienna otologist, recommended subcutaneous injections of pilocarpin hydrochlorate in the treatment of certain chronic affections of the middle and the internal ear. A number of years later he began to make the injections directly into the ear through the Eustachian tube, instead of beneath the skin, with good results. Other observers have not reported equal success, but Fischenich¹ summarizes the results of his experience in 120 cases of various forms of disease of the middle ear, attended with catarrh, sclerosis and adhesions. The cases were principally such as had proved unyielding to other methods of treatment, and the impairment of hearing was generally marked. The manipulation, which is preceded and followed by ordinary catheterization, consists in the introduction into the middle ear, through a large aural catheter, of an appropriate elastic catheter with a large central opening, followed by the injection of from 6 or 8 to 10, 12 or 16 drops of a 2 per cent. aqueous solution of pilocarpin hydrochlorate. The injection is immediately followed by vertigo and pain, which, however, soon subside. The number of injections varies between thirty and fifty, in accordance with the severity of the case. The course of treatment is to be concluded by a series of insufflations of air. The resulting improvement often continues after the treatment has been suspended.

THE INJURIOUS CONSTITUENTS OF POTABLE SPIRITS.

Inasmuch as all forms of spirit ordinarily drunk contain ethylic alcohol in common and largely, the varying effects to which they give rise qualitatively must be due to the presence of other substances. Among these are aldehyd, compound ether, fusel oil, and certain volatile basic bodies. These are present—and more particularly the aldehyd—in larger amount in raw than in matured spirit; and it is probably for this reason, among others, that ripe spirit is preferred and that its use is followed by less unpleasant secondary effects. Some experimental observations recently recorded by Brunton and Tunnicliffe,² go to confirm the opinion that the especially troublesome effects of intoxication with spirits is due not so much to the ethylic alcohol as, in part at

1. Berliner Klin. Woch., 1900, No. 46, p. 1033.

2. The Lancet, Dec. 8, 1900, p. 1653.

least, to the aldehyd, and especially that known as furfural. This is derived from a class of substances designated pentosanes, which are present in the cellulose of the grain husks used in the preparation of various forms of spirit. It was found experimentally that furfural in active doses causes paralysis of voluntary muscles, and, later, clonic and tonic convulsions, with rapid and irregular breathing—all of a remarkably transient character. From smaller doses ataxia, tremors and twitching, especially of the facial muscles, resulted. In man pain developed at the back of the neck, extending to the occipital region, with a sense of throbbing and pulsation in the vessels of the head, and followed by dull headache for some time. On removal of the aldehyd from the spirits used recovery was much more sudden and accompanied by less marked secondary symptoms. The animals, instead of being restless and evidently uncomfortable, refusing food and exhibiting signs of bad temper, were quiet and soon restored to the normal. These observations emphasize the necessity of ensuring the purity of articles for internal consumption, whether for dietetic or for medicinal purposes, and they raise the question whether it were not preferable, as has often been urged, when alcohol is indicated in the treatment of disease, that a chemically pure article of this, rather than whisky, brandy or wine, should be used.

Medical News.

CALIFORNIA.

The Oakland Medical College's new building will be ready for the reception of students by September 1.

Dr. Paul S. Anderson, Redlands, has been appointed assistant health officer of San Bernardino County, vice Dr. Gayle G. Moseley, resigned.

The Woman's Hospital has been incorporated at Los Angeles, with a capital stock of \$20,000. It is to be devoted entirely to the needs of women.

The death-rate of Los Angeles for January was the highest in the records of that city—28.22 per 1000 per annum. Of the 241 deaths, 93 were from diseases of the respiratory system, 178 of the 241 were from other than the Pacific coast states.

The County Hospital, just erected at Riverside at a cost of \$20,000, has been found too small for its intended purpose. The county board of supervisors has purchased eight acres of land adjoining the hospital, on which it is proposed to erect two ward-cottages.

FLORIDA.

Dr. Joseph Y. Porter, Key West, state health officer, was elected a member of the legislature.

Dr. Luby S. Smith, quarantine officer at Carrabelle, has been made special agent of the State Board of Health at Arcadia.

Dr. Marcellus McCreary, Pensacola, has been appointed a member of the board of medical examiners for the First Judicial District, vice Dr. Charles B. McKinnon, resigned.

GEORGIA.

The Atlanta Board of Health has requested the city council to define its duties, especially as to the treatment and handling of smallpox cases. The council is also asked either to give the board a free hand or to relieve it of this portion of its duties.

Proprietary medicines are to be inspected by the state commissioner of agriculture, whose decision as to their usefulness and wholesomeness is to be final. The especial qualifications of the chief of agriculture, who is supposedly a layman, to pass upon these matters, however, are not clear.

ILLINOIS.

Chicago.

Dr. Andrew McDiarmid has petitioned the circuit court to be allowed to resume his family name of McDermid.

Dr. John S. Marshall, one of the board of three appointed to examine applicants for the position of dentist in the army, reported for duty to the Surgeon-General, February 17.

The mortality for the week ended February 16 was 504, a death-rate per 1000 of 15.46 per annum. Violence caused 30 deaths and disease of the respiratory system 195; 105 persons died who were over the age of 60, and 98 infants under 1 year; 298 males and 206 females died.

The Chicago Lying-In Hospital reports that the demand for rooms is so great that an immediate enlargement of the building is imperative. Plans have been prepared and it is hoped that the work may be started in the spring. During the year just past 974 patients have been treated and 11,129 visits made.

Virtue of Vaccination.—The commissioner of health calls attention to the freedom of the police force from smallpox. No known case of the disease has occurred among members of the force in more than seven years, and this immunity, notwithstanding their frequent exposure, is due solely to the enforcement of vaccination. Similarly as to school children, among an average yearly population of more than 250,000 public and parochial school pupils, there have been only four known cases of smallpox in the last ten years, and these were in children admitted to school on fraudulent certificates of vaccination. As object-lessons of the virtue of vaccination these facts are sufficiently striking.

The Public Health Conditions.—These are still satisfactory. There has been no such increase of throat and lung diseases as might have been anticipated from the meteorologic conditions of the past fortnight and the contagious diseases of childhood—diphtheria, scarlet fever, measles and whooping-cough—are neither usually prevalent nor fatal. The smallpox situation remains unchanged—only 17 new cases during the week. At the close of the previous week there were 44 cases in the Isolation Hospital: 17 were admitted during the week, and 23 discharged, with no death, 38 remaining under treatment. With one exception the cases are mild and promise speedy recovery. The commissioner of health announces that the stock of glycerinated vaccin lymph on hand has ripened sufficiently to make resumption of vaccination safe.

INDIANA.

Dr. Walker Schell, Terre Haute, returned from his European trip, February 13.

Dr. Ernest Moraweck, Tell City, has returned after several years' study in Vienna, and will locate in Louisville, Ky.

A bill has been introduced in the house increasing the salary of the secretary of the State Board of Health from \$1200 to \$2800, and requiring him to devote his entire time to his official duties.

The Dowie heresy and its prototypes will continue to flourish in Indiana if the senate upholds the action of the committee which recommended the indefinite postponement of a bill providing that a physician must be called in case of sickness of children or dependents, and providing further a penalty in case of the death of a child or other dependent without medical attendance.

IOWA.

Dr. John W. Lauder, Afton, was elected state physician of the Modern Woodmen of America on February 13.

Dr. Fred W. Powers, Reinbeck, has been appointed to the position on the State Board of Health made vacant by the resignation of Dr. Joseph A. Scroggs, Keokuk.

Dr. James F. Presnell, acting assistant-surgeon in the army, formerly a practitioner in Lake View, has been nominated by the President as assistant-surgeon with the rank of captain.

KENTUCKY.

Dr. Marion G. Milan, who has been health officer of Paducah for six years, has resigned.

Dr. J. Hunter Peak, Louisville, who was recently deposed as local pension examiner, has been appointed special medical examiner of the Bureau of Pensions for the District of Kentucky.

Health Needs of Louisville.—Dr. Mavarell K. Allen, health officer of Louisville, states officially that the chief needs of his department are a city chemist, better facilities for protecting child-life against infectious and contagious diseases, proper disinfection of houses, more inspectors and more clerical aid. For these purposes \$15,000 is needed for the year. The council has appropriated less than half that amount for the department.

MARYLAND.

Dr. C. Z. Wingard, Funkstown, was struck by a train, near Hagerstown, on February 13, and seriously injured.

Health Recommendations.—City Health Officer O. W. Ragan, M.D., Hagerstown, recommends that the city council prohibit spitting on the sidewalks, in public conveyances and buildings; the keeping of hogs in the city from May 1 to October 1; the use of slaughter-houses from May 1 to October 1, and the rendering of tallow for the same period, except by improved machinery sanctioned by the sanitary board.

Baltimore.

Dr. Edwin F. Moriarty has been appointed assistant resident physician at the Baltimore University Hospital, vice Dr. Wm. F. Stover, resigned.

The total deaths for the week ended February 16 were 242, pneumonia reaching the unprecedented number of 59. There were also 31 deaths from other diseases of the respiratory system.

Dr. John M. T. Finney was elected president of the Princeton Alumni Association of Baltimore for the ensuing year. President Patton advocated a preparatory medical school at Princeton.

The health department is enforcing a rule that all children recovering from diphtheria, scarlet fever or measles show a certificate from the department before they are allowed to return to school.

The death-rate has been alarming of late, that for the week ended February 2 being greater than any in the last five years. No less than 62 deaths from pneumonia were reported. Consumption caused 36, influenza 10, and the total mortality was 262.

Rohe Memorial.—A Rohé memorial meeting was held by the Medical Society of the College of Physicians and Surgeons, on February 6. A beautiful tribute to Dr. Rohé as man and friend was read by his colleague, Prof. Wm. Simon, and personal reminiscences were given of the deceased physician and alienist by Drs. A. Friedenwald, J. Chambers, T. A. Ashby, and others.

MASSACHUSETTS.

The Board of Health of Fall River has elected Dr. Albert C. Dedrick, chairman, and Dr. Louis V. Cabana, agent.

Dr. Thomas J. Dion has been reappointed a member of the Quincy Board of Health, and Dr. Charles W. Garey has resigned.

Dr. W. J. Campbell has been elected house physician of the Worcester City Hospital, and Dr. Albert Wood, vice-president of the board of trustees.

A petition has been received in the house of representatives to the effect that any person not registered as a physician or surgeon who advertises as a healer of disease shall be punished by a fine of not less than \$100 or more than \$500 for each offense.

MICHIGAN.

Dr. Frank W. Martin, Portland, was elected state physician of the Modern Woodmen of America, February 14.

Dr. Albert B. Simonson, Calumet, has succeeded Dr. Emmet H. Pomeroy as chief of the medical staff of the Calumet and Hecla Company.

A Dowie Disciple in Kalamazoo, whose children have not been allowed to return to school because they had not been vaccinated, threatens to test the state health laws, and to have a bill introduced in the legislature making vaccination of school children optional with parents.

MISSOURI.

Dr. James W. Smith, Pleasant Hill, has been appointed president of the board of managers of the State Hospital for the Insane, at Fulton.

Lewis County has accepted the new law providing for county boards of health and has named Dr. W. B. Simpson, La Belle, as its medical adviser.

The Stylus has been purchased by, and will be consolidated with, the *Interstate Medical Journal*, and the two publications continued under the latter name. Dr. William Porter, editor of *The Stylus*, will be associated with Drs. W. B. Outten, R. B. H. Gradwohl and O. F. Ball, in the editorial management.

MONTANA.

Northern Pacific R. R. employees have received notification from headquarters at St. Paul to immediately report to their own or the company physician and be vaccinated unless they have been vaccinated within the last four years.

NEBRASKA.

Dr. Ruth M. Wood, Lincoln, has been appointed physician to the Girls' Industrial Home, Milford.

Dr. Hallie D. Ewing, Hastings, has been re-appointed second assistant physician at the Asylum for the Chronic Insane, at that place.

A hospital-corps school for the instruction of privates of the hospital corps of the army, in the duties of their position, is to be established at Fort Crook.

NEW YORK.

The senate has passed the bill abolishing the present State Board of Health, and establishing a single-headed commission.

The Niagara County Medical Society held a special meeting at Lockport, February 9, and adopted resolutions in memory of its lately deceased member, Dr. Henry C. Hill, of Lockport.

Professional Confidence.—A bill has been introduced into the legislature to include nurses within the scope of Sections 834 and 836 of the Code of Civil Procedure, so as to place on them the same restrictions as on physicians, regarding revealing information obtained from patients while serving in a confidential and professional capacity.

New York City.

Dr. Alfred E. Meyer, while at El Paso, Texas, on his way to California, in the capacity of medical adviser and friend of a wealthy banker and his wife, was drugged, assaulted and robbed.

A bust of Dr. Horace Green, a pioneer in the medical profession of the city, was presented to the New York Academy of Medicine, February 7, Dr. D. B. St. John Roosa making the presentation address.

The Platt Pavilion, an addition to the New York Eye and Ear Infirmary, erected to the memory of James N. Platt, through the generosity of the family of the late Justin A. Bliss, will be opened to the public in a few days. It is a fire-proof edifice and contains isolated wards for the treatment of contagious ophthalmia.

New Hospital Site.—The New York Red Cross Hospital and Training School has just closed negotiations for a new site for the hospital on Central Park West, near One Hundredth street. The plot measures 99 by 100 feet, and cost \$100,000. The plans contemplate the erection of a hospital with accommodations for 100 patients and a nurses' home for about twenty nurses.

Bellevue Hospital.—In the face of the recent presentment of the grand jury, and the demonstration that Bellevue Hospital is maintained at a much lower per-capita rate than other institutions of its kind, the present city administration flatly refuses to give another dollar toward carrying out the much-needed work of reform. Six new nurses, men of middle age, who have had experience in the care of the insane, have been appointed to duty in the insane pavilion, and are said to be receiving \$30 each per week.

OHIO.

Dr. Edward C. Brush, Zanesville, has been appointed local surgeon of the Wheeling & Lake Erie R.R.

Dr. F. W. Smedley, who resigned as health officer of Cleveland in January last, has been re-elected to that position.

The City Council of Akron has donated \$5,000 to aid in ridding the city hospital of its indebtedness of \$15,000. When this has been accomplished, a contingent donation of \$100,000 will be made by O. C. Barber.

Cincinnati.

To Hold Murderers.—Dr. Harmon, of Longview Asylum, and Prosecutor Hoffheimer, have arranged that all patients at Longview, who are sent to the hospital after being charged with murder, will not be dismissed until the prosecutor has received proper notification.

Divine Healer Bound Over.—Squire Winkler, February 18, refused to dismiss the cases of Frank Brokamp and Mrs. "Dr." Yaeger, charged with practicing medicine without a license. He held that the alleged divine healers do not, according to the plea of their attorney, come under the provisions of the statute relating to osteopaths. He said that, at any rate, osteopaths must be registered, and the defendants had not been. He bound Brokamp over to the grand jury under a \$500 bond, and continued "Dr." Yaeger's case for a week. On cross-examination Brokamp was asked by the attorney for the State Medical Board what he knew about anatomy. The healer looked

puzzled and asked the judge what the word anatomy meant. His own attorney attempted to excuse his client on the ground that he was a German and did not understand certain words in the English language. He was then asked how he could diagnose a patient's illness if he could not tell the symptoms of disease. The answer was that the same treatment applied to everything from toothache to heart disease. When asked what the treatment consisted of, the defendant refused to answer, stating that that would be revealing professional secrets, and that every physician in town could cure every ill, if he knew his (the healer's) secrets. On cross examination he admitted that while not healing he acted as gardner to the metaphysical institute.

PENNSYLVANIA.

Dr. Morris H. Koch, Kutztown, fractured both arms in a runaway accident, January 30.

Dr. Harry M. Acheson was re-elected president of the board of Health of Washington, on February 7.

Changes in Hospital Staff.—The death of Dr. Schneider has necessitated several changes in the staff of the Williamsport Hospital. Dr. Thomas C. Rich has been elected secretary of the board of managers; Dr. William E. Glosser has been placed on the medical staff, and Dr. John A. Klump made abdominal surgeon.

Philadelphia.

The Wills Eye Hospital has added to its surgical staff Drs. John William Pancoast and William L. Zuill.

Dr. Irvin E. Bennett, of this city, now on duty with the United States forces in Peking, has been made a major and surgeon of volunteers.

The Mutual Aid Association of the Philadelphia County Medical Society has received a legacy of \$8,110.55 from the late Dr. Albert Fricke.

The Philadelphia Neurological Society, at the close of its February 25 meeting, will tender a reception to Drs. George L. Walton and Walter E. Paul, of Boston, who present a paper on "Astereognosis," before the Society.

The Stille Medical Society, University of Pennsylvania, gave a dinner February 15, in honor of Dr. Richard C. Cabot, of Boston. The following responded to toasts: Drs. John H. Musser, George E. DeSchweinitz and J. H. Penniman.

Appropriations.—The Wills Eye Hospital has made a request of the legislature for the following appropriations: For the completion of the contagious ward, \$25,000; for its equipment, \$10,000, and for its maintenance for two years, \$40,000.

The Philadelphia County Medical Society, at its meeting on February 13, adopted a resolution opposing the antivaccination bill now before the state legislature. The society in this way endorses the compulsory vaccination law now in vogue in this state.

Dr. Keen's Holiday.—Dr. William W. Keen has asked for a leave of absence from Jefferson Medical College, for a year, that he may take a long-needed vacation and rest. He intends to go to St. Paul for the meeting of THE AMERICAN MEDICAL ASSOCIATION, and then spend a year in a leisurely trip around the world, returning to Philadelphia to resume his practice and college work in September, 1902. The rumors that Dr. Keen intends to retire from practice and teaching, he authorizes us to say are without foundation.

TEXAS.

A monument to the late Dr. Francis M. Logsdon, of Beeville, erected by the Woodmen of the World, was unveiled, February 1.

Dr. John Cunningham, Ravenna, was elected February 10 to fill the unexpired term, in the house of representatives, of W. W. Riddling, deceased.

Waco physicians favor the creation of a state board of health, and have petitioned the legislature to better the health and quarantine laws of the state.

WASHINGTON.

Dr. William C. Gibson has been chosen president of the Seattle Board of Health for the ensuing year.

Dr. Walter F. Morrison, Spokane, has been appointed physician of Spokane county, vice Dr. Benjamin R. Freeman, term expired.

Seattle's mortality for 1900 is said to have been at the rate of 8.69 per 1000 per annum. The total deaths for the year were 783.

Dr. N. Fred Essig, Spokane, has been appointed surgeon for the Kalispell and Cascade divisions of the Great Northern Railway, to succeed Dr. Donald G. Russell.

CANADA.

Dr. H. G. Barrie, Toronto, who was in South Africa as the Y. M. C. A. representative, will shortly leave for Shanghai, to do mission work for that organization.

Smallpox in Northern Ontario.—The Provincial Board of Health of Ontario recently held a meeting to consider the outbreak of smallpox along the Canadian Pacific Railway in the northern section of the province, at Sudbury and elsewhere. The disease has appeared in several places, all the way from the "Soo" to Ottawa; and Dr. C. A. Hodgetts, of Toronto, has been sent to Sudbury, where he has discovered ten cases.

Diplomas in Legal Medicine.—The corporation of McGill University met last week and the proposal of the medical faculty to grant diplomas in legal medicine was approved. The diploma will be awarded after a special post-graduate course under certain specified conditions, yet to be made public. The matriculation standard of the medical faculty was also discussed, and it is proposed to raise the standard and make it equivalent to that set by the highest requirements of any province in the Dominion.

The Tuberculin Test.—While the medical men were holding their conference for the purpose of limiting the ravages of tuberculosis in Canada, the cattle men were holding a convention in the same city for the purpose of getting rid of the tuberculin test. In Canada the law requires that a strict test by tuberculin be made on all imported cattle while in quarantine. As a result of this conference with the minister of agriculture, it was agreed that the regulations should be somewhat modified. Toward this end legislation will be introduced during the present session of parliament, abolishing the law which now prohibits selling the hides of tuberculous stock, as scientists agree that there is not the slightest danger from selling these. The minister was opposed to the abolition of the tuberculin test, but some changes may be made regarding the employment of the test in thoroughbred cattle imported for breeding purposes.

Ontario Asylums Report.—The annual report of the asylums for the lunatics and idiots of the province gives the asylum population of Ontario as 5512, with an average of 5137 in daily residence. In 1900, the expenditure for the maintenance in the province was \$634,977.42, the per capita cost being \$126.26. During the year 1900, 254 patients recovered, an increase of seven over the previous year, and 311 were discharged on probation, the average for the previous ten years being 255. The number of deaths was 269, a decrease of 23, as compared with 1899. Seventy-six per cent. of the population was employed, the percentage for the previous ten years being 75. The revenue from paying patients totaled \$78,450.70, nearly \$4500 above the average. Dr. Daniel Clarke, superintendent of the Toronto Asylum, contributed to the report a paper in which he combats the theory that insanity is purely a mental disease. He contends that it is always a bodily disease, and that mental or moral perturbations are occasions, not causes, of brain disease.

Health on the Yukon.—On the 15th of January the thermometer registered 68.5 degrees below zero; and the average minimum temperature for nine days was 60 below. Accompanying this intense cold in the Yukon valley was the regular, peculiar white mist, so dense that nothing could be seen more than fifty yards away. An epidemic of dog madness prevailed throughout Dawson for some days in January. As to the cause of this, Dr. McArthur, the medical health officer, is of the opinion that it is genuine rabies, which became prevalent by contagion. It is expected that it will take some months for the disease to become extinct. All the dogs have been impounded and so far no person has been bitten. Typhoid and pneumonia have been very prevalent during the past two months, the latter being of a very severe, acute type. "Typho-pneumonia" has proved very fatal. It is stated that the pneumonia appears first and that at the time of the crisis, abdominal troubles with other marked symptoms of typhoid appear, resulting in a fatal collapse. During the past two months the death-rate has been very high. Several well-known citizens have succumbed to this fatal complication.

Conference on Tuberculosis.—In response to a general call by Lord Minto, the governor-general of Canada, there gathered at Ottawa, on the 14th inst., a large number of the prominent medical men of the Dominion as well as many private citizens. Every province of the Dominion was represented.

The object of the Conference was to place the Canadian Association for the Prevention of Tuberculosis, which was organized at the last meeting of the Canadian Medical Association, at Ottawa, on a permanent and established basis. Sir William Hingston, Professor Adami, Sir James Grant and Dr. Roddie took a prominent part in the proceedings. Professor Adami proposed that the Dominion government should have all immigrants examined for the purpose of curtailing the disease in that quarter. Dr. Chown, of Winnipeg, declared that the air of Winnipeg and Manitoba was free from the germs of tuberculosis. Dr. Lafferty, of Calgary, wants the government to erect sanatoria in the northwest, as that district is simply overrun with the tuberculous, fast becoming a menace to the residents. The association was organized with the Earl of Minto as honorary president and Sir James Grant as president. The association will petition the dominion parliament, now in session, to grant aid for the building of sanatoria and also to establish a department of public health.

FOREIGN.

The death of Dr. Leslie Ogilvie, physician to the Children's Hospital, Paddington Green, London, is announced.

A bounty on rats is being paid by the Stockholm authorities, as a precaution against bubonic plague.

The *Congres de Gynecologie*, of France, will meet this year at Nantes, September 23 to 30. Foreign gynecologists are invited to attend.

The Massage Institute connected with the Berlin University has opened a polyclinic for massage treatment of various affections, for patients of all ages.

The Leipzig dermatological clinic has been enlarged and remodelled on the latest ideals, with rooms for Finsen's light treatment, facilities for photographing, etc.

The University of Athens celebrated, December 30, the twenty-fifth anniversary of the professional career of the incumbent of the chair of surgery, Dr. S. Manghinas.

Medallion for Lannelongue.—The friends of Professor Lannelongue of Paris are to present him with a portrait medallion as a souvenir of his services as president of the International Medical Congress last August. It is to be the work of Chaplain, and every one who subscribes twenty francs will receive a bronze copy. The address of the committee having the matter in charge is: 15 rue Soufflot, Paris; Ch. Delagrave, treasurer.

Smallpox Epidemic in Glasgow.—No sooner has Glasgow freed itself from plague than it has been visited by an epidemic of smallpox. On January 25 there were 324 cases in hospital, an increase of 203 on the number a week before. Eleven deaths have occurred. The authorities are actually encouraging revaccination, and in the east end of the town the vaccination stations are often quite thronged. All "contacts" are vigorously followed up and isolated. The accommodation at the fever hospital is being largely increased in case of emergency by the erection of huts.

Plague in India.—According to the *British Medical Journal* of February 9, the number of deaths from plague in the city of Bombay, for January 9, 10, 11, 12, 13, 14 and 15 were 40, 45, 63, 45, 35, 43, and 51 respectively, or 324, as compared with 222 during the preceding week. In the corresponding week of last year, the deaths from this disease numbered 428. The plague is found in nearly every district of the city. In Calcutta 50 to 60 cases occur weekly. The government of Madras has granted 150,000 rupees toward the expense of preventing plague. During the week ending January 15, in Mysore Province, the cases of plague numbered 419, a marked increase over preceding records. The mortality in Bombay City is now sufficient to justify the present being called the fifth epidemic of the disease since 1896.

Plague Infected Ship at Bristol, England.—On January 20 a steamer arrived at Bristol, from Smyrna. Asiatic Minor, with a cargo of grain. No cases of illness had occurred, but it was reported that six dead rats had been found in the grain and burned. Another was found and examined bacteriologically, with the result that bacilli were found. Still another rat was sent to Dr. Klein, who found by inoculations that the disease of which the rats had died was plague. By this time most of the cargo had been discharged. Every precaution was then taken. The ship was kept in the floating harbor and every portion thoroughly disinfected. Every one of the seventy-seven laborers employed in removing the cargo has been kept under observation and visited daily. So far no case of illness has occurred.

LONDON.

Outbreak of Plague on a Steamer at Hull.

The disappearance of the Glasgow outbreak of plague has been followed by other attempts of the disease to obtain a footing in this country, but so far unsuccessful. A steamer arrived at Hull on January 10, as previously noted in *THE JOURNAL*, from Alexandria, with the body of one of the crew who had died on the voyage. The body was removed to the city mortuary and buried on January 13, no suspicions being aroused. On January 12, however, two of the crew were taken ill. The medical officer of health and another doctor, who saw them on the following day, diagnosed influenza complicated by pneumonia. The patients died on January 15 and 16, respectively. Bacteriologic examination showed that they had suffered from pneumonic plague. Meanwhile two firemen had become ill, on January 14, and were removed to the hospital, and four other members of the crew were removed for isolation. Work was suspended on the vessel and it was removed to a mooring station and thoroughly disinfected. Seven more of the crew were removed to the hospital for isolation. One of the isolated men became ill and died on January 22. On January 21 the watchman of the ship, who had rendered assistance to the sick members of the crew, was taken ill and removed to the hospital. He died on January 27. The doctor who had seen the sick crew and who had assisted at the necropsies became ill on January 18 and was removed to the hospital on January 24. Bacteriologic examination of his sputum showed that he was suffering from pneumonic plague. His condition was critical for some days, but he is now recovering. In no case were enlarged glands detected; all were of the pneumonic form of plague. Altogether seven deaths have taken place, and the bodies have been cremated. The nurses and all others who have been exposed to infection have been treated with Haffkine's prophylactic serum. The names and addresses of all persons who have been in contact with or in any way associated with the vessel have been taken and their homes visited daily. Apparently all danger of the disease spreading has passed.

Intraperitoneal Rupture of Ovarian Cysts.

At the Edinburgh Obstetrical Society, Dr. Haultain recently read a paper on this subject, with special reference to operative treatment. He remarked that in the majority of cases rupture was apparently unassociated with discomfort, and therefore only in those cases in which the cyst was of sufficient size to have attracted attention could a diagnosis be made. The absence of symptoms was doubtless due to the innocuous contents of the cyst and their slow escape. In the greater proportion of the recorded cases severe and dangerous symptoms supervened. Palm, in his collected statistics of 25 cases, recorded 18 deaths: 3 from collapse, 6 from acute peritonitis, 3 from chronic peritonitis, and 6 from protracted fever. Nephew found that 65 out of 155 cases terminated fatally. In these instances the contents of the cysts must have been intensely irritating, and in many septic; in some death resulted from hemorrhage. The causes of rupture were numerous—violence, morbid processes in the cyst wall, in some cases from torsion of the pedicle, and intracystic hemorrhage. Gelatinous contents were slowly absorbed by the peritoneum, and might continue to distend the abdomen. More fluid contents—especially those of cysts of the broad ligament—are absorbed and the cyst may become permanently obliterated. In other cases the tumor redistends or secondary cysts take on active growth. The contents might be so irritative as to cause peritonitis and adhesions so widespread as to be an insuperable barrier to removal. The treatment of ruptured cysts consists in removal of the cysts as soon as possible. In a certain proportion of cases spontaneous cure occurs, but as delay might allow widespread adhesions to form, early operation is advisable. In operating, the surgeon is liable to be misled by the gush of fluid when he opens the peritoneum and to think that he has entered the cyst. An attempt would then be made to separate the cyst wall from suspected adhesions to the abdominal parietes, resulting in stripping off the parietal peritoneum. In these cases it is well to enlarge the opening and to introduce the hand into the cavity before attempting the separation of the cyst wall.

Oophorectomy for Recurrent Mammary Cancer.

At the Clinical Society, Mr. Stanley Boyd recently showed a woman, aged 31, on whom he had performed this operation. In 1898 the left breast was removed for carcinoma. In 1900 operation for recurrence was contemplated and abandoned. In August, 1900, the patient was emaciated; there were recurrence in the scar, two outlying subcutaneous nodules, considerable enlargement of the left supraclavicular and substerno-

mastoid glands, which were rather fixed, and many large hard glands in the right axilla and a few in the neck. The left vocal cord was paralyzed and the patient had great difficulty in swallowing fluids. Double oöphorectomy was performed. Improvement took place rapidly from the day of the operation. On September 8 the nodules and glands, except one beneath the sternomastoid, had disappeared. On December 4 the voice and power of swallowing were normal and the patient had gained 21 pounds in weight.

Treatment of Rodent Ulcer by the X-Rays.

At the Hunterian Society, Dr. Sequeira showed three patients who had suffered from rodent ulcer of the face, for thirteen, eight and seven years, respectively. They were treated for ten minutes a day with the x-rays. The current employed was from 3 to 4 amperes, with a ten-inch spark. The lamp was placed six inches from the affected part, the normal skin being protected with lead foil. The ulcers healed entirely, and finally the raised growing edge also disappeared. Dr. Sequeira strongly recommends this treatment in all cases of rodent ulcer in which complete removal with the knife is impossible. It is too early to say anything of recurrence, but even if the treatment has to be repeated the patients are much better off than with progressive ulceration. Dr. Sequeira believes that so short an exposure as he has given, limited to the growth itself, is not likely to cause the serious sloughing which occasionally follows prolonged exposures. These results are interesting in connection with the equally successful results obtained from the x-ray by Drs. Knox and Pusey in lupus (*THE JOURNAL*, Nov. 10, 1900, p. 1211; Dec. 8, 1900, p. 1476).

Chronic Interstitial Nephritis in a Girl Aged Seven.

At the Society for the Study of Disease in Children, Dr. Guthrie related this case. A thin, stunted child with marked bronzing of the skin was admitted to the hospital January 6, on account of severe headaches, accompanied by vomiting, amaurosis and vertigo, which had occurred every day for two months. She never had scarlatina nor dropsy. The left ventricle was hypertrophied, the pulse of extremely high tension and the radial and brachial arteries were thickened. The urine amounted to from two to three pints daily and gave a specific gravity of 1006 to 1010. It contained albumin one-twelfth to one-half, and a few granular and hyaline casts. After admission the symptoms continued. She wasted rapidly and the heart enlarged. On the 17th she had two fits with loss of consciousness, rigidity and convulsions almost confined to the right side. On the 30th she had three more fits. During the eclamptic period the urine was fourteen to eighteen ounces, but in the intervals it rose to 106 ounces a day. On February 4 she became strange in manner. She gradually became comatose and died on the 7th. She was never dropsical. At the necropsy the heart was found hypertrophied and dilated. There were two large hemorrhages in the right cerebral hemisphere. The arteries generally were thickened and the kidneys showed marked interstitial nephritis.

Interstitial nephritis is very rare in children. Dr. Guthrie found records of eight similar cases between the ages of 5 and 14. The symptoms were precisely similar to those in adults.

Correspondence.

Diagnosis of Rabies.

PHILADELPHIA, Feb. 11, 1901.

To the Editor:—In *THE JOURNAL* for February 9, page 401, you give a report of the meeting of the Philadelphia Pathological Society for January 10, which includes a summary of the paper on "The Rapid Diagnosis of Rabies," by ourselves, and in your "Current Literature" you refer to this in place of an abstract of the paper. The report sent to you is so hopelessly muddled and inaccurate that we must beg space to correct it. Your correspondent has failed not only to give the facts as we presented them, but also to grasp the primary object of our work, which was an examination of the claims made by Van Gehuchten and Nélis as to the changes which occur in the intervertebral and plexiform ganglia in cases of rabies, and a comparison of their findings with those of Babès in the medulla oblongata, to which he has given the name "rabie tubercle." The method given by your correspondent as that followed by us is a hopeless jumble of two that were described. We did not use "Weigert's methylene blue" on any occasion, not knowing the preparation. We stained our sec-

tions according to Nissl's method, and with hematoxylin and eosin, the latter of which we found preferable for general use. We have examined the ganglia in twenty-eight cases of rabies, and in all of them found the lesions described by Van Gehuchten and Nélis, and believed by them to be the specific lesion of the disease. In twenty-one of these we examined also the medulla after the method of Babès, and in ten found the "rabie tubercle" described by him. We conclude, therefore, that while the method of Babès may give great assistance in some cases where the ganglia are not obtainable, for general use the procedure of Van Gehuchten and Nélis is preferable and more reliable, the changes described by them having a positive diagnostic value.

In the postmortem diagnosis of the case of the child detailed, cultures were made from the rabbits which succumbed to inoculation, carried through four generations, for the purpose of excluding accidental infections. The sterility of our cultures enabled us to say with absolute certainty that the animals did not die of any known bacterial disease. As the micro-organism of rabies has not yet been discovered and never cultivated, the results obtained are regarded as strong evidence that the cause of death was rabies. It was this conclusion we drew from our failure to obtain growths in our culture-tubes, not "that the micro-organism of this disease is different from that of any other type." Very sincerely,

MAZYCK P. RAVENEL, M.D.

L. J. MCCARTHY, M.D.

Result of Governor's Insults to Medical Profession.

DENVER, COLO., Jan. 31, 1901.

To the Editor:—*THE JOURNAL* has shown such an intelligent appreciation of the character and official acts of Charles S. Thomas, late governor of Colorado, that I feel sure you will record with some degree of satisfaction a few facts in connection with his recent failure to secure election to the United States Senate.

As long ago as last summer the medical profession of Colorado was actively awake to its duty in connection with Mr. Thomas's senatorial candidacy, and without regard to party affiliation, practically every regular physician in the state took an interest in this aspect of our political campaign. Early recognizing the probability of democratic control of the general assembly, physicians made it their business to work at primaries and in conventions for the nomination only of such democratic or "fusion" legislative candidates as would promise to oppose the ambitions of Governor Thomas. When we consider that the governor at that time was the supreme head of about as perfect a political machine as this state has ever known, the difficulties of our task may be imagined.

But the election occurred. The fusionist or democratic control of the general assembly was even by a greater majority than they themselves had anticipated. The governor felt perfectly secure of the senatorial nomination from the "fusion" caucus. There never was a time at which he claimed less than within four votes of enough to nominate. Those four votes it was an impossibility for him to secure. No arguments, no political influence, no improper proposals could induce even so small a number of the opposition to come to his support. The members who had pledged themselves to the doctors of their various districts stood by their pledges and the ambition of Governor Thomas's life ended in a tearful withdrawal of his name.

The medical profession of Colorado congratulates itself that the gratuitous and malevolent insults heaped upon it two years ago in the remarkable veto message of the governor, have been resented in the only manner that he—as a politician—could appreciate. When scheming politicians realize that physicians propose to assert their rights and privileges as citizens in an effective manner, we may be treated with more courtesy as an organized profession. Very respectfully,

WILLIAM P. MUNN,

President Colorado State Medical Society.

[The above shows what physicians can do if they work together.—ED.]

Deaths and Obituaries.

Samuel C. Busey, M.D., University of Pennsylvania, 1848, died at his home in Washington, D. C., February 12, aged 71. He was born in Maryland and began his medical studies with Dr. Hezekiah Magruder in Georgetown. After his graduation, he returned to Washington, where he engaged in active practice. He worked his way to the front at once. He served the Medical Society of the District of Columbia six times as its president, was professor of materia medica and diseases of children in Georgetown Medical School, and was one of the founders of the Children's and Garfield hospitals. He was a member of THE AMERICAN MEDICAL ASSOCIATION, took especial interest in municipal sanitation and his researches on this subject were painstaking and his findings valuable. On the fiftieth anniversary of his graduation in medicine, Dr. Busey was tendered a banquet by the local profession. Several years ago he fractured his thigh by a fall down an elevator shaft and never regained strength. During the last three years he has devoted his attention to literature and especially that relating to the history of the District of Columbia.

Fred J. Hodges, M.D., Chicago Medical College, 1888, died February 18, at the age of 36. After his graduation he practiced medicine a few years in Chicago, later in Anderson, Ind., and for the last few years had been associated with his brother-in-law, Dr. Rinehart, at Ashland, Wis. Six weeks ago, in performing an operation, Dr. Hodges was poisoned through an abrasion on his hands.

Gustavus Scott Franklin, M.D., College of Physicians and Surgeons, New York, 1862, at one time a member of the Ohio State Medical Society and of THE AMERICAN MEDICAL ASSOCIATION, died at his home in Chillicothe, Ohio. The Ross County Medical Society, of which he was one of the founders, passed resolutions of regret and sympathy at a special meeting held February 8.

Curtiss H. Osborne, M.D., Yale University, New Haven, Conn., 1877, a member of THE AMERICAN MEDICAL ASSOCIATION, died at his home in Pasadena, Cal. The Pasadena Medical Society attended the funeral in a body, and passed resolutions expressive of regret and sympathy.

Julius A. Mayes, M.D., Medical College of the State of South Carolina, Charleston, 1844, an expert botanist, and at one time president of the State Medical Association, died at his home in Mayesville, S.C., February 9, after a short illness, aged 78.

Edwin S. Miller, M.D., University of Pennsylvania, Philadelphia, 1878, a prominent physician of Altoona, Pa., and a member of THE AMERICAN MEDICAL ASSOCIATION, died from paralysis, at his home in Altoona, February 10, aged 45.

Augusta A. Steadman, M.D., Woman's Medical College, New York, 1881, formerly a practitioner in Taunton, Mass., but for the last ten years a resident of Amsterdam, N. Y., died at her home in that city, February 1, from pneumonia, aged 50.

Aaron T. Shallenberger, M.D., Jefferson Medical College, Philadelphia, 1846, who had practiced in the Beaver Valley for more than fifty years, died February 6, at his home in Rochester, Pa., after an illness for five weeks, aged 75.

Julian N. Parker, M.D., Yale University, New Haven, Conn., 1867, who had practiced for more than thirty years in South Manchester, Conn., died at his home in that place after a protracted illness, February 7, aged 58.

Charles H. Poucher, M.D., Medical College of Indiana, Indianapolis, 1893, formerly superintendent of the Indianapolis City Hospital, died from the effects of prussic acid poisoning, at Swanton, Neb., February 11, aged 32.

Peter Moir Barclay, M.D., New York University, 1854, a native of Aberdeen, Scotland, and for nearly half a century a practitioner of medicine in Newburg, N. Y., died February 10, at his home in that city, aged 66.

E. C. Frierson, M.D., College of Physicians and Surgeons, Baltimore, M.D., 1880, accidentally shot himself while clean-

ing a gun, at his home in Anderson, S. C., February 8; he died almost instantly, aged 40.

Samuel Brown Morrison, M.D., University of Virginia, Charlottesville, 1855, a surgeon in the Confederate service, died at his home, Roekbridge Baths, Va., February 4, from paralysis, aged 72.

Edward F. Davis, M.D., Miami Medical College, Cincinnati, 1872, who practiced for many years at Cleves, Ohio, died after a long period of invalidism at Hamilton, Ohio, February 11, aged 59.

Dana C. Highriter, M.D., College of Physicians and Surgeons, Baltimore, Md., 1887, died from rheumatic fever, after a short illness, at his home in Fulton, N. Y., February 9, aged 35.

Fletcher McFarland, M.D., Rush Medical College, Chicago, 1870, died recently at Jacksonville, Ill., aged 52. He was assistant physician at Oak Lawn until 1882, when he became blind.

William W. Alderson, M.D., College of Physicians and Surgeons, Baltimore, 1894, died from consumption at the home of his parents near Alderson, W. Va., January 24, aged 27.

Daniel Scott Boyle, M.D., University of Maryland, Baltimore, 1860, a surgeon in the Confederate Service during the Civil War, died at Westminster, Md., February 4, aged 67.

Leonard Kelly, Jr., M.D., Medical College of the State of South Carolina, Charleston, 1898, died after a prolonged illness at his home in Olyphant, Pa., February 10, aged 25.

Flavel H. Van Eaton, M.D., Missouri Medical College, St. Louis, 1858, died at his home in Olympia, Wash., February 2, after an illness of two years, from rheumatism.

Lucy M. Gardner, M.D., College of Physicians and Surgeons, Keokuk, Iowa, 1896, of Quincy, Ill., died from peritonitis, in La Porte, Texas, February 6, aged 42.

Michael G. Cunningham, M.D., College of Physicians and Surgeons, New York, 1883, died at his home in Binghamton, N. Y., February 11, from la grippe, aged 44.

Charles S. Jenne, M.D., University of Vermont, Burlington, 1887, died at his home in Westford, Vt., February 9, after a week's illness, from pneumonia, aged 35.

James T. Perkins, M.D., University of Maryland, Baltimore, 1877, died at his home in Springfield, Md., after a prolonged illness, February 6, aged 47.

Henry S. Mellinger, M.D., Jefferson Medical College, Philadelphia, 1845, died at his home in Cresswell, Pa., from apoplexy, February 8, aged 79.

Nathaniel B. Boileau, M.D., University of Pennsylvania, 1858, coroner of Hunterdon County, died suddenly at his home in Jutland, N. J., February 11.

William E. Boswell, M.D., Memphis (Tenn.) Medical College, 1873, died from consumption, at his home in Union City, Tenn., February 7.

William H. Edsall, M.D., Albany Medical College, Albany, N. Y., 1877, of Highland Falls, N. Y., died of pneumonia, February 9, aged 49.

Benjamin W. Tingley, M.D., Dartmouth Medical College, Hanover, N. H., died at his home in Bellingham, Mass., February 4, aged 80.

Andrew P. Glanden, M.D., Jefferson Medical College, Philadelphia, 1865, of Newport, N. J., died from paralysis, February 9.

John T. Bingham, M.D., University of Nashville, Tenn., 1860, died suddenly, at his home near Isam, Tenn., February 8.

John Sistrunk, M.D., New York University, 1858, died at his home near Society Hill, Ala., February 5.

John H. Leary, M.D., Bellevue Medical College, New York, died in Providence, R.I., February 10.

C. L. Brock, M.D., died January 24, at his home in Sheldon, Iowa, aged 83 years.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulæ and outlines of treatment will be answered in these columns.]

Normal Salt Solution in Pleurisy with Effusion.

Dr. John A. Robison states that normal salt solution injected into the pleural cavity after removal of the fluid or when the fluid is loaded with fibrin enhances the tendency to absorption. The points he emphasizes are: 1, it increases osmosis of the fluid into the blood-vessels; 2, it increases the activity of the absorbent lymphatics; 3, it acts as a solvent and an antiseptic; 4, the heat of the injection has a stimulating influence on the pleural vasomotor nerves, dilating the capillaries and hastening the blood current.

Treatment of Severe Cases of Lumbago.

Dr. R. S. Bernice, in *Med. Record*, gives the following treatment of lumbago:

R. Ammonii chloridigr. xx 1|33
Ammonii carbonatisgr. v 30

M. Sig.: At one dose, well diluted in water.

Or,

R. Ammonii ehloridi3iii 12|
Liq. hydrarg. perchloridi3ss 16|
Spts. chloroformi3ss 16|
Infusi gentianæ comp. q. s. ad.....3vi 192|

M. Sig.: One tablespoonful in water three times a day.

The dose of ammonium chlorid in either of these prescriptions approaches the maximum dose.

Formaldehyde in Diphtheria.

The following combination containing formaldehyde has been highly recommended in the form of a spray as a disinfectant to the throat in diphtheria:

R. Sol. formaldehyde (0.25 per cent.).....3i 32|
Potassii chloratis3ii 8|
Acidi borici3i 4|
Glycerini3ss 16|
Aquæ q. s. ad.....3iv 128|

M. Sig.: Use as a spray to the membrane deposits in the throat.

Taylor, in *Brit. Med. Jour.*, gives the following directions for treatment of diphtheria: A full dose of mild ehlorid of mercurry; swab the throat with the tincture of iodine; inhale the vapors of the tincture of iodine for five minutes at a time, using the following combination:

Tinet. iodi3i 4|
Aq. destil. q. s. ad.....3iv 128|

M. Sig.: Use as an inhalation by heating over an alcohol lamp and repeat in half an hour if necessary. He recommended also, the administration of quinin, tincture of alcohol when necessary, beef tea and milk.

Treatment of Acute Catarrhal Rhinitis.

Dr. G. C. Stout, in *Ther. Gazette*, states that the treatment should be divided into prophylactic, abortive and curative. Prophylaxis embraces rational clothing, avoidance of draughts, care of the digestive functions and maintaining muscular tone. As a preventive measure a brisk dry massage of the body and limbs morning and evening is excellent. A laxative of mild chlorid of mercurry and sodium bicarbonate, followed by strychnin sulphate in one-thirtieth grain doses three times a day, hot drinks at bed-time after a hot foot-bath; then covering up well in bed so as to produce general diaphoresis.

Treatment of a well-pronounced attack consists in giving a saline cathartic, and for the free discharge from the nose:

R. Morphinae sulphatisgr. 1/32 0020
Strychninae sulphatisgr. 1/95 0007
Atropinae sulphatisgr. 1/150 0004
Acidi arsenosigr. 1/100 0006
Aconitinaegr. 1/1000 00006

M. Sig.: One such tablet two or three times a day according to symptoms. And locally:

R. Cocaina hydrochloratisgr. x 66
Acidi boricigr. iv 25
Aquæ destil. q. s. ad.....3ii 64|

M. Sig.: Spray into the nose when the secretion from the

nose is excessive and the breathing space narrowed. After five minutes it is to be followed by a spray of:

R. Atropingr. x 66
Aquæ destil. q. s. ad.....3i 32|

M. Sig.: Use as a spray once a day to the nares and allow to remain for five minutes and then gently blow the nose.

This should in turn be followed by an oily spray as a protective:

R. Mentholgr. v 32
Liq. petrolati3i 32|

M. Sig.: Spray into the nares once a day.

Pharyngitis or laryngitis, if present will be relieved by the following:

R. Olei eucalyptim. ii 12
Zinci sulphatisgr. x 66
Antipyrinigr. xl 2 66
Aquæ destil.....3ii 64|

M. Sig.: Spray into the pharynx and inhale every two or three hours.

Give internally the following tablet:

R. Pulv. opii.....gr. ¼ to ½ 015-03
Camphorægr. i 06
Ammonii carbonatisgr. i-iii 06-18

M. Sig.: One such capsule every three hours.

[The following powder may be used to great advantage instead of the spray containing cocaine, but should always be prescribed and given out by the physician himself on account of the danger of contracting the cocaine habit:

R. Cocaina hydrochloratisgr. v 32
Sodii bicarbonatisgr. iv 25
Sodii boratisgr. iv 25
Iodol3i 4|
Sacchari lactis q. s. ad3iii 12|

M. Sig.: A small amount to be used as an insufflation into the nares once or twice daily if necessary to relieve the congestion of the swollen turbinated bodies.

The following is very often recommended for cold in the head, although rather heterogeneous in character:

R. Quininae hydrobromatisgr. xx 1 33
Podophyllingr. ii 12
Aloinaegr. ii 12
Atropinae sulphatisgr. 1/25 0025
Strychninae sulphatisgr. 1/6 01
Sodii bicarbonatisgr. lxxx 5 33

M. Ft. cap. No. xx. Sig.: One capsule every two hours. —Ed.]

Treatment of Bronchitis Accompanying Influenza.

Atkinson, in "Amer. Text-book of Ther.," recommends the following if the catarrhal condition is such as to produce paroxysms of coughing:

R. Morphinae sulphatisgr. ss 03
Syrupi seillæ3ii 8|
Syrupi laetucarii3ss 16|
Aquæ3vi 24|

M. Sig.: One teaspoonful every three or four hours.

If nausea be present and the cough troublesome, but the bronchitis not severe, the following is advised:

R. Morphinae sulphatisgr. ss 03
Acidi hydrocyanici dil.....m. viii 50
Spts. chloroformi3iss 6|
Aq. menthae viridis q. s. ad.....3iss 48|

M. Sig.: One teaspoonful every three or four hours.

If the bronchitis is pronounced, he recommends more stimulating agents and prescribes the following:

R. Ammonii chloridi3i 4|
Mist. glycyrrhizæ comp.....3vi 192|

M. Sig.: One tablespoonful every three or four hours in water.

Protargol in Acute Gonorrhea.

Belfield, in *Progressive Medicine*, recommends the following in the acute stage:

R. Hydrastis muriatisgr. xv 1|
Protargolgr. xv 1|
Glycerini3iss 6|
Aquæ destil. q. s. ad.....3iii 96|

M. Sig.: Use as an injection four times a day.

Acute Gout.

He also recommends lithium hippurate in treatment of acute gout, prescribed in the following manner:

R. Lithii hippuratis	3i	4
Syrupi aurantii	3i	32
Aquæ q. s. ad.....	3vi	192

M. Sig.: One tablespoonful in water at bed-time; and as a local analgesic in acute gout he quotes the formula of Sir Dyce Duckworth as a local analgesic:

R. Atrophinae	gr. ii	12
Morphinae hydrochloratis	gr. xv	1
Acidi oleici	3i	32

M. Ft. linimentum. Sig.: To be painted over the painful joint with a large camel's hair brush, and carded cotton to be superimposed, with a towel bandage.

Injections of Iodin Compounds in Syphilis.

Lang, of Vienna, in *Internat. Med. Mag.*, states that in those cases where syphilitics can not tolerate the iodids by the stomach he administers them per rectum, or when conditions are unfavorable for administration in this way, he resorts to subcutaneous injections as follows:

R. Potassii iodidi	3i	32
Codeinae hydrochlor.....	gr. vii	42
Aquæ destil.....	3i	32

M. Sig.: Inject from fifteen to forty-five drops daily. The codein renders the injection less painful and does not retard the rapidity of absorption. In other cases he used the following:

R. Iodoformi	3i	4
Vaselini (liquid).....	3iiss	6

M. Sig.: Inject seven drops subcutaneously every day, or every other day.

Treatment of Lupus.

Unna, in *Brit. Med. Jour.*, recommends the following paste in treatment of lupus:

R. Acidi salicylici		
Solutionis antimonii chloridi aa.....	5i	4
Creosoti		
Ext. cannabis indicæ aa.....	3ii	8
Lanolini	3iv	16

M. Sig.: Apply locally to the afflicted part.

The solution of antimony is an unofficial preparation and is a powerful caustic and a destroyer of bacilli. The creosote and cannabis indicæ will relieve the pain. The salicylic acid aids penetration.

Treatment of Sciatica.

Hogge, as noted in the *Internat. Med. Mag.*, states that he has good success in the treatment of sciatica with the following injection in a limited number of cases:

R. Salophen	3ii	8
Sodii bicarb.....	3i	4
Aq. destil. q. s. ad.....	3ii	64

M. Sig. Inject two drams into the gluteal region every other day.

He states that he kept the patients in bed until the fifteenth injection was given and that all symptoms were relieved after the thirtieth injection.

Treatment of Typhoid Fever.

Dr. William Ewart, in *The Lancet*, recommends very highly the following:

R. Sol. hydrarg. chloridi corros. (B.P.) .m. xx	1	33
Tinet. ferri chloridi.....m. xv	1	
Syrupi aurantii	3i	4
Aquæ destil.....	3i	32

M. Sig.: At one dose, to be repeated every six hours for ten days.

He claims with this combination to produce a rapid amelioration of the signs and symptoms, such as cleansing of the tongue, clearing of complexion and a return of the appetite, as well as the checking of the diarrhea when present. He claims that the iron acts splendidly as a local application to the ulcers and as a hemostatic, while the mercury exerts its influence upon the hepatic and lymphatic systems, as well as a disinfectant to the alimentary tract.

According to the Brit. Pharmacopeia, the mercuric solution in the above prescription contains 1/16 gr. of corrosive sublimate to each dram. Therefore each twenty minims contains 1/48 of a grain of the mercuric chlorid.

Medicolegal.

Consciousness Presumed.—The Court of Errors and Appeals of New Jersey holds, in the case of *State vs. Hill*, that the law always presumes a man to be conscious and sane, and if the contrary exists, thereby defeating the natural presumption, it must be shown by the party who alleges it.

Antiseptic Cotton a Medicinal Preparation.—The Board of United States General Appraisers at New York holds that merchandise consisting of a foundation of cotton batting with one surface thereof treated with an antiseptic preparation, the chief component material being cotton, is a medicinal preparation, dutiable as such under the tariff act, and not as a manufacture of cotton.

Right of Recovery for Operation.—It appeared at a trial term of the Supreme Court of New York, Kings County, in the case of *MacEvitt vs. Maass*, that the plaintiff, a physician and surgeon, was called in by the defendant to treat his wife. He made an examination of her, and informed the defendant that a surgical operation was necessary. They entered into an agreement that the plaintiff should perform it for \$75. The trouble was an internal one somewhere in the abdomen. The plaintiff testified that a day or two later he made another examination of the patient and found conditions which were entirely new to him, and foreign to the surgical operation which he had proposed; that the first diagnosis was entirely wrong; that her condition was of much greater gravity than had been supposed from the first diagnosis; that the operation first mentioned was entirely unnecessary; that an entirely different surgical operation, but in the same region, was necessary; that it was one which would jeopardize the patient's life, whereas the first one mentioned would not have done so; and that he substantially informed the defendant of all this. But he did not say that the new operation was worth more or less than the one first proposed, or that he would charge for it more or less than the sum which had been agreed on. In fine, nothing was said by either on the subject of compensation for the new operation. The defendant simply assented to the plaintiff performing it. It was then left to the jury to find what the facts were, and to say whether the agreement for a compensation of \$75 was superseded, and they gave the plaintiff a verdict for \$225. This meets the approval of the court, which holds that the legal conclusion was that the defendant in assenting to the performance by the plaintiff of the new operation must necessarily have understood that the agreement previously made could not be carried out and was at an end, and that he was to pay for the new services what they should be reasonably worth. If it had turned out on the second examination that the operation first mentioned was not necessary, and that a different and only trifling operation was necessary, and the plaintiff had informed the defendant thereof, the plaintiff could not afterwards have claimed that \$75 was agreed upon for that operation, although it was worth only one-third of that amount. The law would be that both parties necessarily understood that the first agreement was no longer in effect, though that was not in so many words said. Moreover, the testimony of the plaintiff and of the surgeons who assisted him in the operation, concerning the ailment of the patient and the particulars of the operation, having been excluded, as privileged, the court holds that their testimony as experts in respect to the value of the plaintiff's services could not be objected to on the ground that, as the nature and particulars of the surgical operation had not been given in evidence, there was no basis for such testimony. There was in evidence that a capital surgical operation was performed, of the time it took, and of the number of visits the plaintiff made to the patient before and after it, and the statute having excluded the particulars as to what the operation really was, the court holds that such evidence of value by the surgeons who saw them, being the best evidence which the nature of the case admitted of, must be held admissible.

May Erect an Individual Home for a Lunatic.—The Court of Appeals of Kentucky gives it sanction, in the case of *Cantrill vs. Ceeil*, to the erection, under certain circumstances, of an individual home for an adjudged lunatic. Here was one

who had an estate of \$93,000 held in trust for her life by a brother, the principal to be encroached upon in case of imperious necessity only. After having been confined in public and private institutions for the insane, she was removed to the residence of a sister, who, having been advised that it was essential to do so, had erected, with the consent of the committee, but without waiting for that of the chancellor, an addition to her dwelling, at an expense of \$6000, so that she could give her a sister's care, and the other could have her own "home," although she had to be confined to her rooms. The sister claimed that this addition added nothing to the value of property, and sought reimbursement therefor. The court holds that she was entitled to maintain a suit for same, but was not entitled to encroach on the principal of the estate, nor, perhaps, on the profits accumulated prior to the expenditure in question. It says that if this arrangement ought to continue as the best possible one under all the circumstances, then the ample income of the estate ought to be made available to pay for the structure which alone made it possible to continue it. Nor does it consider that the expenditure in dispute was an investment in real estate, and therefore in contravention of the terms of the deed of trust. If, in erecting the house for the invalid, there was any permanent improvement of the sister's property, the chancellor might, as matter of common justice and right, it says, charge the sister therewith, and might even provide for the contingency of the patient's immediate or early death, or the event of her ceasing to occupy the house, or of her permanent recovery of mind and health, if it should be supposed the happening of these contingencies might pecuniarily benefit the sister. But, after all, the court asks, why should the unfortunate woman be committed to private or public mad houses because there might result, perchance, some gain to her benefactor or custodian? The supreme consideration was her health, comfort and security.

Use of Boric Acid as Milk Preservative.—Section 4989 and 4990 of the Iowa Code provide that if any person shall sell any adulterated milk he shall be fined, and that the addition of water or any other substance or thing to milk is an adulteration. Construed literally, the trial judge in the case of *State vs. Schlenker* held that this enactment was unconstitutional; that the evident intent of the legislature was to prohibit sales of anything that would operate as a fraud upon the buyer or prove deleterious to his health, and that, as the defendant was guilty of no fraud and the adulteration was harmless, he had not violated the law, he having put about one-half ounce of boric acid in ten gallons of milk as a preservative, and told a number of customers what he was doing. But with these conclusions the Supreme Court of Iowa does not agree. It holds the statute constitutional and the definition of the term "adulteration" valid and binding. While it may be true, as a general proposition, that the legislature has no power to forbid the sale, without deceit or fraud, of a harmless and wholesome article of food, the supreme court declares that it is also true that in virtue of the police power it may pass such laws as are, or may reasonably appear to be, necessary for the health, comfort, and safety of the people. Almost every police regulation affects, to a greater or less extent, some property right; but these rights are subject to such reasonable limitations in their enjoyment as will prevent them from being injurious, and to such reasonable regulations as the legislature, under the constitution, may deem necessary and expedient. Courts will not interfere, as a rule, unless there is a plain excess or usurpation of power, and in case of doubt it should be solved in favor of the power of the legislature to make the enactment. It may be conceded that the milk sold by the defendant was not harmful to the health of those who used it; but it is certainly dangerous to the public to permit milkmen and those dealing in milk to adulterate it in such manner as to change its constituent properties. So it holds that it was not enough as a defense to show that the defendant did not intend to defraud, or that the milk he sold was wholesome. If that were enough, almost any law intended to protect the public health and safety might be overthrown. It is enough that adulteration such as prescribed by the statute may defraud or prove deleterious to the public health or comfort. The legislature may

well determine that the adulteration of milk tends to facilitate vicious practices, and that it ought to be prohibited. Criminal intent not being an essential element of the offense described in the statute, it need not be shown in order to justify a conviction.

Miscellany.

Carcinoma in Sweden.—The official statistics tabulated by Dr. U. Quensel, of Stockholm, show that the mortality from carcinoma has risen from 8 to 9.75 per 10,000 inhabitants during the four-year periods from 1875 to 1879 and 1895 to 1899 respectively. During the first period the women affected outnumbered the men by 192 to 100, and during the second, by 150 to 100. During the first, the carcinoma mortality represented 3.57 per cent. of the total number of deaths, and during the last, 6.27 per cent. The *Semaine Méd.*, in the abstract of his report, calls attention to the fact that the mortality is inversely proportional to the density of the population, being 10.05 per 10,000 in communities of less than 2000 inhabitants; 9.08 in towns of 2000 to 10,000, and only 8.53 in towns of more than 10,000.

Heat in Diagnosing the Presence of Pus.—According to the *British Medical Journal* of January 26, Dr. J. Lewin, of Berlin, has been making experiments which tend to show that the application of heat, while relieving pain resulting from simple acute inflammation, has a decidedly contrary effect when suppuration is present. He is said to have ascertained from the treatment of 10 persons affected with appendicitis, that where hot compresses were applied from one to two hours, 8 were greatly relieved, while the others experienced increased pain. Spontaneous cure resulted in the course of two or three weeks in the 8, but in the other 2, after trying medical treatment without result, operative interference was considered necessary and pus found in both instances. In applying the test it is important to use no other calnative means, and to keep the patient ignorant of the expected results, in order that the effect may not be modified by a dread of operation.

Lay Massage.—The physicians in Belgium are trying to have a clause inserted in the medical practice bill now under discussion, to the effect that massage and medical gymnastics belong exclusively to the domain of medicine and should not be practised by empirical masseurs, with the exception of certain mild affections of the members and the muscles of the back. Masseurs for this purpose should pass an examination before a competent body, and be entitled to a diploma. The *Progrès Méd.* of Paris expresses disapproval of this latter suggestion and urges that massage should be exclusively restricted to physicians. It gives a long list of injuries produced by empirical massage, including the aggravation of contractions, progressive atrophy, laceration of tendons, transformation of a simple arthritis into a hydrarthrosis, etc. The Belgian committee also cites cases of rupture of the tendo Achillis, followed by permanent limping, a thrombosed vein kneaded by a masseur with the death of the subject during the séance, and a suppurative appendicitis perforating into the peritoneum during massage. Zabloudowsky has also published instances of the formation of furuncles and abscesses from lay massage, proving fatal in two cases, displacement of fragments of bones in fractures, transformation of convalescing lesions into subacute, acute and chronic stages, especially in joint affections, production of ankylosis and movable kidney, traumatic inflammation of the sheaths of the muscles and nerves, enlargement of hernia and of the umbilicus, and aggravation of mild forms of hysteria and neurasthenia by the prolonged excitation of the peripheral nerves. One of our Vienna exchanges recently published a case in which a person had undergone a physical examination for some purpose, the kidneys found normal in every respect. A few days later, after some lay massage, the kidney was found transformed into a floating organ. Berlin has now a chair of massage, and special courses in massage at clinics in Heidelberg, Leipsic, Stockholm, Vienna, and elsewhere have long been open to physicians.

Societies.

COMING MEETINGS.

Tri-State Medical Association of the Carolinas and Virginia. Richmond, Va., Feb. 26, 1901.
Medical Society of the Missouri Valley, Omaha, Neb., March 21, 1901.

Portsmouth (N. H.) Medical Society.—This Society, at its annual meeting, February 5, elected Dr. Arthur J. Lauce, president; Dr. Benjamin Cheever, secretary, and Dr. Andrew B. Sherburne, treasurer.

International Alcohol Congress.—The eighth international congress against the abuse of alcohol is to assemble at Vienna, April 9. The secretary is Prof. Max Gruber, Schwarzenbergstr. 17, Vienna.

Alton (Ill.) Medical Association.—This Society, on February 4, elected Dr. Edward C. Lemmen, Upper Alton, president; Dr. Titus P. Yerkes, Upper Alton, vice-president; Dr. Lincoln M. Bowman, Alton, secretary, and Dr. Julius H. Fiegenbaum, Alton, treasurer.

Nineteenth German Congress of Internal Medicine.—Senator will be the president at the congress of internal medicine which will be held at Berlin, April 16 to 19. The chief subjects to be discussed are: "Heart and Vasomotor Remedies," and "Inflammation of the Spinal Cord."

Vigo County (Ind.) Medical Society.—At the annual meeting of this Society, in Terre Haute, Dr. George Schell, Terre Haute, was elected president; Dr. Dupuy, Riley, vice-president; Dr. Malachi R. Combs, Terre Haute, secretary, and Dr. Cassius M. Smick, Terre Haute, treasurer.

Sault Ste. Marie (Mich.) Medical Society.—This Society, with which it is expected that the physicians of the Canadian Soo will affiliate, has been organized with the following officers: Dr. Emil H. Webster, president; Dr. Frederick Townsend, vice-president, and Dr. H. E. McLennan, secretary and treasurer.

Union County (Ill.) Medical Association.—Twenty physicians of Union County met at Anna, January 31, and organized this Society, with Dr. James I. Hale, Anna, as temporary chairman, and Dr. T. Lee Agnew, Anna, temporary secretary. Permanent organization will be effected February 27.

Atlantic County (N. J.) Medical Society.—This Society, at its annual meeting, February 6, elected officers as follows: Dr. Theophilus H. Boysen, Egg Harbor, president; Dr. William Edgar Darnall, Atlantic City, vice-president; Dr. Theodore Senseman, Atlantic City, secretary and treasurer, and Dr. A. Burton Shiner, Atlantic City, reporter.

Denver and Arapahoe Medical Society.—The board of directors of this Society has decided to "vary the monotony" of the meetings by alternating sessions at which papers are read and clinical symposia with presentation of cases and specimens, or more or less social sessions. This plan was adopted three years ago by the Chicago Medical Society, and the results have fully justified the change.

Northeastern Ohio Union Medical Association.—At the one hundred and eighteenth quarterly meeting of this organization, held in Akron, February 12, the following officers were elected: Dr. George L. Starr, Hudson, president; Drs. George S. Peck, Youngstown, and Abner E. Foltz, Akron, vice-presidents; Dr. John H. Seiler, Akron, recording secretary; Dr. Charles W. Milliken, Akron, corresponding secretary, and Dr. Harold H. Jacobs, Akron, treasurer.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting Held January 23.

Dr. George Erety Shoemaker in the chair.

Malignant Endocarditis.

DR. ALBERT E. ROUSSEL reported three cases of malignant endocarditis, one following measles, one typhoid fever, and another resembling splenic-lymphatic leukemia terminating in recovery. The first case reported was that of a patient aged 22 years, who had, during youth, suffered from bronchitis. On October 25, symptoms of measles set in, followed later by fevers, sweats and chills. There were vague body pains and loss of flesh and strength. At one time the disease was supposed to be typhoid fever. The temperature was 103, the pulse small, respirations 36. The apex-beat was in the fifth interspace, where a low-pitched murmur was heard. Later the

action of the heart became irregular, and a diagnosis of probable endocarditis was made. Death followed. The postmortem showed that there was no hypertrophy; the left auricle was dilated, but with greyish-white vegetations on the valves. The other valves were healthy.

The second case was a patient aged 9 years, who had measles and chicken-pox. He had been examined subsequently by the speaker, but there had been no heart lesions produced by these attacks. Sometime later he passed through a typical attack of typhoid fever, all of the symptoms and clinical signs having been present. On December 1 he had a decided rigor and abdominal pain, and pain referred to the region of the appendix. He suffered from irregular fever for thirty-three days, but at times the temperature became subnormal. The red cells numbered 3,700,000; whites 44,000, and the hemoglobin was 25 per cent. The patient presented a waxy appearance, and the abdomen would pit on pressure. The blood was examined later and showed 3,100,000 reds; 49,000 leucocytes; hemoglobin 25 per cent. The polymorphonuclears were 79 per cent.; mononuclears, 2 per cent.; transitional forms 2 per cent., and eosinophiles 1 per cent. Death followed. The heart was normal in size; the coronary arteries were very firm; the spleen showed infarcts, as did the liver.

The third was a patient who had passed a life insurance examination. The onset was marked by symptoms of rheumatism, with fever and sweats. Slight jaundice subsequently occurred. On May 22, the liver was found enlarged, the apex-beat diffuse. There was a distinct cardiac murmur which was transmitted to the left. The pulse was 116. The red cells numbered 3,000,000; leucocytes, 26,000; and hemoglobin, 35 per cent. The pulse was 148 and irregular.

The speaker stated that in malignant endocarditis streptococci are generally found on the heart valves, though the following have also been found; the bacillus lanceolatus, staphylococcus, pneumococcus, and gonococcus. Some writers believe that the condition is a primary one, while others contend that it is secondary, or is grafted on a previous heart lesion. As a rule the right heart is affected.

DR. JAMES TYSON stated that he had seen numerous cases of malignant endocarditis accompanied by fever, sweats and chills. He believed that the process was a septic one, and frequently never recognized during life. Pneumonia is probably the most common cause. The right heart is most frequently involved, due to the fact that the valves here receive the blood from the veins. He thought that in the next case he has anti-streptococcic serum will be given.

DR. J. M. ANDERS expressed his belief that the principal point of interest in regard to these cases, hinges on the diagnosis. The infection is usually a secondary one, though it may occasionally be primary. As to the diagnosis, when we meet cases in which there is a cardiac murmur, colligative sweats, and a high grade of anemia, we should suspect endocarditis. In former days endocarditis was mistaken for typhoid fever, but the absence of leucocytosis and the Widal reaction would be against typhoid.

Epiploxy in Liver Cirrhosis.

DR. J. B. ROBERTS read a paper on "Epiploxy in Cirrhosis of the Liver." He has recently done this operation twice, once on a man aged 49 years, whose father had died of cirrhosis of the liver. The patient had manifested symptoms of this disease and an incision was made in the usual manner, the omentum drawn out, the peritoneal surface of the abdominal wall rubber with gauze and the omentum stitched with chromicized catgut. Relief of the ascites followed.

The second patient was a man 64 years of age, whose abdomen had for the past eight months grown considerably larger in size. He had been tapped eight times. There was much jaundice, and some edema of both legs. Tube casts were found in the urine. The operation was done under cocaine anesthesia. A small incision was made above the umbilicus, but the omentum could not be found and another incision was made below it. The omentum was then drawn up and spread out, then rolled over slightly so that the stitches would not pull out—which happened in one case—and then stitched to the abdominal wall.

He believes that the operation should be done as early as possible after the onset of cirrhosis.

DR. JAMES TYSON had seen this operation prove of great benefit to a case of cirrhosis of the liver. It had cured the ascites.

DR. WM. L. COPLIN thought that it might be a question whether anything is gained by this operation, since it short-circuits the blood supply of the liver, and if this is done the nutrition of the body might become impaired from loss of these elements.

DR. ERNEST LAPLACE believes that in cirrhosis of the liver the condition can not be compared to that of a healthy organ. In the former case the liver is incapacitated anyway, and it does its work in a circuitous route. He approves of the operation as done by Dr. Roberts.

CINCINNATI ACADEMY OF MEDICINE.

Regular Meeting, held January 28.

Perichondritis Auriculi.

The president, Dr. C. L. Bonifield, in the chair.

DR. C. R. HOLMES presented a patient with this trouble, involving the right ear. He first mentioned that this affection was an extremely rare one, in fact it was the first true instance of the disease that had thus far come to his notice. The patient was a girl, about 17 years of age, on whom he had operated nine weeks previously—a radical mastoid operation. She had recovered nicely from this operation, and just as he was on the point of sending her home, this inflammation, involving the cartilage of the auricle, had made its appearance. It started first in the concha, and then spread over the entire auricle, seeming to involve as it were a segment at a time. A number of incisions had been necessary and they had invariably been kept open by packing. There would undoubtedly be some deformity of the auricle, but he trusted that by keeping the pus well drained this would not be very extensive.

Seborrheal Eczema.

DR. E. H. SHIELDS presented a woman who had been shown at a meeting of the Academy several months ago, and in whom at that time he had made a diagnosis of *lichen ruber planus*. He had had reason subsequently to change this diagnosis to seborrheal eczema. The patient at this presentation seemed to have entirely recovered.

Sarcoma of Testicle and Scrotum.

DR. J. AMBROSE JOHNSTON showed a specimen. The history was as follows: Mr. F., aged 50 years, had noticed a gradual enlargement of his left testicle for about two years, associated with paroxysmal attacks of pain. Recently he had noticed a beginning enlargement on the right side. The shape of the scrotum was, on examination, very similar to that of hydrocele; light, however, was not transmitted. Insertion of a hypodermic syringe drew off a dark, bloody fluid. When the patient came to operation it was found that the skin and tunica vaginalis were about half an inch in thickness, and the testicle was cystic; in size, three inches in one diameter and two in another. An incision was then made over the right testicle and the same condition, only less extensive, having been found, it was decided to remove both and the scrotum as well, the entire mass having an appearance of malignancy. This was done, and the cords ligated with catgut as high up as possible. The patient made an uneventful recovery. Microscopic examination revealed that the sarcomatous infiltration had involved both the tunica vaginalis and the skin in addition to both testicles.

Congenital Abnormality of the Small Intestine.

DR. J. C. OLIVER presented a specimen and report of a case. Soon after the birth of the infant it was given a small dose of castor-oil. This was vomited. No movement of the bowels occurring, the dose was repeated the following morning, and was again rejected. An injection was then given and a piece of black, hard material, coated with mucus, was passed *per anum*. For about forty-eight hours the patient was in charge of a midwife, but no passage from the bowels occurring during

this period, Dr. B. P. Goode was called in. Dr. Oliver saw the child about eight hours afterward, with Dr. Goode. It had not nursed for twenty-four hours, and the abdomen was somewhat distended. The nurse in charge insisted that some gas had been passed from the rectum and, relying on this statement, a small quantity of senna and rhubarb was given. Returning the next day, he was informed that every dose of the cathartic had been vomited, and that the vomit had now assumed a fecal character. Examination of the rectum showed that no obstruction existed at this point, so the child was prepared for abdominal section. On opening the abdomen and examining the bowel, a dilated portion of the small intestine ending in a blind pouch was found; beyond this was a layer of tissue resembling the mesentery, but possessing no blood-vessels and about $1\frac{1}{4}$ inches beyond the termination of the bowel described above was the beginning of another portion of the bowel; this began as a blind pouch and had no communication with the bowel above. As the intestinal caliber was too small to accommodate a Murphy button, end-to-end anastomosis was made. Death followed in about five hours. Post-mortem examination showed that the defect existed at the lower end of the ileum, about two inches above the junction with the head of the colon. The small intestine above the obstruction was greatly dilated, while that below, as well as the large intestine, was collapsed and empty. The specimen also showed that in spite of the fact that death had occurred within five hours after section, Nature had rapidly proceeded with healing; the water trial showed that union was firm and that there was no leakage. The remaining portion of the intestinal canal was normal.

Ovarian Cyst with Twisted Pedicle.

DR. RUFUS B. HALL presented specimens of intrapelvic disease with histories, one being an ovarian cyst with acute twisted pedicle, with peritonitis, operation and recovery. The patient, aged 40, having been informed by her family physician that she had a tumor, consulted him about having it removed. She lived a number of miles outside the city, and asked for a few days to complete some family arrangements before coming to the hospital. Up until the time she entered the hospital she was on her feet a great deal, and at the time of her entrance complained greatly of abdominal pain; her pulse and temperature were, however, normal. The operation had been set for the fourth day. During this time she became steadily worse, though her symptoms were not serious until the morning of the day determined on for operation. He had no doubt at that time that the pedicle of the freely movable tumor had become twisted. On opening the abdomen he found a cyst, perfectly black; this tapped, yielded more than a gallon of blood-stained fluid; a portion of the tumor, about as large as a cocoanut, was solid. The pedicle was long, narrow, and twisted three times upon itself; the venous supply was entirely cut off, but not the arterial. The result of this was that many of the veins lining the tumor had become gradually distended until rupture had occurred. There was at least three pints of blood-stained ascitic fluid within the general peritoneal cavity. General peritonitis of high grade was also present. The tumor was removed without difficulty, the abdomen thoroughly drained with normal salt solution, a glass drainage tube inserted—removed in thirty-six hours—and the wound closed. For two days her life was despaired of, but at the end of that time she began to rally and from then her convalescence was uninterrupted. She was discharged well in four weeks.

NEW YORK ACADEMY OF MEDICINE.

January Meeting of the Section on Pediatrics.

Infantile Colic.

DR. H. ILLOWAY, in a paper on this topic, said that the principal causes of infantile colic are flatulence, influences acting through the mother, indigestion, and refrigeration. Slow or imperfect indigestion will cause flatulence, and constipated mothers are apt to have constipated nurslings. It is generally recognized that indiscretions in the mother's diet often inflict much misery on her nursing infant, but it is less generally un-

derstood that salts, senna and similar purgatives, even when taken in such small doses as to fail to exhibit their action in the mother, may cause colic in the nursing infant. Changes in the breast milk, arising from mental worry, sudden emotion or sexual excitement, occasionally affect the infant profoundly, and the possibility of their occurrence should be borne in mind. An obstinate colic has been known to resist all treatment until the mother has been relieved of a toothache from which she has been suffering. The physician will often be misled in his efforts to elicit a history of overfeeding or of too frequent feeding unless he makes pointed and persistent inquiry. Refrigeration is an important causative factor, and generally arises from the infant being allowed to lie in a wet diaper, or in a draught or sit on a cold floor. An important point in the differential diagnosis between simple infantile colic and that dependent on grave pathologic conditions is that in the former the little one kicks and cries and then relaxes into a smile. An excellent means of relieving the colic is irrigation of the lower bowel with hot water, and the external application of heat. Of the many remedies recommended, he has found none superior to freshly prepared milk of asafetida, given in a dose of one-third to one-half teaspoonful, and repeated in fifteen or twenty minutes if required. If given with a little fine sugar, on a spoon, few babies will refuse it. Hiccough is often quickly relieved by putting a few grains of fine sugar into the infant's mouth. The treatment will include the removal of the cause as well as the relief of pain, and one should be slow to resort to opiates in a case of protracted colic.

DR. THOMAS S. SOUTHWORTH remarked that many babies who are thought to be colicky are only petted and spoiled ones. By regulating the mother's diet and the intervals of nursing, and insisting that she take more out-door exercise, most cases of colic in the nursing infant can be satisfactorily treated. An important step is the personal examination of the stools.

ORLEANS PARISH MEDICAL SOCIETY.

Meeting held February 9.

Bony Outgrowth from Clavicle.

DR. E. MOSS read a report of a case of bony outgrowth from the clavicle, in which a diagnosis of sarcoma was made on the first examination. Two weeks of antisyphilitic treatment caused a rapid diminution in the size of the growth, which ultimately disappeared under a continuance of the same treatment.

Peculiar Symptoms in Influenza.

DR. A. NELKEN reported a case of influenza presenting peculiar symptoms. The patient had, with some elevation of temperature, enlargement of the cervical glands and a throbbing pain in the chest, which was ascribed to enlarged mediastinal glands pressed upon by the large vessels in their vicinity.

Case of Delayed Bowel Action.

DR. J. BARNETT reported the case of a woman who usually had but one fecal evacuation in two weeks, and that so small as to be entirely out of proportion to the ingesta. He was inclined to believe that hers was a case not of retention of feces in the alimentary tract, but of unusually good absorptive powers, with little of the ingested substances being left for evacuation.

Current Medical Literature.

Philadelphia Medical Journal, February 9.

- 1 Case of Blindness from Sympathetic Ophthalmitis, Complicated with Secondary Glaucoma. Restoration of Vision by Two Iridectomies, One with Extraction of Lens, and Iridocystectomy, and Tyrrell's Operation of Drilling. Charles A. Oliver.
- 2 A Case of Unilateral Progressive, Ascending Paralysis. William G. Spiller.
- 3 *Cavité Fever. B. L. Wright.
- 4 *Exophthalmic Goiter of Syphilitic Origin. R. Abrahams.
- 5 *The Surgical Importance of Apparently Simple Carbuncles and Furuncles of the Upper Lip. Charles A. Powers.

- 6 A Case of Cocain Habit of Ten Months' Duration Treated by Complete and Immediate Withdrawal of the Drug. George W. Norris.
- 7 Report of a Case of Enormous Ventral Hernia; of a Case of Dermoid Cyst of the Ovary, and of a Case of Profound Shock Following a Crush of the Arm. Francis T. Stewart.
- 8 *The Treatment of Post-operative Hernia. Irving S. Haynes.
- 9 *On the Dietetic Management of Typhoid Fever. David Ingalls.
- 10 *Sudden Death in Pleurisy. Charles L. Allen.

New York Medical Journal, February 9.

- 11 A Case of Gastro-Intestinal Hemorrhage Caused by Fatty Degeneration of the Right Ventricle of the Heart. Charles Phelps.
- 12 *A Clinical Analysis of Digitals and Its Preparations, Calling Especial Attention to the Glucosides and More Especially to Digitoxin. Leon L. Solomon.
- 13 Amebic Abscess of the Liver with a Report of Four Cases. C. R. Darnall.
- 14 *Autointoxication from Renal Insufficiency, With and Without Diseased Kidneys: With Reports of Some Remarkable Cases. James T. Jelks.
- 15 Intestinal Obstruction. Louis A. Hering.
- 16 *Some Remarks on Epidural Hemorrhage Without Fracture of the Skull, and Report of a Case. J. Shelton Horsley.
- 17 *The Closure of Cutaneous Wounds Without Suture. Howard Lillenthal.
- 18 *Tracheal Injections in the Treatment of Pulmonary Tuberculosis. T. Morris Murray.

Medical Record (N. Y.), February 9.

- 19 Summary of the Progress Made in the Nineteenth Century in the Study of the Propagation of Yellow Fever. Charles Finlay.
- 20 *Investigations Upon Corporeal Specific Gravity, and Upon the Value of This Factor in Physical Diagnosis. Heinrich Stern.
- 21 *The Use of the Aqueous Extract of the Suprarenal Capsule as a Hemostatic. W. H. Bates.
- 22 *The Clinical Significance of Dulness in Appendicitis. H. T. Miller.

Boston Medical and Surgical Journal, February 7.

- 23 *Gonorrheal Infection. Benjamin Tenney.
- 24 *The Bacteriological Diagnosis of the Gonococcus. Oscar Richardson.
- 25 Treatment of Acute Gonorrhea. Franklin B. Balch.
- 26 Gonorrhea in Women. W. L. Burrage.
- 27 Treatment of Chronic Gonorrhea. Gardner W. Allen.
- 28 The Seminal Vesicles in Gonorrhea. Charles L. Scudder.
- 29 Gonorrheal Prostatitis. John B. Blake.
- 30 Gonorrheal Conjunctivitis. Charles H. Williams.
- 31 When Is Gonorrhea Cured? Paul Thorndike.

Medical News (N. Y.), February 9.

- 32 Some Unusual Cases of Infectious Diseases—A Clinical Report (Diphtheria, etc.). Delancey Rochester.
- 33 *Remarks Upon the Construction of Amputation-Stumps, With a Report of Two Cases of Amputation by the Osteoplastic Method of Bier. Alexis V. Adams.
- 34 *Parasites in the Blood. Leon T. LeWald.
- 35 *General Remarks on the Combination of Ether (57 Parts) and Chloroform (43 Parts) Known as the M. S. Mixture. Edward Adams.
- 36 A Report of Some Cases of Abdominal Surgery, with Remarks on the Diagnosis of Carcinoma of the Cecum and the Surgical Treatment of Carcinoma of the Liver and the Gall-Bladder. Charles Greene Cumston.

Cincinnati Lancet-Clinic, February 9.

- 37 *What Is Insanity? Brooks F. Beebe.
- 38 *Spinal Anesthesia. H. J. Whitacre.
- 39 *Unclean Mouths. M. H. Fletcher.
- 40 Resinol Dermatitis. M. L. Heidingsfeld.
- 41 Salt Water Hypodermic Injections in the Morphine Habit. H. V. Sweringen.

St. Louis Medical Review, February 9.

- 42 *Seborrhea and Its Pathology. Wm. P. Loth.
- 43 *The Successful Management of Trigeminal Neuralgia With and Without the Knife. C. H. Hughes.

Virginia Medical Semi-Monthly (Richmond), January 25.

- 44 Spectacles—Their Use and Abuse. Joseph A. White.
- 45 *Tuberculosis of the Peritoneum. Wallace Neff.
- 46 Report of a Case of Pylorotomy for Carcinoma. Stuart McGuire.
- 47 Report of the Maternity Service of Columbia Hospital. John F. Moran.
- 48 *Two Cases of Amblyopia Following the Use of Jamaica Ginger. John Dunn.
- 49 The Physicians' Home—Its Organization, Location and Prospects. John S. Harris.

Physician and Surgeon (Detroit and Ann Arbor, Mich.), December.

- 50 Presentation of Site for Monument. John R. Bailey.
- 51 Beaumont—Army Surgeon. John R. Bailey.

- 52 Beaumont—Practitioner. Frank J. Lutz.
 53 Beaumont—Citizen. Chase S. Osborn.
 54 Physiology in the High School. Louis Murbach.
 55 Hygiene of the Eye. William H. Poole.
 56 The Peritoneum and the Omentum in Appendicitis. William A. Spitzley.
 57 A Summary of the Year's Work in Obstetrics. (Concluded.) Theodore R. MacClure.

Journal of Experimental Medicine (N. Y.), January 15.

- 58 *The Superficial Glands of the Esophagus. Albion W. Hewlett.
 59 *False Diverticula of the Intestine. Martin H. Fischer.
 60 Some Theoretical Considerations Upon the Nature of Agglutinins, Together With Further Observations Upon Bacillus Typhi Abdominalis, Bacillus Enteritidis, Bacillus Coli Communis, Bacillus Lactis Aerogenes, and Some Other Bacilli of Allied Character. Herbert E. Durham.
 61 Report of a Laboratory Epizootic Among Guinea-Pigs, Associated With Gaseous Emphysema of the Liver, Spleen and Kidneys, Due to Bacillus Mucosus Capsulatus. R. G. Perkins.
 62 *On the Relation of Chronic Interstitial Pancreatitis to the Islands of Langerhans and to Diabetes Mellitus. Eugene L. Opie.

Maryland Medical Journal (Baltimore), February.

- 63 Reminiscences of an Old New England Surgeon. J. Collins Warren.
 64 Tuberculosis of the Vesiculæ Seminales, Testes and Prostate: Complete Excision of Right Side; Incision and Curetting on Left Side; Cured. George Walker.
 65 A Review of Some of the Recent Work on the Physiology and Pathology of the Blood. Thomas R. Brown.

Medicine (Detroit, Mich.), February.

- 66 *Treatment of Tuberculosis of the Spine. Alex C. Wiener.
 67 *Addison's Disease. Charles G. Willson.
 68 Extragastric Hematemesis—A Clinical Lecture. Maurice L. Goodkind.
 69 *Carcinoma of the Thyroid Gland. A. E. Halstead.
 70 Removal of Foreign Bodies from the Auditory Canal. G. C. Savage.

Pennsylvania Medical Journal (Pittsburg), January.

- 71 Address in Ophthalmology. Charles McIntire.
 72 Appendicitis and Its Treatment. M. Price.
 73 A Case of Appendicitis in a Child Two Years and Six Months Old—Operation—Appendectomy—Recovery. G. W. Guthrie.
 74 Dilatation of the Stomach and Bowels Following Laparotomy. With Report of a Case. Frank Alleman.
 75 Tuberculosis of the Bladder. E. P. Ball.
 76 Nitrate of Silver in Dermatology—Notes on Chloretone. J. C. Duun.
 77 Tubercular Lymphadenitis. L. J. Hammond.
 78 Constipation or Obstipation and Its Practical Treatment. William M. Beach.
 79 Surgical Diagnosis by the Roentgen Method. Charles L. Leouard.

Journal of Cutaneous and Genito-Urinary Diseases (N.Y.), February.

- 80 *Syphilis and Associated Affections. L. Duncau Bulkley.
 81 *Syphilitic Lesions of the Wheal Type. Hermann G. Klotz.
 82 *An Unusual Phenomenon of Syphilis: Othematoma. Joseph Zeisler.
 83 The Etiology and Pathology of Cutaneous Cancer. A. Ravogli.

Louisville Monthly Journal of Medicine and Surgery, February.

- 84 Version: With Report of a Case. Walker B. Gossett.
 85 Alcohol as a Therapeutic Agent. Edwin C. French.
 86 Case of Probable Leprosy. I. N. Bloom.

American Medical Compend (Toledo, Ohio), January.

- 87 Obstruction of the Bowels. M. Stamm.
 88 A Report of Four Cases of Operation for Intestinal Injuries. William J. Gillette.
 89 Heart Lesions in the Acute Specific Fevers. Wm. A. McKey.
 90 The Early Recognition of Pulmonary Tuberculosis and the Pretubercular Condition. John North.
 91 The Early Aspiration of Pleural Exudates. G. A. Collamore.
 92 Concerning Uterine Fibroids. Auguste Rhu.
 93 Cystitis. Wm. W. Hill.
 94 Some Observations in Injuries Involving the Articulations. Harmon B. Gibbon.
 95 Placenta Previa. Morris A. Darbyshire.
 96 Post-Febrile Gangrene. J. U. Fauster.

Buffalo Medical Journal, February.

- 97 *Some Suggestions in Using Bromids in Epilepsy. L. Pierce Clark.
 98 *Some Reflections on the Treatment of Rheumatic Manifestations. H. A. Richy.
 99 Dermatitis Exfoliativa. William A. Howe.
 100 A Country Health Officer and Board of Health. E. H. Ballou.
 101 Note on Fitting Trusses. M. A. Veeder.

- 102 Alcoholism—A Crime or a Disease. F. E. Fronczak.
 103 *Formaldehyde Gas. William G. Blissell.

St. Paul Medical Journal, February.

- 104 Intestinal Obstruction by a Peritonitic String Forming a True Knot. Arnold Schwyzer.
 105 Brain Tumor. Arthur W. Dunning.
 106 Tumor of the Pituitary Body. Arthur Sweeney.
 107 Medullary Narcosis. C. P. Thomas.
 108 Is It the Duty of the State to Care for the Tuberculous Individual? The Experience of Massachusetts. George L. Richards.
 109 Perinephritic Abscess. James W. Robertson.

Medical and Surgical Monitor (Indianapolis, Ind.), January 15.

- 110 A Case of Accidental Vaccination. John T. Scott.
 111 Headache. John L. Masters.

Albany Medical Annals, February.

- 112 Address, Albany Medical College. Herman C. Gordnier.
 113 *Leprosy in the Hawaiian Islands. Charles E. Davis.

St. Louis Courier of Medicine, January.

- 114 The Present Status of the Treatment of Puerperal Infection. H. J. Garrigues.
 115 Operative Removal of More Than Half of the Radius for Eburnation of the Bone. L. T. Riesmeyer.
 116 Diagnostic Difficulties in Cystic Myomata of the Uterus, With Report of a Case. Fred J. Taussig.
 117 Removal of Tonsils With Special Reference to the Use of the Farlow Punch. Charles J. Orr.
 118 Some Remarks on X-Ray Diagnosis. Wm. W. Graves.
 119 *A Few Cases of Secretory Neurosis of the Stomach. M. D. Schmalhorst.

American Gynecological and Obstetrical Journal (N.Y.), January.

- 120 Deep Imprints (Dr. Thomas Addis Emmett). William H. Hingston.
 121 *Intrapelvic Operations for Relief of Posterior Uterine Displacements. Walter B. Chase.
 122 A Case of Congenital Hypertrophy of the Cervix, Complicated by Prolapsus and Bilateral Pyosalpinx in a Girl 17 Years Old—Vaginal Hysterectomy. Abram Brothers.
 123 *Uterine Curettement. Douglas C. Moriarty.
 124 A Solid Ovarian Tumor. John G. Earuest.
 125 *A Unique Case of Intrapelvic Hemorrhage Due to a Hitherto Undescribed New Growth. W. P. Manton.

Toledo Medical and Surgical Reporter, February.

- 126 Address Before the Toledo Medical Association. William H. Fisher.
 127 Criminal Abortion. W. D. Stewart.
 128 Hematology from a Practical Standpoint. Julius H. Jacobson.
 129 Heart Failure. William O. Wilson.

AMERICAN.

3. **Cavite Fever.**—Wright describes the form of a disease which seems to be endemic in certain localities of the Philippine Islands, characterized by abrupt onset, high temperature, severe muscular pain, extremely painful and tender eyeballs. The predisposing causes are high temperature, low damp localities, overcrowding, and possibly the nearness to salt water. The exciting cause is supposed to be microbial, though it is as yet unknown. No deaths have occurred and the pathology is obscure, but the author seems to think it due to a toxic peripheral neuritis. The disease is most apt to be confused with dengue, but the absence of an afebrile period and rash enables one to differentiate it from that disease. The absence of catarrhal symptoms separates it from epidemic catarrh. The treatment is rest in bed, with liquid diet, free opening of bowels and cold-tar antipyretics and quinin. In some cases it has been followed by local atrophy and paralysis.

4. **Exophthalmic Goiter.**—Three cases are reported by Abrahams, which seem to point to syphilitic infection as a precedent to Graves' disease. He thinks that the specific affection is not a mere accident or coincidence. The old idea which charges exophthalmic goiter to a disturbance of the cervical sympathetic should receive attention only after syphilis has been excluded, and those cases which yield to mercury or the iodids be looked upon as of syphilitic origin. All the cases where the orthodox remedies fail should be put to the test of specific treatment, and also those characterized by gangrene of the extremities, pigmentation or nocturnal headaches or other suspicious symptoms.

5. **Carbuncle of the Lips.**—Powers calls attention to the danger of inflammatory local disorders in the region of the

lips, and the risk of thrombosis of the facial veins extending to the cerebral sinus and causing facial pyemia. The only remedy in such cases is prompt excision, through the mucous surface of the lip, if possible.

8. Post-Operative Hernia.—The cure of post-operative hernia is only by operation, and Haynes suggests the following practical directions: 1. Make the incision in each side of the old scars in the healthy skin, though large surfaces must be incised. 2. Look for and recognize the various muscles of the facial planes at a distance from their cicatricial involvement and incise the layer in normal tissue. 3. Divide the peritoneum far enough from the cicatrix so that its normal tissues are easily recognized. 4. Sever adhesions of hernial sac to the viscera or omentum, between ligatures when necessary. 5. The omental stump is to be covered up by rolling into the omentum and keeping it there by running sutures of free catgut. The deeper sutures of the intestines should be covered by bringing the peritoneal coats together, thus preventing subsequent adhesion. 6. Close the wound with chromic catgut after all oozing has been arrested. Unite the peritoneum with a No. 0 chromic gut; the muscular layers by a No. 1, if they are thin and weak, and a No. 2 if thick and strong. The fascial layer is to be closed by a continuous suture or interrupted stitches of No. 1 chromic, and the skin by a No. 0 applied subcutaneously. The wound is to be protected by a light dressing and supported by rubber adhesive bands. Rest in bed for at least three weeks should be observed to give the union sufficient strength. No truss should be used afterward.

9. Dietetic Management of Typhoid.—Inglis protests against the use of milk as a diet in typhoid. It is not to be considered as a liquid diet for, after its introduction into the body, it becomes solid and the best kind of culture-medium. The fear of starvation is useless, the ideal diet for typhoid fever is pure water in abundance. This will keep up the excretions by the skin, lungs, kidneys and liver, and the elimination of poisons is a necessity. The bowels then being emptied become open to antiseptic treatment. Later, to satisfy friends and others, he would give such foods as are most easily digestible and absorbed in the stomach, keeping in mind that while the stomach may be acting poorly the intestines are worse. Tender lamb chops and poached eggs are better than milk. He speaks strongly against the use of alcohol as a stimulant; he gives a small drink of good coffee instead, which is more permanent in its effect and may be given with cream and sugar. Sugar, he considers a valuable diet, highly nutritious, while no other hydrocarbon is more promptly and easily absorbed, and the typhoid patient can take it up rapidly.

10. Sudden Death in Pleurisy.—Allen reports a case of sudden death in pleurisy and discusses the mechanism of such cases, giving the opinions of authorities. This case, he thinks, can be best explained by assuming that a fleck of fibrin was absorbed from the area of fresh pleurisy in the right lung, carried to the pulmonary vein and lodged there, thus producing a gradual thrombosis causing fatal termination several hours later. This case certainly lends no support to the theory of vascular kinking, since, though the adhesions were very extensive, there was no contraction of the chest and the heart was not displaced.

12. Digitalis.—Solomon first describes the constituents of digitalis and their therapeutic standing. As regards the choice of digitalis preparations, he enumerates the various requirements as follows: 1. Should the effect be immediate or slow? 2. Is cardiac action chiefly desired? 3. Is diuretic action wanted? 4. Should the action be both cardiac and diuretic? But one preparation of digitalis fully represents the drug, that is the powdered leaves. In the tincture containing digitalin and digitoxin the action is chiefly cardiac and slightly diuretic; the infusion containing little if any digitalin or digitoxin, but considerable digitonin, as well as some digitalein, is the best diuretic preparation. In prescribing the tincture it is well to remember that the addition of water modifies the virtue of the preparation by precipitating the contained digitoxin. If water is taken with the dose, any precipitate that settles at the bottom should be swallowed. As regards its

physiologic action he calls attention to certain fallacies, viz., the estimation of the effects of the drug from experiments on healthy animals as compared to those on diseased individuals. All drugs have more or less specific or selective action in disease, frequently sometimes in different diseases. This has been shown to be so in cases with digitalis. We are taught that this drug is indicated where there is failure of dynamic power of the heart, especially if at the same time the arterial tension is low, but it is surprising, and this point must be emphasized, what benefit follows the administration of the drug in cases where on theoretical grounds it would seem best to avoid it. This is so not infrequently in aortic regurgitation. The nitrites, especially nitroglycerin, often make an admirable addition to the drug in cases where it is apparently contra-indicated, and permit it to be used where it would otherwise be impossible. The cumulative action may be entirely avoided by carefully watching the diuresis and by the administration of the drug at longer intervals. Occasionally it is well to skip a day or two. The relative cardiac and diuretic action of the digitalis derivatives is noticed. Digitophyllin has been used to a very limited extent. Its action resembles digitoxin and it may some day come into general use. On the heart and circulation in general the three digitalis glucosids, digitalin, digitalein, and digitoxin, have effects much in common, though there are certain well-defined differences. All three are true heart stimulants, but digitalin is unique in its special influence on the vasomotor center, medulla, and ganglia in the muscular coats of the blood-vessels, contracting them and raising the arterial pressure. It also slows the pulse by directly stimulating the cardiac ganglia. Digitalein and digitoxin do not directly raise arterial tension and slow the pulse, but they do dilate renal blood-vessels, increasing the flow of the urine, and in this respect their therapeutic value is great, especially in cardiac affections accompanied by low arterial tension. The author contrasts digitalin and digitoxin, the latter being the chief ingredient in the leaf, which should be standardized in the treatment of its contained digitoxin. It is superior to digitalin in its diuretic action. Its action is prompter and more certain and it is less liable to cumulative action. He thinks it has the brightest future of all the digitalis preparations and in combination with nitroglycerin acts admirably. A number of cases are reported showing the cardiac and other conditions in which the drug has been used by the author.

14. Uremia.—Jelks calls attention to the fact that uremia may occur in persons with perfectly sound kidneys. The functional activity of this organism may be so affected that uremic symptoms arise. He notices the methods of examining for solid constituents and reports a number of cases of cardiac and other symptoms apparently connected with functionally, etc., insufficient excretion.

16. Epidural Hemorrhage.—The diagnosis of this condition is most important, and the symptom which is well nigh pathognomonic, as pointed out by Horsley, is the interval of consciousness between the time of injury and the first cerebral symptom, which may last for a few minutes or many hours, depending on the severity of the injury. Epidural hemorrhage frequently exists without such interval, but this class of cases will be found complicated with some trauma of the brain. Other important signs are injury to the scalp, if only a slight contusion, inequality of pupils, gradual appearance of coma heralded by stupor; early convulsions point to the seat of pressure. It takes a considerable amount of blood to cause sufficient pressure for cerebral symptoms and usually a number of centers are involved. The hemiplegia and paraplegia come on gradually according to whether the hemorrhage is at the side or top of the brain. Epidural hemorrhage at a distance from motor centers is not likely to cause convulsion or paralysis until it causes general compression and localizing symptoms which should be looked for. Breathing is slow, the pulse usually slow and full, later becoming rapid and weak, the temperature subnormal, and cases without fracture and contusions and of sufficient severity should be operated on as soon as possible under favorable circumstances. The author reports a case.

17. **Closure of Cutaneous Wounds.**—The following method is advised by Lihenthal for closing skin wounds or other eruptions so as to avoid infection, stitch abscesses, etc. The deep layers of the wound are closed with various materials, but the wound of the skin is covered with sterilized gutta-percha and the edges approximated with India rubber zinc plaster. He has had no infection in these cases, notwithstanding the plaster he had used was not considered aseptic, but has had one made recently by Johnson & Johnson, sterilized and kept in a sterilized container. When applying the plaster one must be careful to check all hemorrhage and to dry the skin thoroughly with alcohol or ether. The strips are then laid on. The method should not be used where there is tension. It is applicable in partial closures when drainage is employed. On the fifth or sixth day the strip should be removed by loosening both ends, drawing them toward the wound.

18. **Tracheal Injections.**—Murray calls attention to the method of introducing remedies by tracheal injections. The curved cannula of the syringe is passed between the vocal cords, slowly injecting the fluid into the trachea, the Schadel syringe being used. He gives Mundell's prescription for injection, consisting of 5 grams each of the essences of thyme, eucalyptus, and cinnamon, with 100 c.c. of sterilized olive-oil, 3 c.c. being injected three or four times consecutively. The usual first effect of the injection is slight explosive cough. Out of thirteen cases treated during the past seven months all but three have been decidedly benefited; cough and expectoration have been lessened and temperature lowered. In no case has he seen glottic spasm follow the injections. The antiseptics used enter at once into the field of their labor, and penetrate to the farthest limit of the respiratory space, coming into immediate contact with the toxins as they are generated. While he says he does not undertake to estimate the full value of the treatment he thinks it may be fairly said that it does lessen the cough and expectoration and improve the general condition.

20. See abstract in *THE JOURNAL*, xxxv, p. 1172.

32. **Suprarenal Capsule.**—Bates emphasizes some facts already published and calls attention to the use of suprarenal capsule with its hemostatic action in operations on the eye, ear, nose and throat, urethra and uterus. He concludes his paper by saying that suprarenal extract is the most powerful known hemostatic and when properly used has no objectionable properties. When it is used locally, hemorrhages from the mucous membrane can always be controlled. Its internal use as a hemostatic is sometimes efficient. When it controls hemorrhages locally or otherwise its effects are noticeable in less than a minute from its administration. The dried powdered gland, he thinks, is the only preparation for internal use.

22. **Appendicitis.**—Miller maintains that there is a reaction taking place against the exclusively surgical treatment of appendicitis. That cases have occurred under surgeons where the appendix was found healthy speaks strongly against the too universal and indiscriminate operation. He thinks sufficient stress has not been placed upon the point of dulness and in every case in his experience, where he has relied upon this symptom, he has been led to a correct conclusion. In cases without any pronounced inflammatory symptoms, in which dulness was marked, he found the appendix indurated and adherent. Twenty cases are reported which show the significance of this symptom.

23. **Gonorrheal Infection.**—Temney first notices the non-specific discharges and then passes to the question of actual gonorrheal infection. He emphasizes the importance of the persistence of the infection and does not hold that there is much danger of infection without any visible discharge for months. He discredits Noeggerath's and other estimates as to the extreme frequency of gonorrhea.

24. **Bacteriologic Diagnosis of Gonococcus.**—The most important precaution in examining for the gonococcus, according to Richardson, is to smear the pus properly on a cover-glass; usually it is too thick. Another important precaution is to be sure that the anilin oil gentian-violet has not decom-

posed. In examining for the organism in inflammatory processes other than gonococcal conditions, something being more than a cover-glass examination and the application of the Gram's method of staining is needed. The suspected microbe must be isolated in pure culture, its peculiarities found to agree with the known pictures of the gonococci, and the micrococci composing such colonies must be tested by the Gram's method and have a decided tendency to group in fours. The test of the behavior of the cocci so isolated, toward the Gram's method, is of great importance, and is to be applied with certain precautions: 1. The cultures must be over forty-eight hours old. 2. The cover-glass preparation must not be too thick. In short, no culture is to be regarded as a culture of the gonococcus unless the organism occurs only in special media, decolorizes by Gram's method and shows a decided tendency to grouping in tetrads.

33.—See abstract in *THE JOURNAL*, xxxv, p. 1685.

34. **Parasites in the Blood.**—Le Wald notices the filaria, recognizing the three forms, nocturna, diurna, perstans, and the plasmodium malariae, the peculiarities of which are briefly stated.

35. **M. S. Mixture.**—The title of this article defines the mixture. Adams concludes that its chief advantages are: 1. State of excitement and struggling are not marked. 2. It requires a short time to get a patient under, five or ten minutes. 3. Very little of the anesthetic is required. On an average about 40 c.c. are used in an hour. 4. It is a comparatively safe anesthetic. 5. It is very pleasant to take. 6. The after-effects are not marked. 7. Patients recover quickly. 8. It can be used in nearly every condition in which either chloroform or ether is employed.

37. **Insanity.**—Beebe discusses the conditions and symptoms that constitute insanity, basing the diagnosis: 1, upon the state of feeling—emotions; 2, upon the reasoning faculties—intellect; 3, upon the power to do or not to do—volition—the proper balance of these three being sanity. The due consideration of these will establish the fact whether the patient is in a state of mental daylight, twilight, or darkness.

38. **Spinal Anesthesia.**—Whitaere reports four cases of spinal anesthesia in which the method was successful and the by-effects not serious. The dangers, he thinks, are the possible mortality which may result from a toxic effect of the drug upon the respiratory or cardiac apparatus or from the production of thrombi or emboli which may result from infection, or from the too rapid withdrawal of the cerebrospinal fluid. Symptoms of poisoning or depression may occur short of death, and in quite a majority of cases severe vomiting has been noticed. The method never can be applied in certain classes of patients, i. e., nervous women and children, where consciousness of the operation will enhance the shock, and there is little probability that it can be applied to the higher portions of the spine without permanently increasing the dangers. On the other hand, there are a large number of cases where renal, cardiac and pulmonary disease exists, in which this method is far less dangerous, even with our present knowledge, than general anesthesia, and he also believes that the method will be perfected, giving us a less toxic drug with equal efficiency. Other advantages are that the patient can often give valuable aid during the operation and can be consulted in regard to more extensive measures than were originally intended. The usual after-effects of ordinary anesthesia are generally absent and shock in the properly selected cases is less than often occurs after general anesthesia.

39. **Unclean Mouths.**—The dangers from mouth bacteria in producing dyspeptic and other symptoms are noticed by Fletcher, as also the dangers from more virulent organisms. The mouth can not be kept absolutely clean from disease germs, but they can be gradually reduced in number by hygienic treatment, securing the best possible development of the teeth and glands, the use of antiseptics and the prohibition of consumption of such foods as specially foster the growth and development of fermentative and putrefactive germs. The

fermentation of carbohydrates is specially noticed as the cause of acid fermentation, destroying the teeth and favoring bacterial growth. We can not disuse them altogether, but they can be reduced to a minimum. He thinks that the alkaline antiseptics are absolutely necessary to properly cleanse the mouth and should be applied to it at least twice a day, even in the best conditions, and two or three times as often with the majority of persons.

42. Seborrhea.—After noticing the views of authorities on the subject, Loth endorses the opinion of Elliot that the only true seborrhea is the condition usually referred to as seborrhea oleosa, which may occur not only on the scalp but also on the face, sternum, interscapular and genital regions. Any inflammatory process which would develop on such a surface would be characterized by features of true seborrheic eczema and syphilitic or psoriatic lesions similarly modified. Seborrhea does not produce eczema, but acts only as a predisposing factor. The conditions known as seborrhea sicca, pityriasis capitis, seborrhea corporis, etc., are all degrees of seborrhea dermatitis. We have merely clinical grounds for believing that these affections are parasitic in character. These are the circinate character of the lesions, their marginate outline, peripheral extension while clearing in the center, the evidence of infection derived from brushes used by a person having the disease, the spreading from one member of a family to another and the response to antiparasitic remedies.

43. Trigeminal Neuralgia.—Hughes protests against too much surgical treatment of trigeminal neuralgia and in forty years' practice in cases that he has had the chance to steadily treat, he has yet to see the first go to the surgeon. His chief reliance in neuralgia, especially sciatica and facial, has been on belladonna or atropin, strychnin, large doses of quinin and more recently hypoquinidol, which is a phosphate of quinin. He has also supplemented this with persistent galvanization of the affected nerve tracts and some form of bromid, the hypophosphites of iron, and gelsemium in green root tincture for direct anodyne effect. He uses locally, ether, menthol, heat and electricity. In many cases also he has used Fowler's solution and coal-tar anodynes. In neuralgia there is a peculiar state of special aptitude to pain in the nervous system; there is weakness and proneness to become affected by cold, etc., that would in other cases be harmless. He draws the line on uterine diseases as the direct cause, not attributing neuralgia to them. As regards surgical operations, he is conservative. He thinks that the complete removal of the Gasserian ganglion should be undertaken only as a last resort. He objects to this procedure: 1. Because of the curability of the disease by medication if rightly employed, in many cases where sufficient vital stamina remains, such as would withstand the ordeal of ganglion extirpation. 2. Because trifacial neuralgia is not a disease exclusively of the ganglion. 3. Because it appears to be a disease not confined to the fifth nerve or the beginning at the Gasserian ganglion. It is a morbid state of the sensory nervous system with characteristic trigeminal manifestations and not exclusively a local disease. 4. Because as good an effect can be obtained by rest and recuperation. 5. Because of the trophic irritative or paralytic sequelæ in the cornea and face, the herpes, ear and jaw involvement, ptosis and fourth and sixth nerve paralysis and, finally, the mortality of operation in some cases. The infection which follows the perforation of the antrum, and the shattered health of many surviving also seem to forbid it. The fact that power of tension of the tympanum comes from the fifth nerve and otic ganglia is not considered as it should be by surgeons. His suggestion for a neurosurgical plan of successful treatment of trifacial neuralgia when neurotherapy fails would therefore be this: Mentally prepare the patient for its radical relief by securing hopeful consent to a combined surgical and neurologic treatment. Put her or him in bed, give chloroform, extirpate the involved peripheral nerves if you wish, keep both the eyes closed—not necessarily by stitching—for the same length of time as one is kept closed by stitching to prevent the eye sloughing, so likely to follow Gasserian ganglion extirpation without it. Keep the eyes closed to secure brain and nerve

center rest. Keep visitors away from the patient, maintain absolute brain and neural quiescence, such as follows the operation, by appropriate medication, and maintain at least a six to ten weeks' treatment on the lines above indicated. With this plan put in faithful practice he thinks Gasserian gangliotomy would take its place among the lost arts.

45. Tubercular Peritonitis.—From a study of the literature, Neff concludes that tubercular peritonitis is a disease to be treated surgically by laparotomy, rapidly and carefully performed. The danger is slight, the mortality being less than 3 per cent. As regards the theory of the curative effect of laparotomy, he thinks the antitoxin theory of Gatti the most rational, though several of the various assigned causes may combine. Sepsis is not apt to occur on account of the pathologic changes that have taken place in the peritoneum, and tubercular infection of the wound is always absent. Antiseptics are useless and drainage should be avoided for its tendency to permanent fistula. Most of the deaths after the operation have been due to a general tuberculosis or tuberculosis of some other part. The successful treatment of this condition depends on the diagnostic ability and good judgment of the surgeon.

48. Jamaica Ginger Amblyopia.—Dunn reports two cases of this condition, the only previous cases that he has learned of being those of Thompson and Woods. See THE JOURNAL, xxxvi, p. 34.

58. The Esophageal Glands.—Two varieties of these glands, the submucous, which has already been recognized, but the other variety entirely distinct from this, are described by Hewlett, from their situation as superficial to the muscularis mucosa. They occur mainly in two localities, in areas in its upper portion and near the cardiac orifice where they extend a short way toward the stomach, being replaced by typical fundus glands, and they have been grouped by some with the gastric glands. Hewlett describes the structure of these glands in detail, noticing the previous observations of Rudinger, Schaffer and others pointing out their distinction from the submucous glands and raising the question as to the possibility of their giving rise to carcinoma. He has collected six cases of adenocarcinoma of the esophagus, to see if their location bore any relation to these glands, but did not find them situated within the usual limits of the latter.

59. False Diverticula of Intestine.—By a true intestinal diverticulum is understood one whose walls are composed of the entire thickness of the intestine. A false diverticulum, on the other hand, is a hernia of the mucosa and submucosa through the muscular wall and consists only of mucosa and serosa with intervening connective tissue. It is also desirable to distinguish between congenital and acquired diverticula, but the false are always acquired. Their etiology is somewhat obscure. Traction has been suggested, but it is not generally accepted as the cause. For a long time it was held that they were due to increased intestinal pressure, feces, gas, etc. Klebs has suggested that they may occur with growth of the mesentery, in length outstripping that of the blood-vessels, or more probably with traction in later life upon the mesentery by the intestine. The funnel-like attachment of the ventral wall to the entering mesenteric vessels becomes converted into diverticula. The greater frequency of intestinal diverticula in elder and obese persons supports these later views. Other authors have attributed the origin of diverticula to "pulsion" rather than traction and Hansemann has defined more precisely the vascular relationship. It has been shown by Heschl that the intestine ruptures under pressure at the point where the diverticula are found. Experiments by Good and Hanau have produced the same formations. Senility favors these conditions and various other etiologic factors favor the normal lessened resistance. Chronic constipation may be considered a predisposing factor. Fatty degeneration of the muscularis has been mentioned. Separation of the muscular fibers of the duodenum by the common bile-ducts favors diverticula in that part of the duodenum, stenosis leading to increased intestinal pressure and in general sluggishness of the intestinal

functions may produce it. These are factors unconnected with clinical symptoms and only discovered postmortem, but in some cases pathologic processes have followed, such as ulceration and inflammation due to filling of the diverticula with feces, peritonitis, etc. One of the favorable terminations is an increase in the connective tissue element, but this is rare in these acquired formations. Fiseher reports and discusses a number of cases of interest as bearing on the etiology and pathology.

62. Islands of Langerhans in Chronic Pancreatitis.—The conclusions of Opie's article are: 1. That congenital syphilitic pancreatitis retards the development of glandular acini but does not affect the islands of Langerhans. Embedded in the stroma, but not invaded by it, the latter maintain their continuity with the small ducts and acini with which they have a common origin. 2. Two types of chronic interstitial inflammation affecting the development are distinguished: *a*. Intralobular pancreatitis localized chiefly at the periphery of the lobule implicating the islands of Langerhans only when the sclerotic process is very advanced. In pancreatitis following obstruction of the ducts the islands long remain unaltered though embedded in dense scar-like tissue. *b*. Interacinar pancreatitis. In this type the process is diffuse, invading the lobule and separating individual acini; the inflammatory change also invades the islands. 3. Relation has been observed between lesions of the islands of Langerhans and the occurrence of diabetes mellitus. In one out of eleven cases of intralobular pancreatitis mild diabetes occurred. Sclerosis in this case followed obstruction of the ducts by calculi and was far advanced and affected the islands of Langerhans. 4. In two of the three cases of intracinar pancreatitis diabetes was present. The third case was associated with hemochromatosis, which at the latter stage is associated with diabetes from pancreatic lesions. In the fourth case of diabetes, hyalin deposit between the capillaries and the parenchymatous cells had so completely altered the islands of Langerhans that they were no longer recognizable.

66. Spinal Tuberculosis.—Wiener insists on the importance of early diagnosis of the treatment and the need of paying special attention to reflex spasms of the dorsal muscles. The conventional plaster-of-Paris jacket should not be relied on. Permanent extension is the reliable measure. He does not think much of forced correction of the spine in tuberculous deformity unless in cases where the deformity is of recent date.

67. Addison's Disease.—Willson reports a case of Addison's disease and discusses the pathology and symptoms. He thinks that the symptoms are best accounted for by the combined effects of suprarenal inadequacy, and sympathetic irritation, either functional or organic. He compares adrenals in their influence on the system to the sexual glands, both atrophying in old age and raising blood tension.

70.—See abstract in THE JOURNAL of January 12, p. 126.

80. Syphilis and Associated Affections.—The relation of syphilis to other disorders is stated by Bulkley, who recognizes that various affections may complicate a specific disease. There may be a simultaneous or successive infection, but there is need of more definite microscopic studies in regard to the ordinary infections of specific lesions. As regards infection of general disease, he finds that variola seems to aggravate syphilis while it exists, according to some observers, and others have seen syphilitic lesions disappear during the course of smallpox. The testimony, therefore, is somewhat varying. As regards erysipelas there is some evidence that it has a counteracting effect on syphilitic virus. There is, however, a lack of experimental and clinical observation. Measles and scarlatina seemed, according to Mauriac, to hasten the eruption; typhoid may temporarily affect specific eruptions. The subject is worthy of further observation. Other disorders like syphilis and malaria, syphilis and diphtheria, tuberculosis, lepra, and sepsis are all noticed. Bulkley concludes that in erysipelas there seems to be an antibiosis, as cases are recorded where erysipelas appeared to be curative. The toxins of some of the other infectious diseases seem to have some effect in arresting the progress of syphilitic lesions in their early stages, but as

their effects pass off the virus reasserts itself. Metabiosis, where one organism prepares or paves the way for another, seems to be indicated in malaria, as it temporarily renders the subject peculiarly liable to severe symptoms in syphilis. Symbiosis where the two morbid actions assist each other, is illustrated by tuberculosis. Lepra and septic conditions aggravate both primary and later manifestations, and many cases are recorded where the pus-producing micro-organism was found in connection with syphilitic lesions. He suggests that it is worth considering whether the unusual severity of certain cases is not largely due to mixed infection. The paper concludes with a lengthy bibliography.

81. Wheal Lesions in Syphilis.—The absence in American literature, of mention of the wheal type of syphilitic lesions, is noticed by Klotz who reviews certain authorities and his own observation showing that such do occur. The appearance of wheals is generally supposed to be due to an angioneurosis, but the author suggests the embolic process which would account not only for the appearance of patches of syphilis but for the primary localized syphilis, for which, heretofore, we have not been able to offer a satisfactory explanation.

82. Unusual Phenomena of Syphilis.—Zeisler reports a case of othematoma occurring without any known cause, in a physician who had been accidentally infected with syphilis. It promptly disappeared under administration of iodid of potassium, without causing any injury, save a slight thickening of the cartilage in the locality. About six months after the occurrence of this accident the patient had symptoms of Meniere's disease and has since had peculiar nervous phenomena, which possibly suggests some pathologic alteration at the base of the brain. Zeisler suggests, therefore, the possibility of othematoma being due to some central origin.

97. Bromids.—Clark regards bromids only one of the many drugs to be employed in epilepsy, but it is the one par excellence for treating the seizures. The formula which he considers the best is the elixir of the triple bromids, containing 5 gr. each of potassium bromid, ammonium bromid, and sodium bromid to a dram of simple elixir. Every possible precaution to prevent brominism must be taken. The organism must be kept at the highest functional state; hot and cold baths, massage and electricity should be given. He orders prolonged hot baths in patients in good condition, twice each week on retiring, and a cold shower bath and a friction rub every morning on rising. He allows coffee, but no alcoholic stimulants in connection with these cold packs. The bowels must be watched, mouth kept clean, and any signs of bromid intoxication be promptly treated. When the bromid salts can not be given in high doses, he uses the bromids and bromin in emulsion, which is less irritating to the intestinal tract, not constipating and less toxic. It also seems more lasting in its effects. The greatest adjunct to the bromids, however, he thinks is the method which he calls hypochlorization or salt starvation. This was introduced by Toulouse and the *rationale* is simply to substitute bromin for chlorin in the tissues, both chemically and physiologically. Linossier, in investigating the subject on animals, found that bromhydric acid should be substituted in the stomach for chlorhydric acid. Bromin is not a foreign substance, but is a true mineral substance of the body. It is difficult, however, to get epileptics to discontinue salt altogether, so semistarvation of salt is all that can be expected of them. Bromid is taken into the system more readily as salt is dispensed with. One of the best and easiest ways of carrying out this adjunct of bromid treatment is the establishment of a milk diet with occasional removal to a mild salt diet, and Clark gives a dietary modified from Toulouse. Cases are quoted, and in conclusion he summarizes as follows: 1. Bromids still hold a very prominent place in epileptic treatment. 2. Tonics must be given constantly while administering bromids. 3. Bromid salts should be given gradually to find the epileptic's sedative level. 4. Baths, high enemas, alimentary antiseptics, massage and electricity are absolutely essential to successful bromid medication. 5. Bromin is a worthy successor to bromid in many cases. 6. Salt or semisalt starvation is a great adjuvant to the bromid treatment.

98. **Rheumatic Manifestations.**—Richy advocates the use of salophen in rheumatic symptoms and reports two cases, one of rheumatic pericarditis and the other of joint rheumatism treated with this drug, beginning with 10 or 15 gr. and gradually reducing the amount. He also finds this almost a specific in influenza. He has also used it to advantage in headaches dependent upon rheumatic diathesis and sciatica, in tonsillitis and scarlet fever.

103. **Formaldehyde.**—The different methods of disinfecting by formaldehyde are described by Bissell, who gives a report of experiments made by himself with various cultures and sums up the application of formaldehyde to household disinfection as follows: 1. It is the most satisfactory of the gaseous disinfectants. 2. Its penetrating powers are extremely slight. 3. A certain degree of moisture facilitates its action. 4. It should always be supplemented by a cleansing process.

113. **Leprosy in Hawaii.**—Davis gives a very good description of the Molokai leper colony, which he visited in 1898; the history of leprosy in the islands, with tables of the mortality, etc., is given. He thinks the low moral standing of the natives, habits of using the same beds, clothing, and pipes, also the fact that the leper was never an outcast among them, account for the spread of the disease. Vaccination also during the epidemic of smallpox in 1852 and 1853 undoubtedly helped to spread the disease. The native Hawaiians have no special dread of the disorder and many cases are on record where natives have tried to contract the disease in order to join friends or be provided for in the Island of Molokai. As regards treatment, he is pessimistic. He finds nothing that is curative and practically no medicine is administered in the leper settlement.

119.—See abstract in THE JOURNAL, title 42, p. 403.

121. **Posterior Uterine Displacements.**—The recapitulation of Chase's article is as follows: 1. Posterior deviation with fixation from adhesion is usually a serious menace to health and often a barrier to childbearing. 2. This condition can be best treated by laparotomy. 3. After the adhesions have been severed the cure should be completed by maintaining the uterus in an anterior position: *a*, by intraperitoneal shortening of the round ligament; *b*, if this is insufficient resort should be had to anterior abdominal suspension of the uterus. 4. Experience, while not settling all points, demonstrates that efforts to maintain the uterus in an anterior position, either by ventrosuspension or fixation, are from the uncertainty of the degree and extent of the adhesion not devoid of danger in case of conception, which should be considered, and, in certain instances, guarded against. 5. Ligation or resection of the Fallopian tubes is a more rational procedure than ovariectomy for the prevention of conception and more justifiable, as it does not unsex the woman and saves her from a premature menopause and its unpleasant consequences. 6. The value of these methods of treatment of posterior deviations is amply demonstrated and their employment should be more generally adopted.

123. **Uterine Curettement.**—Moriarta considers curettement in septic and septic conditions as complications of the puerperal state. He specially dwells on the importance of thorough removal of infection spreading retained tissues, the necessity of careful and conscientious measures in the operation of curettement, the danger of perforation of diseased uterine wall, the chances of a long and patulous cervix leading to mistakes, and gives the details of the technique. He uses anesthesia according to the conditions, sometimes he employs it and sometimes not. After scraping and the removal of new adhesive tissue, which is done with a good-sized Rhamstetter irrigating curette, he follows it with a small-sized curette, going over the walls slowly and methodically. Following the scraping he uses a hot solution of bichlorid—1 to 2000—followed by a saline solution of sterile water; he then packs with iodoform gauze. If large quantities are needed it is well to wash it to prevent iodoform poisoning. The gauze is removed at the end of twenty-four hours and usually not replaced.

125. **Intrapelvic Hemorrhage.**—Manton reports a case of excessive uterine hemorrhage due to a pathologic new growth,

a fibroma, in the lower portion of the broad ligament encroaching upward with involvement of tube and causing degeneration and destructive changes in the blood-vessels of the part.

FOREIGN.

The Lancet, February 2.

Considerations Touching the Pathology and Relations of Diabetes. W. HOWSHIP DICKINSON.—The morbid anatomy of diabetes, according to Dickinson, is as yet somewhat uncertain. We have nothing that serves to define the disease, such as the hepatization of the lung in pneumonia. The most frequent morbid appearance is extravasation of the blood in the perivascular canals of the brain. Of twenty-two diabetic patients, eight displayed this phenomenon. Other signs of morbid action are the enlargement of the perivascular canals, giving the white matter a cribriform appearance, and the abnormal contents of these leucocytes and amorphous debris. In the cord we sometimes have dilatation of the central canal. In two out of the eight cords which he had, this was present, and also a peculiar hyaline modification in the lateral parts of the gray horns. R. T. Williamson has published cases of diabetes with evidence of degeneration of the posterior column. In the liver we have certain characteristics varying from health. The organ is large, red, hard and congested and the veins contain coagula. Dickinson does not dwell on the consequential changes of diabetes, such as the inflamed states, etc., but passes to the clinical causes. He mentions emotional disturbance, anxiety, and notices that locomotive engineers are specially liable to the disease, probably owing to the anxious nature of their work. Heredity is a most prominent cause and the association of diabetes with gout or hereditary disorders is notable. The clinical association on the side of the nervous system, of loss of the patella reflex, is noted. This may be connected with some change in the cord or nerves, though morbid changes have not been found in the peripheral nerves. Peripheral neuritis has been regarded, however, as one of the results of the toxemia of diabetes and this may account for the symptom. Another nervous phenomenon of diabetes is the occurrence of excess of earthy phosphates in the urine, especially phosphate of lime, which is unexampled in any other disease. He has placed on record cases where the daily increase of lime exceeded 3 grams. Still another symptom is the peculiar dusky redness of the complexion, often seen in advanced and severe cases. The author's investigations at the Bethlehem Hospital, of the urine of fourteen out of 106 lunatics, gave appreciable reductions of copper, together with some degree of darkening with liquor potassæ, but in no case marked diabetic characters. He is inclined to think that glycosuria accompanies insanity in a slight degree, and in a small proportion of cases. We are not yet at the bottom of the pathology of diabetes; what we know points to the undoubted origin of the disease in mental causes. Its association with larger excretion of phosphate of lime, the loss of the patellar reflex and the glycosuria of insanity are significant as to its relations with the nervous system.

Hemorrhagic Diathesis in Typhoid Fever and Its Relationship to Purpuric Conditions in General. ALBERT G. NICHOLLS AND G. EVERETT LEARMONTH.—A number of examples have been recorded of hemorrhagic complications of typhoid, and the authors notice the opinion of authorities in regard to these. The hemorrhagic type was first brought to notice by the earlier French school, notably by Trousseau, but the cases are exceedingly rare. They report, in elaborate detail, the history of a case with postmortem and bacteriologic examination of the blood, peritoneal cavity and kidneys. The case was atypical in that the intestinal lesions were most marked in the large bowel, the spleen was small and there was a mixed infection with staphylococcus albus. One main factor of the hemorrhages was a fatty degeneration of the basement membranes of the capillaries and the various endothelial cells, especially notable in the lungs and kidneys. They found but few cases recorded of general hemorrhagic diathesis in typhoid. As regards the positive conditions, they notice the views of Gerhardt that the hemorrhage tendency has been more frequently

observed since the introduction of the cold bath treatment. A too rigid commitment of the patient to an animal diet may be an important cause, as tending to a scorbutic condition. Its appearance seems to be most common in children and early adult life. The vast majority of cases are found in those suffering from a severe form of typhoid, the patients are much prostrated, temperature high and heart weak. The anatomic lesions differ very little from those of ordinary typhoid, but the authors are inclined to credit the action of special micro-organisms as having to do with the symptom. The condition is a serious one and the treatment is necessarily symptomatic.

Treatment of Typhoid Fever. FREDERICK J. SMITH.—In cases where the diagnosis is certain the author says there are two general principles of treatment: 1. Examination of the stool. 2. The appetite of the patient. He maintains that one stool should be examined every twenty-four hours during the active course of the disease, to determine whether there is undigested milk or other food, blood or sloughs which are significant, or a due proportion of feculent debris. He has made it a cardinal rule to allow the appetite to be the sole arbiter of the diet, providing vomiting, hemorrhage and abdominal distention are not present. The temperature he ignores. In the early stages of the disease, where the appetite is in abeyance the temporary administration of water as the only food has given good results. We do not know definitely just how long this should be continued, but he has kept it up for four or five days with the best results, and the wish of the patient for food is the only reason he had for stopping it. Milk is the standby for diet when food is given, but it should be administered in a form where balling and curdling does not take place, for example liquid eustard or even baked eustard if broken up fine, in bread and milk, and he would allow eggs slightly boiled or poached at any stage. All commercial foods he thinks are of doubtful value. Meat, if given, should be put through a sausage machine or minced as fine as possible. The patient may be allowed to nibble stale bread to keep the jaws exercised. The foods to be avoided are those which remain in small hard particles on leaving the stomach. The quantity and time must be regulated, about once in four hours in small quantities, but the patient should not be awakened for the purpose of giving food; sleep is more important. Between meals nothing should be given but cold or hot water, as preferred. Of the complications, vomiting, as an exhausting symptom, should be avoided if possible. Tympanites is an ominous symptom and on its discovery all foods should be stopped, excepting water. His own plan is to at once administer 2 drams of sulphate of soda every two hours until the bowels are acting freely. It usually follows constipation. He also orders an ice-bag to the abdomen, and resorts more persistently to chlorin water or salol as an antiseptic. Constipation need never be permitted to persist. He uses sulphate of soda and calomel as the usual laxatives. If the diarrhea should be excessive, he would investigate the food and stimulants; if due to indigestion, stop all food but water. If there is much sloughing material, showing signs of ulceration, the symptom is bad. He has used an enema containing opium, nitrate of bismuth and ipecacuanha. Pyrexia can be best treated by tepid sponging. He does not favor cold baths as a rule, though in some cases they may be indicated. If starvation and opium are found to be useless in hemorrhage nothing else is of the slightest use. As to drugs, he has a preliminary routine treatment, giving 2 gr. of calomel at once, following it with 1 gr. every night. Mixtures containing carbolic acid or chlorin water are given, or he gives salol in water three times a day. Of other drugs he uses practically none excepting in emergencies. Alcohol, he thinks, is unnecessary, though a little may be allowed those who are in the habit of taking it. He does not object to beer drinking. The importance of the physician giving personal attention to the question of cleanliness is emphasized, and he expresses the opinion that the future of therapeutics in typhoid will be in serum-therapy.

Intraperitoneal Method for Radical Cure of Inguinal Hernia. T. H. WELLS.—The writer describes an operation

performed by Mr. Symonds, in inguinal hernia, which he sums up in seven stages: 1. An incision $2\frac{1}{2}$ inches long in the linea semilunaris, ending over the external abdominal ring and passing through the skin, fat and superficial and deep fascia. 2. Deepen the upper $1\frac{1}{2}$ inches through the abdominal muscles, transversalis fascia, and the subperitoneal fat, and having arrested all hemorrhage, open the peritoneal cavity. 3. Explore the sac with the finger and remove any gut. 4. Insert forceps along the palmar surface of the finger, seize the apex of the sac and invert it, bringing it out into the upper wound. 5. Stitch the sac, after giving it a couple of twists on itself to obliterate its cavity, to the peritoneum. 6. Stitch up the external abdominal ring. 7. Close the wound by bringing the structures layer by layer into accurate apposition. The advantages are its quickness, obliteration of the neck of the sac high up, the inverted sac aiding in forming a firm scar. The sac and its contents are explored and, if necessary, the sac opened below quickly and safely. The incision allows any methods of closing the inguinal canal and external ring carried out as the operator may desire.

Bulletin de l' Acad. de Med. (Paris), January 8 and 22.

Total Resection of the Stomach. J. BOECKEL.—This is the first gastrectomy done in France and the fourth on record. The operation lasted $1\frac{1}{2}$ hours; the patient made a rapid recovery, was up the twenty-second and left the hospital the thirty-third day. She had previously been much emaciated by the carcinoma which rendered the resection necessary, and after its removal gained seven pounds in a month, and thirteen more in another six weeks. The stools are regular and normal. She eats the food at the family table with no restrictions except quantity, cabbage and sauerkraut. A week after leaving the hospital her lunch was veal, carrots, fried apples, wine, biscuits and grapes, with three cups of black coffee, according to a letter received from her. The removal of the entire stomach is an operation comparatively simple and the marked and regular increase in weight testifies to perfect and regular assimilation without it. Boeckel is inclined to believe that its application is not limited to cases of carcinoma. The first point in operating is to free the greater curvature of the stomach by severing the gastro-colic ligament; then to detach the upper portion of the stomach between forceps, one placed immediately above or below the cardia; this is followed by freeing the lesser curvature by severing the gastro-hepatic ligament. The lower portion is then liberated after section of the upper portion of the duodenum between the forceps. The last step is the anastomosis of the cardiac ostium with the duodenum and suture of the abdominal wall without drainage.

January 22.

Obstetric Spinal Analgesia. GUENIOT.—Spinal cocaineization has been employed in 60 obstetrical cases in France. A review of these shows that the small amount of cocaine required—1 eg. of cocaine in a 1 per cent. solution is ample—obviates the inconveniences sometimes observed in surgical operations. This amount induces complete analgesia below the umbilicus, suppresses the pain caused by the contractions of the uterus and the passage of the child, and far from interfering with delivery, seems on the contrary to accelerate it; it imparts greater energy and regularity to the contractions and also enables the woman to make more energetic and more sustained efforts as they are painless. The analgesia lasts from seventy minutes to two hours. No serious danger for mother or child has been observed in consequence, the only phenomena of intoxication noted being cramps or slight tremor in the limbs, transient headache, slight vomiting and a slight rise of temperature. At the same time, it is best to avoid using this method of anesthesia in patients with lesions of the heart or large vessels, chronic affection of the respiratory apparatus, or disease of the nerve centers, especially brain tumors. It is also contraindicated when absolute asepsis can not be secured. Further special contraindications are extremely rapid course of delivery, frequency and energy of contractions of the uterus or exaggerated tension of the organ, or the necessity of manual intrauterine intervention. The cocaine evidently has a pro-

nounced stimulating and regulating action on the contractility of the organ. If this fact is confirmed by further experience it will give the drug a high place in obstetrics. While it acts like ergot, it does not tetanize the uterus like the latter, and leaves the cervix permeable, at least to a certain extent. The indications for obstetric spinal cocainization are four: All obstetric operations which demand anesthesia, with the exception of those requiring the introduction of the hand into the cavity of the uterus; excessively painful delivery; extremely protracted course of the latter in consequence of weakness and irregularity of contractions, and lastly, a tendency to hemorrhage from any cause, inertia of the uterus, placenta previa, etc. The decrease in the amount of blood lost during delivery is extolled by Doléris as one of the chief advantages of obstetric laparotomies, and possibly also the preservation of the mental faculties. Doléris states that he is now aiming to make parturition altogether painless, but Guéniot doubts whether this will prove an advantage on the whole.

Bulletin Medical (Paris), January 23.

Dialyzed Raw Meat. BATTESTI.—A process is described which converts raw meat into a bouillon containing one-third more of the nutritive substances than the same amount of chopped meat, while the stomach is completely relieved of the task of digesting it. Fresh beef or mutton is chopped and put through a sieve, and 200 gm. of tepid water containing 5 gm. of hydrochloric acid are poured over it. In a few minutes 2 gm. of pepsin are stirred into the mixture and the whole is cooked at 38 C. for five to six hours. The product is a reddish fluid with a slightly acid and bitter taste, which can be corrected by adding a pinch of sodium bicarbonate.

Raw-Meat Muscle Serum. CH. RICHEL.—The juice derived from meat submitted to a pressure of 25 kilograms to the square centimeter, cured dogs with experimental tuberculosis. In Richel's tests, as mentioned in THE JOURNAL at the time. He calls this fluid "myoserum," and states that the curative effect is evident only when as much is injected as 20 c.c. to the kilogram of body weight. He now announces that this myoserum, injected subcutaneously or into a vein, has marked toxic properties, killing animals when employed in the proportion of 5 c.c. to the kilogram. The juice commences to putrify in an hour or two in warm weather and, even when kept at the freezing-point, spoils in a few days.

Berliner Klin. Wochenschrift, January 14 and 21.

Modern Treatment of Diphtheria. T. ESCHERICH.—In this review of what has been accomplished by antidiphtheria serum, Escherich gives his own experience, showing that while 54.8 per cent. of his patients with diphtheria—115 in all—between 1890 and 1894 were cured, since then 86.92 per cent. of 1147 patients have recovered. This includes 80.42 per cent. of recoveries in 378 cases of progressive croup and 57.38 per cent. in 176 cases of septic-toxic variety. None of the latter was cured before 1894, in his experience. He gives 1000 to 1500 units in localized diphtheria, double this amount in progressive croup, and three or more times this amount in the septic-toxic form, but as much as 20,000 units have been given by some physicians. The serum exanthemata have been reduced from 11 to 3 per cent. of the cases. He has had one fatality similar to the sudden death of Langerhans' child, that attracted so much attention a few years ago. A boy of 11 months was given a prophylactic injection on account of sudden laryngitis with symptoms of stenosis requiring intubation. He died in a few hours, with symptoms of heart failure. The heart was found very much dilated and the thymus soft and juicy, weighing 15 gm.

Succussion Sign of Kidney Affections. S. GOLDFLAM.—Pain is a constant and unfailing sign of surgical affections of the kidneys, according to Goldflam's experience, but it is not always easy to elicit the pain. Ballottement is instructive, but even this fails at times. If the patient sits or stands, the trunk bent forward, and the physician strikes the lumbar region with the ulnar side of his fist, lightly but abruptly, perpendicular or lateral to the mass of the sacrolumbar muscles, a concussion of the region is produced which is pain-

less in normal conditions and in certain kidney affections, but in surgical renal affections it induces pain similar to that caused by bimanual palpation or ballottement. No pain is induced by the succussion when the lesion is located in the gall-bladder, spleen or in any organ except the kidney.

Centralblatt f. Bakteriologie (Jena), December 8, 24 and 28.

Theory of Disinfection of the Hands. H. MARX.—THE JOURNAL mentioned at the time, Marx's announcement that the accumulation and localization of the Babes-Ernst corpuscles in bacteria is a visible standard for their virulence and vitality. He now announces that the aim of disinfection of the hands should be to render them a destructive soil for microbes, not necessarily to remove all the germs, but merely to prevent their further development. The standard for these conditions is the presence or absence of the Babes-Ernst corpuscles, and this should be the gauge for disinfection of the hands.

Requisites for Formalin Disinfection. C. SPENGLER.—Tubercle bacilli in sputa are not killed by formalin disinfection as usually performed. Spengler's experience at Davos has shown him that complete destruction of the bacilli is certain if the room is kept at 25 C. during the disinfection, and if the infected substances are moistened thoroughly and give off moisture under the influence of the fumes. The formalin must contain .5 to 1 per cent. formic acid.

December 24.

Microbes in Venous Thrombosis. M. JAKOWSKI.—Venous thrombosis has been noted after typhoid fever, croupous pneumonia, puerperal affections and general septic pyemia. Two cases have been published consecutive to gonorrhea, and Korzon has recently reported a case of pyemia in the course of crural thrombosis during pregnancy. Jakowski has been experimenting on animals, injecting diphtheria or typhoid bacilli and toxins and then applying a ligature to the limb. The toxins alone or combined with constriction failed to induce thrombosis, and the tests were constantly negative in case of constriction alone. But injection of the bacilli and constriction resulted in the production of more or less thrombosis in every case. The bacteria probably lodged at some slight lesion in the vessel, possibly where the constriction was applied, and there elaborated their toxins. These toxins in turn acted destructively on the morphologic elements of the blood, breaking them up and liberating the fibrin ferment, thus causing the formation of a clot.

December 28.

Polymorphism of Water Vibriones. J. H. F. KOHLBRUGGE.—This author has succeeded in isolating from water several varieties of vibriones which resemble the vibrio of cholera in every respect and possess, in addition, the property of changing their shape. In water they are vibriones; on agar they become rods and cocci and resume the vibrio shape when replaced in water. The lively movements in each phase show that the changes are not degenerative processes.

Centralblatt f. Chirurgie (Leipsic), January 19.

Sterilization of Silk Catheters. M. W. HERMANN.—The solution of ammonium sulphate, which Elsberg recommends for the sterilization of catgut (See THE JOURNAL, xxxiv, p. 1587), has proved a remarkably simple and effective method of sterilizing silk catheters without the slightest injury.

Centralblatt f. Gyn. (Leipsic), December 22 and January 12.

Gangrene of the Lower Extremity in the Puerperium. G. BURCKHARD.—Two cases are described which, with those collected by Wormser, raise the number on record to seventeen. In one of Burckhard's cases, the circulation in the leg was impeded from extravasation of blood owing to rupture of the uterus. All the patients recovered after amputation of the leg, except one, and two succumbed without surgical intervention.

January 12.

Injection of Paraffin for Surgical Prosthesis. J. PFANNENSTIEL.—Gersuny's success in treating a case of incontinence of urine by the injection of paraffin was mentioned in THE JOURNAL, January 19, p. 219. Pfannenstiel followed his ex-

ample in a similar case and reports that the results were almost disastrous; the paraffin produced embolism in the lungs and possibly also in the brain, without effect on the incontinence.

Deutsche Med. Wochenschrift (Leipsic), January 31.

Woody Phlegmon. R. MUEHSAM.—This author describes a case of the rare lesion termed ligneous phlegmon of the neck, by Reclus in 1896. It appeared suddenly during convalescence from broncho-pneumonia, in a robust man of 35, accompanied by slight temperature, and was persistently rebellious to treatment for four months, then gradually subsided, the fistula finally closing three months later. No bacteria could be detected in it, nor evidences of actinomyces. In other cases various bacilli and cocci and actinomyces have been discovered, and the possibility of the latter infection indicates potassium iodid in dubious cases. One of Reclus's patients died from asphyxia by compression.

Heterogenesis of Lactic Acid Bacilli. A. P. FOKKER.—In this preliminary communication, the professor of hygiene at Groningen announces that lactic acid fungi can be cultivated in incompletely sterilized or Pasteurized milk, which can originate only by heterogenesis from the casein. More colonies can be derived from sour milk than according to the microscope, are possible. When the sour milk is filtered in the oven, the filtrate contains more bacilli than when filtered at room temperature. In the latter case a vicarious albuminoid substance is found in the milk in the place of the absent micro-organisms. This albuminoid substance is closely related to casein, and when heated in an alkaline fluid, forms granules. The micro-organisms develop the second day in the incubator before fission of the bacilli occurs, unless the casein is removed, in which case none develops. The phenomenon of heterogenesis can best be observed in incompletely sterilized or fresh milk. Secondary colonies sometimes develop in the midst of the primary colonies, consisting of other varieties of fungi. True lactic acid bacilli cease to develop at a temperature of 60 C., but the lactic acid fungi described above continue to develop in Pasteurized milk. They frequently differ from the familiar lactic acid bacilli in certain respects.

Mastitis Adolescentium. R. ADLER.—Besides the case described in this communication, there are only three cases on record in which histologic examination was made. In each of these the gland was normal in structure, and the affection is therefore not an inflammation but a physiologic and possibly atavistic hypertrophy of the mammary gland. The left breast was removed in a youth of 16 years, on account of swelling and pain for several months. There was no secretion. A few months later the patient returned with the other breast in the same condition. Suppuration does not occur in these cases except from secondary infection, the hyperemia offering a *locus minoris resistentiæ*. Adler recommends a celluloid shield to protect the region, fastened with plaster unless extirpation is necessary, abstaining from local remedies.

Wiener Klin. Rundschau, January 20 and 27.

Atypical Initial Symptoms of Tubercular Meningitis. J. ZAPPERT.—Wherever the meningeal exudation makes its way out, the adjoining portion of the cerebrum will show most marked alterations at the autopsy, and possibly also encephalitic destruction. The fresher the exudation and the irritation of the pia mater, the less pronounced the lesion. The anatomist is able, from the postmortem findings, to reconstruct the clinical picture. In case of primary lesion of the total convexity, convulsions must open the syndrome. Aphasia must follow much involvement of Broca's speech convolution, and disturbances in the arm and face must result from a lesion in the cortical centers for the facialis and arm. The muscles of the face on the opposite side and in the further course of the affection, the upper extremity, the leg and, when the lesion is on the left side, the speech, are affected in turn. The cortical localization is clearly indicated by paralysis or cramps in one arm, and also when the symptoms include the face or limb of the same side. Zappert shows, by a number of examples, the actual occurrence of these phenomena as the early symp-

toms of tubercular meningitis. Cortical centers whose localization is less definitely established than the motor centers may predominate in the clinical picture, as, for example, when the motor disturbances are accompanied or preceded by sensory phenomena. He has had occasion to observe disturbances of the eye muscles and vision due to a lesion in their respective centers, hemianopsia accompanied by unilateral convulsions, in the incipient stages of tubercular meningitis. The primary commencement of the affection in the spinal membranes has also been clinically and anatomically demonstrated.

January 27.

Spray for Rinsing the Bladder. O. KRAUS.—The tenacious secretions in certain forms of cystitis, etc., are very difficult to remove from the bladder, and the crevices still contain mucus after the most careful cleansing. This is obviated by the instrument devised by Kraus, which rinses the organ with spray under a pressure of 2½ atmospheres. Carlsbad water is efficient for the purpose, the force being supplied by liquid carbonic acid.

Wiener Klin. Wochenschrift, January 17 and 24.

Relations Between the Nose and the Female Genital Organs. A. SCHIFF.—By cocaineization of the four genital spots in the nose Schiff succeeded in curing 34 out of 47 women of dysmenorrhea. Mechanical and hysterical dysmenorrhea were not affected, but all the cases of nervous origin, with or without palpable lesions in the genital sphere, and also the extramenstrual sacral and abdominal pains were cured. The facts observed indicate that the pain in many cases of dysmenorrhea and similar conditions is not actually genital but originates in menstrual or other irritation of the genital points in the nose, and is projected thence into the sacral and abdominal regions. This cocaineization should always be done as a differentiating measure in cases of dysmenorrhea in which the pain does not cease with the commencement of the flow, in order to distinguish between the purely genital and the projected pains. In case of a positive result, the genital points should be cauterized or, better still, treated with bipolar electrolysis. The points must be determined through the speculum and thoroughly anesthetized, preferably with a 20 per cent. solution of cocaine. He found it possible in a number of women to cause severe pains in the sacral or abdominal region by excitation of the genital points in the nose, thus corroborating the close connection between them. Weil has observed pain appear in the sacral region in men on tamponing the nose, and has cured forty cases of dysmenorrhea by cocaineizing the genital spots in the nose, the influence of suggestion being completely excluded. Gomperz has had a similar experience, but found that the pains were never arrested for more than a year, after which they again required intervention. Grossmann has also temporarily cured epilepsy in a man of 45, arresting the seizures for five weeks by galvanocauterization of the inferior turbinated bone, but they recurred later. He has also succeeded in curing neuralgia of the first and second branches of the trigeminus and three cases of acute lumbago in men by treating the nose. In his experiments on animals, excitation of the superior laryngeal or of the first and second branches of the trigeminus nerve, augmented the blood pressure in the left auricle, with dyspnea. This corroborates the connection which has long been noted between asthma and affections of the nose.

Treatment of Typhoid Fever with Jez's Antityphoid Extract. V. JEZ.—In the *Wiener Med. Wochenschrift* of Feb. 23, 1899, Jez first described his extract and reported 18 cases of typhoid fever treated with it. The experience of the last two years has completely confirmed his previous findings, and Eichhorst has also recently reported successful administration of it in 12 cases. The latter remarks: "The rapid improvement in the general condition was astonishing. I applied it only in extremely severe cases, and none of them died. In one case, defervescence occurred in seven days, and in the remainder, in four or five days after commencement of the treatment." The extract has no effect on any disease except typhoid fever. It is entirely harmless and can be administered in large doses, with no after-effects. It diminishes the temperature and strength-

ens the pulse, abbreviates the course of the disease, and diminishes or completely neutralizes the action of the typhoid toxins. It is administered by the mouth and consequently avoids all the inconveniences of subcutaneous injection. The Berne Serum Institute has undertaken its manufacture, which is not a secret process. Rabbits are immunized against the typhoid bacillus and killed the second or third day thereafter. The extract is derived from the organs, spleen, marrow, brain, medulla, spinal cord and thymus, in which the antitoxin is formed as has been demonstrated on man and animals. The extract is a limpid, reddish, alkaline fluid. A tablespoonful is given every one or two hours, and three tablespoonfuls a day after the morning temperature is reduced to 38 c., a total of 400 to 500 gm. in all. The fever shows the effect of the extract in twenty-four hours, and within forty-eight hours changes from continuous to intermittent and, finally, to apyrexia by the end of the second week. This effect on the fever is so constant that 100 gm. of the extract will prove a valuable differentiating measure. The sensorium becomes clear in twenty-four hours, and the patient is conscious, tranquil, and free from pain of any kind, demonstrating that the effects of the typhoid toxins have been neutralized by the antitoxins in the extract. These results, observed in fifty cases, impel Jez to recommend his extract in the most favorable terms. He appends detailed accounts of a typical case treated with it.

Klinitchesky Journal (Moscow), December.

The Eliminating Organs in Typhoid Fever. D. V. NIKITIN.—The intoxication in typhoid fever is made up of the acute toxemia from the typhoid toxin, the chronic endogenous and exogenous toxemia which had previously existed in the patient, and the toxemia from disturbances in metabolism during the disease. The liver and skin are most active in the elimination of these toxins, but all the excreting organs in the body assist in the task more or less, and may substitute each other. The diarrhea in typhoid fever can not be explained exclusively by anatomic lesions in the intestines, but evidently plays a part in the elimination of the toxins. The vomiting also serves the same purpose. Intestinal hemorrhage in the beginning of the disease can not be considered as the consequence of a lesion, but rather as the result of the hyperemia of the intestines, and it serves to eliminate the toxins in the same way as lavage of the blood is applied in acute uremia. The rapid breathing may also be explained as increased functioning of the lungs—augmented ventilation to eliminate the volatile toxic products and increase the absorption of oxygen. The more intense the toxemia, the harder the eliminating organs work. When the latter are not equal to the task, from congenital or acquired weakness or degeneration of the organism, the disease is liable to terminate fatally. The duration of the disease in many cases is determined by the functional capacity of the eliminating organs. The course of typhoid fever, therefore, according to Nikitin's conception, does not depend on the virulence and other properties of the typhoid bacilli, but on the individual properties of the affected organism and on its equipment for the struggle for existence.

Vratch (St. Petersburg), December 29 and January 5.

Importance of Lowered Sensibility in the Causation of Infectious Diseases. A. K. FEDEROLFF.—Scientists have been unable to explain why the chemical products of the vital activity of pathogenic microbes in some cases attract, and in others repel the white corpuscles. Federolff believes that this varying chemotaxis is due to the physiologic condition of the phagocytes rather than to any special properties of the bacterial products. He attributes sensibility and psychic functions to the phagocytes, displayed in their purposeful movements, in their selection of food materials and in their aggressive seizure of the causal agents of infection. If they are benumbed or diseased, then the products elaborated by the bacteria or resulting from their dissolution, fail to incite the phagocytes to their normal aggressive activity. Tests of the effect of narcotic substances on the white corpuscles have demonstrated that their tactile and chemical sensibility are diminished by an anesthetic, exactly as the general sensibility is depressed and the reflexes are abolished by anesthesia. When, from any cause,

the products of metabolism accumulate in the blood and lymph spaces, they probably exert a narcotizing influence on the cells and especially on the sensitive phagocytes. As the latter become benumbed and remain passive under this action, their physiologic faculty of producing the alexins—which some claim are bactericidal substances poured out into the blood plasma—is also reduced in proportion. The bacterial products may irritate the blood-producing organs, and so induce leucocytosis, but this is no criterion of the power of the organism to resist infection. The resistance depends on the physiologic condition of the leucocytes rather than on their numbers. In short, Federolff believes that depression from any cause may lead to accumulation of the products of metabolism. These in turn are liable to narcotize the cells—especially the phagocytes—check their functioning, assimilating, oxidations, etc. This allows the germs of infection to develop and elaborate their toxins, unhindered, entailing in consequence some infectious disease.

Queries and Minor Notes.

SECRETARIES OF EXAMINING BOARDS.

JAMESTOWN, TENN., Feb. 4, 1901.

To the Editor:—Please give the address of the secretaries of the State Board of Medical Examiners of California and Missouri.

M. H. L.

Ans.—The secretary of the State Board of Health of Missouri, by which licenses are issued, is L. C. McElwee, M.D., 1113 N. Grand Ave., St. Louis, Mo. The secretary of the California State Board of Examiners is Charles C. Wadsworth, M.D., 1104 Van Ness Ave., San Francisco.

PRACTICE IN CALIFORNIA.

SOCORRO, N. M., Feb. 2, 1901.

To the Editor:—Kindly give the requirements of the State Board of Health of California regulating the practice of medicine in that state, also the name and address of the secretary of the State Board of Health.

J. F. S.

Ans.—A diploma with affidavit, etc., from a recognized medical college, and a recommendation from some physician in good standing with the State Board of Medical Examiners are required. The secretary, whose address is given in the answer to the foregoing query, will furnish the needed application blanks on request.

PRACTICE IN OREGON AND WASHINGTON.

LEBANON, KAN., Feb. 1, 1901.

To the Editor:—Will you inform me as to the qualifications for the practice of medicine in Oregon and Washington? If an examination is required before a state board, please give their address.

W. C. B.

Ans.—The laws of Oregon and Washington are almost identical. In each state an examination is required and the candidate must, in his application, give full data as to studies, previous practice, etc., by affidavit. Fuller information, application blanks, etc., can be obtained from Byron E. Miller, M.D., Portland, Ore., or W. G. Tucker, M.D., Port Townsend, Wash., secretaries to their respective state boards of examiners.

PRACTICE IN ILLINOIS.

PITTSBURG, PA., Feb. 12, 1901.

To the Editor:—Would you kindly let me know through THE JOURNAL the requirements for practicing medicine and surgery in Illinois?

SUBSCRIBER.

Ans.—Application for license must be made in writing to the secretary of the board, Dr. J. A. Egan, Springfield, accompanied with proofs of good moral character and of graduation from a recognized medical college, and an examination must be taken. The examination fee of \$10 must also be sent. If the application is satisfactory, the applicant will be notified when and where the examination will be held, and, on passing this, will receive his certificate.

EXEMPTION FROM EXAMINATIONS.

GREEVILLE, S. C., Feb. 11, 1901.

To the Editor:—Would a medical college, a private institution, whose faculty are members of the state medical association, under whose appointment their state medical examining board was made, be considered reputable when they, by a majority vote, urged the legislature of their state to exempt their graduates from an examination by said board?

L. C. S.

Ans.—The action mentioned by our correspondent may be reputable enough from a purely commercial point of view, though we can not say that it would be in a professional sense. It is certainly against the best interests of the profession and of higher medical education. THE JOURNAL has already expressed its opinion in

regard to this case and other similar ones. It was not, however, understood at that time that the faculty was advocating the exemption of their students from examinations. To the outside world it looks like a confession of inferiority on their part; that they are afraid to have their students take the examinations. The only other excuse it could have is that they wish to give additional inducements to attend their institution.

WORK ON PROSTITUTION.

SPRINGFIELD, OHIO, Feb. 9, 1901.

To the Editor:—Can you suggest a work on prostitution, or any source of information in regard to whatever experiments have been made or are being made looking to its restriction or control.

W. B. P.

ANS.—The leading works on the subject are those of Acton and Sanger, the latter the most recent. The subject is a sociologic more than a medical one; the efforts for its restriction are constantly being made; those for its legal regulation or control have not been entirely successful. The matter has been discussed at length, over and over again, and was made the subject of discussion at one of the international congresses held last year, when considerable diversity of opinion was elicited.

New Patents.

Patents of interest to physicians, January 22 and 29:

- 666,375. Truss. Wm. R. Butler, Richmond, Va.
- 666,533. Purifying water. Jules H. Lavollay and G. E. Bourgoin, Paris, France.
- 666,534. Refining perfumes. Jules H. Lavollay and G. E. Bourgoin, Paris, France.
- 666,431. Electrotherapeutic apparatus. John S. Mead, Buffalo, N. Y.
- 666,627. Making picric acid. Max Neumann, Wittenberg, Germany.
- 666,636. Decomposing glycerids. Jonas W. Aylesworth, East Orange, N. J.
- 666,731. Electromedical eyeglasses. Philibert Balme, Izieux, France.
- 666,844. Sterilizing device. Frank C. Burgholz, Harrison, N. J.
- 667,144. Static electric machine. Charles H. Cook, Indianapolis, Ind.
- 667,127. Apparatus for feeding coagulants to liquids. Anthony Harris, Hunters Quay, Scotland.
- 666,676. Spirometer. Israel Hogeland, Chicago, Ill.
- 667,099. Treating and utilizing chlorine gas. Edward C. Paramore, Philadelphia, Pa.
- 667,100. Apparatus for treating chlorine gas. Edward C. Paramore, Philadelphia, Pa.
- 666,856. Retinoscope. Elmer L. Ryer, New York, N. Y.
- 666,703. Apparatus for congealing gelatin substances. Christoph Stellacher, Stuttgart, Germany.
- 33,998. Design, dispensing cabinet. Horace G. Stripe, New York, N. Y.

Copies of above patents may be obtained for 10 cents each by addressing John A. Saul, Solicitor of Patents, Fendall Building, Washington, D. C.

Change of Address.

- W. A. Attaway, Nashville, Tenn., to 358 W. 36th St., New York City.
- A. A. Ames, 54 3rd St., South, to City Hall, Minneapolis, Minn.
- J. J. Ahern, 3851 State St., Chicago, Ill., to Cresco, Ia.
- T. B. Busbee, Memphis, Tenn., to Goldthwaite, Tex.
- J. W. Bethea, Des Moines, Ia., to Fernwood, Miss.
- C. L. Bacon, 410 W. Main St., to 220½ Walnut St., Muncie, Ind.
- O. E. Beebe, 227 Hermitage Ave., to 235 Ogden Ave., Chicago, Ill.
- Marion Burke, 621 N. Cascade Ave., Colorado Springs, Colo., to 969 San Pasqual St., Pasadena, Cal.
- C. S. Burns, Harrison, Ark., to Davis, I. T.
- A. Caspe, 253 E. Broadway to 42 Livingston St., New York City.
- Chas. Chaplin, 1100 Tracy St., to 805 E. 14th St., Kansas City, Mo.
- E. L. Clough, Oakdale, La., to Lake Charles, La.
- J. J. Cavanaugh, Garland, Kan., to Arcadia, Kan.
- J. R. Culbertson, Gray Court, S. C., to Washington, Ga.
- C. Cushing, 1607 I St., Washington, D. C., to 696 Sutter St., San Francisco, Cal.
- T. E. Chapman, Coats, Ark., to Wirth, Ark.
- Geo. S. Darby, 653 to 651 Monroe St., Chicago, Ill.
- A. T. Finch, Boydton, Va., to Chase City, Va.
- A. T. Fisher, 2120 Vine St., to 2038 Cherry St., Philadelphia, Pa.
- H. H. Fisher, Oil City, Pa., to 625 Kelly Ave., Wilkesburg, Pa.
- T. D. Farrer, 3001 to 3020 Lawton Ave., St. Louis, Mo.
- M. W. Glasson, 701 S. Cherry St., to 632 S. College St., Nashville, Tenn.
- L. C. Grady, 1100 Tracy Ave., to 805 E. 14th St., Kansas City, Mo.
- T. A. Grace, Kansas City, Mo., to Orrick, Mo.
- J. T. Greenwood, St. Louis, Mo., to Lone Star, Tex.
- R. Graham, Seaton, Ill., to Biggsville, Ill.
- J. H. Holbrook, Sulphur Bluff, Tex., to Mt. Vernon, Tex.
- S. B. Hall, 913½ S. 13th St., to 1616 S. 10th St., Omaha, Neb.
- O. F. Howe, Kansas City, Mo., to Medical College, Memphis, Tenn.
- A. A. Helnmann, 94 Goethe St., to 56 Goethe St., Chicago, Ill.
- G. T. Hunter, Hotel Granada, to 952 Bush St., San Francisco, Cal.
- H. E. Jones, Hotel Racine, to 211 6th St., Racine, Wis.
- W. B. Kern, Woodriver, Neb., to Hastings, Neb.
- Adolfo Lurla, 291 Division St., to 291 W. Division St., Station F, Chicago, Ill.
- D. McCall, Memphis, Tenn., to Spotville, Ark.
- T. A. McNicholl, 1919 7th St., to 221 W. 132d St., New York City.
- Minda McLintock, Glenwood, Ia., to 2400 Dearborn St., Chicago, Ill.
- J. J. Meany, 2107 W. Madison St., to 1770 Chicago Ave., Chicago, Ill.

- J. G. McKinney, Quincy, Ill., to Barry, Ill.
- H. S. Nelson, 54 3d St., South, to 1043 Andrus Building, Minneapolis, Minn.
- H. H. Procter, Meharry Med. College, Nashville, Tenn., to Auburn, Ky.
- E. H. Pomeroy, Calumet, Mich., to Oakwood, Lake Geneva, Wis.
- D. J. Prather, 1165 Washington St., Oakland, Cal., to Bakersfield, Cal.
- F. B. Romero, Las Vegas, N. M., to El Paso, Tex.
- W. G. Rowe, 1834 E. 11th St., Kansas City, Mo., to Grain Valley, Mo.
- L. L. Seaman, Hospital Ship *Maine*, Asiatic waters, to 18 W. 31st St., New York City.
- Gustavus A. Sulzer, 4 Damarin Block, to 98 E. 2d St., Portsmouth, Ohio.
- F. D. Stricker, 616 Elmwood Ave., to Grace Hospital, Detroit, Mich.
- A. J. Sanders, Leeds, Ala., to Henry Ellen, Ala.
- F. Tice, Omro, Wis., to 1044 W. Monroe St., Chicago, Ill.
- J. P. Truax, Fort Casey, Wash., to Fort Flagler, Wash.
- J. E. Trexler, Altman Building, to Commerce Building, Kansas City, Mo.
- S. M. Taff, City Hospital, St. Louis, Mo., to Fayetteville, Ark.
- C. C. Violett, Napoleon, Ky., to Lindsborg, Kan.
- W. S. Wolfe, 3230 to 3301 Vista Ave., St. Louis, Mo.
- H. Williamson, 270 Woodward Ave., to 52 Forest Ave., Detroit, Mich.
- C. Wetherbee, 706 Woodward Ave., to 327 Brush St., Detroit, Mich.
- L. G. Witherspoon, 909 W. North Ave., to 1002 W. Madison St., Chicago, Ill.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Jan. 31 to Feb. 6, 1901, inclusive:

William Alden, acting asst.-surgeon, from the General Hospital, Presidio of San Francisco, Cal., to duty with troops en route to Manila, P. I., and for subsequent assignment in the Division of the Philippines.

Guy G. Bailey, acting asst.-surgeon, leave of absence from the Department of California extended.

William P. Banta, acting asst.-surgeon, relieved from further duty in the Division of the Philippines and assigned to duty in the General Hospital, Presidio of San Francisco, Cal.

Henry D. Belt, acting asst.-surgeon, assigned to temporary duty at Fort Trumbull, Conn.

James Carroll, acting asst.-surgeon, from Columbia Barracks, Cuba, to Washington, D. C., for duty in the pathological laboratory of the Army Medical Museum.

William D. Crosby, captain and asst.-surgeon, U. S. A., member of a board in New York City to examine officers of the Corps of Engineers, for promotion.

Matthew A. DeLaney, acting asst.-surgeon, from the National Soldiers' Home, Va., to temporary duty at Fort Monroe, Va.

J. Ryan Devereux, acting asst.-surgeon, member of a promotion board at Washington, D. C., vice Captain E. L. Munson, asst.-surgeon, U. S. A., relieved.

Calvin De Witt, lieutenant-col., deputy surgeon-general, U. S. A., leave of absence granted on account of sickness.

Joseph B. Girard, major and surgeon, U. S. A., leave of absence granted.

Albert Hartsuff, col., asst.-surgeon-general, U. S. A., retired from active service, Feb. 4, 1901, by operation of law.

Willis S. Horne, acting asst.-surgeon, from Marlin, Tex., to duty at San Antonio, Tex.

Henry S. Kilbourne, major and surgeon, U. S. A., member of a board in New York City, N. Y., to examine officers of the Corps of Engineers for promotion.

F. M. McCallum, acting asst.-surgeon, from Jefferson Barracks, Mo., to Fort Reno, O. T., and return, on temporary duty.

James C. Merrill, major and surgeon, U. S. A., member of a board at the Army Medical Museum, Washington, D. C., to examine medical officers for promotion, temporarily relieving Col. A. A. Woodhull, asst.-surgeon-general, U. S. A.

John W. Ross, surgeon, U. S. N., retired, on duty under the War Department, is assigned to service in the Department of Cuba.

Edward A. Southall, acting asst.-surgeon, from the General Hospital, Presidio of San Francisco, Cal., to duty with troops en route to Manila, P. I., and for subsequent assignment in the Division of the Philippines.

August von Clossman, acting asst.-surgeon, now in St. Louis, Mo., to report for duty as examiner of recruits in that city.

Joseph W. Walsh, acting asst.-surgeon, from Brooklyn, N. Y., to duty at the General Hospital, Washington Barracks, D. C.

Marshall W. Wood, major and surgeon, U. S. A., to take charge of the medical supply depot at St. Louis, Mo., during the temporary absence of Major J. B. Glard, surgeon, U. S. A.

In addition to the above, the following named acting asst.-surgeons were directed, Feb. 1, 1901, to proceed from the places set opposite their names to San Francisco, Cal., for duty with troops en route to Manila, P. I., and for subsequent service in the Division of the Philippines: Polk D. Brown, Hartsville, Tenn.; Henry M. Hall, Cedartown, Ga.; Melville A. Hayes, Washington, D. C.; Edgar W. Miller, Chicago, Ill.; Frank W. Pease, Wahpeton, N. D.; Julius M. Purnell, Paris, Ky.; Anton R. Schler, Oconomowoc, Wis.

Boards to Examine Candidates for Admission into the Medical Corps of the Army.—Special Orders No. 28, of Feb. 2, 1901, Headquarters of the Army, Adjutant-General's Office, Washington, D. C., provide for the organization of two boards on Monday, Feb. 11, 1901, at 10 o'clock a.m., or as soon thereafter as practicable, for the examination of candidates for admission to the Medical Corps of the Army. These boards will be governed in their proceedings by such instructions as may be communicated to them by the Surgeon-General of the Army. One is appointed to meet at the Army Medical Museum Building, Washington, D. C. It will consist of: Col. Alfred A. Woodhull, asst.-surgeon-general, U. S. A.; Maj. Louis A. La Garde, surgeon, U. S. A.; Capt. William C. Borden,

asst.-surgeon, U. S. A., and Capt. Frank R. Keefer, asst.-surgeon, U. S. A. The other is directed to meet at the U. S. General Hospital, Presidio of San Francisco, Cal. Its membership consists of Lieut.-Col. Benjamin F. Pope, deputy surgeon-general, U. S. A.; Lieut.-Col. Alfred C. Girard, deputy surgeon-general, U. S. A.; Maj. Robert J. Gibson, surgeon, U. S. A., and Capt. William H. Wilson, asst.-surgeon, U. S. A.

Navy Changes.

Changes in the Medical Corps of the Navy for week ended Feb. 9, 1901:

P. A. Surgeon J. A. Guthrie, detached from the *Franklin* and ordered to the *New York*, February 18.

Surgeon A. M. D. McCormick, detached from the Naval Hospital, Norfolk, Va., and ordered to the Naval Academy, February 2.

P. A. Surgeon R. Spear, detached from the *Buffalo*, on arrival at Cavite, and ordered to the *Isla de Luzon*.

Asst.-Surgeon W. B. Grove, detached from the *Vermont* and ordered to the Naval Hospital, New York.

Asst.-Surgeon W. H. Bucher, detached from the Naval Hospital, New York, and ordered to Naval Hospital, Norfolk, Va.

Asst.-Surgeon M. V. Stone, detached from the *Isla de Luzon* and ordered to the *Buffalo*.

Medical Inspector E. Z. Derr, ordered to the Naval Academy, February 14.

Surgeon W. R. DuBose, detached from the Naval Academy, February 13, and ordered to the *Wisconsin*.

Medical Inspector D. M. Bertolette, ordered to the *New York*, February 16.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended Feb. 7, 1901:

Surgeon Preston H. Bailhache, relieved from duty as chairman of the board for the physical examination of Second Asst.-Engineer R. F. Halpin, R. C. S., Feb. 4, 1901.

Surgeon G. T. Vaughan, detailed as chairman of the board for the physical examination of Second Asst.-Engineer R. F. Halpin, R. C. S., Feb. 4, 1901.

Asst.-Surgeon G. M. Corput, bureau order of January 26, directing Asst.-Surgeon Corput to proceed to Cleveland, Ohio, for temporary duty, revoked, Feb. 2, 1901.

Asst.-Surgeon Edward Francis, to proceed to Cleveland, Ohio, and assume temporary command of the service during the absence on leave of Surgeon Pettus, Feb. 2, 1901.

Acting Asst.-Surgeon J. C. Ballard, granted leave of absence for five days from February 7, Feb. 4, 1901.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended Feb. 9, 1901:

SMALLPOX—UNITED STATES.

Florida: Jacksonville, Jan. 26-Feb. 2, 1 case.
Illinois: Chicago, Jan. 26-Feb. 2, 4 cases, 1 death.
Kansas: Lawrence, Jan. 26-Feb. 2, 2 cases; Leavenworth, Jan. 1-31, 4 cases; Wichita, Jan. 26-Feb. 2, 22 cases.
Kentucky: Lexington, Jan. 26-Feb. 2, 2 cases.
Louisiana: New Orleans, Jan. 26-Feb. 2, 9 cases, 2 deaths.
Massachusetts: Lawrence, Jan. 26-Feb. 2, 2 cases.
Michigan: Grand Rapids, Jan. 26-Feb. 2, 1 case; Manistee, Jan. 26-Feb. 2, 4 cases.
Montana: Butte, Dec. 26-Jan. 20, 39 cases.
Nebraska: Omaha, Jan. 19-Feb. 2, 6 cases.
New Hampshire: Manchester, Jan. 26-Feb. 2, 32 cases.
New York: New York, Jan. 26-Feb. 2, 50 cases, 2 deaths; Utica, Jan. 19-29, 1 case.
North Dakota: Morton County, Jan. 30, 10 cases.
Ohio: Ashtabula, Jan. 26-Feb. 2, 2 cases; Cleveland, Jan. 26-Feb. 2, 49 cases, 3 deaths.
Pennsylvania: Allegheny City, Jan. 26-Feb. 2, 5 cases; Erie, Jan. 26-Feb. 2, 2 cases; Pittsburgh, Jan. 26-Feb. 2, 8 cases.
South Carolina: Greenville, Jan. 26-Feb. 2, 1 death.
Tennessee: Jackson, Jan. 1-31, 20 cases, 2 deaths; Memphis, Jan. 26-Feb. 2, 18 cases; Nashville, Jan. 26-Feb. 2, 4 cases.
Texas: Galveston, Jan. 12-26, 37 cases.
Utah: Ogden, Jan. 1-31, 32 cases; Salt Lake City, Jan. 26-Feb. 2, 29 cases.
Wisconsin: Eau Claire, Jan. 22, 12 cases; Washington Township, Jan. 22, 20 cases; Green Bay, Jan. 26-Feb. 2, 1 case; Milwaukee, Jan. 26-Feb. 2, 2 cases.

SMALLPOX—FOREIGN.

Austria: Prague, Jan. 5-12, 21 cases.
Belgium: Antwerp, Jan. 12-19, 3 cases.
Brazil: Rio de Janeiro, Dec. 1-15, 27 deaths.
England: Bradford, Jan. 23, 4 cases; Newcastle on Tyne, Jan. 12-19, 6 cases.
India: Calcutta, Dec. 15-29, 72 deaths; Karachi, Dec. 16-23, 5 cases.
Japan: Korea, Seoul, Dec. 22, many cases and deaths.
Russia: Moscow, Jan. 5-12, 2 cases, 1 death.
Scotland: Glasgow, Jan. 18-25, 324 cases, 3 deaths.
Spain: Barcelona, Nov. 25-Dec. 30, 71 deaths.

YELLOW FEVER.

Colombia: Cartagena, Jan. 8-13, 3 deaths.
Cuba: Cienfuegos, Feb. 1, 1 case; Havana, Jan. 22-29, 1 death.

CHOLERA.

India: Calcutta, Dec. 15-29, 87 deaths.
Strait Settlements: Singapore, Dec. 8-15, 25 deaths.

PLAGUE—UNITED STATES.

California: San Francisco, Jan. 12-19, 2 cases, 2 deaths.

PLAGUE—FOREIGN.

India: Calcutta, Dec. 15-29, 46 deaths.
Japan: Osaka, Dec. 22-Jan. 7, 3 cases; Wakayama, Dec. 22-Jan. 7, 1 case.
Turkey: Smyrna, Dec. 30-Jan. 6, 1 death.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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FISCAL YEAR.

The fiscal year of the AMERICAN MEDICAL ASSOCIATION is from January 1 to December 31; and the annual dues paid by a new member cover only the fiscal year, no matter at what time of year the membership is obtained. Those who pay their dues and join the ASSOCIATION at the annual meeting in June, for instance, pay only for the fiscal year which ends with the December following, and the annual dues for the following fiscal year are payable the succeeding January, at which time the treasurer sends a statement to each member. Such members, however, are entitled to THE JOURNAL for the full year, even though the membership be not continued.

PAPERS READ AT THE ANNUAL MEETING.

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NEWS.

Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to members of the medical profession. We shall be glad to know the name of the sender in every instance.

ORIGINAL PAPERS.

Articles are accepted for publication with the understanding that they are contributed solely to this journal.

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CHANGE OF ADDRESS.

In ordering a change of address it is important that both the old and new addresses be given.

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No. 9.

Address.

NUTRITION AND STIMULATION.*

I. N. LOVE, M.D.

NEW YORK CITY.

"There has been a wave of enthusiasm affecting the profession for the past three decades, which has been growing stronger each year, and is now truly at its flood, and this wave has concerned itself chiefly with what has been termed scientific research. We are all now ready to announce our belief that the laboratory side of medical science must be cultivated as a foundation for the whole superstructure of more or less empirical clinical facts, and we have given evidence by the establishment of numerous institutions for study along these lines, and more will follow. More systematic and accurate methods are being applied throughout the entire field of medical practice than ever before, and every worker, whether wielding the microscope, manipulating cultures or making clinical observations and studying bedside symptoms, realizes the importance of thoroughness and the application of careful scientific methods."¹

In passing it may be well to suggest that the term "scientific" has been used in too narrow a sense by many members of our guild. A recent writer very tersely says: "The use of the word 'scientific' in a narrow sense as applied to laboratory work, has done much to arouse prejudice and establish false standards. By degrees there has grown up a distinction, which is now heard on every hand, between what is termed 'scientific medicine' and 'practical medicine' naturally with the implication that practical medicine as personified in the practitioner is not scientific. In other words 'scientific' as popularly used in medical writing and discourse, demands a laboratory and the accessories which a laboratory implies, whereas the man who is examining his patients from day to day in most painstaking and accurate fashion is looked upon as a faithful and conscientious practitioner, but not as a scientific investigator. So deeply has the laboratory impressed itself upon the uncritical thought of the time, that he who often aimlessly looks through a microscope, or with narrow vision describes a lesion, is placed upon a pedestal as a man of 'scientific' tendencies, while his colleague who faithfully describes a symptom is denied any such distinction."

"The reason for this anomalous state of affairs is certainly not far to seek. It lies in the fact that accuracy and hence knowledge have, in great measure, come by way of the laboratory. The insistence on the necessity of exact observation and description has certainly not had its origin with any one set of investigators in the

general field of medicine. The laboratory worker deals with problems of the most complex sort, and on the other hand with facts which may be easily and accurately described. His claim to distinction as a scientific man does not, however, lie in his description of isolated facts, but wholly upon his attitude toward the problems, the solution of which depends upon the proper interpretation of those facts. Certainly nothing is simpler than to go into a laboratory and to describe at any length what one sees under a microscope. This is, however, not science, however often the results may masquerade as such, nor does the mere accomplishment of such work constitute a scientific man. But to go into a laboratory, to study facts laboriously, and then to appreciate clearly the meaning of those facts for the sum total of knowledge and to make generalizations therefrom is, properly speaking, 'scientific.'"

Says the same writer: "We are safe in saying that all which is concerned with the acquisition of accurate and systematic knowledge of principles, by observation and deduction, is scientific. We must realize that a cell, as seen under a microscope, is no more an object of scientific investigation than a cough and a chill." Indeed, we must be imbued with the thought that the science of the sickroom, the science of life, its continuance, the securing of growth, the science of nutrition by which growth is accomplished, the securing and maintenance of a strong, robust, healthful physical and mental makeup and a useful, graceful old age, are all quite as important and worthy of our religious regard as laboratory results and deadhouse details.

Continuance of life, commencing with the original protoplasm, the cell, depends upon proper nourishment and a proper recognition of this fact, and attention to the means of securing this result is the duty of the physician. In other words, the physician should be interested in the child, from, and even before its conception.

May we not hope that the time will soon come when the physician will be the family counselor, and not alone be called to see individual members of the family when sick, but consulted prior to any important domestic movement, especially in advance of all matrimonial plans.

A reckless disregard of the physical equipment of either one or both parties in a matrimonial partnership can only result sorrowfully: "A child born weakly—of weakly parents, maybe—perhaps weds precociously a weakly wife or husband, 'produces weakly children, and they weaker children,' of whom it may be emphatically said, 'better they had not been born,' 'for life is not to live, but to be well.' Without being actually ill, however, they are ever ailing, never healthy, never strong, sturdy, and active, as are many others; appetite is capricious, seldom good; food not taken with relish, hunger a sensation unknown to them; the poor, puny, pining things may be said to vegetate from day to day,

* Address in Medicine to the Mississippi Valley Medical Association, Asheville, N. C., October, 1900.

1. Boston Medical and Surgical Journal.

2. Ibid.

instead of thrive and enjoy life; the pleasures of childhood are not theirs. 'A hale cobbler is a better man than an ailing king,' tersely and truly wrote somebody, 'for life consisteth not in the abundance that a man possesseth,' and compared with a good constitution, all the wealth of the world is nothing; yet how marvelously little do some, in their thirst for riches or position, appear to think this when sanctioning or encouraging ill-assorted or non-assorted marriages, regardless of physical and mental fitness, and that common sense should tell them can only result in disaster.' Were parents careful as to the companionships their children form, instead of anxious for them to ally with those of every wealthy *roue*, who bear about them the too manifest constitutional deterioration it is desirable to avoid, we should be less often shocked by the pitiable objects we sometimes encounter."

If the physician could have a voice in the decision of these matrimonial schemes it would be well, but whether he has or not, he surely should be constantly on duty after marriage as the adviser and helper in the securing of a healthful and well-endowed heir.

We should insist, except in rare instances, that married life is a failure unless a child be born within a year, and we should encourage the thought that barrenness is acknowledgement of physical or moral delinquency, and in nearly every case is a reflection on the party of the second part as well as the party of the first.

Let us insist, that the future man will be a more complete and perfect specimen if we as physicians can be permitted to feed him or direct his feeding from the moment that he is conceived and starts on his life's career. Every mother or prospective mother should be taught that she is, from the time she reaches puberty, built and equipped for two, for herself and the child that from the beginning it was intended that she should bear and rear. And so, when bearing her child, the mother should be taught every detail of personal hygiene, proper feeding and elimination not only for her own sake, but for the health, life and perfection of the coming child.

Dr. Arthur W. Johnstone recently presented a most valuable paper, with the title "Auto-intoxication from Defective Menstruation," from the standpoint of nutrition, on the utility of the function of menstruation as providing a means of elimination for the surplus unused in child-bearing, demonstrating that many nervous symptoms of gynecologic subjects were due to retained excretions from defective menstruation, explaining many points of the pathologic features of puberty and the menopause.

The chief definite knowledge of proper infant feeding on the part of the medical profession has been the development of the past twenty years. There was no real check on the "slaughter of the innocents," the fearful, the awful infant mortality that obtained the world over until the problem of infant feeding was properly solved, and the first step in its solution was the appreciation of the fact that the substitute food for the babe must be sterilized, and the second was to know that sterilization means cleanliness rather than the destroying of micro-organisms in the food at the expense of killing the vital elements therein by cooking them to death; the third step was the recognition of the fact that infantile intestinal disturbances were almost uniformly caused by improper food and relief depended on the correction of the food-supply and the accomplishment of proper intestinal drainage—the removal from the bowels of the irritative materials. The pioneer work of Pasteur, Tyn-

dall, Lister, and others was quite as important from a medical and dietetic standpoint as from the surgical one.

It is needless for me to draw attention to the essential elements of proper food. We are all familiar with the three general groups of elements or necessary food, which may be subdivided into: 1, the mineral—water, salt, ashes of plants and animals; 2, the carbonaceous or respiratory—heat-giving, starch, sugar, fat, etc.; 3, the nitrogenous—flesh-forming, tissue-building, such as albumin, fibrin, casein, etc. It stands to reason that throughout life the mineral and respiratory foods are necessary in full amount, but that when the individual has gained full maturity, complete growth, say after the age of 30, the nitrogenous or tissue-building foods are demanded in smaller quantity, and after 40, the middle mile-post of life, has been reached, less than one-half or even one-third as much animal food is required as during the period of development. This is not sufficiently appreciated, and the continued use of large quantities of nitrogenous food after maturity accounts for numerous diseases.

The investigations and views of Haig, Garrod and others are being daily confirmed by careful observers as to the close relation existing between the excessive use of animal food and gouty as well as organic diseases in general. Close study of numerous victims of the gouty diathesis, hereditary and acquired, has convinced most observers that the proper solution of the problems involved lies along the lines of judicious diet, which involves especially the reduction of animal food consumption and a more liberal use of fruits and vegetables. When we realize how close the relation is between gouty conditions, atheromatous degeneration, tuberculosis, cancer, general organic disease, premature age, and animal food in general, we will surely study the question most assiduously.

The liberal eating of fruit is a most excellent habit to form; it not only opposes constipation and favors the freest elimination in a general way, but the mineral salts contained in the fruit largely affect favorably the elimination of uric acid. The free eating of cherries, strawberries and grapes is an excellent fruit cure, and Weiss, acting on the recommendation of Woehler and Linnaeus, has recently made experiments which determine that quinic acid is probably the active ingredient present which acts as a curative agent in gouty states. A decoction of the root and leaves of the strawberry plant has long been a favorite domestic remedy in gout in some parts of Russia.

As a proper selection of the full varieties of food, and their complete digestion and proper assimilation, together with perfect elimination—in brief, a perfect scheme of metabolism—are essential to growth, so they are demanded after full growth is accomplished, in maintaining a healthful condition of the animal mechanism; but, as previously stated, the essentials for keeping up the equilibrium of metabolism in the latter period are different.

The scheme of metabolism includes assimilation or tissue-building, the power which the animal organism possesses of accumulating from its food supplies a store of potential energy, which is able to transform into kinetic energy and which commonly manifests itself in the form of muscular work and the production of heat, and finally the formation and elimination of excretory products which result from the changes which occur in the constituents of the tissues as the necessary accompaniments of such transformation of energy.

The balancing of the bodily income and expenditures is the essence of health. The real effect of food is to repair waste, administer to the growth of the bodily organs, maintain the balance of nutritive and temperature equilibrium under the varying conditions and circumstances to which the individual may be exposed, to maintain all the animal functions in complete activity and prevent loss of weight.

It is well that we exercise our intelligence in the selection of foods essential to health, to the proper running of our mechanisms, and remember that we eat to live and must not simply live to eat. In other words, after maturity there is grave danger to us in the cultivation of epicurean tastes, the love of the tickling of our palates.

It is not always safe to trust merely to the sensations of hunger, surely not to capricious choice or fanciful desires. We can not too strongly emphasize the thought that high livers are short livers. It is the part of wisdom for us all, then, to realize that as we approach maturity we must be satisfied to eat less and eliminate more, and that the greatest helper in the flushing of the eliminating organs is large quantities of pure water. Bodily exercise is absolutely essential to healthful activity of the eliminating organs, and unless we wish to be full, dull, heavy, luggy, and lazy as well as fair and fat at forty, we must keep moving and echo loudly the words of wisdom, "Blessed be drudgery." As an exercise walking will ever continue to be healthful and good. We as physicians fail in our duty when we do not announce in strongest terms not only the advantage from the standpoint of happiness, but also of longevity, of plain living and high thinking.

During this last decade we have added more definitely to our knowledge of the keystone in the arch of metabolism, the glandular system, than ever before, and during this period we have secured our first real knowledge of those glandular organs which had previously been considered as almost superfluous, the ductless glands, such as the thyroid and thymus. It would be most interesting to review the bearing of these glands on growth and health, both mental and physical, but time will not permit.

As we have studied food problems, we have had crowded on us more and more every day the necessity of state legislation in the matter of pure food laws. Correspondence with many thousand physicians during the past year elicited almost uniformly the view that legislation which will favor purity of food laws can not be too strict. Members of the medical profession of Missouri, almost to a man, have endorsed the legislation which precludes the sale of baking powders containing alum, an astringent which is certainly not favorable to good digestion, and other more comprehensive laws should follow. An investigation of the whole field of food adulteration presents facts which are almost appalling.

Some writers have placed under the head of medical or auxiliary foods those things which go to make up stimulants, neurotics and narcotics, such as alcohol, tea, coffee, tobacco, etc., but the expression, "auxiliary food," is of doubtful propriety. The term should surely be applied only to those things which are necessary to life.

ALCOHOL.

Among the so-called auxiliary foods alcohol is the only one which is open for discussion. Accepting as we may the views of Dujardin, Thompson, Pavy, Burney Yeo, Atwater and others in favor of the fact that when alcohol is ingested in the system in moderate

quantities a part is utilized and only a part eliminated and it is therefore a food, it does not follow that it is essential to life. Many things may be oxidized and used in the body, and be a food to that degree, yet not be a desirable one. The evidence is constantly accumulating that, as a food, alcohol is of doubtful utility, and the list of valuable foods that are in no way involved in doubt, and certainly not harmful and dangerous to the body, mind and soul, is so great that alcohol as a food may well be left out of our nutritive philosophy and be permitted to take its place as a stimulant pure and simple. As a matter of fact, the dangers that are associated with alcohol are so great that it should only be classed under the head of medicines and luxuries. As a luxury, it certainly adds to the sum of human conviviality, cheerfulness and happiness when used in very moderate quantities, but then only with the meal. If used liberally it takes its place along with opium and Indian hemp, primarily as an exhilarant and secondarily a depressant and narcotic. A very limited amount of alcohol with the meal now and then does, to advantage, stimulate appetite and improve digestion, and by its psychic effect, making the user enjoy his food and environment, it may be helpful. The limited amount of good that it may do, in this way, in a few rare cases, is offset a thousand, yes, a million, fold by the awful dangers which accompany its use. The writer has for years had liberal views on this question, and while he believes that the proper solution of the temperance question lies in teaching every child from the beginning until matured to be the ruler of its own spirit, to cultivate self-denial, self-control, self-respect, yet more and more as time passes he believes that absolute avoidance of alcohol in all its forms as a beverage, as a luxury, is the safest course for all, and that while now and then a strong, self-reliant, rigid back-boned individual may with impunity take his occasional drink or liberal indulgence, the endorsement given to the drinking of alcohol by his act and the injury to his brother, whose keeper he surely is, however much he might wish to avoid his responsibility, is an unanswerable argument against him.

No one better than a physician knows the awful results to humanity, physical, mental and moral, of alcoholic indulgence. So that while being gently tolerant of the views of those not agreeing with me, I am strong in the conviction, after many years of study of the subject, viewed from the standpoint of experience and observation, that as a luxury alcohol should be ruled out of our lives.

While holding this view I but regret that many opponents of alcohol are so severe, intemperate and almost unkind in their discussion of the question. Is it not better for us all to make our appeal in a kindlier spirit of charity, to the judgment and intelligence of all concerned, presenting the argument that alcoholic indulgence is an injury to ourselves—a weakness, its excessive indulgence a vice, not a crime?

Alcohol as a medicine, a prompt and diffusible stimulant, has great value, but as each half decade of my experience has passed and I have taken stock of my knowledge I have been stronger in the view that in the majority of cases it can be dispensed with. In advanced stages of typhoid fever, pneumonia, tuberculosis and sepsis it certainly meets conditions admirably, and yet in many of these we can substitute hot milk, coffee, tea, strychnia, normal salt solution and other remedies to advantage.

Alcohol has been more abused, more excessively and

needlessly used, more misapplied, than any other one remedy. The London *Lancet* recently quoted from the *New York Medical Journal* for Aug. 19, 1900, a case reported by Dr. M. A. Walker, of a boy of 6 years, who, before breakfast, about 8:30, drank 3 ounces of whisky. The parents knew nothing of this until about 9:30, when the boy, while sitting at the breakfast table, dropped a plate and then fell from his chair. At 10:15 he fell asleep on the floor, and his mother put him to bed thinking he would "sleep it off." There was no thought of serious consequences until 7:30 p.m., when the parents could not arouse him. At 7:45 he was comatose, the pupils were widely dilated and did not respond to light. The pulse was 145, small, weak, and compressible; the respirations were 40, easy, and quiet. The axillary temperature was 103.2 degrees. In spite of treatment—which was not described—circulation and respiration slowly failed. At 10:30 severe clonic convulsions occurred and lasted about ten minutes, and from this time there were almost constantly recurring localized spasms of the face and extremities, the left side being much more affected than the right. Cheyne-Stokes respiration began about 2:45 a.m., and death from cardiac failure occurred at 5 a.m. No means of stimulation seemed to have the slightest effect on the heart. The rectal temperature rose to 105.3 degrees just before death.

What physician who closely scans the details in this case does not recall the victims of typhoid fever, pneumonia and diphtheria, in the years gone by, who were similarly symptomed from alcoholic drenching? Let me urge one and all in the coming years to have a care in the administration of alcohol—it is as dangerous as a drug, as it is as a food.

Duty demands that physicians utter a note of warning against the use of alcohol in any form by women. Drinking on their part, whatever it may be abroad, is on the increase in America, particularly among the wealthy, the leisure class. The modern woman is not as busy in a domestic way as she once was. In many of the leading cities of America the free drinking of wine by very respectable women in public places is too common, and some of them now liberally indulge in the luxury of the cocktail and high-ball, and overwhelming evidence can be presented that the soda fountain is a popular rendezvous for fashionable female tipplers in some of our leading cities. This is an awful thing. It is bad enough for men to drink, but for women it is physical, mental and moral suicide. Their emotional make-up is such as to render the drinking of alcohol in any form deadly dangerous. At this point it can not be too strongly stated that a physician should only in the direst extremity administer alcohol to a woman; to a nursing mother, never. Too often beer, or some sloppy substitute masquerading in its place is given to the nursing mother to increase her flow of milk. It should never be done.

TEA, COFFEE, ETC.

Coffee, tea, cocoa and chocolate are all popular aromatic beverages which, while differing considerably from one another in their common physical characteristics, all agree in containing alkaloids closely resembling each other. Coffee and tea contain the active principles caffein and thein, practically identical, and the others contain an alkaloid of theobromin, which is very like them. Coffee is the more powerful and, on account of having much less tannin than tea, is not so constipating. Tea, being less potent, is a safer beverage if used liberally. Chocolate, as prepared from the cocoa

of commerce, is very weak in the alkaloid theobromin; being very rich in cocoa-butter, made with milk as it usually is, it makes a most nutritious drink.

Coffee properly made is a great comforter to mankind, if not used to excess. It is truly "the cup that cheers but does not inebriate." It is a decided stimulant to the nervous system. Used intelligently it is a great conservator of energy, lessening the need for sleep after exertion, and removing the "tired feeling," and the best authorities claim that it has the power of augmenting the functional activity of the muscles, and a very stimulating effect on the heart, in small quantities quickening its action, in large quantities slowing it, while in excess it seriously disturbs its rhythm and regularity. If the digestion is above par, tea and coffee may be taken with meals, but if impaired they should be taken pure, without cream or sugar, an hour or two before meals. Coffee increases the secretion of the skin and the kidneys, and in the majority of cases it increases the flow of bile, peristalsis, and thus antagonizes constipation. This is more apt to be the result if it be taken as a pure infusion an hour or two before meals, on an empty stomach.

Tea and coffee, being stimulants, should not be given to children, on the principle that thoroughbred, spirited colts need no whip, but oats instead. Unquestionably the milder stimulants given to children during the growing period favor the appetite for stronger ones later.

It is well to remember that one good strong cup of coffee twice a day is ample for the average adult, and if taken in this way, if any exceptional demands be made on one's strength or endurance the additional cup of coffee will assist in meeting the emergency admirably. In the sick room, or for the victim of surgical shock, a good strong infusion of coffee by the mouth or the rectum, is in the majority of cases superior to alcohol.

TOBACCO.

Tobacco is a luxury which may very properly be classed, save in its dangerous features, with coffee and tea, but, like them both, it increases the power of resistance of the individual to fatigue and enables him to meet great tests of endurance and indulgence in prolonged abstinence from food. Tobacco differs from alcohol in every essential; the latter, whether we accept the idea that it is a food or not a food, can only be pronounced poisonous or dangerous so far as the individual dose is concerned when given in very large quantity, whereas tobacco in itself contains—no matter how small a portion—an active poison, a narcotic, which readily affects the brain. The secondary effects of all stimulants like alcohol and sedatives like tea and coffee are narcotic, but some, like tobacco, opium, henbane, etc., seem to immediately attack the centers of the brain.

The tobacco plant belongs to the genus *Nicotiana*, a name given to it in honor of Jean Nicot, a French ambassador at the court of Portugal, who first introduced this plant into France. Belonging to this genus are several species which yield at the present day the tobacco of commerce. These plants belong to the natural order Solanaceæ, a family which yields us not only tobacco but stramonium (Jamestown weed), belladonna (or deadly nightshade), henbane, cayenne pepper, tomatoes, ground cherries, potatoes and mandrakes.

A well-known writer has observed: "At first sight this looks like an incongruous family, but still there are certain common properties running through the

whole order. All contain, more or less, substances that act on the nervous system, and thus increase from the mild poisons of the solanums till we arrive at the deadly principles of the atropas, the henbanes and the tobaccos. It seems well established that smoking was introduced from the new into the old world, yet in the latter there was ample material for its indulgence, for at least two species of *Nicotiana*, the *N. rustica* and *N. persica*, are indigenous to Asia. The American plant, the *Nicotiana tabacum*, has been one of the most cultivated, and Virginia, Kentucky, Maryland and Ohio are the states where it has been raised to the best advantage. Canada has produced some fairly good tobacco, South America sends its tobacco to Europe in large quantities, but for a long time the best in the world has come from Cuba. Our new possession, Manila, has furnished a high-grade specimen of great fame. From Persia has been brought the refined and delicate 'Shiraz tobacco' procured from *Nicotiana persica*, but the most aristocratic variety, Latakia, is produced in Turkey by the *Nicotiana rustica*. In Africa and Egypt the American species thrive. Algeria furnishes the chief supply of tobacco to France, and this explains the zeal of custom house officers at French ports in promptly confiscating the personal supply of cigars in the belongings of American globe-trotters. Germany, Holland and other European countries furnish a proportion of low-grade specimens.

Tobacco is used in three different ways, either chewed, smoked or in the form of snuff through the nasal passages. It would be interesting to discuss the details of the manufacture of tobacco, its proper treatment before being ready for chewing, smoking or snuffing, but in each case the effect is the same and the result depends on the absorption of the active principle, nicotine, and whether one snuffs, chews or smokes, unless he be possessed of a strong will power, he becomes more and more a slave to a narcotic but a step removed from those which are more alluring, such as opium, morphin and cocaine.

In order to fully understand the effect of tobacco it is well to understand its constituent parts. In the analysis of a pound of tobacco, the fresh dried leaves, we have:

	Ounces.	Grains.
Nicotin	0	419
Concrete volatile oil	0	7
Chlorophyl	1	46
Gum	1	222
Starch	0	279
Albumin and gluten	0	349
Sugar	0	139
Salts	2	245
Water	1	402

In chewing tobacco about the only constituents which can exercise much influence on the system are the nicotine and volatile oil. The soluble salts would act the same as the saline constituents of the other plants and they explain why tobacco is such an exhausting crop for the soil. Among the salts of tobacco the nitrates are the most abundant, and this explains the ready way in which tobacco burns in the process of smoking. In snuffing, the soluble parts of the tobacco, as in chewing, are, after being dissolved, absorbed through the mucous membrane. In these latter days we understand that the intense vascularity of the nasal mucous membrane permits rapid absorption and the nicotine readily enters the circulation, the same as we have demonstrated that solutions of morphin do, and as thoughtless rhinologists have shown, in their temporizing and palliative

treatment of nasal catarrh and hay-fever by means of the cocaine spray.

In considering the chewing of tobacco from a medical standpoint we have to consider the nicotine absorbed through the buccal and pharyngeal mucous membranes and the small amount probably swallowed, together with the draught on the salivary glands and the waste of saliva. The chewing, viewed from a polite standpoint, unless absolutely in private, can not be considered other than in bad form. In the animal economy we have the secretory and excretory system of glands; the product of the former are essential to the proper performance of physiologic duty within the body and must be husbanded, and the latter are no longer needed and naturally seek the external world, but their proper disposal should be in private, away from the haunts of men, surely not in a way to offend the feelings of others or to make of one's self a public nuisance. So tobacco-spitting can not be excused under any circumstances from the polite standpoint, but the saliva is a secretion, not an excretion, and its free expectoration is a needless waste.

The use of tobacco by smoking is becoming more and more the almost exclusive way, and while in the earlier days the pipe was much in evidence, the cigar has almost crowded it out. It is interesting to study the history and preparation of tobacco and the manner of making cigars, but the main thing for us to recall is that while a good cigar, used very temperately two or three times a day, may be smoked by the average adult man to good advantage, excessive indulgence in smoking is very harmful. It is only necessary to recall one's first cigar and the profound effect it produced, to realize that the smoking of tobacco in large quantities is trifling with a dangerous agent.

In tobacco smoke we have the following: nicotine, empyreumatic oil, butyric acid, carbonic acid, ammonia, paraffin, empyreumatic resin, acetic acid, carbonic oxid, carburetted hydrogen and water.

The chief effects of smoking are from the nicotine and empyreumatic oil, the first being an active poison—an infinitesimal quantity will destroy life—and the latter, which is the rank accumulation in the stem of the pipe, is also a potent poison, one drop on the tongue of a cat having been fatal. The nicotine and the oil both act on the nervous system, though differently, the nicotine paralyzing the heart by its action on the brain, while the oil confines itself chiefly to the spinal cord and the motor nerves. It will thus be seen that no part of the victim's equipment escapes the deadly effect of tobacco in excess: as Lankester observes, "the nicotine seizes on the main citadel and the distilled oil attacks the outposts, and the whole man—body and mind—is brought under their influence."

1. Smoking in excess is more harmful than chewing, for the reason that the nervous system is not only more injuriously affected, but the catarrhal disturbances of the air-passages render the smoker more liable to dangerous and fatal diseases of the air-passages.

2. The excessive smoker is not only more liable to pneumonia, la grippe, tuberculosis, laryngeal and pulmonary, as the sensitive mucous surface and the bankrupted nervous system present a double invitation at all times, but fatal results are more apt to occur. Every case of laryngeal tuberculosis coming under my observation for several years has presented a history of the victim being a smoker, in the majority of instances to excess.

3. Heart failure is a frequent complication and serious with excessive smokers.

4. Cigarette smoking is worse than either the cigar or the pipe, but only for the reason that, the cigarettes being milder tobacco, the smoker almost universally inhales the tobacco fumes, and when we realize the component parts of tobacco smoke and how direct the routes from the air vesicles of the lungs into the blood current we can appreciate the ill effect.

5. Inveighing against the cigarette on the ground that the paper is poisonous and the tobacco drugged, mixed with opium, Indian hemp, etc., is all wrong, as the cigarette being a milder tobacco, perfectly pure, and the paper unobjectionable, if smoked without inhaling and in a temperate way, is to be preferred.

6. The cigarette smoker nearly always inhales the smoke and, becoming habituated to this quick toxic action, he will not smoke without inhaling whether he uses the cigarette, the cigar or the pipe, for the same reason that the morphin habitue accustomed to the hypodermic method will not be satisfied with the drug through the mouth; both victims want quick action.

7. Children who use tobacco before reaching maturity have their growth interrupted, as nothing more definitely interferes with the equilibrium of the tissue-building, digestion, assimilation, elimination, metabolism, than tobacco, and for these reasons its use favors gouty diseases, atheromatous degeneration, premature senility and decay. The excessive users of tobacco are crippled in their general equipment and are in no form to wrestle successfully with any disease.

8. He who smokes cigarettes to excess, or uses tobacco in any form to excess, is in danger of becoming an alcoholic, but in even greater danger of becoming a druggist, as tobacco is so closely allied to opium and Indian hemp. In a general way one excess invites another, as the will power becomes lessened.

9. Nothing is so apt to bankrupt the sexual equipment as tobacco, unless it be opium, as it stands to reason that a cerebrospinal paralyzant must obtund sexual desire and power.

10. The numerous mental wrecks, youths who have come under my care during the past ten years, whose lives were failures, or who fill suicides' graves, impress me that to-day tobacco stands as the gravest danger confronting the new century, and the medical profession has a fearful responsibility in educating young men and their parents to appreciate this danger.

The business world is, I am glad to see, undertaking the solution of the tobacco problem the same as it has that of alcohol, in that it is declining to employ cigarette fiends as well as moderate or excessive drinkers.

I am firm in the view that the medical profession must study calmly, tolerantly, temperately, the problems related to stimulants of all kinds, but tobacco and alcohol in particular, and they put themselves in best form for doing the best work along these lines and wielding their greatest influence for good, by themselves being exemplars of temperance, self-restraint, self-denial and correct living.

49 West Forty-fourth Street.

Zinc Oxid in Putty.—The French minister of public works has prohibited the use of white lead and ordered zinc oxid to be used in its place in putty, etc. This is the result of the efforts of Dr. Laborde, who has emphasized the injury from lead poisoning from this source, and proved that harmless zinc oxid is an efficient substitute for it in most of the various uses to which it is applied.

Original Articles.

THE RESULTS OF THE SURGICAL TREATMENT OF INFLAMMATION OF THE MASTOID PROCESS.*

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NEW YORK CITY.

The subject upon which I wish to speak has been so thoroughly considered during the past few years, it would be manifestly impossible for me to give more than my own personal experience in regard to it. What I wish particularly to emphasize, however, is the advisability of early operation in doubtful cases, and to show by my own statistics that the procedure itself is practically free from danger.

At the present time the general surgeon does not hesitate to open the abdominal cavity for diagnostic purposes. In the same way, I believe the otologist is perfectly justified in exploring the mastoid cells, whenever there is the slightest evidence of an inflammatory process. In the vast majority of cases, the signs are so well marked that a diagnosis can be easily made. In some, however, especially in those patients in whom the pneumatic cells of the mastoid are well developed, it is impossible to make an absolutely positive diagnosis until the disease has existed for several weeks, and sometimes for several months. When these cases are operated upon, the destruction which has taken place is invariably found to be extensive, and recovery is necessarily slow. Had operative interference been instituted when the first signs of the affection appeared—in other words, had an exploratory operation been done, the patient would have been relieved at a much earlier period, and a long and tedious convalescence would have been avoided.

So far as the operation itself goes, I am convinced that it is absolutely free from danger, if conducted in an aseptic manner. By this, I mean that the field of operation, the hands of the surgeon, the instruments employed, the sponges, ligatures, dressings, and, in fact, everything which is introduced into the wound, must be thoroughly aseptic. As much care must be taken in the preparation for such an operation as if the surgeon intended to enter the cranial cavity. The operator can never tell the extent of the disease in any given case, and not infrequently finds that there is an extension to the cranial cavity, in cases which have appeared comparatively simple.

The technique of the operation is too well known to require any description. I have only a few suggestions to make in regard to the method of operating. In the first place, the incision through the soft parts should be made as close to the ear as possible. If this is done, there will be no deformity after the operation; secondly, in every instance, I believe it wise to explore the entire pneumatic structure of the mastoid process, including the cells at the apex of the process. We often find the pneumatic spaces filled with granulation tissue or with pus, even when they are covered by a wall of apparently healthy bone. This is especially true of the cells at the

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tip of the mastoid. Another point is that, in every instance, the mastoid antrum should be entered, as a first step of the procedure. Even in cases where the cortex has been perforated spontaneously, I do not think it wise to begin the operation at this point. The mastoid antrum should always be entered in the usual manner. If this is done, the accidental exposure either of the meninges or of the lateral sinus will occur less frequently, while, at the same time, perfectly free drainage from the middle ear will be obtained.

Regarding the practice of closing a portion of the superficial wound with sutures, in order to render the recovery more rapid, my own experience has been that this procedure is scarcely advisable. Recovery is quite as rapid if the entire wound is treated by the open method, and any danger of pus retention is also completely avoided.

In 273 cases operated on, in not a single instance could death be attributed to the operation. Cases suffering from intracranial complications prior to the mastoid affection, are naturally excluded from this list. The simple point, however, which I wish to make is that the operation in itself is perfectly safe, and is a warrantable procedure as a diagnostic measure in doubtful cases.

TREATMENT OF CHRONIC OTORRHEA.*

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The subject of chronic tympanic suppuration is an important topic of aural surgery. The purpose of this paper, however, is not to introduce novel procedures for its relief, but rather to summarize our knowledge and endeavor to ascertain the crystallized sentiment of otological experience. For, be it remembered, unanimity by no means exists concerning relief measures for this troublesome and dangerous pathological condition, its treatment ranging all the way from the time-honored syringe to the radical mastoid operation. If concrete opinions concerning curative measures prevailed, no excuse would exist for this paper, but the discrepant views entertained by eminent authorities on both sides of the Atlantic furnish ample provocation for an endeavor to produce order from apparently chaotic conditions.

A professional classification according to expressed views might be designated as follows: The ultraconservatives, conservatives and radicals. 1. The ultraconservatives are those still possessing an abiding faith in the syringe, cleanliness, insufflations, drugs, mild surgical procedures such as polypus removals, etc., and who believe that all decided surgical measures, such as ossiculectomies and tympanal curettage, or worse, are not only unnecessary, but unwarrantably dangerous unless distinct mastoid symptoms are present. 2. The conservatives are those who give the previous treatment an opportunity of several months to effect a cure, failing in which, the tympanum is usually swept clear of pathological products. Many of them, but not all, regard a radical mastoid operation as a dernier ressort, not to be performed until all other means have failed, after persistent effort, and perhaps not then in the absence of mastoid symptoms. Other conservatives advise a radical operation more readily. 3. The radicals are those who waste no time

over the preceding methods, but open the antrum, mastoid and tympanum as soon as chronicity is established. In this view they are supported by the opinion that the mastoid antrum is an actual anatomical extension of the tympanic attic and usually participates in chronic suppuration of the latter, and should be thoroughly opened and cleaned as soon as brief ordinary unavailing treatment has practically proved the existence of antral disease. They believe, therefore, that chronic otorrhea implies antrum involvement, perhaps induced by exuberant middle-ear granulations, which retain antral pus, unreachable and incurable by tympanal treatment or operation, and that such measures are mere placebos. They feel that necrosed bone in other parts of the body, even when exposed to view and readily subject to local treatment by acids in proper strengths, is treated by the skilful surgeon by radical surgical intervention, and not by tedious and unsatisfactory applications. They feel that the important and complicated structures of the middle ear should be treated upon the same general surgical principles, but with their importance much accentuated. They also believe that an effort should be made to save the ossicles in a fairly physiological condition, naturally impossible after ossiculectomy, and that the only probable method of accomplishing this is by the performance of the radical operation.

Among the ultraconservatives, according to their writings, may be classed Ole Bull, Manning, Dentovitch, and the late Samuel Sexton. Among the conservatives may be classed Shepherd, Black, Stucky, Buck, Gomperz, Burnett, Randall, Reinhard, Politzer, McBride, Lucae, Guye, Gradenigo, Eemann, Barr, Faraci, Buller, Cheatle, and White. Besides these Noyes is inclined to conservative views, while leaning somewhat toward ultraconservatism, with great faith in the "dry treatment" of chronic otorrhea. Dench and Vulpius, while still believing in a fair trial of conservative measures, are more and more impressed with the necessity for radical procedures, which they perform much more frequently and unhesitatingly than formerly. Dench shows a record of 64 per cent. of cures by the radical operation, as against 58 per cent. by ossiculectomy. Knapp expresses the same views, and believes that during the last few years the indications for intratympanic operations have steadily lost ground. He does very few of them, but has not utterly abandoned them. He thinks the indications for the radical operation are always strengthened in the presence of such constitutional diseases as tuberculosis, diabetes, syphilis, etc. Milligan has not abandoned conservative measures, but believes that twelve months of faithful treatment should be considered sufficient, after which, if the discharge continues, he would perform the radical operation. Among the radicals we find such names as Stacke, Schwartze, Macewen, Siebenmann, Jansen, Holmes, Alderton, Lane, and Gleason.

One noticeable feature of these lists is the evidence of surgical evolution and progress for, while such lists are, of course, numerically quite incomplete, their proportions and characters are unquestionably a fair representation of professional opinion. The time is fast disappearing when capable and conscientious surgeons are contented to indefinitely and drearily subject such patients to interminable treatment, with the assurance that conditions are improving, and that a cure may some day be anticipated. Nor must this pessimism be construed into a lack of reasonable faith in ultraconservative measures. Much may be accomplished by antiseptic syringing, especially if effected by a good intratympanic syringe. Benefit unquestionably frequently follows what

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is known as the "dry treatment," peroxid of hydrogen, acids, iodine, enzymol, powder insufflations, gauze-drainage—which serves to keep the meatus sterile, cuts off the entrance of staphylococcus, and drains and aseptifies tympanic exudations—inflation, alcohol, granulation removals, and the numerous other suggestions for pursuing this plan of treatment. Procedures of this kind are undoubtedly frequently followed by satisfactory results, both as to discharge and hearing, but it is more than questionable whether it is justifiable to positively or negatively assume that our weapons for battle are thus limited, and whether patients should be permitted to continue the possessors of a disgusting and dangerous condition, owing to professional and mental inertia or a fatuitous faith in the direct therapeutical interposition of Divine Providence.

Some ultraconservatives reluctantly admit that the time may come, in the treatment of a case, when the boldness of an ossiculectomy may be indicated, but that momentous event is delayed to the very last moment of several years, hoping that at last persistent and varied efforts will finally be crowned with success. They believe that in the narrow confines of the tympanic cavity there is much room for mishaps and that an ossiculectomy being performed out of sight, and with great dependence upon the tactile sense, is fraught with much possible danger, and cite instances where the facial nerve, jugular vein and carotid artery have been injured and infection has developed along venous or other channels to the intracranial contents, with fatal results, especially where a granulation plug occludes a communicating opening between the brain and tympanum, forgetting apparently the lamentable end of many patients who have with their lives testified to the inefficiency of this line of treatment, persistently employed. The mere question of thoroughly cleansing an ear is by no means a simple one in chronic otorrhea. It is frequently surprising how mass after mass of foul material can be forced away by painstaking use of an ordinary syringe, supplemented by a tympanic syringe, peroxid of hydrogen, alcohol and inflation, and much time may be consumed before an ear may be considered even moderately clean. It will thus be seen how irksome these procedures must become to a busy surgeon, when daily repeated, especially when occurring in dispensary practice.

Concerning the use of the more or less popular "dry treatment," it is difficult to understand how even ordinary cleanliness can be obtained without the use of an intratympanic syringe, especially when used with peroxid of hydrogen, etc. The attic, where the trouble is usually most pronounced, is a complicated structure, containing the ossicles and many folds and sacs, well qualified to retain mucus, pus, desquamations, etc., difficult or impossible to dislodge by a cotton-tipped probe. If not dislodged, these foul products must remain the focus of disease. While, therefore, fully aware of the unfortunate effect of moisture in these cases, the writer is of the opinion that of the two evils, the lesser is the one which makes an effort at a thorough cleansing of the parts, until all detritus has been removed and all odor—due to saprophytes—has been dissipated. The parts may then be dried painstakingly with cotton, inflation, dry, and possibly hot, air, and the desired treatment applied. The names of those favoring the indefinite pursuance of this method are numerically small, and growing smaller each year.

The conservative ranks are numerically the strongest and contain those surgeons who have graduated from

the ultraconservative column, but are not yet ready to say that a radical operation is always indicated in chronic otorrhea. There is considerable diversity of opinion among these surgeons upon several points. For instance, some believe that the patient should be given the benefit of perhaps a year's treatment before any operative procedures are undertaken, which operation should then be an ossiculectomy and curettage, to be followed possibly later by a radical operation, especially if mastoid or head symptoms supervene, if irrigation expels cheesy matter or mother-of-pearl flakes, if the discharge continues fetid in spite of persistent irrigation, if granulations recur when removed or cauterized, and if caries, especially of the posterior attic or meatus, is present. Others again cut down the treatment period to one or two months, to be then followed by the operative procedures just mentioned; while others, who are about ready to swell the radical columns, are willing to treat the case for about one month, when, if discharge continues, an ossiculectomy or possibly a radical operation is advised. In the event of the latter advice the ossicles may also be dealt with as seems best after a thorough post-aural examination. Upon one point there can scarcely be a divided opinion, namely, that the thorough performance of an ossiculectomy and curettage is a long step in advance and places the patient in a much more favorable condition for drainage and treatment than before, even if discharge does not cease, or recurs. The operation is attended with but little annoyance to the patient; tinnitus and vertigo are often much relieved; the thickened and functionless tympanic structures are removed; drainage is much improved; the tympanum can be much more readily reached for treatment; hearing is often benefited—for if ossicular continuity is severed by caries of the malleus and incus, or retarded by pathological middle-ear products, such as exuberant granulations, cholesteatoma, etc., sound waves can not reach the labyrinth even with reasonable ease, and hearing is naturally affected—and all conditions are bettered even if a cure is not effected, which, if we are to believe the statement of many competent observers, is not by any means an event of rare occurrence.

It must also be remembered that even after the patient has been induced to undergo a radical operation we sometimes find during the operation that no especial disease existed in the antrum or cells, and that the operation has hardly been essential, and a regret must be felt by a conscientious surgeon, that more persistence in conservative treatment had not been exercised. This is emphasized by the reflection that even the radical operation is not always followed by a complete cure of the discharge (although some surgeons feel they can assure their patients a safe and sure result), which it appears should somewhat restrain enthusiasm for its universal performance. It should not be forgotten, however, that most serious and deep-seated pathological conditions are sometimes found in the course of a radical operation or at a post-mortem, when subjective and objective symptoms have been of the very slightest character.

The personal equation of surgeons should also be considered in the advisability of the advocacy of the frequent performance of the radical operation. This operation is by no means a simple one. There is probably no space of equal size in the body surrounded by so many dangerous elements as the space involved in the tympano-mastoid procedure. It is hazardous ground for the novice or for him who is not thoroughly grounded

in the topography and surgical anatomy and abnormalities of the parts. Again, all operators are not equally skilful, and an operation that might be reasonably safe in the hands of a Stacke or a Macewen, might be exceedingly dangerous when performed by some other aurist, who, while inexperienced, might be unwilling to admit it, and who might feel that he must follow in the steps of the master, even if his services are supplemented by those of the undertaker. It certainly requires conviction and courage to advise a radical operation in the absence of mastoid symptoms, especially in the early stages of a chronic discharge. So many people are unquestionably cured of such a discharge without an operation that patients who become familiar with this fact must indeed have supreme faith in their surgical adviser when they mount the operating-table under these circumstances, and it must be admitted that a consequent facial paralysis, impaired hearing, protracted healing, continued discharge, fistula or death, can not serve to exalt the professional position of the operator in the minds of the laity, the profession or even himself. Of course, the complexion of the case absolutely changes in the presence of long-continued discharge unchecked by persistent conservative procedures, cholesteatoma or of mastoid or intracranial symptoms, under which circumstances the patient himself frequently demands radical relief. But in the absence of such indications, no surgeon should be blamed for the advocacy of conservative measures, especially when it is remembered that a cessation of the discharge and improvement of hearing frequently follow ossiculectomy and curettage. These illy defined and insidious forms of chronic otorrhea with antrum or cell infection, but unaccompanied by palpable symptoms of such extensions, are certainly difficult ones in which to decide upon a plan of action unless one happens to be a radical in his opinions. The gravity of the situation may not be always measured by the quantity, quality or odor of the discharge, although these indications often mean much, but certain ill-defined symptoms, such as a slight rise in temperature, irritability, nervous exaltation, mental depression and general appearance of parts, are not without their significance.

Concerning the radical operation, it may be confidently stated that he must be very conservative indeed who denies the advisability of such a step in the presence of mastoid or intracranial symptoms, or of distinct organized cholesteatomatous masses. And there are many eminent surgeons who would not advise a radical operation in long-continued and intractable discharge without the above history, but there are at present comparatively few who are willing to go on record as advising such an operation as soon as chronicity of the discharge is established, say in a few weeks after the inception of the discharge. And yet we must not forget the eminence of authority on this side of the argument, nor fail to lay much stress upon their plainly spoken opinions. Most of the radicals are our teachers, men to whom we look for advanced and correct thought, and their sentiments can not and should not be turned lightly aside and dismissed as too extreme. It may be that their very eminence and skill in operating, however, has much to do with their results and consequent views, and the question may be most justly raised whether inferior but ambitious operators are warranted in following their leadings. Stacke, for instance, believes that ossiculectomy without the radical operation is a mistake, as it destroys ossicular aids to hearing. He advocates the radical operation as soon as the discharge becomes

chronic, hoping thereby to save the ossicles and the function of audition. He says the ossicles can be removed later if necessary. Siebenmann, Jansen and Scheibe endorse these views, and the latter claims that in any case of otorrhea, if the odor is not removed by intratympanic syringing, the radical operation should at once be performed. Macewen lays down this axiom: "When a pyogenic lesion exists in the middle ear or in its adnexa, which is either not accessible or which can not be effectually eradicated through the external ear, the mastoid antrum and cells ought to be opened." This statement is in reality not so bold as would at first appear, for most surgeons would concede the advisability of a thorough exposure of the parts were they positively assured of pyogenic extension beyond the tympanic area. But such positive assurance is not always apparent, and in the dimness of an uncertain diagnosis hesitation is natural. It is like appendicitis; if suppuration could be positively located in the appendix no one would fear to operate, but in the absence of such an assurance surgeons frequently wait, fortified by the long list of recoveries without operation. Not many doubt the advantages of a successfully performed radical operation when the parts are thoroughly exposed to view and their complete inspection possible. Investigations may then be pursued in all directions, pathological conditions removed, pyogenic extensions prevented, asepsis secured, and a logical expectation of a cure entertained. Macewen claims that pathological middle-ear products can be removed not only easier, but safer by the mastoid than by the meatus route. He feels that in chronic otorrhea the tympanum is septic, and that operative procedures in this area expose fresh surfaces to pyogenic influences and simply court disaster. Such views are undoubtedly enveloped in much truth, but surely the radical operation itself is not utterly devoid of danger, and a properly performed ossiculectomy is most infrequently followed by a fatal or unfortunate result.

It will thus be seen that there exists considerable apparent diversity of opinions concerning the treatment of chronic otorrhea, and it would appear that much misunderstanding could be averted if conditions rather than a name might be considered. Some surgeons believe that cases of chronic otorrhea do very well under such and such treatment. Others believe that ossiculectomy and curettage are indicated, and still others that a radical operation must be performed. The old Oriental story is recalled of the three blind men who went one day to inspect an elephant. "He is like a spear," said one who grasped the tusk. "He is like a fan," said another who felt of his ear, while the third, with his hand on his leg, declared he was like a tree. They had all inspected the elephant, but naturally formed different ideas of his appearance. So it is with chronic otorrhea. Various observers form various views from various experiences, while if all would carefully inspect each case and judge of its treatment on its own individuality it would be seen that there is ample room for all opinions in considering this interesting subject and its treatment. A chronically discharging ear does not always indicate the same pathological conditions. A simple exudative mucous-membrane inflammation may exist, with imperfect drainage, which may be healed by an enlarged opening and simple treatment. Or exuberant granulations may be present, which are removable and curable. Or ossicular or mural caries may occur, relievable by acids, drainage, treatment, etc., or an ossiculectomy and curettage. Or the disease may have extended farther into the antrum, and even here it is not inconceivable that a

removal of intratympanic contents, supplemented by good drainage and proper treatment, may effect a cure, although it is admitted that the radical operation will usually be indicated. Or the mastoid antrum and cells may be involved and possibly the sinuses and intracranial contents, calling for prompt and large operative procedures. So instead of assuming that chronic otorrhea must always be treated upon certain clearly cut principles, it would be better to examine each case independently as to its pathological condition, symptoms, duration and character of its discharge, etc., and advise a plan of action harmonious with such unprejudiced examinations and observations.

The dividing pathological line seems to be the extension of the disease to the antrum. Before this occurs tympanic treatment and operations should prove sufficient, although, as has been before stated, Stacke and other eminent authorities believe that when a chronic discharge is established a post-aural operation should unhesitatingly be done, with the hope of preserving the ossicles and good audition. It is scarcely believed, however, that the profession is yet ready to accept these ultraradical views, especially when the danger of the radical operation in all hands is considered, and the very good hearing frequently obtained, even when the tympanum is swept clear of its contents. After the antrum is clearly involved most competent observers will agree as to the indications for post-aural operations, while even here many capable men wait for mastoid and other significant symptoms, although the supporters of this view are steadily growing less.

How then may we determine the existence of antral disease in a case without significant symptoms? It is impossible to answer this question definitely, there being no fixed rules by which to ascertain such extension in quiescent cases, and an opinion must be accumulated by composite observation, which is nevertheless reasonably trustworthy. Aural discharge, especially if persistently foul and profuse, continuing in spite of proper local treatment for a period say of three months, is a decidedly suspicious condition, particularly when accompanied by recurrent and persistent exuberant granulations and necrosis. Especially is this true if the membranous opening has been in Shrapnell's membrane, or in the posterior superior quadrant of the main membrane, and if carious bone can be located in the upper and posterior wall of the tympanic cavity, or if the upper and posterior walls of the deep meatus are red, bulging or sensitive. These observations are much strengthened if the discharge is cheesy or flaky or contains the streptococcus, influenza or tubercle bacilli, and if the tympanum has been cleared by an ossiculectomy and eurentage. A case presenting such a picture, or even a reasonable portion of it, even if absolutely unaccompanied by mastoid or other significant symptoms, would certainly lead most progressive surgeons to unhesitatingly advise either an ossiculectomy or a radical operation.

It is impossible to deny that the trend of high professional opinion at the present time turns toward the latter view. Perhaps this is inevitable and proper, but let us not advance too hastily. Let us rather err in the direction of conservatism, feeling that important and complicated operations will be the natural evolution of added knowledge.

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BONY DEFECTS AND FISTULE IN THE EXTERNAL MEATUS.*

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The occurrence of artificial communicating passages between the meatus and attic of the middle ear is, on the whole, little referred to in literature; it is mentioned, but not commented upon, in some of the larger text-books. Some illustrations of it are given in Politzer's "*Beleuchtungsbilder des Trommelfells*," etc. Yet it is not a rare lesion, as I have seen considerably over 20 instances, and can refer now to some 20 complete records. The last 12 cases were found amongst 2000 ear patients. The defect is usually a fissure of variable size in the external wall of the attic, opening through the upper wall of the meatus above Shrapnell's membrane. In some instances it seemed to be a fistula instead of a complete gap, but it is not always possible to distinguish between two conditions.

Small defects are difficult to recognize by sight and may be found only by the use of the probe. The end in the meatus is often narrower than the opening into the attic, which is in rare instances exposed to partial view. The membrana tympani was totally gone, or nearly so, in a few of the cases. In most of them the tense portion of the drumhead was intact and the perforation limited to Shrapnell's membrane.

Most of the patients were seen on account of the discharge. Several, however, had no secretion at the time of the examination, merely asking help for their hearing. As in all forms of purulent otitis, the hearing in a given case may be very little or very much damaged.

The patients were all adults, who dated their ear-trouble back to childhood. No case was observed from the beginning. The origin of the gap in the bone must, of course, be attributed to caries, but no evidence of its continuance was found in most of my patients.

The existence of a fistula into the attic does not add to the gravity of a chronic case. In consideration that these were all cases of disease of the attic, their course may even be said to have been relatively mild, perhaps on account of better drainage. One time only were distressing symptoms—vertigo and headache—observed during a subacute exacerbation. Of 20 patients, 19 were cured without any operation, some being observed many months, others several years. Even the one patient not cured under treatment claimed to have lost the discharge by treating himself according to directions while on business travels; but this is only hearsay evidence. A cure for the time being was admitted only, if on repeated trials no trace of discharge could be found on exploring with a cotton mop, or on searching for it in the pus basin after syringing the ear. Relapse, however, must be expected in some of these cases, and indeed about one-third of them did return, sometimes repeatedly—after intervals of months or years. The relapses were as easily checked as the previously continuous disease.

A frequent cause of relapse is desquamation of the epidermis, which had grown through the fissure into the attic. Cholesteatomatous contents were found in six patients, often in the form of concretions, which could be picked out in a single mass. This process of desquamation continues after suppuration is arrested. Several patients have returned once in 1 to 3 years, pre-

Medical students in the German universities this winter show a considerable decrease in numbers. Last year there were 7543 in attendance, but at present only 7113.

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senting again the concretion in the attic, but without symptoms or odor. In none of the cases was there any reason to suspect that the desquamative process extended beyond the attic.

Relapses occurred also in a few who had no cholesteatoma. Under the head of relapse I do not include recurrence of secretion within a few days after apparent cure. This is quite common, and the observation should not cease until the ear has been dry a few weeks. The reasons for real relapses after months or years of apparent cure are not entirely clear—apart from cholesteatoma. Caries no doubt complicates a large proportion of all cases of attic suppuration, much more often than can be detected by the probe. The occurrence itself of a hole in the bone is proof that there was caries originally, though not necessarily present at the time of examination. But, contrary to views occasionally found in literature, caries does not prevent permanent recovery as long only as the pus is in no way pent up. Both among these patients with bony perforations, as well as among others without this complication, I have on record many permanent cures, in spite of existing caries, confirmed by re-examination after years. As long, however, as the foul odor of the discharge shows interference with free drainage, recovery is out of question. On the other hand, necrosis of bone with the presence of a sequestrum is an absolute barrier to the cessation of the discharge.

The treatment of chronic otitic suppuration is not altered by the existence of bony defects, perhaps even facilitated. The all-important condition is the complete removal of all pent-up discharge, as well as cholesteatomatous masses. Granulations need to be curetted only if they interfere with drainage. An infallible guide for controlling the efficacy of the treatment is the odor of the discharge. A fetid smell shows pus-retention, even if it be only on a microscopic scale. As long as this exists no complete cure is possible, while the removal of the odor is proof positive that the conditions are now favorable for cicatrization. Formerly, after mechanical cleansing by the syringe, a fine intratympanic canula and the curette if needed, I depended mainly on insufflation of boric acid, varied sometimes with instillation of alcohol-ether solutions of iodoform and carbolated glycerin.

After many years of use of this method in chronic otitic suppuration in general, I am still satisfied with its efficacy and promptness, provided it succeeds within a few days at the most in completely conquering the odor. The continuance of this treatment is, however, absolutely useless if the odor does not yield. A potent additional measure was suggested, first, I believe, by N. Pierce, about three years ago. It is capillary drainage by a gauze drain. A peculiarity of this method, which has not been pointed out before, is that it will gradually remove the odor in eight to fifteen days, while lessening the discharge. Intratympanic syringing and the use of the curette followed by boric acid powder either deodorize in a few days or fail altogether. Gauze drainage, on the other hand, may not change the smell until the discharge has nearly stopped. While in the cases now under discussion at least a temporary, and mostly a permanent, cure was obtained by these different methods in all but one doubtful instance, even the drainage method will, of course, fail at times in chronic otitis. When the attic is obstructed by adhesions around the carious ossicles, nothing but ossiculectomy, and when the antrum has carious walls or cholesteatomatous contents nothing but radical operation can cure the dis-

ease. The drainage method, however, limits the indication for these surgical measures. Only I am not yet assured regarding the permanency of cure by gauze drainage.

Capillary drainage is effective only if the absorbing material is almost in contact with the secreting focus. I can suggest an improvement on gauze strips, as they often cause pain when pushed in with the probe. For some months I have used strips of sterile blotting paper, about 0.5 millimeter wide and 20 long. They absorb more energetically than any gauze. As additional aseptic precaution I have powdered them freely with boric acid. They can be inserted through the speculum with scarcely any discomfort, and made to touch the drum-head or exposed internal wall of the middle ear. The antricle is then packed with gauze powdered with a mixture of boric and salicylic acids.

DISCUSSION ON PAPERS OF DRS. KNAPP, RICHARDSON, CALHOUN, DENCH, ALLPORT AND GRADLE.*

DR. W. K. SIMPSON—One thing interesting to me was in Dr. Allport's paper, as to what should be done in cases of chronic suppurative disease of the middle ear, as to whether we should treat it or whether we should be radical, and the question arises: why are some men radical? If we will study some of the cases Makuen reports, we will see why he is radical. When we consider some of the cases that come to him that have been left to God Almighty and the syringe, and badly neglected, it is no wonder that Makuen and such men are radical. It is proper for the essayist to dwell upon this matter, but it is a question that we must decide for ourselves. The treatment of intracranial affections recalls to us, who went into the study of medicine about the time appendicitis was discovered, a parallel of that disease. The large number of patients who formerly died of "inflammation of the bowels" we now know died of appendicitis. And so now we know that many who formerly died of "brain fever" died of disease of the middle ear. "Brain fever," like "inflammation of the bowel," covered a multitude of evils. The difficulty of diagnosing intracranial lesions in children has interested me very much. I have accumulated a few cases with the specimens. This one it seems to me is dependent on, in the first place, anatomic elements, and in the next on physiologic elements. The cerebral centers are not thoroughly established, and I am satisfied that if we wait in a child, to make the diagnosis, until we can make one of these feather diagnoses we read about in the text-books, we will not make one in time to save the child's life. The diagnosis in most instances has been made by what we might call main strength and awkwardness. [Laughter.] Perhaps I had better illustrate what I mean. We know that one case does not prove very much, but it takes a good many things in inductive reasoning to prove anything. The case was one of a child 3 years of age, in which the doctor called me and said the child seemed to have typhoid fever, but did not have the typical typhoid temperature. The child had not spoken for two weeks. The pupils showed nothing, physical examination showed nothing, and there was nothing to localize the trouble. But there had been a discharge from the ear for some months. I reasoned that here is a child that probably will die soon if nothing is done. I believed that there was present a suppurative otitis media and the chances were that the temporo-sphenoidal lobe was involved. I knew that I could not wait, so I operated at once without an anesthetic and the child got well.

DR. O. JOACHIM, New Orleans, La.—I desire to present for inspection a specimen obtained from a patient I operated on. When he came under observation he was delirious, unable to answer any questions and presented all the symptoms of intense pyemia from purulent lateral sinus thrombosis of otitic origin. I operated promptly and found extensive alterations. There were perisinus and epidural abscess and other extensive disease areas. The jugular vein was tied and the sinus was flushed both from above and below. The patient did badly. He lived twelve days. The post-mortem examination made at

* The papers of Drs. Richardson, Knapp and Calhoun were published in THE JOURNAL of February 23.

that time showed, beside other changes, numerous metastatic processes in the lung, perhaps one hundred abscesses in one lung and about thirty in the other. The condition was an extreme one from the beginning and admitted of very little hope. The specimen here speaks for itself. It presents some necrotic spots on the superior surface of its petrous portion which could not easily be removed by operation.

There is another case I operated on immediately after this one that presented a few points of unusual interest, and as there are many oculists here, I wish to recite one of them. It was an acute condition. I saw the patient after the first chill; he walked into the hospital. We operated the second day. After operation there was an immediate fall of temperature. We had all the symptoms of pyemia due to sinus thrombosis. We operated and cleaned the involved areas, tied and flushed the jugular. The patient made a quick and prompt recovery. He developed facial paralysis, which was probably due to the operation. Before the operation he complained of double vision, which persisted for three weeks after it. By degrees he developed a complete bilateral abducens paralysis; with this appeared central blindness affecting both eyes. The oculist reports that there is some vision left, but not enough to admit of a useful occupation. The connection between the eye and ear trouble is interesting, and it is important to elicit their cause.

DR. KIRKENDORF—I have a patient on whom I did the radical operation for mastoiditis. He did well for fourteen days, at the end of which time he developed paralysis of the abducens. On the following Wednesday he complained of double vision. I examined the fundus and found it perfectly normal. The only trouble I could see was that the external rectus was paralyzed on the side on which I operated. On the following day I did a secondary operation to make sure my primary one was all right. I secured thorough drainage from the antrum and attic, and, not finding any trouble there that would account for the disturbance, I followed up the lateral sinus and, finding no accumulations in this, stopped my work there, then trephined an inch above the external auditory meatus and took out a piece about an inch in circumference and found the dura mater more or less granulated. Pulsation was marked. I suspected an abscess of some kind in the middle fossa or deep-seated, but the physicians who were with me felt intent on further operative procedures, and so I introduced a needle in various directions, but was unable to find any pus. I then desisted and packed with iodoform gauze, and the next morning the patient was free from septic trouble. There had been a temperature of 103 degrees before I operated the second time, but the next day the temperature was normal and there was no diplopia. Later he had diplopia. Vision was then normal.

DR. G. L. RICHARDS, Fall River, Mass.—I have two cases to report in connection with the papers of Dr. Allport and Dr. Richardson. One was a case of otitis media with brain abscess. The patient had his hair cut two weeks before the operation. He had an apparently slight otitis media suppurativa, for which he entered the hospital and was finally discharged improved. On his way home he lost his way in a swamp, was searched for and returned to the hospital with a total paresis of the left side, a dilated pupil of the right side, and totally unconscious. He was operated on by me, and almost total destruction of the right lobe was found. Death resulted three days later. The question arises: how long should we wait in these cases? Twenty-four hours before operation this man gave no evidence that he was in this tremendously perilous condition. It only reminds us that every case of otitis media suppurativa is grave until it is well.

The second case was a sea captain who had an otitis media suppurativa. When I saw him there was some mastoid tenderness and I requested permission to operate as soon as I could get the instruments together. I was not allowed to operate until forty-eight hours later, when I did it as thoroughly as I felt warranted in doing. The patient got along well until pain and swelling appeared along the muscle on the opposite side. This I attributed to the operation. After that the patient came under the observation of another man. He was later operated on for multiple abscesses on the back of the neck. It seems that he was developing a moderate, slow degree of septicemia, which broke out on the opposite side, and the forty-eight hours' delay had something to do with that. General constitutional infection may take place simultaneously with the breaking down of an abscess.

DR. TAYLOR—I would like to mention a case in connection with the class mentioned by Dr. Calhoun. For a long time I did not believe it possible that we could have mastoid inflammation without suppurative inflammation of the middle ear. But a year ago last April a child was brought to me that had

had no ear trouble, so far as the parents or the family physician knew, and yet that child had well developed mastoid disease. The ears were standing out and it was very evident that there was pus present. I did what I supposed to be a radical mastoid operation, removing everything until we came to solid bone in every direction. The child recovered promptly and well, but one year later, in April, 1900, without any ear symptoms, without any pain whatever or anything to indicate that there was trouble there, the same trouble slowly developed on the same side. At the time the patient was not living in the town where I was, but was away on a visit, and was brought home to me. I operated the next day, removing everything possible, and I even went through the skull, so that there was no possibility. I thought, for any return of the trouble. The patient recovered very nicely. The child was in a very much run-down condition and we gave cod-liver oil internally, and it was brought down to Atlantic City to recuperate. When it left home there was a slight enlargement of the glands below the ear. The child was brought back about the middle of May with the same trouble well developed in the other ear. A radical mastoid operation was performed on this ear. This is a case in which mastoid disease developed on both sides without any indication whatever of ear trouble. I saw the child the day before performing this operation, and I examined the ear thoroughly without finding any bulging of the membrane or any indication of middle ear disease.

DR. B. ALEXANDER RANDALL, Philadelphia—*Apropos* of the Doctor's case, the only one I had the honor of treating with Dr. Calhoun was a patient in whom there was no apparent tympanic involvement at the time the operation was done. It was one of the cases that later required a second operation. I am glad the discussion has taken the form it has, and I am very grateful to Dr. Knapp for beginning the matter as he did; for unless these subjects are considered from the very basis and all the underlying and fundamental points, however elementary, are considered, we are likely to misunderstand and draw wrong conclusions. Dr. Allport's paper sets forth many differences that arise in the opinions of various men from the exigencies of practice and the varying conditions with which we are surrounded. Different men see different groups of cases.

It is interesting to know how many cases of ear disease tend to mastoid inflammation, because it is very variously viewed by different men. It is quite different in a small town, from what it is in a large city, and a teaching clinic will find cases much in excess of those found in private practice, where a man is likely to know the beginning and ending of cases, as the man in a clinic in a large city can not possibly do. At least 1 per cent. of my cases have shown disease demanding attention—at least 4 per cent. showing mastoid disease of marked character. Lately I have seen above 2 per cent. of operative work, based on my total number of new cases seen each year. On the other hand, the cases of mastoid inflammation which did not eventuate in such need were also numerous, in that every year I have about one hundred which go through without any operative need. I do wish to claim that following such lines as have been laid down by Dr. Allport with the hot douche and such similar measures, the majority of these cases, unless they be streptococcus cases, can be brought through with good conservative measures. The Doctor's remarks in regard to the black race are very good, but my statistics would not show the same thing. Perhaps half the population around the Polyclinic, in which I work, is colored, and here the number of cases of ear disease and mastoid cases that I have seen in the colored race would apparently entirely conflict with the Doctor's view. Among them I have seen many cases where without any apparent involvement of the tympanic cavity, there was extensive mastoid disease. The point brought out by Dr. Knapp is of exceeding importance, and elementary as is the matter it is essential that we bear in mind the fact that we have to deal in these cases with a condition of the whole middle ear. The middle ear begins at the pharyngeal mouth of the Eustachian tube, and does not end until you reach the last pneumatic cell in the mastoid, or wherever it may be. Therefore the question of otitis media is a much broader one than is indicated by some men.

We should bear in mind the anatomy of the tympanic cavity. I have much to learn about the anatomy, but one thing which I do know is that unmistakably and as a fundamental fact we have three portions of the tympanic cavity: the attic, the antrum and the atrium, or tympanum proper. Until the anatomy which I have indicated is kept in mind, there will be much poor work done. We should use specific terms instead of generalities and personal names. We should clean out the attic and atrium as well as the antrum in chronic cases. If

we deal with these cases of middle ear disease without bearing in mind that the chronic cases differ from the acute, we will fail in a large proportion. Of course the streptococcus cases are serious from the very beginning, and the ones we bring to an apparent cure will often go to the grave with brain disease or other serious trouble, possibly involving the other side of the head. In the chronic cases, if we content ourselves with opening the antrum alone without opening the attic and tympanic cavity as generally understood, we will often fail. So in the thrombus cases, the acute ones usually begin in the jugular bulb and are frequently obliterated at that point. Ligation of the jugular is thus not necessary in these cases, while it is essential in others. We should carefully study our cases in order to properly understand with what we are dealing.

DR. J. HOLINGER, Chicago—The term "radical operation" was several times used this afternoon for operations that were not radical in the original sense of this word. A very clear description of what is meant by the term may be found in the *Berlin. klin. Woch.*, No. 1, 1893. I was much interested in the paper of Dr. Gradle. Fistulæ of the external meatus, which are on its roof, are very often found in connection with supuration of the attic. Fistulæ on the posterior wall of the external meatus are of different clinical importance. The different forms of fistulæ have different dignity, clinical and pathological, and they require different treatment. Fistulæ from the attic may heal as a rule much easier, after a few treatments, while fistulæ from the cells often have a sequestrum in the depth and will yield only to extensive operations.

DR. E. C. ELLÉTT, Memphis, Tenn.—I would like to make a statement in regard to the colored population not in accord with Dr. Calhoun's statements. I have been criticized on some observations I made as to the non-occurrence of adenoids in the negro, but about one-fourth of the mastoid cases I have operated on have been in the colored race. We do not have as much catarrh or ear trouble among the colored people as we do among the whites. One or two of the mastoid cases in the negro have been apparently unconnected with any preceding trouble in the tympanic cavity. Some of those I have had reason to believe were tubercular. In the negro, as in the white, we see few cases of mastoid trouble in comparison with the total number of cases of middle ear trouble. I have operated at as early an age as 6 months on typical cases, although there have not been many such instances. I would like to pay my respects to Wilde's incision, for if there is any procedure that has no place in surgery it is this so-called Wilde's incision. If the operator does not find a fistula in the bone in the cases where there is a subperiosteal collection of pus, it is because he does not look close enough for it. If there is not any pus outside of the bone this procedure accomplishes no more than can be done by leeching and the application of heat and cold. In the last two cases I operated on, one an adult and the other a child, there was a collection of pus outside of the bone, and it was only by the closest search with the probe that I could find the sinus. It could not be found by simple inspection. My experience with ossiectomy and tympanic curettement has not been brilliant. One of the gentlemen mentioned a case with a rise of temperature after operation which was confusing. In the last case I operated on, the temperature had not yet been below 99 F., and about three days after the operation the face was swollen and the temperature went up to 102. It was due to mumps.

DR. H. KNAPP, New York City—I wish to report a case of osteomyelitis which belongs to the discussion. These cases are very rare. Recently a young man came to me with an immense swelling behind the ear. The bone all around was swollen and red. There was no fluctuation. From the antrum I liberated considerable pus, and there was a large quantity in the posterior cranial fossa. The sinus laid bare was covered with granulations which were very firm and could not be scraped off. I opened the bone back of the mastoid and found it diploë swollen, softened and full of small disseminate nodules of pus. Further back I found a large subperiosteal abscess which communicated with the posterior cranial fossa by a fistula situated about midway between the torcular and the knee of the sigmoid sinus. I thought I did a rather radical operation. The young man has not had any fever, he never had any chills and he did perfectly well for some time. Then all at once there was a temperature of 102 F. When I examined the case I found the flaps behind, where I had entered the mastoid, were swollen, and there was evidently a collection of pus. About five days later another abscess from above made its appearance from under the flap. When I left there was no fever at all, but to-day I have received information that there is a swelling under the trapezius muscle and a temperature of 103 F. My son says that if the patient is not

better soon they will open it again. It is a rather extensive case of osteomyelitis. Operation at once allays the fever. The patient has not had any chills, but it is quite likely they soon will follow because this condition of the dura mater over the sinus is very suspicious.

I can also mention a case that is in the hospital yet, a child who came with a well-pronounced mastoid abscess. I told the parents it ought to be operated on at once. They decided to go home. That was the last I saw of them for five weeks, and then the child was brought in in a semicomatose condition, with a temperature of 105.5 F. I operated on it and found pus in the posterior cranial fossa and granulation tissue, not the same color as in the other case, but very thick. That child had a chill the next night. The next day I operated on her and found the sinus clogged with granulations, which were like the granulations outside, but contained some blood. But no blood came from behind or above. I went in 2½ inches with the probe, until I got blood. It was evidently a thrombus. I went down into the jugular fully 2 inches before blood appeared. The operation has been followed by a very good recovery. [August 8, 1900, patient has completely recovered.]

DR. EMIL AMBERG, Detroit, Mich.—I am extremely glad to have heard the contributions, and especially Dr. Knapp's remarks on the skull. These are questions of fundamental importance. We know that in case of adenoids sometimes the nasal syringe is used. Such an instrument should be abandoned, especially with children. I am glad Dr. Knapp mentioned tympanomastoiditis, because we know from Politzer that every time the tympanum is infected there is some possibility of infection of the mastoid by the presence of pus. It is important that the use of the air douche should be abandoned in acute otitis media after a paracentesis has been performed. I do not regard a normal temperature as a contraindication for mastoid operation. As to primary mastoiditis, we know the frequency of this disease in cases of influenza. The small number of mastoid cases in the South may perhaps be accounted for by the comparative rarity of coryza, if such exists. The children do not, perhaps, blow the nose so much in the wrong way. I tell my patients not to blow the nose with both nostrils closed. I do not think I will use peroxid of hydrogen in these cases on account of the possibility of the distribution of micro-organisms by the bubbles. Dr. Allport has used the term, "the personal equation." This is a serious question, but the explanation can be found in an entirely different place. A knowledge of the anatomy is of great importance in otology, and I should like to know in how many medical schools there is sufficient material to exercise the hand and eye in order to be able to perform these operations afterward with due skill.

DR. NORVAL H. PIERCE, Chicago—I have found cases in children below 6 months of age. They are characterized by pain, temperature about 100 F., and swelling such as usually occurs in mastoid inflammation. In the first case I cut down and got a serous fluid, but no pus. This was beneath the periosteum and probably ran along the posterior surface of the external auditory canal and the middle ear. The other case I saw was very much like this and occurred soon afterward, and I put in an exploratory needle and drew off serous material without any pus. Flocculent particles containing round cells were found. Recovery followed without any symptoms whatever. There was no perforation of the tympanic membrane in either case.

DR. MCCARTHY—I have a case that illustrates the remarks by Dr. Knapp in reference to the cancellous tissue that exists in the upper wall of the canal and extends into the horizontal portion of the squamous. A baby had earache and was brought in eight days afterward. On examination there was found no discharge from the canal, but a slight swelling above the auricle. There was absolutely no temperature. The baby nursed and smiled and seemed to be pursuing the natural course of life. An ice-bag was put on because of the swelling. The case ran along for about a week, the swelling still existing. One day the baby refused to nurse and I decided to open up the mastoid. There was a perforation into the middle fossa. The dura was exposed and a necrosed portion about the size of a dime was seen. The further course of the case was uneventful. The child showed no rise of temperature. The case would show the value of making the diagnosis of mastoid or intracranial trouble, and would also put a man on his mettle as to when he should operate. There was a point very well brought out by one of the doctors, which showed the fallacy of regarding the antrum as a separate portion of the tympanum. The antrum has been termed the "drip-cup of the attic." The antrum often is found filled with pus. The cavity of the tympanum proper would never hold the pus that is formed. It is very much like a case of dacryocystitis. You

may have a purulent conjunctivitis and if the pus is drained through the nose there may be no dacryocystitis, but let there be some occlusion and inflammation at once takes place, and so here the pus is retained if there is occlusion, and then we get the typical symptoms of mastoiditis. In regard to the occurrence of mastoiditis in the negro, Dr. Calhoun's cases must be very mild, for I have seen many cases in the negro and I do not think there is any differentiation to be made as to the negro race. There is no doubt that not every case of mastoiditis needs operation, but how we can determine how many need it and how many do not is very difficult to answer. While the discharge keeps on from the tympanic cavity considerable regard must be paid to the temperature. I can not conceive of an adult having a temperature from an ordinary otitis media, especially after some two weeks. I had a case which taught me the lesson of not confiding too much in the patient. I had a man with an otorrhea, an acute otitis media, and I opened the drum and the discharge gradually slackened up. I used alcohol and the next day he developed a sclerosis wherever the alcohol had touched. He told me this happened wherever alcohol was used on the skin. The stenosis gradually diminished. When the drum was seen it was found to be healed and the man gradually got better by the introduction of gauze. Two or three weeks afterward he came back complaining of neuralgia, which reached forward to the eye. I told him to consult his family doctor to see if he could find any cause. The patient had a course of phenacetin and other analgesics, and then came back to me. I put him in the hospital and watched him for a few days, and the temperature went up to 102 F. I then operated and found the mastoid not involved. On exposing the sinus I found it covered with granulations and the sinus wall was thickened.

DR. S. F. SNOW, Syracuse, N. Y.—There have been a few points brought up that I would like to emphasize, particularly the hot water method that Dr. Chambers has mentioned. I know that hot water injected as he describes does good. It will control a good many cases where we even have pus in the mastoid. I, personally, am using ice, for the simple reason that cold constantly applied without any chance for the temperature of the part to rise again after it is put on, controls the inflammation the same as hot water does, and it also prevents the multiplication of pus elements. I have been conducting a series of observations that show quite conclusively that if we use ice in this way we will avoid operation in fully 25 per cent. more cases than under the usual lax method. There is no limit to the time ice may be constantly applied, so long as it continues to do good. We are justified in keeping it on beyond "thirty-six or forty-eight hours" if the symptoms continue to improve. At least let us use it during the interval that usually exists between our diagnosis and the actual time of operation.

DR. L. J. LAUTENBACH, Philadelphia—There are all variations in cases and treatment. I wish to mention a case operated on by Dr. Fulton. There was some caries of the middle ear discernible. The case followed scarlet fever in childhood. There had never been any pain; there was a constant discharge and no hearing. The patient was operated on a year and a half ago, and within twenty-four hours he left the hospital and never afterward had a symptom. He was in my office about a week ago, and he could hear the watch at ten or twelve inches and could hear the voice very readily. It does not seem reasonable that all cases should be examined by the same standard. For instance, that individual would have sacrificed at least much of his hearing. If our treatment is conservative we should make it so, and if it is radical it should be radical. But every case must be studied carefully and then only can we decide the proper treatment to institute. If I find one thing fails I then go a step further. We may, in our papers and discussions, be dogmatic, but in our treatment we all do the best we can in each individual case.

DR. H. KNAPP, New York City—One of the gentlemen asked me to say a word about the ophthalmoscopic condition in sinus thrombosis. In many cases I have noticed that they can be diagnosed very readily. First to appear is retinal congestion: the veins are enlarged and tortuous, first on the side of the affected ear, then in both eyes. Then the retinal congestion develops into the picture of neuroretinitis: optic discs and adjacent retina are diffusely swollen and opaque, not the picture of abrupt jockey-cap elevation of the choked disc from cerebral tumor. Then when the sinus thrombosis is recovered from, spontaneously or by operation, the ophthalmoscopic signs disappear *pari passu* with the progress of the recovery, to end in perfect restoration of sight. The interrupted course of the pyemia, in the affections of joints particularly, is accompanied by corresponding aggravation and improvement in the ophthalmoscopic condition.

APHASIA WITH LETTER-BLINDNESS, WITHOUT WORD-BLINDNESS; WITH RIGHT HEMIPLEGIA AND PULMONARY TUBERCULOSIS.*

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PHILADELPHIA.

I wish to make a brief record of a case of pulmonary tuberculosis with intercurrent hemiplegia of the right side and motor and sensory aphasia, with letter-blindness, but not word-blindness. The patient is a physician and a member of the faculty of a well-known institution. He is now 35 years of age; he had pneumonia sixteen years ago, and had a slight attack again two years ago. His tubercular infection is probably now of about four years' duration. At the beginning of the year 1899 both lungs were infiltrated; the right, generally consolidated. The fingers were clubbed.

January, 2, 1899, he had a sudden paralysis involving the right face, arm and leg. It was apparently simultaneous throughout this distribution, and did not extend from one area to another. There was a short period of unconsciousness. I saw him the next day at the request of Dr. D. D. Stewart, of Philadelphia. During the first twenty-four hours he could speak only the word, "no." In the next twenty-four hours he could speak four words and could move his right arm and had good control of his facial muscles; these muscles, however, were not so well innervated on the following day, but quickly regained their normal power. Sensation was good all over the body. The tongue was protruded to the right and the affected arm and leg were moved freely. The knee-jerks were normal on both sides; the plantar reflex was also normal. On the ninth day he walked to the sitting-room and insisted on helping himself to tobacco and a glass of wine, and from that on he steadily gained power. I examined the visual fields for form, but was not able to distinguish any departure from normal. January 13 the patient was able to write his name for the first time, and his vocabulary was steadily increasing.

When shown a silver pencil he could not name it: when he was asked if it was a knife he said, "no"; a piece of wood, "no"; a pencil, "no" (word-deafness). When he was asked if it was something to write with, he answered "yes." Upon being asked if a key were several things, including "key," he said "no." Having been asked if it was something to open the door with, he said "yes, yes."

On January 20, the patient was shown a silver dollar; he could not say what it was. "Is it a watch?" "No." "Is it a wheel?" "No." "Is it a piece of iron?" "No." "Is it a dollar?" "Yes, it is a dollar." The patient was given a few coins; he added them in a correctly built column with the total value correct. He mispronounced some words and substitutes words incorrectly in a sentence. For example, he said: "the quiet was," instead of the reason was; "spade," for paper; "glass of ice water," for a pair of scissors; "was late," for he was weak; "blockade," for dump; "bathree," for paper; "put those groups afay for me," for put those grapes away for me—paraphasia.

He read the daily paper regularly and read McMasters' history of the United States and enjoyed it. He

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had letter-blindness, but not word-blindness. When shown the alphabet he counted "1, 2, 3," instead of a, b, c. When shown "o," he could not call it; neither could he call "i," "l" or "d"; but shown the words boy and child, he instantly pronounced them. He said "boat," for ears; "pipe," for glasses; "spoon," for comb and so on.

The tubercular process was marked by dulness extending posteriorly as far as the angles of both scapulae and by soft mucous râles in both apices. Tubercle bacilli were present. There was no fever at any time, and the pulse ranged from 76 to 88. There was no hemoptysis. His treatment included potassium iodid, 5 to 10 grains, t. i. d., and the subcutaneous injection of antitubercle serum in the upper arm at intervals of from two to four days, until the latter part of March, 1899, when he went, on our advice, to the orange district of southern California. Now, after nearly a year and a half, he enjoys a fair amount of health, his tubercular process is not checked, his aphasia and agraphia are still present, though in less pronounced degree.¹

Without going further into this case, it is interesting to note the occurrence of hemiplegia in the course of tuberculosis. Whether in this case it was due to a hemorrhage, a thrombus or an embolus we can not positively say; it was probably the latter. The letter-blindness is a most interesting and unusual feature. We may have word-blindness without letter-blindness. Letter-blindness is not always looked for, and that is partly the reason why so few cases have been recorded. Dr. Hinshelwood,² of Glasgow, has recently published a clear exposition of the subject, with records of interesting cases, and he shows that if by disease, the visual word-center is completely destroyed, or if it is completely cut off from the primary perceptive centers in the occipital lobes then the patient is both word-blind and letter-blind. But if the destruction is only partial, and that part of the center in which are stored the visual memories of letters remains intact, then the patient, though still able to recognize the individual letters by sight, will no longer be able to recognize and interpret words, because he has lost the visual memories for words, which he had acquired by years of laborious effort.

Clinical evidence goes to prove that all these memories for words, letters and figures are functionally independent and have a distinct and separate anatomical seat. It would appear that the positions of these three centers are adjacent, and while the boundaries have not been defined with precision, pathological experience tends to prove that the centers in which are stored the visual memories of letters and words includes the supra-marginal and angular convolutions, both of which belong to the inferior part of the parietal lobe.

In most people this center is supplied by the left Sylvian artery, and in the case which we have reported, it is quite likely that, being a right-handed man, an embolus or hemorrhage of this artery caused the hemiplegia and the consequent aphasia. In cases in which either word-blindness or letter-blindness, or both, exist without hemiplegia we may explain the lesion as situated in a branch supplying the visual word or letter center, while the branches going to Broca's convolution and the motor areas for the face, arm and leg remain undisturbed. In our case the hemiplegia was com-

paratively transient, function was restored in a few days, but the aphasia persists at the end of nearly a year and a half, much to the annoyance of the man whose living depends on the free exercise of his highest intellectual faculties.

DISCUSSION.

DR. F. SAVARY PEARCE, Philadelphia—In regard to the recovery from hemiplegia, and in regard to tuberculosis of the brain, I simply wish to record my feeling that hemiplegia or paralysis from the tubercular processes, which apparently this case was, are more apt to recover, at least transiently, than paralyzes from other causes, such as hemorrhage or even from specific disease. I remember full well the instance of a young child who had a tubercular meningitis with sequent hemiplegia. A shifting of the paralysis from one side to the other, involving the leg and the right side of the body, then one extremity after another in order of pressure made or relieved by the exudate or its absorption. The case came to autopsy, and we found tubercular exudative processes then to be mostly about the base of the brain. The palsy had shifted in this case, due to exudation and absorption with shifting pressure results.

DR. JAMES H. MCBRIDE, Los Angeles, Cal.—There are occasionally peculiar transformations of aphasia in syphilitic brain lesions. One patient I had was attacked a number of times with motor aphasia, from which he recovered; then at other times with auditory aphasia; and at others with visual aphasia. The form was distinct in each instance, and he again and again relapsed and recovered, sometimes having one form and at other times other forms.

About 1874 there was reported, in the *British Medical Journal*, the case of a right-handed child who, at 10 years of age, had a lesion in the left third frontal with motor aphasia with subsequent recovery of speech. Two years later a similar lesion on the right side produced permanent aphasia. An autopsy showed two lesions, the first in the left hemisphere, the second in the right.

DR. W. G. SPILLER, Philadelphia—When he observe a case of aphasia with localizing symptoms, we naturally incline to the belief that there is a focal cerebral lesion, but such cases may occur in which a lesion can not be seen either by the naked eye or the microscope. I recall a case in which no signs of nephritis had been found, and the symptoms of aphasia were sufficiently localizing to justify an operation. The day before the one set for the operation, evidences of nephritis were found, the operation was postponed, and after the nephritis had been treated, the aphasic symptoms disappeared. I have recently seen a case of Dr. Lloyd's, with localizing aphasic symptoms without any lesion whatever in the brain. This patient also had nephritis. Cases of hemiplegia and aphasia have been reported in which carcinoma has been found in various parts of the body. In one or two of these, lesions have been detected in the meninges; but in others no lesions which would explain the symptoms have been found. I am not aware that any one has reported cases of tuberculosis of various organs of the body causing aphasia, but if aphasia can occur as a result of some poison produced by carcinoma, it might possibly be produced by tuberculosis.

DR. GUY HINSDALE—I did not look upon this case as being one in which tubercular deposits occurred in the progress of the disease about the centers which govern speech and writing. It seemed to me more likely inasmuch as there was an exceedingly rapid onset in which the paralysis extended immediately over one-half of the body with the rapidity of a thunderbolt, there was probably an embolus, or something that was carried to the brain through the circulation from some point of softening in connection with the pulmonary tuberculosis. Of course, we have thrombi of the extremities in cases of pulmonary tuberculosis, giving rise to the most painful symptoms; why not also a thrombus or embolus in the brain?

Recent public health legislation in New Zealand consolidates and amends the law previously in effect there. It provides for a minister of public health, to be appointed from the Executive Council, by the governor, and bestows exceptional powers on district health officers.

1. The patient died in California, of phthisis, in the summer of 1900.

2. James Hinshelwood: Letter-, Word-, and Mind-Blindness. London, 1900.

COMBINED SCLEROSIS OF LICHTHEIM-PUTNAM-DANA TYPE ACCOMPANYING PERNICIOUS ANEMIA.*

MARK A. BROWN, M.D., F. W. LANGDON, M.D.,
AND D. I. WOLFSTEIN, M.D.

CINCINNATI, OHIO.

ABSTRACT OF CASE BY DR. BROWN.

I was first called to see the patient early in July, 1899. He had been in failing health, with varying periods of improvement for between three and four years. To about a year previous to my first seeing him, however, he dates his illness, but was able to be about attending to business until February. The principal point noticeable at first glance was the marked emaciation, and the peculiar color to the entire body; not the blood-cancerous cachexia, nor the anemia of Bright's disease, nor the bloodlessness of the tuberculous, but a brown-yellow color which I have never typically seen save in pernicious anemia. To rule out any other cause, however, a careful physical examination was made. The heart, aside from a soft basal systolic murmur, probably anemic in character, was normal, nor could anything wrong be detected in the lungs. The liver and spleen were not palpable, and were of normal size on percussion. Remembering the similarity that often exists between carcinoma of the stomach and pernicious anemia the usual tests were applied before the former could be eliminated. The urine was normal. The probable diagnosis of pernicious anemia was made and the blood examination, July 8, 1899, resulted as follows: The blood, obtained only on deep puncture, was very watery, with no tendency to coagulate. A small hematoma rapidly formed in the lobe of the ear. Reds: 1,279,440 (288 squares); whites, 3600 (1200 squares). The hemoglobin estimation average of three tests—ten drops used at each test and the result divided (Fleischl instrument)—was 32 1/6 per cent., so that the color-index was 1.3. A subsequent note states that blood films took the Ehrlich triple stain with marked polychromatophilia. Poikilocytosis was very pronounced. The stained specimen showed numerous nucleated red corpuscles, the megaloblasts greater in number than normal. From this examination, not only was a diagnosis of pernicious anemia unmistakable, but the prognosis could be stated as absolutely fatal. The usual treatment with Fowler's solution was instituted, and the patient was soon able to take 15 drops three times a day. Occasionally symptoms of poisoning would supervene, when the arsenic would be discontinued for a while. He seemed to gain under this treatment, except in his legs, which became progressively weaker and more emaciated. The patellar reflexes, right and left, were hyper-sensitive. The appetite was enormous, the patient seeming never to get enough to eat. During the summer the fact most worthy of note was a genuine attack of insolation, with temperature 107, flushed face and full bounding pulse. He recovered completely from this in about ten days. I saw him occasionally during the fall and early winter, and he appeared to be holding his own, except for the weakness of his legs. He thought that electricity might be of some benefit in nourishing the wasted muscles, and asked me to advise him as to hospital treatment. He entered the Cincinnati Hospital early in January, 1900, on the service of Dr. F. W. Langdon.

ABSTRACT OF CASE BY DR. LANGDON.

A. W. C., aged 34, an American, married, with no children, was supervisor in a hospital for eleven years, and later proprietor of restaurant. He was admitted to the hospital in January, 1900, complaining of general weakness and inability to walk on account of stiffness and weakness in his legs.

Family History.—His father is living at 74, and in good health. His mother died at 60, of chronic blood disease; she was ill a year. The patient thought her disease was similar to his. He is the first of three children; the other two living and well. There is no nervous disease in family.

Previous History.—He had had no syphilis, and only the

ordinary children's diseases, and gall-stone colic five years ago. Alcohol and tobacco had been very moderately used.

Present Illness.—He was in ordinary health to July, 1898, then weakness followed, increasing to February, 1899, when he was first confined to bed owing to rigidity in legs. A diagnosis of pernicious anemia was made by Dr. M. A. Brown, in July, 1899.

Condition.—His height was 5 feet 10 1/2 inches, his weight, when well, 140 pounds, though he was much emaciated. He had a dark complexion, with gray hair—black a year ago—gray eyes and good teeth. His pulse was 108, of low tension, with no cardiac bruit, and no apparent arteriosclerosis. The conjunctivæ, lips and tongue were only moderately pale, not suggesting extreme anemia, there were no cranial nerve palsies nor special sense disturbance.

Motion.—His legs were rigid, but he could move all the joints voluntarily, though he could not walk on account of the weakness and rigidity. There was inco-ordination of the upper and lower extremities. He sat up some daily.

Sensation.—There was some defect of tact and pain—delay and hypæsthesia—about the ankles. The knee-jerks were plus. There was ankle-clonus and Babinski's sign present on both sides.



Fig. 1.—Cervical reg. (upper). Degeneration in lateral and posterior tracts. Vacuolisation of the white matter in the pyramidal tract

Blood Counts.—Feb. 13, 1900, reds, 1,661,805; whites, 3,000; hemoglobin, 54 per cent.; color-index, 1.54; eosinophiles, 9 per cent.; neutrophiles, 49 per cent.; small lymphocytes, 39 per cent.; large lymphocytes, 3 per cent. Poikilocytosis was not marked and megaloblasts in all three were seen. March 20, 1900, reds, 1,183,330; whites, 2100; hemoglobin, 36 per cent.; color-index, 1.53; eosinophiles, 10 per cent.; neutrophiles, 47 per cent.; small lymphocytes, 37 per cent.; large lymphocytes, 6 per cent.; poikilocytosis; megaloblasts, 1; unnamed form of nucleated red, 1.

Subsequent Course.—There was gradually increasing weakness, with little or no mental defect, to April 10, 1900. There were mucous stools and epistaxis at intervals. For treatment he was given full diet and arsenic and iron in various forms, none seeming to improve the blood state, which steadily deteriorated. The general sense of well-being of the patient seemed improved by the diet and medicinal measures. Death, preceded by coma for twenty-four hours, occurred on April 11, 1900.

Autopsy.—There were no marked naked eye changes in the cord or brain, and the organs were generally healthy.

ABSTRACT OF REPORT ON MICROSCOPIC EXAMINATION, BY DR. WOLFSTEIN.

Macroscopically the cord showed nothing abnormal; there was no shrinkage of the posterior tracts, no distortions, nor inequalities, and no areas of softening were made out anywhere.

* Presented to the Section on Nervous and Mental Diseases, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

The areas of the crossed pyramidal and posterior zones were of a duller grey-pinkish color than the surrounding areas. The cord, after being hardened in bichromate solution, showed most marked areas of degeneration in the tracts named. The principal degenerations, on microscopic examination were seen to be in the posterior and in the lateral tracts. That in the posterior commenced as low down in the cord as the lower lumbar level, and could be traced all the way up to the level of the pyramidal

I have not yet been able to convince myself that there was any degeneration of Lissauer's marginal zone. In the dorsal and cervical levels the entering posterior nerve root bundles appeared slightly involved. The ganglia were unfortunately not examined. As to finer microscopic details there did not seem to be any marked vascular changes; in certain places the walls of the smaller vessels showed hyaline changes, but there was no evidence of inflammation. There were no areas of small



Fig. 2.—Lower cervical. Degeneration in posterior and lateral tracts, with marked vacuolisation.

decussation at least. The tracts of Goll and Burdach were involved in part, but not completely. The so-called oval field of Flechsig was free, as was also an area—wedge shaped—lying immediately posterior to the posterior commissure—the ventral field of Goll's tract. The column of Burdach was involved only in parts, and between the column and the border of the posterior cord grey, there was, in all levels, healthy nerve tissue. As said, the ascending degeneration had the usual

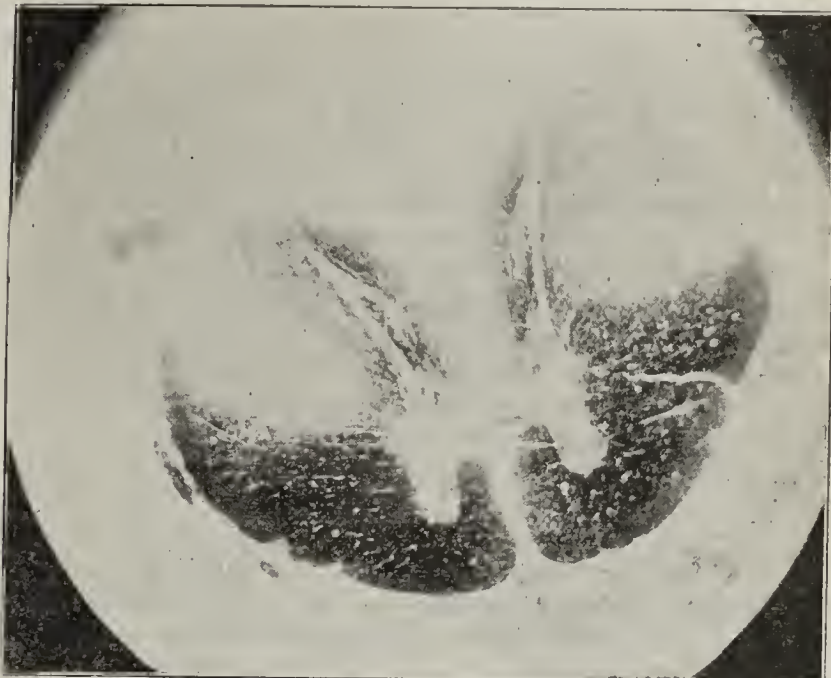


Fig. 4.—Mid-dorsal. Marked degeneration in lateral and posterior tracts.

round-celled infiltration, nor of anything that might be taken for small, multiple, hemorrhagic foci. In both posterior and pyramidal tracts there was marked glia increase. In many places nerve-fibers seemed to have fallen out so that, especially in the pyramidal tract, there was the perforated riddled appearance seen in advanced degeneration. The Marchi method showed the usual picture.

I have no theories to offer in explanation, as I would dis-



Fig. 3.—Upper dorsal. Degeneration in lateral and posterior tracts. upper limits, not extending beyond the nuclei of the posterior tracts.

The *pyramidal tract* was degenerated downward from a level as high up in the medulla as that of the olives. Here there was an area, quite small, occupying a position near the periphery of the medulla, dorsal to the olive and just ventral to the corpus restiforme. Above the level of the motor decussation the degeneration was quite well marked, about midway between the nucleus of cuneatus and the olive. The degeneration was quite marked as low down in the cord as the sacral region, the ending of the pyramidal tract degeneration being lower down than the beginning of the ascending degeneration.



Fig. 5.—Lumbar region. Degeneration in lateral and posterior tracts.

like to draw conclusions from one case only. I rather think, however, that the phenomena observed in this case are at variance with the view of Nonne that the degeneration is due to ascending and descending degenerations, following on multiple areas of softening of inflammatory or hemorrhagic character, which several areas become confluent and give the appearance of systemic lesions. On the contrary, from the extent and quite typical disposition of the degeneration in the areas named his view is more in consonance with that of Burr and other authors who consider the lesion as a primary systemic degeneration—primary as far as the cord is concerned, and distinctly

neuronic, but secondary etiologically to some condition superinduced by the pernicious anemia. This opinion is also shared by Dr. Langdon.

DISCUSSION.

DR. W. G. SPILLER, Philadelphia—I think we should be very careful in drawing conclusions from any one case. I have examined sections from cases of severe anemia, and am at present studying a case of this character. In Dr. Wolfstein's specimen the degeneration in the lateral columns is quite clearly defined; in the posterior columns, as he has pointed out, it is less systemic. In the specimens of the case that I am at present studying the degeneration is much less systemic, and the vascular disease is very considerable, the small vessels of the spinal cord are thickened, and the degeneration of the lateral columns is more diffuse than in Dr. Wolfstein's case.

DR. KENNISTON—I would like to ask the gentleman about the Leszynsky reflex; I am studying that in epileptics. One or two are post-hemiplegic cases, and I have found the extensor reflex on the paralyzed side. Curiously enough, when that patient has a seizure, immediately thereafter the extensor reflex is present on the paralyzed side, and the flexor response on the other, and an hour afterward there will be a flexor response on the paralyzed side and perhaps a response on the other side.

DR. HUGH T. PATRICK, Chicago—I should like to ask Dr. Wolfstein whether he does not think that some of the structural changes described in this case were due to artifacts. It seems to me, from the naked eye appearances, that some of the specimens certainly show signs of postmortem injury.

DR. D. I. WOLFSTEIN—I am very glad to learn that Dr. Spiller agrees partially with me as to the result of the study of this case, and I shall study it more carefully. As to the Leszynsky reflex, I suppose it is present in these cases on account of the involvement of the pyramidal tract. With regard to the question of artifacts, I agree with the chairman, as some of these changes were probably due to postmortem injury.

CROUPOUS PNEUMONIA.*

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LIBERTY, MO.

The old masters of our profession had very imperfect ideas of etiology, therefore taught faulty therapeutics. They thought croupous pneumonia to be the result of fluctuatory changes in the blood brought about by cold, etc. They had an incorrect idea of the character of the cause of the first step in the process of inflammation, that is, irritation caused by bacteria. They recognized the buffy coat of the blood and the rapid increase of fibrin in pneumonia, their essentials in the inflammatory process.

The correction of this condition was to be accomplished by rapid depletion; hence blood-letting one or more times until the radial artery ceased to be strong and corded.

Next followed the revulsion by what they termed an emeto-cathartic composed of 10 grs. hydrargyri chloridum mite, 10 grs. pulvis jalapæ, and 2 or 3 grs. of antimonii et potassii tartras. From the beginning of the attack the patient was kept nauseated with frequent doses of tartar emetic.

In the latter part of the second and the beginning of the third stage they gave either calomel or hydrargyrum pill combined with small doses of opium and pushed to full ptialism, the object of which being to defibrinate the blood and arouse the secretions.

Their expectorants were squills, tinct. senegæ, lobelia and ipecac. If the case occurred in a malarious district

20 to 25 grs. of quinin were given daily or an equivalent of pulvis cinchonæ; this indeed was the only scientific remedy that was used. In the 60's the quinin was reduced in quantity and given in 2-grain doses frequently repeated as a stimulant to the vasomotor system. Alcohol and other stimulants were forbidden until the heart's action became rapid and weak. A few physicians ventured to give digitalis in the third stage, but many condemned it as highly injurious.

One of the so-called sheet-anchors was extensive blisters applied over the affected lung, which were kept irritated and discharging during the course of the disease. As a matter of course, we know now this was adding fuel to the flame. Later, blisters were not applied until the latter part of the third stage, when crepitant redux could be heard. It was claimed for the blisters so applied that they called forth the reserve force of the individual and hastened resolution. This change occurred in the latter part of the 50's and the beginning of the 60's, after which instead of blisters in the first stage, there was substituted counter-irritation by scarification and cupping over the affected lung. This was a vicious and cruel process; the click of the scarificator grates on my ears even to-day.

In the middle or latter 60's the scarificator and blister gave way to counter-irritation—mustard sinapisms, turpentine stupes, and painting the chest with tincture of iodine. Later these were followed by emollient poultices.

About 1858 Dr. Austin Flint struck the death-blow to blood-letting, by his experiment in treating 25 cases of pneumonia with good diet, tonics and iodine, greatly reducing the death-rate. This is not all the advantage that was gained by this distinguished American physician, and while it added nothing to our knowledge of the etiology of the disease, it thoroughly revolutionized the treatment, destroyed the theory of depletion, ptialism, blisters, etc.

This caused the physicians to look about for more rational therapeutics. Mercury was used only in small doses, guarding carefully not to ptialize; purgatives were abandoned for mild laxatives, antimonii et potassii tartras was abandoned and a substitute found in Norwood's veratrum viride, which is a reliable heart depressant, diaphoretic and sedative to the nervous system, its action in slowing the heart, quieting the nervous system and producing diaphoresis was so efficient and prompt that the physicians were ready to cry out, Eureka! It is now demonstrated that it is in no sense curative.

The carbonate of ammonium, because of its so-called power of liquefying the blood and as a heart stimulant, was believed to be curative. That it is a quick transient heart-stimulant is true, but it is in no sense curative. A large number of other remedies have been tried and found wanting; therefore it is not necessary to name them.

When the early physician used potassium nitrate it was because of the supposed antiphlogistic effect.

Hydrotherapy, by either warm or cold baths, has had many advocates; the first could only be beneficial by calming the nervous system, the latter by lessening the temperature, neither of which could be considered as curative. The German cold chest-pack might be beneficial in two ways: 1, reducing the temperature; 2, increasing the blood in the lung, thereby increasing phagocytosis.

The only remedies which we bring over from the past—except digitalis—are those which are more or less germicidal, as mercury, potassium nitrate, quinin and

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alcohol, the last of which is of doubtful utility, possibly injurious, and not needed now, because we have better remedies for the same purpose in digitalis, strophanthus, nitroglycerin and strychnin.

The first theory in the right direction as to the etiology of pneumonia was promulgated by Dr. Francis M. Johnson, of Kansas City, Mo., who read a paper before the Kansas City District Medical Society in 1875, in which he claimed that pneumonia should be taken from the list of inflammatory diseases and placed in that of essential fevers. At this time the germ theory of disease was beginning to impress the medical minds of the country, which theory I accepted in connection with Dr. Johnson's theory of pneumonia, and modified my previous treatment accordingly, by giving at the beginning a calomel and rhubarb purge, except in cases where there was jaundice caused by acute duodenitis, misnamed bilious pneumonia.

The other remedies which I used in the various combinations adapted as I thought to the conditions, potassium nitrate, potassium bromid, ipecacuanha, minute doses of calomel, Dover's powder as an anodyne and diaphoretic, the terebinthines, cold sponging, and emollient poultices to the chest.

In the second stage I begin the use of digitalis and strychnin in small doses, increasing the dose to meet emergencies, rarely using alcohol.

While Dr. Johnson's theory is not widely known, it marked a decided change in the treatment of pneumonia in that vicinity.

When Fränkel and others discovered that the diplococcus was always present in pneumonia, and which excited the initial irritation, this established the etiology, and that it was infectious. True streptococci and staphylococci are almost always present in the second stage, as a result of structural changes caused by the diplococci. This marked another epoch in the therapy of this disease as I think based on incontestable facts.

I then adjusted my treatment to this known etiological factor and its associated complication of streptococci and staphylococci, using only germicidal remedies of creosote, eucalyptol, guaiacol, mercury, combined often with the terebinthines and balsam of copaiba.

In the first and second stages, long before this time, it had been recognized that the most frequent cause of death in pneumonia was edema of the lung, caused by weakened heart action, particularly the right side, and paralysis of the vasomotor nervous system. To meet this indication, I began the use, in the second stage, of digitalis, strophanthus and strychnin, later nitroglycerin, if needed, abandoning entirely alcoholic stimulants.

I also used in the first stage, inhalation of the tincture of iodine, and menthol, because of their germicidal effect, and ceased using all counter-irritation as illogical, as it lessened the amount of blood sent to the lung, thereby lessening the possibilities of phagocytosis.

About 1885 I ceased the germicides mentioned, and began salicylic acid in full doses every three or four hours. Now I use the sodium salicylate, 10 to 15 grains, every three or four hours. I continue this until the fifth or sixth day, when I cease it, unless new structure is being attacked, because it is fairly well demonstrated that the entity upon which the germ subsists is destroyed by this time and the germ dies, leaving only the pathological results to deal with.

The effects of sodium salicylate are germicidal from its start in the mouth until its elimination by the kidneys and mucous membranes. That it rapidly enters

the blood is evinced by the fact that in a very few minutes it can be detected in the saliva and secretion of urine. Benz and others claim that when the salicylate of soda comes in contact with the carbonic acid of the blood it is converted into salicylic acid again, thereby increasing its germicidal effect.

When there are indications of the presence of streptococci and staphylococci in large quantities, I have used the antistreptococcal serum with positive results. To relieve shock, control pain and produce diaphoresis, I give three doses of 5 to 7 grains of pulvis Doveri during the exacerbation of fever.

To summarize the therapy of pneumonia: I administer a calomel and rhubarb purge at the beginning; afterward the alimentary canal is to be kept open with castor-oil and turpentine. Three hours after the purgative I begin with the sodium salicylate, 10 to 15 grains, given in 4 drams of Phillip's milk of magnesia. During the exacerbation of fever I give the pulvis Doveri as above mentioned. The digitalis, strophanthus and strychnin are given in the middle of the second stage in small doses, increasing as the heart may demand. About the fourth to sixth day I cease giving the sodium salicylate and substitute for it tincture of ferrum chlorid, potassium iodid, quinin, nitroglycerin; as a matter of course, the heart tonics and stimulants must be continued in full force. During the last two years I have been using with great benefit oxygen inhalations.

The patient's diet should not be restricted, unless he be jaundiced by acute duodenitis, which is often associated with croupous pneumonia; then the diet should be restricted to milk and eggs.

DISCUSSION.

DR. WARREN B. HILL, Milwaukee, Wis., said that we have not yet arrived at any logical method of treating this condition of acute pneumonia. It is true that we know the nature and the etiology of the disease, for he assumed that the germ had been isolated, but in his opinion the disease is one of mixed infection. We have the diplococcus, staphylococcus and streptococcus, often associated with the very important germ of influenza, which modify the clinical aspect of the disease. As the result, we have not been able as yet to master the disease through the use of serums. Perhaps more has been done in this direction than he suspected, but his own experience had been such as would bear him out in making this statement. We can not attack the germ without doing injury to the rest of the body. He wished to direct attention to the fact that the discomfort and danger to the patient come almost entirely from two sources: 1, weakness of the heart, the cavities becoming too full of blood; 2, the circulation in the lung is checked and the blood lacks oxidation. The discomfort, the bad symptoms and death are usually due to these two causes.

In our treatment we aim to support the vital power and keep the patient comfortable and keep up the circulation. The pain is relieved by applications to the chest. He does not believe in the cold pack, except in the early, acute condition. When stasis has already taken place he would employ measures to dilate the vessels and make the flow of blood more easy through the lung. He would not agree with the lecturer who said that he wanted to put more blood into the lung; there is too much in it already. He would use digitalis for the purpose of toning up the walls of the blood-vessels to permit the flow of blood through the affected part. We should not neglect to make applications to the lungs; it does not make very much difference whether you put on a poultice or cotton, if you use some application which will relieve pain, keep up the circulation on the surface and maintain an even temperature. Again, as to the balsam of copaiba and other irritating drugs, recommended for their action on the lungs, it is a question whether we should not do harm instead of good from the amount of irritation in the lung by the use of this class of agents in pneumonia.

DR. J. TRACY MELVIN, Saguache, Colo., said that this subject of the treatment of pneumonia is the most disputed one in pathology. Some eminent physicians say: "Do nothing to the patient, it is a self-limited disease and patients will get along without drugs." Others say that if they know anything

at all about it, drugs do good to patients with pneumonia. The paper has shown the results of the experience of the writer in support of the value of drugs in the treatment of pneumonia. The remarks of the last speaker show that while pneumonia is undoubtedly due to the diplococcus, yet many cases are the result of mixed infection. It is impossible, therefore, to lay down any hard and fast rules for the treatment of cases of acute pneumonia, yet there are several principles which can be followed by the practitioner and will aid him in the treatment of these cases. In the portion of the country to which the speaker belongs, pneumonia produces the most numerous fatalities; the number of cases treated each year is very large. The experience he has had in his last 200 cases of croupous pneumonia has led him to be positive—if he could be positive about anything—that the condition can be relieved by blood-letting. There are two conditions to be overcome: 1, the condition of the blood, and 2, the weakness of the heart which follows. Either you must relieve the stasis in the blood-vessels or increase the power behind to force the blood through the constricted blood-vessels. Among many practitioners *veratrum viride* has been landed as almost a specific in the treatment of the first stage of pneumonia. Others rely on aconite for its dilating action on the blood-vessels, thus relieving the strain on the heart. He has abundant testimony that by the use of *veratrum viride* the course of the disease is cut short and the case convalesces two days earlier, and the whole course is milder than where this is not given. His own preference, however, is for aconite, which acts in the same manner. By following out this treatment he has seldom had a case last longer than five days before the crisis occurred. The next point in the therapy is to strengthen the heart so that, after the action of the *veratrum viride* or aconite has overcome the constriction of the vessels, the blood may be forced through them. Digitalis and especially digitoxin have been recommended for their physiologic action on the heart, but in strychnin we have a remedy, which is most useful in this condition. If there is any disease in the world in which we can recognize the efficacy of blood therapeutics, it is in acute pneumonia. In some parts of the country the mortality reported from hospitals is 25 per cent. In his portion of the country, if he did have any mortality at all, he would lose his practice, as the people expect pneumonia cases to get well if they receive proper attention.

DR. BOYCE—An important question in connection with the subject under discussion is the value of serumtherapy. To the speaker acute pneumonia is the type of a toxic disease. It has its nearest analogue among infectious diseases in diphtheria. The diplococcus of pneumonia and the bacillus diphtheriae, or Klebs-Loeffler bacillus, are the sole micro-organisms which cause fibrous exudation upon mucous membranes. The clinical type of pneumonia depends entirely on the virulence of the bacillus and absorption of toxins. The clinical course of the disease is evidence of this. You may see your patient on the sixth day and he is a sick man; apparently he is still as sick as on any day previous; he has an exudate in the lung that is the same as the previous day, and suffers from fever and other evidences of this disease, but you go back again on the same afternoon and find the patient a well man: the oppression is gone, the fever has gone and he feels well, and you can see that he is relieved, but the exudate has not changed. No diagnostician can show any change in the exudate, but there is no dyspnea and the patient feels well and is hungry. The change that has taken place in the symptoms is very evident, but it has not been due to any change in the condition of the lung. On the other hand, we will have very great damage to the lung without the symptoms of the kind we see in pneumonia. For instance, we may have one of those large pleural exudates which come upon us and force the lung and heart to one side and leave only a portion of one lung for the patient to breathe with, and yet the patient will not have the dyspnea that he has in pneumonia. Therefore, the condition is not mechanical, but is due to the presence of certain toxins in the blood. Therefore, the best thing we can do for pneumonia patients is to dilute the toxemic condition of the blood by saline injections, using the normal salt solution for this purpose; also local applications to the chest, ice-bags or hot poultices, the object being to relieve the nerves and to relieve pain, and give symptomatic relief, and by this means we do give relief to the symptoms. The treatment of serumtherapy is possible. As to the administration of *veratrum viride*, we know that the exudate can not be absorbed by this agent. I have seen cases of acute pneumonia in which the physical signs all disappeared in one day, and this occurred just as often in those who had taken *veratrum viride* as in those who had not. As regards the comparison instituted by Dr. Melvin between cases treated by blood-letting and those who are not, taking the violence of

the attack into consideration and the difference between the patients treated in private practice and those in the hospital, 25 per cent. mortality is practically correct. He knew of a hospital which for a few years had lost over 40 per cent. in acute pneumonia, simply owing to the character of the clinical material. He thought that 25 per cent. in hospital practice corresponded to a mortality of 10 per cent. in private practice.

DR. E. W. MITCHELL, Cincinnati, Ohio, fully believes in toxins from the pneumococcus. From his observation of the disease in the hospital he has come to hold the view that acute pneumonia is an infection and not an inflammation; that the essential factor in the pathology is not the mechanical one, but the toxin effects. We hope for the development of a better treatment with the aid of antitoxin. If the analogy is so close between diphtheria and pneumonia we should hope before long to have the antitoxin which shall be as efficacious as the diphtheria antitoxin. The comparison has already been made between the class of patients which come into the public hospitals, the old drunkards, with liver and kidneys in a degenerate condition, the heart fatty, and whom no drugs will be able to save, and private patients. It is remarkable that death statistics do not show much difference between the death-rate of pneumonia—which had a death-rate of 40 per cent. fifty years ago—and that of the present day with all the advances of modern therapeutics. About our only hope in therapeutics, therefore, appears to be in the serum treatment. According to the last speaker, the normal salt solution is of value in acute pneumonia, and this seems reasonable. The speaker has not much faith in any form of local application, but his own preference has been for the hot bath, and internally he uses digitalin and strychnin. He is not sure, however, that he has obtained as favorable results as Dr. Eichberg claimed in his paper. Our resident physicians in the hospital are acute observers. A few days ago, at his hospital, the residents reported that they had noticed that all the cases treated by the hot bath had died, while those who did not have the baths got well. In private practice he has obtained the most satisfactory results from the hot bath. He has also had very good results from the use of oxygen in pneumonia. He regards it as a valuable heart stimulant. The most valuable part of the treatment is fresh air, and he said that he would take out the side of the house or drag the patient's bed into the open air if possible or necessary.

IRRIGATION OF THE COLON AS A THERAPEUTIC MEASURE.*

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The introduction of water into the bowel per anum is made by injection and irrigation. In the former, only a small amount of fluid is required; in the latter, the quantity is indefinite, as it is immediately allowed to again leave the system. The fluid acts in part mechanically as a foreign substance, provokes expulsion movements, as a solvent for intestinal catarrhal products, and, where large quantities are used, drags upon the upper intestinal coils, causing thermal changes and peristalsis.

These large quantities are introduced by means of the rectal tube, made of soft rubber, preferably with the opening at the end, to prevent clogging by fecal masses, as often occurs where the tube opens on the side. An ordinary fountain syringe is attached to the tube and the flow and pressure of the fluid is readily controlled by constricting the tubing. It sometimes happens that the tube coils upon itself when it enters the sigmoid flexure and the liquid is prevented from passing farther into the bowel. Turek,¹ of Chicago, has devised a special form of tube to obviate this. From two to four quarts of water are required, the temperature of which varies according to the nature of the case in hand.

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As these irrigations act mechanically in that the weight of the fluid draws upon the upper portion of the intestines, they are often of great value to relieve constrictions and incarcerated hernia, to remove fecal matter, mucus and epithelial remnants in chronic enteric catarrh, in dysentery, and in oxyuria, in fact, in all conditions where the system has been depleted or become vitiated by toxic autoinfection, such as hemorrhage, cholera, yellow fever, diabetes, uremia, shock, collapse, etc. In these cases the normal saline solution has been given with the best results, as seen by the improvement in the circulation, the re-establishment of the normal temperature of the body and the stimulating effect upon the nervous system.

Irrigation of the colon has been followed by immediate amelioration of the serious symptoms of the initial stages of appendicitis, and Love² reports several cases in which enemata of one-half gallon of water at 100 F., mixed with soap, were given high up, producing peristalsis and flushing out the irritating matters of undigested food, ptomaines, etc.

Shuell³ recommends the same treatment in typhoid fever, "to remove at as early date as possible all ptomaines and decomposing substances from the colon." The fluid may be readily made to pass the sigmoid flexure and reach to, or near, the cecum. The injection will distend the bowel and remove the accretions from the sacculi. He also cautions against its use during the stage of necrosis of the glandular tissue, as the solitary glands of the large intestine are affected in a large proportion of cases.

Hensell⁴ speaks of the value of colonic irrigations of one-half to one liter, twice a day, reaching up to the ileum, so that their effects are also directly upon the gall-bladder and liver; and Löwenthal⁵ reports forty-one cases of catarrhal jaundice cured by this method. These cases were of the type of gastroduodenal catarrh, with symptoms of anorexia, pressure in the gastric and hepatic regions, constipation and great prostration.

AUTHOR'S CASES.

CASE 1.—Typhoid fever; female, aged 20 years. When first seen, on the eleventh day of the disease, she presented every characteristic symptom, except the diazo-reaction, which was absent throughout. From the fourteenth to the twenty-fifth day her evening temperature ranged from 103 to 105 F., which was promptly reduced to 100 by cold spongings. On the evening of the sixteenth day she had a profuse hemorrhage from the bowels, and on the day following several smaller ones. Severe tympanites developed. At this stage irrigation of one-half gallon of water at 40 F., mixed with soap-suds and one-half ounce of turpentine, was resorted to, and after this was evacuated, one pint of normal salt solution was injected and allowed to remain. The ice pack was applied to the abdomen. After each irrigation marked improvement took place. The temperature fell several degrees, the pulse, which was from 140 to 150, and dicrotic, became strong, regular and reduced to 120 to 125 per minute, the nervousness abated, tremor and subsultus tendinum subsided. This treatment was continued until the twenty-fifth day, when defervescence set in and the patient progressed to complete recovery.

CASE 2.—Appendicitis; male, aged 45 years. Patient had just arrived from New York City, where he had a similar attack, which kept him in bed for five days. Having recovered, he attended to his business affairs and then started back to this city, but was seized on the train. When seen he was suffering very acutely, knees drawn up, anxious countenance, clammy sweat, temperature 100 F., pulse 90, exquisite tenderness over McBurney's point and continuous vomiting. Several small doses— $\frac{1}{4}$ grain—of calomel were given, followed by a Seidlitz powder, ice to abdomen and high irrigation of the bowel with one-half gallon of water and soap at 40 F. After the in-

testinal tract was thoroughly cleared out by two more similar injections, at intervals of twelve hours each, the pain ceased, temperature and pulse became normal, and all further symptoms disappeared. The patient was under observation for three months after the attack and has since been in perfect health.

CASE 3.—Appendicitis; male, aged 40 years. Was suddenly taken with violent pain in abdomen, especially pronounced over McBurney's point. Temperature 99.8 F., pulse 90. He presented all the symptoms of Case 2, but was seen several hours earlier in the attack. The same treatment was given and he recovered completely, and has been well since.

In each of the above cases surgical interference was considered; in the first case for impending perforation, in the latter, for the most opportune time to operate, but each improved at the most critical stage, which can only be attributed to the free irrigation of the colon.

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DISCUSSION.

DR. DANIEL R. BROWER, Chicago, said that too little attention has been given by the profession to colonic flushing. He personally, very much prefers the normal saline solution to soap and water, or anything else which has been proposed for this purpose. The solution should be about the temperature of the intestinal tract. Not only does this flushing have a very great effect on the contents of the colon, but there is also a very prompt and remarkably active effect on the renal organs. In cases where the kidneys are deficient, as in certain infectious diseases, a large amount of saline solution thrown into the bowels will very speedily set up action of the kidneys. It is diuretic as well as antiseptic in its relation to the colon, and this feature is often overlooked. He is quite sure that this therapeutic measure is not resorted to as often as it should be.

DR. O. T. OSBORNE, New Haven, Conn., approved of the recommendation of colonic flushing and said that it is not resorted to as often as it should be by surgeons after operations. Some make it a routine practice to inject 1 to 2 quarts of saline solution, but many others do not. The condition of surgical shock is due to paralysis of the vasomotor system, and in that condition the heart gets very weak, because the ventricles are not properly filled. The moment the blood-tension goes down, that moment the heart is impaired in its action. Flushing the colon fills the blood-vessels at a time when we know it will take several hours before anything can be absorbed from the stomach owing to nausea and vomiting, also during this period very concentrated urine is passed. This condition threatens kidney congestion and will be overcome by colonic flushing with normal salt solution.

DR. J. C. CULBERTSON, Cincinnati, Ohio, said that as a means of reducing temperature, flushing of the colon with cold water, in infectious diseases, is one of our best remedial expedients. A quart of ordinary ice water will reduce the temperature 1.5 degrees in a case of fever—say 103 F.—if thrown into the rectum and retained there, and it can be repeated as often as thought necessary. It is a very valuable resource, it can do no possible harm and is a source of comfort to the patient.

DR. M. BERNHEIM, Philadelphia, said that in the paper read yesterday he had shown, by physiologic experiment, that following an injection of the salt solution there is an antiperistaltic action set up which carries the solution up into the higher part of the small intestine and also into the stomach. Therefore the beneficial action of the large injections of saline solution is more easily understood, as the surface for absorption becomes larger.

DR. G. J. LOCHBOEHLER said that as regards temperature the use of ice water is often very beneficial, but in both of these cases he has used the injection at 40 F., which is sufficient to reduce temperature. He wished to call attention to the fact that the injection of ice water in the case of hemorrhage reported, with a temperature of 105 F., and about to die, was done as the best method of causing reaction, and he firmly believes that the patient was saved by checking the hemorrhage by the stimulating effect of the injection of cold water. But, as he already mentioned, the saline solution given at the body temperature will aid in a great many cases in aborting infection and infectious disease.

A PROTEST AGAINST THE USE OF PROPRIETARY REMEDIES.*

DANIEL R. BROWER, A.M., M.D., LL.D.

CHICAGO.

The profession is being overwhelmed by proprietary remedies. The manufacturers who project them copyright the name by which they are to be known, patent the process by which they are made, and patent the resulting product, so that these remedies must remain a monopoly for all time. Coblentz, in his recent edition of "Newer Remedies," gives a succinct account of about two thousand, all introduced during the last few years, and Lehn and Fink, in "Progress in Pharmacy and Therapeutics," enumerate about five hundred more.

I have recently had three of the leading dispensing druggists of Chicago, Messrs. Gale & Bloeki, Dale & Sempill, and D. R. Dyche & Co., examine the last 1000 prescriptions on their files for the purpose of ascertaining how many of them contained these proprietary remedies, with the result that one firm finds about 20 per cent., another 21 per cent., and the third 26 per cent.

The most of these products are made in German color factories, as by-products; they are covered with this triple system of patents, and sold at an enormous profit in this country—I am told three or four times the price charged elsewhere. The therapeutic use of most of them is based on *ex parte* evidence; they are presented to us by expert promoters, with an abundance of literature, in which the effort is made to demonstrate that they are a positive cure for this or for that. The enormous production of these articles, and their extensive consumption, show a deplorable state of therapeutic morals, and the time has come, in my opinion, to protest against them.

These enterprising manufacturers and their accomplished agents, of course, have no use for the Code of Ethics and the traditions of the profession from the time of Hippocrates until to-day.

The Code of Ethics, Section 5, reads as follows:

SECTION 5.—Equally derogatory to professional character is it for a physician to hold a patent for any surgical instrument or medicine, or to dispense a secret *nostrum*, whether it be the composition or exclusive property of himself or others. For, if such a *nostrum* be of real efficacy, any concealment regarding it is inconsistent with beneficence and professional liberality; and if mystery alone give it value and importance, such craft implies either disgraceful ignorance or fraudulent avarice. It is also reprehensible for physicians to give certificates attesting the efficacy of patent or secret medicines, or in any way to promote the use of them.

Notwithstanding the objections of these people and some of the profession, it must be that the great majority of our craft are in full and unreserved sympathy with these declarations of the Code, and therefore unite with me in this protest, and beg a cessation of this wholesale use of these drugs that are so expensive to our clients, and have not been subjected to sufficient clinical observation or pharmacological experimentation as to justify their scientific use.

Even if the remedies may have been determined to be meritorious by exhaustive scientific examinations, so long as the name is copyrighted, the process of manufacture patented, and the resulting product patented, we are perpetually at the mercy of monopolists who may fix the price and vary the composition or purity as fancy may dictate.

I see no objection on the part of a manufacturing chemist patenting a process. This is probably his right, and at best is but a limited affair, but when you add the other attachments you perpetuate it as a monopoly, to the great injury of scientific medicine, and to the detriment of our clients.

In the name of scientific pharmacy and rational therapeutics, I most earnestly protest against the present tendencies. We certainly have in our armamentarium enough well-tried remedies that have been subjected to thoroughly unbiased and carefully conducted physiological tests, and have had the ordeal of scientific clinical application, to enable us to fulfill the mission intrusted to us.

The national formulary has been of much aid to us; instead of prescribing "bromidia," we can at one-third the expense order liquor chloralis et potassii bromidi compositus; instead of "arsenauro," we can prescribe liquor auri et arsenii bromidi, and instead of antikamnia we can order pulvis acetanilidi compositus, and so with numerous other of these proprietary articles.

In conclusion, may I express the hope that this Section of the Association may call its members back to a more conservative prescribing, and issue its protest against the impetuous rushing after new and untried remedies. And, furthermore, that this great ASSOCIATION may use its mighty power to have our patent laws so modified that the present system of triple patenting of products made for the healing of the people may no longer be possible.

DISCUSSION.

DR. N. S. DAVIS, JR., Chicago, said that the lecturer had brought before the Section a subject which was of great interest, but especially so at the present time, because the Pharmacopeia is now in the hands of the revision committee. Two classes of proprietary remedies have been mentioned: 1, those combinations of drugs which are put on the market by their proprietors by skilful advertising, and 2, all those definite chemical products whose mode of manufacture is patented. As medical men, we must necessarily object to the patenting of articles which must be used for the benefit of the sick. At the present time many medicines are furnished to the medical profession which are not mixtures, but definite chemical compounds made by patented chemical processes. They are articles which the pharmacist could not duplicate were he called on to do so. These preparations are extensively used. Many of them have valuable medicinal properties. They will not be discarded by the profession because they have such properties. He would, however, discourage the use of mixtures, pills and tablets which are ready-made. We should adapt our prescription to the needs of the individual case, and this can not be done if we use ready-made mixtures or pills. He therefore agreed with the lecturer in his opposition to such protected pharmaceutical compounds, but, at the same time, he thought that we must continue to use some things which are covered by patent.

DR. J. M. ALLEN, Liberty, Mo., said that the paper of Dr. Brower directed attention very pointedly to one fact, viz., that the use of this class of remedies is becoming very general all over the country. The effects of the use of ready-made pharmaceutical compounds by physicians would be: 1, to lessen their study of materia medica and pharmacy; 2, to lead in the direction of routinism, thereby arresting growth and investigation. He had never used a formula in his life and always advises his students never to use them, but to study carefully materia medica and pharmacy, then formulate their prescriptions as a force to combat the etiologic and pathologic forces of disease. If the physician will do this, he can have his prescriptions filled as accurately and elegantly in almost every little town in the country, as the so-called manufacturer of drugs can do it. He does not believe that it is wise or beneficial to the physician to dispense his own drugs. His time is too valuable. Besides, the pharmacists of the country are now educated gentlemen. He should send his prescription to a druggist as a distinct department in the practice of medicine. The physician should place himself in close communication with a pharmacist so that they will be of mutual

* Presented to the Section on Materia Medica, Pharmacy and Therapeutics, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

assistance to each other. He has derived great benefit from this close relation, always finding them ready to render any assistance asked.

DR. A. BERNHEIM, Philadelphia, said that he had no connection with any manufacturing pharmaceutical business. He merely spoke to correct the statement that the cost of many medicines is much greater in this country than in Europe. For instance, antipyrin costs 5 to 6 marks per ounce in Germany, which is more than it sells for in this country. Moreover, these products are not recommended indiscriminately for everything, but they are carefully tested by clinicians, the most celebrated doctors in Germany, and only if they have been found to be very good are they put on the market. Of antipyrin he has frequently given and himself taken thirty grains, but he would not take ten grains of acetanilid. Of the names mentioned by the reader of the paper, antipyrin is also known as phenazon, an abbreviation of phenyldimethyl-pyrazolon, tamoform is only improved tannin preparation. We should not condemn patented articles as a class. The term "patent" comes from the Latin word which means "open," it is not concealed. It is very different with the class of pharmaceuticals of unknown composition where you never know what is in the compound, or what it will do. He personally had never prescribed any compressed tablet or proprietary secret medicine.

DR. A. B. LYONS, Detroit, Mich., agreed with all that he had heard of the paper. In regard to pharmaceutical compounds and patented drugs, he said that there is no unmixed evil in the world, and in attempting to eradicate some evil we should be careful that we do not take away something good with it. This is exemplified in the subject discussed in the paper. We associate the name of patent with things which should not be patented, and could not be. If an article had no novelty it could not be patented. He is heartily in favor of patenting preparations or discoveries by scientific men, if they could be, because the knowledge would thus be given to the world and it would increase the resources of science. He is, on the contrary, opposed to proprietary pharmaceutical compounds. If a man puts together two or three articles well known to the profession, on what ground can he claim the exclusive right to manufacture the combination? "None genuine without Smith's signature" means quackery every time in pharmacy. He was very much pleased with the remarks of Dr. Allen about students and the relation of pharmacists to the medical profession, and the overwhelming of the profession by commercialism. There are two classes of men who are now especially interested in selling medicines; the question is which class will physicians encourage, those who offer only a few remedies which they alone can supply, or those who aim to carry out the personal wishes of the physician in the preparations prescribed and deal in all medicines, and who seek to preserve the pharmaceutical profession.

DR. G. J. LOCHBOEHLER, Washington, D. C., said that we ought not to use prepared remedies, for in a great many cases they are not what they claim to be. Take, for instance, the emulsion of cod-liver oil. Professor Wiley, two years ago, analyzed all the emulsions in the market. Most of these are claimed to contain 50 per cent. of oil. Dr. Wiley found that, of all the samples, only three contained 50 per cent., most of them containing only 15 per cent., some only 3 per cent., and several none at all. There is a firm that puts up a preparation of cod-liver oil whose agent tells you that it contains everything that cod-liver oil should possess except the fat. It is free from the taste of cod-liver oil because it has *no cod-liver oil* in it. The taste of cod-liver oil can not be eliminated. But why use it? Why not use butter, cream and the fats of the daily food? Why not use the well-known remedies of the pharmacopeia instead of prescribing new, and possibly dangerous, compounds? A child went into a drug store and complained of headache; the druggist gave her five grains of antipyrin and she died in ten minutes. The coroner decided that the child died with cerebrospinal meningitis.

DR. TOMPKINS condemned the presumption of faith-curists and the practice of medicine by so-called ministers, who assume to know more about medicine than physicians. He mentioned a case of a young woman dying of consumption, who was taken out of the hands of the doctors by a bishop, but she died just the same.

DR. FRANK WOODBURY, Philadelphia, suggested that the manufacturing pharmacists of the present day are better business men than those of the early part of the century, and that if quinin, morphin and strychnin and similar indispensable drugs had not been discovered until the present time they would undoubtedly be patented, so that we must expect that hereafter all new drugs would be introduced in this shape. The fact that a drug is manufactured according to a pro-

tested process, therefore, should not prevent its use. He would, however, urge that the well-known drugs should not be hastily laid aside in favor of new and expensive substitutes. Too great eagerness for new and comparatively untried drugs inspires mistrust on the part of the patient, and may engender a suspicion that he is being used for experiment. There is no doubt that the taking up of new remedies is often due to ignorance of the value of the old ones.

DR. LYONS said that each particular subject must be studied on its merits and by some competent authority. Reliable evidence is needed as to what each special article will do. It is necessary that some board be constituted which shall exercise a censorship over this whole class of remedies, and this board should have behind it the authority of the AMERICAN MEDICAL ASSOCIATION.

DR. D. R. BROWER said that a very pleasant gentleman came to his office recently and showed him a pharmaceutical compound and told him what it would do. From his office the gentleman evidently visited other physicians in the same building that afternoon. On the next day the speaker entered the drug store in the same building and inquired whether there had been any prescriptions for this compound, and found that six had prescribed it within twenty-four hours after the promoter had visited them, and perhaps there were more prescriptions taken to other drug stores. This is a great evil. The same compound is also sold directly to the public; its uses are printed on the label where the public can see it. So that prescribing such remedies encourages counter prescribing and self-treatment. With regard to antipyrin, it may be cheaper here than in Europe, but he doubted it. He knew that people living in Detroit have gone across to Canada to get their prescriptions for antipyrin filled because it is much cheaper there. These new remedies are being constantly forced upon the profession; there have been some 2500 brought out within recent years. The question is, what shall we do in the matter? It is a very important question for the profession to answer.

CULTIVATION OF THE ESTIVO-AUTUMNAL MALARIAL PARASITE IN THE MOSQUITO —ANOPHELES QUADRIMACULATA.*

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PHILADELPHIA.

To determine this question my observations were carried on through the past winter and summer, the latter of which has been the warmest for thirty years. Previous to June, 1900, I had not discovered any specimens of anopheles here or in New Jersey, and but one specimen had been sent to me from Texas. In the previous fall I had treated a case of malarial fever in whose blood both crescents and ovoid bodies were found, which undoubtedly originated in Philadelphia,¹ and it was near this locality that my first efforts were made to capture adult anopheles or their larvæ. Periodic trips were made to this section during many weeks without avail, and I brought back only the larvæ of culex, chironomus and various other unknown larvæ.

About three-fourths of a mile distant from the house in which the case of fever had been treated, and near the League Island Navy Yard, on June 19, 1900, I managed to catch a small dark-brown or black and striped mosquito larva which agreed tolerably well with the description of Ross, in that "it lay upon the surface of the water like a stick and when disturbed would move off with a backward skating motion." Howard had subsequently² described the larvæ of anopheles as being "darker" than culex. Placing these larvæ, together with a small amount of algæ or green moss, in a glass jar, I succeeded in raising several to adult insects, which proved to be specimens of both anopheles quadrimaculata and anopheles punctipennis. Both of these species had therefore been caught in the same narrow and slowly flowing stream of fresh water which drained a marshy district formed by a railroad embankment.

* A paper read and specimen presented—by invitation—before the College of Physicians of Philadelphia, Dec. 5, 1900.

After this I made periodic visits to this section from June 19 till Nov. 11, 1900, and never failed to catch anopheles larvæ, except on the last trip, when they had disappeared, probably on account of the cold weather. In this way I have raised upward of 200 adult anopheles from the larvæ, some of which have been kept as long as twenty-seven days.

Subsequently, making journeys to regions where cases of malarial fever had developed, I discovered that anopheles could nearly always (all but one) be found in or near the infected houses. In this way I have been able to locate five localities within the city limits of Philadelphia where anopheles have their breeding-grounds.

This, in a measure, confirms the observations of others that "where there is malarial fever, there are mosquitoes." But it does not necessarily follow that where there are mosquitoes there are cases of malarial fever. Anopheles will always remain uninfected unless some vertebrate animal suffering with the disease comes among them. I have been informed that no autochthonous case of malarial fever has developed at the League Island Navy Yard for years, though there is a breeding-ground of the anopheles near by. On Sept. 10, 1900, I caught some larvæ of anopheles in a clear pool of water in the Pocono Mountains of Pennsylvania, a notable health resort, and at an elevation of nearly 3000 feet above sea level. The adult insects in this region are doubtless not infected, simply because no case of malarial fever has been brought near them. Five miles north of this locality—Tobyhanna—malarial fever has been found and another breeding-ground may be expected to be found there.

The malarial parasite of man may be classified into a natural order (Gymnosporidia), a class (Sporozoa), into different genera (*Hæmamoeba* and *Laverania*), into different species (*hæmamoeba malariae*, quartan; *hæmamoeba vivax*, tertian, and *hæmomenas præcox*, remittent fever—Ross): and it has been further proved that the flagellated malarial parasites are of different sexes.

Two of the interesting questions at present attracting attention is, How does the human malarial parasite keep up its cycle of existence, and how does it gain admittance into the blood of man? Its survival of the winter may be explained by the well-known fact that the tendency of this disease is to relapse, sometimes years after supposed recovery. In this way a patient supposedly cured of malarial fever by insufficient doses of quinin taken during the previous fall, has a relapse the following spring, and he in turn becomes the medium by which the disease is distributed.

As to how the parasite gains admission into the blood, if one theoretically holds to the belief that the spores of malarial fever breed in swamps or marshy districts and that the "miasm" is taken into the system through the respiratory tract, it necessarily implies that the spores or miasm must first have developed in some intermediate host, that they pass out of this host to become dried, and that they are blown through the air to the respiratory mucous membrane. According to Ross,³ it is not the parasite itself which springs from the marshy ground, but the carrier of the parasite. On the other hand, if one theoretically holds to the belief that malarial fever may be contracted through the medium of drinking water, it necessarily implies that the spores of the disease, or whatever it is, pass out of the intermediate host into the water, and that the infective material remains alive in this medium though exposed to continuous changing conditions, or that the intermediate host contained in the drinking water is taken into the

stomach through the medium of the food or drink. Lastly, if one holds to the belief, which has been confirmed by proof, that malarial fever may be contracted through the bite of the mosquito, he should state how such a condition may or does occur.

The question of preventive measures depends on a proper conception of its exact etiology. Marchiafava and Bignami⁴ have studied the complete biological cycle in all the different species of human malarial parasites and have succeeded in inoculating four individuals with malarial fever who voluntarily submitted themselves to such investigation. They have been led to the following conclusions: MacCallum, while watching a flagellated malarial parasite (gametocyte), observed that after a time a flagellum became detached from the parent body and made straight for another parasitic body, which it entered, thus causing impregnation. From this phenomenon it is believed that flagellated parasites are of different sexes. Adopting the zoological nomenclature to simplify matters, one finds that mature sexual elements are spoken of as gametes (such as the crescent of the estivo-autumnal and its homologues of the tertian and quartan parasites). The female elements are known as macrogametes; the cells producing male elements are called microgametocytes, and the male elements themselves, microgametes. During certain periods of development of the estivo-autumnal parasite and its homologues in the other species of malarial parasites, if the blood be withdrawn from the circulation and left standing on the stage of the microscope for a period of from fifteen to twenty minutes, certain of the crescentic bodies change into ovoids, some of which subsequently become converted into flagellated parasites. From the latter forms free flagella (microgametes) tear themselves loose and penetrate certain other ovoid bodies which had not previously developed flagella. By this process fecundation of the female ovoid form (macrogamete) occurs, after which it rapidly develops flagella and by means of its sharp extremities has the power of penetrating dense muscular tissue such as the middle intestine (stomach) of the mosquito, and on doing so, after a day or two becomes converted into the zygote. Within the latter bodies the spores or sporozoites develop, and about the seventh day rupture into the celom or body cavity of the mosquito; thence they are carried to the salivary glands to be poured out the moment the insect bites.

After becoming more familiar with the literature on this subject, I next endeavored to find out if the anopheles quadrimaculata found around Philadelphia was susceptible to infection from the malarial parasite. At this time the *A. claviger* of India and Africa had not been identified as our *A. quadrimaculata* by Howard.⁵ The following observations are recorded:

Observation 1.—December, 1889. Blood contained ovoids and crescents. After a trial lasting several hours a specimen of *Culex* would not bite. This was my first failure, which was repeated two days later.

Observation 2.—July, 1900. An adult patient whose blood contained two groups of tertian parasites, was bitten by two anopheles quadrimaculata. One of these escaped, the other died and was not dissected.

Observation 3.—July 20, 1900. Blood showed a large number of tertian parasites—double tertian—which were afterward stained by eosin and methylene blue, and by carbol-thionin. After a trial lasting from 8 p. m. to 11 p. m. a specimen of anopheles punctipennis would not bite. A *Culex pungens* caught in the room bit the patient and was kept at a temperature of about 84 for 7 days and dissected, but was found not to have been infected.

Observation 4.—July 27, 1900. Blood contained two groups of tertian parasites, some of which were almost full grown. The patient was bitten by two anopheles quadrimaculata, which were kept at a temperature ranging from 76 to 80 F. for 7 days; they were not infected.

Observation 5.—August 7, 1900. This man had been suffering with a double tertian infection and his blood contained a large number of malarial parasites. He was bitten by an anopheles quadrimaculata two hours before a chill, and by three others about half an hour to within a few minutes of the chill. The anopheles were kept at a temperature ranging from 84 to 88 F. The one which bit first died on the third day, and two of the others died on the fifth day. The last one was kept for seven days. All of them were dissected but contained no zygotes.

Observation 6.—August 29, 1900. Blood contained a large number of tertian parasites in different periods of development, some full grown, others very small. The patient was bitten by three anopheles quadrimaculata, one of which was afterward kept at a temperature ranging from 80 to 84 for four days. It was dissected, but showed no pigmented cells or zygotes.

Observation 7.—August 31, 1900. Blood contained two groups of tertian parasites. This patient was bitten by two of the same anopheles which had previously bitten Case 6. They were kept same as No. 6 and dissected on September 2, but contained no zygotes.

Observation 8.—Date September 24, 1900. Blood contained two distinct groups of tertian parasites, some of which were almost full-grown and others in the stage of segmentation. Two and a half hours previous to the chill patient was bitten by three anopheles quadrimaculata, which were kept at a temperature ranging from 76 to 80 F. One died on the fourth day; the others were kept for five days. All were dissected, but contained no pigmented cells or coccidia.

Observation 9.—October 31, 1900.—A case of double tertian, in whose blood at 5 p. m. a very large number of full-grown and very active parasites were found, was bitten at 8.30 p. m. by two anopheles quadrimaculata, which were kept at 80 to 84 F. One died on the third day, the other was kept for five days. Both were dissected, but contained no pigmented cells.

Observation 10.—October 27, 1900. Blood showed a few ovoids and crescents. Patient was bitten by two anopheles quadrimaculata, which were kept at a temperature ranging from 76 to 84 for three days and dissected. Two zygotes near each other and containing black pigment granules were found near the lower portion of the middle intestine of one mosquito.

I also made several trips to the houses where cases of malarial fever were being treated, and in every instance but one succeeded in catching anopheles quadrimaculata.

In this connection I must note that in many instances the patients explained to me that mosquitoes had not been troublesome, and some had not seen any at all. However, after searching through the house, anopheles were caught. This is easily explained, since patients have very frequently told me they could feel nothing, although at the time I could see the anopheles biting. These latter mosquitoes were afterward dissected, but contained no zygotes. Other anopheles were caught in barns in a district where a large number of cases of malarial fever had occurred, but none of these were infected.

In all of the cases here reported of malarial fever, parasites were found. Most of them were discovered in the fresh blood, but a large number were afterward stained, some with eosin and methylene blue, others with carbol-thionin, some with eosin and hematoxylin, and some by the Romanowsky method.

To recapitulate: Of 10 cases of malarial fever, 7 of them were bitten by 16 anopheles quadrimaculata and one by a specimen of culex, and in this series only one anopheles was infected (Case 10). I can only explain

the cause of my failure to cultivate the zygotes in the majority of anopheles on the ground that but one of the cases probably contained the preflagellate forms of the malarial parasites at the time the anopheles bit (which confirms the results obtained by others), or else that the insects were not in a condition necessary for infection. (See note.)

The season was now drawing to a close, and after fourteen months of work, as good fortune would have it, the following interesting case, which is the last of the series, was very kindly placed at my disposal by Dr. Frederick A. Packard, visiting physician to the Pennsylvania Hospital of Philadelphia:

Observation 11.—The patient, white, aged 50, was admitted to the Pennsylvania Hospital, Oct. 31, 1900, suffering with estivo-autumnal malarial fever—H. præcox.

Examination of the Blood.—At 7:30 p.m., Nov. 1, 1900, a drop of blood was removed from the tip of the finger and was at once examined with a 1/12 oil-immersion lens (Leitz). Ovoids and crescentic malarial parasites (gamete-forms) were found, some of the latter being intracorpuseular and moving. Many of the ovoids contained a very large amount of reddish pigment, which for the most part was arranged around the periphery. In other ovoids from the center could be seen a small projection or rounded arm which moved outward toward the periphery. After about twenty minutes a flagellated malarial parasite was found. It was deeply pigmented and possessed about five long arms, which waved about quite rapidly. At the tip of one of these flagella there was a small particle of a red cell attached which was tossed around in all directions. Blood films were afterward selected and stained by eosin and methylene blue, by eosin and hematoxylin, by carbol-thionin, and by the Romanowsky method. They all showed ovoids and crescents. Following Manson's method, with some modifications, I succeeded in staining a flagellated malarial parasite by the Romanowsky method. Flagellated parasites appeared to be few in number, which may account for only one positive result. As soon as the flagellated parasite was discovered, a specimen of anopheles quadrimaculata was applied, which bit the patient. Six others subsequently bit. The mosquitoes, after biting, were kept in a warm locality for a period of probably one hour, and were afterward placed in a box and kept at an average temperature of 78 F. One of these anopheles was dissected on November 5 at 11 a.m.; it was not infected. Two others were dissected at 4 p.m., November 5; one was not infected, while another contained near the lower portion of the middle intestine 4 zygotes in different stages of development, which is characteristic of these bodies. (See plate.) Another was dissected November 7, and was not infected, while still another was kept thirteen days, but nothing was found. Two of the insects escaped.

While this anopheles probably only bit once, on Thursday at 8 to 9 p.m., and was dissected at 4 p.m. on the Monday following, the specimen of middle intestine evidently shows the zygotes of estivo-autumnal malarial fever in different stages of development; No. 1 is a very young form, resembling in contour and general appearances the ovoid body seen in the blood, while specimen No. 4 is of a later period of development. Specimen No. 2 resembles very much the crescent parasite of the fresh blood, thus evidently showing the powers of the zygote to preserve its original type.

The most distinguishing characteristics of the coccidia of this type of fever which serve as its means of identification are: 1, the presence of reddish pigment-granules

similar in color but larger than that seen in the malarial parasite of the blood. The pigment, too, is arranged around the periphery of the zygote; 2, the zygote of this stage has a very thin and hyalin capsule around the periphery; and 3, the distinctness of this pigmented cell. By this means I was able to identify these bodies, though much assistance had been afforded me by a speci-



Fig. 1.—Ovoid-shaped zygote of an early stage of development about 8 to 10 microns in diameter, and containing numerous reddish pigment-granules and vacuoles.

men of middle intestine infected with the zygotes of proteosoma Labbé and loaned through the kindness of Dr. Ronald Ross.

Nothing can be determined by a macroscopic examination of the infected middle intestine of the anopheles. It still possesses its light brownish tint. With a No. 3 ocular and No. 7 objective (Leitz) the zygotes Nos. 1, 2, 3 and 4 become quite clear and the reddish pigment dotlets have a brilliant tint. The rest of the body



Fig. 2.—Crescent-shaped zygote, containing numerous reddish pigment-granules and pushing aside muscle fibers. Pigment-granules are of larger size than in No. 1, and pressed toward the periphery. About 7 microns in width, and 14 to 16 microns in length.

of the coccidia has a bright hyalin appearance, and in areas adjacent to the pigment a more or less granular appearance is observed. The general outline and finer characteristics of the coccidia are to be determined by a No. 3 ocular, and 1/12 oil-immersion lens.

Zygote No. 1.—This coccidium has the general characteristics of the ovoid body of the estivo-autumnal parasite seen in the fresh blood, with the exception that in the zygote the pigment granules are slightly larger and appear to be pushed outward toward the periphery of the cell. That portion of the cell body in which no pigment is observed has the faintest yellowish tint. The zygote possesses a very thin and hyalin capsule. The entire body stands out prominently from the surrounding cells. This specimen is located in the lower portion of the middle intestine and is external to the epithelial cells. It is slightly larger—8-10 microns—than a red blood-cell.

Zygote No. 2.—While the former coccidium was situated outward and external to the epithelial cells, this specimen selected a position among the muscular tissues, which it presses to either side. In shape it corresponds to the crescent of the fresh blood. It has a faintly yellowish and hyalin tint and around the periphery the brilliant reddish pigment granules are disposed. The granules are fewer in number than in the



Fig. 3.—Vesicular-shaped zygote, containing bright reddish pigment-granules and slit-like vacuoles. The body of the coccidium has a faint yellowish tint. It is about 10 microns in diameter and 14 to 16 in length.

crescent parasite and are larger, looking as though there might have been a coalescence of these particles of destroyed hemoglobin. A faint colorless area—vacuole—surrounds each pigment granule and a more or less elongated slit-like vacuole is seen in the center, but any attempt to draw these only exaggerates their appearance. A very delicate and hyalin capsule surrounds the coccidium. The entire body has a stamped-out appearance and is very distinct. It is probably 7 microns in width and 14 to 16 in length.

Zygote No. 3.—This coccidium is the lowermost of all, being

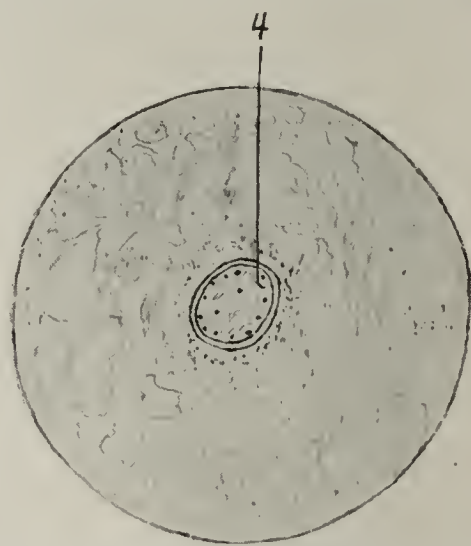
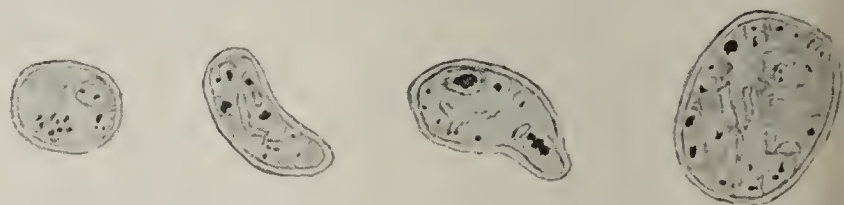


Fig. 4.—More or less ovoid-shaped coccidium, containing numerous reddish pigment-granules, which are distributed around the periphery. Numerous slit-like vacuoles are shown. Zygote about 12 to 14 microns in diameter, and 16 to 20 in length.



Description: Four zygotes (unstained) of estivo-autumnal malarial parasite (observation xi) in different stages of development, and found in lower portion of middle intestine of anopheles quadrimaculata (or claviger). No. 3 ocular and 1-12 oil-immersion lens (Leitz). The mosquito bit on Thursday, 8-9 p. m., and was dissected on the following Monday at 4 p. m. (November 5, 1900).

located near the middle intestine, which gives origin to the Malpighian tubes. It has a more or less elongated crescent shape and is probably of a somewhat later stage of development than the former two coccidia. It is situated external to the epithelial cells, and is adjacent to a spiracle—same as

No. 1. This zygote also contains reddish pigment granules, some of which are two or three times as large as those seen in No. 1. Faint vacuoles surround each pigment granule and a few slit-like vacuoles are contained in the body of the coecidium. The central area has the slightest yellowish tint. Its outline is sharply defined on account of the hyalin capsule which surrounds it. This zygote is about 10 microns in width, and 14 to 16 microns in length.

Zygote No. 4.—This coecidium has a flattened and ovoid shape, and is the largest of all. It can be readily studied with a 1/7 in. objective. It is also located in the region of the Malpighian tubes and is somewhat external to the deeper epithelial cells. It has a faint hyalin capsule, and bright reddish pigment granules of different sizes and shapes are disposed around the periphery of the body. Some of these are three or four times the size of the pigment granules of the *H. præcox* of the fresh blood. Certain portions of the inner lining of this coecidium have a more or less thickened appearance, and toward the center a few slit-like vacuoles are observed. Faint vacuoles surround each pigment granule. The central area of this zygote has a faint yellowish tint though the general appearance as in all the others is hyalin. It has a stamped-out appearance and is very distinct. All these characteristics are brought out by focusing up and down. In length this coecidium is probably two and a half times the diameter of a red blood-cell—16 to 20 microns—and is probably 12 to 14 microns in diameter. The general characteristics of the zygotes are best studied with the iris diaphragm about one-half open.

I wish to tender sincere thanks first to Dr. Frederick A. Packard for his kindness in placing this case for study at my disposal; next to Prof. Simon Flexner, of the University of Pennsylvania, who has placed at my service the facilities of his private laboratory for research work; and to the following named, who have given me the opportunity of studying cases of malarial fever, namely: Drs. J. C. Wilson, W. C. Holloper, M. T. Prendergast, J. M. Cruick, N. D. Pontius, Frank White, Julius Salinger, A. P. Francine, and George W. Norris; and to the Sisters of St. Joseph's Hospital for favors. To Dr. Ronald Ross I am greatly indebted for an examination of one of his specimens, and for his literature, which has been invaluable in identifying the coecidia herewith presented, and to your president, Dr. W. W. Keen, I must thank for his kind invitation to speak to you this evening.

This specimen presented is, I believe, the second one reported in America, the first one having been made by Dr. W. S. Thayer.

NOTE: After submitting this article for publication I read—Report of the Malaria Expedition to Africa, Liverpool School Tropical Medicine, Memoir No. 2, 1900; Ross, Annett, Austen, Giles, and Fielding-Ould—that in order for the zygotes to develop, the insects must as a rule first have obtained a meal of blood or must first have been fertilized. In my first few observations the anophelæ were raised from larvæ, while in the last two instances adult mosquitoes were used.

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Xanthoma Multiplex.—Dr. William Osler recently exhibited, at his public clinic, two cases of that rare affection, xanthoma multiplex, the first observed at the hospital. Both were in women, aged 39, and both had jaundice, one of ten and the other of two years' standing. Each had suffered from recurrent attacks of pain, vomiting, chill, fever and sweats, followed by increase of jaundice. There was not much loss of flesh.

AN ORIGINAL CHART OF THE NEURONIC ARCHITECTURE OF THE VISUAL APPARATUS.

WITH EXPLANATION.

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Having been deeply impressed by the study of the recent work of Dr. St. Bernheim, of Vienna, on "The Nuclear Origin of the Ocular Nerves and Their Connection With the Cortex of the Brain,"¹ and no comprehensive diagram being appended from which a general conception of this intricate mechanism could be gleaned, the idea was conceived of preparing a chart which would retain as far as possible anatomic relations, and at the same time bring graphically before the eye the neuronie architecture of the visual apparatus. In so doing Bernheim's text has been strictly adhered to. Bernheim's investigations extend over many years, and have been followed in various directions, namely by anatomic studies of the brains of young infants and embryos, experiments on animals, biologic studies, the study of pathologic conditions in man, both clinically and subsequently on the anatomic specimens, and these studies have been further confirmed by physiologic experiments on monkeys, and pathologic conditions induced and subsequently traced and studied. The nerve fibers were traced by the Weigert stain, whereas their origin and final endings have been disclosed by the Golgi stain. These methods have been supplemented by artificial and naturally produced degenerations according to the Marchi method and that of Nissl.

This chart represents an entire cross-section of the brain, made on a level with the optic thalami; the temporal and frontal lobes have been cut away, as also the cerebellum, thus exposing pons and medulla. The eyeballs, optic nerves, chiasm and optic tracts have been sketched, showing the manner in which the tracts embrace the peduncles and then turn upward and inward to distribute their fibers to the primary optic centers, namely, the external geniculate bodies, the optic thalami and the anterior corpora quadrigemina, where they split up into fine dendrites which are in apposition with dendrites given off by the large ganglion cells in these primary optic centers. In their turn these ganglion cells send out dendrons, which are distributed to the visual centers in the cortex of the occipital lobes, where conscious vision is aroused; others go to portions of the occipital lobes where not only vision is aroused by contact with cortical cells, but these cortical cells give off dendrons which run to the motor cortical areas—visual association fibers. From the motor cortical areas the cortical cells send long fibers through the peduncles under the floor of the third and fourth ventricle to the motor ocular nuclei of the opposite side, thus inducing movements of the eyeballs or, passing downward in the cord, lead to movements of the hand and foot. But there is also a more direct connection between the optic nerve and the motor ocular nerves. Some of the fibers which pass down the optic tracts pass directly to the centers for the sphincter of the pupil and accommodation, thus producing the *short reflex arc* and through means of which all the other motor ocular nerves, third and fourth, are brought into communication with the optic nerve. But the sixth nerve is far removed from these centers and

1. Graefe-Saemisch Handbuch d. gesamt. Augenhellkunde, 1900, II. 15 u. 16.

this, as well as all the other cranial motor nerves, and even sensory impulses from without, are communicated by means of the posterior longitudinal bundle, which carries both centripetal and centrifugal fibers. Hence, the motor nerves of the eye can be aroused to action, 1, as a result of impulses derived from the motor areas of the cortex; 2, through the short reflex arc which exists between the optic nerve and the centers of the pupil and accommodation; 3, through the posterior longitudinal bundle, which connects not only the various motor nerves, but likewise carries sensory impulses from without, it being made up of both centripetal and centrifugal fibers.

The Retina is essentially made up of three distinct neurons: 1, the rods and cones, which are stimulated into action by the chemical action of light on the visual purple; 2, an intermediary cell, and 3, the large ganglion cells, which send their fibers isolated and direct to the primary optic centers carrying centripetal impulses—a few *centrifugal fibers* have been traced from the various primary centers and some have been observed in the cortical areas, but so little is known regarding them that they will receive no further attention here.

All these fibers derived from the ganglionic cells converge to a common area, the disc, and here form bundles of fibers which, after passing through the lamina cribrosa take on their myelin sheaths, forming the optic nerve, which passes backward through the optic foramen to the optic chiasm, where a partial decussation of fibers takes place.

The decussation has been the subject of much discussion and investigation. Bernheim finally declares that the fibers located dorsally, that is, nearest the brain, are uncrossed, whereas those ventrally placed—nearest the bony base—are crossed fibers. In the optic nerve these fibers are differently placed, depending on the portion of the nerve examined. Close to the disc, crossed fibers are found in the median and temporal parts; uncrossed fibers are found above and below; the macular bundle occupies the temporal quadrant, being made up of crossed and uncrossed fibers. About the middle third of the optic nerve, the crossed fibers occupy a section from above and to the temporal side downward and inward; the macular bundle occupies a central position in the nerve. At the optic foramen, the crossed fibers occupy almost in a vertical line the median half, the uncrossed the temporal half. In the chiasm, the uncrossed are above, the crossed fibers below. In the optic tracts, the crossed and uncrossed fibers, peripheral and macular, are dispersed equally, and the bundle arrangement is entirely lost. At the disc the macular bundle lies to the temporal side; in the optic nerve it is centrally located, whereas in the chiasm it is wedge-shaped, crossed fibers below, uncrossed above and in the tract its fibers are thoroughly mixed with all the others.

The optic tracts diverge in a wide circle, pass under the peduncles of the brain and become flattened, and embrace the peduncles, pass upward and inward to be distributed to the primary optic centers. Where the tracts turn to bend upward a longitudinal furrow appears, which divides the tract into a median and a more lateral portion. The lateral portion of the tract is lost in the corpus geniculatum externum and the optic thalamus, whereas the median branch goes through the corpus geniculatum medial to the anterior corpora quadrigemina.

In the optic nerve are found only fibers which are intended for the visual act and those which produce pupil-

ary reflexes. In the chiasm a bundle of fibers is found—persisting in degenerative processes—which has nothing to do with sight. These fibers run from the internal geniculate body of one side along the inner side of the tract, through the dorsal side of the chiasm, to occupy the same position in the opposite tract and internal geniculate body. Some of these fibers extend under the anterior corpora quadrigemina to the corpus Luysii, a small nucleus anterior to the nuclei of the third nerve and to either side of the optic thalami. This bundle of fibers is known as von Gudden's commissura, and its exact nature is unknown, as is also the use of the fibers which go to the corpus Luysii. Some few of the fibers extend into the posterior quadrigemina, and in this manner are brought into relation with the sense of hearing. Hannover's fibers, found partly at the anterior, partly at the posterior surface of the chiasm, are not in any way connected with the body of the chiasm. Meynert's fibers lie parallel to the posterior arc of the chiasm, are not incorporated in the nerve proper, and are not anatomically considered a part of the chiasm.

Bernheim states that in the chiasm some of the fibers split, one branch going to either side; likewise anastomoses take place; further, that fibers of different caliber exist, one to produce impressions of sight, the other to cause reaction of the pupils. Anatomically no difference exists between crossed and uncrossed fibers. In the tract the fibers are arranged regularly, one next to the other, until they reach the bend and the fibers ascend to reach the primary optic centers. Fully 70 per cent. of all the fibers enter the external geniculate body, and all the macular fibers are supposed to be included here. The external geniculate body is made up of alternate layers of white and gray substance. In the gray substance are found multipolar cells closely matted together, between which the fibrils, radiating fan-shaped, end. These fibrils are the true optic-nerve fibrils, both crossed and uncrossed, of practically equal proportions. Another set of fibrils pass around and under the edge of the external geniculate body and pass over on to the surface of the anterior corpora quadrigemina. Still others take a course backward and downward and then forward to get beneath the surface of the aqueduct of Sylvius. These are both crossed and uncrossed fibers and intended to produce the pupillary reflexes.

Of those fibers which enter the optic thalamus, the main body passes under the external geniculate body and into the pulvinar, and can be followed as far as the stratum zonale. Other fibers pass between the two geniculate bodies, especially around and through the geniculate body medial to the deep portions of the thalamus, ending in the pulvinar and designated as the deep thalamus fibers of the optic nerve in contradistinction to the superficial, which pass through the corpus geniculatum medial and anterior corpora quadrigemina. Bernheim asserts that no fibers end in the corpus geniculatum medial; hence this body has nothing to do with sight.

The Oculomotorius or Third Nerve.—Seated in the floor of the third ventricle occupying an area equal to and situated just beneath the anterior corpora quadrigemina, are the nuclear centers for the third nerve. In the drawing, owing to the impossibility of otherwise displaying the individual nuclei, this area has been greatly exaggerated. The entire mass of nuclei occupies the space to either side of the median raphe, and are arranged so as to form a concavity laterally to either side. In a frontal section, the edges would converge ventrally whereas they would diverge dorsally, and the posterior

[illegible]

DIAGRAMMATIC.

longitudinal bundle would occupy a space ventrally and laterally.

Strictly speaking, there are no distinct lines of demarcation between the various nuclei which supply the fibers for individual muscles. The nuclei gradually merge one into the other. Aside from the large motor ganglion cells, one finds numerous small round cells which are the intermediary link by means of which the motor ganglion cells of the nuclei are brought in contact. The same is true of the nuclei on opposite sides of the median raphe. The motor cells do not send commissural fibers across the median raphe, but contact of dendrons through the medium of the round cells has been established. The fact that some of the nuclei send their fibers, or a part, to the opposite side has given rise to the belief that a commissura existed.

Lying within the proximal end of the nuclear region are two nuclei made up of smaller ganglion cells than the other nuclei, and known as the small-celled nuclei, and identical with the Westphal-Edinger nuclei. Seated below this, occupying a central position, spindle-formed in shape, containing large ganglion cells, lies a single nucleus. It is sharply defined from the lateral nuclei, its dorsal edge lies within the limit of the lower edges of the two small-celled nuclei, whereas fine dendrites from the posterior longitudinal bundle just reach its ventral surfaces. These three groups of cells are particularly important in that they receive fibers coming direct from the optic tract, thus producing what has already been spoken of as *the short reflex arc*. This offers an explanation for the direct and the consensual reaction of the pupil and the accommodative act, also by this connection all the other motor-ocular nerves are influenced. The fibers derived from the nuclei in the anterior portion of the nuclear area go to the same side, those derived from the lower portion are nearly all crossed. All the fibers which cross to the opposite side converge toward the median line, dip down below the raphe, and rising up again on the opposite side, diverge fan-shaped, passing between the fibers of the posterior longitudinal bundle. The uncrossed fibers dip down with a slight concave curve on the same side, pass between the fibers of the posterior longitudinal bundle, and remain on the same side.

As a result of physiologic experiments and experimentally produced pathologic conditions, subsequently microscopically studied, regions have been mapped out, the fibers derived from which supply the nerves to definite muscles. The small-celled nuclei anteriorly placed supply the sphincter of the pupil, and the fibers go to the same side. The large-celled single spindle-shaped nucleus supplies the muscle of accommodation of both eyes, sending fibers to both sides. At the distal end is the center for the rectus inferior, the fibers passing to the opposite side.

Following in order lie the center for the obliquus inferior sending fibers to the opposite side, and from the ventral portion fibers go to the same side. The center for the rectus internus gives off fibers to the same side and from its dorsolateral portion fibers go to the opposite side. From the center of the rectus superior fibers go to the same side, and from the center of the levator fibers go to the same side.

The Trochlear or Fourth Nerve.—This lies in almost direct connection with the oculomotor. The fibers emerge from the lateral side of the nucleus, make a slight curve outward and downward close to the fibers of the posterior longitudinal bundle, and then on a level with the descending root of the trigeminus they pass up-

ward again to a point on a level with the widening aqueduct of Sylvius. Here the fibers form several bundles and turn abruptly backward in the roof of the fourth ventricle, where they cross over to the opposite side and appear at a point close to the posterior part of the posterior corpora quadrigemina and embrace the lateral side of the peduncle as a compact nerve root.

The Abducens or Sixth Nerve.—This nerve takes its nuclear origin about the center of the floor of the fourth ventricle. The nuclei lie close to the median line and are separated from each other by the fibers of the posterior longitudinal bundle. Its nucleus lies in a hollow space, the result of the curve made by the fibers from the facial, which almost encircle it. The ganglion cells are multipolar and of the motor type. The fibers arising from this nucleus take a dorsal and median direction toward the floor of the fourth ventricle, joining together to form a more compact band to the median side of their nuclear origin. Making a distinct curve, they turn backward toward the ventral surface of the brain to make their exit in the pons to either side of the median raphe. The fibers of this nerve remain on the same side. From the ventral and lateral surface of the nucleus a few fibers extend to the small olivary body. These fibers are especially important in that they help to close the circuit between the acoustic and the sixth nerve.

The Facial.—The nuclear origin lies somewhat posteriorly and laterally from the abducens. All the fibers derived from this center extend upward and inward toward the median line, and then curve around toward the floor of the fourth ventricle, and in so doing cover the dorsal and lateral portions of the sixth nerve. The fibers then bend downward toward their origin to finally make their exit on the same side in the pons. Owing to the peculiar course which these fibers take, they are not only brought in close connection with their own nuclei, but with the abducens, which they almost encircle, with the posterior longitudinal fibers, and with the sensory root of the fifth nerve.

The facial sends branches to the orbicularis palpebrarum and the frontalis muscle. So far as known, the only manner in which these muscles are brought into simultaneous action with other eye muscles is through the medium of the posterior longitudinal bundle.

The Trigeminus.—The fifth nerve supplies the sensory nerve fibers to the eye. The fibers are derived from the first and second large branches derived from the Gasserian ganglion. The sensory nuclear origin consists of a large ascending sensory spinal root, which extends down almost to the first cervical nerve—Bernheim calls this a descending root—and a smaller descending root. The motor nuclear origin lies close to the motor nuclear origin of the fourth nerve.

The spinal sensory portion as it ascends is in relation with the nerve vestibuli, the ascending portion of the facial and the posterior longitudinal bundle.

The Acoustic.—The accessory nucleus or central ganglion of the cochlear branch of this nerve is brought in relation with the sixth nerve by means of the fibers which run toward the median raphe to reach the trapezoid body. The trapezoid body contains ganglion cells which send fibers to the small or upper olivary body—nucleus olivarius superior—which latter has fibers connecting it with the sixth nerve. Thus the acoustic nerve can be brought in direct relation with the sixth nerve, and then through the posterior longitudinal bundle with the other motor ocular nerves. This gives the anatomic explanation for the physiologic reflex phe-

nomena of turning our eyes in the direction of a sound.

The Posterior Longitudinal Bundle.—This, derived from the anterior fundamental strand in the cord, gradually comes to occupy a dorsal position close to the median raphe, under the fourth ventricle and upward under the fissure of Sylvius. Its line of demarcation is never very sharply defined, since it gives off fibers to neighboring strands of fibers. It has been followed as far as the nuclear origin of the third nerve. It is the connecting band by means of which the various motor ocular nerves are brought in communication with each other and by means of which the various synchronous movements of the eye-balls are brought about. It contains both centripetal and centrifugal fibers. As we have seen, some of the optic-nerve fibers go directly to the nuclear origin of the fibers which produce the pupillary reflexes.

The Short Reflex Arc.—Through means of this, all the nuclear centers of the third and fourth nerves are brought in direct connection with the optic nerve. These are further connected with each other and other cranial sensory and motor nerves by means of the posterior longitudinal bundle.

The conditions of the sixth nerve are particularly interesting, especially its connection with the rectus internus, in the production of synchronous movements of the two eyes to the right or left. A portion of the fibers derived from the nuclear origin of the rectus internus go to the opposite side, and by means of the longitudinal bundle, the abducens on one side of the raphe is connected with the rectus internus of the same side, part of the fibers of which go to the opposite side. At the same time, from the nuclear origin of the rectus internus the dendrons transmit the impulse by contact to the opposite nucleus, thus giving the full impulse to produce the movement inward of the one eye, while the abducens turns the other eye outward.

Cortical Areas of Sight.—We have seen that fully 70 per cent. of the optic-nerve fibers, both crossed and uncrossed and containing all the macular fibers, end in the lateral geniculate body. The fibers derived from the ganglion cells in this body at the same time taking up the fibers derived from the thalamus and the anterior corpora quadrigemina make their exit to the lateral side of the lateral geniculate body and pass around the posterior end of the corpus striatum and the lamina semicircularis, descend along the posterior horn of the lateral ventricle as a massive tract, known as the fibers of Gratiolet, to reach the occipital lobes. The fibers derived from the external geniculate body pass to the cortical areas of the occipital lobes in the region of the calcarine fissure; lobus cuneus, lingualis, gyrus descendens and the occipitotemporal lobes. This is the exclusive area of conscious vision. The fibers derived from the centers located in the corpora quadrigemina anterior and the optic thalamus are distributed to the second and third occipital lobes, areas not only for visual perception, but the fibers here come in contact with cortical cells which send their dendrons into neighboring areas, especially those areas which control movements and conditions that stand in relation to sight. This is true especially of the synchronous movements of the eye-balls. Thus, disease located toward the median portion of the brain, in the occipital lobe, would lead to loss of vision, in one-half of the field—hemianopsia—whereas disease more laterally located in the occipital lobe, attacking association fibers, besides producing hemianopsia, would present to us clinically soul-blindness, alexia, optic aphasia.

The association fibers connect the visual centers with the motor centers and go particularly to the gyrus angularis, irritation of which produces movements of the eyes in the opposite direction. That is, irritation of the right angular gyrus causes the eyes to turn to left, up or down. From the motor areas the fibers pass down through the peduncles under the fissure of Sylvius to the nuclei of the motor ocular nerves of the opposite side—a point of great value in the diagnosis of ocular paralyses and their relation to cortical disease.

ADDRESS BEFORE THE NEW YORK STATE ASSEMBLY COMMITTEE ON PUBLIC HEALTH.

IN THE DISCUSSION OF THE BELL BILL ("CHRISTIAN
SCIENCE BILL") PROHIBITING THE PRACTICE OF
MEDICINE BY UNLICENSED PRACTITIONERS.*

ROBERT T. MORRIS, M.D.

NEW YORK CITY.

We have listened to a great deal of oratory to-day in favor of various peculiar methods for treating disease. Now let us get down to plain common sense for a little while, if we can.

I would first ask the honorable members of the Assembly, before giving consideration to the points I am to make, to read in the *New York Sun* of January 27, the article by Dr. Wm. Osler¹ on "Progress in Medicine During the Nineteenth Century." I would ask them to read in the same periodical of February 3, the article by Dr. W. W. Keen² on "Progress in Surgery." From such basis of information it will be easy to place a proper estimate upon the value of fanciful theories of practice which you are asked to license.

When a group of believers in some theory cry "persecution" and claim to have something new, they are certain to engage the human nature of that large part of the public which does not know of the hundreds of new books and carefully conducted experiments, which annually mark the real progress of the substantial regular medical profession.

Nothing that claims to be new is neglected by responsible physicians, engineers or manufacturers.

OSTEOPATHY.

First let us consider the osteopaths: They have described, this afternoon, methods of treatment which are recognized as of value by regular physicians, but have described them in a crude way and have used, for its effect, the captivating statement that they seek the cause for disease and then remove the disease. How this appeals to all of us! It is like the prop that any new religious cult chooses for bolstering up its tenets—the prop of fraternal love and of duty to others. It promptly engages popular attention.

So they tell us that they seek for the cause of disease and then remove it. It is like the story of the boy who caught a six-pound bass up by the big rock! If you don't believe it we will go up and show you the rock! . . .

The osteopaths must of necessity benefit many cases that are adapted to their methods of treatment and our objection to licensing them is that they are wishing to assume too great responsibilities on a small margin of medical education. They are trying to find an easy way into a profession which requires long and arduous study before its members are fitted to care for our fathers and mothers, brothers and sisters—a profession that requires students to pass the regents' examination before even beginning the study of medicine.

All that we ask of the osteopaths is that they pass the examination in the rudiments of medical knowledge which our state requires of physicians, and after that they may practice what they wish. The state, for the protection of its citizens, simply asks them to show that they are familiar with the first principles of medical knowledge. Their practice is in principle the practice of the movement cure and of massage, which are recognized as important when properly applied. Their claim for having something new is entirely discredited by students of the well-established movement cures. It is not the sins of commission that are so harmful as the sins of omission made by men who are crudely prepared for practice.

One of the osteopaths has told us this afternoon that they have treated more than half of our senators and representa-

* Delivered at the State Capital, Albany, N. Y., Feb. 6, 1901.

1. JOURNAL A. M. A., February 2, p. 327.

2. Ibid., February 9, p. 383.

tives at Washington. I suspected as much. Charlatans first try their treatment on public men in order to use their names. Patent medicine men first try their drugs on clergymen who are trained to accept things on faith. Responsible physicians first try their theories on the dog. [Laughter.] Why this murmur of laughter? It is not a flippant statement; I am speaking the plainest sort of truth. The reputable physician does not tell the public of the public men he is treating. He does not tell of his cures "after others have failed," but he earnestly works for the benefit of the public. That is his ideal of life work. Do not think that physicians are trying to protect themselves in urging the passage of this bill. It is for you that we are at work. What difference would it make in my income if every bootblack were to practice medicine—not one dollar's worth.

The osteopaths tell us that they have received recognition in several states. That is because responsible physicians have felt that it was beneath their dignity to enter into a contest with them, but the time has arrived when we must attend to the matter.

Two men have been brought here this afternoon, from a distance, to testify that they have been cured by osteopaths. How far would a responsible physician have to go to find two patients of his who had been cured? Every hour in the day he is engaged in relieving suffering, curing disease, and so successfully that he would not stoop to the necessity of asking his patients to come here to testify to the results of his work.

Physicians do make mistakes—but the better the education of the physician, the fewer mistakes he makes; therefore, do not admit into our ranks men who are unwilling to qualify themselves against making mistakes.

An advocate of the osteopaths, Mr. Burroughs, says that "any law which decides against the rights of a man to heal suffering interferes with the rights of American citizenship." That is another "eateh phrase." Will the osteopaths relieve suffering any less if we require of them an education which the state requires of its physicians?

"CHRISTIAN SCIENCE."

First let me say that I do not accept the nomenclature of "Christian Science" as descriptive, because science is classified knowledge, and they do not classify their knowledge properly for presentation to the people of normal minds. The "Christian" part of the nomenclature I must leave for others to discuss.

I have in the hospital at present a patient who had cancer of a certain organ. The "Christian Scientists" began treatment of this patient at a time when the disease was easily curable by surgical operation, and they continued treatment until the disease had progressed to a point where a desperate operation was required in order to save her life. This is one specific instance of injury caused a trusting patient who did not deserve to suffer. . . .

The "Christian Scientists" tell us that no coercion is used in bringing patients to accept their treatment. How about the case of a dutiful child? As to the matter of coercion, let us consider it. A woman of high social standing, of delightful personality and lovely character, goes into homes where a pleasant face is welcomed and a kindly word is a solace. She uses no coercion, but, let me assure you that her *persuasion* is more effective than four coercive policemen with clubs!

Let me quote another specific case of maltreatment. A little girl suffering with favus or "milk-erust," living not far away from me, has been under treatment by "Christian Scientists" and has received no other treatment. Her hair is nearly gone and she has been the means of spreading infection. When she develops into a beautiful young woman, and is ready to take her place into society, she will have about eight hairs pointing in different directions, and I fear will curse the people who with kind words and soft voices have brought her to this predicament.

These cases quoted are of specific injury to the individual. Let me cite another of menace to the public. In a boarding-house containing twenty people, one of the number, a school teacher, developed measles. She called a "Christian Scientist," who told her that she merely "had a belief in a fever," but that she was not really ill. She associated with the other nineteen people at the table. A chambermaid made the diagnosis of measles and informed the other people in the house, but the "Christian Scientist" insisted that the patient did not have measles and that she should go about among the people at the house and among her pupils as she pleased.

This instance brings up a point that I wish to make. The attorney of the "Christian Scientists," Judge Tolman, has told us that this bill is an encroachment upon religious liberty, and he asks if the legislators of this state are willing to

assume the responsibility of passing upon the religious belief of a large number of the citizens. Now, it is a matter well established in law that when the acts belonging to a religious belief are injurious to the community, they must be repressed. Last year the angel dancers of New Jersey claimed religious liberty, but their acts came under the practical consideration of New Jersey justices and a part of their religious liberty ceased. Judge Tolman brings up the matter of personal rights. In this case of measles in a house with twenty other people, the patient claimed the personal right to employ whom she pleased for a physician. What, I ask, were the personal rights of the other nineteen people in the house? They had the right of protection from a state which licenses its practitioners.

A "Christian Scientist" afflicted with a dangerous but curable disease has not even the right to treat himself, because attempted suicide under our New York statutes is a crime. Either Judge Tolman does not know the law relating to religious liberty, which is improbable, or else he has tried to mislead your honorable committee by the adroit use of words.

Mr. Norton has told us that this legislation against "Christian Science" would be legislation against Almighty God. Wait a moment. Infectious diseases are caused by bacteria. Bacteria are God's creatures—He wishes them to grow. If "Christian Science" treatment kills these creatures of God, the treatment which Mr. Norton would apply is apparently directly opposed to the will of God, although for my own part I am too humble to assume that I know His wishes.

Let me quote a specific instance showing the type of mind that is commonly found among the "Christian Scientists." Curiously enough I see the patient before me in the audience. Last year he came to my office with a tumor of the scalp, saying that he did not wish to have me treat it, but merely wished to show it to me, as it was growing smaller under his treatment by faith. I made a diagnosis of a sebaceous cyst and he paid my office fee for an opinion without a murmur. He returned again some months later to say that it was growing still smaller. It finally became so "small" that he had to have it removed! By the irony of fate it was in a position to be in plain view of all his brethren. This is simply an instance of self-delusion which is common among "Christian Scientists."

When the members of this audience who have been "cured of defective vision" by "Christian Science," and who have thrown away their glasses were asked to rise, about seventy-five arose. Now, all of these people still have the same errors of refraction that they had at the time when the glasses were thrown away, and I will ask you to remember this as a basis upon which to place an estimate of the character of many of the other cures. It is simply a matter of self-deception. These people will not admit that they still need their glasses, but members of their families or friends will tell us the truth about it, although some people with glasses improperly fitted are of course benefited by throwing them away.

I found a pathetic instance yesterday. One of the loveliest women whom I know had persuaded a poor woman who was short-sighted that she did not need her glasses any more. Her daughter tells me that she stumbles over chairs, falls in going up-stairs, can not thread her needle, and yesterday she stepped on the cat!

One of my old college friends who is now engaged in manufacturing proprietary medicines—and good ones—tells me that the testimonials of wonderful cures from the use of proprietary medicines that are published in the newspaper advertisements are not written in the office, as most of us suppose. He says he can put up brick dust if he wishes, advertise it sufficiently and receive by every morning's mail a pile of letters a foot high testifying to the wonderful cures that it has produced. This credulity is one of the traits of the human mind and is marked in an abnormal degree, to the extent of proselyting credulity, among the "Christian Scientists." It is simply a psychologic phenomenon. Psychology is physiology and abnormal psychologic manifestations simply represent a physiologic defect. It is like the matter of free will, which is no more free in man than it is in other animals, and which is determined by the organization of the individual and by the environment of the moment. . . .

I have not one thought of enmity toward the "Christian Scientists," not one unkind feeling. They simply need our care and the public needs to be protected against them when their acts become more harmful than beneficial.

We all know the powerful effect of the mind over symptoms of disease and even over disease. The successful physician makes use of it in his every-day round. I would frequently refer patients to "Christian Scientists" for the relief of symp-

toms if I knew any among these people who were responsible, but the proportion of good which they do as compared to the injury resulting from neglect of cases for which they assume responsibility would not appeal to your honorable legislators as justifying their protection under our medical practice laws.

Personally, by religion I am a materialist, a monist, yet I so love the Christ of Ernest Renan and of Robert Speer that it makes my very flesh creep to use His name in the presence of an audience of blasphemous followers who charge money for incompetent services. Let me quote from the tenth chapter of St. Luke, where Christ says to His followers: "And into whatsoever city ye enter and they receive you, eat such things as are set before you and heal the sick that are therein. . . . Carry neither purse nor scrip nor shoes." Most of the "Christian Scientists" whom I know at least carry their shoes!

I will not charge "Christian Scientists" with being intentionally blasphemous. There are few more attractive characters and no lovelier dispositions than those of some of the "Christian Scientists" whose minds are disabled by physiologic defect secondary to a certain physical degeneration or injury.

The high character of "Christian Scientists" is often quoted in justification of their acts, but it is no higher than the character of the judges who sentenced witches to be hanged and who represented the best classes in society. We do not justify the acts of these judges.

. . . Almost every year the newspapers contain accounts of some new healer who believes in himself and who is believed in by multitudes. The accounts of his miracles do not gain much momentum to-day, however, because they are readily explained by physicians who understand hysteria and trance death. There are text-books on the subject easily accessible for all of you. There are protean nervous derangements belonging to hysteria which are very amenable to the influence of the mind. There are many symptoms and some functional diseases not belonging to hysteria which are also under the control of the mind. Even such a disease as rheumatism, due to functional disturbance of the liver, might in some cases be controlled by mental stimulus sufficient to stimulate certain sympathetic nerves. No one denies the fact of many cures under mind treatment. We simply deny their supernatural nature and state that they are subject to rational explanation. We further must insist upon proper estimation of their proportionate value in the whole field of disease. It is this loss of the idea of proportion that sometimes leads very intelligent people astray when taking testimony. . . .

In view of the specific instances I have given of public danger and of personal injury resulting from the acts of these good "Christian Scientists," who for the most part are perfectly honest in their beliefs, I would ask your honorable committee to consider with great deliberation the advisability of allowing them the right to assume such responsibility as is required of physicians.

58 W. 56th St.

ANASTOMOSIS OF THE URETERS WITH THE INTESTINE.

A HISTORICAL AND EXPERIMENTAL RESEARCH.*

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CHICAGO.

(Continued from page 507.)

DUVAL AND TESSON,⁴ 1900: *Three dogs; bilateral uretero-intestinal anastomosis; two dogs died of pyelonephritis.* These experimenters operated on three dogs, in each case implanting both ureters in the rectum. They combined the operative technique of Kryński and Fowler. The ureters were secured obliquely on a mucosal flap; over this flap were sutured the serosal and muscular layers.

One dog died twenty hours after the operation, from defective technique. Both ureters were found obliterated. One dog lived two and one-half months. Post-mortem showed the uretero-rectal anastomosis good; ureters patent. Bilateral pyelonephritis existed without distention. The third dog lived seven months. An autopsy showed the uretero-rectal orifices patent with slightly dilated ureters. Both kidneys were

markedly distended and were the seat of grave pyelonephritic lesions. The mucous valves were atrophied so as to be unserviceable. The conclusions were that uretero-intestinal anastomosis could only be successful when the trigonum, together with the ureteral orifices, was transplanted.

Perhaps the most striking fact revealed by a study of these experiments is the exceptionally high mortality accompanying the operations, whether one or both ureters were implanted in the bowel. While it is impossible to accurately state the exact number of dogs operated on, because of the indefiniteness of the reporters in recording their work, I have endeavored, for the sake of comparison, to collect such data as are unequivocal.

Out of sixty dogs in which one ureter was implanted into the intestine there were twenty-three recoveries, or 61 per cent. mortality, while out of sixty-eight dogs undergoing bilateral ureteral anastomosis only ten survived, or a mortality of 85 per cent.

The mortality of the bilateral implantations is actually more than 85 per cent., since Martin does not state in what proportion of his thirty-four experiments were both ureters implanted, hence the entire number must be excluded, although his recoveries, numbering three, are included.

Again, among the ten dogs recovering from a bilateral uretero-intestinal anastomosis are three in which the ureters were implanted, not simultaneously, but at different stages. Since the danger attending implantation in two stages is obviously less than where both ureters are implanted, these three cases (Boari, one; Giordano, two) should, strictly speaking, be excluded.

The causes of death are various, but most prominent is peritonitis through a giving way of the uretero-rectal stiches and the subsequent escape of urine into the peritoneal cavity, or an overwhelming infection of the kidney ascribed to nephritis or uremia.

The different operative procedures employed may be conveniently divided into eight groups:

1. The severed ureter is inserted into the intestine through a small incision in the bowel wall and secured to the latter by sutures, which are passed through the intestinal serosa, and then either through the peritoneum removed with the ureter or its fibrous coats. (Glück and Zeller, Tuffier, Reed and Martin.)

2. A small incision is made through all the coats of the bowel and the ureteral and rectal mucosa sutured. The incision is then carefully closed about the ureter by Lembert's sutures. (Morestin.)

3. A V-shaped flap is formed in the anterior intestinal wall, to which the ureters are sutured. This flap is buried by suturing over it the lateral folds of the bowel wall. (Vignoni.)

4. A rectangular flap containing the ureteral orifices is inserted into the bowel through an incision in its anterior wall. This flap is sutured to the freshened mucosa on the posterior wall of the bowel. (Pisani.)

5. A ligature with a needle at each end is passed through the end of the severed ureter. The needles are passed through a small slit made in the bowel wall and brought outside the intestine from one-half to one inch below. The two ends are made taut and the ureter is drawn into the bowel. The ureter is then secured in position by sutures. (Bardenhauer, Reed and Van Hook.)

6. The ureters are buried under the serosa and muscles of the intestinal wall and secured in place by sutures uniting the ureteral and intestinal mucosa, or drawn into the bowel as described under method 5. The muscular and serosal flap is then sutured over the ureters. (Kryński and Martin.)

* Read before the American Gynecological Society, Washington, D. C., May 1, 1900.

7. The ureters are secured to a mucosal flap valve and buried obliquely under the serosa and muscularis. (Duvall and Tesson.)

8. The anastomosis of the ureter and intestine is made with a mechanical device, which, after union is secured, passes into the intestine. (Boari.)

As has been shown, the primary mortality was exceedingly high with all these methods. The method which calls for the least amount of suturing of the ureter itself will be found to give the best results. (Reed and Van Hook.)

A number of methods were devised with a view of preventing an ascending infection, but these efforts did not meet with success. I have been unable to find a single case in which the kidneys were shown to be normal beyond dispute. One can hardly accept such loose statements as those made by Kryński, who, in speaking of the results of his new operation, says he has never seen disease of the kidneys or ureters follow its use, yet fails to give his experiments in detail. Again, Boari, in describing the specimens removed from an uretero-rectal anastomosis, states that macroscopically the kidneys presented no grave lesions.

The post-mortems on the animals surviving the operation for any length of time in nearly all instances showed unmistakable evidences of stenosis of the ureteral orifice, hydroureter, hydronephrosis, and pyelonephritis. In only a few instances were bacteriologic or microscopic examinations made, and without such examinations proof of the integrity of the organs can hardly be conclusive.

The most carefully conducted examinations were made in Martin's cases, and they showed in every instance inflammatory changes. As already pointed out, Novaro's case failed to demonstrate that the kidneys and ureters of the animal living four months were normal. In Reed's and Boari's cases the specimens were not examined microscopically, and the same may be said of Kalabin's cases. Briefly stated, the collective experimental results of uretero-intestinal anastomosis without the preservation of the vesico-ureteral orifices have shown that the operation is a failure, either primarily from defective technique, or from overwhelming renal infection. The surviving animals showed grave kidney lesions, the result of preceding pyelonephritis. Frank's experimental work with the vesico-rectal anastomosis will be discussed in connection with the report of a case operated upon by his method.

In order that the value of the conclusions to be drawn from recorded cases of uretero-intestinal anastomosis in man may be correctly estimated, short abstracts of the cases will be given as nearly as possible in chronologic order.

It is obviously impossible to be exact chronologically, since in quite a few instances the date of the operation has not been included in the report. Under the circumstances I have arranged the cases according to the date of publication of the article containing the report.

SIMON,⁴² 1851. *Bilateral uretero-rectal anastomosis; death one year after operation; inflammatory changes in ureters and kidneys.* The first attempt to deviate the course of the urinary flow into the rectum was made by John Simon in 1851. He reasoned that in reptiles and birds the genito-urinary and digestive tracts ended in a common cloaca, and that there was no good reason why this anatomical arrangement should not be artificially produced in man. He also called attention to the sphincteric control over the urine possessed by those individuals who, after being operated on for vesical stone by way of the rectum, were left with vesico-rectal fistulae. These views he proceeded to put to a practical test in the case of a

13-year-old boy who came under his care suffering from exstrophy of the bladder. The operation was performed July 5, 1851. By a specially devised instrument Simon succeeded in passing threads from the ureters into the rectum, so that, when tightened, pressure necrosis took place and uretero-rectal fistulae were formed. By the tenth day some urine passed per anum. Three weeks after the operation most of the urine flowed directly into the rectum. At the end of three months an unsuccessful attempt was made to close the natural ureteral orifices. Seven months after the operation the openings into the rectum were still patent, although considerable contracted. The patient died of exhaustion twelve months subsequent to the operation. At the autopsy the ureters were found blocked with calculi the size of peas or beans. The ureters and kidneys were seriously diseased, the pathologic changes being due to the surgical method employed which had "excited suppurative inflammation along the mucous surface of the ureters."

ROUX,⁴⁰ 1853. This experimenter, evidently without any knowledge of Simon's case, proposed that the ureters be sunk in the rectum and that the exstrophied bladder be covered in by skin through plastic operations. His plan was either to separate the ureters from the vesical tumor and suspend them in the rectum through an opening made in that organ, or to form uretero-rectal fistulae by dividing the tissues separating the ureter and rectum. Roux was led to believe that these operations were anatomical possibilities from a study of cases where the ureters congenitally opened into the rectum and from the numerous instances on record where, after the removal of a vesical stone and the establishment of vesico-rectal fistulae, the patients were still able to control their liquid evacuations. He refrained from putting these ideas into practice because of his uncertainty as to the relations of the peritoneum and rectum in exstrophy of the bladder.

SMITH,⁴³ 1878. *Bilateral uretero-colonic anastomosis, extra-peritoneal method in two stages; death from uremia immediately after last operation; atrophy of one kidney; inflammatory changes in the other.* Over a quarter of a century elapsed before another attempt was made to unite the ureters and intestinal tract directly. Then Thomas Smith, in 1878, operated on a boy, aged 7, afflicted with exstrophy of the bladder, by a new technique. A bougie was passed up the left ureter and an opening made in left loin; the ureter was then located and inserted into the descending colon. It was held in position by fine carbolized catgut passed through the bowel and through cellular tissue about the ureter. For six days the urine passed with the feces with no unusual irritation of the bowel except that the movements were more watery and frequent than natural. On the ninth day feces and urine passed through the incision in loin. There was later free suppuration in or around the kidney, the abscess opening in the loin at site of wound. Fistulous opening gradually closed. One year after the operation the boy was in good health, no urine escaping from left ureteral orifice.

Second operation fourteen months after first. The right ureter was inserted by the same method into the ascending colon, fine wire sutures being used instead of catgut. The patient became drowsy, and died fifty hours after the operation.

Autopsy.—Pelvis of left kidney distended with clear fluid and the organ reduced to a fibrous condition. The ureter was one and a half inches in length and the uretero-rectal opening was not patent. The right kidney was much enlarged and the capsule was adherent to the cortical substance, which was soft and pliable. The pelvis of this kidney and corresponding ureters were dilated. A small probe could be made to pass through the ureterorectal opening only with great difficulty.

KÜSTER,³⁸ 1891. *Both ureters in rectum, following removal of bladder; death in five days from peritonitis and renal infection.* In 1891 Küster removed the bladder and prostate from a patient aged 53, for malignant disease. The operation was performed by the perineal and abdominal route. The ureters were cut off from the bladder obliquely, the rectal and ureteral mucosa being united by one series of sutures, and then reinforced by a row of sutures externally. The patient lived five days. The autopsy showed purulent peritonitis and undoubted renal infection. The ureters were not dilated, but the sutures uniting them to the rectum had not held.

CHAPUT,³⁰ 1892. *Case 1. Uretero-vaginal fistula; right ureter united to rectum; recovery; well after eight years.* September 13, 1892, Chaput operated upon a woman, aged twenty-nine for a uretero-vaginal fistula, resulting from a vaginal hysterectomy. The abdomen was opened and the enlarged right ureter was united to the rectum by a series of

sutures, one set uniting the mucous, the other the serous surfaces. Convalescence was uneventful.

In a personal communication to the author, dated April 3, 1900, Dr. Chaput states that the patient is still alive, although the operation was performed eight years ago. Her health is very satisfactory and there are no signs of renal infection. She has about three liquid evacuations in twenty-four hours.

Case II. Tubercular cystitis; double uretero-colonic anastomosis in two stages; death from uremia after last operation. A woman, aged forty-five years was operated upon November 25, 1892, for a chronic tubercular cystitis which had not yielded to a suprapubic cystotomy. Through an abdominal incision the left ureter, as large as the little finger, was located and sutured into the descending colon by the same method described in Case I. Cure was rapid and complete. Eight watery stools per day. Three months later, March 1, 1893, the right ureter, as large as the thumb, was united to the cecum by the same method. No fever resulted, but the patient became comatose and died the same day. The existing diarrhea was checked. Suppression of urine was the undoubted cause of death. No autopsy was performed.

REIN,³⁹ 1894. Exstrophy of the bladder; bilateral uretero-rectal anastomosis; death. Rein, at the International Congress at Rome, 1894, reported the case of a woman, aged twenty, upon whom he had operated for exstrophy of the bladder.

An incision 16 cm. in length was made across the ectopic bladder. The uterus and left adnexa were removed and a bougie introduced into the left ureter. A good-sized drainage-tube was introduced into the rectum and both tubes approximated. An incision a few millimeters in length was made at this point in the rectal wall and a glass drainage-tube, previously passed into the ureter, was carried through this incision into the rectum. An elastic drainage-tube was attached to the tube already in the ureter and carried out through the anus. The artificial uretero-rectal fistula was closed by sutures in two layers. The same operation was performed on the other side. The ectopic bladder was now extirpated and all hemorrhage controlled. A perfect union of the abdominal wall was impossible because of the considerable separation of the ossa pubis and the recti-muscles. The operation consumed two hours and fifty-two minutes. The patient died in a short time.

DUPLAY,³¹ 1894. Case 1. Exstrophy of the bladder; both ureters in sigmoid; death from pyelonephritis. Duplay, in an article on exstrophy of the bladder, speaks of having operated upon a girl aged eight, by implanting the ureters into the sigmoid flexure. The patient died in a few months of pyelonephritis.

Case II. Same as above; death. Mazel (page 483) refers to Duplay's article, and a written communication from Duplay, in which the latter mentions a second girl, aged ten years, operated on by him for exstrophy of the bladder. Both ureters were implanted in the sigmoid flexure with fatal results.

TRENDELENBURG,⁴⁴ 1895. Extirpation of one kidney and bladder; uretero-sigmoidal anastomosis; death from extension of tuberculosis. Trendelenburg reported a case where the right kidney was extirpated for tuberculosis. The entire bladder, except a small piece in which ended the left ureteral orifice, was also extirpated for extensive tubercular disease. This ureter was implanted in the sigmoid flexure and prevented from slipping out by the attached portion of the bladder. Functionally the operation was a success, but the patient subsequently succumbed to tuberculosis of other organs. (While the ureteral orifice and its mucosa was retained in this case from the method employed in its implantation, the probability is that the end of the ureter sloughed, and the insertion into the bowel in no way differed from those cases of implantation where the ureter was cut off external to the bladder.)

BOARI,²⁷ 1895. Vesico-vaginal fistula; left ureter in descending colon; well six months later. Boari, by means of his anastomotic button, grafted the left ureter into the descending colon in a case of vesico-vaginal fistula, with complete destruction of the urethra. The patient lived, and six months later was in perfect health, passing the urine, partly by the anus and partly by the vagina, every three or four hours, without inconvenience. The operation was made extraperitoneally through a curved incision, reaching from the middle of Poupart's ligament to the anterior superior spine of the ilium. The posterior parietal peritoneum was opened and the colon secured, and after the graft was made was fastened extraperitoneally.

The Boari button is to be used preferably by the extraperitoneal route. It is best described by drawings which are given below. (Figs. 4-9.) A button suitable to the caliber of the ureter should be chosen. The ureter is invaginated upon the

tube and tied with silk. Then the movable plate is lowered until it meets the under plate and is held in place by a stylet which passes through the bottom tube. A purse-string suture is passed in the bowel and an opening made just large enough to allow the rectal plates to slip in. The suture is now drawn taut and the stylet removed, and the spring carries the rectum against the ureter.

CASATI,²⁸ 1895. Vesical tuberculosis; left uretero-colonic anastomosis; death in thirty-five days of tuberculosis. Boari reports a case operated upon by E. Casati where the former's anastomotic button was employed for very advanced vesical tuberculosis. The left ureter was grafted into the descending colon with the intention of later making a graft of the right ureter and removing the bladder; but the patient lived but thirty-five days after the operation.

No report is made of the passing of the button or the nature of the rectal discharges. Neither are the post-mortem findings recorded.

CHALOT,²⁹ 1896. Cancer of uterus; bilateral uretero-rectal anastomosis; recovery; living one year after operation. July 22, 1896, Chalot operated upon a woman, aged 45, for uterine carcinoma with involvement of the broad ligaments. The abdomen was opened in the median line, and the left ureter



FIG. 4.



FIG. 5.

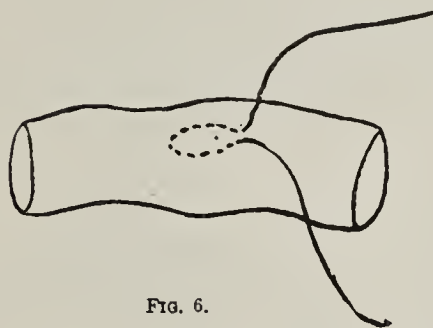


FIG. 6.

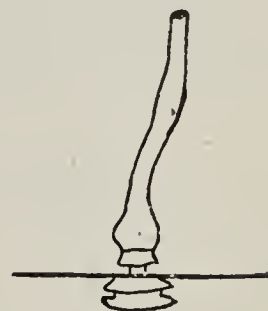


FIG. 7.

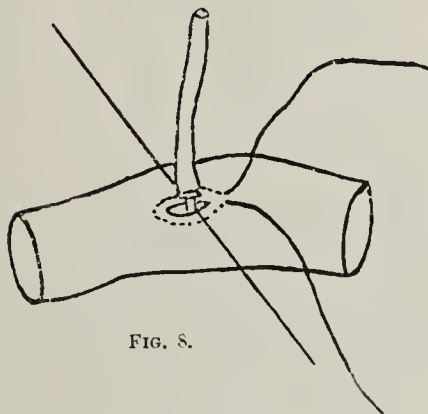


FIG. 8.



FIG. 9.

isolated and ligated. The central end was dilated and implanted into the rectum by means of the Chalot anastomotic button. The ureteral end of the button was retained in place by a circular ligature. The internal iliac artery was then ligated. In the same way the right ureter was anastomosed with the rectum and the right internal iliac artery ligated. The uterus, appendages, and broad ligaments were then removed with but little hemorrhage. Gauze drains were inserted through the vagina and at the lower angle of the abdominal incision. A large tube was left in the rectum. Convalescence was uninterrupted. The gauze was removed gradually, with no leakage of urine. All the urine passed by the anus. For the first month the patient suffered from diarrhea, having three to four stools an hour, but this condition gradually improved.

Chalot's tube for anastomosing the ureters with the intestine is made of nickel and is cone-shaped at each end. It is 3.5 cm. in length and is hollow, its inside diameter measuring from 1/3 to 3 mm., 1 1/2 cm. from one end and 2 cm. from the other is a groove which is large enough to receive a loop of thread, which is tied around the end of the tube. The rectal end of the tube is perforated so as to permit the introduction of a thread by means of which the tube may be withdrawn, later, if desired.

Figs. 10 and 11 show the method of securing the tube to the bowel-wall.

FOWLER,³³ 1896. *Exstrophy of bladder; bilateral uretero-rectal anastomosis; recovery; well three and a half years after operation.* Fowler operated upon a boy aged six September 20, 1896, for exstrophy of the bladder. The abdomen was opened in the median line. The posterior layer of the peritoneum was incised, the ureters exposed and cut away at their attachments to the bladder-wall. An incision 7 cm. long was then made in the anterior wall of the rectum through the serous and muscular coats of the bowel. The edges of the incision were retracted and a tongue-shaped flap of mucous membrane with its base directed upward was cut from the mucous membrane in the lower half of the diamond. This tongue-shaped flap was doubled upon itself in an upward direction in such a manner that one-half of its mucous surface presented anteriorly, where it was secured by two catgut sutures. A flap-valve was thus formed, both sides of which were covered with mucous membrane. The ureters were then placed in the incision so that their obliquely-cut ends lay upon the presenting mucous membrane of the flap. The ureters were secured in position by catgut and the flap-valve pushed into the cavity of the rectum, and the wall of the latter closed by catgut sutures. The original wound in the rectal wall was closed with fine silk sutures. The patient promptly recovered. The rectum was tolerant of the urine, which was passed per anum on an average every three hours. Defecation occurred about once daily, and the movement was generally formed.

In a personal communication dated March 14, 1900, three and a half years after the operation, Fowler writes: "In reply to your inquiry concerning the condition of the boy upon whom I performed the operation of implantation of the ureters, I am glad to inform you that he is and has been since the operation in good health. There are no indications of renal infection."

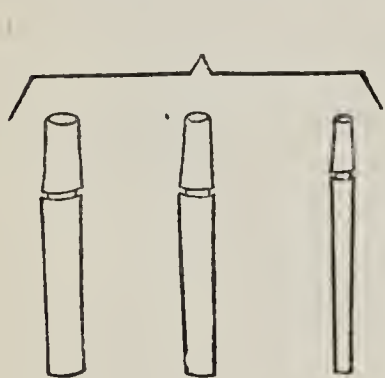


FIG. 10.

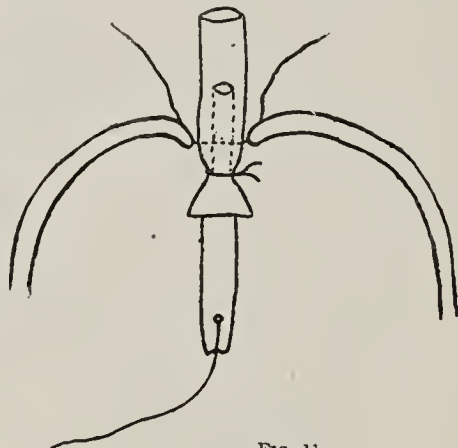


FIG. 11.

TUFFIER ET DUJARNIER,⁴⁰ 1896. *Removal of bladder for malignant disease; bilateral uretero-rectal anastomosis; death seven months later; causes unknown.* The operation was performed upon a man, aged forty, who had suffered from frequent micturition and vesical hemorrhages from a malignant growth confined to the bladder-wall. October 20, 1896, the bladder was removed and catheters fastened in the severed ureters. Each ureter was then passed through an incision made on either side of the rectum and fastened outside the anus to forceps to prevent backward displacement. The operation was followed by symptoms of sepsis. Six days after the operation urine passed by way of the hypogastric opening. Two months after the operation the patient was able, by wearing a receptacle for his urine, to attend to his business. The patient died seven months after operation, of unknown causes.

FRITSCH,³⁴ 1897. *Bilateral uretero-rectal anastomosis; death from pyelonephritis.* Fritsch, in the *Handbuch der Gynäkologie*, mentions, in discussing the question of uretero-rectal implantation, that he has performed the operation on one patient and that death resulted from pyelonephritis. Therefore he condemns the operation.

TUFFIER,⁴⁵ 1897. *Uretero-vaginal fistula; left uretero-colonic anastomosis; recovery.* Tuffier implanted the left ureter in the descending colon, the lumbar route being employed. The woman was suffering from a uretero-vaginal fistula, the upper end of the ureter being in such a position as to make a uretero-cystotomy impossible. The woman recovered from the operation, and showed no signs of renal infection.

VON WINIWARTER, 1898. *Removal of bladder; uretero-rectal anastomosis; recovery with fistula.* The operation was performed January 3, 1898. The urethra and prostate were first exposed and separated from the rectum. The pubic bones were separated and the bladder severed from its attachments and removed. The ureters were catheterized and sutured into

the antero-lateral walls of the rectum. The catheters were removed in forty-eight hours and urine flowed through the anus. Five weeks after the operation the pains had disappeared and the patient had gained in flesh. Most of the urine escaped from a fistula in the anterior wall of the rectum, causing itching in anal region.

SCHNITZLER,⁴¹ 1898. *Case I. Uretero-vaginal fistula; right uretero-colonic anastomosis; recovery.* The operation was performed for the relief of an uretero-vaginal fistula following a vaginal operation. The right ureter was implanted in the ascending colon. Immediate result satisfactory. Ultimate result not mentioned.

Case II. Vesico-vaginal fistula; bilateral uretero-colonic anastomosis; death in a few days; pyelitis. Operation was performed for the relief of a vesico-vaginal fistula arising from carcinomatous ulceration, the radical removal of the malignant growth being impossible. The right ureter was implanted in the ascending, the left in the descending colon. The patient died in a few days, and on the left side was found a severe pyelitis, which probably existed in some degree before the operation. There was also necrosis of some portions of the mucous membrane of the ascending colon, which came in contact with the urine.

EVANS,³² 1899. *Absence of right kidney; abscess of left kidney, which was opened in loin; left uretero-rectal anastomosis; recovery; thirteen months after operation living and well.* Through the kindness of Dr. Evans I am allowed to give an abstract of this interesting, unpublished case. The patient was a man, aged twenty-three, who had had a suprapubic cystotomy July 16, 1898, for chronic purulent cystitis of long standing. Left ureter catheterized; right could not be found. November 28, left kidney opened and large amount of pus evacuated; ureter greatly thickened. February 18, 1899, left ureter was implanted into rectum just below the brim of the pelvis by an extraperitoneal incision. Ureter allowed to project one-half inch into the rectum and united to the bowel by silk and catgut sutures. Gauze drain in each angle of wound. For four days urine did not pass freely through rectum, although water could be made to pass into the rectum by way of the loin. Nine days after operation a small amount of feces escaped through lower angle of incision. Two days later both loin and bladder fistulae were closed and bowels moved often with watery stools after implantation of ureter. No urine passed by bladder fistula or by penis, showing absence of right kidney. Four months after operation the fistula in the loin reopened and discharged for a number of weeks. Thirteen months after the operation patient is in good health and is working every day. The fistula in the loin has discharged for past five months, and at present leaks only at night and not at all during the day, when bowels move three or four times. There never has been any rectal irritation; suprapubic wound is firmly closed.*

TURETTA, 1899. *Removal of bladder; bilateral uretero-rectal anastomosis with Boari's button; death; autopsy showed suppurative nephritis.* Turetta reported before the Congress of Italian Surgeons the case of a man, aged 23, upon whom he had performed total extirpation of the bladder, with implantation of the ureters into the rectum. For several months the patient had suffered from severe hematuria. Examination revealed a hard growth confined to the bladder wall. March 1, 1899, the bladder was resected through a temporary separation of the os pubis and the ureters anastomosed with the rectum by means of Boari's buttons. The urine passed *per anum* until the third day, when the flow ceased and the urine escaped by the incision. Attempts to seize the ends of the ureters failed. Symptoms of nephritis now supervened and became more and more marked until the death of the patient on the sixteenth day after the operation. The autopsy showed suppurative nephritis; the pyramids contained small abscesses.

PETERS, 1899. *Exstrophy of the bladder; bilateral extra-peritoneal uretero-rectal anastomosis; recovery; good health ten months after operation.* Peters exhibited a boy, aged 4½, before the Canadian Medical Association, upon whom he had operated five weeks previously for the cure of exstrophy of the bladder. Two years before he had operated successfully for procidentia recti. In July, 1899, the ureters were implanted into the rectum extraperitoneally, one on either side of the bowel. Good control over the sphincter ani resulted, the patient having evacuations every three hours during the day and every four or five hours during the night.

In a personal communication dated March 30, 1900, Dr. Peters states that the patient is in perfect health ten months

* Feb. 1, 1901. Patient died about two months ago. Autopsy showed atrophy of right kidney, pyelonephritis of left.

after the operation. Able to retain urine three, four, and five hours during the day and eight hours at night. No eczema about the anus. The ureteral openings appear as two prominent papillae in the antero-lateral aspect of the rectum, about one-half inch above the internal sphincters. Urine quite normal in quantity and percentage of urea.

WALSHAM, 1899. *Left uretero-colonic anastomosis; ureteral orifice became stenosed, with subsequent destruction of kidney.* Walsham mentions a case seen by him where the end of the left ureter was implanted in the descending colon. The artificial opening became obliterated by cicatricial contraction, with subsequent destruction of the corresponding kidney.

KRAUSE, 1899. *Removal of the bladder for malignant disease; implantation of both ureters into the sigmoid; recovery; well three and one-half months after operation.* The operation was performed upon a patient, aged 17, three and one-half months before the report. For a year he had suffered from a tumor involving the base of the bladder and completely obstructing the left ureter. The bladder was removed by the extraperitoneal route. The peritoneum was opened four times, but immediately closed with catgut sutures. The vesiculae seminales were left in place. The ureters were not sutured into the rectum because of the extremely low position of the peritoneal cul-de-sac and the correspondingly extreme traction which would have resulted. They were sutured into a coil of the sigmoid flexure, which was drawn down through an incision in the posterior cul-de-sac. Two tiers of sutures were employed; the result was excellent, the convalescence being afebrile and a gain of ten pounds in weight resulting. He can control his urine for two hours and can rest from five to six hours at night.

In 1897 Krause performed a similar operation on a man with carcinoma and existing pyelitis. Patient lived but a short time and died of pyelonephritis.

BECK, 1899. *Tuberculosis of bladder; bilateral implantation of ureters into sigmoid; recovery; well seven months after the operation.* Beck showed a man before the Chicago Medical Society whose ureters he had implanted in the sigmoid flexure for tubercular disease of the bladder. After the formation of a peritoneal and muscular flap in the gut wall a small opening was made in the mucosa, through which the ureters were drawn one and one-half inches into the bowel; the ureters were then sutured in a groove of the bowel wall. The patient made a good recovery, and presents no evidence of pyelonephritis eight months after the operation. Beck believes that this freedom (?) from infection is due to the fact that the ureter, being left free in the bowel, offers a barrier to ascending infection of the ureter and kidney by doing away with necrosis and the formation of granulation about the mouth of the ureter.*

W. C. WOOD, 1899. *Exstrophy of the bladder; bilateral uretero-rectal implantation; death in two months from pyelonephritis.* Wood showed before the Brooklyn Pathological Society the kidneys of a patient, aged five, upon whom two months previously he had operated for exstrophy of the bladder. The ureters were implanted into the rectum according to the technique advocated by Fowler, with the exception that the implantation was performed higher up in the bowel. The patient died in two months of pyelonephritis.

MARTIN, 1900. *Four cases of uretero-rectal anastomosis with three deaths; operations performed for exstrophy of bladder, tuberculosis of bladder and carcinoma of bladder. Case I.* Exstrophy of the bladder in a boy, aged 14. The right ureter was implanted into the rectum extraperitoneally. A second operation upon the left ureter was a failure. The urine was passed *per rectum* every six hours, independent of fecal matter. At first there were casts in the urine passed *per rectum*. Eighteen months later the boy was perfectly well.

Case II. Tuberculosis of the bladder in a man, aged 30. The bladder was removed and the right ureter implanted in the rectum; the left ureter in the skin. A ureteral catheter was employed. The patient died of shock and suppression of urine twenty-six hours after operation.

Case III. A woman, aged 37, was operated on for carcinoma of the uterus and bladder. The ureters were implanted in the rectum by the Martin method. Urine flowed through the ureteral catheters and the anastomosis was found perfect. Died in four days of peritonitis.

Case IV. The carcinomatous bladder and uterus were removed from a woman, aged fifty-four years, and the ureters

implanted in the rectum. The patient died four hours later of shock.

RESUME OF 33 URETERO-INTESTINAL IMPLANTATIONS.

Number of patients operated upon.....	29	
Number of operations.....	33	
Number of operators.....	22	
Conditions for which operations were performed stated in....	31	
Chronic cystitis.....	3	
Ureter in rectum.....	1	
Ureter in descending colon.....	1	
Ureter in ascending colon.....	1	
Recoveries.....	2	
Deaths.....	1	
Cancer of bladder.....		6
2 ureters in rectum.....	5	
2 ureters in sigmoid.....	1	
Deaths.....	3	
Recoveries.....	3	
Tuberculosis of bladder.....		4
1 ureter in sigmoid.....	1	
2 ureters in sigmoid.....	1	
1 ureter in descending colon.....	1	
1 ureter in rectum.....	1	
Recoveries.....	3	
Deaths.....	1	
Exstrophy of the bladder.....		11
1 ureter in ascending and descending colon.....		
2 ureters in sigmoid.....		
2 ureters in rectum.....		
1 ureter in rectum.....		
Recoveries.....	6	
Deaths.....	5	
Uretero-vaginal fistula.....		3
1 ureter in descending colon.....	1	
1 ureter in rectum.....	1	
1 ureter in ascending colon.....	1	
Recoveries.....	3	
Vesico-vaginal fistula.....		2
1 ureter in descending colon.....	1	
1 ureter in ascending and descending colon.....	1	
Recoveries.....	1	
Deaths.....	1	
Cancer of uterus.....		2
2 ureters in rectum.....	2	
Recovery.....	1	
Death.....	1	
Sex stated in.....		27
Males.....	15	
Females.....	12	
Age mentioned in.....		21
Oldest.....		53
Youngest.....		4½
Site of implantation noted in.....		33
Both ureters in rectum.....		13
Both ureters in sigmoid.....		4
Ureter in descending colon.....		6
Ureter in ascending colon.....		3
Right ureter in rectum.....		3
Left ureter in rectum.....		2
Left ureter in sigmoid.....		1
Both ureters implanted in.....		18
Primary recoveries, bilateral implantation.....	10=56 per ct.	
Deaths, bilateral implantation.....	8=44 per ct.	
Ultimate result not stated, bilateral implantation.....	1	
Subsequent death from pyelonephritis.....	3	
Subsequent death, cause unknown.....	1	
One ureter implanted in.....	15	
Primary recoveries, unilateral implantations.....	12=80 per ct.	
Death, unilateral implantations.....	3=20 per ct.	
Anastomatic buttons used in.....	4	
Both ureters implanted in two cases, death.....	1	
One ureter implanted in two cases, recoveries.....	2	
Immediate recoveries, total.....	22=67 per ct.	
Deaths, immediate, total.....	11=33 per ct.	
Renal infection noted in.....	11	
Functional result stated in.....	14	
Good functional result.....	9	
Poor functional result.....	5	
Of the 22 recoveries primarily from the operation, ultimate results not mentioned in.....	1	
Failure.....	1	
Died later of tuberculosis of other organs.....	1	
Died seven months later, cause unknown.....	1	
Died later, pyelonephritis.....	3	
Died of uremia subsequent to implantation of other ureter.....	2	
Kidney destroyed by stenosis of uretero-rectal orifice.....	1	

OF THE REMAINING 11 CASES.

1 ureter implanted, well after.....	6 months.
1 ureter implanted, well after.....	13 months.
1 ureter implanted, well after.....	18 months.
1 ureter implanted, well after.....	2 years.
1 ureter implanted, well after.....	8 years.
2 ureters implanted, well after.....	5 weeks.
2 ureters implanted, well after.....	3½ months.
2 ureters implanted, well after.....	7 months.
2 ureters implanted, well after.....	10 months.
2 ureters implanted, well after.....	1 year.
2 ureters implanted, well after.....	3½ years.

A critical survey of these thirty-three operations shows the primary mortality, 33 per cent., to be exceedingly high. If to this be added the uncertainty as regards subsequent renal infection in the cases surviving the operation, it must be admitted that uretero-intestinal anastomosis is not an operation of choice.

(To be continued.)

* Feb. 23, 1901. Patient died some weeks ago. Autopsy showed marked bilateral pyelonephritis.

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DIABETES MELLITUS.

It seems probable that diabetes has long been recognized, although the presence of sugar in the urine, from its sweetish taste, was first detected in the seventeenth century, and it was not until the eighteenth that glucose was isolated. Then followed a careful description of the disease, with the recommendation of an animal diet and exclusion of vegetable food in treatment. Scientific study of the etiology, nature and treatment of diabetes, was, however, not begun before the middle of the nineteenth century, but since then few diseases have had more attention devoted to them, both clinically and experimentally. In an interesting communication, von Noorden¹ discusses some as yet unsettled questions in this connection, and points out the lines along which scientific investigation may profitably be directed. Quite apart from increased thoroughness of clinical study, there is scarcely room for doubt of the increased morbidity and mortality of diabetes.

With regard to the question of etiology, emphasis has been placed upon the influence of alcoholic excess, heredity and race. The especial predisposition of the Jews to diabetes has attracted attention, and it is suggested that their dissemination and admixture with Indo-Germanic blood may have something to do with the more widespread prevalence of the disease.

A satisfactory explanation for the excretion of sugar by the diabetic patient is yet wanting. This has been thought to be due to the presence of an increased amount of sugar in the blood, but it has been shown experimentally that sugar may appear in the urine as the result of certain forms of intoxication, without an excess of sugar in the blood. The latter phenomenon has been attributed to special activity on the part of the kidneys, and the condition has been designated renal diabetes. In addition to glucose, combinations containing it may be present in the blood. In general it is agreed that the sugar of the blood and the urine is derived from carbohydrates, especially hexoses and pentoses, but it has been shown that it may be derived also from certain proteids and from fat.

Among the special metabolic processes peculiar to diabetes are the production and elimination of non-nitrogenous substances belonging to the fatty-acid series, namely, acetone, diacetic acid, and beta-oxybutyric acid. These three are closely related, not only clinically, but

also pathologically. When the urine and the expired air contain little acetone, diacetic acid and beta-oxybutyric acid also are as a rule absent. When much acetone is present, diacetic acid likewise will be present; and when there is much of the latter, there will generally also be beta-oxybutyric acid. It seems probable that beta-oxybutyric acid is the parent substance, appearing in the urine only when produced in large amount, or when reduction in the alkalinity of the blood prevents its transformation into diacetic acid. The presence in the blood of the acids named is responsible for the large elimination of ammonia that is observed in cases of marked diabetes. It is not known why the diabetic produces so much beta-oxybutyric acid or diacetic acid, but this is favored by exclusion of the carbohydrates from the diet. The source of the beta-oxybutyric acid is believed to be the proteids and the higher fatty acids. The most important fact in this connection is that diabetic coma is almost always associated with the presence of large amounts of beta-oxybutyric acid or its derivatives in the blood; but whether the coma is dependent upon the acid or upon an intoxication peculiar and specific to diabetes, or to both of these influences is, as yet, a matter for discussion.

It is no longer believed that the general metabolism is increased in cases of diabetes, with resulting emaciation and increased demand for food. The oxidation processes are not greater than in a healthy individual under normal conditions, and the emaciation is due to loss through the urine, as sugar, of a part of the energy supplied by the food ingested. As a rule, further, the proteid metabolism of the diabetic is normal. Exceptionally, in the terminal stage, before the onset of diabetic coma, toxogenic proteid metabolism may occur in accordance with the character of the diet. The diabetic exhibits a tendency to suffer from loss of lime, and this is thought to be due to the presence of organic acids in the blood. Absorption of food from the stomach and the intestines, however, pursues a normal course. In some cases, on the other hand, absorption of fat and proteids is impaired. Under such circumstances it is probable that the secretion of pancreatic juice is interfered with, and, clinically, administration of pancreatic extract has proved serviceable.

There is yet much to learn in connection with the pathogenesis of diabetes. It is known that lesions of the floor of the fourth ventricle, intoxication with phloridzin, and total destruction or extirpation of the pancreas, may, among other things, give rise to the manifestations of the disease. Clinically, diabetes may be considered a derangement of metabolism of varying degree, and with corresponding variations in the intensity of the symptoms to which this gives rise. In the line of treatment no great advance has been made beyond that of rigid dietetic individualization. There is no effective medicinal remedy, although opium and its alkaloids, as well as antipyrin, salicylic acid and jambul, are capable of diminishing the elimination of sugar, but

¹. Berliner klin. Woch., 1900, Nos. 49 and 50.

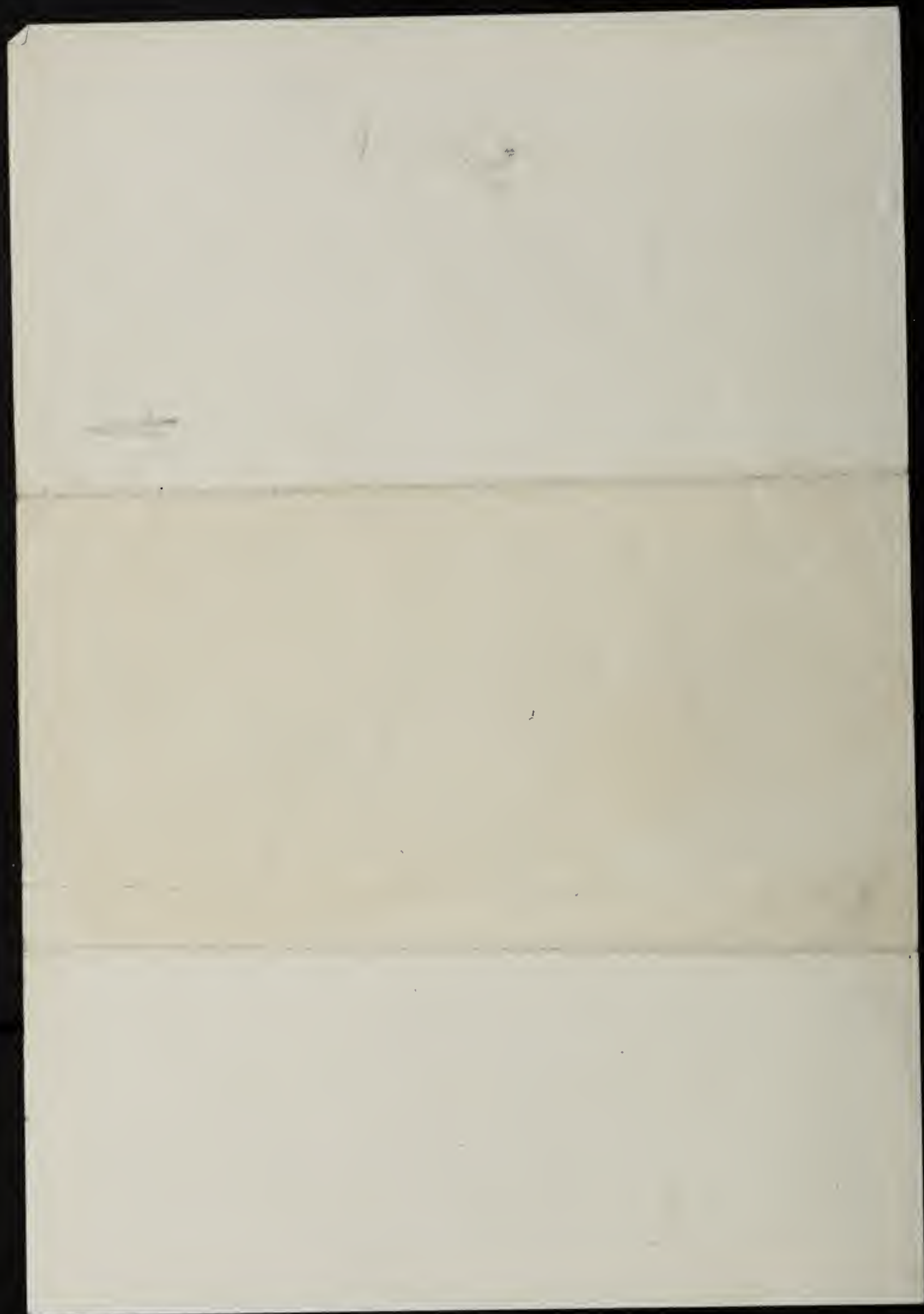
OLD SOLDIERS' CONCERT

AT

M. E. CHURCH, TO-NIGHT

PROGRAMME

1. A. The Army Bean.
B. Tenting on the Old Camp Ground, . . . Veterans
2. Recitation, On the Rappahannock, . . .
. Mrs. Colonel J. S. Wolfe
3. Solo, The Star Spangled Banner, Miss Mary R. Moore
4. Illinois in the Civil War, . . . Dr. C. B. Johnson
5. A. Solo, "Illinois".
B. Solo, The Sword of Bunker Hill . . .
. Colonel N. H. Cohen
6. Recitation, . . . Mrs. Matilda E. Lehman
7. Song, Battle Cry of Freedom, . . . Veterans
8. Violin Solo, Gen. Grant's March, Miss Nellie Crawford
9. Solo, "No Surrender", . . . Chas. Nunan
10. Solo, . . . Miss Alene Wheaton
11. Song, Marching Through Georgia, . . . Veterans
12. Recitation, . . . Miss Vivian Ewing
13. A. Solo, Rocked in the Cradle of the Deep.
B. Solo, Coming through the Rye, . . .
. Mrs. Jennie Gatewood-Chavers
14. Song, America, . . . Everybody sing



their effect is uncertain and transitory, and the injury resulting from their long-continued use is greater than the temporary benefit.

RECENT VIEWS CONCERNING THE GENESIS OF CARCINOMA.

Ribbert's opinions as to the early participation of the underlying connective tissue in the development of carcinoma have been the subject of a severe arraignment by Lohmer.¹ For a considerable period, chiefly through the work of Thiersch and Waldeyer, the origin as well as the further growth of carcinoma was held to be directly due to the proliferation of the epithelium into the deeper tissues. Ribbert and his pupils diverged from this conception in that they traced the origin of the tumor to a disconnection of the epithelial cells from their associates by processes in the subepithelial connective tissue; following such dislocations, the loosened cells proliferated to form a tumor. Such severances are, according to Ribbert, produced by the growth of the connective tissue into the epithelium, by the lengthening of the papillæ of the corium so that the interpapillary epithelial pegs become correspondingly drawn out and ultimately separated, and by the pushing outward of the epithelium *en masse* by the increased amount of tissue in the corium. There is no doubt that Ribbert's theories have been of great service in stimulating study of the dynamics of the process; nor is there any question but that they minimize, to insignificance, the important change in the epithelium whereby the cells proliferate and undergo the marked morphologic alterations that Hauser and others believe to be the visible signs of altered biologic conditions. Lohmer, in a careful study of serial sections of eight carcinomas of the lip, of carcinomas that originated in sebaceous glands and hair follicles, in the mammary gland, penis, forehead, nose, tongue, pancreas, and different parts of the gastro-intestinal tract, has failed entirely to find adequate histologic evidence to support the views of Ribbert. He was able to prove that certain cases originated solely by the proliferation of the epithelium inward, that elongation of the interpapillary epithelium in many cases was absent, that on the border of glandular carcinomas, the new glands are produced by the proliferation of pre-existing glands, and, what is still more interesting, he was able to find in some carcinomas that two or more entirely independent foci of proliferation were present. He is forced to the conclusion that we must return to the former views of Thiersch and Waldeyer, that the multiplication of the epithelial cells is alone responsible for these growths.

The reasons for the increased proliferative energy of the cells whose end product is a tumor have been theoretically assumed, by Brose,² to be due to a double stimulus. He believes that the initiatory changes are reparative in nature, and that when these are unable to

restore the damaged parts the added energy causes them to multiply still further and to produce such an amount of new tissue that tumors are formed. He distinguishes two forms of proliferation, that called forth in the response of the tissues to injury—essentially teleologic—and such as occurs in tumors. The proliferation of cells in consequence of physiologic waste and wear, he would designate by the name regeneration. Upon this assumption he has made careful re-examination of Lowenthal's tables³ and finds that in many cases injury to parts in which reparative processes were already commenced has caused tumors; the second injury has been sufficient to supply the stimulus necessary to cause proliferation that far oversteps the requirements. Many cases of carcinoma that develop in the cicatrices of burns belong to this category. In some cases in which a positive history of previous trauma was lacking, the defect was filled by careful inquiry into the occupation and habits of the individual. He quite correctly calls attention to the impossibility of obtaining positive information about the traumatic injuries to the surface of the gastro-intestinal canal—situations where trivial harm is fully as important as extensive injuries upon the outer surface.

There is much that is interesting and attractive about the theoretical axiom erected by Brose of trauma-proliferation, trauma-tumor, and one of the most valuable supports to this view is afforded by the occurrence of malignant growths following trauma of benign tumors. He attributes the repeated failure of previous investigators to produce tumors by implantation experiments to the absence of certain factors in the causal chain, and to the necessity of experimentation upon a productive process that has already been established. Upon this basis he bruised the skin of the back of a guinea-pig and, after a granulating wound had formed, rubbed it at intervals with a solution of paraffin in xylol; after some weeks a very characteristic ulcer was produced, resembling the cerebral convolutions in miniature; the elevations in the floor of the ulcer were caused by an atypical epithelial growth that in all respects resembled an early carcinoma. The experiments have not as yet been conducted to the end that regional and general metastatic growths are reported. It will be noted that these two important contributions to the subject of tumor genesis do not necessarily conflict with the parasite theories of tumors.

THE BOSTON MEDICAL LIBRARY.

After twenty-five years of untiring effort the Boston Medical Library Association, originally composed of six physicians, on January 17 dedicated its new and complete building by interesting and appropriate exercises. A series of short addresses, admirably suited to the time and place, were given by men from Boston, New York, Philadelphia and Baltimore. Any one really interested in the question of medical libraries can

1. Ziegler's Beiträge, 1900, xxviii, 372.

2. Virchow's Archiv, 1900, clxii, 32.

3. Archiv f. klin. Chir., Bd. xlix.

derive much pleasure and profit from reading the various addresses.

The Boston Medical Library is the fourth in size in the country, being exceeded by that in the Surgeon-General's office in Washington, that of the College of Physicians of Philadelphia, and that of the Academy of Medicine in New York. It contains about 33,000 volumes and 30,000 pamphlets; it receives about 500 periodicals. To adequately house a growing collection of this kind and to furnish suitable and inviting facilities for its daily use require a commodious, specially constructed building; and the Boston Medical Library now has a fitting domicile in a chaste and appropriate building on one of the most attractive streets, "commanding a view of exceeding beauty." For erecting this building \$73,000 were collected by subscription; the total cost is \$140,000; the association has \$25,000 in land, so that there is a balance of debt of \$42,000. It seems that the money has been secured wholly through the medical profession of Boston. The new building is planned to be of use to the profession and the community in other ways than as a library. A directory for nurses is conducted within it; and by an admirable foresight, which it is hoped may come into play in connection with similar undertakings elsewhere, suitable halls for the meetings of various medical societies have been added. Portraits of past worthies ornament the walls, and the memory of Oliver Wendell Holmes is to be kept green by naming the principal reading room Holmes Hall; this room contains many Holmes mementoes. It is pleasant to note that the amenities of the social side of professional life have been so well cared for as to provide smoking room and supper room. Indeed, it is proposed and was urged by some of the speakers to enlarge the scope of the functions of the library so as to include those of a society or academy, making the institution similar to the Academy of Medicine in New York and the College of Physicians in Philadelphia. This subject is certainly an important one; its treatment in Boston will be watched with great interest, and it should receive a most careful consideration wherever plans for the benefit of the medical profession and for the advancement of medical knowledge are being matured.

The Boston Medical Library is especially indebted for its great progress to one man, Dr. James R. Chadwick, the librarian, whom Dr. Oliver Wendell Holmes described as the "untiring, imperturbable, tenacious, irrepressible, all-subduing agitator, who neither rested nor let others rest until the success of the library project was assured." Having pursued a cherished purpose for a quarter of a century the felicitations offered Dr. Chadwick at the dedicatory exercises will be echoed wherever interest in medicine lives.

Thanks to Dr. John S. Billings and the Index Catalogue, bibliographic research has been rendered comparatively easy and the scope of medical research greatly extended. The Index Catalogue has helped to create a

demand for books and especially for periodicals. In the words of Osler, such men as Billings and Chadwick, "loving books partly for their contents, partly for the sake of the authors, they not alone keep alive the sentiment of historical continuity in the profession, but they are the men who make possible such gatherings" as the one in Boston the other evening. More men of this class are needed among us. When will the Billings and the Chadwick of some of the large cities west of the Alleghenies arise, in Chicago, in St. Louis, and elsewhere?

THE OPEN-AIR TREATMENT OF PULMONARY TUBERCULOSIS.

The knowledge that pure air is a potent agent in the cure, as well as in the prevention, of pulmonary tuberculosis is not a discovery of recent date, but it is only within the last quarter of the nineteenth century that the principle has been systematically applied. The fact must never be lost sight of that the tubercle bacillus is not the sole, though withal the specific, etiologic factor in the development of tuberculosis. The nebulous condition comprehended in the designation "susceptibility" constitutes only a less important factor. This may be inherited or acquired. It is best counteracted by hygienic measures and by improvement in the general nutrition; and these ends are best attained through a life in the open air and suitable dietetic regulations. It has been thought in the past that the first of these objects especially could be secured only at certain altitudes above sea-level and under certain meteorologic conditions present only in some localities; but the majority of sufferers from tuberculosis are unable for obvious reasons to leave their homes and assume the expense that change of residence necessarily entails. Fortunately for those who can not seek the desired climate, it is possible to provide them at home with many of its conditions, and the principal of which are purity of air and sunshine. These prophylactic measures are applicable also in the treatment of developed tuberculosis, and the success with which they have been credited commends their adoption in the largest number of cases.

Of the more general appreciation of the utility of the open-air treatment of pulmonary tuberculosis, evidence is afforded by the activity going on on many sides in providing means for its employment in the case of those unable from their own resources to secure its benefits. Governments and states, and other public bodies, are at present vying with one another in the laudable endeavor to make conditions easy for even the poorest tuberculous patient to avail himself of the advantages of the open-air treatment. Thus, in Pennsylvania a plan has recently been proposed by the forestry commissioner, Dr. J. T. Rothrock, having in contemplation the establishment of suitably located camps on the various forest reservations of the state, where tuberculous patients unable to provide themselves with a change

of climate may spend several months in the year living in the open air. The first of these camps is to be established on a reservation in Clinton County, at an altitude of 2000 feet above sea-level, and having an area of 45,000 acres. Here it is proposed to erect large tents, with permanent foundations and anchorage, in order that they shall be as nearly as possible storm-proof. Each tent is to be provided with a heavy wooden floor, and separated by a distance of 15 feet from other tents. Along the front a covered wooden platform raised from the ground will be erected, so that the invalids need not be deprived of exercise on rainy days. The state is not to be asked to contribute any money for the enterprise, as enough funds have been subscribed to meet the necessary outlay. The patients will be expected to provide their own means of subsistence. They will be required to adhere rigidly to the fish and game laws, and all laws for the preservation of forests, including precautions in the use of fire. Should the plan be successful, a second camp will be established in Dauphin County, overlooking the Lykens Valley, at an elevation of 1400 feet. Ultimately it is hoped to establish similar camps on every healthy forest reservation of the state.

The plan outlined is one to be commended. It is worthy of imitation, and on its merits is deserving of success. It will provide the means, otherwise unattainable, for restoring to health and usefulness a considerable number of victims of a disease recovery from which is yearly becoming more hopeful. Pulmonary tuberculosis should no longer be designated "consumption," as it is merely one of a number of acute infectious diseases capable of prevention, amenable to intelligent treatment, and susceptible of cure.

ANTIVIVISECTIONISTS AND MISREPRESENTATION.

Dr. Keen's letter, published in our last issue, ought to give a quietus—but it probably will not—to the blatant individuals who, with all their self-righteousness, have, as he shows, descended to the meanest arts of misrepresentation. The antivivisectionists have had their say uncontradicted so long that they apparently felt that their license to misrepresent was unlimited, and that they did not need to respect the ordinary rules of morality, more especially the ninth commandment. The welfare of the brute creation is their holy cause, judging from their average literature, but their diversion into philanthropy by raising the bogey of human vivisection has resulted disastrously. Dr. Keen certainly dissects their statements unsparingly, supporting by the most positive facts his charges of indefiniteness and garbling in their evidence before the Senate committee. Whatever may have been the personal responsibility of the president of the humane society for the facts as shown up by Dr. Keen, he ought to feel deeply humiliated at the exposure he has thus brought upon himself and the society he represents. It will stand on record, however, and no amount of abuse or further falsifying will alter or obscure the evidence of their disreputable methods. It is a pity that the cause of humanity to the lower creatures should be so encumbered with extremists who

see nothing beyond the immediate objects of their solicitude, and unscrupulous advocates who do not hesitate to bear false witness against their neighbors. The medical profession is the humane one *par excellence*, but its first regards are for the welfare of humanity and it does not exalt the welfare of the brute over that of mankind.

THE DUTY OF THE PHYSICIAN TO THE STATE.

The recent utterance of a Philadelphia judge to the effect that it would be better that a patient should die rather than that a physician should neglect a judicial summons, has stirred up the lawyers as well as the doctors. The physician's standpoint has already been given editorially in *THE JOURNAL*,¹ but it may be of interest to note how it is viewed by the legal profession. The *New Orleans Times-Democrat* has taken the trouble to obtain the opinion of a number of leading members of the bar and judges upon the course of the judge, and their unanimity in condemnation of the opinion is striking. The expressions, "unreasonable and arbitrary," "not ruled by the ordinary law of common sense," "absurd," "inhuman," "brutal in its effects," are some indications of how the judge's action and statements are appreciated by his legal brethren. If he is at all sensitive to public opinion he will not be likely to repeat his action, which one can hardly believe was prompted by any deliberate consideration of the facts. Judges, however, are the men who, more than others, should guard their speech and action from any suspicion of inconsiderateness, and if they make mistakes such as that of this Philadelphia jurist, must suffer for it accordingly in public and professional estimation.

THE X-RAY IN QUACKERY.

It is a little remarkable that so striking a discovery, and one that impresses itself so strongly on the popular imagination as does the x-ray should have been left so long unutilized by the quack. This perhaps is due in part to the fact that some knowledge of the scientific side of electricity is supposed to be required, the Crookes' tubes and other apparatus being a little above the intelligence of the average charlatan, and in part to the fact that the regular profession has progressed so rapidly in discovering its remedial and diagnostic utilities that the quacks could not well keep up to them. This state of things, however, can not be expected to last, and now we have advertising specialists proclaiming the special advantages of the x-ray apparatus in their hands for modest females, enabling them to be examined without disrobing or otherwise exposing themselves. A comic paper in the early days of the x-rays contained a picture of a couple of skeletons, one sitting in the other's lap, worked up with all the expression of which these ground plans of humanity "far too naked to be shamed," are capable by the limner's art, but the aforesaid specialist's particular method of utilizing Roentgen's discovery strikes us as novel and entertaining. Still, perhaps the wonder is that it had not been thought of before, for the buzz and the blue flames with brass and glass accessories would go far to create

1. February 9, p. 387.

the mental impressions desired by the quack, and the unquestioned scientific associations of the methods would help to increase his victim's confidence. We may probably expect to hear more from time to time of this discovery as employed as an adjunct to quackery, for which in several respects it has a peculiarly happy adaptability.

MEDICAL ANARCHY IN TEXAS.

The fact that a Texas decision made all diplomas of whatever character qualifications for practice, has already been noticed in *THE JOURNAL*. This places Texas in about the lowest grade among the states, but it seems still lower depths can be reached. The *Texas Medical News* for January publishes a letter, received by a medical student in Galveston, in which the writer says he has a friend on one of the state boards of medical examiners who informs him "that one of the other state boards is clandestinely advertising for applicants for license and assuring them of same if they will only appear before said board. And because of this, this friend of mine says to me: 'You offer license to any worthy and competent young man that you may find and I will furnish same.' So, doctor, if you desire a permanent state license for the practice of medicine and are willing to pay \$25 for them, why, you can write me." The writer goes on to say that the offer is "no humbug, but good goods," that he is a regular practicing physician, etc., and to ask that it be treated confidentially and if a license is not wanted to have nothing said about it. As a commentary the *Texas Medical News* reproduces a clipping taken from the *Dallas News* of a recent date, giving an account of twenty-seven young medical students from a Memphis college, all Texans, passing the district medical examiners in Texarkana, some of whom returned to finish their studies while others proceeded at once to their homes to hang out their shingles without further preliminaries. A diploma-mill of the Armstrong type has heretofore been our ideal of the extreme of degradation of medical qualifications, but a district examining board of Texas, appointed by the district judges, selling licenses to practice at \$15 to \$20 a piece, goes it one better. Between the quacks and their legal friends and sponsors there would seem to have been, up to date, pretty nearly medical anarchy in Texas. The medical practice act just passed (see *Medical News* column) was certainly badly needed.

SAN FRANCISCO AND THE PLAGUE INVESTIGATION.

THE JOURNAL has referred to the plague in San Francisco on several occasions, and some of our readers may think we are too insistent in expressing our views in regard to what may seem of local interest. An apology is not needed, however, as the question is one not only of national but of world-wide importance. There has been much opposition to the efforts of the Government representatives—those connected with the U. S. Marine-Hospital Service—by the newspapers of San Francisco and, we are sorry to say, by a few medical men, and the Government decided to send a commission to investigate and report on the conditions found. The men selected for this commission are those whose ability, honesty, and scientific judgment are above criticism, representing

three great medical centers, and, moreover, well known to the profession generally throughout the country. Their testimony will be held conclusive, whatever their verdict may be. Of the members of the commission, Drs. Barker of Chicago, and Flexner of Philadelphia, have already made a study of the plague in the Orient, having been sent to Hongkong and Manila for the special purpose of studying the diseases there prevalent. Their well-known scientific attainments made them especially prominent and no better selection could have been made by the Secretary of the Treasury. Dr. Novy of Ann Arbor, the third member, has long been one of the leading authorities on bacteria and toxins in this country, and his opinion will carry equal weight. According to reports, the members of the commission have already attended the autopsies of not less than six fatal cases of plague that have occurred since their arrival on the Pacific Coast, and one of these, it is further stated, was under observation by them four days before death. We also learn that for a short time it was feared one of the members of the commission had been infected from these cases, but this has fortunately turned out not to be a fact. Thus far the members have neither collectively nor individually given utterance to any data or opinions publicly or privately, but the above data were obtained from other reliable sources. The report, when it appears, will settle the question as to the existence of plague in California.

THE TOXICITY OF NORMAL URINE.

The significance of reports as to the toxicity of the urine in the presence of various morbid states will be great or little accordingly as the urine may possess toxic properties or not under conditions of apparent health. Clinicians have at different times sought to estimate the gravity of a number of diseases from a study of the toxicity of the urine, although it has been pointed out that normal urine also may be capable of injurious effects. In explanation of the latter, it has been suggested that they may be due to suspended solid elements, to the products of fermentation and to the presence of potassium salts. With the object of determining the degree of toxicity possessed by normal urine, as well as the nature of the responsible substance or substances, Dresbach¹ collected the urine, usually to the amount of four liters, from healthy adults, who were not and never had been users of tobacco, and prepared an extract, which was injected in concentrated watery solution into white mice in doses varying from 3 to 7 minims. The smaller amounts gave rise to somnolence, spasmodic movements and clonic convulsions, irregularity and difficulty in breathing, exophthalmos, dilatation of the arterioles, exaggeration followed by abolition of the reflexes, while large amounts caused death. On evaporating the extract to dryness, considerable residue remained, but this could easily be destroyed by heat, leaving practically no ash. It was thus shown that no mineral matter was present. Tests for xanthin compounds likewise yielded negative results. It is pointed out that the results produced could not have been due to potassium salts or to any organic substance usually included in the list of substances in normal urine.

1. *Jour. of Exp. Med.*, Dec. 15, 1900, p. 715.

THE HEREDITARY TRANSMISSION OF NEUROSES.

However heredity may act in the transmission of certain textural or nutritional disorders, or proclivities thereto, there can be no doubt of the fact that it does so act. It is true that disease may be conveyed directly from the mother to the fetus *in utero* through the placental circulation, but such a manifestation is in no sense an expression of hereditary transmission. Clinically speaking, it is not disease per se that is transmitted by heredity, but rather the morbid condition of tissue that either underlies or predisposes to disease—and this, it is to be presumed, is specific in the individual instance. In no class of affections is the influence of heredity as an etiologic factor more conspicuous than in the diseases of the nervous system, and especially the psychoses and neuroses; and this fact points the way to certain prophylactic possibilities. Thus, epilepsy, particularly if of the so-called idiopathic type, is often of distinctly hereditary origin, and the adoption of rational and practicable measures looking to the restriction of marriages and procreation by the unfortunate victims of this disease would aid materially in limiting its prevalence. Such measures must depend for their enforcement largely on the intelligence and self-control of the community rather than on arbitrary and rigorous legislation. An instance illustrating the pernicious influence on the offspring of epilepsy in the parent is cited by Bourneville and Ponlard in *Progrès Médical* for September 29. A young married man in whom, without obvious cause, epileptic seizures began in the 30th year, begot eight children, two of whom died of athrepsia and one of cholera infantum. Of the remaining five, one was the subject of petit mal and of violent outbreaks of bad temper; another was the subject of grand mal, with hallucinations of vision and disturbances of sleep; and one was neurotic and suffered from night-terrors. From a consideration of cases like the foregoing, which are by no means isolated, it is not surprising that the authors reach the conclusion that marriage on the part of the subjects of epilepsy and epileptoid psychoses and neuroses should be forbidden or strongly discouraged.

THE INFLUENCE OF BACTERIA IN THROMBOSIS.

Thrombosis, especially of veins, is a not infrequent complication of infectious diseases such as pneumonia, typhoid fever, puerperal and other pyemic diseases. Thrombosis is also seen in so-called marantic states, in which death is often hastened by terminal infections. Welch, in his article on "Venous Thrombosis in Cardiac Thrombosis,"¹ states that micro-organisms have been found in a large number of thrombi in cases examined in his laboratory. There seems to be but little experimental evidence in favor of the infectious nature of thrombosis under these conditions. The recent work of Jakowski,² however, is quite suggestive. He injected sterile cultures or solutions of toxins of typhoid and of diphtheria bacilli into the circulatory blood of rabbits and guinea-pigs. After the injection a rubber band was placed around an extremity or an ear for one hour and then removed. Suitable control experiments were made

and the animals killed twenty-four to seventy-two hours after the injection. Thrombi were not found in the control experiments in which bacteria or toxins were injected without compression of the vessels or in which compression was made without injection. In those experiments in which injection and compression were made clots were found constantly after the introduction of typhoid bacilli, but not so definitely after injection of typhoid toxin; living diphtheria bacilli were injected in these cases and in two thrombi were found after compression, but diphtheria toxin gave negative results. In a previous set of experiments with bacillus coli communis thrombi developed quite freely. Presumably the bacteria injected become implanted on the intima at the site of the compression, and multiplying they produce toxins that lead to the precipitation of fibrin. When toxins alone are injected the dilution becomes so great that they have no effect. To what extent these results are applicable to human pathology is uncertain, but surely they are suggestive. The exact manner in which bacteria induce thrombus formation will remain unknown until the chemistry and physics of coagulation are understood more clearly than now.

Medical News.

CALIFORNIA.

An osteopath of Santa Cruz, has been released from jail on a bond of \$500, on condition that he leave the state.

The medical bill has been passed by the senate and will now, unless unforeseen contingencies arise, become a law.

The health bill, which appropriates \$100,000 as an emergency fund to be at the disposal of the governor and State Board of Health, to be used in case of emergency, has passed both the house and senate and will become a law.

Mary's Help Hospital is to be built on a large plat of ground on Guerrero street, San Francisco. The building will be for the exclusive use of women and children. The late Mrs. Kate Johnston left a bequest of \$250,000 for the erection, equipment and maintenance of the hospital.

DELAWARE.

The Delaware State Hospital, at Farnhurst, has been granted an appropriation of \$20,000 to cover the deficiency of \$17,000 reported by the trustees and to provide for current unpaid bills.

Bills have been read and referred in the house of representatives, establishing a bacteriologic and pathologic laboratory at Delaware College, and extending the powers of the State Board of Health.

The Delaware Hospital, Wilmington, will open its new building in a short time. Its trustees announce that they have raised \$21,657 of the \$39,600 required to erect and equip the building, and make an appeal to the people of the state to contribute the \$18,000 deficit, that the hospital may be free from debt when its new building is opened.

An amendment to the laws governing the admission and practice of physicians has been introduced by Senator Abbott, providing that whenever a physician who is a resident of the state and who was duly qualified to vote for representatives in the general assembly at the last general election prior to his application shall apply to the State Board of Medical Examiners for a certificate, it shall grant it without examination upon his presenting to the board a diploma from a reputable medical college, and on satisfactory proof that he had been in active practice of his profession at least ten years in any other state of the United States.

ILLINOIS.

The Rockford City Council has decided that physicians charge too much and so has cut down bills presented to it, from 27 to 40 per cent.

Consumption has decreased in the state penitentiary at Joliet, so that, while in 1895 thirty-nine deaths were reported

1. Trans. Am. Assn. of Phys., 1900, xiv.

2. Centralbl. f. Bact., 1900, xxviii, 801-809.

as due to this disease, in 1900 only eight occurred. This appears to be due directly to the segregation of tuberculous patients.

A state sanatorium for tuberculosis is provided for in a bill recently introduced in the lower house. The bill was framed by Dr. John A. Robison, Chicago, and is endorsed by the Illinois State Medical Society, the Illinois Society for the Prevention of Consumption, and the State Board of Health. It appropriates \$200,000 for the purchase of a site, erection of a building, and maintenance for one year.

Chicago.

Chicago's mortality for the week ended February 23 was 511, or an annual death-rate per 1000 of 15.68. Of the deaths, 172 were due to diseases of the respiratory system, and 26 to violence.

Dr. S. Cecil Stanton has just received an appointment of contract surgeon in the United States Army, to be stationed in Chicago. Dr. Stanton has been doing work in connection with the government's recruiting station here for some time.

The indictments against Dr. August M. Unger, in connection with the life insurance case of Miss Marie Defenbach, which he sought to have quashed, will stand, as Judge Holdom, on February 21, overruled the motions to quash in each of nine counts in each of three indictments.

The smallpox situation is improving; 10 new cases were discovered last week as against 17 the week before. The total up to February 23 is 27, with no death; 13 have been discharged from the isolation hospital, and 33 remain under treatment. The prompt discovery and isolation of cases and the wholesale vaccination of the exposed neighborhoods are relied upon to keep the disease under control.

The health department has issued a warning that debilitating causes of all kinds—alcoholism especially—predispose to attacks of pneumonia. Exposure to sudden changes of temperature should be avoided; the feet kept dry and warm and the throat and chest well protected; fasting rather than indulgence should be observed. The higher the bodily condition the less favorable is the growth and virulence of the pneumonia germ. The laboratory examinations show a notable decrease in the findings of the influenza bacillus, indicating that the disease is declining; on the other hand, the organism of pneumonia is found in increasing numbers and there is a strong probability that, with the usually trying March weather, there will be a marked increase in the prevalence of this malady.

INDIANA.

St. Margaret's Hospital Staff was organized February 15, with the following officers: Dr. James T. Clark, president; Dr. Cyrus W. Campbell, vice-president, and Dr. H. Edgar Shanes, secretary.

The faith-curers sustained a serious reverse February 19, when the senate voted to accept a favorable report on Senator Wood's bill requiring believers in faith cure to call medical aid in the illness of children and dependents. The bill makes it a felony to withhold medical aid from children and other dependents when such dependents die for the lack of medical aid.

KANSAS.

Dr. Ralph C. Henderson, Erie, has been appointed pension-examining surgeon at that place.

Sherman County has quarantined against Norton, Almena, Sharon Springs and all other towns infected with smallpox, until further orders.

Dr. Irwin E. Bennett, U. S. A., formerly of Leavenworth, has been promoted to a captaincy in the medical department. He is now on duty with the United States forces in China.

MICHIGAN.

The Lansing Hospital Staff has been organized with Dr. Rush J. Shank, president, and Dr. L. Anna Ballard, secretary.

Dr. Harry B. Britton, Ypsilanti, has been appointed a member of the board of medical pension examiners, to succeed Dr. Frank K. Owen.

MINNESOTA.

Dr. George H. Overholt, Kenyon, has been appointed health officer and placed in charge of the smallpox cases in Holden.

Daily inspection of the public schools of Minneapolis has been inaugurated, and a staff of fifty medical inspectors has been appointed to carry on the work.

Dr. Geo. D. Haggard, Minneapolis, Minn., has presented a number of wax and plaster models of smallpox eruptions to the medical department of the University of Minnesota.

After the Quacks.—According to the *Northwestern Lancet*, the Minnesota State Board of Medical Examiners has recently done good work in Minneapolis, in suppressing quackery. Two local advertising quacks have been obliged to discontinue their practice, at least under their own names. A third, not a physician, but representing himself as one, has been bound over to the grand jury.

Proposed Legislation.—A bill endorsed by the state medical society has been introduced, providing for a state board of medical examiners of twelve members, to be appointed by the governor from the different schools of medicine. The board can dispense with examinations in cases of practitioners authorized to practice in other states, or their payment of a \$50 fee, when moving into Minnesota, provided said states demand qualifications of equal grade with Minnesota and extend the same privileges to practitioners holding Minnesota licenses.

NEW JERSEY.

Dr. Paul Mecroy, of Camden, has been appointed physician and surgeon of the Pennsylvania Railroad, to succeed Dr. Dowling Benjamin.

Christ Hospital's council and staff gave a dinner to Dr. John A. Robinson, retiring house-surgeon, in the sun parlors of the hospital, Jersey City, February 14.

The State Board of Health is forcing New York physicians who practice on the west side of the North River, to register and obtain license to practice in New Jersey.

NEW YORK.

Dr. Clarence V. Gray has been appointed health officer of Elba.

Dr. Harriet M. Watson has been appointed resident physician at the Albion House of Refuge.

The Binghamton health board has passed a resolution that houses where typhoid fever or measles exist shall not hereafter be placarded.

A bill has been introduced in the Assembly to provide for sending indigent persons requiring medical attention to the nearest hospital approved by the State Board of Charities.

Dr. Patrick J. Barrett, Utica, has been placed in charge of the isolation hospital, and Dr. Fred J. Douglas has been appointed city health officer vice Dr. Wallace Clarke.

The bill to abolish the State Board of Health, and substitute a single commissioner, is now before the governor. The commissioner is to be appointed by the governor at a salary of \$3500.

Dr. Charles H. Andrews, Bergen, has been promoted to captain in the medical department of the army, and appointed a member of the examining board at San Francisco to examine volunteers preliminary to muster-out.

Regulation of Sale of Poisons.—A new state law places greater restrictions on the sale of poisons than were ever specified by any other measure. No substance which, in the words of the law, "according to standard works on medicine or materia medica, is liable to be destructive to human life in quantities of 60 grains or less, shall be sold at retail or furnished without being labeled with the name of the article and the word 'poison' and the name and place of business of the seller plainly printed in red ink." A record must be kept of the more dangerous poisons, as arsenic, cyanid of potassium, hydrocyanic acid, cocaine, morphin, strychnin, and all other vegetable alkaloids and their salts. A complete record, including the name of the purchaser, his address, the amount of poison sold and date of sale, must be kept where it can be inspected at any time by the proper authorities, and must be preserved for five years.

Buffalo.

Dr. Nelson G. Russell has been selected assistant surgeon of the 65th Regiment.

The board of health has prepared an ordinance against expectoration in ears and public places, and also one providing that bottles used for milk shall not be used for other purposes.

The department of health report for January shows the death-rate per 1000 to be 18.08. Of the 531 deaths, 83 were from communicable diseases. The total deaths for January were 531, as compared with 437 in January 1900.

New Consumption Hospital.—Ground has been broken for the consumption hospital on the Erie County Almshouse grounds, which is to replace the former structure burned last March. The cost of the building is to be \$50,000.

The ninth annual report of the Charity Eye, Ear and Throat Hospital of Erie County shows 1983 new cases treated during the year. The hospital authorities are well pleased with the workings of the new law which makes it a misdemeanor to obtain treatment under false pretenses.

New York City.

Dr. Edith B. Blackwell has been appointed resident physician and teacher of physiology in the State Normal School at Greensboro, N. C.

The New York Skin and Cancer Hospital has received a second donation of \$5000 from Miss Emily S. Watson, New York, to endow a free bed.

The Montefiore Home for Chronic Invalids has changed its name to the Montefiore Hospital, because the latter name more accurately describes the function of the institution, whereas its former title had led many persons to suppose that it was a permanent residence for invalids.

Clinical Lectures on Syphilis.—The New York Skin and Cancer Hospital announces a course of clinical lectures on Syphilis, by members of the visiting and consulting staffs, on Wednesdays during March and April, and May 1. The lecturers are Drs. L. Duncan Bulkley, Abraham Jacobi, D. Bryson Delavan, David Webster, Edward D. Fisher, Edward G. Janeway, and Willy Meyer. These lectures are free to members of the medical profession on presentation of their professional cards.

Smallpox.—During the past week between 20 and 30 new cases of smallpox have been reported from widely separated sections of the city, 13 in one day; and 3 with the disease far advanced, walked into the Harlem Hospital in the course of three hours. The Health Department has issued a statement calling the attention of the public to the fact that the disease is not abating, and that they are now only vaccinating about 30 persons daily whereas, a few weeks ago, the daily average was 2000.

OHIO.

The Arcadia Board of Health has been organized with Drs. Madison G. Baldwin and Robert B. Taylor as its medical members.

Dr. Frederick C. Jackson, formerly of Columbus, now an acting-assistant surgeon in the Army, on duty in the Philippines, has been made captain and assistant surgeon of volunteers.

A fire broke out in the kitchen of the Cincinnati Hospital, February 19, and for a time threatened the destruction of the entire building. In the attempt to put it out several of the hospital employees were severely burned.

The Divine Healer.—The case of "Dr." Yaeger, which, as mentioned in THE JOURNAL of last week, was continued for a week, came up in Squire Winkler's court, Cincinnati, February 23. She was bound over to await the action of the grand jury for practicing medicine without a license, and was released on her own recognizance of \$500.

PENNSYLVANIA.

Smallpox has been reported during the last week in eight localities in the state.

Measles is prevalent in Cambridge Springs, and up to this time about one hundred cases have been reported.

New Hospital for Allegheny.—The Allegheny General Hospital will probably be soon supplanted by a new institution to cost about \$350,000. Already \$180,000 has been subscribed and the state will be asked to give \$100,000.

Philadelphia.

The Administration Building of St. Timothy's Hospital, Roxborough, was damaged by fire and water to the extent of \$2000.

The public baths of the city were patronized during the past year by 108,000 persons; there was a net deficit for the year amounting to \$1,481.89.

Quiz Course.—The Médico-Chirurgical College announces a special quiz course for the preparation of candidates for the medical corps of the United States Army, Navy and Marine-Hospital services and for state board and hospital examinations.

Rush Hospital for Consumption held its annual meeting February 19, and plans were announced for a considerable enlargement to the facilities offered by that institution. The number of cases treated during the past year was the largest since the hospital was opened.

TEXAS.

The medical examining board of the eighth judicial district has elected Dr. Joseph D. Beckton, Greenville, president, and Dr. Robert L. Combs, Cooper, secretary.

A committee from the legislature has gone to Galveston to investigate and report on the needs of the state medical college at that place. The board of regents has asked for an appropriation of \$60,000 to restore the college buildings which were damaged by the storm, and of \$45,000 for the maintenance of the institution.

GENERAL.

Medical Officers' Association.—The annual meeting of the Association of Medical Officers of the Army and Navy of the Confederacy is to be held at Memphis, Tenn., May 28 to 30. All surgeons, assistant surgeons, acting-assistant surgeons or contract physicians and hospital stewards of the army and navy of the Confederate states, and all regular physicians who served honorably in any capacity in the confederate army and navy, and all regular physicians who are sons of confederate veterans are eligible to membership. Dr. A. L. Elcan, Memphis, Tenn., is the secretary.

Practice in Texas.—A medical practice act has just been passed by the legislature and approved by the governor. It repeals all previous laws and establishes three boards of medical examiners to be appointed by the governor on the recommendation of the state medical societies of the regular, homeopathic and eclectic schools. These boards, which shall contain nine members each, shall meet regularly twice a year at certain definite times and places, due notice being given, and examine all persons making application for licenses for practice. The examinations will include the following branches: anatomy, physiology, chemistry, materia medica, histology, pathology, practice of medicine, surgery, diseases of the eye, ear, nose and throat, obstetrics, gynecology, hygiene and medical jurisprudence. The application must be in writing and accompanied with a fee of \$15, excepting where it is simply for the practice of midwifery, where the fee shall be \$5. A diploma from a satisfactory source is a requisite, the boards apparently being the judges as to its merits. The funds realized by the fees shall go toward the payment of the necessary expenses of the boards of examiners, each board receiving such fees from applicants who appear before it. The exceptions to the provisions of this act are: all those who began practice of medicine in the state prior to Jan. 1, 1885, and all those who began practice since that time, and who have complied with the state laws in effect prior to the passing of this act, provided that those who have diplomas recorded since January, 1891, shall present to said boards of medical examiners satisfactory evidence that their diplomas were issued by a bona-fide college of respectable standard. The law contains a clause providing that newcomers in the state, who have licenses granted by another state board of medical examiners, properly certified and showing that the standard of the requirements of the medical laws of said state or territory are equal to those provided by this act, shall also be permitted to practice on payment of the usual fees. Any person shall be regarded as practicing medicine or surgery within the meaning of the act who shall profess the pursuit of a physician or surgeon and shall offer for practice, as such, for those needing medical or surgical aid and shall charge money or other compensation. The act shall be construed to include persons not pretending to be physicians, who offer for sale publicly on the streets remedies not manufactured and compounded within the state, which they recommend for the cure of disease. The provisions of the act do not apply to persons treating diseases, who do not prescribe or give drugs or medicine. The law, therefore, unfortunately leaves a large gap for osteopaths, "Christian scientists," and all that sort of quackery.

CANADA.

The Tuberculin Test.

Professor Adami, of McGill, Montreal, who has always taken a lively interest in the subject of the tuberculin test, considers it unfortunate that the breeders throughout Canada should be advocating the repeal of the legislation concerning the employment of this test in cattle. He considers the test an absolute necessity for safety in that high-bred herds, by reason of their perpetual inbreeding, are very liable to tuberculosis. A large proportion of the pedigree cattle of England are affected, and against them the Argentine Republic has issued prohibitive legislation and the United States has imposed very severe quarantine regulations. Certain breeders in Canada are thus trying to evade the American regulations by bringing in cattle from England and then exporting them across the line as

Canadian bred and born cattle. Dr. Adami considers this would be a most retrograde step if Canada would cease employing the tuberculin test, a test which is steadily growing in favor in England, France and Germany. He further considers that the alarm concerning the finding of the tubercle bacillus in one of Koch's preparations, tuberculin R., is misplaced, and that the fear of the cattle men may be set at rest as the manufacture of this product has been so modified lately as to make the survival of the bacillus an utter impossibility; and then tuberculin R. is too expensive to be employed on cattle, being reserved for the treatment of human beings alone.

The Asylums of Quebec.

The last annual report of the Asylums of the province of Quebec has been laid on the table of the legislative assembly now in session. This gives the total population of the asylums of that province, in the year 1899, as 2981, and the cost of maintenance \$314,157.48, both figures showing an increase over those of 1898. The three principal asylums are now in a satisfactory condition. They are the Quebec City Asylum, the Verdun Institute and the Longue Pointe Asylum. It is noticed that the percentage of cures has been somewhat less than for the previous year. In the Quebec asylum for 1898, it was 41.62; for 1899, 31.75; Verdun, 1898, 43.63; 1899, 33.33; Longue Pointe, 1898, 27.35; 1899, 25.8.

Montreal General Hospital.

The medical superintendent's report showed that 667 patients were treated to a conclusion during the past quarter. Of these 64 died, or 9.5 per cent. If the number who died within three days of their admission to the hospital were deducted the mortality would be reduced to 5.7 per cent. The daily average number for the quarter was 180, and the average detention 23.5 days. In the out-door department there were 10,733 consultations, an increase of 1,352 over the corresponding quarter of 1900. The financial position of the institution has not been good for some time back; and a proposal was made at the meeting to charge every patient at the out-door department five cents for medicine. The committee of management will look into this matter and report at a later date.

Montreal Civic Hospital.

So repeated and bitter have been the attacks on the condition of the contagious disease hospital, both from prominent medical men of the city and the citizens in general, that the medical superintendent, Dr. Laberge, and the lady superintendent have intimated their intention of resigning. The chairman of Montreal's hygienic committee has been most energetic in trying to secure appropriations for a new institution, but there seems to be a deadlock between the French and English sections in council as to whether one combined hospital for both nationalities or a dual system be adopted.

"Christian Science."

An investigation was recently held in Peterborough, Ont., into a case of death from typhoid fever under treatment by the "Christian Scientists"; and another in Victoria, B.C., on the death of a child from laryngeal diphtheria. In both instances strong verdicts were returned by the coroners' juries, condemning the practices of "Christian Scientists," verdicts which are healthy indications that the public is awakening to the danger of allowing these people to continue endangering the health of the community from disregard of isolation in communicable diseases.

LONDON.

Outbreak of Typhus Fever in Manchester.

A remarkable outbreak of typhus fever has taken place in Manchester, a city from which the disease has been absent for many years. On December 31, two young women were admitted to the hospital suffering from typhoid fever. Five days later two girls were admitted, one suffering from typhoid and the other from typhus fever, and on January 8 a third couple suffering from typhus fever. It was then discovered that all these girls worked at the same establishment—a rag-sorting warehouse. A remarkable feature was that all the persons attacked were engaged in the woolen-rag department, not one in the cotton department being affected. Nearly all the girls live in Ancoats, one of the slums of Manchester, in great dirt and poverty. The source from which the rags were infected can not be discovered. As the disease was not discovered before the patients came in contact with others, there are now thirty cases in the hospitals. One girl seems to have communicated the disease to seven persons. On visiting her home, the medical officer of health, being unable to gain admittance, forced an entrance and found the father and two children in bed,

all too ill with typhus to help themselves. Three deaths have already taken place. All the rags have been disinfected, besides the workrooms and houses of the patients.

The Late Queen and the Medical Profession.

Among the universal tributes of loyalty and affection evoked by the death of the queen, those which have come from the medical profession are not wanting in fervency. Her late majesty was always on excellent terms with the profession, whose services she valued highly. At the meeting of the Royal Medical and Chirurgical Society, of which the queen was patron, a loyal address of sympathy and homage to the king was adopted. The president, Dr. F. W. Pary, said that the Society was instituted about a century ago, for the cultivation of medicine and surgery. In approval of its laudable design it received a charter of incorporation from William IV., in which the king declared himself and his successors, if they should think fit, a patron of the Society. The queen followed in his footsteps. Lord Lister, in moving the adoption of the address, said that his was an inexpressibly melancholy honor. The medical profession, whose object is to prevent or relieve the physical ills of mankind, appealed always to her majesty's warm and sympathetic heart, and the profession never had a more loyal friend. All her medical attendants, if alive to-day, would speak with one voice. Nothing could be more striking than her complete confidence in her medical advisers and her submission to chloroform at a time when its use in midwifery was by no means generally recognized and in influential quarters opposed. Lord Lister said that he believed he was the only person who ever exercised on the queen the art of surgery. The occasion was a most critical and anxious one, but while she treated him with queenly dignity, nothing could exceed her kindness. The king has shown, during the past fortnight, that he inherited the grace and tact of the departed sovereign. He always honored and loved the medical profession. Witness all that he had done for Guy's Hospital, and the prosperity of the Prince of Wales' Hospital Fund, in which he took the keenest interest!

FOREIGN.

The antidiphtheria serum prepared in Milan, and recently referred to in these columns as having caused tetanus infection, has been collected in the laboratories of the Superior Council of Health and is to be submitted to experimental tests.

Collection Burned.—A fire in the old portion of the Pathological Institute at Berlin destroyed a cabinet of collections belonging to Virchow. The articles that were saved lost their labels, and Virchow mourns the irreparable loss to himself and to science of this collection of anthropologic and prehistoric relics.

Women as Internes.—A French medical woman has passed the competitive examination and has been accepted as an interne in the Paris hospitals. In 1886 Miss Klumpke was appointed "titular" interne, and five other young women have since been made "provisional" internes. The hospitals of Bordeaux and Rouen have also had women internes.

Deaths.—Dr. G. R. von Hoehberger, of Carlsbad, died February 4, in his ninety-ninth year. He had been the recipient of many honors in his long and useful life. The president of the St. Petersburg Military-Medical Academy, Professor V. Paschutin, died suddenly while presiding at a meeting of the faculty of the Academy.

Hygiene of Postoffice.—According to *The Lancet* of February 16, an inquiry into the hygienic condition of the post office employees in Paris, with special regard to the presence of tuberculosis, showed that this disease was responsible for 36 per cent. of the deaths among the members of the staff, this being a much higher rate than the general tuberculosis death-rate for all France.

Death of Pettenkofer.—The progress of hygiene during the last century owed much of its impetus to Max von Pettenkofer, M.D., of Munich, who, depressed by the inroads of an incurable disease, recently shot himself. He was in his eighty-fourth year, and had been one of the earliest collaborators on the *Munchener Med. Woch.*, some of his articles dating from 1854. Many international honors had been bestowed upon him.

Endorsement of Company Physicians.—The sixty physicians connected with the Munich Sickness Insurance Company No. 4, refused to accept lower terms than those previously agreed upon, and appealed to the other members of the profession to sustain them in their course. Of the 530 physicians who received this appeal, 509 replied, formally agreeing to

comply with the request of the subscribers. Most of the remaining twenty-one have nothing to do with this kind of practice, so the results show a practically unanimous endorsement of the company physicians.

Progress of the Plague.—According to *The Lancet*, February 16, the suspicion that a case of plague had occurred at Cardiff has been verified, and a crusade against rats inaugurated, the sum of fourpence being paid for every one caught within the borough or port-sanitary district. A similar effort to diminish the rats at Cape Town, South Africa, followed the reports of the disease having gained a foothold in that city. On February 15 the cable announced twelve cases in the hospitals there, with two deaths up to that date.

Medical Societies in Spain.—The Spanish government has resolved to thoroughly enforce the regulations enacted in 1898, that no physician is allowed to practice unless he has inscribed his name as a member of the local medical society. Each town of more than 14,000 inhabitants must organize one of these societies or academies of medicine, to promote the moral and material interests of the profession and give advice on questions submitted by the national or municipal authorities or courts. The *Sem. Méd.* states that they are already organized in a large number of towns.

Correspondence.

Dr. Nicholas Senn and the Louisiana State Board of Health.

NEW ORLEANS, La., Feb. 6, 1901.

To the Editor:—I have read with much interest the article of Dr. Nicholas Senn, in *THE JOURNAL* of January 19, entitled "Costa Rica, its Physicians and Medical Institutions." It reflects great credit on this universal writer, but he has been misinformed in regard to some of his statements concerning quarantine. All that comes from the pen of one of such standing as Dr. Senn carries so much weight that it is impossible for me to allow to pass unnoticed some statements which are not justified by the facts.

On page 185 he says: "The quarantine system at the Port of New Orleans is, however, too complicated. There are two quarantine stations under the jurisdiction of the State Board of Health, which often at a distance decides whether or not a vessel should be detained, which often gives rise to great confusion and not infrequently enforces unnecessary quarantine."

The truth is that there is but one board of health regulating quarantine, and that is the Louisiana State Board of Health. The board of health of the city of New Orleans has no right to quarantine under the present law, Act 192 of 1898. The state board is unique and supreme.

There are at the mouth of the Mississippi River two inspection stations. The first is at Port Eads, on the outlet of the South Pass, where a preliminary inspection is made and from which vessels with cases of contagious diseases are sent to the lazaretto, several miles higher up on Pass a l'Outre. The second station is the famous Mississippi River quarantine station on the east bank of the river, some fifteen miles above Port Eads, where vessels are re-inspected, disinfected and detained.

The Louisiana State Board of Health never at a distance decides whether or not a vessel shall be detained. On April 1, of each year, quarantine is proclaimed against the South American, Central American and West Indian ports by the Gulf and South Atlantic ports of the United States. All vessels arriving at those American ports, from the above quarantined ones, are inspected, disinfected and detained from five to eight days. Fruit vessels bringing perishable cargoes are exempted from detention and are permitted to unload at the wharf under certain conditions, and as long as the Central American fruit ports are free from yellow fever; but as soon as the resident medical inspector of the Louisiana State Board reports the existence of yellow fever at any fruit port, these special privileges are withdrawn or are modified for that port.

Further on, on the same page, the eminent writer states: "The best solution of this important and difficult question would be to place the Port of New Orleans under the jurisdiction of the Marine-Hospital Service, etc."

This expression is most unfortunate, especially as coming so soon after the signal failure of the U. S. Marine-Hospital Service to recognize the existence of yellow fever in time, at Port Limon last year. That service admitted the existence of the fever there several weeks only after the distinguished representative of the Louisiana State Board of Health, Dr. Will H. Woods, had advised the board of the presence of the fever at Limon, and after cases had occurred on fruit vessels plying between that port, New Orleans and Mobile. Mobile was guided by the reports of the representative of the U. S. Marine-Hospital Service and escaped infection only by enforcing the most rigid measures. Although Mobile had not actually recognized Limon as infected, she treated vessels from there as if the port was infected. Finally, she did proclaim Limon infected.

No one can protect us better than we can do it ourselves. The fact is, the people at those ports are so indifferent as to sanitary matters and are so little afraid of yellow fever, that they believe all of our fears are exaggerated. The day that sanitation shall occupy in their minds and practices the high position it does with us, then all reliance may be placed on them and matters will be much improved. Yours truly,

EDMOND SOUCHON, M.D.

President Louisiana State Board of Health.

The Case of Governor Goebel and Bloodless Work.

BOWLING GREEN, Ky., Feb. 18, 1901.

To the Editor:—My attention has just been called to a paper in *THE JOURNAL* of the 9th instant, by Dr. Dawbarn, of New York City, on "The Technique of Bloodless Work," in which is contained the following paragraph, evidently intended by the author as a criticism, of the treatment of the case of the late Governor Goebel: "A recent sensational murder in politics, in another state, produced a bit of most antiquated and archaic surgery—according to the newspapers and several medical journals, and the statement went uncontradicted. I allude to the fact that in order to try to stop the bleeding from his wounded lung the surgeon bled him a pint or more from his arm! This plan has antiquity to recommend it, but nothing else. He died of shock, apparently, and we all know that hemorrhage invites shock. Had the extremities promptly been corded effectively, accumulating venous blood in them, the ending might well have been a different one."

The above paragraph is untrue, and its publication in *THE JOURNAL*, under the name of a surgeon who claims to be reputable not only does me, but the excellent medical men who were associated with me in the case, a gross injustice. Governor Goebel was not only not bled, but such a procedure was never even suggested, and the report went uncontradicted because no such thing had been published to my knowledge and, had I seen such a publication, I would hardly have expected that any medical man would believe it from mere newspaper rumor. Nor was there at any time serious hemorrhage, practically none externally, only about eight ounces having been found in the pleural cavity after death.

Our patient was in profound shock at first, cold, pulseless and lifeless, but responded with reasonable promptness to the hot saline intravenous injections, heart stimulants and external warmth which were resorted to within a few minutes after he was shot. While the salt solution was running in, the wounds were carefully cleansed and a temporary dressing applied. The patient was in bad physical condition before he was shot. He was never a very robust man, had been under high nervous tension for months, and had an attack of acute indigestion, vomiting freely, before leaving the hotel that morning. Under all of these disadvantages he rallied and did well until the end of the fourth day, dying from a violent foreign-body pneumonia, the bullet having passed through all of his clothing before reaching his body. Drs. Vance, of Louisville, Barrow, of Lexington, and Dandridge, Walker and MacKenzie, of Cincinnati, all distinguished surgeons and teachers, saw the case a few hours after the injury, and were all kind enough to warmly commend the entire treatment, being especially complimentary as to the almost immediate resort to the use of the normal salt solution. You can imagine my sur-

prise at having the treatment unhesitatingly condemned by a man some hundreds of miles away, who is and was as ignorant of what was actually indicated and done as he appears to be of the courtesies due between professional gentlemen.

Snap diagnoses and absent treatment have heretofore been confined to magnetic healers and "Christian Scientists," and this brief experience leads me to hope that such methods will never be adopted by reputable professional men. Very respectfully,

J. N. McCORMACK, M.D.

Another Fraud Solicitor.

CHICAGO, Feb. 15, 1901.

To the Editor:—I learn that several physicians in Chicago have been victimized, as I was, recently by a scoundrel professing to be the representative of a newspaper subscription agency. I presume the firm which he professes to represent is a reputable one, although I wonder that they do not seem more interested in apprehending this man and prosecuting him, as he is not only collecting money in their name, but forging their signature to checks made out to the agency.

As the magazines for which I subscribed failed to make their appearance some weeks after the visit of this agent, I addressed a letter to Moore's Agency, and received the following reply:

Your favor of the 14th received, and in reply would say we have no agent by the name of W. R. Neal, and we do not offer any such list of magazines as you mention for \$4.00. This man is a fraud, and we have had a great many complaints in regard to him, as he is traveling around through different cities in the West and carrying on this scheme. We do not have any traveling representatives and never allow the agent to present a receipt in our name, as we have thought it liable to lead to some such system of fraud. We have been unable to locate this man as he travels around from place to place, and we do not hear in regard to him until he has left each locality. If you can find any way by which you can secure him we would advise you to take such steps at once. We regret very much that he should have misrepresented himself as our agent and that we are unable to help you out in the matter. Yours truly (signed), W. H. Moore.

As this fellow seems to have victimized a number of physicians in the city, I think it would be well to warn others through the columns of your journal. Very truly yours,

JOHN M. DODSON, M.D.

Feeding in Typhoid Fever.

BOSTON, Feb. 19, 1901.

To the Editor:—It has been noticed in several cases of fever, especially typhoid, that a total change from an animal food element in diet, and substitution of only vegetable elements was followed by lessened fever, and consequently better sustained strength of the patient.

I am informed that the typhoid bacillus generally develops much more freely on animal culture material than on vegetable, with perhaps occasional exceptions.

Should it not, therefore, seem that the common practice of feeding fever patients with milk and meat juice and such elements as promote the increase of the bacillus and its toxins is simply feeding the fever and thereby weakening instead of sustaining the strength of the patient? A list of foods least promotive of growth of bacilli, also a list of those most promotive might be convenient for reference to the general practitioner. As an inhibitory medicine, harmless in proper doses, sulphite of soda has been thought to aid in retarding the development of bacilli and toxins.

JACOB L. WILLIAMS, M.D.

Movable Kidney.

BROOKLYN, N. Y., Feb. 19, 1901.

To the Editor:—I note with great pleasure, in THE JOURNAL of February 9, the paper entitled "Movable Kidney from the Standpoint of the General Practitioner," by Dr. Alexander Marcy, Jr. As these cases are very often of a neurasthenic type, I should like to suggest the employment of lupulin and sunbul combined with either the tincture or extract of nucis vomice. There can be no question of the permanent benefit derived from massage and hydrotherapy, properly carried out.

Coming now to the local, or mechanical management of nephrop-tosis, permit me to again call attention to the plaster bandage described by me in the *Medical News* of Sept. 1, 1900, mentioned also by Rose in the *Post-Graduate* for March, 1900. This device is the most satisfactory in every way, of any form of abdominal support, which has come to my notice. It is inexpensive, easily adjusted, not bulky or in any way uncomfortable, and accomplishes its end far better than a ready-made bandage. The special pad for the displaced organ itself, I do not believe avails anything. In contradistinction to the view expressed in the paper under discussion, the above, and not surgical intervention, forms the best mode of treatment for "floating kidney."

The two formulæ I generally employ are the following: In cases in which there is a tendency to constipation: lupulin, 1 gr.; zinc phosphid, 1/16 gr.; sodium bromid, 2½ grs.; gel-semine, 1/20 gr.; arsenious acid, 1/20 gr. These I use, one after meals, and one before retiring. In other cases the following acts admirably: Lupulin, 5 gr. (equivalent to tr. valerian, 1 dram. tr. sunbul, 1 dram), asafetida, 3 gr.; ext. nucis vomice, 1/6 gr.; in tablets, taken the same as No. 1.

H. W. LINCOLN, M.D.

Accidental Vaccination.

MEADOW CREEK, W. VA., Feb. 21, 1901.

To the Editor:—In the February number of *Medicine*, a case of vaccinia infection was reported. I have seen a similar case. Some time last November a woman came to my office to show me a peculiar looking sore on her neck. I had recently vaccinated a number of persons, and, among them, three children in the family in which this woman was a nurse. On inquiry I found she had been scratched on the neck by one of the children, while taking care of it. She had never been vaccinated. The sore was a characteristic vaccination pustule. I was forced to the conclusion that the child had accidentally conveyed the vaccinia from its arm to the neck of the nurse by its finger nails.

G. D. LIND, M.D.

Book Notices.

DISEASES OF THE INTESTINES. A Text-Book for Practitioners and Students of Medicine. By Max Einhorn, M.D., Pages. 390. Price, \$3.00. New York: Wm. Wood & Co.

This treatise is a continuation of the author's work on "Diseases of the Stomach," the two volumes thus covering the principal disorders of the digestive tract. The anatomy and physiology of the intestinal canal are briefly and clearly described. Methods of examination are discussed, but we find no mention of the elevated position so important in proctoscopy nor of the long tubular specula for use in examining the lower bowel. The introduction of the whole hand and arm into the rectum, according to Simon, should only be mentioned to be condemned as it is scarcely possible to conceive of a condition in which such a procedure would be necessary.

A duodenal ulcer is defined as "A defect in the mucous membrane of the duodenum." As a scar is as much a defect as an ulcer the definition is not a good one.

The definition of hemorrhoids is also incorrect, as it states that they are simply "varicose dilatations of the hemorrhoidal veins." A hemorrhoidal mass always consists of something more than varicose veins. There is an hyperplasia of connective tissue in addition to the varicosities. The changes are correctly described under "Morbid Anatomy," but the definition is imperfect.

Under the treatment of appendicitis we find these statements: "The use of cathartics is mentioned here only in order to condemn it." "The remedy *par excellence* in the treatment of appendicitis is opium." These are the views of an internist. In a recent work on appendicitis by a prominent surgeon of an unusually large experience, we find these statements, just reversed: "The most important feature of the treatment of a case of acute appendicitis is the prompt administration of a laxative—an effort should be made to secure at least several

stools." "The administration of opium in the treatment of appendicitis can not be too strongly condemned." Such diametrically opposite statements by experienced observers must convince the ordinary man that the course of acute appendicitis is but little influenced by such medicinal treatment. That patient with appendicitis is best off who is soonest rid of his inflamed appendix.

The several varieties of acute intestinal obstruction are clearly described, and the importance of early surgical treatment strongly urged. A very interesting chapter is that on the intestinal neuroses. The volume closes with a chapter on the intestinal parasites. The work, as a whole, is a good one. The author has had a large experience, and writes knowingly of his subjects. The work is also unique in the fact that it is practically the only monograph on the diseases of the intestine in the English language. The practitioner will find in it much useful information.

THE AMERICAN YEAR-BOOK OF MEDICINE AND SURGERY FOR 1901. A Yearly Digest of Scientific Progress and Authoritative Opinion in all branches of Medicine and Surgery, drawn from journals, monographs, and text-books, of the leading American and foreign authors and investigators. Arranged with critical editorial comments, by eminent American specialists. In two volumes—Volume I, including *General Medicine*, Octavo, 681 pages, illustrated; Volume II, *General Surgery*, Octavo, 610 pages, illustrated. Cloth, \$3.00 net; Half Morocco, \$3.75 net. Philadelphia and London: W. B. Saunders & Co. 1901.

The advance being made in the various departments of medical science is so rapid that it is practically impossible for one to keep up in the various branches of medicine. In fact, it is no easy matter to follow the literature, in one, much less all. There are workers in all fields in nearly all countries, and the results are published in scattered fragments. To collate, digest and analyze all that these fragments contain, and place the results in a compact form for easy reference, is the sphere of the annuals, which have become a necessity. These not only make it possible for the specialist to keep in touch with the progress made in his particular branch, but they make it possible for one to keep in touch with what is going on in every department of medicine. The year-book before us is one of the few annuals that does this well. The editor has associated with him the best men in the various fields of work, and the result is not only completeness, but, what is of greater moment, reliability. To say that the year-book for this year is as good as previous volumes is all that is necessary. It is now published in two instead of one volume, as formerly, and this is a decided improvement. The first volume is devoted to medicine, and includes pediatrics, pathology, nervous diseases, diseases of the skin, physiology, legal medicine, hygiene, physiologic chemistry, etc. The one on Surgery contains also chapters on obstetrics, ophthalmology, otology, laryngology, etc. As the volumes are sold separately this division will be a saving to those who are only interested in special subjects. A complete index with each volume makes ready reference easy. The illustrations are numerous, the mechanical work excellent, and the book as a whole everything that could be desired.

THE STUDENT'S HANDBOOK OF THE SURGERY OF THE ALIMENTARY CANAL. By A. Ernest Maylard, M.B., B. S. (Lond.). Pages, 510. Price, \$3.00. Philadelphia: P. Blakiston's Son & Co.

This work is an abridged and amended edition of the author's treatise on the same subject published in 1896. Diseases of the mouth, fauces and pharynx are not considered. Hemorrhoids and fistulae are considered outside the scope of the work, although polypi, and papillomata of the rectum, prolapsus ani and rectocele are included. Of rectocele he says: "The condition is one due to an injury sustained in childbirth which becomes exaggerated as a woman passes the menopause, and as the vagina is shortened in after life." It is certain no one would even recognize the condition by the definition, which describes almost anything except a rectocele.

The attempt to follow too closely the anatomic subdivisions of the canal has led to much repetition. This not only unnecessarily takes up much space which could be made use of to better advantage, but also often detracts from a clear concep-

tion of what actually is met with in practice, as for instance when contusions or subcutaneous injuries are separately described as affecting the stomach, the duodenum, the jejunum and ileum and the large intestine.

Under gastrorrhaphy it is stated: "the sutures pass through the mucous and muscular coats." It evidently should read "serous and muscular coats." The intestinal neuroses are disposed of in a few words, about half a page.

No medical treatment is given, but the author says: "When these cases are not influenced by medical treatment, laparotomy should be resorted to. Nothing probably will be found but, in some mysterious way, the exploratory operation has a beneficial effect."

The work contains much useful, general information, but the reader will be disappointed when he searches it for accurate and definite pathology.

HORTON'S PHYSICIAN'S PERPETUAL, DAILY, WEEKLY AND MONTHLY RECORD SHEET. Price \$1.00 to \$4.00, according to size. Brooklyn, 289 Quincey Street; Alexander F. Horton, M.D.

This unique record sheet is convenient and useful because it can be carried in the pocket, obviates the employment of the old bulky visiting list, takes the place of the day-book, is perpetual, and can be used with any system of book-keeping.

Married.

JAMES HENRY DITTEMORE, M. D., Axtel, Kan., to Miss Margaret Kent, Troy, Kan.

FRANCIS P. DORSEY, M.D., Hartington, Neb., to Miss Louise Pauline Lerch, Smith's Villa, Iowa, February 12.

ROBERT LEONARD MORRISON, Clarksburg, W. Va., to Miss Margaret Rathbone Paden, at Parkersburg, W. Va.

OTTO FISHER BALL, M.D., to Miss Leonora Montgomerie, daughter of Colonel John J. Clague, U. S. Army, both of St. Louis, February 19.

Deaths and Obituaries.

William H. Egle, M.D., University of Pennsylvania, 1859, librarian and historian, died from pneumonia, at his home in Harrisburg, Pa., February 19. He served two years as surgeon of the Forty-seventh Pennsylvania regiment during the Civil War, and subsequently as a brigade surgeon in the national guard of the state. He was a member of the AMERICAN MEDICAL ASSOCIATION and other societies. During the past fifteen years Dr. Egle had been relatively passive in medical work, yet his sympathies, time and advice, were always freely given for the general advancement of medical science and the general good of the profession. His last years were almost entirely devoted to literary work and historical research. He had been state librarian in Pennsylvania since 1887 and brought the library to an exalted standard of efficiency. He was a corresponding member of nearly every one of the historical societies in the English-speaking world, and his contributions to the literature pertaining to local and state history and genealogy were many. At a special session of the Harrisburg Academy of Medicine, February 21, which was called to take action upon Dr. Egle's death, highly eulogistic remarks were made by several members of the Academy and resolutions of regret and sympathy passed.

Joseph H. Linsley, M.D., University of Vermont, 1880, died from meningitis, at his home in Burlington, Vt., February 17, aged 42. A year after his graduation he went to New York and was appointed instructor in clinical microscopy in the New York Post-Graduate Medical School, and a year later was made director of the laboratories of histology, pathology and bacteriology, doing in addition the pathological work of St. Luke's and the Presbyterian hospitals. In 1890 he went to Berlin and took a course in bacteriology under Koch. Later, he was made professor of pathology and bacteriology in the University of Vermont. His greatest work was in connection

with the upbuilding of the Vermont State Laboratory of Hygiene. In 1897 he opened a small laboratory for the examination of cultures for suspected diphtheria cases and typhoid fever, and a year later the state created a bacteriological laboratory, placing Dr. Linsley at its head.

Alexander Neil, M.D., Cincinnati College of Medicine and Surgery, 1863, surgeon throughout the Civil War, a well-known physician of Columbus, and a member of the AMERICAN MEDICAL ASSOCIATION, died at his home in Columbus after a long illness, February 14, aged 62.

Harris O. Palmer, M.D., Dartmouth Medical College, Hanover, N. H., 1867, who had practiced for nearly thirty years in Hubbardston, Mass., died at his residence in that place from pneumonia, February 17, after an illness of one week, aged 60.

Horace G. Hill, M.D., Jefferson Medical College, Philadelphia, 1882, chief medical director of the Fidelity Mutual Life Insurance Co., a resident of Philadelphia, died at Wernersville, from la grippe, February 14, aged 42.

Almon G. Bruce, M.D., University of Wooster Medical Department, Cleveland, Ohio, 1870, a popular physician, and at one time mayor of Albion, Mich., died at his residence in that place, February 9, from apoplexy.

William E. Curtis, M.D., University of Nashville, Tenn., 1861, a member of the AMERICAN MEDICAL ASSOCIATION and a leading physician of Carroll County, Tenn., died at his home in McKenzie, February 9, aged 60.

Richard Searing Seaman, M.D., College of Physicians and Surgeons, N. Y., 1851, died at his home in Brooklyn, N. Y., on February 17. He had been in practice at Glen Cove, L. I., for more than thirty years.

Thomas F. Murdoch, M.D., University of Maryland, Baltimore, 1850, a practitioner of Baltimore for nearly half a century, died suddenly at his residence in that city, February 18, aged 81.

William Booz, M.D., College of Physicians and Surgeons, Keokuk, Iowa, 1877, an old resident practitioner and preacher of Hancock County, Ill., died at Carthage, February 20, aged 69 years.

Francis M. Bennett, M.D., Medical College of Virginia, 1881, died recently in Montgomery, W. Va. He was a member of the Fayette County Board of Health and a sanitarian of repute.

William Rice, M.D., University of Pennsylvania, 1860, for thirty years a resident, and twice mayor of Trenton, N. J., died suddenly at his home in that city, February 13, aged 61.

George L. Kirby, M.D., Long Island College Hospital, N. Y., 1860, died February 19, at the state hospital, Raleigh, N. C., of which he had been superintendent since 1894.

Hanly B. Potter, M.D., University of Buffalo, N. Y., 1874, of Lafargeville, N. Y., died February 18, while on a professional visit at Orleans, Four Corners, aged 61.

David W. McConnell, M.D., Starling Medical College, Columbus, Ohio, 1870, died at his home in Marseilles, Ohio, February 20, from pneumonia, after a short illness.

Daniel Handel, M.D., University of Iowa, Iowa City, 1875, was struck by a train at Onawa, Iowa, and died at his home in that place as a result of his injuries, February 19.

Jefferson S. Harbison, M.D., National Medical College, Washington, D. C., 1860, died at his home in Knoxville, Tenn., from Bright's disease, February 16, aged 69.

Lemuel Watson, M.D., Jefferson Medical College, Philadelphia, 1870, of Nebraska City, Neb., died from paralysis after a long illness, February 18, aged 76.

Henry Nichell, M.D., University of Buffalo, N. Y., 1857, a member of the AMERICAN MEDICAL ASSOCIATION, died at his home in Buffalo, February 14, aged 80.

William P. Manning, M.D., University of Maryland, Baltimore, 1869, died at his residence in Washington, D. C., February 9, aged 56.

G. Byron Lyman, M.D., College of Physicians and Surgeons, Baltimore, Md., 1878, died recently at his home in Yuba City, Cal.

John C. Tedford, M.D., Washington University, St. Louis, Mo., 1859, died at his home in Moberly, Mo., February 13, aged 75.

George T. Watkins, M.D., University of Louisville, Ky., died at his home in Kokomo, Ind., from dropsy, February 18, aged 66.

Thomas C. Neal, M.D., Castleton Medical College, Castleton, Vt., 1848, died at his home in Sugar Creek, N. C., February 9.

I. Newton Jones, M.D., Medical College of Ohio, Cincinnati, 1866, died February 21, from pneumonia, aged 57 years.

Levi Royer, M.D., University of Maryland, Baltimore, died at New Windsor, Carroll County, Md., February 10, aged 61.

Edward A. Glezen, M.D., Ireland, Ind., died at that place, February 12, from la grippe, aged 82.

Miscellany.

Cleansing the Hands.—The hands may be washed in pure carbolic acid without harm if they are washed in alcohol immediately afterward.

A Memorial to Queen Elizabeth's Physician.—This is to be erected in a niche in the main facade of the new town hall at Colchester, England. This marble statue of Dr. William Gilbert (1540-1603) is to be erected by the medical profession, and the minimum amount required is only £150, of which £130 has been contributed. Dr. Gilbert was a distinguished natural philosopher, as well as physician. His conjecture that terrestrial magnetism and magnetism were allied emanations was confirmed more than two centuries afterward by Oersted and Faraday. There is as at present a handsome monument over his remains in the church of the Holy Trinity at Colchester, which was his native town.

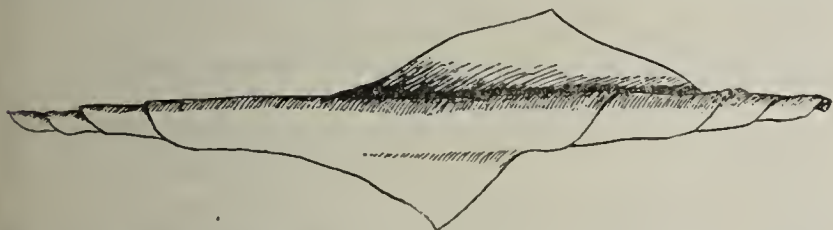
Muscular Work and Food Digestibility.—The United States Department of Agriculture has issued its third bulletin upon dietary studies. This work was conducted at the University of Tennessee, from 1897 to 1899, by Dr. Charles E. Wait, professor of chemistry, and a corps of assistants. The drift of this report is that more fat is consumed in the South than is necessary; the leaner meats as beef and mutton should be more the vogue. More nitrogenous vegetable foods, as beans and peas, with less fat and starchy foods constitute a more ideal dietary. In this brochure attention is invited to the great value of the cow-pea as fulfilling most of the indications desired. "Experiments on the Effect of Muscular Work Upon the Digestibility of Food and the Metabolism of Nitrogen" is the title of the article in "Bulletin No. 89."

A Remarkable American: Dr. William Pepper.—The *British Med. Jour.* of February 16 publishes the following tribute, by W. T. Gairdner, to Dr. Pepper, who, he says, "was not only a great public benefactor, but one whose friendship I enjoyed in no ordinary measure during a visit to the United States in 1891. In that year I was at Washington, on the joint invitation of Dr. Pepper and Dr. Weir Mitchell, the one the retiring president, the other the president-elect of the American Medical Congress. Previously to this, however, I had made a number of visits in New England, and had spent some very happy days with Dr. Pepper at Newport, R.I., where in the autumn season he allowed himself, I suppose, as much of a holiday as he ever had. I think I am justified in saying that there was no one on this side of the Atlantic who was more admitted to his intimacy than I was then, and in our correspondence during the succeeding years, up to within a very few weeks of his premature and sudden death. It was very easy even then to see that he was a man utterly regardless of

self, and living only for the sake of his university and his many public functions. It was also not difficult to perceive that his mode of living, the incessant occupation and overstrain were such as to endanger the health and endurance of the bodily machine. I ventured to represent this to him—as I daresay others may have done—but only to find that as long as he did not feel positively ill his only notion of living was to get as much work out of himself as either body or mind would endure, regardless of all but the great interests and schemes with which his name was associated. He was Provost of the University of Pennsylvania at this time, and felt a noble pride in all that he had done and was doing for the higher education in that great center, where out of a large professional income he was devoting what he regarded as the superfluities (for he avowedly disregarded wealth for himself and for his family) with the most lavish and yet calculated munificence to the improvement of the medical, and especially the clinical, department of the University. Dr. Pepper must have been a hard and constant worker from an early period of his career. My first knowledge of him was when he was associated with Dr. Meigs in a work on the 'Diseases of Children,' which passed through several editions, and was—or perhaps still is—a leading work on the subject. His literary activity after this was unceasing, and I pleaded with him for his own sake to abandon some considerable portion of his literary or, alternatively, of his public labors, in order to devote himself more to his private and consulting practice. Some time afterwards he did, in fact, resign the provostship, but as he had at the same time assumed other public duties, I am far from certain that there was any material relaxation of his great and abnormal activity up to the time when he was compelled by sheer disability to leave all his work, and, as it proved, to seek renewed health in a journey which was terminated by his sudden death. He never gave me any hint of cardiac suffering either in conversation or correspondence; on the contrary, he led me to expect some day a pleasant return visit to this country, to which he always looked forward with joyful anticipation, but which was always postponed, more (as I understood) on account of the state of his wife's health than of his own. Few men, in as brief period, have become more endeared to me than Dr. William Pepper; and few men in his own, or any other country, can have lived a nobler life, or one more devoted to the public interest."

A New Blanket Litter.

The Surgeon-General of the Army has issued a circular inviting the attention of his medical officers to a method of carrying disabled men, devised by Acting Assistant-Surgeon C. E. MacDonald, U. S. A., Fort Yates, N. D., which appears to be of value for the transportation of a certain class of wounded in the absence of litters. The method requires the



services of two bearers and the use of two blankets or shelter-tent pieces. It has been used for some time as an experiment at all first-aid drills at Fort Yates, and is regarded as preferable to the methods which have heretofore been employed. It has been tested also at the school of instruction for the hospital corps, at the U. S. General Hospital, Washington, D. C., with favorable results.

Each blanket or shelter-tent piece is folded, rolled or twisted into a cylindrical form on one of its diagonals. The two cylinders are placed side by side and their contiguous ends are tied together by reef knots. The bearers then raise the tied blanket rolls and adjust them, the one knot on the right shoulder of the right bearer and the other on the left shoulder of the left bearer, one blanket cylinder curving from shoulder to shoulder in front and the other behind. To prepare the blanket litter or seat for the patient the bearers kneel, the right bearer on his left knee and the left bearer on his right knee. They then pull the middle part of the posterior cylinder

to the front underneath the corresponding part of the anterior cylinder which is at the same time drawn to the rear so as to form a sitting space of six or eight inches enclosed between the rolls. The patient is placed on this space and is supported behind by the contiguous arms of the bearers. Figure 2 shows



them ready to march off with their burden. Acting Assistant-Surgeon MacDonald has used these blanket cylinders successfully as an extemporized litter for patients with the lower extremities immobilized by a rifle splint.

Societies.

COMING MEETINGS.

Medical Society of the Missouri Valley, Omaha, Neb., March 21, 1901.

German Congress of Otology.—The German Otological Society holds its annual meeting this year at Breslau, May 24 and 25. The arrangements are in charge of Professor Kuehn, Thiergartenstrasse 53, Berlin.

John B. Deaver Surgical Society.—The John B. Deaver Surgical Society of the University of Pennsylvania held its fifth annual reunion in Philadelphia, February 11. Dr. Deaver presided and the twenty student members of the Society entertained about seventy-five guests.

El Paso County (Colo.) Medical Society.—This Society held its annual meeting at Colorado Springs, February 13, and elected Dr. Robert K. Hutchings, president; Dr. John O. Reddie, vice-president, and Dr. Frank L. Dennis, secretary and treasurer, all of Colorado Springs.

Medical Society of the City of Carrollton, Ga.—The physicians of Carrollton met on February 15 and organized a local society with the following officers: Dr. Stevens T. Harris, president; Dr. M. M. Hallum, vice-president; Dr. J. F. Cole, secretary, and Dr. Delvons Housworth, assistant secretary.

Pomona Valley (Cal.) Medical Society.—At the meeting of this Society, in Pomona, January 31, the following officers were elected: Dr. Conley Heaton, Pomona, president; Drs. William A. Lillie, Ontario, and T. Hardy Smith, Pomona, vice-presidents, and Dr. Edward Henderson, Pomona, secretary and treasurer.

Western Ophthalmologic and Oto-Laryngologic Association.—Dr. W. L. Ballenger, Chicago, secretary of this Association, announces that the next annual meeting will be held in Cincinnati, April 11 and 12. Dr. Christian R. Holmes is chairman of the local committee of arrangements.

North Montana Medical Society.—At the regular monthly meeting of this Society, at Great Falls, Dr. Ernest Crutcher offered resolutions recommending the prompt enactment of a pure food law and of a statute governing the inspection of

milk and dairies in towns of 1500 or more inhabitants. The resolutions were adopted.

Belmont County (Ohio) Medical Society.—The tenth annual dinner of this Society was held in Bellaire, February 22. Dr. J. Park West, welcomed the guests; Dr. James S. McClellan acted as toastmaster, and Drs. A. H. Hewitson, St. Clairsville, and Arlington W. Diven, Martins Ferry, responded for the nineteenth and the twentieth century doctor respectively.

Orange County (N. Y.) Medical Association.—A meeting of the members of the Fifth District Branch of The New York State Medical Association was held in Middletown February 12, and the Orange County Medical Association was organized. Dr. Milton C. Commer, Middletown, was elected president; Dr. Frank W. Dennis, Unionville, vice-president, and Dr. Charles I. Redfield, of Middletown, secretary and treasurer.

Chautauqua County (N. Y.) Medical Association.—A meeting of the members of the Fourth District Branch of the New York State Medical Association was held at Jamestown, February 13, and the Chautauqua County Association was organized. The following officers were elected: Dr. Thomas D. Strong, Westfield, president; Drs. William M. Bemus, Jamestown, and A. C. Shaw, Cassadaga, vice-presidents, and Dr. Henry A. Eastman, Jamestown, secretary and treasurer.

Johns Hopkins Historical Club.—At the meeting of the Johns Hopkins Hospital Historical Club, February 11, Dr. Tinker read a paper entitled "The First Nephrectomy and First Cholecystotomy." Both were performed by Americans from the West, the first by Dr. E. B. Wolcott, of Milwaukee, June 4, 1861. It was reported in the *Philadelphia Medical and Surgical Reporter*, Vol. 7, 1861-2. The second operation was performed June 15, 1867, by Dr. J. S. Bobbs, of Indianapolis, and was reported in the *Indiana Medical Society Transactions*, 1868. The patient was still living in 1899.

International Institute of Psychology.—The Institute has its headquarters in Paris and formally commenced its labors January 30. The committee of organization includes F. W. H. Myers, for England; Morton Prince, for America; Lombroso, for Italy; Mendeleeff and others, for Russia; Flournoy, for Switzerland, and Schrenk-Noetzing, for Germany. The lectures will be held at 5 p.m., and some of the most prominent psychologists and physiologists of Europe are on the list of speakers. Among the subjects announced are "Application of Psychology to Medicine"; "Relations Between Experimental and Introspective Psychology"; "Practical Applications of Hypnotism and Moralizing Suggestion", and "Conductibility of Psychic Force."

Will County (Ill.) Medical Society.—This Society held its regular meeting at Joliet, February 15.—The special business of the session was the discussion of certain bills now before the legislature, which especially interest the medical profession, and regarding which the Illinois State Medical Society, through its judiciary council had asked an expression of opinion. First among these was the isolation of tubercular convicts. The idea of this bill is to do away with the custom which has prevailed in the penal institutions of the state, where tubercular convicts mingle in the hospital and workrooms with the other convicts both sick and well. It is proposed to provide a room or ward in the hospital, and where this is not possible, to provide a separate building where tubercular convicts can be isolated, with the hope of preventing the spread of tuberculosis and diminishing the death-rate of the convicts from this disease. It was the opinion of the society that this bill should pass. The establishment of a state sanitarium for the tubercular was next considered. From information at hand the society was unable to determine whether it was the intention to provide a state institution for the care of the indigent tubercular to be cared for at the expense of the state, or whether the institution was to receive all cases of tuberculosis. In either event, the society considered that the establishment of such an institution would be a step in the right direction. The society unanimously approved the bill providing for the establishment of a colony of epileptics similar to the Craig Colony of New York State, and that making boards of county commissioners in counties not organized on the township basis boards of health, and inasmuch as every county should have a board of health empowered to discharge the duties pertaining to such. Pending definite information regarding the proposed bill amending the medical practice act, so as to give the State Board of Health power to revoke diplomas issued prior to 1899 "for causes," the society instructed the secretary to ask for more details regarding the matter. The Society voted unanimously in favor of the bill amending the medical practice act so as to eliminate the "Christian Scientists."

ASSOCIATED HEALTH AUTHORITIES AND SANITARIANS OF PENNSYLVANIA.

Eighth Annual Meeting, Held at Harrisburg, February 6.

About seventy-five delegates were present, representing nearly every part of the state.

Report of Legislative Committee.

The committee presented several bills which it desired the legislature to enact, for the increase of the annual appropriation to the State Board of Health, to enable it to carry into effect the registration of the vital statistics of the state, to prevent the pollution of the streams which provide water-supply for domestic use, to provide for a sanitary survey of the waters of the state, to make mandatory the law already enacted giving power to school boards to act as health boards, to make the wardens who now act to prevent destruction of the forests act as health wardens and to give the secretary of the state board an increase of salary commensurate with the work he is now doing. It was seemed advisable to urge for a sanitary survey of the waters as an entering wedge toward providing for greater powers to enable the domestic water-supply to be placed under the guardianship of the state board, and thus prevent the present fearful pollution which obtains almost everywhere in the state.

The discussion which followed the reading of these bills showed an almost unanimous belief in the great need of such action, while there was expressed a fear that the passage of these was almost impossible, as the tanneries, saw-mills, etc., are united in opposing them as interfering with their rights to use the waters everywhere as common sewers. It was suggested that the health inspectors in each county could be better used than appointing new officers called health wardens.

Diphtheria Antitoxin and Quarantine.

DR. E. G. MATSON, bacteriologist of the Bureau of Health of Pittsburg, read a paper on the immunizing value of diphtheria antitoxin and the responsibility of municipal boards of health for the prevention of diphtheria. He showed how the disease had increased everywhere, and how by careful quarantine it can be controlled, demanding the report of all cases by physicians and others, and alluded to the success obtained in regard to smallpox and vaccination, but the quarantine and thorough reporting demanded. Diphtheria is more difficult to recognize, requiring a bacteriologic examination to prove its presence and so often regarded as an ordinary sore throat, till too late to prevent its spread. Quarantine, always difficult, is doubly so and in many cases too late to aid in its control.

A thorough discussion followed this paper and showed quite a difference of opinion as to the value of diphtheria antitoxin, as well as the benefit of quarantine. The long continuance of the bacilli in the throat after all severe symptoms have passed, causes great trouble as to the continuance of the quarantine, and demands the utmost vigilance and repeated bacteriologic examinations. Formaldehyde was extolled as of great value, and several health officers said they had positively prevented any recurrence of the disease by its use.

During the discussion, a prominent manufacturer of diphtheria antitoxin startled the assemblage by announcing his want of confidence in antitoxin in the disease. He had lost 90 per cent. of cases in spite of its free employment. In rebuttal one physician stated that he had a success of 100 per cent. where he used this agent. It appeared that many physicians reported all sore throats as diphtheria, while many others failed to report because they regarded the cases as only those of sore throat. For a few minutes the discussion was quite animated, with the result of making many doubtful what they ought to believe.

[It must be remembered that the Association is composed of delegates from the local boards of health, and in many instances these are not medical men, nor in any way posted in the science of medicine. They are appointed by the councils of the boroughs or township, often for their activity as political workers, in fact one board was removed for too great activity as sanitarians, because it offended a prominent local politician by compelling him by law to remove a nuisance after he had refused to obey an order for its removal.—ED.]

Porto Rico Conditions.

SURGEON G. G. GROFF, late brigade surgeon, U. S. A., at Porto Rico, and president of the Superior Board of Health of that island, corrected many false views as to the place, described at length the diseases which prevail, the absence of smallpox—formerly very prevalent, now stamped out by thorough vaccination, about 800,000 people having been vaccinated—the almost equal removal of yellow fever by the sanitation carried forward in every part. He showed how the poor live in almost complete want of proper and sufficient food, or housing, the want of energy on the part of the people under the reign of the Spaniards, and the present rapid improvement under the work of the military authorities of the United States. There is the chief board, or Superior Board of Health, to which the local boards in each of the more than eight hundred municipalities report. He spoke of the almost total absence of typhoid fever, scarlet fever, etc., and the prevalence of anemia due to the condition of the people as a whole. He showed the effects of the late tornado, which devastated the whole island, and how many still live among the ruins of their houses waiting till they can be given aid to rebuild. The lecture was illustrated by views thrown on a screen.

Mine Sanitation.

In a paper on this subject a mine foreman showed the want of care in the removal of smoke and powder smoke from the passages, etc., the need of men working with their feet constantly wet and water dripping on them from above, and stated that the principal disease was miners' asthma, incurable and very distressing, remaining after many years removal of the patient from mine work.

MR. JOHN S. FULTON, president of the State Board of Health, said he had been engaged for many years among miners, and never found them specially unhealthy; they live to old age, many very comfortable, in short, he regarded the paper as all wrong, and objected to its being published with the proceedings in the journal, *Public Health*.

Pollution of Streams.

The Legislative Committee presented certain supplementary reports on changes in the acts presented above, and this brought up the pollution of waters by the refuse of tanneries. Hair from hides has been found in Clarion, sixty miles below the tanneries, in the pipes supplying water to that city. As many hides come from abroad, and are notoriously infected with disease, the danger to the users of this water is great. A number of members demanded the passage of acts to protect the domestic waters of the state. The contamination of ice was introduced, and the question asked as to the effect of freezing in expelling germs of disease from water. On this head many held peculiar views, in that they insisted that all germs were thus destroyed or rendered harmless. The bacteriologists present, however, insisted that germs are constantly found in ice, hence ice made from polluted water is dangerous.

Officers for 1901.

The officers elected for the ensuing year are: Crosby Gray, Pittsburg, first vice-president; Dr. H. H. Whitecomb, Norristown, second vice-president; Dr. E. S. Wagner, Mechanicsburg, third vice-president; Jesse C. Green, D.D.S., West Chester, treasurer; Dr. Wm. B. Atkinson, Philadelphia, secretary.

CHICAGO PATHOLOGICAL SOCIETY.

Meeting held February 11.

Dr. L. Hektoen, president.

Osseous Stylohyoid Arch.

DR. THOMAS R. CROWDER described three cases of osseous stylohyoid arch. The stylohyoid arch is a constant structure in the higher vertebrates. In many, as the horse, cow and sheep, it is completely bony; in man it is largely ligamentous. Developmental defects with more or less ossification are not infrequently found, but complete bony arch is rare. The three cases presented were not recognized before death. The anomaly is to be looked upon as a developmental defect and not as an ossification of the stylohyoid ligament once developed in the

normal way. It has no clinical significance beyond the possibility of fracture—an unlikely accident.

Blastomycetic Dermatitis.

DR. F. G. HARRIS reported a case of blastomycetic dermatitis in a woman 78 years old. The growth was located on the gluteal region and commenced four years ago, as a pimple which became a roughened area of intense itching and later became apparently demuded. The growth was 11 cm. long by about 6 cm. wide, having an elevated border bearing flattened papillomatous outgrowths which overhung the floor, the latter being covered with villus-like epithelial projections interspersed with areas of ulceration. The entire growth was movable on the underlying tissues; there were no secondary growths on any part of the body, nor was there any evidence of syphilitic infection. Microscopic examination showed a hyperplasia of the rete mucosum which grew down into the corium in branching, coral-like projections. In these epithelial down-growths were miliary abscesses containing the blastomycetic organisms which were present in groups of three or more. Many of them were in the process of budding. There were no cultures made from this case, on account of the diagnosis not having been made clinically.

DR. D. LIEBERTHAL referred to a case recently observed, in which a provisional diagnosis of syphilis was made, where the blastomyces were found in sections. He still held to his original diagnosis.

DR. H. T. RICKETS said that the histology of blastomycetic dermatitis is a specific one and entirely different from that of tuberculosis and syphilis.

DR. H. G. ANTHONY spoke of the points of difference between blastomycetic dermatitis and the syphilitic and tubercular lesions resembling it.

DR. L. LOEB called attention to the fact that blastomycetic dermatitis had not been produced experimentally.

DR. W. E. COATES compared blastomycetic dermatitis to certain diseases in plants. He considers the organisms observed in the skin lesions as spores of fungi.

DR. F. G. HARRIS stated that his case was treated with iodids for three weeks, without any improvement.

Secondary Carcinoma of Lungs

DR. E. R. LE COUTR demonstrated a diffuse secondary carcinoma confined to the lymph channels of both lungs of a man who died from carcinoma of the stomach, while in the service of Dr. Kramps, at the St. Elizabeth Hospital; the condition was correctly diagnosed during life. At the necropsy, the usual large metastatic tumor nodules were found in the liver, together with an extensive involvement of the peripancreatic, retroperitoneal, peribronchial and peritracheal lymph glands; the adrenals were the seat of a very extensive carcinomatous growth; there were small tumors in the outer parts of both kidneys. The primary tumor from which all these metastatic growths arose was located near the pylorus and showed no features other than are often observed in gastric carcinomata. The lungs were alike in appearance; both possessed very extensive subpleural, linear branching and tortuous carcinomatous growths in the lymph channels, as well as tumor masses in the lymph channels of the deeper parts of the lungs. There were no nodular growths in the lungs, as are observed in consequence of the embolism of tumor cells. The lungs were fresh, no microscopic examination having been made, but the gross appearance supported, in all its details, the opinion that a retrograde lymphatic metastasis had occurred in these channels from the lymph glands at the roots of the lungs.

Toxic Effects of Formaldehyde.

DR. MARTIN H. FISCHER reported the results obtained from a study of the toxic effects of formaldehyde and its aqueous solution, formalin. The inhalation of formaldehyde is accompanied by marked inflammatory changes throughout the respiratory system. Dyspnea, depression of temperature, tachycardia, weak pulse, and vomiting follow the introduction of formalin into the stomach. Sudden death may result. The severity of the symptoms and the degree of histologic disturb-

ance bear no relation to the strength or quantity of the injected formalin. The gastritis is characterized by intense congestion, necrosis and leucocytic infiltration. Intraperitoneal injections produce a fibrino-hemorrhagic peritonitis of varying intensity, according to the strength of the solution. The peritonitis following chronic formalin poisoning produced by injecting small amounts of dilute formalin intraperitoneally, is accompanied by great connective tissue proliferation, and a striking eosinophilia. Subcutaneous formalin injections produce marked exudation and leucocytic infiltration. The introduction of formalin into the conjunctival sac is followed by an iritis, which, when a single drop of the concentrated chemical is used, may be sufficient to permanently injure the eye.

In whatever way formalin is introduced into the body, certain systemic changes result. Degenerative changes and focal necroses are found in the liver and kidneys. The leucocytic infiltration following the introduction of formalin is characterized by the eosinophiles appearing first; these are followed by the other polymorphs; last of all appear the mononuclears. It is believed that differences in osmotic pressure are to be held accountable for the exudation. The death of the cell is accounted for in two ways: 1, by disturbances in osmotic pressure and, 2, by a deleterious chemical action—probably the reducing power of formaldehyde.

PHILADELPHIA ACADEMY OF SURGERY.

Meeting held February 5.

President Dr. DeForrest Willard in the chair.

Incision for Mammary Carcinoma.

DR. WILLIAM L. RODMAN read a paper entitled "The Best Incision in Operations for Mammary Cancer." In removing carcinoma the incision, whichever is used, should be of such length as to carry it well into the axilla, so that all the lymphatic glands are removed. One should guard against making transverse incisions across the lymphatic channels, since that might be a means of further infection. The fascia about the pectoral muscles should be entirely removed, if not all the pectoral muscles themselves. In the Kocher operation retractors become necessary to expose the axillary vessels. The Halsted operation is still more radical. The essential features are to make an incision so as to include all the infected skin; it should be of sufficient length to expose all the axillary vessels and glands; it should be completed in a reasonable length of time. In three cases in which the Warren operation was done it proved beneficial. Primary union occurred in all of them. This operation can be done more quickly than the Halsted operation and a better use of the arm results.

DR. JOSEPH HEARN thought that the results had been good. Personally he had been in the habit of beginning the incision below the clavicle, exposing the blood-vessels and ligating them, thus preventing hemorrhage.

DR. W. J. TAYLOR asked whether a straight incision gave sufficient space to view the axillary vessels.

DR. G. G. DAVIS stated that his experience had been that it was hard to close the incision by any method employed. In the Halsted operation the cicatrization was hard to overcome. As to controlling hemorrhage, he believed it very difficult and thought a large number of forceps necessary.

DR. JOHN B. ROBERTS thought that the early period of time with which the speaker had been able to dismiss the cases from the hospital showed that the results had been good. He had been in the habit of beginning the incision above the clavicle so as to expose the lymphatics in the supraclavicular space, afterward making an incision down through the infra-clavicular space. In his opinion both pectoral muscles should be removed.

DR. W. L. RODMAN, in closing, stated that he had not tried the vertical incision in the Warren operation. He had not been in the habit of opening the supraclavicular space in this operation. He believed the records would go to show that carcinoma is more frequent in the colored than in the white race.

Abscess of Lung.

DR. JOSEPH HEARN exhibited "A Case of Abscess of the Lung Following Gangrene in which Pneumotomy had been done."

The patient was a man about 24 years of age, who had suffered from an abscess in the lung, and this had been opened; after an injection of a solution of methylene blue, this would be immediately expectorated, showing that there was a direct communication between the cavity and the trachea. A drainage-tube was inserted in the wound after the operation, and left *in situ* for a long period. The communication between the abscess cavity and the trachea still exists, as shown by the methylene blue test. The patient has greatly improved and is now on his way home. The question at present is how to best close the large opening which still remains in the right hypochondrium where the operation was done.

DR. W. BARTON HOPKINS was under the impression that strapping the side might have a tendency to close the wound.

Thoracic Aneurysm.

DR. DE FORREST WILLARD reported "A Case of Traumatic Thoracic Aneurysm Treated by the Introduction of Wire and Electricity." The patient was a man aged 23 years, who, in August, 1900, sustained an injury from the fall of a heavy wooden box which struck him on the chest. Subsequently much distress was shown, with some hemoptysis. Six months later there was pulsation in the right chest. There was no tracheal tugging, nor suprasternal pulsation. From the clavicle to the axilla on the right side, dulness could be elicited, and on auscultation a systolic murmur could be detected, which was not transmitted to the carotids. The heart was pushed to the left and the impulse was rather forcible. The man finally began to lose flesh and strength, complained of pain and an operation was advised. The speaker had then by means of a canula introduced about twenty feet of silver wire—No. 25—into the aneurysm. On introducing the canula the blood rushed out rhythmically with the heart's beat, which at first gave rise to some apprehension, but as soon as the galvanic current—40 milliamperes, increased 5 milliamperes every few minutes until 80 milliamperes had been reached continuing for one hour—had been turned on the hemorrhage at once ceased and did not recur. The patient was not under the influence of an anesthetic. At the end of two weeks the aneurysmal sac has diminished one-third in size and the patient has greatly improved.

DR. D. D. STEWART had first employed this operation in 1890. As a preliminary step he always introduces a cannulated needle to determine the thinnest portion of the sac wall, after which he then introduces gold or silver wire of 28 to 29 gauge. He generally inserts about fifteen feet. At present he is in favor of introducing two or three feet of wire in several different regions of the sac. What is desired is to coagulate the albumin, and to dissociate the watery elements of the blood; therefore electrolysis must necessarily occur to be of benefit. In applying the galvanic current he always begins at zero, gradually increasing every few minutes until 65 to 80 or even 100 milliamperes have been reached. He would not advocate the introduction of iron wire in these cases, since too much detritus might occur. An important feature is to make the patient understand that there is little or no danger in the operation *per se*. One of his cases lived for three years after the operation, then dying of some other disease.

CHICAGO ACADEMY OF MEDICINE.

Meeting held January 10.

Dr. Sydney Kuh in the chair.

Relations of Carcinoma of the Stomach to Chronic Round Ulcer of this Organ.

DR. GUSTAV FÜTTERER presented a preliminary paper on this topic. His conclusions are:

1. Mechanical irritation or friction is a most important factor in the production of carcinoma.

2. Mechanical irritation or friction must be of a certain quality in order to produce carcinoma. Instances of this causative of carcinoma are related and the presence and location of proliferations of the mucous membrane of the stomach after the same mechanical conditions could be created as they

exist in large ulcer in man prove the importance of a certain quality of mechanical irritation.

3. Mechanical influences displace epithelial cells into the intermediary apparatus of nutrition, thus causing a practically unlimited proliferation of the displaced cells, apparent, not real inherent malignancy, metastasis and, through the overloading of the circulation with the physiologic products of the transplanted cells, different forms of cachexia.

4. It seems that—as a rule—the displacement occurs gradually while the possibility of a successful sudden displacement of normal epithelial cells can not be denied, notwithstanding the fact that all experimental research in this direction by others and also by myself have, so far, been unsuccessful.

5. Large ulcer of the stomach on section has the characteristic form of a fish-hook.

6. Carcinoma of the stomach when found with an ulcer, healed or not healed, must be considered secondary to the ulcer.

7. Carcinoma of the stomach when originating from a scar, grows from the point of the "fish-hook."

8. I have been able to create atypical growth of glands in the mucous membrane on the margin of an artificial ulcer of the stomach in a rabbit, that had all the characteristics of gastric ulcer in man and which showed the histologic changes of an adenocarcinoma, but there were no metastases, no cachexia and, therefore, real malignancy could not be proven.

9. From a number of reasons which present themselves against the theory of a parasitic cause of carcinoma, I would call attention to only one that appeals to me most forcibly: it is the non-infection of the cells and organs invaded by metastasis. If parasites were the cause of carcinoma they would infect the cells of the organs, and whose cells would participate in the growth, but they never do.

DR. LEO LOEB agreed with the conclusions of the essayist, especially as to the place where carcinoma originates. In a large number of observations made on animals, for instance, he found that the principal seat of carcinoma was in the eye. The theory of Dr. Fütterer as to the origin of carcinoma in the stomach could be just as well applied to the origin of carcinoma in the eyes of cattle.

DR. SYDNEY KUH stated that many years ago physicians were taught that one of the most, if not the most important, causes of carcinoma was a continued irritation. He had seen one case demonstrated which seemed to show unmistakably the effect of such constant irritation in producing carcinoma. It was a case of carcinoma of the perineum, and the constant irritation necessary as an etiologic factor was furnished by the patient being a circus-rider.

Therapy of Ointments.

PROF. C. S. N. HALLBERG presented a paper on this subject. He stated that the vehicles for ointments have, as a rule, been selected without any discrimination as to the therapeutic character of the vehicle per se. Many observers have shown the necessity for distinction in the choice of various fats, oils and waxes, both of animal, vegetable and mineral derivation, which are employed as the "basis," or more correctly the vehicle for ointments and allied preparations. From the researches of J. V. Shoemaker and many other observers, the ratio of absorbability of the various fats, as indicated by the general therapeutic purpose of the different ointments, may be classified as follows:

1. *Epidermic*: Protective, emollient, antiseptic, counter-irritant, germicide and parasiticide ointments require a non-absorbable vehicle, viz., petrolatum.

2. *Endermic*: Cooling, anodyne, alterative, local-irritant, resolvent, sedative and stimulant ointments require absorbable fats, such as lard, suet, fixed oils and waxes of animal and vegetable origin. These become quickly rancid unless carefully prepared and preserved, and some of them are being discarded for mixtures less liable to decomposition and change, such as cacao-oil and wool-fat (lanolin). The oleates are also useful.

3. *Diadermic*: Constitutional or systemic, directly absorbable. For ointments applied by imunction of mercury, iodine, iodids, etc., the vehicle is hydrated wool-fat (Adeps lane hydrosus, U. S. P.) or lanolin.

Between these generalizations there may be many modifica-

tions, such as wool-fat and petrolatum mixtures as substitutes for lard, owing to their immunity from rancidity.

In dermatology, ointments of the two first classes would alone be indicated, the purified petrolatums of different melting points affording a range of consistencies for the various epidermic uses of ointments. Pure and carefully rendered leaf-lard and mutton suet, benzoinated according to the official process, furnish excellent vehicles for the endermic effects, but they are prone to rancidity and reaction with mercurials and other agents required for incorporation. According to Shoemaker, the oleates penetrate into but not through the skin, and they are therefore well adapted for endermic use. This includes the "soluble" oleates or soaps, as well as the oleates of the metals, mercury, lead, zinc, etc., and the alkaloids, or the so-called "insoluble" soaps.

In ophthalmology the principal ointments employed are those of the mercury compounds. The yellow mercuric oxid, the most largely used, should be made with petrolatum. In order to obtain the most intimate division of the oxid it is preferably prepared by levigating the freshly precipitated yellow oxid with the soft petrolatum vehicle. Benzoated and hydrated wool-fats are also used for zinc oxid and for diluting the mercuric nitrate ointment.

For systemic effect, hydrated wool-fat is the most effective vehicle, the rapidity of its absorption having been demonstrated by the presence in the urine in a short time of mercury, iodine, quinine and similar agents, after imunction with ointments prepared with this vehicle. The oleates and soaps, not passing through the skin, should not be employed for diadermic or systemic effect.

DR. JACOB FRANK read a paper on Ureteral Implantation, which will appear in THE JOURNAL.

OMAHA MEDICAL SOCIETY.

Meeting held in Omaha, Neb., February 12.

Puerperal Sepsis.

DR. C. C. ALLISON, in a paper on this topic, pointed out that puerperal fever follows an infection of some part of the parturient canal. The determining conditions are intrinsic and extrinsic. The most important intrinsic factors are: 1. The rich supply of lymphatics surrounding the vagina and uterus: their anatomic relations as they leave the pelvic floor or uterus to reach the lumbar glands. 2. The relations of the reflected peritoneum to the pelvic organs. 3. The presence of the thick bed of subperitoneal areolar tissue which increases the mobility of this serous membrane and is a dead space encouraging free exudation. 4. As a conservative feature, the pelvic peritoneum is less susceptible to mycotic influences because of the comparative absence of stomata vera upon its surface. The most important extrinsic factors are: 1. The extensive wound, the parturient canal, which affords numerous atria from which an infective lymphangitis may develop. 2. The presence of decomposing material upon this surface. 3. Microbic development of different degrees of infectivity.

We have a vulnerable condition of the patient, and the presence of a surgical wound bathed in effete material leading often to a blood clot deeply situated. We are unable to apply a modern surgical dressing. Clinically, the types of sepsis are sapremic, septicemic, or pyemic. Sapremic symptoms are due to absorption of blood clots, lochia, residual membranes or of toxins, due to surface suppuration or to inflammation of the vagina or of the endometrium. In the latter form, we meet with infective thrombosis of the vessels followed by extensive gangrene involving the entire uterus. The sapremic symptoms are early pyrexia, full pulse, free, offensive lochia, a small amount of pain followed by free perspiration and, in favorable cases, a crisis. In unfavorable cases, superficial suppuration is present, the general symptoms are more severe, the temperature and pulse are farther from the normal, local tenderness is greater and the secretions are more impaired. This is the beginning of a septic adenolymphangitis. The vessels are fed by ulcerated areas of some portion of the canal. This lymphangitis is a common attendant on peritonitis, and there is fixation of the pelvic organs due to extensive exudate. Examination

shows the uterus fixed, the abdominal muscles rigid, a boggy mass in the vaginal vault, a lessened discharge, a remittent fever and well defined pelvic pain. Treatment demands the use of the douche to remove decomposed matter from the vagina or uterus and the sterilization of any local, ulcerated surface. Carbolic acid followed by alcohol is the best caustic. Retained membrane or placenta should be removed by gentle curettage. In most cases, the pelvic and lumbar glands are engorged but not actually broken down, and yet vaginal drainage behind the uterus is a most logical therapeutic aid. Uterine curettage alone is not sufficient, nor is drainage of Douglas's cul-de-sac alone; the best results are obtained from the use of the two combined. When there is active sepsis, slight jaundice, rapid pulse, variable temperature, an enlarged abdomen, a soft uterus with a greenish cervix, we may know there is a septic thrombosis and gangrene of the uterus, a condition very rare, due to the streptococcus and fatal unless the uterus is removed by vaginal section.

Puerperal septicemia shows severe shock, severe rigors and a feeble pulse. The micro-organisms pass directly into the blood, overwhelm the patient and yet cause little distress. These cases are usually fatal and too much, rather than too little, local treatment is apt to be employed.

JOHNS HOPKINS HOSPITAL MEDICAL SOCIETY.

Meeting in Baltimore, Md., February 4.

Dr. Howard A. Kelly, president, in the chair.

Obstructive Jaundice with Xanthoma Multiplex.

DR. WILLIAM OSLER exhibited a woman aged 39, who had typhoid fever with cholecystitis in 1897. She has had three attacks of biliary colic since that and a jaundice which still persists, and has had several chills. A diagnosis of gall-stone in the common duct has been made and she is to be operated on. An unusual feature in the case is a xanthoma multiplex. Numerous small patches, like pieces of chamois skin set in the skin are scattered over the hands, axilla, neck, toes, elbows, back, joints, etc., chiefly folds of skin and exposed parts. In places they form distinct tuberous elevations, in others flat patches—*x. planum*. There is one small patch on the mucous membrane of the mouth. Occasionally they completely disappear. The condition is never serious and it is hoped it will disappear after operation.

Case of Arsenical Neuritis.

DR. FLORENCE SABIN reported the case of a young woman who entered the hospital two months ago, after having taken 3i of rough on rats. She remained well for two hours, then began to vomit. The stomach was washed out repeatedly and arsenical antidotes with castor-oil given. There was no further symptoms and she left the hospital five days later. On going upstairs, when she reached home, she felt a numbness in her feet. For six days she had fever with painful micturition. The numbness increased and double foot and wrist drop developed. She was unable to feed herself. There was degenerative reaction, some thickening of the skin on the soles and scaling of the palms. The slightest touch of the feet gives pain and there is also very marked tenderness of the calves and abdominal muscles, but no edema.

DR. OSLER reported a case of arsenical neuritis following the medicinal administration of the drug to the amount of 3i and 3ii.

DR. HURD reported one from the ingestion of an uncertain amount of the drug taken with suicidal intent.

Case of Pemphigus Vegetans.

DR. L. P. HAMBURGER exhibited a white man, a farmer, aged 52, on whom this affection began one year ago with blisters in the mouth, followed by ulcers. The pemphigus appeared in June, 1900, beginning in the groin as little pimples. He was treated with mercury and iodid without result. He has lost 75 or 80 pounds, has new lesions in the mouth, nostril and on his tongue, resembling mucous patches, also a discharge from the right ear. A syphilitic history can not be made out, but he has had malaria and there has been pulmonary tuberculosis

on his mother's side. Fungating masses are seen in the axillae and groins, and large erosions over the back. There is much salivation.

Ovarian Organotherapy.

DR. WILMER KRUSEN, of Philadelphia, read a paper on the use of the ovarian extract, 5 grs. a day, in 100 cases of amenorrhea and other pelvic disorders. While he met with some striking results, on the whole, the treatment proved a failure, and no definite reliance is to be placed on the agent. No benefit was seen in amenorrhea and dysmenorrhea, but better results in the artificial menopause. It was, however, harmless. The use of the agent is based on a false theory since the ovary is not a secreting organ.

Frequency of Typhoid Bacilli in the Blood.

DR. R. L. COLE reported results of investigations on this point. He removes 8 to 10 c.c. of blood from the arm, using forceps and not touching. Cultures were made in 15 cases, eleven of which were positive, and in six of the eleven the bacilli were isolated before the Widal reaction was positive. The bacilli were found much more frequently, and for a much longer time than is usually supposed. He obtained them in mild more than in severe cases. The method is valuable when the Widal is delayed. The earliest day on which he found the bacilli was the sixth.

DR. WM. OSLER said that there are cases in which the diagnosis could not be possibly made without the blood examination.

PHILADELPHIA PEDIATRIC SOCIETY.

Meeting held February 12.

Dr. T. S. Westcott in the chair.

Jacksonian Epilepsy.

DR. J. D. TARGET reported two cases of Jacksonian epilepsy. In one, the patient was 2 years and 10 months old, and had been well until three months before being seen, when it had a convulsion mostly confined to the left leg. During the past few months there has been paralysis of the left leg, which has grown much worse.

The second patient is 8 years of age, and has suffered from whooping-cough and measles. When two years old she had a "nervous" spell. Similar attacks have recurred at intervals and are growing worse. In September of last year the child was late at school one morning, and, frightened because of this, she fell in the hallway, where she was subsequently found. The left leg was paralyzed, and in this part convulsive movements set in. This attack was attended by unconsciousness. Some time later convulsive movements began to affect the right leg, and in this part convulsive movements often occurred every few minutes. The mother has observed that frequently these attacks are at once relieved by the act of micturition.

DR. J. P. CROZER GRIFFITH related the history of a case in which there had been symptoms of brain lesion, with peculiar movements of the limbs and face. In his opinion hysteria is often overlooked in children.

Congenital Cyanosis.

DR. GRIFFITH reported, among other cases, one of congenital cyanosis in a child who was 3 years of age, who had a history of having been subject to cyanosis during crying spells from the age of 3 months. The pulmonary second sound was greatly accentuated, but no murmur was heard. The exact lesion was not known, but it was suggested that there might have been an abnormal arrangement of the blood-vessels.

Gumma of Liver in Child.

DR. D. L. EDSALL reported a case of gumma of the liver occurring in a child 14 years of age. The speaker stated that gumma in late childhood has not been frequently reported. The condition has been repeatedly mistaken for leukemia or malignant growths. The father had possibly had syphilis; in the case of the mother, the history was negative. On admission to the St. Christopher's Hospital for Children, there was subcutaneous edema and effusion into the abdomen and pleura. On the left side of the abdomen a mass the size of the hand

could be detected, and apparently was attached to the left lobe of the liver. Liver dulness extended to the navel and there was pain on pressure. Under the influence of specific treatment the mass on the left side became perceptibly diminished toward the second week, and at the end of one month had entirely disappeared. The liver, however, remained enlarged, and the renal symptoms present did not change.

Mastitis from Violence.

DR. EMERY MARVEL reported a case of mastitis which had been due to infection from external violence. In this case the incision and drainage had given entire relief.

DR. T. S. WESTCOTT made a few remarks on the differential modification of the proteid of milk.

NEW YORK ACADEMY OF MEDICINE.

Meeting of the Section on Otology, held February 13.

Operation in Acute Mastoiditis.

DR. E. B. DENCH presented a paper on "The Early Operative Treatment of Acute Mastoid Inflammation." He said that while the presence or absence of fever is of no significance in adults as indicative of the condition of the middle ear and mastoid, it is a symptom of some value in children. The pain is usually, but not invariably, severe. Sleeplessness is one of the most important symptoms, and in any case of middle ear suppuration in which the patient is unable to sleep, whether or not this is attributed to pain, it is important to carefully investigate the condition of the mastoid. In his experience, tenderness of the tip of the mastoid has been present in almost all cases of acute middle ear inflammation occurring in the recent epidemic of grippe. Of the symptoms which warrant operative intervention, tenderness over the region of the antrum is the most reliable, but others must be present to warrant a resort to a mastoid operation. In any case, a narrowing of the deep meatus should be regarded as an exceedingly grave sign, and if it persists in conjunction with mastoid tenderness, the surgeon should not delay operating. A mastoid operation conducted in accordance with the principles of modern antiseptic surgery can hardly be said to be attended by any special risk. Sometimes a free incision into the membrana tympani at an early stage is all that will be required, but when it is evident that the mastoid is involved, the operation should be complete and thorough. The first step should be the opening of the antrum and the establishment of a free communication with the middle ear. The possibility of intracranial involvement in even the most acute cases is one argument in favor of this thorough operation being done in every instance. He would, therefore, operate on these cases very early, limiting all measures at abortive treatment to those seen in the earliest stage, and in which there is simply a fear that mastoid involvement will occur. When there is narrowing of the meatus and well marked mastoid tenderness he does not believe it is prudent to attempt to abort the inflammation: it is far better to keep the patient perfectly quiet and under observation, abstaining from using external applications, which would probably only serve to mask the symptoms. If at the end of twenty-four or forty-eight hours there is no change the surgeon should operate on the mastoid.

KINGS COUNTY (N.Y.) MEDICAL ASSOCIATION.

Memorial to Edward Robinson Squibb.*

DR. JOHN D. RUSHMORE, Brooklyn, presented this memorial: Dr. Edward R. Squibb was born in Wilmington, Del., July 4, 1819. His medical education was received in Philadelphia, at the Jefferson Medical College, and from this institution he was graduated in 1845. He began his medical career as a surgeon in the United States Navy, and those who knew him well can recall with pleasure the relation of his experiences on ship-board. To the end of his life he loved the sea, and no form of relaxation was enjoyed more by him or more beneficial to him than an ocean voyage.

In 1853 he was acting as surgeon in charge of the Naval Hospital in Brooklyn. He had at that time reached in line of promotion the position of past assistant surgeon in the U. S. navy. About 1863 he resigned from the navy, and failing to receive from the government sufficient funds to carry on the investigation and work necessary for the manufacture of pharmaceutical preparations, of which the government was in need, he established a private laboratory, and, to quote from the *Medical News*, "began what has been one of the most valuable life works that this country has known in the history of medicine, for it was medicine itself of which he was master. A chemist and a physician he was, but with all the keen desire of the true scientist to discover remedies and of the doctor to apply them to human ill. Instead of practicing at the bedside with the drugs the names of which he had learned in his medical books, he studied the drugs themselves chemically, physiologically, therapeutically, and sent them out to his brother practitioners in such form that the whole country, in fact the profession of the round world, accepted his dictum, and made his name the standard mark for purity and accuracy in pharmaceutical preparations."

It is fitting that the Kings County Medical Association should do all honor to his memory. He was one of its founders and in defense of the principles on which it is based he took a leading part nearly twenty years ago, when, with many others, he withdrew from the New York State Medical Society and subsequently formed the New York State Medical Association, of which this body is an integral part. He was a man of strong convictions, but no better evidence of his freedom from any strain of intolerance or prejudice can be furnished than his modest and temperate but firm defense of what at that time he thought was right; and his quiet accuracy of statement then, as always, was as far as possible from the blustering confidence that characterizes the support of a prejudice. The position which he took and maintained so sturdily alienated no man's affectionate regard for him, and some of those who differed from him then, bore willing testimony to his worth by their presence at the funeral service which, in its simplicity, accorded with his own wish. He was a member of THE AMERICAN MEDICAL ASSOCIATION, New York State Medical Association, Kings County Medical Association, Metropolitan Museum of Art, the Philosophical Society of Philadelphia, and many other societies of like character.

His death, the immediate cause of which was cardiac dyspnea, occurred on the evening of Oct. 25, 1900, at his home. The following extract from an obituary notice published in the daily press is a touching and worthy tribute to his character: "The death of this well-known maker of medicines is the removal of a sturdy character, a fine thinker, an eminent chemist, and a strong, clear personality. Science, philanthropy, religion and citizenship have lost a bulwark and an ornament in him."

He was a great power in Brooklyn—out of sight. He never advertized. He never made addresses. He wrote only within the lines on the subjects and for the members of his own profession. He abhorred publicity and praise. Yet his influence on medicine, on medical thought, on medical practitioners and sympathetically on public health was not unlike that of the Gulf Stream on climate or of the Nile on soil. Men and women lived and labored, died and won renown here who never knew of him. But those who knew Brooklyn to its elements, to its foundations, who knew medicine to its causes and beginning, knew that this quiet, true, diligent man, this incarnated conscience and this great embodied capacity was veritably a genius, truly a world benefactor, one whom the giants and the literature of medicine round the earth held in almost worshipful veneration.

He was a martyr as well as a marvel of science. Over a generation ago, his devotion to his calling subjected him to injuries from an explosion, by which his life was long in danger, his sight long threatened and his visage permanently and sadly marred. The latter misfortune was the only one that did not pass away. He bore it with dignity, philosophy and fortitude. It increased his congenital aversion to public occasions, but it, by reflex action, sweetened to him the society of friends and the comforts of literature and thought. It in

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nothing affected, except to confirm and augment, his faith in the Divine Goodness, giving as it did, to him, a cross to bear, which he bore in the spirit and love of the Master. To those aware of the causes and of the ordeal, this affliction made his career replete with the power of pathos and eloquent with the pathos of power.

Long ago a wave of adversity rolled over and prostrated this extraordinary man. His medical brethren quietly put him on his feet with a love gift that enabled him to start the world again. His rehabilitation was essential to their sense of security in their own work. Their gift to him was a debt, they felt, not a gift, and not a loan. Not so felt he. As soon as he could, he returned it all with interest to the full. He would owe no man anything, even by implication. His exquisite act of honor has been within the knowledge of the descendants of those whom it was tendered for over a generation. It is permitted to tell it now that he is dead. Said Goethe: "The spirit in which we work is the chief matter." The spirit in which E. R. Squibb worked was worthy of the best ideals of duty and consecration to humanity.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulæ and outlines of treatment will be answered in these columns.]

Treatment of Blepharitis.

Pyle, as noted in the *Phila. Med. Jour.*, states that too much attention can not be given to the causal conditions; careful attention to refraction, and any disturbance of the oculomotor apparatus should be remedied. If chronic conjunctivitis co-exists, which is the rule, a mild stimulating astringent should be used. He recommends the following:

R.	Acidi borici	gr. xlv	2	66
	Sodii chloridi	gr. x		66
	Zinci chloridi	gr. ii		12
	Aq. destil	℥iv	128	

M. Sig.: A few drops to be instilled into each eye three times a day.

He states that all scales and crusts should be carefully removed, morning and night. Absorbent cotton moistened with warm water, warm boric-acid solution or warm bichlorid of mercury solution—1 to 5000—may be used to loosen the accumulated secretions. Any underlying ulcers should be cleansed, the cilia epilated, and the cavities painted with a 2 per cent. solution of silver nitrate. The application of a fatty substance facilitates removal of crusts, softens the skin and prevents further occlusion of the glands. For this purpose he advises the following:

R.	Hydrargyri oxidi flavi.....	gr. i		106
	Vasellini	gr. iii		18

M. Sig.: Rub in thoroughly a piece the size of a match-head each morning and night, after having removed the crusts, dried secretions, etc.

Prevention of Gastric Fermentation.

Ewald recommends the following:

R.	Resorcin—resublimed	gr. lxxv	5	
	Bismuthi salicylatis			
	Pulv. rhei rad.			
	Sodii sulphatis, āā	℥iiss	10	
	Sacchari lactis	℥iv	16	

M. Sig.: One-half teaspoonful twice daily.

Ointment for Chapped Hands.

R.	Hydrarg. oxidi flavi	gr. ii		12
	Balsami Peruvianæ	gr. x		66
	Vasellini	℥ss	16	

M. Sig.: Apply locally night and morning. If there is itching present two grains of carbolic acid may be added.—Hearn.

For Constipation with Flatulence.

Holloway, in *New Orleans Med. and Surgical Jour.*, recommends the following combination:

R.	Ext. Colocynth. comp.	gr. 1/3		102
	Terebinthinæ—Venice	gr. i		66
	Pulveris aloes Soc.....	gr. iss		69
	Ext. nucis vomicæ	gr. 1/4		115
	Ext. hyoseyami	gr. i		66

M. Ft. pil. No. i. Sig.: One such pill twice daily.

Treatment of Acute Gonorrhea.

Dr. Cabot, in *Med. News*, states that if cases come to him for treatment during the first twenty-four hours, they can be greatly relieved, and the gonococci made to disappear from the discharge in the course of a few days. The following silver salt is used:

R.	Argonin	gr. lxxx-℥iiss	5-10	
	Aq. destil. q. s. ad	℥iv	128	

M. Sig.: Use as a deep injection into the urethra.

Six drams of the solution should be employed and retained within the urethra, first instructing the patient to urinate and wash the urethra out with a warm solution. Other treatment consists in the use of the following internally:

R.	Potassii citratis	℥vi	24	
	Aq. destil. q. s. ad.....	℥iii	96	

M. Sig.: One teaspoonful in water three times a day.

Where the case presents a copious discharge the following is given:

R.	Plumbi acetatis			
	Acidi tannici			
	Zinci sulphatis			
	Cupri sulphatis, āā	gr. ii		12

M. Ft. tabella No. i. Sig.: Dissolve one such tablet in four ounces of water and use as an injection after each urination. The importance of the temperature of the injection is emphasized, and he recommends the injection to be given at a temperature of 110 F.

Treatment of Pulmonary Tuberculosis.

The following prescriptions are very adaptable in treatment of pulmonary tuberculosis:

FOR THE SEVERE COUGH.

R.	Codeinæ	gr. iii		18
	Dionin	gr. vi		36
	Acidi hydrocyanici dil.....	℥i	4	
	Spts. vini Gallici	℥i	32	
	Ext. glycyrrhizæ	℥i	4	
	Syr. pruni Virginianæ q. s. ad	℥iii	96	

M. Sig.: Shake well and take a teaspoonful three or four times a day.

Dionin is a preparation derived from morphin. It is a white crystalline powder, soluble in water and can be used subcutaneously. It contains some of the narcotic principles of morphin, but not to such a degree. It is recommended in same doses as codein and can be used in tuberculosis and bronchial affections.

FOR THE SYSTEMIC TREATMENT.

R.	Creosoti—beechwood	℥iii	8	
	Glycerini	℥i	32	
	Spts. vini Gallici	℥vi	24	
	Tinct. gentianæ			
	Tinct. cinchonæ comp. āā.....	℥iii	96	

M. Sig. One teaspoonful four times a day.

W. J. Robinson recommends that each time the mixture is repeated one dram of creosote be added until one ounce is added. The patient thus commences with two minims of creosote per dose and reaches eight minims.

R.	Creosoti	℥i	4	
	Guaiacol	℥ii	8	
	Emul. ol. morrhue—50 per cent.....	℥xii	384	
	Syr. hypophosphiti—U. S. P.....	℥iv	128	

M. Sig.: One tablespoonful three times a day.—*Merck's Archives*.

Treatment of Acute Bronchopneumonia in Childhood.

The Medical Record gives the following outline of treatment by Carriere: Isolate the patient as much as possible, avoid chills, and make the air which the patient breathes aseptic by antiseptic vapors. For this purpose he recommends the following:

R. Phenol	3v	20
Thymol		
Benzoin, 55	3iiss	10
Alcoholis	3iii	96
Aquæ	Oiss	768

He also recommends keeping the respiratory tract in good condition by nasal douches and mouth washes of boric acid, keeping the skin in good condition, keeping the gastrointestinal tract in order by the administration of mild chlorid of mercury. As alimentation he recommends a glass of milk every two hours; bouillon or beef juice to children over eighteen months.

Rhus Glabra in Enuresis.

Dr. J. J. Cassidy states, in the Canadian Jour. of Med., that rhus glabra will prevent incontinence of urine in children. He prescribes it in the following form:

R. Ext. rhois glabræ fln.....	3vi	24
Syrupi simplicis q. s. ad.....	3ii	64

M. Sig. One teaspoonful at bedtime. He states that the use of iron as an adjuvant to rhus is important; but the mineral being incompatible with this vegetable astringent he gives it in a separate mixture along with cascara to relieve constipation, and lactophosphate of calcium to relieve irritative dyspepsia. He recommended the following:

R. Ferri eitratis	3iiss	10
Syr. calcii lactophosphatis		
Elix. cascarae sagradae—arom.—55.....	3ii	64

M. Sig.: One teaspoonful after the noon meal.

The action of rhus glabra resembles tannic acid. The astringent action of the former is exercised upon the bladder.

To Check Hemoptysis.

A. Hecht has employed with success the following pill, in checking hemoptysis in tuberculosis:

R. Extracti ergotæ	gr. xxx	2
Pulv. digitalis fol.		
Ext. hyoseyami, 55	gr. xx	1 30
Quininae sulphatis	gr. xxx	2

M. Ft. pil. No. xx. Sig.: Three to five pills may be taken daily. He believes that the real virtue of this combination in producing hemostasis lies in the quinin reinforced by the digitalis.

Lime Burns of the Eye.

W. C. Posey, in the Ther. Gazette, states that after removal of all the irritating substance, the lids should be everted and every part of the conjunctiva carefully cleansed with oil or a diluted solution of vinegar, or water alone may be employed. Sugar is sometimes used in concentrated solutions, as cane sugar forms an insoluble compound with lime. Following the chemical neutralization the eye should be thoroughly cleansed with a boric-acid solution, 10 grains to the ounce, and ice compresses constantly applied until all inflammatory reaction has subsided. As there is danger of involvement of the iris, if the cornea is affected a solution of atropin should be dropped into the eye to dilate the pupil, and subsequently the use of olive-oil or castor-oil dropped into the eye will best promote the healing.

Treatment of Chalazion (Stye).

Stazmenski states that the cause of the affection consists in the penetration of microbes into the meibomian gland. The treatment he employs consists in applying the following ointment upon the skin surface of the chalazion and gently rubbing it in every night at bedtime:

R. Iodi (pure).....	gr. xii	72
Potassii iodidi	gr. xxxvi	2 36
Vaselini	3i	4
Aq. destil.....	3i	4
Lanolini	3ss	16

M. Sig.: For local application.

Treatment of Influenza.

W. H. Thompson, in the Med. Record, advocates the use of the following pill:

R. Ext. aconiti	gr. 1/12	005
Pulveris opii et ipecac	gr. ss	03
Phenacetini	gr. ii	12
Quininae sulphatis	gr. iss	09

M. Sig: Two such pills to be taken three times a day as long as the fever continues. The dosage is then to be reduced to one pill until the catarrhal symptoms have passed away.

For the coryza and nasal symptoms he recommends the following:

R. Ext. belladonnae.....	gr. 1/4	015
Camphoræ	gr. ii	12

M. Sig.: One such pill as necessary.

FOR THE PERSISTENT COUGH.

R. Ammonii bromidi	gr. xx	1 33
Antipyrini	gr. x	66

M. Ft. Chartula. Sig.: One powder once or twice daily.

Phosphate of Calcium in Scrofulosis.

Hare recommends calcium phosphate in suppurating scrofulous ulcers. Owing to its more ready solubility, he prescribes the lactophosphate of calcium in the following combination:

R. Syrupi ferri iodidi	3i	4
Olei morrhuae	3i	32
Syr. calcii lactophos.....	3i	32
Aquæ calcis q. s. ad.....	3iv	128

M. Sig.: Shake well and take from two to three teaspoonfuls after each meal.

Medicolegal.

Five Dollars for Postmortem Examination.—Section 4936 of the Alabama Code provides that a physician or surgeon, who has been subpoenaed to attend an inquest, shall be allowed, as a witness, \$5, with \$1 additional for each mile he may have traveled in attending such inquest, to be collected out of the estate of the deceased, if solvent, and if insolvent, to be paid out of the county treasury. Section 4573 provides that, if the immediate cause of death is uncertain, a physician or surgeon may be summoned to make a postmortem examination, who shall give his opinion in writing as to the cause of death, and shall be entitled to the same fee and mileage, to be paid in the same manner, as for attending an inquest, etc. Each of these sections, the Supreme Court of Alabama says, in the case of Naftel vs. Montgomery County, relate to the same subject-matter, and are to be construed together. But one fee is allowed the physician or surgeon for attending an inquest and giving his professional opinion after examining the dead body, however much labor or skill it may have required, and the fee, therefore, is specifically prescribed. If it be said that this allowance is inadequate, a full answer to the suggestion is that the legislature has prescribed this and no other fee for such services. It often occurs in rendering services to the state and county, that the citizen is inadequately compensated in money, notably in the cases of jurors and witnesses, whose fees, as allowed by law, in many instances, fall short of their actual expenses, to say nothing of the value of their time, their trouble, and losses in business. Their compensation comes mainly from the services they render the county in the interest of law, order and good government; and so does the physician's or surgeon's, when he bestows his skill in the duties required of him in holding inquests, in the interest of the discovery of unlawful homicides and the punishment of the perpetrators of them. In this case, the plaintiff stated at an inquest that he could not give a professional opinion as to the cause of death without holding an autopsy. Thereupon he was directed to hold the same and to make a microscopic examination of the organs of the deceased, which were reasonably necessary to be made in order to determine whether or not death resulted from foul means. Pursuant to such directions from the coroner, he performed an autopsy and made a microscopic examination of the organs of the deceased, being engaged in and about the same for one day and a part of another. The rea-

reasonable value of such services in making such autopsy and microscopic examination was fixed at \$50. He was paid \$5 therefor, by the administrator of the estate of the deceased, and now the Supreme Court of Alabama holds, under the doctrine above stated, that he received the fee allowed him by law, and was entitled to no more.

Could Do No Less than Resuspend Unvaccinated Pupil.—In the South Dakota case of *Glover vs. the Board of Education of Lead*, the suspension from school, on the 17th of the month, of a pupil who refused to furnish satisfactory evidence of vaccination, was followed by mandamus proceedings. At the hearing, it was tacitly conceded by the board that at and prior to the time the boy was suspended there was no case of smallpox in the city or county, and that its order requiring vaccination was needless, and without justification, as a sanitary or preventive measure, and was issued without cause and without authority of law, and was unjust and oppressive. Upon this admission, and with consent of the board's counsel, a peremptory writ of mandamus was issued, on the 2d of the following month, commanding the school board and superintendent to immediately admit the boy to the public school, as a pupil, without requiring of him a certificate of vaccination or compliance with the order of the board of education requiring pupils of said schools to be vaccinated. Conformable to this mandate, the boy was permitted to return to school, as a pupil, on the 5th. But, in the afternoon of that same day, he was presented with a notice from the superintendent stating that, by order of the board of education of the 3d instant, he was refused admission as a pupil of the public schools of the city until he presented satisfactory proof of his vaccination against smallpox. Thereupon contempt proceedings were begun, based upon the alleged violation of the peremptory writ of mandamus mentioned. The defense was that subsequently to the service of the writ, and before the boy had been readmitted to the public schools in compliance therewith for a day, most alarming sanitary conditions were officially brought to notice by the service of resolutions and orders of the state, county and city boards of health, respectively, showing that smallpox was then prevalent in the vicinity of the city, and requiring the health authorities to exclude all children and pupils from the public schools who failed or refused to furnish satisfactory evidence of vaccination. Under these circumstances, the Supreme Court of South Dakota holds that there was no contempt. In view of the action taken by the various boards of health, no less, it says could be done, and the penalty of the law be escaped. While the earlier resolution was in effect nullified by the mandamus complied with, further proceedings on the part of the board of education, under justifiable conditions, were not forestalled for all time, and the fact that an emergency immediately arose requiring prompt action for the protection of the public from the consequences of a dreadful disease in no manner rendered the board guilty of contempt. The temporary regulation, requiring children to furnish satisfactory evidence of vaccination or remain away from school until the further order of the board, was reasonable, and within the general power of the school board to control, manage and regulate the public schools of the city. Independently of express legislation, a board of education has power, under circumstances like these, to close the schools until the danger subsides, or suspend such as refuse to undergo vaccination.

Concerning the Pennsylvania Medical Practice Act.—The Pennsylvania act of May 18, 1893, the Supreme Court of that state holds, *in re Campbell*, is a valid and constitutional exercise of the police power of the state upon a subject plainly within that power, and urgently in need of control by it. The title of sixty-two words it is certain is not open to criticism for brevity or vagueness. But it says that the purpose of the act is indicated in the phrase "to regulate the practice of medicine and surgery." This gives notice to any one desiring to enter the practice that its provisions do or may concern him. Nothing more is required. Nor does the court consider that the act is in contravention of the provisions of the state constitution vesting the appointing power in the governor, because, it

holds, there is nothing in the constitution which prohibits the legislature, in creating an office, from fixing the qualifications of the incumbent and thereby limiting the choice of the governor in the appointment to the class of persons so qualified, which is all this act does in regard to the offices which it provides for. Neither does it think that the act violates the constitutional prohibition against any local or special law "granting to any corporation, association, or individual any special or exclusive privilege or immunity." It says the act is not local or special. It embraces the whole state, and applies to all persons of every school or system of medicine desiring to enter on the practice. The designation of the three medical societies from whose members the board of examiners are to be selected is not the grant of any special or exclusive privilege to those societies, but a convenient method or securing a competent and qualified class from whom the examiners may be selected. But, even if it should be regarded as a special privilege to those societies, it would not be unconstitutional. The board of examiners are state officers, charged with the administration of the state's police power on the subject of admission to the practice of medicine. The constitutional provision quoted does not apply to such officers. The state may choose its own agents in its own way to carry out its commands in regard to the taxing or police or other general powers. The act, the court further holds, by clear implication provides for registration by entry of record in a county medical register kept by the prothonotary. This register, while not a judicial record, is a public record of matters of public interest and concern, directed to be kept open and accessible for the information of the public, put from motives of public policy under the sanction and control of the court, the duty of so keeping it being imposed on the prothonotary as an officer of the court, in the performance of which duty he is necessarily subject to the orders and control of the court. So, if a licensed physician applying for registration should be refused without good reason, the court, on mandamus or by summary order, would compel its officer to perform the duty laid upon him by the statute; and if he has, through misinformation, made an erroneous entry not warranted by law, the court has power to compel its amendment or cancellation. It is immaterial that he who petitions to have the record corrected should have no personal interest in the matter. It is also irrelevant to a proceeding to have a medical register corrected by striking off a name that on a trial for practicing medicine in violation of the statute the person whose right to registration is questioned was acquitted, it being charged that the entry was procured by falsehood and fraud.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Medical News (N. Y.) February 16.

- 1 *A Hair-Cast of the Stomach: Its Successful Removal by Laparotomy. Nathan Jacobson.
- 2 *Scurvy and Rickets in Young Children. H. A. Hare.
- 3 *The Relation of Tuberculosis to the Tenement-House Problem. Arthur R. Guerard.
- 4 *Treatment of Lupus. H. Rockwell Varney.
- 5 A Report of Some Cases of Abdominal Surgery, With Remarks on the Diagnosis of Carcinoma of the Cecum and the Surgical Treatment of Carcinoma of the Liver and the Gall-Bladder. (Continued.) Charles G. Cumston.
- 6 Pregnancy and Typhoid. G. H. B. Terry.
- 7 Foreign Body in the Urethra. H. W. Clouchek.

Boston Medical and Surgical Journal, February 14.

- 8 A Case of Cesarean Section for Complete Placenta Previa. C. H. Hare.
- 9 *The Woolen Yarn Truss in Infantile Inguinal Hernia. E. S. Boland.
- 10 *Disinfection Within or Without the Body in Diphtheria. M. A. Veeder.
- 11 A Case of Idiopathic Dilatation of the Colon. Maurice H. Richardson.
- 12 Placenta Previa Centralis: Report of a Case. John W. Dewis.
- 13 A Case of Complete Placenta Previa. Frederick Coggeshall.

Philadelphia Medical Journal, February 16.

- 14 Perforating Ulcer of the Stomach; Operation; Recovery. John H. Musser and Henry R. Wharton.

- 15 *Recent Progress in the Treatment of Acute Lobar Pneumonia. James K. Crook.
- 16 *Periodical Insanity. A. R. Defendorf.
- 17 Medical Examination of School Children. Edward M. Greene.
- 18 *Tetanus Following Clean Operation Wounds. Joseph R. Bissell.
- 19 *Adhesion of the Soft Palate to the Posterior Wall of the Pharynx. Augustus Koenig.
- 20 *Treatment of Erysipelas. N. G. Kelble, Jr.

New York Medical Journal, February 16.

- 21 *Stethophonometry. Albert Abrams.
- 22 Septicemia in Young Chickens. Leo F. Rettger.
- 23 *A New Portable and Inexpensive Ophthalmometer. William F. Alken.
- 24 *Combined Surgical Operations in Female Subjects at a Single Séance. R. Stansbury Sutton.
- 25 The Normal Declinations of the Retinal Meridians. (To be concluded.) George T. Stevens.
- 26 *A Study of Buboes and Their Treatment. Frederick Griffith.
- 27 Hysterical Anesthesia and Analgesia. B. C. Loveland.

Medical Record (N. Y.), February 16.

- 28 *The Problem of Appendicitis from Medical and Surgical Points of View. Robert Abbe.
- 29 *The Causes of Failure of Compensation in Diseases of the Heart. Morris Manges.
- 30 *Strabismus and Its Management. J. H. Woodward.

Cincinnati Lancet-Clinic, February 16.

- 31 *The Prognosis and Treatment of Lateral Curvature. Albert H. Freiberg.
- 32 Pruritus and Eczema of the Anus and Rectum. George J. Monroe.

St. Louis Medical Review, February 16.

- 33 Best Methods for the Treatment of the Insane. Edward C. Runge.
- 34 *Influenza, More Especially Its Effects on the Respiratory Organs and Accessory Nasal Sinuses. William Bayard Shields.

Pediatrics (N. Y.), February 1.

- 35 *Congenital Hypertrophic Stenosis of Pylorus, With an Account of a Case Successfully Treated by Operation. Jas. H. Nicoll.
- 36 Smallpox in Children. Frederick Leavitt.

Oklahoma Medical Journal (Guthrie), January.

- 37 Some Points in Early Diagnosis and Treatment of Locomotor Ataxia. John W. Duke.

Hot Springs (Ark.) Medical Journal, February.

- 38 *Medullary Narcosis. W. L. Rodman.

Cleveland Medical Gazette, February.

Symposium on Nephritis:

- 39 Acute Nephritis—Symptomatology. Oren E. George.
- 40 Diagnosis. A. J. Skeel.
- 41 Laboratory Diagnosis of Nephritis. Martin Friedrich.
- 42 Prognosis. F. A. Payne.
- 43 Treatment. John Perrier.
- 44 Acute Hemorrhagic Nephritis in Children. Edward P. Carter.
- 45 Acute Alcohol Nephritis. H. B. Ormsby.
- 46 Acute Nephritis from Chemical Toxic Agents. John G. Spenser.
- 47 Acute Syphilitic Nephritis With Report of Two Cases. Charles J. Aldrich.
- 48 Treatment of Nausea and Vomiting Following Anesthesia After Abdominal Operations. Hunter Robb.
- 49 The Sanitary School-Room. L. K. Baker.

American Journal of Medical Sciences (Philadelphia), February.

- 50 *A Clinical Study of Diphtheria. Fred Grant Burrows.
- 51 *Observations on the Character of the Cells in the Exudation in Acute Interstitial Nephritis, With Special Reference to the Presence of Cells With Eosinophilic Granulations. W. T. Howard, Jr.
- 52 *Rare Cardiac Anomalies. Ludvig Hektoen.
- 53 Report of a Case of Blastomycetic Dermatitis. Henry W. Stelwagon.
- 54 Refractory Syphilis, With Report of a Case Utterly Resistant to Specific Treatment. Jay F. Schamberg.
- 55 *Physiologic Dilatation and the Mitral Sphincter as Factors in Functional and Organic Disturbances of the Heart. Morton Prince.

Brooklyn Medical Journal, February.

- 56 Wounds of the Liver and Gall-Bladder. James P. Warbasse.
- 57 Inflammation of the Gall-Bladder and Bile-Ducts. H. Beekman Delatour.
- 58 Cholelithiasis. Mathias Figueira.

Archives of Pediatrics (N. Y.), February.

- 59 *Hemorrhage Into the Suprarenal Capsule in Still-born Children and Infants; Report of a Case Showing Rupture of the Sac and Escape of Blood Into the Perirenal Tissues and Peritoneal Cavity. S. McC. Hamill.
- 60 *The Care of Children With Mitral Lesions. Geo. M. Swift.

Medical Council (Philadelphia), February.

- 61 Disorders of the Sexual Function in Man. A. H. P. Leuf.
- 62 The Injection Method for the Relief and Cure of Hernia. C. Fletcher Soude.
- 63 Catarrhal Jaundice. Charles F. Hope.
- 64 A Case of Gall-Stones. Ralph Browning.
- 65 Scarlet Fever. H. J. Richardson.
- 66 The Female Bladder. A. L. Russell.
- 67 Mustard. W. O. Bunnell.
- 68 Treatment of Diseases of the Nose, Throat and Ear by the Family Physician. E. B. Gleason.
- 69 Corns. Lester Keller.
- 70 *Unclean Months. M. H. Fletcher.

Bulletin of Johns Hopkins Hospital (Baltimore, Md.), January.

- 71 *The Removal of Pelvic Inflammatory Masses by the Abdomen After Bisection of the Uterus. Howard A. Kelly.
- 72 *Abstract of the Bacteriology of Cystitis, Pyelitis and Pyelonephritis in Women. Thomas R. Brown.
- 73 *The Intrinsic Blood-Vessels of the Kidney and Their Significance in Nephrotomy. Max Brodel.
- 74 Notes on Aerobic Spore-Bearing Bacilli. W. W. Ford.

Medical Sentinel (Portland, Ore.), February.

- 75 The Treatment of Common Mind Troubles. John W. Givens.
- 76 Oöphorectomy and Hysterectomy for Epilepsy. Walter Lindley.

Obstetrics (N. Y.), January.

Symposium on Pregnancy:

- 77 *Physiology and Folklore of Pregnancy. Harriet C. B. Alexander.
- 78 *The Mutual Influence of Pregnancy and the Infectious and Constitutional Diseases. Robert B. Preble.
- 79 *Toxic Habit and Toxic Occupation Aspects. C. S. Bacon.
- 80 *Venereal and Dermic Aspects of Pregnancy. W. L. Baum.
- 81 *Renal Aspects of Pregnancy. Charles E. Paddock.
- 82 *Neurologic Aspects of Pregnancy. D. R. Brower.
- 83 *Psychiatric Aspects of Pregnancy. W. G. Stearns.
- 84 *Psychiatric Aspects of Pregnancy. C. A. Wood.
- 85 *Laryngologic Aspects of Pregnancy. Edward T. Dickerman.
- 86 *The Teeth of Pregnancy. E. S. Talbot.

Medical Dial (Minneapolis, Minn.), February.

- 87 Tuberculosis of Bones and Joints. Knut Hoegh.
- 88 Treatment of Bronchopneumonia. William Fitch Cheney.
- 89 Case of Gunshot Wound. J. H. Fonger.

Annals of Surgery (Philadelphia), February.

- 90 *Gunshot Wounds in the Philippino-American War. E. F. Robinson.
- 91 *Sarcoma of the Uterus. Van Buren Knott.
- 92 *Contribution to the Surgery of Multilocular Renal Cyst. Carl Beck.
- 93 Cicatricial Stricture of Pharynx Cured by Plastic Operation. B. Farquhar Curtis.
- 94 *The Improved Technique in the Operative Surgery of Carcinoma of the Stomach. Willis G. Macdonald.
- 95 Cases of Compound Complicated Fracture Illustrating the Value of Operative Interference in the Treatment of These Injuries. Henry R. Wharton.
- 96 *A Method of Performing Anastomosis of Hollow Viscera by a New Instrument. M. O'Hara, Jr.
- 97 1. An improved Brace for Head Extension. 2. A Hard-Rubber Spring Brace for Lateral Curvature. Joseph M. Spellissy.

Kansas City Medical Index-Lancet, February.

- 98 Two Hundred and Thirty-seven Consecutive Abdominal Sections. Charles G. Davis.
- 99 Cerebral Hemorrhage. John Punton.
- 100 Report of a Case of Injury to the Shoulder-Joint. W. A. Bracekline.
- 101 The Value of Antiseptic Inhalation in Pneumonia. L. W. Dallas.
- 102 Report of a Case of Paralysis of the Intrinsic and Extrinsic Ocular Muscles Due to Traumatism. Flavel B. Tiffany.
- 103 Spanemia. Virginius W. Gayle.

Annals of Otology, Rhinology and Laryngology (St. Louis, Mo.)
November, 1900.

- 104 *Middle Ear Disease in Its Relationship to the Cranial Cavity. Otto J. Stein. With Abstracts of Five Cases. Carl Berek.
- 105 Report of a Case of Ulcerative Laryngitis Simulating Tuberculosis Which Promptly Yielded to Mercurial Treatment. Samuel Kohn.
- 106 *On the Correction of Old Traumatic Depressions of the Nose by Subcutaneous Plastic Operation. J. L. Goodale.
- 107 A Case of Persistent Laryngeal Obstruction in a Child. Samuel E. Allen.
- 108 A Case of Epidermoid Cancer of the Soft Palate. Carolus M. Cobb.
- 109 Papilloma of the Vocal Cords—A Report of Five Cases. W. L. Bullard.
- 110 The Surgical Treatment of Otic Sclerosis. Ricardo Botey.

- 111 *The Pathology, Diagnosis, Special Prophylaxis and Treatment of Tuberculosis of the Middle Ear. Seymour Oppenheimer.
 112 Leucoplakia. J. L. Goodale.
 American Practitioner and News (Louisville, Ky.), January 15.
 113 Sequelæ of Scarlet Fever: Prevention and Treatment. John G. Cecil.
 114 Fissure in Ano. T. W. Stone.

Colorado Medical Journal (Denver), January.

- 115 *Scarlet Fever and Quarantine. E. A. Kickland.
 116 *Diabetes Mellitus—Report of a Case. R. F. Graham.
 117 The Pathology of Infection. Wm. N. Beggs.

St. Louis Medical and Surgical Journal, February.

- 118 *Testimony of the Bones from the Madeleines of the Middle Ages on Confusion of Leprosy With Syphilis in Pre-Columbian Europe. Albert S. Ashmead.
 119 *Lymphatic and Portal Affections Following Appendicitis. John C. Munro.
 120 The Cutaneous Absorption of Methyl-oleo-salicylate. Ed. Gros.

Columbus Medical Journal, January.

- 121 Diagnosis of Pelvic Diseases. C. M. Taylor.
 122 *Emmresis Caused by Eye-Strain. J. A. Frame.
 123 Combination of Drugs. John Rauschkolb.
 124 Railway Surgery in America. Clark Bell.

Medical Examiner and Practitioner (N. Y.), January.

- 125 An After-History of Applicants Rejected for Life Insurance. Andrew MacPhail.
 126 Life Insurance Examinations. W. A. Nicholson.
 127 Should Life Companies Discriminate Against Women? John K. Gore.
 128 Illegitimacy. Lady Cook.

New Orleans Medical and Surgical Journal, February.

- 129 Additional Notes on the Nature and Treatment of Leprosy. R. H. L. Bibb.
 130 Operation for Severe Perineoscrotal Hypospadias. F. W. Parham.
 131 Spinal Analgesia. E. D. Martin.
 132 Report of a Case in the Practice of Obstetrics. A. G. Wille.

Memphis Medical Monthly, February.

- 133 *Rectal Obstruction and Its Treatment. A. B. Cooke.
 134 *Four Cases of Membranous Croup Treated With Antitoxin. T. J. Happel.
 135 *Some Rectal Troubles. A. E. Cox.
 136 Diphtheria. W. T. Watson.
 137 The Treatment of Pneumonia, Past and Future. J. C. Young.
 138 Extensive Skull Fracture With Recovery. A. J. Richter.

Northwestern Lancet (Minneapolis, Minn.), February 1.

- 139 Tuberculosis of Tubes, Ovaries and Peritoneum. R. E. Cutts.
 140 Penetrating Injuries of the Eyeball. William R. Murray.
 141 Compound Fracture of the Skull. J. Clark Stewart.
 142 A Case of Subcoracoid Dislocation of the Humerus, With a Fracture of the Surgical Neck. A. E. Benjamin.

Atlanta Journal-Record of Medicine, February.

- 143 President's Address at the Atlanta Society of Medicine. T. V. Hubbard.
 144 The Physiological Therapeutics of Dipsomania. C. A. F. Lindorme.
 145 Recent Observations on the Treatment of Gonorrhea. Thomas C. Leitch.
 146 *Attention Called to a Most Invaluable Medicine. N. F. Howard.
 147 The Urine of the Horse in Pneumonia. M. D. Hoge, Jr.

AMERICAN.

1. **Gastro-intestinal Hair Cast.**—Jacobson reports and illustrates a hair cast of the stomach, extracted from a child 11 years old, who had been in the habit of swallowing her hairs. The symptoms were colicky pains, especially at night, constipation, gastric disorders, etc. The diagnosis was not clear by physical examinations, and exploratory operation was performed. The cast was peculiar in its showing a superior curve, almost rectangular. The author reviews the literature of similar cases at length, and calls attention to the fact that while the operation in cases where it was found was always experimental and exploratory, or was performed with the expectation of finding other conditions, the patient has in every case made an uninterrupted recovery.

2. **Infantile Scurvy and Rickets.**—The recognition of scurvy in young children is comparatively recent, the earlier errors in diagnosis being largely due to the fact that the principal symptoms confused it with articular rheumatism and the characteristic symptoms of petechiæ, spongy gums, etc., are not

always present. The peculiar characteristics of scurvy in infants are the very grave appearance of the child in its severe forms, the rapidity with which it recovers under proper treatment and the rarity of fatal termination. Three cases are described illustrating the different types of the disease, one in which spinal disease was diagnosed, another where meningitis was suspected and the third case where the child suffered from almost complete paraplegia with the characteristic scorbutic symptoms. Hare remarks also on the fact that scurvy is a disease of the well-to-do, while rickets is a disorder of the poor, and he believes that the latter is largely due to general deficiency of nutrition and defective development rather than to any lack of the proper constituents in the food.

3. **Tuberculosis.**—The house problem in tuberculosis is treated of by Guerard, who notices the unhygienic conditions in tenement houses, lack of ventilation, overcrowding, etc. The facts are given as regards houses where tuberculosis seems to be a permanent infection, and he expresses the opinion that in some cases it may be that only destruction of the tenement will suffice to destroy the germs. The rules which should be followed as regards housing, sufficient air space, baths, and the hygienic problems generally are noticed. The author concludes his paper with a discussion of the financial aspects of the case, the money lost, loss of work, sickness and loss of life.

4. **Lupus.**—Varney has found the most satisfactory surgical treatment in lupus to be the curette, with which one can clear away the broken-down cheesy, degenerated tissue, leaving the healthy tissue as a foundation for growth. Electrolysis, in the few cases he has tried it, has given good results. Nitrate of silver is a valuable remedy, also arsenical paste which destroys diseased tissues only. Pyrogallie acid is also mentioned, but the special object of his paper is to present the therapeutic value of the x-ray, pointed out by Dr. Pusey, of Chicago. It has various advantages, it is painless, the exposure is short, and the area may be completely controlled. He reports a case in which this method was employed with good results.

9. **Woolen Yarn Truss.**—The use of the woolen yarn truss in infantile inguinal hernia is recommended by Boland, who gives directions for making it, as follows: "Measure with a tape line the distance around the child on the plane of the pelvic inlet, beginning with and coming back to the hernia, then carry the line down on the perineum and up and out in the gluteofemoral crease and almost to where it would touch the girdle part. Mark this length on the woodwork of the door or window casing, and at each end of it drive in a three-inch nail half-way to the head. Over these nails wind the worsted, previously rolled from the skeins as bought, just tight enough to keep from kinking, and use thirty to forty threads according to size and strength required. Remove the skein, tie in the two loose yarn ends, and in one end loop a foot of white tape, and the truss is ready." For applying it: "Carry it around the child with the long end at the affected groin, pass this longer end through the other loop and draw the long end down under the corresponding thigh and out and up in the gluteofemoral crease and tie the tape to the girdle. . . . The doubled and loosely twisted yarn is so elastic that it will keep up a constant hug that will make up any slack made by the motion of the child." He sums up his paper by saying that the use of some retentive will hasten and insure the natural tendency to cure. The worsted truss is easily made to measure at the bedside, is cheap, comfortable, can be worn by any infant, but with this as with any other truss vigilance and intelligence must counteract the associated causes of hernia.

10. **Disinfection in Diphtheria.**—Veeder notices the possibility of infection of physicians treating cases of diphtheria, and advises the use of precautions. The routine he has adopted is: to be provided with squares of antiseptic gauze and corrosive sublimate tablets. A square of such gauze can be held over the mouth and nostrils with the left hand while the right is free to use the tongue-depressor and swab. Both hands and face should be wet with sublimate solution before and after examination, and the gauze be burned after use. This, together with frequent spraying and cleansing of the mouth, throat and

nostrils, and bacteriologic testing, offers a very complete security against receiving or carrying infection. He notices the diphtheroid or staphylococcal sore throat as being the favorite tract for diphtheria infection, therefore all diphtheroid throats should be considered as suspicious.

15. Pneumonia.—No routine treatment for pneumonia exists, but there are many approved therapeutic measures. Among these Crook mentions the patient's surroundings, a cheerful, well-ventilated room with temperature between 65 and 72 degrees, digestible liquid food and cold applications to the chest. Poultices are not much advocated of late, blood-letting is coming more in favor in florid cases and where the heart is seriously embarrassed by the pulmonary obstruction, or cyanosis or dyspnea prevails. The hypodermic injection of saline solution in connection with the blood-letting is advised by Michel. Arterial sedatives are less favored than formerly, though they still have some advocates. Routine purgation and antipyretics are generally condemned, and the profession is still at variance to some extent as regards the use of opiates. Crook thinks that on the whole they should not be resorted to until insomnia, pain or restlessness renders them necessary. Alcohol is losing favor and the weight of opinion is against the use of digitalis. Oxygen inhalations are safe, but their usefulness is disputed. As regards specific medication to destroy the pneumococcus in the blood, there is some evidence of the value of the salicylates, creosotal and the silver salts internally. Serumtherapy of the disease is still in the experimental stage, a standardized serum is not yet available, and the progress in this direction during 1900 has been very slight.

16. Periodical Insanity.—According to Defendorf periodical insanity is one of the most frequent of morbid psychoses, readily diagnosed in first attacks and not associated with any rapid general mental deterioration. The prognosis is not good as the attacks are likely to recur with varying intervals, throughout the patient's life.

17. School Inspection.—Greene describes the system of medical examination of school children in Boston. The inspectors are generally chosen from among the younger members of the profession and, though the pay is small (only \$200), the positions are honorable and desirable and may indirectly help in building up the physician's practice. Monthly reports are required to the secretary of the board of health, which generally supervises the work. An association of inspectors has been formed, presided over by the chairman of the board, for aiding in the work by profitable discussion or to further mutual co-operation. Children suffering from contagious diseases and those from non-contagious but more or less disabling disorders are especially the objects of inspection; the inspectors are provided with diphtheria culture outfits, and every precaution is taken against possible contagion. Children affected with tuberculosis are advised to stay away from school, though it is not said that they are excluded. The vision of pupils is another important subject investigated, and where defect appears the parents are advised to consult oculists. Still other advantages from the inspection have been the calling attention to points of cleanliness, etc.

18. Tetanus.—Bissell reports two cases of tetanus following apparently clean surgical wounds. He is inclined to suggest a long-latent, old infection to account for the disease here, and refers to cases reported by Kaposi, Cheeseman and others as supporting this view.

19. Adhesion of Soft Palate.—Koenig's case was one of adhesion of the soft palate to the posterior pharyngeal wall, producing complete nasal obstruction. The condition was entirely relieved by operation under local cocaine anesthesia. After the operation a gauze plug was used for the first two days, and then it was replaced by a hollow silver plug fitted to the cavity, through which nasal breathing was possible. Healing was complete in three weeks.

20. Erysipelas.—Keirle reports great success in the treatment of erysipelas, according to the following plan: The affected area is first enclosed in a painted ring of tincture of iodine. The ring is not to be started at the margin of the red-

dened area, but 2 to 3 inches from it, and a sufficient number of coats should be applied to cause a slight desquamation of the skin. At the same time the whole surface enclosed in the ring is to be covered with an ointment of ichthyol, about 1 dram to 1 to 2 ounces of vaselin. This is covered with a piece of gauze and a hot stupe applied and changed about every four hours. At the end of twelve hours the ichthyol ointment is washed off and a fresh coat applied, and if the iodine has not had sufficient effect, one or more new coats are applied. Internal treatment may or may not be instituted, as the result is the same in either case. Although both iodine and ichthyol are used in the treatment of erysipelas the author has not heard of any cases treated as above. Three or four days of this treatment have not failed to stop the trouble, the inflammation not crossing the painted line of iodine except in one case, in which another ring painted further out, and the same treatment as at first effectually stopped the spread of the trouble. He does not claim originality for this treatment, but can not remember seeing it described elsewhere.

21. Stethophonometry.—Abrams remarks in regard to the difficulties of testing the different degrees of intensity, etc., of sounds and the methods of their measurements. The method by the use of rods, which was reported by him in an earlier article, is inconvenient and somewhat impracticable, and the other method, by measuring by different points of the chest to which the sounds are conducted, is relatively inaccurate. He has, therefore, devised a stethophonometer, which he illustrates. It is constructed on the disc-valve principle and is composed wholly of hard rubber. There are three perforated discs in its composition, the middle disc being made to revolve by means of a handle attachment, so that its opening may be made to approach or recede from the opening in the other two discs, thus increasing the resistance to transmission of the sound wave. On the face of the disc nearest the auscultator is a scale by which the intensity of the chest sounds may be measured. On one side of the disc the bell of the stethoscope is fixed and on the other side a plug, the size of which may be varied to fit any stethoscope. This plug is perforated and in the perforation may be fitted a rubber cork, if necessary, to offer still further resistance to sound. This, however, is rarely necessary. This stethophonometric attachment can be easily removed when found necessary to use the stethoscope in the ordinary method.

23. New Ophthalmometer.—Aiken describes a new ophthalmometer which he thinks offers practically as favorable results, at less expense, than the original expensive and bulky instrument employed.

24. Combined Gynecologic Operations.—Sutton notices the fact that some years ago it was customary, when double operations were required, to make only a single one at the time with the result that the patients were sometimes laid up for weeks or months or recovering from one operation only to pass into another. He points out that of late it has become customary to do a number of operations under one anesthesia, and he reports fifteen cases and the time employed in each. Various operations, such as curettage, tracheotomy, craniotomy, laparotomy, etc., are all performed at once.

26. Buboes.—After describing the anatomy, pathology, diagnosis, etc., of the various forms of buboes, Griffith details his own treatment, which is to hurry up the formation, using hot fomentations, and when suppuration is demonstrated by fluctuation, puncture and wash out, using thorough syringing with hydrogen dioxide and inserting a drain. Dry dressing is applied, sufficient to absorb the discharge. The next dressing and washing should be done in twenty-four hours, and after that at intervals of two to four days. The hygiene of the patient should be looked for. Alcohol, fried, greasy, and indigestible foods should be avoided. He does not offer this as an original method of treatment, but it is one that has met with success in his hands and which has his approval.

28. Appendicitis.—The conditions of appendicitis are described in detail and very completely illustrated by Abbe. There is evidence that the stone does not begin to form until

the stricture has contracted to so small a caliber that the exfoliated epithelium is unable to pass into the colon in the ordinary way. This debris of epithelium, irritating by its presence, begets proliferation, pus cells, etc., and sets up the mischief in the appendix. The structure of concretions in all the cases he has found has been epithelial, though rarer cases may occur when food particles may be their basis. He holds that the attack of appendicitis recognized by the patient is in most cases the end of the disease, the stricture having existed for many years. As regards the difference between medical and surgical treatment, there is no doubt that many do get well under medical care alone, but the surgeon can say that the vast number of so-called medical cures are mild attacks and the disastrous ones only rarely give spontaneous cure. This may occur with ulceration into the bowel or even the bladder. He discusses the recuperative power of the stomach under special conditions, the life of the cells, etc., at some length.

29. Cardiac Compensation.—Manges reviews the cardiac disorders in regards to the question of compensation, and sums up by stating that hearts which have been attacked by actual organic valvular diseases from any cause have no longer an absolutely normal myocardium, since the latter has been involved in various foci. Any defect in the valvular apparatus is compensated for a longer or shorter period by hypertrophy, which in turn is followed by changes in the parenchymatous muscle cells, of interstitial connective tissue, or both, or in the ganglion cells or the nervous fibers, or both, which may finally result in such a weakening of the heart walls that the organ is no longer able to propel the blood in normal amounts, as needed by the system. The causes of this may be either one or both, distention of the cavities from leakage of the valves or it may be due to defective nutrition or myocarditis, myocardial sclerosis, anemia, chronic or acute intoxications, mechanical overstrain or other causes. If nutrition of the heart is maintained and the work it is to do regulated in time, these myocardial changes will not exert any deleterious action on the cavity, but may be even conservative to the heart as such until the appearance of arterial sclerotic changes to which all parts of the body are ultimately liable. The hypertrophied heart is more liable to arterial sclerosis of the coronaries and chronic myocarditis, yet with proper care for good nutrition and the work of the heart the disease may be controlled for a long time. The most important causes of lack of compensation are here reviewed in detail. The first of these is anemia, the most potent and common, together with infections; then disturbances of local nutrition, of which coronary arterial sclerosis is the most important and serious; and again, increased work of the heart due to overstrain, parturition, alcoholic excesses, tobacco excesses, etc. Purely functional cardiac disturbances as causes of decomposition are rare; marked mental excitement may produce rises in the arterial pressure acting in this way. Death from broken hearts may be accepted as an actuality. Finally, he maintains as a separate group those unfortunate cases where the improper administration of cardiac drugs, for example the use of digitalis, and at present the abuse of the Nauheim method and exercise, causes failure in compensation. He has seen such cases.

30.—See abstract in *THE JOURNAL*, xxxv, p. 1172.

31. Spinal Curvature.—Freiberg emphasizes the importance of spinal curvature, its effect on nutrition, general health, displacement of viscera, and impairment of the muscular system, and the fact that it shortens the expectation of life. He then passes on to its treatment, pointing out that it is rotary lateral in its character, and that forcible correction alone is not the proper method for its treatment. Mobilization of the spine is the one thing to be striven for, and it implies the attainment of an over-correction if possible. The methods and apparatus are described. The development of the chest is the next indication which is suggestive of gymnastic work with or without apparatus. If it is to be accomplished by these measures, the development of all the muscles is important. The author recommends the Swedish system of gymnastics, but suggests avoiding all complicated movements, especially the lateral flexions. In some severe and resistant cases we are not suc-

cessful in getting satisfactory results by these methods; of others, he has had experience thus far only with the Bradford and Brackett method for the forcible correction in such cases, and the results seem to have been encouraging.

Resinol.—In the notice in *THE JOURNAL*, of February 9, 1929, p. 403, of Dr. Reynold's paper, resinol was credited with the effects which the author stated were due to subiodid or oxyiodid of bismuth, which he considered almost a specific in diseases of the gastro-intestinal tract. Of course, the use of resinol internally under such conditions could not be indicated.

34. Influenza.—From his own experience, personal and professional, Shields believes influenza to be transmitted directly from person to person, and that the first symptoms in the epidemic exhibit themselves either as bronchitis or coryza or an attack of rheumatism, the respiratory symptoms appearing later. He has never seen gastro-intestinal symptoms occur as the primary phenomenon. Of the nasal sinuses, the frontal is the most frequently affected, causing violent headaches. He insists on the importance of the recognition of the transmissibility of the disease. The drugs which he relies upon are: 1. Quinin, which kills the bacillus. 2. Calomel: a few large doses given in the beginning of the disease seems to ameliorate the symptoms markedly in many cases. 3. Iodin, especially in the form of hydriodic acid. For the nervous depression he has found phosphorus more valuable than strychnin. He thinks that benzoate of soda may be of some advantage, though he does not speak of it from personal knowledge. Muriate of ammonia has been his standby for the bronchial symptoms, exerting also its good effects upon the liver. The coal-tar preparations, he thinks, may have unfortunate effects, and he has placed more reliance upon opium or codein as an analgesic.

35. Congenital Pyloric Stenosis.—The case reported by Nicoll is that of a child 5 weeks old, which had been born healthy and remained so for about a week, excepting that in about fifteen to twenty minutes after each meal he vomited the entire contents of his stomach. No symptoms of dyspepsia, but gradual emaciation from lack of nourishment, appeared and the dilated stomach stood out on the attenuated abdominal wall, showing marked peristaltic waves. After some hesitation an exploratory operation was made and the pylorus found represented by a bulky ring of muscular or fibroid tissue. A pylorotomy appeared useless in the child's feeble condition, and, therefore, an incision was made above the ring in the stomach wall, and he performed a Loreta operation; a division, from within, of the constricted pylorus was performed. The infant made a perfect recovery and has had complete relief from the previous trouble; excepting a slight rickety tendency, he is now, twelve months later, in perfect health. The author discusses the symptoms of the condition, the apparent cause of the vomiting, progressive emaciation, physical signs of the stomach with emaciation of the abdominal walls, the prognosis of the condition, its treatment and the theories of its causation. As regards treatment, only surgery gives a hopeful prognosis. As regards causation, the theories of congenital developmental aberration, of hypertrophy of the muscular walls of the pylorus, spasmodic contraction from gastric irritation, and chronic inflammatory processes are noted, but no positive opinion expressed. The important element in the cases is that of diagnosis; the trouble may be taken for infantile marasmus.

38.—See abstract in *THE JOURNAL*, xxxv, p. 1361.

50. Diphtheria.—This disorder was one of the most fatal diseases in Boston, the mortality being from 30 to 50 per cent. until the introduction of antitoxin, when it became a comparatively insignificant factor in the death-rate. Burrows' article gives a tabulated statement of about 2,000 cases of diphtheria, in regard to their mortality, ages, etc. The death-rate decreases from infancy to adult life. In the great majority the diphtheritic membrane was observed in both tonsils, and often elsewhere. There were 71 cases of nasal diphtheria. He insists on the importance of taking early cultures, but not waiting for their development before administering antitoxin. In 65 per cent. of the cases there was some form of cardiac dis-

urbance. The total number of cases of cardiac murmur was about 50 per cent. of the whole. The pulse is almost always feeble; acceleration and rapid pulse after the initial period means a guarded prognosis, and demands continued rest in bed. The use of antitoxin has made albuminuria rare; in 1757 cases, in none was there more than 1/4 of 1 per cent. found. There were 337 cases of laryngeal stenosis, 213 of which were intubated and 124 recovered with antitoxin alone. Of the 213 intubated, 96 died, 37 within 24 hours after admission into the City Hospital, and 40 during the acute stage, from toxemia. In 3 cases subsequent tracheotomy was performed, but all 3 died. He believes that the experience here obtained leads to the conviction that primary tracheotomy no longer has any place in the treatment of simple diphtheritic laryngeal stenosis. Complications, such as enlargement of the glands, ear disease, paralysis, etc., are noted. A large proportion of the fatal cases were moribund when received. There was a total of 240 deaths, 172 or 71.6 per cent. during the acute stage of the disease; in 131 cases there was a mixed infection. As regards treatment, antitoxin was the standby, but the author emphasizes the value of alcoholic stimulants, hot packs, and rectal feeding in cases where vomiting occurs. The experience teaches that the treatment can be best done by giving antitoxin early in large doses and at frequent intervals, especially in severe cases.

51. **Acute Interstitial Nephritis.**—From a study of three cases, the second occurring after an abortion, the first with general streptococcal infection, and in the third case, otitis media with bronchial pneumonia of streptococcal origin, Howard has been able to confirm Councilman's observation of the occurrence: 1. of plasma cells, lymphocytes, polymorphonuclear leucocytes in acute interstitial nephritis. 2. The presence of lymphocytes and plasma cells in the dilated vessels. 3. Mitosis and evident ameboid activity of plasma cells in both blood-vessels and tissues. In addition to the cells described by previous authors, he found large numbers of typical eosinophilic leucocytes in the interstitial exudation and in the blood-vessels in acute interstitial nephritis. In some places, in one case, these were the most numerous cells in the exudation. The eosinophilic leucocytes in the lesions of acute interstitial nephritis are for the most part brought to the part by the blood-vessels, and reach the interstitial tissue by emigration, but there is evidence—in one case—that they may be formed locally from plasma cells. The large phagocytic cells were not found.

52. **Cardiac Anomalies.**—Hektoen describes two cases of cardiac anomalies, one of defect of the septum between the pulmonary arteries and the aorta, and reviews similar reported cases, and one a peculiar small passage under the base of the anterior aortic valve, with regurgitation, hypertrophy and dilated arterial duct.

55. **Physiologic Cardiac Dilatation.**—Prince points out that the mitral valve is surrounded by circular muscular fibers, which he calls the mitral sphincter, though they are really a portion of the great cone of circular fibers that squeezes the blood out of the ventricle. The main point of his paper is its clinical significance shown under certain conditions, such as direct nervous excitement, etc. The mitral sphincter is forced to either dilate or prevented from sufficiently contracting, so as to produce the condition of mitral insufficiency and regurgitation. This may happen even when the dilatation is not sufficient to be detected by the usual methods. He points out the pathologic conditions in which this may occur, such as fatty degeneration and degenerative diseases generally, aortic stenosis, etc. He insists on the importance of recognition of this physiologic dilatation and physiologic valvular incompetency apart from pathologic varieties, and says we should question whether murmurs, dilatation, and irregularities thus occurring are in part or wholly physiologic, and, therefore, in part temporary or permanent, curable or incurable.

59. **Suprarenal Capsular Hemorrhage.**—Some degree of congestion of the suprarenal gland is held, by Mattei and Spencer, to be always present in the new-born. Hamill re-

ports a case of a child who died shortly after birth, with pyresis in which there was found extensive hemorrhage into the right suprarenal gland and perirenal tissues, compressing the kidney. The only normal tissue found was within the infiltrated cortex. Two other cases are also reported, which are somewhat similar. In one there was a hemorrhage into the cortex and in the other the central sac containing a small amount of brownish, grumous material having the appearance of altered blood. In all three cases there was a papular eruption on the arms, shoulders and chest. The cases are discussed at length and the author seems to think that the causes of these occurrences in still-born children are probably prolonged and difficult labors, especially those requiring manipulation and delivery by the breech. In some infants dying within a few days after birth this factor may still be important in the etiology, but in the great majority some form of infection is responsible. This is the case in practically all instances where death occurs after the tenth day. The hemorrhage may be either unilateral or bilateral. In most of the cases which form the basis of his study it is bilateral. There are no symptoms which seem to be directly related to the lesion. When the hemorrhage is small, limited to one capsule, the symptoms would probably be slight. The immediate effect is now thought to be dependent on the degree of hemorrhage. In mild, non-infectious forms it is probably *nil*. He says, since these organs play an important part in the chemistry of the body, later consequences are likely to be serious, especially if the hemorrhage is at all extensive.

60. **Mitral Lesions in Children.**—Swift discusses the cases of anemic children with diseased mitral valves, as received in the hospitals, many of them coming as cases of chorea. Cases in private practice differ in no particular way. While ordinarily there is no evidence of dilatation or muscular degeneration, such an outcome is to be feared, and he asks whether the outlook for these cases is serious. The answer depends on the environment; the conditions being favorable, the outlook is good. We are not to expect the ordinary course of the inflammation on the endocardium in the adult, if the child is growing, as it must keep up a compensating hypertrophy. If general nutrition fails, the outlook is grave. The etiology of these cases is almost always, if not always, rheumatic. In the treatment we must overcome the cause, rheumatic poisoning, and improve the nutrition. If the heart is not doing its work well and the infection is active or the nervous system irritable, the best plan is to put the child to bed and keep it there. Prolonged quiet enables the heart muscles to regain their tone and reduces the nervous symptom. It may be wise also to administer some one of the salicylates, and he has found strontium salicylate the least irritating. This is important since the remedy must be kept up for a period of weeks or months. The formula is:

R. Sod. salicyl.....	3ss	16
Tr. ferri chlor.....	3ss	16
Ac. citric	gr. x	65
Glycerin	3iiss	48
Ol. gaulth.....	gtt. viii	52
Liq. ammon. citrat.....	ad 3iv	128

This is given after each meal, each dram containing 7½ gr. of sodium salicylate and 7½ m. of tincture of chlorid of iron. In some cases the original poisoning may have occurred through decayed teeth or inflamed tonsils, and these should be looked after. The great indication of care and treatment is to improve the nutrition. A few weeks of rest in bed and generous feeding will make the heart stronger, and decrease nervous irritability. Massage may be used if it is feasible. As the child recovers it should be gradually exercised. It is not wise, however, to push it. Two cases are reported.

70.—See abstract in THE JOURNAL, xxxvi, p. 527.

71.—See abstract in THE JOURNAL, xxxv, p. 1424.

73. **Blood-Vessels of the Kidney.**—Brödel describes the anatomy of the kidney, with special relations to the distribution of the blood-vessels, and elaborate illustrations. The principle landmarks are given for incision into the kidney.

avoiding the leading vessels. The description is only clearly intelligible by reference to the illustrations, for which the reader is referred to the paper itself. He suggests that the short incision be made into the lowermost posterior calyx, by means of a blunt dissection and through this incision the pelvis be explored. In the collapsed state this may be difficult, and a moderate distention of the pelvis with sterilized water or borax solution will facilitate the procedure. If this short incision does not prove satisfactory, the three middle calices should be carefully opened by means of an incision from within to the surface with a curved knife. The arrangement of the vessels in the kidney suggests the mattress suture as best adapted for approximating the two cut surfaces. Simple or interrupted sutures almost always tear the tissue and are unsatisfactory. The mattress suture should be placed at right angles, or nearly so, to the large vessels, and thus prevent any tearing of the kidney substance. If the bight of the suture be 1.5 to 2 cm., no strangulation will result. The pelvis is approximated with fine catgut sutures placed between the calices, and which involve only the fat, outer fibroid coat and the muscular layers. The second system of sutures should also be catgut, and should unite the region of the papillæ. They should be mattress sutures. The third system of catgut sutures should also be mattress sutures, and be placed parallel to the second, through the cortex near the bases of the pyramids. Occasionally this third system is superfluous. The capsule is then closed in the usual manner.

77.—See abstract in *THE JOURNAL* of January 26, p. 273.

78.—*Ibid.*

79.—*Ibid.*, p. 274.

80.—*Ibid.*

81.—*Ibid.*

82.—*Ibid.*, p. 275.

83.—*Ibid.*

84.—*Ibid.*

85.—*Ibid.*

86.—*Ibid.*

90. **Gunshot Wounds.**—Experience with gunshot wounds in the Philippines is given in detail by Robinson, who found that the Krag and Mauser bullets were alike in their effects, and the wounds they make generally aseptic. The Remington and revolver bullets, on the other hand, were generally infected. He gives a curious fact that the insurgents in the Philippines used the heads of matches for smokeless powder, producing still more decidedly infected wounds. The conclusions which he deduces are given as follows: 1. The modern gunshot wound is generally aseptic, and should be treated on this supposition. 2. Asepsis is due chiefly to the character of the bullet, and early application of first-aid dressing, and in minor degree to the velocity of the projectile. 3. Primary hemorrhage from modern gunshot wounds is exceedingly rare, the blood-vessels being displaced rather than cut by the rapidly moving projectile. 4. The "explosive effect" of the modern bullet is much less common than recent military literature would indicate. This peculiar destructive effect is produced by the character of the tissue struck, as well as by the great velocity of the bullet. 5. Gunshot wounds of the chest are rarely infected. Simple antiseptic treatment, with aspiration of the pleura in cases with severe hemorrhage is all that is necessary. 6. Gunshot wounds of the knee-joint are usually aseptic, but, if infected, demand immediate amputation to save life. 7. Excision of the elbow is always a justifiable operation in severe shattering or infection of that joint. Resection of bones of other joints is rarely necessary, erosion or amputation being preferable. 8. Injuries of nerves from gunshot wounds can often be benefited by operative interference or resection. 9. In modern military surgery, abdominal section for gunshot wound is not justifiable; the patient's best chance of recovery lies in conservative treatment without operation.

91. **Sarcoma of Uterus.**—From a study of 118 cases of sarcoma of the uterus, collected from the literature, Knott notices the importance of the early employment of the micro-

scope. He concludes that the only treatment that accomplishes anything is the early and complete removal of the uterus and its appendages. The prognosis of sarcoma is not as favorable as in carcinoma of the uterus. In 20 of the 118 cases the result of the operation was not stated; in 12 of the remainder no rational operation was performed, leaving 86 cases of hysterectomy. Of this number 31 were said to have recovered, but in many of them the results were not followed for a sufficiently long time. The real mortality would probably be still higher.

92. **Multilocular Renal Cyst.**—After remarks on the rapidity of the disease, its occasional lack of symptoms and the diagnosis, Beck reports a case of which he gives an illustration. Operation was performed and the kidney removed, the patient succumbing to intestinal nephritis eleven days later. He states that it has become doubtful to him whether it will ever be justifiable to remove a cystic kidney, even when the other appears to be normal. The case described by him very strongly suggests that puncture followed by an injection of a drop of saturated solution of iodoform and ether should be tried on the small cysts, while, in the large ones, the peripheral walls should be excised. Very large cysts might even be totally excised, the wound of the kidney being united by suture of formalin catgut. This can be done by the lumbar route, while the transperitoneal may be resorted to only in obscure cases or where the tumor is of very large size.

94.—See abstract in *THE JOURNAL*, xxxv, p. 1499.

96.—*Ibid.*, xxxv, p. 323.

104. **Ear Disease in its Relationship to the Cranial Cavity.**—Stein insists on the importance of middle ear disease in its relation to the brain, and points out the methods of entrance of infection into the interior of the cranium, and the possibility of phlebitis, sinus thrombosis, abscesses, etc., the symptoms attending them, their diagnosis and prognosis.

106. **Nasal Depressions.**—Goodale reports a case of depression from septal abscess, corrected by elevating a portion of the triangular cartilage and one of correction of deformity from an old depressed fracture in the nasal bone, by subcutaneous implantation by a septal spur.

111.—See abstract in *THE JOURNAL*, xxxv, p. 1172.

115.—*Ibid.*, p. 448.

116.—*Ibid.*

118. **The Bones in Leprosy and Syphilis.**—Ashmead argues that leprosy is not an American disease, but was introduced from Asia, and that in the early or middle ages leprosy and syphilis were largely confused. Leprosy attacks the bones of the digits, while syphilis may affect almost any bony region. Syphilis undoubtedly pre-existed in both continents.

119.—See abstract in *THE JOURNAL* of January 19, p. 205.

122. **Enuresis.**—Four cases of enuresis are reported in children from 7 to 12 years of age, in whom the usual remedies failed. Examination showed more or less ocular defect, producing eye-strain. Glasses were prescribed and the correction made with the result of relieving the symptom. Frame has not found much literature on this cause of enuresis, though Gould reported several cases cured by correcting the refractive errors. During his twenty years' practice, he has seen a number of resistant cases which he is now inclined to think may have been similar to those reported. He believes a certain number depend entirely on ocular strain, and, whenever medication fails, we should refer the case to an oculist for examination.

133. **Rectal Obstipation.**—Cooke reviews the causes of rectal obstruction, describing the Houston valves especially, and noticing their pathologic condition in which they may be the cause of inconvenience and serious symptoms. Other conditions that may produce rectal obstipation are spasm of the sphincter, hyperplasia and contraction of the levator ani, but the rectal valves particularly form the subject of his article. He says that the operation to relieve this condition, though slight, requiring neither local nor general anesthesia, nor long

confinement to bed, is nevertheless one of the most delicate in surgery. The operation in these cases is almost imperative, since the trouble is seldom recognized in its early stages. It consists simply in incising the valves' free margin down to their muscular coat, but for its proper and safe performance a very thorough knowledge of the anatomy of the parts is required.

134. Antitoxin.—Happel details four cases of diphtheria treated with antitoxin, with the intention of impressing on the profession the importance of using this remedy. He agrees with those who hold that there is no maximum dose of antitoxin. Generally speaking, it should never be less than 1000 or 1500 units in any case, and not less than 3000 units in any case of laryngeal diphtheria of malignant type, or in those of a longer standing than twenty-four hours.

135. Rectal Disorders.—The first of the rectal troubles noticed by Cox is constipation. He has not found divulsion of the external sphincter of benefit, but he has had one case cured by valvotomy, which he notices in detail because such operations are not usually performed by the general practitioner. The other rectal disorders mentioned are rectal ulcer, which he treats with dilatation of the rectum and tamponing, cleansing and scarifying the ulcer and using a 5 to 10 per cent. solution of nitrate of silver. Hemorrhoids are also mentioned; he treats them by ligation and incision of the tumor above the ligature.

146. Rhatany.—Howard calls attention to the use of rhatany as an astringent in cases of bladder trouble, giving his own case as an instance of its value. He got the idea of using it from reading Watson's Practice, but he has found that it is hardly at all in use by the profession at the present day. The paper is written for the purpose of calling the attention of the profession to its value.

FOREIGN.

British Medical Journal, February 9.

Ringworm Infection in Man and Animals. J. L. BUNCH. Ringworm is generally considered to be due to two classes of fungus, microsporon and trichophyton, which can be distinguished to a certain extent clinically and microscopically, but still better in cultures. There is a less common form due to a fungus, which cultures give a faviform growth, but the lesions of this are either circinate or well-marked kerion. The trichophyton class includes two forms, the ectothrix, both large and small spored, and the endothrix, while an intermediate variety may be distinguished microscopically, in which the fungus lies both within and without the hairs. The etiology of these different forms is always obscure and Bunch relates the cases he has investigated of the disease contracted from the lower animals. Inasmuch as ringworm cultures can be inoculated into animals and vice versa, the possibility of the animals having received the infection from the human species in his case is excluded by the dates of the first symptoms. The first two cases were those in which the ectothrix eruptions were found and traced back to a horse. The third case was that of a boy with kerion of the scalp, the infection of which was traced to a terrier. The fourth case occurred in a child only four weeks old and a cat in the house was troubled with a bare patch, cultures from which gave a more luxuriant growth than cultures from the child, but their identity is not doubted. Still other cases are reported from cats, one of these being endothrix. Other animals from which the condition seemed to be derived were pet canaries and calves. These cases are the results of a very considerable study lasting over a period of three years. The number of such cases having such an origin must always be a very small percentage of the whole, as the infection has a much better chance to spread in the same species.

Finsen's Light Treatment of Lupus and Rodent Ulcer. MALCOLM MORRIS AND S. ERNEST DORE.—The authors report their experience with the light treatment of lupus and rodent ulcer, giving first some details of the technique. A current of about 75 amperes and 60 volts is usually sufficient. The

lenses must be in good order, clean and bright, and the water free from floating particles. The area treated is kept well within the focus of the light, but a smaller focus, if it can be borne, gives better results. The rays should fall perpendicularly on the compressing glass, and the compressors are kept in place by elastics. Resulting reaction varies somewhat with the idiosyncrasy of the patient. The time of its appearance varies from five to six to twenty-four hours. It is usually slight at first, becoming more marked later, and the duration of the sore, from primary hyperemia to complete healing, is from ten days to a fortnight. When situated over loose tissue, for example the eye, there is often great swelling of the neighboring parts, so that the eye may be nearly closed. Lupus vulgaris is the disease most amenable; sometimes one application is sufficient to cause the disappearance of a small isolated superficial nodule. Generally in extensive cases a single spot is treated daily, and the parts first treated are sufficiently healed in a few days to allow of their being treated again. If it is only a small area the application may be continued as long as possible, until soreness of the part necessitates cessation for a few days, when it is again continued. In extensive cases the treatment may have to be continued over a year and pyrogallie acid ointment, where there is great thickness of the skin, quickens the action. In rodent ulcer the healing often follows quickly after the application. In lupus erythematosus the effects have been marked, though not so certain as in lupus vulgaris. Constitutional effects are practically nil. The effects on the eye have been harmless, though the lids themselves have been involved. In one case, where the skin of the nose was treated, improvement took place in the mucous membrane and sense of smell. In preparing the patient, the crusts are removed with forceps, the area is then bathed with boric lotion, and, if there is any grease on the spot, with ether. The skin is then marked with a blue pencil to localize the application. After treatment the compressors are cleaned with spirit and carbolic acid. The disease surface treated is dressed if necessary, with a simple zinc lanolin ointment, or a paste with zinc, vaselin and starch, and a little boric acid. The unfavorable conditions are those which hinder the penetration of light, such as scarring, pigmentation, great vascularity, great depth below the surface of the disease, and the situation of the disease in a position to embarrass the application or make it inaccessible. In very extensive disease the condition is unfavorable, both on account of the long duration of treatment and the possibility of its spreading in one direction while another is being treated. Cases are favorable when the disease is limited, not spreading, and has undergone no previous treatment. The advantages of the method are reliability, painlessness, excellent cosmetic results, less liability to relapse, and avoidance of surgery. The disadvantages are the small area treated at a time, long time required and the expense. The rest of the paper is taken up with a report of cases.

Surgical Treatment of Migraine. WALTER WHITEHEAD.—The author recommends the use of the seton for the treatment of migraine, a method which he has employed for the last twenty-five years with the greatest success. The seton is introduced through the skin at the back of the neck, and instructions are given to move the tape from side to side each day. This should be worn interruptedly for three months at least, in the first instance, and if the symptoms recur, a second seton ought to be introduced.

The Lancet, February 9.

Gastric Hemorrhage and its Surgical Treatment. A. W. MAYO ROBSON.—The conclusions reached by Robson, concerning the treatment of gastric ulcer, are: 1. All cases of acute uncomplicated gastric ulcer should be submitted to thorough medical treatment in the shape of long-continued rest and attention to the diet, the patients not being allowed to get up or resume solid food until at least a fortnight after all disappearance of the pain. 2. Where the ulceration persists and proves intractable to medical treatment, or where relapses occur, gastro-enterostomy should be performed so as to secure physiologic rest and relieve the hyperacidity of the gastric juice nearly always found in such cases. 3. Perforation de-

mands immediate surgical treatment. 4. The complications of disabling adhesions around the stomach and pylorus, pyloric contraction, and hour-glass contraction due to chronic ulcers leading to pain, dilatation, loss of flesh, and general impairment of health, now often treated as chronic indigestion, should be treated surgically. 5. In recurring or so-called chronic hematemesis from gastric ulcer surgical treatment is decidedly called for. In acute hematemesis, further accuracy in diagnosis as to the size of the bleeding vessels is urgently needed; and the co-operation of the physician and surgeon is advisable in all cases of hematemesis, so that if relief be not obtained by medical treatment, surgical means may be adopted if the bleeding is believed to occur from a large vessel; but seeing that capillary hemorrhage is capable of relief by medical means alone, medical should always precede surgical treatment.

A Plea for More Careful Study of the Symptoms of Perforation in Typhoid Fever with a View to Early Operation. WILLIAM OSLER.—The author pleads for an early diagnosis of symptoms in perforation in typhoid, points out the diminishing mortality of late years and the possibility of saving many patients if the condition is recognized before peritonitis has fully set in. He lays down a schedule of symptoms to be observed: the character of the pain, locality, the distention or otherwise of the abdomen, limitations of respiratory movement, percussion and auscultation signs, the rectal and genito-urinary symptoms, facies of the patient, changes in the pulse, temperature, hicough, vomiting and leukopenia and condition of red blood-corpuscles and the hemoglobin. These are all indicated, with many other more detailed symptoms. The most constant symptom is sudden pain, increasing in intensity and recurring in paroxysms, and this with increase of pulse rate, distention of abdomen with great tenderness on pressure and rising leucocytosis make the diagnosis probable. A surgical colleague should be called early to share the responsibility, and in doubtful cases the patients should be given the benefit of the doubt and operation be urged.

Observations Based on the Probable Mode of Formation of Urinary Stone, Relative to its Recurrence and Prevention. REGINALD HARRISON.—The great frequency of recurrence of vesical calculi with the modern operation of litholapaxy has led Harrison to call attention to the treatment of the bladder following the operation and the preventative treatment based upon the mode that it is held urinary calculi are formed. He has for some time regarded all cases operated on for stone as suspicious until a sufficient interval has elapsed to free these from this imputation. The patient should be watched, and, if the condition of the urine becomes abnormal in any way, the bladder should be carefully attended to and washed out as for exploration, so as to remove any small forming concretions before they get large. In some cases where the bladder is sacculated, and to make doubly sure, it is well to wash out with the evacuation catheter and aspirator, as after litholapaxy. The causation of stone is connected with some as yet imperfectly understood chemical process, and Rainey's experiments as to artificial production of these formations are noticed. We have probably paid too much attention to the possible causes arising out of cases of special characteristic ingredients in the urine, instead of considering other conditions capable of bringing this about by consolidation of what is natural in the urine. He thinks that an increase in the quantity of urinary mucus may provide a basis for stone formation and an uncleanly condition of the urine may be a favoring condition. Some years ago he called attention to a soluble and digestible salt of boric acid, borocitrate of magnesia, which has a valuable action in sterilizing the urine. Drugs such as the benzoates of sodium and ammonia, hyposulphite of sodium, etc., are also exceedingly useful. After noticing several cases he calls attention to the general principles, which should not be forgotten, of noticing abnormalities, such as excess of urates, uric acid, and oxalates, but for the most part his contentions are based on proportions which may be normal. In the operation for removing stone from the bladder, two things should be looked after: 1. After every crushing operation it should be in-

sured that every particle of debris is removed. A bladder obstructed by enlarged prostate is apt to resemble the section of a coarse bath sponge rather than the outside of a teacup, and the chances for enlargement of particles are greatly increased. 2. Care should be exercised in any kind of operations to avoid introducing rough scar tissue into the bladder. Phosphatic concretions on rough uneven surfaces are likely to be formed.

Archives Generales de Medecine (Paris), January.

Mercurial Injections in Hemorrhagic Diseases. A. LUSIGNOLI.—This communication asserts that hemorrhagic affections, such as scorbutus, purpura and Werlhoff's disease, are produced by a special micro-organism whose products pass into the blood. These various diseases are all of the same nature and differ merely in intensity. The writer announces that they can be cured by intravenous injections of 1 to 4 mg. a day of mercuric chlorid, according to Baccelli's method. He describes five cases cured in a week by this treatment.

Circling for Fractures of the Patella. P. A. CASSEDEBAT.—Extremely favorable results were obtained in a severe case of fracture of the patella, which would inevitably have left a deformity if treated by any other method than circling. Berger was the first to call attention to the advantages of passing a silver wire around the fractured patella, thus holding the fragments together in a loop, instead of suturing them together. Cassedebat is so impressed with the value of the method that he advocates it as a routine measure, instead of reserving it for the gravest cases.

Progres Med. (Paris), January 26 and February 2.

Mountain and Balloon Sickness. E. GUGLIELMINETTI.—The project to build a railroad to the summit of the Jungfrau has given a new impetus to the study of the effects of rarefied air on the system. The writer of this profusely illustrated article spent two weeks on the summit of Mont Blanc, with a number of workmen, and experienced an acute attack of mountain sickness. His companion, Dr. Jacottet, of Neuchatel, died after five days of suffering, and several of the workmen were affected. None was relieved at any time by inhalations of oxygen. He is convinced that mountain sickness is essentially the result of mechanical disturbances in the circulation; the diminished atmospheric pressure leads to the accumulation of blood in the peripheral vessels which are gorged, while the arteries are depleted, with consequent anemia in the brain. The pulmonary vessels swell, the blood stagnates in them and the cavities of the right heart become dilated. Chemical disturbances—the anoxihemia—have a subordinate rôle. Treatment should be addressed to the circulation, with remedies that act on the vessels and on the heart, such as caffeine, strychnin and subcutaneous injections of salt solution. [Aron has recently published an experimental study of the effects of rarefied air. He found the inhalation of oxygen effective in banishing the cyanosis and disturbances experienced in the pneumatic chamber, but he noted that the oxygen, while materially relieving, did not restore the respiration to normal, confirming the assumption that beside the chemical, important physical factors are also at work in mountain sickness.—Zeitschr. f. Klin. Med., xii. Ed.]

Revue de Medecine (Paris), January.

Nephritis of Pregnancy. E. GAUCHER.—The nephritis of pregnancy is of an autotoxic nature and, consequently, epithelial at first. If the cause persists—either prolonged intoxication or repeated invasion from successive pregnancies—the lesion becomes interstitial and assumes the anatomico-clinical characteristics of chronic, mixed nephritis, predominantly interstitial. Whatever the nature of the poison, whether mineral, vegetable or animal, all varieties of toxic nephritis have the same evolution.

Re-education of the Movements of the Heart. F. LAGRANGE.—A series of pulse-tracings are given to demonstrate the efficacy of systematically applied exercises in regulating anomalies in form, amplitude, frequency or rhythm of the arterial pulse. Thoracic aspiration is an important indirect aid in drawing the blood in the direction in which it is impelled by the systole. The lung can be made to co-operate in forcing the blood along. Massage is another means of pro-

moting the circulation in case of asystolia. Deep massage of the abdomen empties the veins, especially the portal vessels, and the amount of blood in the arteries is proportionately increased, augmenting their resistance and thus regulating the action of the heart in turn. The wild pulse observed while the heart is comparatively empty approximates to normal as the flow through the heart is increased. On the other hand, in arteriosclerosis, the indications are the reverse, the arterial tension requires to be reduced instead of increased. Massage is also the remedy in this case, but not deep, mechanical, as before, but superficial. The aim is to induce vaso-dilating reflexes by lively, superficial physiologic friction, slapping and pinching. When this is applied lightly to the four members, avoiding the trunk, the arterial tension is reduced, the blood drawn to the periphery and the functioning of the heart favorably modified.

Tendon Reflexes in Typhoid Fever. P. REMLINGER.—The tendon reflexes were exaggerated in 32 per cent. of the cases of typhoid fever examined by Remlinger, diminished in 17, abolished in 29, and unmodified in 22 per cent. His impression is that the exaggeration occurs in the grave, ataxic and ataxo-dynamic cases.

Traumatic Diabetes with Throat Symptoms. P. VERGELY.—Almost every one of the complications and nervous symptoms of ordinary diabetes are seen in the traumatic variety. The glycosuria may not appear for a long interval after the trauma, which probably merely rouses some latent predisposition in the organism. Any unusual, strange, nervous phenomenon that can not be traced to a neurosis or organic lesion, should suggest the possibility of a disturbance in nutrition, and examination of the urine will reveal its significance. In the case described, dyspnea, simulating angina pectoris, was the first and, for months, the only symptom of the traumatic diabetes.

Allg. Med. Cent. Ztg. (Vienna), January 23.

Colloid Silver a Specific Against Sepsis. P. VIETT.—Credé's colloid silver is not toxic, and Vielt uses it in larger quantities than is generally recommended. He considers it a specific against sepsis. It is especially valuable in country practice and completely fulfils Credé's claims for it in this respect. In puerperal sepsis, appendicitis, etc., Vielt rubs the silver salve—unguentum Credé—on regions remote from the morbid process, in some cases using as much as 12 gm. in nine hours for an adult, 8 gm. in eight hours for a child of 7, and 2 gm. a day for an infant of 3 months.

Beitraege z. Geb. u. Gyn. (Leipsic), III, 1 to 3.

Experimental Tests of Various Methods of Resuscitating the Newly Born. B. S. SCHULTZE.—Spirometer tracings are given showing the superior efficacy of Schultze's swinging method over all others for inducing artificial respiration in new-born infants. Tests on 29 cadavers of still-born infants showed that swinging freed the lungs from mucus and rendered energetic inspirations possible. Sylvester's method was the only one to be compared with it.

Etiology of Malignant Tumors. A. HEGAR.—The cell of a malignant tumor is an injured tissue cell, whose differentiation has been impaired. The injury may have occurred in embryonal or extrauterine life or possibly in the germ-plasma. Injurious factors are numerous, among them the products of bacterial metabolism have an important place. The tissue cell possesses the inherent faculty of growth, which is necessary to form a malignant tumor. A stimulus to proliferation is, however, required to set this faculty in action. The injurious factor and the stimulus to proliferate, in all probability, frequently originate from the same source, the toxins evolved by micro-organisms. In the prophylaxis of malignant tumors everything tending to the normal regeneration of the cells should be favored, especially by diet suitable to the individual, the occupation and the age. Infections of all kinds should be scrupulously avoided, gonorrhea and syphilis in particular. Local irritation of the tissues and stagnation of excreta should also be prevented. Local venous hyperemia should be relieved and abolished, and all defects in the epithelium prevented by a mild astringent or zinc or boracized salve.

Remote Results of Prolapsus Operations. O. V. HERFF.—Surgical methods of treating prolapsus uteri are all unsatis-

factory, as they can not restore the missing tonicity to the tissues. This can be accomplished only by therapeutic gymnastics and the avoidance of violent efforts on the part of the abdominal muscles. Herff reviews the remote results of 283 operations for prolapse. Complete working capacity was restored in 37.2 per cent. after simple colporrhaphy or perineorrhaphy; after complicated intervention in 50 per cent.; after vaginal or vesical fixation in 41.8 per cent.; after ventral fixation in 53.8 per cent., and after hysterectomy in 55.1 per cent. Freund's operation was performed seven times and the threads cut through in every case with only partial restoration of the working capacity; Mueller's operation was done in two cases, with complete restoration in one.

New Method of Shortening the Cervix. H. FUCHS.—The advantage of the operation described is that the vaginal portion is retained intact, with no cicatricial ring. The cervix is resected above, the lips of the os uteri detached and mobilized, but the connection with the vagina left undisturbed. Nine patients have been thus operated on at Kiel with eminently satisfactory results, and with no interference with pregnancy.

Beitraege z. Klin. Chirurgie (Tuebingen), December.

Experiences with Beck's Operation for Hypospadias. G. MARWEDEL.—Beck's method of forward dislocation of the urethra in the treatment of hypospadias was applied by Marwedel in seven cases, the children ranging between 1 and 9 years of age. In 3, the operation was completely successful; in 2, a slight secondary operation was necessary. In one of the others a large hematoma formed, requiring the Thiersch operation. In this and another case erections interfered with the healing. A permanent catheter was found indispensable in nearly every case, contrary to Beck's experience. No necrosis of the urethra was observed, but in two cases a small urinary fistula persisted at the lower angle of the wound, although the urethra had not been injured and the wound had healed by first intention.

Appendicitis in Hernial Sac. F. TACKE.—A small lump was noted for three months in the right inguinal region. It suddenly increased in size and became extremely painful, the swelling involving the entire inguinal region and scrotum, with fever, vomiting, depression and diarrhea. The hernial sac contained a portion of the intact cecum and the suppurating appendix, perforated at the tip. Tacke has collected twenty-eight somewhat similar cases in the literature.

Rectal Exploration and Incision in Appendicitis. A. LANGEMAK.—The advantages and necessity of rectal exploration in all cases of suspected appendicitis are announced by Langemak. He describes a number of cases in which the surgical intervention was by the rectal route, with the most satisfactory results, including a case of hemorrhage from erosion. Not a trace of ascending infection was observed in any case.

Irreducible Luxation of the Shoulder. E. SCHOCH.—One personal case is reported and fifty-four in the literature are reviewed. The results obtained by the various methods of treatment emphasize the fact that arthrotomy is the standard procedure in all recent cases. In older cases arthrotomy should be tried first, but if the head is found much injured, resection should be done. In his personal case, a young farmer, normal function for any kind of work was restored to the joint.

Esophagoscopy for Foreign Bodies. V. V. HACKER.—During the last eight years Hacker has had occasion to remove foreign bodies from the esophagus twenty-seven times. By the aid of esophagoscopy all were located and removed without injury to the patient, only one requiring gastrostomy. He explores with a sound tipped with metal or ivory, which grates when brought in contact with the foreign body. During this same period fourteen esophagotomies were done at Gussenbauer's clinic at Vienna for the same indications.

Operative Treatment of Basedow's Disease. B. WITMER.—The 23 cases of Basedow's disease operated on by Kroenlein are analyzed and followed to date in this communication. In 18 the operation was successful; in 2 it did not affect the course of the disease; 2 died, and the fate of 1 is unknown. The mortality was thus 8.6 per cent. Mikulicz reports 4.8; Czerny, 1 in 4; Kocher, 3 in 34, while all of Kummel's 20 patients were restored to their working capacity. In Rehn's collective statistics the mortality is given at 13.6 per cent.

Weakness of the heart is the complication most to be feared. In the fatal cases the operation is not in itself the cause of death, but it merely gives the slight impetus required. The operation was limited to resection of the struma in 19 cases with 1 death; enucleation, in 3, and ligature of the artery in 2 with one death. Generally speaking, Witmer concludes, the treatment of Basedow's disease is internal. If no improvement is manifest in spite of internal measures, surgical intervention should be resorted to. Symptoms of stenosis indicate operation.

Therapeutische Monatshefte (Berlin), December.

Prevention of Tuberculosis in Children. E. FEER.—Absolute cleanliness, sunshine, fresh air and exercise out of doors are the factors in the prevention of tuberculosis as well for children as for adults. Among the minor points Feer mentions that the bedding in hotels, etc., should be covered with a washable sheet to prevent infection from the blankets, and that a sheet should be spread on the floor for young children to play on, never putting them down on a carpet, especially in a hotel. If possible, the child should be confined to the sheet with a light folding fence around it. The teeth should be carefully supervised, as tubercular infection may occur through a cavity at any age. Precautions should be multiplied in case of children with a tendency to glandular affections.

Atmocausis and Zestocausis. W. STOECKEL.—Treatment with steam is the only certain means at our command for controlling menstrual and climacteric hemorrhage, according to Stoeckel. It can be depended on in all cases without complications such as myomata, polypi, relics of abortion or much endometritic alterations. It is especially prompt and reliable in violent climacteric hemorrhages, and far superior to the curette for this purpose.

Zeitschrift f. Geb. u. Gyn. (Stuttgart), XLIV, 1 and 2.

Incipient Chancroid of the Portio. O. V. FRANQUE.—The normal anatomic conditions of the uterus completely justify supravaginal amputation in case of commencing chancroid of the portio as a sufficient and satisfactory operation. Franque has not been able to find a single case in which the lymph-glands were involved. Even in the progressive and extreme cases the involvement of the body of the uterus is the rare exception. By the arrangement of the lymph-glands in the region, dissemination in this direction is against the current.

Severe Paralysis of the Stomach and Intestine, Especially After Operations. O. V. HERFF.—Two personal observations are added to the 32 cases on record of acute paresis or paralysis of the stomach, inducing extreme dilatation and mechanical occlusion of the adjoining portion of the duodenum. All but 5 were fatal; 12 occurred consecutive to various operations, with nothing in common but the chloroform narcosis. The primary cause is probably injury of the nervous apparatus of the stomach from trauma of the spinal cord in some cases, in others from pathologic distention of the stomach from abnormal fermentations, and in others from the toxic action of the chloroform or from auto-intoxication. For a certain number of the cases no plausible explanation can be advanced. A predisposition existed in all of the patients, from preceding emaciation, debility or a chronic gastric affection. Many were convalescing from various diseases. In the majority of cases the paralysis occurred with no appreciable direct cause, the patients being still under surveillance in the hospital. The age in 70 per cent. was between 17 and 30. Persistent vomiting after chloroform should suggest the possibility of acute dilatation of the stomach from paralysis. When suspected, the stomach should be promptly and systematically rinsed and all food per os prohibited. The rapidly-failing strength should be sustained with rectal feeding, wine and faradization of the stomach. Rectal injections of 1 to 1.5 liters of salt solution will counteract the excessive thirst. The knee-elbow position or ventral decubitus may assist the treatment. The vomiting is the chief symptom, accompanied by violent pain and tympanism of the stomach, intense thirst, absence of gastric peristalsis and indications of cardiac insufficiency with normal or subnormal temperature. In 3 of the 5 patients who recovered chronic atony of the stomach persisted for years. Two were unmistakably saved by prompt

rinsing of the stomach with chloroform water. Death is usually due to inanition or lack of water.

Zeitschrift f. Hyg. u. Inf. (Leipzig), XXXV, 1.

Survival of Micro-organisms in Spray. F. KIRSTEIN.—Forty-two pages are devoted to the description of the tests at the Giessen Institute of Hygiene, which showed that when bacteria without spores, disseminated in fine spray, are exposed to the action of air and light they survive but a comparatively short time.

Zeitschrift f. Klin. Med. (Berlin), XXI and XXII, 1.

Gelatin Treatment of Aneurysms. J. SORGO.—Six cases are described in which aneurysms were treated by injections of a solution of gelatin. Forty-two aneurysms treated with gelatin are also recorded in literature. Analyzing these 48 cases, Sorgo finds that in 18 the aneurysm was sacculated, and organized coagula formed in 13. In the 16 non-sacculated cases no clot-formation occurred. In one of his personal cases the ascending aorta was the seat of a diffuse aneurysm, and the innominate of a sacculated aneurysm. The latter was filled with clots, while there was no trace of them in the former. Prolonged repose and suitable diet, especially milk, create conditions favorable to the obliteration of a sacculated aneurysm, and consequently he thinks we are not justified in ascribing the obliteration of the sac to the influence of the gelatin. In a number of cases of hemorrhage from various sources hemostasis occurred after local or subcutaneous injections of gelatin. It is impossible to assert, however, that in any case the gelatin was the direct cause of the hemostasis or clot-formation, because the same effect might have followed the restricted diet and repose, and because in many cases there was no hemostatic action; because the result may have been merely a coincidence, and because no experimental proof of the coagulating action of gelatin has been offered to date. The experiences in the 48 cases show that injections of gelatin are harmless even in quite concentrated solutions. The pains sometimes caused by them are favorable on the whole, as they compel repose. Experience has also demonstrated that kidney affections are no contraindication to the administration of gelatin by the mouth. The question is still undecided in respect to subcutaneous injections.

Connection Between Diabetes and Tabes. W. CRONER.—Diabetes may appear on a foundation of arteriosclerosis, and the latter is due to syphilitic infection in many cases. Affections of the pancreas with consecutive diabetes may also be explained by this association. Diabetes can also appear as a complication of tabes if the tabetic process invades the centers that preside over the sugar processes in the body.

Laryngoscopy in Children. A. KIRSTEIN.—The autoscope devised by Kirstein merely depresses the tongue in a deep groove running to the epiglottis, which is automatically raised by the pressure. Gentle pressure on the prominence of the thyroid cartilage forces the anterior glottis well into view, and the entire throat can be inspected with remarkable ease no matter how much the child may resist. The entire larynx can be examined by this means in children of all ages, even from birth, although practice of the technique on the cadaver is an important aid. The autoscope was described in full and illustrated in the *Cbl. f. Kinderheilk*, 1899, 12, and experience is confirming its harmlessness and value.

Ziegler's Beitrage f. A. Path. (Jena), XXVIII, 3.

Transplantation of a Piece of the Colon in the Stomach. H. REERINK.—A piece of the colon, connected with its mesocolon, was transplanted into the anterior stomach wall to close a large defect, in numerous experiments on shepherd dogs. One of the animals, killed four weeks later, showed that the transplanted piece had healed perfectly into place and continued its function. Other experiments with a flap without a pedicle were less successful; the omentum became adherent to the stomach wall and the piece of intestine shrivelled and was absorbed. Experiments on the cadaver demonstrated that a large expanse of the anterior stomach wall can be substituted without technical difficulty. The transverse colon is peculiarly suitable for the purpose on account of its size. Other dogs thus operated on are still under surveillance at Freiburg to determine the remote fate of the transplanted flaps, which will be reported later.

Gazetta Degli Osp. (Milan), January 3.

Differentiating Receptacle for Gonorrheal Urine. I. CASTRACANE.—The patient urinates directly into a flaring tube 2 cm. in diameter, holding about 300 c.c. It is bent into the shape of three Us in a row, thus automatically separating the urine into three portions, each of the same height and volume, easily inspected through the glass, which is graduated. Tests with colored fluids showed that the contents of the first loop are forced into the second and on into the third loop without blending with the following portions of fluid, although it is poured into the receptacle in a continuous stream.

Anales Del Circ. Med. Arg. (Buenos Ayres), December.

Serotherapy for Anthrax in Man. F. DASSO.—The anti-anthrax serum prepared by Mendez is much more powerful than Selavo's or Sobernheim's. Dasso reports 130 cases treated with it, with the constant result of falling temperature, disappearance of the edema, general improvement and resolution of the ganglionic infarct. Nine of the patients died, all but two from secondary infection. The remainder of the cases all testify to the efficiency and specific character of Mendez's serum. The dose is 10 c.c., injected subcutaneously.

Antitoxin for Mosquito Bites. VOGES.—Naphthalan is the substance which Voges calls an antitoxin for mosquito bites. He states that its action on the poison from the bite is as effective and specific as that of an antitoxin on the bacterial toxin. Voges is at the head of the National Department of Hygiene of the Argentine Republic.

Klinitchesky Journal (Moscow), December.

Experimental Embolism of the Coronary Arteries. A. FOXT.—The functional and anatomic alterations caused by embolism of the coronary arteries have been studied by Foxt on large dogs. He introduced minute seeds into the coronary arteries through the aorta. When the main stem of the anterior branch of the left coronary artery was completely occluded, death ensued in eight minutes from arrest of the heart, but when smaller ramifications were involved, survival for several days was possible. The obstructions in the finer branches disturbed the functioning of the neuromuscular apparatus of the heart and interfered with the establishment of collateral circulation. Marked arrhythmia and diminished systolic elevation were produced in every case and also pronounced mechanical dilatation of the cavities of the heart, especially the left ventricle, but these symptoms passed away as collateral circulation was established. There was always extravasation of blood around the occluded points and patches of anemia in the myocardium. Comparison of the results of this experimental research, and clinical experience of thrombosis and sclerosis of the coronary arteries, demonstrates that the chief cause of the disturbances in each case is the general, persisting anemia in the myocardium. The entire syndrome, subjective and objective, is the consequence of the intense disturbance of the tonicity of the muscle, resulting from this anemia, and the disturbed tonicity entails various degrees of mechanical dilatation of the different cavities of the heart. The collateral circulation that may finally be established is evidently inadequate for the maintenance, although it may sometimes prove sufficient for the regulating function of the heart under ordinary circumstances. Foxt's experiments also demonstrate a certain periodicity in the symptoms observed, which explains the fact that alterations in the coronary arteries are sometimes found at autopsies when no symptoms had been observed during life, owing to the remission of the symptoms at the time of examination.

Change of Address.

N. M. Black, 1801 Grand Ave., to 177 14th St., Milwaukee, Wis.
M. R. Balley, 4324 Market St., to 331 South 13th St., Philadelphia, Pa.
G. E. Baxter, St. Luke's Hospital, Chicago, Ill., to Griggsville, Ill.
W. Bertrand, Rosa, La., to Cloutlerville, La.
W. B. Burns, Deckerville, Ark., to Porter Bldg., Memphis, Tenn.
J. K. Castles, St. Joseph's Hospital, to Poor and Insane Asylum, Memphis, Tenn.
J. T. Caster, 817 South Cherry St., Nashville, Tenn., to California Creek, N. C.
A. Christiansen, Lock Box 602, to 510 Harrison Blvd., Wausau, Wis.
H. R. Coston, Haskell, Tex., to 2012 3rd Ave., Birmingham, Ala.
C. E. Coffin, Asylum, Neb., to Room 10, 1241 O St., Lincoln, Neb.
H. I. Davis, 3120 to 3146 Indiana Ave., Chicago, Ill.
V. W. Dunlap, Newport News, Va., to Rush Run, W. Va.

Ada Epperson, 695 Jackson Blvd., to 662 Monroe St., Chicago, Ill.
J. W. Earel, 606 W. Adams St., Chicago, Ill., to Abingdon, Ill.
E. H. Gabel, Mary Thompson Hospital, to 740 N. Park Ave., Chicago, Ill.
M. R. Gage, Biloxi, Miss., to Sparta, Wis.
Emily J. Heize, 70 State St., to 6118 Monroe Ave., Chicago, Ill.
M. M. Hixon, Continental, Ohio, to Delphos, Ohio.
Chas. Hodgkinson, Roseville, Mich., to Detroit, Mich.
F. H. Hacking, Raymond, Minn., to Wood Lake, Minn.
F. Hinchey, S. E. corner Channing and Olive Sts., to 2330 Washington Ave., St. Louis, Mo.
E. E. Holtzen, St. Louis, Mo., to Lake Creek, Mo.
J. G. Hughes, Sheboygan, Wis., to 507 Stewart Bldg., Chicago, Ill.
A. P. Harrison, Kansas City, Kan., to Arlington, Mo.
H. Johnston, Clinton, La., to Hope Villa, La.
Emma J. Keen, 1618 Glenarm St., Denver, Colo., to Fort Collins, Colo.
A. E. Klein, Elmhurst, Long Island, N. Y., to Corona, Long Island, N. Y.
C. B. King, 390 N. Clark St., to 987 Jackson Blvd., Chicago, Ill.
T. C. Lyster, asst.-surgeon, U. S. A., Havana, Cuba, to Fort Schnyler, N. Y.
T. A. Lancaster, North Manchester, Ind., to 1236 W. 23rd St., Los Angeles, Cal.
B. J. McConvill, 626 Monroe St., to 243 Ogden Ave., Chicago, Ill.
R. K. Morton, 4421 Samson St., Philadelphia, Pa., to Lead City, S. D.
C. P. Mitchell, 994 Union St., Memphis, Tenn., to Ora, Ala.
W. J. McRoberts, Jefferson City, Mo., to Edgemont, S. D.
R. H. Moore, Trenton, N. J., to 1880 Seneca St., Buffalo, N. Y.
J. W. Mulick, McIntire, Ia., to Elma, Ia.
H. P. Packard, 1638 Pennsylvania Ave., to 1221 California Ave., Denver, Colo.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Feb. 7 to 13, 1901, inclusive.

George W. Adair, major and surgeon, U. S. A., member of a board at Fort Sheridan, Ill., to examine enlisted men for promotion.

Max A. Becher, acting asst.-surgeon, from Los Angeles to San Francisco, Cal., to accompany troops to Manila, P. I., and for subsequent assignment in the Division of the Philippines.

William H. Corbusier, major and surgeon, U. S. A., member of board at Governor's Island, N. Y., to examine enlisted men recommended for commissions.

William D. Crosby, captain and asst.-surgeon, U. S. A., as Corbusier above.

Guy L. Edie, major and surgeon, Vols., relieved from further duty in the Division of the Philippines and assigned to temporary duty in the Department of California.

Louis T. Hess, lieutenant and asst.-surgeon, U. S. A., member of a board at San Francisco, Cal., to examine enlisted men for promotion.

John Van R. Hoff, major and surgeon, U. S. A., member of a retiring board in Washington, D. C.

John S. Marshall, dental surgeon, U. S. A., from Chicago, Ill., to Washington, D. C., to report to the Surgeon-General for instructions.

James C. Merrill, major and surgeon, U. S. A., member of a retiring board in Washington, D. C.

Robert W. Morgan, dental surgeon, U. S. A., from Lynchburg, Va., to report at Washington, D. C., to the Surgeon-General for instructions.

Edward R. Morris, captain and asst.-surgeon, U. S. A., in addition to his present duties, to act as examiner of recruits at the city of Detroit, Mich.

Edward L. Munson, captain and asst.-surgeon, U. S. A., leave of absence granted on account of sickness.

Robert T. Oliver, dental surgeon, U. S. A., from Indianapolis, Ind., to Washington, D. C., to report to the Surgeon-General for instructions.

William E. Purviance, captain and asst.-surgeon, U. S. A., member of a board at San Francisco, Cal., to examine enlisted men for promotion.

Charles Richard, major and surgeon, U. S. A., member of a board at Fort Leavenworth, Kan., to examine enlisted men for promotion.

Samuel S. Turner, acting asst.-surgeon, member of a board at Fort Sheridan, Ill., to examine enlisted men for promotion.

Robert Winn, acting asst.-surgeon, member of board at Fort Leavenworth, Kan., to examine enlisted men for promotion.

In addition to the above the following named medical officers were appointed to membership on boards to be convened March 1, 1901, at the stations designated, for the mental and physical examination of such candidates for the Military Academy as may be authorized to appear before them: Major John M. Banister, surgeon, U. S. A., and Lieut. Franklin M. Kemp, asst.-surgeon, U. S. A., at West Point, N. Y.; Acting Asst.-Surgeon John S. Fogg, at Fort McHenry, Md.; Maj. William O. Owen, surgeon, U. S. A., at Fort Thomas, Ky.; Capt. Harry M. Hallock, asst.-surgeon, U. S. A., at Fort McPherson, Ga.; Maj. Aaron H. Appel, surgeon, U. S. A., at Jackson Barracks, La.; Maj. Charles B. Byrne, surgeon, U. S. A., at Fort Sam Houston, Tex.; Capt. Henry I. Raymond, asst.-surgeon, U. S. A., at Fort Sheridan, Ill.; Maj. Marshall W. Wood, surgeon, U. S. A., at Jefferson Barracks, Mo.; Maj. Charles Richard, surgeon, U. S. A., at Fort Leavenworth, Kan.; Capt. Alfred E. Bradley, asst.-surgeon, U. S. A., at Fort Snelling, Minn.; Lieut.-Col. Henry Lippincott, deputy surgeon-general, U. S. A., at Fort Logan, Colo.; Acting Asst.-Surgeon Carl E. Bentley, at Fort Logan H. Roots, Ark.; Maj. John D. Hall, surgeon, U. S. A., at the Presidio of San Francisco, Cal., and Maj. Louis S. Tesson, surgeon, U. S. A., at Vancouver Barracks, Wash.

Special Order, No. 218, Headquarters Division of the Philippines, Manila, P. I., Dec. 21, 1900, reads as follows: Upon recommendation of the chief surgeon of the Division, the following named

acting asst.-surgeons, U. S. A., are authorized to proceed to Manila and report to the president of the army medical board constituted by paragraph 12, Special Order, No. 15, current series, headquarters of the army, for examination for appointment as asst.-surgeons, U. S. A., and upon completion thereof will return to their proper stations, the travel expenses involved to be defrayed by applicants under paragraph 1395 of the Regulations: Department of Northern Luzon, George M. Ekwurzel, Isador M. Unger, Ernest F. Slater, Lorin B. Ohlinger, James F. Edwards and U. S. Grant Deaton; Department of Southern Luzon, Frank T. Woodbury and Wilmont E. Brown; Department of the Visayas, Paul R. Fletcher. Applicants, before leaving their stations, will file with the chief surgeon of their respective departments, by telegraph if practicable, a certificate that they intend to appear before the board on arrival at Manila.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending Feb. 16, 1901:

P. A. Surgeon C. P. Bagg, detached from the Cavite Naval Station and ordered to the *Culgoa*.

P. A. Surgeon A. R. Alfred, detached from the *Culgoa* and ordered to the Naval Station, Cavite, February 7.

Surgeon C. Biddle, detached from the Naval Hospital, Norfolk, Va., and ordered home to wait orders.

Surgeon D. O. Lewis, detached from the *Iowa* and ordered to the *Philadelphia*, February 13.

Surgeon W. F. Arnold, detached from duty at the Naval Recruiting Rendezvous, Chicago, Ill., March 1, and ordered to the *New Orleans*, sailing for Manila, March 15.

Surgeon S. H. Griffith, detached from the *Prairie*, when put out of commission, and ordered to duty under the Bureau of Medicine and Surgery.

Surgeon F. J. B. Cordeiro, detached from the *New Orleans* and ordered home and to wait orders.

Surgeon A. M. Moore, retired, ordered to duty at Naval Recruiting Rendezvous, Chicago, Ill., March 1.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended Feb. 14, 1901:

Surgeon H. W. Sawtelle, granted leave of absence for thirty days from February 20.

Surgeon P. C. Kalloch, granted leave of absence for three days from February 17.

P. A. Surgeon H. D. Geddings, granted leave of absence on account of sickness for eight days from January 26; granted leave of absence for thirty days from February 3.

P. A. Surgeon C. H. Gardner, granted leave of absence for seven days.

Asst.-Surgeon H. B. Parker, to proceed to Gulf Quarantine and assume temporary command of the service during the absence on leave of the medical officer.

Asst.-Surgeon Dunlop Moore, to proceed to Port Townsend, Wash., and assume temporary command of the service during the absence on leave of the medical officer in command.

Asst.-Surgeon G. W. McCoy, granted leave of absence for fourteen days from March 18.

Health Reports.

SMALLPOX—UNITED STATES.

California: Oakland, Jan. 12-26, 4 cases.
Florida: Jacksonville, Feb. 2-9, 2 cases.
Georgia: Jeffersonville, Feb. 7, 2 cases.
Illinois: Cairo, Jan. 26-Feb. 9, 8 cases; Chicago, Feb. 2-9, 2 cases; Pulaski County, Feb. 2-9, 5 cases.
Iowa: Ottumwa, Jan. 5-26, 2 cases.
Kansas: Lawrence, Feb. 2-9, 3 cases; Wichita, Feb. 2-9, 9 cases.

Kentucky: Lexington, Feb. 2-9, 1 case.
Louisiana: New Orleans, Jan. 2-9, 14 cases, 4 deaths.
Minnesota: Minneapolis, Jan. 26-Feb. 9, 9 cases.
Mississippi: Vicksburg, Feb. 2-9, 4 cases, 2 deaths.
Nebraska: Omaha, Feb. 2-9, 8 cases.
New Hampshire: Manchester, Feb. 2-9, 26 cases.
New York: New York, Feb. 2-9, 17 cases, 6 deaths.
Ohio: Ashtabula, Feb. 2-9, 2 cases; Cleveland, Feb. 2-9, 48 cases, 1 death; Toledo, Feb. 2-9, 1 case.
Pennsylvania: Pittsburg, Feb. 2-9, 5 cases.
Tennessee: Memphis, Feb. 2-9, 16 cases; Nashville, Feb. 2-9, 9 cases.

Utah: Salt Lake City, Feb. 2-9, 32 cases.

SMALLPOX—FOREIGN AND INSULAR.

Austria: Prague, Jan. 12-26, 27 cases.
China: Hongkong, Jan. 5-12, 1 case.
Ecuador: Guayaquil, Nov. 24-Jan. 5, 25 deaths.
Egypt: Cairo, Jan. 1-7, 1 death.
England: London, Jan. 19-26, 3 cases; Newcastle on Tyne, Jan. 19-26, 5 cases.
France: Paris, Jan. 12-19, 6 deaths.
India: Bombay, Jan. 1-15, 6 deaths; Calcutta, Dec. 29-Jan. 5, 96 deaths; Karachi, Dec. 23-Jan. 6, 7 cases, 3 deaths; Madras, Dec. 15-Jan. 4, 3 deaths.
Mexico: Merida, Dec. 20, 1900, epidemic; Tuxpan, Jan. 28-Feb. 4, 3 deaths.
Porto Rico: Ponce, Feb. 8, 22 cases.
Russia: Moscow, Jan. 12-19, 4 cases; Odessa, Jan. 12-19, 31 cases, 5 deaths; St. Petersburg, Jan. 5-19, 6 cases, 2 deaths.
Scotland: Glasgow, Jan. 25-Feb. 1, 180 cases.

CHOLERA.

India: Bombay, Jan. 1-15, 9 deaths; Calcutta, Dec. 29-Jan. 5, 31 deaths; Madras, Dec. 15-Jan. 4, 19 deaths.

PLAGUE.

China: Hongkong, Dec. 29-Jan. 5, 2 cases, 2 deaths.
England: Hull, Jan. 30, 2 deaths, crew of steamship *Friary*.
Wales: Cardiff, Feb. 8, 1 death.
India: Bombay, Jan. 1-15, 550 deaths; Calcutta, Dec. 29-Jan. 5, 28 deaths.

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Original Articles.

SANITATION AND PROGRESS.*

WALTER WYMAN, M.D.

SURGEON-GENERAL, U. S. MARINE-HOSPITAL SERVICE.
WASHINGTON, D. C.

Some four years ago, at the meeting of this Congress in the City of Mexico, I had the honor of addressing you upon the subject of "International Responsibility with Regard to Epidemic Diseases." Quite in line with the thoughts then expressed, I have chosen for my subject to-night "Sanitation and Progress," and it will be my effort to show the interdependence of municipal, national, and international effort in the great undertaking of the elimination of contagious disease, and that the twentieth century should witness this achievement.

Each morning I open on my official desk a package of newspaper clippings, containing notices of the prevalence of the several contagious diseases throughout the whole United States; and, as I note the varying recurrence of smallpox, diphtheria, typhoid fever, and scarlet fever, the notes upon consumption, the alarms concerning yellow fever and the bubonic plague, the thought which is impressed upon me is how seriously are we lacking in proper effort in suppressing these suppressible diseases. Nothing seems easier to me than the prevention or suppression of smallpox. In vaccination we have an absolute preventive, and in the glycerinized lymph we have a safe inoculating material absolutely devoid of the danger of exciting undue inflammation. Thus a mere scratch or a needle puncture insures, without discomfort, protection from one of the most loathsome and disfiguring diseases known. Even after smallpox has become epidemic, the methods by which it may be rapidly and surely suppressed have been so frequently demonstrated as to become now almost a matter of mere routine.

The antitoxin for diphtheria has long passed the experimental stage and is now justly regarded as a specific—a trusty addition to the armamentarium of the physician and sanitarian.

In the treatment of the other diseases mentioned, we have for bubonic plague a specific cure and preventive, and are certainly on the verge of the discovery of specific remedies for both tuberculosis and typhoid fever, but even without these specific remedies the nature of the diseases are thoroughly understood and the methods of the prevention of their spread are accurate and well known.

Then why do these diseases persist? The answer is plain. It is that sanitary administration has not kept pace with scientific knowledge. It is also evident that this scientific knowledge is not so widely diffused as it should be, even among those of whom we have a right

to expect it. It is evident that we are not making "use of those means which the God of Nature has placed in our power."

MUNICIPAL SANITATION.

With regard to cities, there is a marked necessity of a strong public sentiment requiring that municipal cleanliness shall rank as one of the foremost features of municipal government. This is a field, not for the national government, but distinctively for the states and municipalities, whose degree of sanitary excellence is a fair exponent of their civilization and culture, for each state and each municipality has, and will continue to have, a degree of sanitary excellence commensurate only with the demands of its own people.

We have here a striking illustration of the fact that our governments are governments of the people. It is, therefore, necessary to cultivate among the people a demand for municipal sanitary excellence and as great an abhorrence of municipal filth or neglect of sanitary engineering as there is of uncleanly dwellings or of uncleanness of person.

A good water-supply, perfect sewerage and disposal of garbage, good street paving and street cleaning, should be the first boast of every municipality. Let these be pointed to with the pride which is commonly bestowed upon great public institutions and buildings. I see no reason why slums should be allowed in any city. Relatively speaking, too much attention is paid to public parks and handsome municipal buildings. The city's improvements should be in the alleys, around the docks, in the tenement-house quarters, and great as may be the appreciation of public art as manifested by statues and public gardens, and of the parks and the boulevards, let these wait upon the less showy but more important features of municipal life.

Recently I was on a board of three, the other two members being noted architects, to decide upon plans for the great government hospital for the insane, near Washington, Congress having appropriated \$1,000,000 for doubling the capacity of the present institution. In looking over the numerous plans and sketches submitted by the half-dozen competitors, I was impressed with the promptness with which these two noted architects pounced upon all faults relating to light and ventilation, particularly of the lavatories, quickly throwing out as unworthy of further consideration those plans which placed the toilet-rooms in dark or badly ventilated positions. This illustrates the advanced modern idea, particularly when you reflect that formerly any dark or out-of-the-way place was considered proper for these necessities of habitation. So, too, in practical hospital work, it has been my observation that dark closets are wont to be the repositories for old mops, rags, and dirt, so that it was my rule, when engaged in the management of hospitals, to paint the darkest and worst closets a pure white, making immediately perceptible

* Read before the Third Pan-American Medical Congress, held in Havana, Cuba, Feb. 4-7, 1901.

the slightest trace of dirt or filth. The trouble I had experienced with these closets soon vanished.

These illustrations will serve with regard to cities. The chief attention should be centered upon the worst parts of the city. The sewerage, paving, light and ventilation of the worst sections should receive the first and most constant attention. In support of this idea, I quote from an article written five years ago by Dr. John S. Billings, who says:

As regards Asiatic Cholera, typhoid fever, various forms of diarrheal and dysenteric diseases, and diphtheria, our knowledge of their causes, means of communication and prevention is much in advance of the actual practice of most communities, mainly because the methods which are known to be effective to secure constantly pure water supplies and the satisfactory removal and disposal of refuse and excreta require considerable sums of money to establish and to maintain, and the public has not yet arrived at the conclusion that such expenditure is wise and proper and that taxation for such purposes is necessary to secure the prosperity of a community.

A very considerable part of the excess of death rates in a city is due to the poverty of the inhabitants of certain sections of it. In certain parts of all large cities there are to be found a number of people who are insufficiently fed and clothed and who are huddled together in such a way that cleanliness, decency and morality are difficult or impossible to obtain. Here congregate the idle and intemperate, the tramps and loafers of the country, the hereditarily indolent and vicious classes. Mingled with them and living under much the same conditions are many honest and industrious people who are living from hand to mouth; the daily wage earners to whom sickness means recourse to the public hospitals and loss of means to earn their own subsistence. The death rates in these quarters are fifty to one hundred and fifty per cent. greater than those of the better class of population; the average duration of life is from ten to fifteen years less by reason of such poverty and squalor, a large part of their sickness must be relieved by public charity and one-third of those who die among them must be buried at public expense.

The problem of how to improve the sanitary condition of these quarters to prevent the increase of foul, damp, dark and overcrowded dwellings and thus lessen the burden of the community, without still further pauperizing the people and attracting to the place other vagrants and criminals, is one of the most serious that confronts modern civilization and municipal government.

It is easy to prove to any intelligent business man that high death and sickness rates in a city imply heavy demands on the public purse in the maintenance of hospitals and other charities, and also to show that an abundant and pure water supply, clean streets, good sewerage and good and well enforced building regulations are among the best means of lowering these death and sickness rates.

WRONG METHODS.

The foregoing quotation suggests a conviction which has long been forced upon my mind, that in all our sanitary work, both in municipal sanitation and in quarantine, we are working at the wrong end of the line. We are treating symptoms instead of the original cause of the disease, and both for sociologic and economic considerations it would be far better to change the point of our attack.

Let me illustrate by the quarantine methods heretofore in vogue, those now and in the future to be utilized in the suppression of an epidemic disease such as yellow fever. When yellow fever appeared in a given locality under the old dispensation, shotgun quarantines were established by near and remote localities having any possible communication therewith. The press dispatches announced that "Podunk," evidently priding itself on its vigilance, "has quarantined against the world," and other communities, not to be outdone by

Podunk, followed suit. I do not mean to ridicule these measures, but how much wiser is the method now enforced of concentrating the restrictive efforts in the neighborhood of the epidemic, and how much wiser still will be those provisions of the near future which will enable any community, by reason of its good sanitary condition, to look with comparative equanimity upon the chance introduction or outbreak of a contagious disease.

And in our municipalities we build large public hospitals and establish other charitable institutions for the reception of the people whose unfortunate condition is attributable in a large measure to the insanitary conditions which our municipal governments allow to persist. As an economic measure, therefore, as shown by Dr. Billings, it will in the long run be profitable to spend more upon sanitation; and from a sociologic standpoint the advantages of this policy will be no less marked, for it must have occurred to most of my hearers in their hospital experiences that the greater the number of charity hospitals that are founded the greater will be the number of people who are willing to become the recipients of charity; and that while charity is to be commended the zeal manifested therefor may, after all, bring unfortunate results, for "zeal without judgment is a fault, even though it be zeal unto good."

SANITATION VERSUS QUARANTINE.

Another strong appeal for sanitation lies in the promise which it would give of getting rid of quarantine. The time is at hand when we must consider the necessity of ridding ourselves of these restraints upon commerce, of holding a ship with its valuable cargo and eager passengers, in quarantine because some person is aboard who has resided in a filthy section of a foreign port and has brought with him an infectious disease. For these diseases can generally be traced to the overcrowded and otherwise insanitary sections of a city, the sections which, as I have before stated, should receive our first consideration. And the rich man held on board a steamer in the upper cabin because of infection aboard his ship in the steerage may reflect that his detention is due primarily to the faulty sanitation of some miserable portion of some foreign city, and he receives thereby a demonstration of his personal interest in these conditions.

It is an interesting matter for conjecture—what would be the effect upon the prevalence of contagious disease if there could be a complete wiping out of all slums and low tenement-house districts in all our cities. It matters not that an epidemic once started may prevail as violently, or more violently, in the better portions of a city, and that cleanliness and sanitation may then have but little effect upon its progress. The fact remains that for the perpetuation of these diseases among the people filth and bad environments are essential, and when we reflect how easy and natural is the upward gradation of infection, how readily through successive grades it may ascend the social scale from the lowest to the highest, the direct and personal interest of the wealthy and more intelligent classes of a community in the condition of the poor and ignorant becomes manifest. The greater danger of contagious disease among the poor is recognized in the present U. S. Treasury quarantine regulations, providing for the inspection of vessels at foreign ports bound for the United States. These regulations require, under certain circumstances, the inspection of the steerage but not of the cabin passengers. We have made a class distinction, notwithstanding our democratic ideas, but the regulation is based on knowledge. It is a recognition of the fact that

contagious and loathsome diseases are more apt to be prevalent among the poor, not simply because they are poor but because they have been crowded and prevented from living under as good sanitary conditions as the more favored classes.

That good sanitary environment, enhancing the general health, is the best means of eliminating contagious disease, is illustrated by a conversation which I have had within a week with the director of the Hygienic Laboratory of the U. S. Marine-Hospital Service, Dr. Rosenau, who has just returned, after a prolonged period of study and investigation in the Pasteur Institute in Paris. On inquiring as to the latest phases of scientific investigation and the trend of thought at this great intellectual center, among other matters, he stated that there seems to have arrived a period of pause in bacteriology, or at least a spirit of inquiry as to the true relation of microbes to the diseases of which they have been considered the special agents. Dr. Rosenau's statement is as follows:

VIEWS ON ORIGIN OF CONTAGION.

We have lately been compelled to modify some of our notions of the causes of contagious and infectious diseases. After the brilliant discoveries by Pasteur and Koch it was thought that the presence of the pathogenic microbe organism was like the bite of a venomous snake, surely poisonous. But now we know that there are other conditions besides the presence of the microbe necessary to produce disease. Many people go about with virulent diplococci of pneumonia in their respiratory tract but do not have pneumonia. Why? Because their cells are vigorous enough to prevent the diplococci invading the lungs, but put such a person under bad sanitary conditions or depress his vitality and the microbes are not phagocyted—they invade the lungs and pneumonia and death follow.

The same, to a limited degree, occurs with the bacillus diphtheriæ.

In times of cholera epidemics men go about with living, virulent, cholera vibrio in their intestinal canal, yet they are not sick. Why? Because the conditions for the production of the cholera toxins are not favorable—there is no abnormal flora in their intestinal canal. But let such a person eat poor and tainted food or derange his digestion through indiscretion or evil sanitary surroundings and the disease results.

Many people live a long and active life with tubercle bacilli encysted in the apex of one lung. As long as they have plenty of fresh air and sunshine and good sanitary surroundings they remain well. But give such a person poor food or bad sanitary surroundings and see what happens. The battle going on between the bacilli and the cells results in a victory for the bacilli. The cells die and the victorious bacilli spread havoc through the lungs. We, therefore, have a scientific proof of the sense of the old-time notions of the old-fashioned doctors who taught the value of fresh air and sunshine, of good food and exercise, of cleanliness and dry dwellings, and we find that the conditions of health which result from such good sanitary conditions are after all among the very best preventives against infection.

Another good effect of sanitary excellence would be to obviate municipal deception either in the concealment of the existence of contagious disease or by reports giving a sense of false security to other communities. This subject is one which time will not permit me to discuss, but was treated of at some length in an address which I had the honor of delivering before the Social Science Association, in Washington, D. C., last May. I will simply say that the greater the neglect of sanitation, the more pronounced the disease-bearing factors of a city, the more sensitive does it seem to the acknowledgment of the presence of contagion, the more determined does it become in outright denial. It is thus seen, and it is by no means a matter of imagination, that

municipal morality is affected by the municipal sanitary status.

WHO SHOULD BE SANITARIANS.

In the sanitary progress of the new century, it has occurred to me, there must be developed new classes of individuals in sanitary affairs. To-day every physician is considered, in a sense, a sanitarian; then there are the professional sanitarians, represented chiefly by those holding sanitary office; but there are very few men to-day engaged in legislation who give any thought to sanitary legislation. We need a class of men who are versed in the law, who are skilled in framing laws, and who are familiar with the difficulties and methods of securing their enactment. The average doctor or sanitarian is as a child in these matters. Impressed with the importance and nobility of his cause he becomes oblivious to the sentiments or even the rights of those affected unfavorably thereby. The same influences which seem to make of the doctor a poor man of business seem to make of the average sanitarian a poor man for legislation. So that it seems to me, at least in the United States, it will be necessary in the development of the ideal sanitary legislator to look for him among the lawyers rather than among the physicians. There is no reason why a good lawyer should not become an adept in sanitation. I believe it to be more difficult for a good doctor to acquire legislative wisdom.

Another class of men whom we should look to for aid are the men of extreme wealth. I believe their attention should be directed to the vast amount of good to be done by the employment of their capital in backing up sanitary improvements. The number of great fortunes possessed by individuals in our several republics, I have not had the opportunity of learning, but they are numerous; and so far as I can judge, their possessors, at least a large number of them, are imbued with generosity and a desire to utilize their great wealth for the public good. Witness the large number of universities founded by wealthy men, the public libraries, and other institutions, erected or endowed by them; the contributions which they make in times of great calamity and in ordinary times to all charitable undertakings.

The methods by which they may assist in public sanitation may not be so obvious or numerous as other methods of advancing the public welfare, yet the influence of a man of great wealth could be distinctly felt in the advancement of sanitary legislation, and in the perfection of sanitary administration. Moreover, the use of large capital in the improvement of the dwellings of the poor appears to me to be as sensible and noble a method of the employment of capital as can be found. It has been a matter of surprise to me that the attention of our wealthy men of philanthropic impulses has not been more frequently thus directed. The Mills Buildings in New York City in a measure illustrate this idea, and I doubt not that a proper inquiry into the subject would develop other illustrations. But the advantage which individual capital enjoys over municipal government in the improvement of the dwellings of the poor lies in the difficulty experienced by the latter in condemning and destroying unsuitable tenements. Capital can purchase them and erect good buildings in their stead. This is illustrated by the history of a company formed, and now being successfully operated in Washington, D. C., for the erection of suitable habitations for the poor, with less thought of profit than of public benefaction. As originally outlined, the scheme included a condemnation by the commissioners of the District of Columbia and a destruction of the condemned

insanitary buildings and the erection in their place of buildings by the company, though owing to legal difficulties the necessary legislation for destruction has not yet been enacted.

In a recent press clipping I have read that statistics just compiled show that during the year just past contributions to educational, religious and charitable objects and institutions in the United States have amounted to almost \$61,000,000, donations of less than \$1000 not being included in this summary. The article further states that this showing seems to indicate that there is a growing disposition to make philanthropy a partner of prosperity, a tendency to give helpfully instead of pauperizing men by benefactions. But in the list of these benefactions I see no mention of purely sanitary gifts or endowments, and to my mind it seems a reasonable proposition that more practical and beneficial results would have been obtained if this \$61,000,000, instead of being expended upon educational, religious and charitable institutions had been expended upon reclaiming the slums, and in the purchase and destruction of rookeries, with the erection in their stead of modern sanitary tenement-houses, and that, too, even though the money had not been expended outright as a gift, but as a safe though moderately paying investment.

SANITARY TENEMENTS.

The need of sanitary tenements has been brought to the front by the recent agitation and widespread movement for the suppression of tuberculosis. In a pamphlet on the tenements and tuberculosis, by Dr. S. A. Knopf, of New York City, appears the following statement: "The present condition of the tenement houses in this city is so serious that the evils arising therefrom are a distinct menace to the welfare of the community. There are at present over 44,000 tenement houses in the old City of New York, and new tenement houses are being erected at the rate of about 2000 a year. These are, in many respects, worse than the old buildings erected thirty years ago. They are badly constructed, and so planned that many rooms depend for their light and air upon long, narrow, dark, air-shafts, which, instead of giving light and air, are merely stagnant wells emitting foul odors and diseases."

It is true that restrictive legislation may be enacted, but in view of all the foregoing facts can there be found a more useful method of employing great individual wealth than in the removal and the prevention of the erection of such houses by the substitution of those properly constructed.

In a recently published article by Charles R. Henderson, Professor of Sociology in the University of Chicago, on the spirit of modern philanthropy, the writer states that "philanthropy has taken a wider and nobler view of its mission. It has become preventive and educational." He quotes Miss Carpenter, as follows: "A hospital can not cleanse a poison-infected district, nor diminish the constant supply of patients from an undrained and malarious locality." He further says: "It is well to remove the weak and tempted from bad environment, better still to improve the environment. It is well to go down to the folk-swamp and rescue one here and there; better still to drain the cess-pool, improve the tenements, prevent adulteration of food and drink, inspect factories and compel use of devices for averting accident and disease. The wall at the top of the dangerous precipice is worth far more than an ambulance at the bottom."

Since the above lines were written I have read a letter from a special correspondent (Marshal Lord) of the

Washington *Evening Star*, of January 19, showing the reformatory work of this character now going on in London, which should certainly stimulate all American municipalities to efforts in the same direction. The writer states that:

Every American city big enough to have one of those municipal sorts called a slum will doubtless be interested in the huge experiment London is undertaking. This is nothing less than the expenditure of ten millions of dollars in the wiping out and rebuilding the homes of about forty thousand people. A further program that means the expenditure of another ten millions is now being discussed, and, after these projects are well under way, new schemes will be planned to the same end and more millions spent until the necessity for spending money in this way in London shall have disappeared and the city have become a landlord on an unprecedented scale. To-day the housing problem is the worst that London has to face, but her powerful county council, which has done several rather remarkable things already, and which has practically unlimited wealth to draw upon, has determined that overcrowded, insanitary, and slum areas must go. The County Council has already attacked, razed and rebuilt one of the worst slums in London. Several other notorious ones are now being torn down and still others are doomed. Medical inspectors in the County Council's employ are penetrating into the city's filthiest corners and condemning them. The wretched creatures who swarm in them are paid a small sum of money and turned out, after which the slum comes down. The "before taking" phase of the Council's heroic remedy is a mass of closely packed hovels, squalid, unlighted and unventilated, reached through grimy, winding alleys, in which the police dare to go only in force. The "after taking" is blocks of trim cottages or apartment buildings, each separated from the other, equipped with literally every modern convenience, including a perfect system of drainage and every essential for cooking. The apartments are well lighted by day with large windows; at night either by gas or electricity on the slot system where a penny dropped in produces gas for six hours. These model dwellings, moreover, are to rent at prices which even very poor people can afford to pay and are immediately tenanted to their full extent.

So far, on workingmen's homes of this pattern that occupy the place of former slum districts, the London County Council has spent a little over \$3,000,000. It is now building houses which will cost over \$1,500,000, and to clear the new districts, which have been condemned and which are to be rebuilt, will cost \$5,500,000 more. The houses already built accommodate more than ten thousand people. Those now building and those arranged for will give dwellings to thirty thousand more. They will be finished and occupied in five years from now.

The second scheme which the Council is laying out takes another way of curing the same disease of overcrowding. This is by acquiring tracts of land in the country just out of London, building model dwellings there and connecting them with the working centers of the city by light railways. This will probably cost \$10,000,000 more.

The Council began to rehouse on a modest scale in 1883, but the importance of its work to-day lies in the dimensions to which it has grown and its great promise for the future.

It is a significant fact, happily recalled at the present time, that the new King of England, Edward VII, was identified with the inception of this work. His maiden speech in the House of Lords in 1884 was in support of a motion in favor of the better housing of the poor, and he was subsequently one of the commission appointed to consider the matter.

It is thus seen that our brethren in the East are already in the field. Why stand we here idle? Shall we in our newer territory allow ourselves to be surpassed in these matters by older governments, less democratic than our own, less dependent upon the will of the people?

In the foregoing I have endeavored to show that public sentiment, law and administration are the most

important factors for the attainment of our standard of sanitation.

ADMINISTRATION.

One more word with regard to administration. The health officers selected under state or municipal law are too frequently subject to political change. An experience of one term of service is generally necessary to sufficiently acquaint the health officer with the duties of his office, and while political changes in other offices may be made, possibly without injury to the public service, the same can not be said with regard to an officer of the public health. He should be selected, also, solely on account of his ability or special adaptability for the position, and while every American citizen may be expected to be a politician, in a certain sense the health officer should be one who is not devoted to politics. And here is where the great body of the medical profession can exercise a salutary influence by taking an active interest in these appointments, insisting that men of character, of education and reputation, should receive them, for it is the duty of the profession to uphold the health officer in the performance of his public obligations. The health officer and the boards of health should command the respect and receive the support of the practitioners of medicine whose influence in this direction is all powerful.

SANITATION AND POLITICS.

One word at this point with regard to sanitation and politics. The city of Washington is sometimes referred to as typifying the highest order of sanitary equipment and administration, and when it has completed its sewerage system and established its water filtration plant it will be a model city. But, it may be argued, it is a model city because, unlike others, it has no local politics. This is true, but if municipal politics seem to interfere, as they often do, with sanitary progress, it but serves to demonstrate a reason, in addition to many other reasons, why the best men should go into politics.

In the beginning of this paper I stated that municipal cleanliness and sanitation is not a field for the national government, but belongs distinctively to the states and municipalities. Doubtless there is suggested to you, as to myself frequently, the thought of the national government enforcing municipal sanitation. Speaking for the United States, under our constitution, it is impossible. Nor with our ideas of self-government is it desirable. A weak leaning upon the national government in ordinary matters affecting the people of a state or city is a thing to be avoided as lessening the feeling of municipal and personal responsibility for good government. The general government does not go into cities and say what kind of reservoirs they must have, how their sewers shall be laid and what disposal is made of their garbage. These are left to local governments, which are just as capable for these measures as they are for managing their own police and fire departments.

Yet in the exercise by the general government of its right to prevent the introduction of contagious diseases from foreign countries, or the spread of these from one state to another, I can foresee the possibility of such national action as may, without objection, have an influence on the sanitation of cities. The sanitation of seaport cities which habitually breed yellow fever, with a view to eliminating this disease, which interferes so seriously with commerce, is being seriously considered by thoughtful men interested in commerce, sanitation and diplomacy.

COMMERCIAL INTEREST IN SANITATION.

There is no one disease which interferes so seriously with commerce in the western hemisphere or causes greater panic than yellow fever. The interdependence among nations in the efforts to get rid of this disease has become strikingly obvious, and illustrates the unity of interests of the nations in sanitation.

Sanitation in Western Republics.—An inquiry into the sanitary conditions in the ports of the western republics will show, with regard to many of them, a woful sanitary condition, a neglect of the first principles of sanitation, and either faulty or entire absence of quarantine protection of one city from another. The commercial relations between these places are each year becoming more intimate, and through correspondence and conversation with representatives of the Central and South American republics, I learn that the same apprehension which is felt by the United States each summer is experienced by all. All, or nearly all, of our republics have suffered in their commercial and business prosperity through the visitation or threatened visitation of yellow fever, and I have been surprised by the instant approbation with which all with whom I have spoken received the idea of an international agreement looking to the sanitation of such seaports as are habitually infected with yellow fever. That yellow fever can be rooted out of an old endemic focus, I believe; but to demonstrate it is not an easy matter. I have endeavored within the past two years, through special reports from the United States consuls, to collect facts showing the relation between sanitary improvements and the prevalence of yellow fever in the principal fever ports of the tropics, but the results are as yet undeterminate. I believe, however, we have one notable illustration of success in Santiago, long known as a yellow fever port, but where the measures adopted by General Wood and the medical officers of the army were so radical and thorough that no yellow fever now prevails or has prevailed during the past year in that city. I feel confident, too, that in due course of time, and that before long, yellow fever will be made to disappear altogether from Havana. Reasoning somewhat by analogy, we should be able to exterminate yellow fever from a given locality. A year ago last July it appeared in the National Soldiers' Home, Hampton, Va., where there were 3500 veterans of the Civil War, but it was stopped, and that, too, quickly, with a record of forty-five cases and thirteen deaths. In June, 1896, it appeared at McHenry, Miss., and in twenty days was entirely suppressed, after the occurrence of twenty cases in all.

PROVISIONS IN ELIMINATING YELLOW FEVER.

In eliminating it, however, from a city or locality where it has prevailed for many years, there are four provisions which must be complied with: 1. Effective sanitary administration. 2. Good sewerage and water-supply, soil drainage and paving. 3. Sanitary engineering of harbors. 4. The destruction or scientific disinfection of houses where the fever has prevailed. In Havana the first of these requisites has been and is being accomplished. The city is clean on the surface. The sanitary administration is excellent, and measures are already under way for securing the second requisite of good sewerage, drainage and paving. I do not know that it has yet been determined whether sanitary engineering is necessary with regard to Havana harbor. But any harbor in the tropics which receives sewage, and is so land-locked that it becomes a cul-de-sac, must be subjected to such engineering as will cause a flow of its waters freely to the sea. But even when all this is done, yellow fever will

and prevail unless the fourth measure is enforced, namely, the destruction of old infected houses and the thorough scientific disinfection of others too good to be destroyed. In a tropical city a few years ago, much stress was laid on the good results following sanitary improvements of the harbor, but their improvements went still further, namely, to tearing down a large number of old houses, which was immediately followed by an unusual outbreak of yellow fever. In other cities, I have been informed, millions of dollars have been spent in improving the sanitary conditions, yet yellow fever prevails from time to time, and why? Because the houses are infected, and have been for a great number of years.

MEANS OF DISINFECTION.

This brings to us the question: Have we a simple and efficient means for a scientific disinfection on this broad scale? I believe that we have. To the U. S. Marine-Hospital Service, which has had so large an experience in the post-epidemic disinfection of cities and towns, the thought of a simple, clean, non-injurious, inexpensive, yet thorough disinfection of houses, after its experience with the carting around of steam chambers, the burning of sulphur, and washing down with bichlorid solution and carbolic acid, and meeting the bills afterward presented for ruin or damage of property—the thought comes as a welcome relief.

A few years ago, through the inventive genius of one of our officers, we believed we had a formaldehyde lamp which met every requirement, but experience demonstrated certain defects which caused its temporary abandonment. The intelligent mechanic who constructed the lamp, however, has so improved it that thus far it has stood every scientific and practical test to which it has been put, and I hope and believe that in this lamp we have an efficient, simple and safe method of evolving formaldehyde gas of a strength to insure a thorough disinfection of houses and public buildings. I mention this matter as one of encouragement in the idea of eliminating yellow fever under the terms of the fourth requisite mentioned, from cities usually infected.

INTERNATIONAL AGREEMENT IN SANITATION.

The plan of international agreement which was outlined in an article by myself,¹ contemplates a convention to be composed of public sanitarians, civil engineers and financiers, whose duty it should be to prepare a treaty providing for the examination of the chief yellow fever ports by a commission representing the republics concerned. Each country should obligate itself to put into effect the measures recommended by this commission, or measures of its own which should meet with the commission's approval. Since obligations without penalties would be worthless, the treaty should provide that if after a sufficient time these improvements are not made, each of the other nations interested should impose such discriminative tariff or tonnage tax or quarantine restraint upon the offending nation as would cause it in its own interests to comply with the terms of the treaty. Since the publication of the *Forum* article, I have conversed upon the subject with a number of the representatives of the Central and South American republics, and with representative public men of our own country, and without exception all have pronounced the idea both valuable and practical.² If this measure should become an accomplished fact, think of the stimu-

lation which, through international influence, would be given to municipal sanitation everywhere. Dr. Kober, in his excellent address on the "Progress and Achievements of Hygiene," gives in detail the beneficial results of the sanitation of European cities. In providing for sanitation of seaports on account of yellow fever, the cities would undoubtedly benefit with regard to other diseases, and there is no doubt that as a result their commercial prosperity would be so enhanced that other cities would take notice and profit by their example.

Standing on the threshold of the twentieth century, and looking forward to its achievements, the foregoing thoughts appear to lose the elements of doubt which may at first seem to attach to them, particularly when we look back upon the achievements of the past century in medicine, in surgery and in sanitary science. And when we study the achievements of other centuries of the past, and see how they have been filled with the more primitive struggles for individual and national freedom; with the evolution of physical and mental science; with the development of architecture, painting, sculpture, and literature, it would seem that the next great cause pressing for agitation, both for the amelioration of unhappy conditions and for further advancement along the lines of previous study and development, is the cause of sanitation. It is the next step for progress in the destinies of man for "elevation in the scale of being." For further intellectual and moral advancement sanitation is indispensable. Progress in other matters will in a measure depend upon it. The movement has already begun. Witness the sanitary benefactions of George Peabody in London, thirty-eight years ago, and the efforts of the London County Council, as previously narrated, and similar work in Liverpool, Glasgow, Paris, and Brussels; the valuable report of the New York Tenement House Commission of 1894, and the labors of the present commission; the report of Surgeon-General John M. Woodworth, U. S. M.-H. S., to the International Medical Congress in 1876; the resolutions of the Conference of Sanitary Officers, at Montgomery, Ala., in 1899, and of the American Public Health Association in 1896; the report of the U. S. Department of Labor upon the investigation of slums, under the authority of act of Congress; and the innumerable contributions on these subjects to the daily and medical press. All the above relate to the subjects which have just been under discussion, and the time has come for more positive action.

The twentieth century will certainly demonstrate the brotherhood of man; the fraternity of nations; and, not excepting even the Peace Conference at the Hague, there can be no more hopeful sign of promise than is held out by sanitation.

Here is a common field upon which the nations may meet with unselfish and common purpose; here is a policy which may well be put in the platforms of political parties, and which, by requiring intelligent legislation, will bring the best men into local politics; a policy which will put a rifle-groove in the shotgun now loaded with spasmodic municipal reforms, good government clubs, and crusades against vice, and weld these latter into one missile of definite direction and force. Here is a means by which the rich may help the poor without further pauperizing them; a cause, which, if advocated will break down unnecessary class distinction; a promise of greater public morality; an assurance of higher life and greater health and prosperity to all, embodying in it the *summum bonum* of human existence, "the greatest good to the greatest number."

¹ The Forum, February, 1899. ² A resolution embodying the plan as outlined above was adopted by the Pan-Amer. Med. Congress on motion of Dr. Eduardo Wilde, Argentine Minister to the United States and Delegate to the Congress.

RESULTS OF SURGERY IN THE AGED.*

JAMES P. TUTTLE, M.D.

NEW YORK CITY.

In the study of human longevity, it is not only a question of teaching young people how to grow old, but also old people to grow older. Old age with impaired faculties and physical infirmities is hardly a blessing to individuals or their friends. Many of the ailments to which old people are subject, which worry and distress them, tend to shorten life, are amenable to surgical treatment, and would be unhesitatingly so treated in young people, but which are left alone in them on account of the fear of operations and anesthesia on the aged.

The scriptural axiom, "three-score years and ten" as a reasonable limit to human life, has become so firmly imbedded in the layman's mind that those whose friends have approached this age generally feel that it is better for them to suffer what ills may have come to them, rather than take any chances in procuring aid from surgery. They hold that only a few years at best are left, and prefer to accept them, even with pain and worry, to taking the slightest risk of meeting death from surgical procedure. They are entitled to their judgment, but they should be guided by the accurate knowledge and experience of surgeons as to the exact risk they take. Many lives are lost or shortened by the excessive fear, both in the laity and the profession, of surgical procedure in the aged.

Certainly, a large number of painful affections, such as hemorrhoids, fissure, fistula, hernia, stricture, varicose veins, etc., often carry their victims to the grave, on account of the fear and inexperience of operators in operating on old people. All surgical procedures are hedged about with many conditions. The first, and of most importance, is the nature of the disorder. If this is fatal without operation, all other considerations must be laid aside, and the procedure which promises the best chance of prolonging life undertaken. If, however, the operation is one of election, and not of necessity, we must consider many things, e. g., the physical conditions, heart, lungs, brains, kidneys, etc.; then environment, for a suitable time and place is necessary for perfect results in surgery. Mental repose and absence of nervous tension are important adjuvants in the recuperative process. Sex and age are also to be considered. This last is frequently made the first in the consideration of a surgical operation. Many friends and surgeons leave old people to their fate, with the simple assertion: "Oh, he is too old for operation."

I do not propose to go into any elaborate statistics to discuss with you the influence of surgical operations on the aged, but my opportunities as visiting surgeon to the public institutions of my city, for the study of this subject, have been so unusual that I feel justified in letting these facts have a wider circulation than that of a purely clinical lecture. I shall quote no books nor authorities, but simply state facts which I have observed and the records gathered from hospital charts by persons entirely disinterested in proving any preconceived theories. The facts presented will embrace a brief statement of conditions determining surgical interference, and a tabulated statement of my past sixteen months' work.¹

CONDITIONS DETERMINING OPERATION.

The old adage, "a man is as old as he feels and a woman as old as she looks," is one of the safest guides in surgery. I have found that sprightly, energetic, ambitious old men stand surgical procedures well, while wrinkled, dull-complexioned, weazened-faced, dried-up old women of lesser years succumb quite easily. On the other hand, well-preserved, healthy old women, with bright minds and clear complexions, are capital subjects for operation. In one such, 84 years of age, I operated at one sitting for double inguinal hernia nearly four years ago, with perfect success, and she is to-day one of the cheeriest, most grateful and happy patients I have.

The condition of the heart in determining on surgical operations is not nearly so important as the laity believe. Organic valvular diseases of the heart, unless of the most marked character, are not a bar to ordinary surgical procedures; fatty heart, and degeneration of the muscles, however, should be distinctly ruled out. As we will see later on, the condition of the kidneys is important, but the appearance of a slight quantity of albumin or an occasional hyaline cast in old people is not of any great moment, and these cases can generally be operated on with confidence.

In summing up these cases, I have made the arbitrary division of 50 years—above and below. Of those over 50 years old, I hold records of 130 cases, of which the average age is 65.8 years. If you take those above 60, there are 79 cases, whose average age is 69.8 years. Of those below 50, I have only completed the records of 76 cases, with an average age of 34.7 years. Many more have been done in this class, but I have not yet been able to complete the records.

The mortality class above 60 was 3 in the 131 cases. Two of these deaths were caused by pneumonia, due to the neglect of the orderly in one case and the unfortunate breaking down of the boiler and consequent exposure to great cold in the other. Several other cases of pneumonia occurred in the same ward from the same exposure, in people who had not been operated on. The third died from edema of the lungs, following operation, and on postmortem, showed chronic Bright's disease. Two of these deaths were caused by pneumonia, due to the operation, which should not have been done. It was a mistake, due to the fact that the party whose duty it was to examine the urine did so carelessly or not at all, and made a report which was absolutely out of keeping with the patient's actual condition. The pneumonia cases can hardly be charged to the operations, as they were clearly due to causes beyond the operator's control.

The number of deaths in patients under 50 years of age was 3, making an average of nearly 4 per cent, considerably larger than that in the older class. One of the deaths in this class was due to the same cause, brought about by the same exposure as in the two cases described above.

The character of most of the operations done can not be said to be of the greatest danger, but the large majority would be placed in the class of major operations. I shall enumerate only those above 50 years of age, as we propose to study the influence of surgery on the aged. They are as follows: hemorrhoids, clamp and cautery, 26 cases; modified Whitehead, 8; inguinal hernia, 30 cases, ventral 1, femoral 1, umbilical 2; varicose veins, radical operation, 26; skin grafting, 1; tenotomy, 2; stricture of rectum, 2; resection of bowel, 2; fistula in ano, 9; prolapse of rectum, 2; prolapse of uterus, 2; hysterectomy for cancer, 1; hydrocele, 3; Tumors, removed, benign, 1; stricture of urethra, 3; resection of

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1. This paper was written eighteen months ago, the cases here referred to all occurring in the years 1898-99. Since September, 1899, the number has been materially increased—the only death occurring in case of amputation of leg for sepsis due to senile gangrene.

urethra, 1; ischio-rectal abscess, 2; perineal section, 2; circumcision, 1; varicocele, 1; Bottini operation for enlarged prostate, 6; appendicitis, 2; total, 131. Anesthetics: ether, 83; chloroform, 13; cocain, 30; total, 126.

Old people generally fear the anesthesia more than the operation, and it is interesting to observe that of the 217 cases recorded no patient has died or suffered materially from ether, chloroform or cocain. Ether was used 83 times, chloroform 13 and cocain 30 times in the elderly class.

To any one who has ever visited our almshouse and workhouse, it will be unnecessary to say that these cases were not particularly favorable ones for operation. They were not of the robust, well-nourished class, but rather the opposite. Neither were they carefully selected from such material as existed there. Our young house surgeons, in their enthusiasm to gain experience, have persuaded almost every one they found with surgical deformities or diseases to come into the hospital and undergo operation, and I must confess that I have rather tempted Providence sometimes, in operating on the cases presented, simply to encourage the staff in hunting up material, and because the patient wanted the operation. There were 30 cocain operations, 25 of them for varicose veins, from which all recovered with cure or great relief, and without suppuration; 1 clamp and cautery operation for hemorrhoids, 3 for small tumors, and 1 tenotomy, all of which made good recovery. There were 30 inguinal, 2 umbilical, 1 ventral and 3 femoral hernias, making 34 cases, in all of which the peritoneal cavity was invaded. Among these were only 2 cases in which there was a particle of pus. One of these two tore his bandages off during the first night after operation, thus causing an invasion of the superficial wound, which happily amounted to nothing, and the patient made a good recovery. In the other, done by my house surgeon, the bladder was ent. and the urine allowed to escape into the wound, which became infected. The patient recovered in due time, but, as was to be expected, the hernia returned, which, by the way, is the only case of recurrence in five years' experience with the modified operation for this deformity.

The 3 deaths in the elderly class were, unfortunately, all under this hernia class; only 1, however, should be charged to the operation. There were 35 operations for hemorrhoids, 26 by the clamp and cautery method, and 8 by the modified Whitehead operation. All of these recovered without incontinence or prolapse or other inconvenience. In the 9 operations for rectal fistula, there were 8 cures and 1 patient left before we could say what the result was. These cases were all stubborn and slow to heal. The remaining may be read from the list above. I will only call attention to the 2 cases of appendicitis, in both of which the appendix was removed, with the most gratifying results, and the 2 of resection of the intestines, both of these patients being about 70 years of age, and in one I removed over 21 inches of the small intestine, with the most perfect success. All of these were done under general anesthesia, chiefly ether, and the patients made good recoveries.

The mortality, as will be seen, is less than 3 per cent.; 1 per cent., in fact, if we exclude the unavoidable deaths from pneumonia. Albumin in the urine in small quantities has not been taken as a contraindication to operation, but those with fatty or epithelial casts have been rejected. Hyaline casts are not so serious, as they frequently occur in old people without any particular significance. Fatty, flabby old people have not been considered fit subjects for operation, but several have

been done with good results. Operations requiring healing by granulations or long suppurative processes have not been considered satisfactory.

Time has always been considered an essential element of success, and the utmost celerity consistent with good work has been practiced. I do not believe that it is a matter of indifference whether the patient is kept under ether twenty minutes or an hour. Every minute that can be saved without prejudice to the operation is just so much gained, and lessens by just so much the danger of shock.

Whether this experience is better or worse than that of others in the same line of work I am not able to say, but certainly it does not sustain the general fear of operations in the aged. I have studied to find, if possible, some reason for the low mortality among these paupers, criminals and vagrants, but without any very definite conclusions. I have thought that perhaps age and hardship have inured them to privation and rendered them insusceptible to shock in a degree that we would not find in the higher walks of life. Certainly shock, which is so much dreaded by the general surgeons, has been almost absent in the large number on whom we have operated. But perhaps the more rational view to take of this is that when an individual has reached the age of 60 or 70 years, in comparative good health, we must assume that he has either taken good care of himself and not undermined his constitution by dissipation and excesses, or that he originally had an exceedingly strong constitutional foundation to build on, and thus presents himself a suitable subject for operation.

DISCUSSION.

DR. R. H. DAWBARN, New York City—It has so chanced that I have had a great deal of work in this special line while acting for many years as attending surgeon to the Chapin Home for Old People, in New York City, and I have found that they bear operation much better than I should have supposed. The all-important thing is the avoidance of microbe infection as to whether we get almost as good results in old people as we do in younger patients. I have seen ease after case heal aseptically and do remarkably well. On the other hand, persons having broken-down constitutions, living in public hospitals, or people advanced in age, lack the vital resistance which is necessary to oppose microbe invasion, and should this occur, you get bad results. An elderly man can not fight against a suppurative process like a young one.

DR. HART, China—I have operated many times for different diseases in old men, and very well remember one case of a man who had had a depression of the frontal bone for ten years. He had been struck by his brother in a fight at the age of 55 and came to me at 65. The depression was half an inch deep and I operated on him to remove three depressed fragments in the frontal bone. The patient made a splendid recovery and there has been no recurrence of the epileptic attacks from which he previously suffered. A number of men at the age of 75 have come to us and stood operation without any shock whatever. The middle class of Chinese stand operation well, but members of the upper do not, and this is probably due to their mode of living. Rice and meat are the principal articles of diet for the poor. Another class of cases occurring in the aged are those that suffer with epithelioma, but I find they all recover very readily without suffering from shock. Talking about old men in China, a man 75 there is practically where a man of 95 is here. A large number of the population die before 60, and a man of 70 is a rarity. I have operated on a man at the age of 90 who recovered without shock, his desire for operation being due to his wish that he could live to the age of 100, and thus get a special honor from the emperor. I told him I could not guarantee this, but the operation was performed some years ago and he is still living and looks well. I am sure the diet has a great deal to do with the patient's ability to stand shock, and the surroundings and occupation also have their share of influence upon operations.

DR. J. P. TUTTLE, in closing, said the point brought out by Dr. Dawbarn in reference to the inability of old people to

stand suppuration is brought out in his paper, but was not read. In every suppurative case the healing was prolonged and difficult. We get just as good results in aseptic cases in old men as in young, but not in the suppurative cases.

SARCOMA OF THE INTESTINES, WITH TABLE OF FIFTEEN CASES OF RESECTION.*

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Very little has been written on sarcoma of the intestines and many errors have crept into its consideration. Conclusions have been drawn from its supposed analogy to carcinoma of the intestines which the facts do not warrant. Prominent among these errors are: the accepted opinions as to the most common locations of the tumor, the early involvement of neighboring organs and the liability to produce obstruction. Few of our text-books on surgery refer to the subject.

The "International Text-Book of Surgery" (1900) says: "It may occur in any portion of the intestine—the cecum seems to be a favorite spot and several resections of this portion have been successfully performed for sarcoma."¹

The "American Text-book of Surgery"² says that as sarcoma of the intestines usually gives rise to symptoms of obstruction, and consequently comes under surgical treatment usually after extensive infiltration, it is questionable if it is prudent to attempt a radical operation as an early recurrence is almost inevitable. It suggests an intestinal anastomosis to exclude such obstruction should it occur.

Senn, in his text-book on tumors³ (1900), as well as in his earlier "Intestinal Obstruction,"⁴ puts it most frequently in the upper part of the small intestines, about the ileocecal region, the colon and the rectum. He says it usually comes to the surgeon after it has caused an obstruction. If in operating for an obstruction a sarcoma is found as its cause, an enterectomy is indicated if the tumor has not extended beyond the intestinal wall. If it has so extended he advises an artificial anus or, better still, an intestinal anastomosis.

Although a comparatively rare disease, it is much more rare in literature than in reality and deserves more attention. Of all the cases presented in the clinics during my medical course, one of the most deeply impressed on my memory was that of a young man summarily dismissed by Professor Maclean with the explanation that he had an abdominal tumor, undoubtedly sarcoma; that it would soon prove fatal, and that nothing could be done. The pale face of that patient has remained indelibly impressed on my memory. I find that a similar impression of the possibility of the disease, together with its hopeless prognosis, is very prevalent among medical men. They all speak of personal acquaintance with sarcoma of the abdomen. How many of these cases are sarcoma of the intestine?

STATISTICS OF THE DISEASE.

F. Smoler,⁵ analyzing 13,036 autopsies held at Professor Chiari's pathologic-anatomic institute of the German University, at Prague, found primary sarcoma of the intestine 13 times—1 in 1000. These occurred in fifteen years, 1883-1898. It occurred 7 times in the ileum—twice including the ileocecal valve—3 times in the jejunum and ileum and twice in the cecum. In the other case it occurred in the lower ileum and was asso-

ciated with an adenocarcinoma of the pylorus in a woman 70 years old. Ten were males, 3 females; 5 times the patient's age was between 30 and 40, 4 times between 20 and 30, twice between 10 and 20, and twice over 40. Probably there were few children in the 13,000 autopsies. In 7 cases there was dilatation of the diseased gut, in 4 contraction, and in 4 there was no change in the lumen.

N. Moore⁶ reported 2 cases of sarcoma in 26 of new growths in the alimentary canal. Both were males, one 25, the other 40 years old; 1 involved the descending colon, the other the descending colon and the ileum.

There is a single specimen in the U. S. Army Medical Museum. It was contributed by Dr. J. N. Yarnall, Washington, D. C. It is a portion of the ileum of a male 5 years old. It involved the entire circumference of the bowel. There was some narrowing of the canal, somewhat dilated above. Dr. E. Libman, pathologist for Mt. Sinai Hospital, New York City, recently read an exhaustive paper on this subject before the New York Pathological Society, and published in the *American Journal of the Medical Sciences* for September, 1900. He reported five cases which have occurred in this institution.

R. F. Weir⁷ tabulating all resections of the intestines for malignant growth up to 1886, reports two cases of sarcoma out of a total of 35.

REPORT OF CASE.

Before considering the surgery for intestinal sarcoma, I will report a case which occurred in my practice at Kalamazoo, Mich., in the fall of 1899. In criticizing the report of my case I ask that it be remembered that it was done in a small private house with only a forlorn hope of life being prolonged.

The patient was Harold S., aged 5 years. His mother's mother died at an advanced age from carcinoma of the uterus; his father's mother of carcinoma of the stomach. About June 1, 1899, the child fell from a fence and was caught between two boards and held hanging on the abdomen, head down, for some minutes. The injury was considered trifling at the time and no physician was called. About the middle of June he began to complain of abdominal pain, had repeated attacks of vomiting, his appetite left him, and he began a steady decline without any apparent cause except the general symptoms of indigestion. About the middle of July, I discovered a nodule less than one inch in diameter, in the median line midway between the umbilicus and the ensiform cartilage. It was smooth, hard, round and freely movable over a radius of four or five inches. Its growth was very marked and by September 15, it was about the size of a hen's egg. It then became fixed in the left hypochondriac region so as to produce by position an obstruction of the bowels with great pain. By careful manipulation and placing the patient upon the right side, I succeeded in moving the tumor from its fixed position and the obstruction disappeared. The diagnosis was an abdominal growth, probably omental and probably sarcomatous. A very grave prognosis was given. The tumor had all along been freely movable and an exploratory operation was advised in the hope that the growth—of whatever character—might possibly be so situated that it could be successfully removed. The operation was at first declined, but in November the parents finally decided to have it done, provided it might be performed "at home." It had been so long delayed that it was undertaken with the expectation of finding so much adhesion and involvement of important structures that removal would be out of the question. The patient was by this time very anemic, emaciated and feeble. He could scarcely walk. His temperature was 100 F. and pulse 120, soft and feeble.

Operation.—At 10:30 a.m., Nov. 18, 1899, the abdomen was opened in the median line above the umbilicus, the incision being four inches in length. The growth was lifted from its

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bed in the left hypochondrium, and out of the abdomen. The principal growth was irregularly oblong, about four inches in length and three in width, and consisted of a contracted thickened mass with a partial intussusception of the ileum into the colon, drawing the healthy appendix with it. Bringing out more of the ileum, a secondary growth was exposed about two inches in diameter, which had been felt in the right iliac fossa. About three inches of fairly healthy intestine connected the two principal growths. The mesentery and mesocolon were long, allowing of easy manipulations. Several of the mesenteric glands were involved in secondary growths.

Notwithstanding the extended involvement, it was decided to remove the growth with all the mesenteric glands as the only possible hope of prolonging the boy's life. This was done by making an exsection of the ascending colon, together with six or seven inches of the ileum and all the mesenteric glands involved, making an end-to-end anastomosis with the Murphy button. The abdominal wound was closed, leaving a narrow strip of gauze running down to each side of the line of anastomosis. This was considered advisable on account of being obliged to operate in a small private house where we could not be assured of thorough asepsis.

The patient received two hypodermic injections of strychnin, 1/60 gr. each, during the operation, and immediately after its completion he was given 8 oz. of normal salt solution per rectum and the same amount in the subcutaneous tissues of the chest. He suffered much less from shock than was anticipated. About three hours after being placed in bed, the father—who was chief nurse—stepped out of the room for a moment and upon his return found him sitting up in bed. After twenty-four hours his condition was comparatively good, pulse 130, temperature normal, with no vomiting. Gas had passed the bowel. He continued to improve steadily. His highest temperature noted was 100 F., about the eighth day. His bowels moved on the fourth day. The gauze was removed from the wound on the fourth day. The serum which followed it had a slightly fecal odor. By the end of the first week a decided fistula had developed. This did not retard the recovery and closed spontaneously within four weeks of the operation. He was out of bed in three weeks and walked after five weeks. The button was passed on May 11, 1900, six months after the operation. The patient continues well and, six months after the operation, weighs 50 pounds, 17 more than before operation.

Microscopic Examination.—Drs. G. F. Inch and F. E. Allen, of the Michigan Asylum for the Insane, at Kalamazoo, made the microscopic examination of the tumor and pronounced it undoubtedly a small, round-celled sarcoma. Microscopic sections were also examined by Drs. A. C. Crofton, of Pasadena, and Stanley P. Black, of Los Angeles, with the same conclusions. The following is Dr. Allen's report:

The gross specimen, consisting of six or seven inches of small intestine above the ileocecal valve, the same amount of large intestine, the vermiform appendix and several enlarged mesenteric glands was received in Müller's fluid, from which it was removed, washed in water and placed in alcohol—80 per cent.

The large intestine had been cut lengthwise, disclosing the tumor and the latter cut across. The tumor was a firm mass about the size of a hen's egg, surrounding the ileocecal valve like a ring, the greater part lying to one side, a depression in the surface corresponding to the opening into the small intestine. This opening easily admitted the forefinger. The tumor projected into the lumen of the large intestine, was covered with the intestinal mucosa and attached by a broad base to the bowel wall. The cut surface was white and glistening and yielded, on scraping, a milky fluid. The appendix was apparently normal. In the fat of the mesentery near the junction of the large and small intestines were several mesenteric glands, some of them somewhat enlarged. Four or five inches from the ileocecal valve, on the small intestine, was a second tumor nearly as large as the other. It was not connected with the lumen of the bowel, nor did it project into it, but in close apposition to the intestine between the two layers of the mesen-

tery. On cross-section it resembled the large tumor in structure.

On account of the size and the fact that the tumor had taken the place of the bowel wall, the large growth was evidently the primary tumor, and the growth on the small intestine a secondary in a mesenteric gland. Portions were taken from the primary tumor, the secondary and from one of the smaller mesenteric glands, fixed in alcohol, imbedded in paraffin and stained with hematoxylin and Van Gieson's method.

Primary Tumor: Sections were taken from the periphery of the tumor. The mass of the structure was made up of small round cells with deeply staining nuclei; there was a fine delicate reticulum, composed in some parts of branching and anastomosing connective-tissue cells, and the reticulum could everywhere be seen lying between and separating the tumor cells. There were not a great many blood-vessels, but those present had very thin walls and in some cases the cells themselves formed the walls. At one side of the section was seen the mucosa with its gland ducts cut transversely and its underlying muscularis mucosa. All throughout the mucosa are seen these small cells which surround the glands, even penetrating between the columnar cells lining the ducts. The muscularis mucosa is in some places almost obliterated by the pushing in of the cells between its unstriped fibers. The submucosa has disappeared, as has also the muscle coats of the bowel, and their place is taken by the tumor structure. At one side of the section may be seen a few muscle fibers, probably those belonging to the muscular coats which are infiltrated and separated by the tumor cells.

Secondary: This section shows practically the same tumor structure, but the normal relation of the coats of the small intestines is better preserved. The intestinal wall is seen with its mucosa, submucosa and muscular coats, but the tumor cells are found between the muscle fibers and have penetrated even as far as the mucosa.

There are two modes of origin possible for the growth of the primary tumor: 1. It may have arisen in a mesenteric gland, causing its enlargement until it reached the bowel wall which it soon infiltrated and disintegrated. 2. It may have arisen from a solitary lymph follicle in the large intestine, and this latter view is the more acceptable, as it is the common mode of origin for sarcoma of the intestine.

Again, *a*, from the nature of the cell, a small round one with a nucleus staining so deeply and occupying so much of the cell that it requires careful focusing to make out the ring of protoplasm about it; *b*, from the nature of the reticulum a fine branching vascular connective-tissue stroma; *c*, from the nature of the relation of the reticulum to the cells lying always between and about them, and *d*, from the nature of the relation of the cells to the blood-vessels, forming in some cases their walls, it is evident that the tumor belongs to that class of small round-cell sarcomata known as lymphosarcoma, since it reproduces to a certain extent the normal histology of a lymph gland.

TABLE OF CASES OF RESECTION.

After a careful search in the library of the New York Academy of Medicine, I am able to present the accompanying table of cases of resection for sarcoma of the intestine.

Of the fifteen cases, 9 were males and 5 females. The youngest was 1½ years old, the oldest 52; 5 were under 10 years, 1 between 10 and 20, and 2 between 20 and 30; 1 was 30, and 5 between 40 and 50. The small intestine was alone involved 10 times; both small and large intestines twice; the cecum once; the transverse colon once. The Murphy button was used in 4 instances. Of the 15 patients, 9 recovered from the effects of the operation. The cause of death in the 6 fatal cases is put down as peritonitis twice; sepsis and pneumonia, 1 case; collapse, 1; not stated, 2 cases. Of the children under 10, only 1 succumbed to the operation. This was a boy of 8, from whom 52 cm.—21 inches—of ileum and cecum had been removed. All the other deaths occurred in

patients over 40, except possibly 1, whose age is not given. In none of these cases is it positively stated that the correct diagnosis was made before operating. Usually it is put down as obscure. Once only was it done for obstruction. Of those who survived the operation, 1 died after three weeks, another in two months, from widespread metastasis. Two were well one year after operation; 1 is well six months after. Mesenteric glands were reported involved in 4 of the patients who recovered. In addition to these I found 2 cases recorded of exploratory opening of the abdomen, in which, on account of the widespread extension of the disease, no resection was done: 1 by Professor Madelung,⁸ another by Tschermakowski.⁹ Death followed in a few days in both cases.

Once suspected, no time should be lost in waiting for the diagnosis to be cleared up. The time for hesitating to do an exploratory laparotomy is past, especially in the face of so fatal a disease as sarcoma. There has been so much advance in intestinal surgery of late that every patient of this kind should have the benefit of that possibility of relief. Professor Kukula¹⁰ has recently tabulated 31 cases of resection of more than 1 meter of small intestine, and has demonstrated that there is practically no limit to the amount of intestine that can be safely removed. In one patient only two-fifths of the small intestine was left. As only 3 of these 31 patients died from collapse, there is evidently not so much shock from these operations as the first attempts at resection seemed to indicate.

RESECTION FOR SARCOMA OF INTESTINE.

No.	Operator.	Year.	Sex.	Age.	Part Removed.	Method.	Result.	Variety.	Remarks.	Where Reported.
1	Atlee, Philadelphia.	1882	F.	48	Small intestine.	Interior of tumor opened into intestine, pedicle simple drainage.	Died 2 days later.	Spindle-cell . . .	Supposed to be ovarian tumor.	W. A. Edwards, Trans Phila. Path. Soc., also Phil. Med. Times, 1884.
2	Hofmokl.	1885	F.	24	Cecum, 9½ inches.	Sutures;	Recovered . .	Adeno sarcoma.		Gessellsch. der aertze in Wien, May 1, 1885.
3	Lange.	1885	F.	...	Transverse colon, 6 inches.	Czerny - Lembert sutures.	Died 9th day; Perforative peritonitis.	Sarcoma	Both ovaries were sarcomatous.	R. F. Weir, Table of resections of the intestines for malignant growth, N. Y. Med. Jour. Feb. 13, 1886, p. 196.
4	Nickolaysen, Christiania.	1886	M.	28	18 cm. small intestine	Lembert suture	Recovered. . .	Myosarcoma spindle-cell.	Obstruction; mes. glands involved.	Myosarcoma intestini tenuis exstirpation with gut section, Helbridel-sen Norsk. Magaz. for Lagind, R. 3, Bd. 15, S. 12.
5	Zuralski, Koenigsberg.	1889	M.	40	Small intestine.	. . . . .	Recovered . .	Small spindle-cell sarcoma.	Fourteen months after onset mes. glands involved.	Diss. Königsberg, 1889, Beitr. z. casuistie der Dünndarm Geschwuelste.
6	Von Baracz, Leanberg.	1889	M.	8	55 cm. cecum and ileum.	Czerny - Lembert suture.	Died, 24 hours.	Sarcoma	Diagnosis; kidney or colon tumor.	Arch. of klin. Chir., B. xlii, 1891, 9, 491. Ueber fünf Darmresectionen. Ein Beitr. zur Darmchirurgie.
7	Madelung, Rostock	1891	M.	52	Small intestine.	End-to-end union suture.	Died, 16 hours. Metastases numerous at autopsy.	Round-cell sarcoma.	Oper. undertaken as carcinoma; collapse after apparent excellent condition.	Ueber primäre Dünndarm sarcome, M. Baltzer, Arch. f. klin. Chirurgie, 1892, xliv, p. 717.
8	Babes and Nanu, Bueharest.	1895	M.	30	Small intestine.	Lembert suture.	Recovered; well one year later.	Myosarcoma, origin in muscle layer of intestine	No dif. diag. before operation.	Berl. klin. Wochenschr., 1897, p. 138, Ein Fall von Myosarkom des Dünndarms.
9	Rovsing, Th., Copenhagen.	1896	F.	1½	Jejunum...	Murphy button.	Recovered; returned; wide involvement; died in 2 mos.	Sarcoma intes. jejuni.		Hospitals Tidende, no. 46, 1897, 9, 1085. Primaert Tindtarmsarkom.
10	Heinze.	1897	..	45	110 cm. small intestine.	. . . . .	Recov'd; well 1 year later.	Sarcoma	M. glands involved	Zur Casuistic der primären Dünndarm Sarcoma, Diss. Greifswald, 1897.
11	Lannelogue, Bordeaux.	1897	F.	8	¾ cm.; location not named; probably sm'll intes	. . . . .	Recovered	Sarcoma	Diagnosis, tumor of ovary.	Jour. de Med. de Bordeaux, 1897, Vitrae et Lanbie Jour. de med. de Bordeaux, 1897, p. 495, Sarcoma d'intestin; enterorrhaphie circulaire; cure.
12	Siegel, Ernst, Frankfort.	1899	M.	3¾	30 cm. jejunum.	Double suture, drainage.	Recovered; died 19 days later from return.	Small round-cell sarcoma.	Aut'psy; pancreas, stomach, mesentery and kidneys sarcomatous.	Berl. klin. Wochenschr. 1899, p. 767, Ueber das primäre Sarcome des Dünndarms.
13	Weir, R. F., New York City.	1900	M.	40	8 ft. 4 in. jejunum and ileum.	Lateral anastomosis; Murphy button.	Died; peritonitis.	Sarcoma	Mesentery involved.	Surgical section N. Y. Acad. of Med., May, 1900. Med. Rec.
14	Weir, R. F., New York City.	1900	M.	45	8 in. jejunum.	End-to-end; Murphy button.	Died after 11 days; sepsis and pneumonia.	Sarcoma	Diag. obscure from enormous intermittent distention of stomach and bowel above tumor stenosis.	Oral communication to writer.
15	Van Zwalenburg, Kalamazoo, Mich.	1899	M.	5	18 in. ileum and colon.	Murphy button.	Recovered; well after six months.	Small round-cell lymphosarcoma.	Exploratory operation; m. glands removed.	

From a study of these cases I am led to the following conclusions: Sarcoma of the intestine is more common than our text-books indicate. It much more frequently affects the small than the large intestine. The ileum seems to be its favorite location. Sarcoma rarely produces stenosis. Dilatation is more frequent. Usually it grows from one side of the bowel entirely. In my own case the symptoms of obstruction were evidently due to a change in position of the freely movable tumor. It was entirely relieved by manipulation. The diagnosis is difficult and will always remain obscure, still if a smooth freely movable tumor be found in the abdomen, unless it can be otherwise satisfactorily accounted for, we should be reminded of the probability of sarcoma of the intestine—especially if there is also present the general picture of sarcoma with its peculiar anemia.

We are learning that many of the cases of so-called collapse and death from shock are after all cases of sepsis. Sepsis following an operation is a question of technic and should not stand in the way of a good result here. The children in my table bore this operation well; only one of the five succumbed to the procedure. The way my patient went through it was a constant revelation to all who knew the circumstances.

In the present state of our knowledge of sarcoma it almost goes without saying that the only treatment for the intestinal form is resection. When an exploratory opening is made and a well-advanced sarcoma is found, exsection at great hazard is justifiable, not only on account of the absolutely bad diagnosis of the disease itself, but also because of the dangers of sepsis in the presence of tissues of such low vitality and of the dis-

semination of sarcoma foci by the exploration. The two reported cases of this kind terminated fatally in a very few days. In this connection we have a right to assume that in extirpating a sarcoma we remove a toxin center as truly as when we open an abscess.

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REST TREATMENT FOR HYSTERICAL DISEASE.*

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Indications and Technique.—Hysteria is a term which I once regarded as a vague excuse for a diagnosis, but for the last six or seven years it has been, I think, somewhat displaced from this proud position of general scapegoat by the word neurasthenia. What are the symptoms which indicate that a hysterical case is one for the rest-treatment? When we find a case in which there is great nervous instability combined with physical weakness, and usually with absence of distinct organic disease, especially if there are present some or all of the moral defects which so commonly accompany pronounced hysterical disease, then we have a symptom-complex calling for treatment by rest and isolation.

I need not dwell on the other hysterical stigmata; the list is a long and varying one, although the more essential points are well known and fairly common: backache, headache, insomnia, constant fatigue, are signs not peculiar to hysteria, but when we add to these a tender spine, tender ovaries, vague wandering pains with no discoverable substantial reason for their existence, intense interest in the varying symptoms presented, disturbances of sensibility, perhaps paralysis or contractures, above all if the symptoms are too numerous or too variable we may without hesitation call the case a hysterical one.

Certain forms of acute disease, especially uterine or periuterine, are almost the only contraindications to the treatment of such cases by rest, if we set aside the cases with distinct organic disease of the lungs or kidneys.

I may repeat what has so often been insisted on: The worse the case the more satisfactory is the treatment, as a rule. An emaciated, half-blind, anemic girl, who eats nothing and keeps herself shut in a dark room, where to a sympathetic selection of relatives she plays her hysterical comedy, sometimes to a tragic conclusion, is the kind which gives the best promise of a highly successful result.

Taking such a typical case, when, where and how shall it be treated? As to the time to begin treatment, the sooner the better is a good rule, and the only thing

which would fix any special time is that immediately after the menstrual period is usually the most suitable moment for commencement. My own experience is in favor of treatment in a private house rather than in an institution. A private room in a good hospital, if the patient can have a personal nurse, will serve. As a rule such cases do not do as well if they depend on the hospital staff for nursing. One takes too many chances in the daily or hourly change of nurses and the unoccupied time for brooding is too great. In a hospital ward the matter of isolation is especially difficult to manage, and I do not like sanatoria or such institutions, chiefly for the reason that they add a new difficulty to the management of convalescents unless isolation can be thoroughly maintained to the end of the treatment. The herding together of partially recovered patients in large rooms and meeting-places usually results in the swapping of symptoms, in comparison of the virtues or vices of the respective nurses, and in consequent general dissatisfaction. A proper room in a proper place having been secured, it may be added that light, sunshine and ventilation are naturally of high importance.

Nurse.—My rule is never to use the nurse who comes with the patient from home. When in exceptional instances I find it necessary, or yield to the importunities of the patient or relations to do so, sooner or later I find cause to regret it. The same rule applies to relatives, and generally against nurses with whom the patient has a previous acquaintance. Enthusiasm controlled by educated intelligence is the first requisite. As a rule this is found in its best forms in young nurses. This matter of the choice of a nurse can not be too much insisted on; scarcely any other single element is so vital. I prefer to have a nurse who is agreeable to the patient, but this is not always necessary, and if the patient finds that she can get a change of nurses because she says she does not like the nurse, she will sometimes go on changing indefinitely in the hope that she may discover one more amenable to her ways of thinking. Still I never hesitate to change the nurse if the patient has a reasonable objection to offer, since even the best nurses do not suit every patient.

Among the strictest orders which I give the nurse are that neither the symptoms she may observe, the difficulties of management she encounters nor questions of treatment are ever to be talked over with or before the patient. She reports to the physician when he enters the room, waits a few minutes to see if he has any questions to ask, submits her daily notes, and without further words retires outside to wait for orders. This gives the patient freedom to speak about her nurse should she wish to do so, and to express, as she should freely do, her own views about herself. If the patient does not do well and no clear reason can be given for it, if the digestion is good, and yet somehow the case seems to be at a standstill, then it is best to try a new nurse. It is well to keep a judicial attitude of mind and certainly never permit oneself to fancy that all the difficulties which may arise are the patient's fault. Sometimes patient and nurse do not get on from some trifling defect of manner or method in the nurse which, if not susceptible to correction, is best met by replacing her with another nurse. The matter may be summed up by saying that all the qualities which a good nurse should have are required in their highest degree in a nurse for hysterical patients, and, in addition to these, the nurse must have certain personal accomplishments, such as being able to read aloud, which are not a necessary part of the ordinary nurse's education.

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Isolation.—Isolation I regard as the most important feature of the treatment. Once in a while, though less often than formerly, I consent to treat patients in their own homes. Even in the largest and best managed households this is usually only a way of greatly increasing the physician's annoyances and responsibilities and delaying the progress of the cure. Isolation can seldom be complete when the patient knows that only a door or a partition separates her from the members of her family. Difficulties, too, are not always from the patient's side. In fact one experiences less difficulty with the patient than with her friends and relations. Then, too, the mere fact of being in an entirely new place contributes to that change of moral atmosphere which it is so desirable to bring about, and if the change of place and surroundings is a little less comfortable for the patient, that, properly viewed, is only an added incentive to rapid recovery. The more distinctly hysterical the disease is, the more strict the isolation must be. No letters are sent or received, no visitors are seen, and but three or four persons enter the room, the nurse, the physician, the masseuse and the servant. As I have said elsewhere, there is another reason why this seclusion is useful: it enables one to gauge the amount of the emotional element in the case, to see how far emotional disturbances are due to the patient's own disposition and how far they are caused or increased by her surroundings. When these cases are treated in a hospital room, it is well to direct that the resident physician should pay but one visit a day in order, as far as possible, to limit the audience before which the comedy is performed.

As to the period during which isolation must last, this is a matter to be judged by the attainment of the desired results, not by the calendar. In ordinary cases of moderate degree six or eight weeks of absolute isolation is generally long enough and at the end of the time one may admit a single visitor, to observe the effect upon the patient, afterward gradually allowing the return to more ordinary methods of life. In the more serious cases, especially those of simulated disease or with grave hysterical symptoms, many months of isolation may be necessary and a life of careful and methodical regulation must be continued long after almost all symptoms have disappeared if the inveterate hysteric is not to relapse. Toward the end a limited number of letters are permitted and, by way of reward for good conduct, the patient may write briefly once or twice a week to some one member of her family. If so long a period of separation from home, friends, and domestic surroundings sounds like a severe measure, it should be remembered that what has to be accomplished is the breaking up radically of the habits of long invalidism.

Rest.—Rest, like isolation, is often badly borne during the early days of treatment, but the complaints which it causes, if met with patience and reasonable firmness, usually disappear within a week and the patient settles down, not merely with resignation, but often with satisfaction, to a life which may be described as one of almost complete physical immobility. At first in serious cases it is often well to have the patient fed by the nurse; in this way food will usually be taken in much larger quantities than if the patient serves herself. Ordinarily one hardly carries the prescription to this extremity, the patient feeding herself, but not sitting up further, except for emptying the bowels, etc. Thus, the use of the voluntary muscles is kept at the lowest possible point; the isolation, the absence of letters or any other cause of excitement keeps the mind inactive; the phys-

ical stillness lessens the excitability of the circulation which is usually present, and one result soon seen is an improvement in the ability to sleep.

Diet.—If indigestion, loss of appetite, or obvious gastro-intestinal feebleness is present, then milk diet makes a good starting-point. Here one often runs against an obstacle. Many patients will say that they can not take milk, and if it is given in ordinary quantities and in the ordinary way, they are very likely unable to digest it. Still it is rare to find that with care and a little ingenuity, milk can not be used. What is true of milk when used with other food is not true of milk when it is the exclusive diet. It is often necessary to begin with very small amounts. An ounce or two ounces every two or three hours, increased little by little while the other food is decreased, will generally be well borne. In a few days, with the increase of the milk, solid food may be withdrawn. Skimmed milk can nearly always be taken by patients who have indigestion from whole milk, and skimmed milk contains the most essential food values, only the fat having been removed by the process of skimming. When milk diet is not necessary the patient is ordered to begin with the usual three meals. No stress is laid on the taking of food in large quantities during the first few days; dependence is placed on the improvement of appetite, which comes with the quiet and the stimulation of desire for food by massage, as well as the increased ability to take it, which results from this form of exercise. If long continuance of milk diet is not considered necessary, after four or five days of milk alone, a chop or a piece of steak is given at mid-day, in addition to the milk. The next day, bread and butter or an egg is added at the second meal, and the increase is kept up by similar advances until the patient takes three full meals and from 50 to 60 ounces of milk a day. Where milk is badly borne, some other form of light and digestible food may be substituted, or broths, meat-jellies, etc., used to vary the diet.

Massage.—The profession is a little better informed about massage than formerly. Still something remains for most practitioners to learn as to the best methods and the ways of using it. It is preferable, as a rule, to have some other person than a nurse to do the rubbing, as in serious cases the nurse will have quite enough work, and the hour of massage followed by an hour of rest serves well for a period of escape for the nurse. Massage may be prescribed after the patient has had one or two days' rest in bed, beginning with light treatment not lasting over fifteen or twenty minutes and increasing in two or three days to thorough deep massage of the whole surface of the body and limbs, a process which should last for at least an hour daily in persons of ordinary size. In thin or small patients less time may serve; in the obese a longer duration of the rubbing will be necessary. A second rubbing by the nurse, not quite so thorough, with special attention to the abdomen and the spine may be given at night, some patients finding this a great help to quiet sleep. As to how the physician, who is ignorant of the methods of massage, is to know whether his patient is being properly rubbed, this practical hint may not be out of place. If after a week of massage, the patient does not take with ease the amount of food prescribed and thoroughly digest it, the massage is insufficient in quantity or bad in quality, and a change either in the plan of rubbing or in the person administering it is called for. Also, while a steady increase in weight may be expected after the first week, if the patient's weight increases too fast, the massage is either not producing sufficient tissue

waste, or the character of the food needs examination. It may be added as another practical point that the use of oil or other form of lubricant lessens very much the value of massage, as proper deep kneading can not be done when the surface is greasy and the lessening of the friction between the hand of the operator and the skin does away with one of the useful elements of the treatment. Lazy operators will, however, tell you they can not rub without oil. In that case, get another who is less afraid of work.

Electricity.—Of the original measures proposed for the combination which makes a complete rest treatment, electricity is perhaps the one which may with least disadvantage be omitted. Nevertheless I seldom omit it when the patient is on full treatment, if for no other reason than because it fills an hour or so of the day which might otherwise be unoccupied. There are only two forms which are commonly prescribed. The slowly interrupted faradic current is applied to the motor points all over the body, thus moving in turn every accessible muscle. The muscles should be contracted three or four times each and an appreciable amount of exercise as well as a very decided tonic influence is thus to be had. This will require in an ordinary-sized person half an hour, at most, if the operator knows the motor points. If the spine is tender the treatment is finished by passing a rapidly interrupted current from the nape of the neck to the soles of the feet, using a large electrode at the nape of the neck and another smaller one placed a few minutes on each foot. If constipation is troublesome, special applications may be made to the abdomen, using a rapidly interrupted current passed deeply from side to side and from the back to the anterior abdominal wall. Many patients are much afraid of the use of electricity from having been hurt by ignorant or careless methods. There is no reason why it should be painful if rightly used, and many nurses are well instructed in its ordinary applications. If the patient expresses alarm, and especially if she is of an apprehensive kind, it is best to begin the first day or two by making a dummy application, the battery working so that the patient can hear the sound, but the electrodes being used without connecting the wires to the battery. If this causes excitement or the patient complains of strange symptoms, continue the use in this fashion for two or three days, assuring the patient that she will not be hurt. If she still continues to fuss about it, after two or three days I tell them simply and plainly that they have fussed over the application of two damp sponges.

Special Difficulties.—In the course of treatment certain difficulties always arise. A bilious attack may be the not unnatural or unexpected accompaniment of the full feeding. Starvation in some degree, a laxative, or a return for a few days to a milk or skimmed milk diet, is sufficient treatment. Constipation, especially at the beginning of the course, may be annoying, but should not continue to be so if the massage is properly performed. Still in occasional cases, in spite of the most careful manipulation and electrical application, this may make trouble. Usually the ordinary aloin and strychnia pill at night and morning will suffice to overcome. For very old inveterate cases, some more radical means must be used. Hot-oil injections, special manipulations of the abdomen, electrical applications per rectum are some of the means.

Insomnia is another frequent difficulty of the first nights of treatment and occasionally persists throughout the course. The use of drugs should be avoided as

far as possible, as nothing can be steadily given without some ill effects on the circulation or blood-making functions or digestion. The drip-sheet, the wet pack, and the abdominal compress are among the hydrotherapeutic measures which may assist in overcoming sleeplessness. Massage at night as well as in the day time, applied somewhat less severely, will help many patients. The application of electricity to the spine as described is found sedative by others.

As to the question of moral control and the teaching of the patient to overcome for herself the habits, modes of thought, and ways of life which digged the pit for her to fall into, I despair of even suggesting them in the time at my disposal, but it can not be too strongly insisted on that anyone who attempts the cure of hysterical patients without the largest comprehension of the moral aspects of the treatment, without intense human sympathy and the power which imagination gives to put himself in the place of the sufferer, may perhaps be able to cure the bodily conditions, but will cure them only to send his patient out to relapse at the first opportunity. The treatment should include, as a recent patient described it to me, schooling in wisdom as well as in better physical methods of life.

I am told that one difficulty experienced by physicians in the effort to apply the rest treatment is in getting patients out of bed, and at a meeting of the ASSOCIATION this criticism was made a year or two ago, but, like the moral control, it is a matter which can scarcely be described exactly to any one else. I can only recall once in a good many years having had this trouble, and then it was with a hypochondriacal patient who expressed her preference for being pushed in a wheeled chair to walking. However, walk she did and was still walking when last heard from. Great care is needed in getting patients out of bed. A person whose circulation is regulated to the requirements of recumbency by six weeks of supine position can not be expected to suddenly begin sitting up without feeling faint, weak and fatigued in a very short time. My own rule is that the patient sits up in bed for ten minutes two or three times a day to begin with, that when this has been continued for two or three days the time is increased to fifteen minutes and then she is allowed to get out of bed, of course without dressing, and sit in a comfortable chair, carefully protected from cold, for twenty minutes twice a day with a distinct order to go back to bed before the expiration of that time if she feels fatigue. For a week before getting up, the masseuse is directed, after finishing her manipulations, to give passive movements of each extremity every day; after three or four applications the patient does the movements actively. In another day or two the nurse begins to steadily increase by five minutes every period of sitting-up. It will thus require about a week before she is up for more than forty minutes, but when she is up this long without inconvenience, I allow a few steps to be taken, not more, and at the end of ten days, or thereabouts, from first getting out of bed, she goes for a short drive, but is not allowed to walk up and down stairs to reach the carriage. If she is not in a place where there is an elevator she is carried. The same care is exercised about every little advance and increase in activity.

During this time of getting up the Swedish movements, which were begun before the patient got out of her bed, are continued and increased in number and variety, special exercises being given for the defective parts of the body.

I believe that the causes of failure with these patients

lie more usually in neglect to perceive and allow for the moral conditions of the case than misunderstandings of the physical state. The after-care, the choice of the place in which the patient shall spend some weeks or months of the convalescent period, during which she should be making steady gain in nervous control as well as in physical force, must occupy the physician's attention. When it is possible, if the patient can not see the physician in person every week or fortnight, the nurse should either see him or report regularly to him in writing, and I make it my endeavor to follow such cases for a period of at least six months pretty closely, and I would pursue them even longer, but by the end of that time they are usually well enough to get tired of bothering with reports to the physician and disappear.

DISCUSSION.

DR. WILLIAM G. SPILLER, Philadelphia—So many cases of hysteria are seen in Vienna and Paris that the danger of mistaking organic disease for hysteria is possibly greater there than in America. A most interesting case of hysteria, resembling ascending neuritis, was brought to me by Dr. Rugh a year or two ago. The patient was a young girl who had run a needle through the end of one finger. She was told by her friends of results known to follow such injuries, and her arm soon became purple and swollen. The case was treated at first as one of neuritis, and some improvement occurred under this treatment, but the symptoms returned. I then saw her in consultation with Dr. Rugh and found the arm very much swollen and painful, and placed on a splint, but motion of the fingers at this time was fairly good. During the night following my examination the pain suddenly ceased, and when I saw her the next day she had no movement and no sensation in the arm. I decided that the case was probably one of hysteria, and suggested to Dr. Rugh that he should remove the splint at once and give her the proper treatment based on suggestion. He did so, and after two or three days all the symptoms had disappeared. Dr. Rugh has told me that she has had one or two similar attacks since, but that they were always cured by suggestion.

It is sometimes very difficult to make a diagnosis between hysteria and other functional diseases. Krafft-Ebing recently reported a case in which the tremor was very much like that of paralysis agitans, but because it commenced simultaneously in both upper limbs and had existed for many years without rigidity, and because the knee-jerks were not exaggerated, he regarded it as probably a case of hysteria.

Dr. C. K. Mills and I have had under observation a patient who undoubtedly had hysteria and signs also of Parkinson's disease. The position of the body was very suggestive of paralysis agitans. We think it is impossible to say at present whether this case will prove to be one of paralysis agitans or not. If it should prove to be a case of this disease I think we should make a mistake in saying that it was one of hysteria that had passed into paralysis agitans. I have now under observation a case in which I find it impossible to make a diagnosis between hysteria and Huntington's chorea.

I have seen a young woman who had fallen from one of the galleries during the burning of the Ring Theater in Vienna, and for many years following this event the symptoms that developed made a diagnosis between hysteria and disseminated sclerosis very difficult.

DR. DOUGLAS GRAHAM, Boston—I have been very much pleased in hearing such an interesting résumé of "Fat and Blood, and How to Make It." Many years ago I called attention to the fact that the indiscriminate use of oil in doing massage was an excuse for ignorance, and I am glad to find this statement confirmed by what Dr. Mitchell says.

DR. BRIGGS—I would like to ask Dr. Mitchell as to the use of oil in massage, and on what he bases the conclusion that it lessens the value of the massage. I saw one case in consultation a few years ago where there were most undoubted hysterical symptoms at the beginning of true meningitis that destroyed life in three or four days after I saw the patient.

DR. COOPER—While Dr. Mitchell's paper laid great stress on the technic of the treatment of hysteria, he did not lay as much as I would like to have heard on that particular phase of the technic which has to do with the moral treatment of the patients. There seems to be no definite way of getting hold of their moral life and placing it upon a purer and better plane.

DR. D. J. MCCARTHY, Philadelphia—As to the differential

diagnosis between organic disease and hysteria, while I would not go as far as Dr. Lloyd in saying that every case of hysteria has an organic basis, still I think you can find certain cases in which there is an organic basis for the disturbance. During the past year a case came to Dr. Burr, and later the specimens were sent to me—a case which had been diagnosed as hysteria. At the autopsy nothing gross was found, but while the cerebrum was as large as the average, the pons itself was distinctly smaller. The spinal cord had developed into two distinct spinal cords, and finally joined. Evidently there was a defective development of the central nervous system, with lessened resisting and recuperative powers.

DR. A. E. STERNE, Indianapolis, Ind.—There are certain conditions of an organic character that offer a greater opportunity for confusion than do tumors of the brain. It seems to me that among these syphilis ought to take a more prominent rôle than has been given. The mutability of symptoms in hysteria is seconded very closely by the mutability of symptoms in syphilis. This is also true in regard to the change of the color fields. Another point that ought not to be lost sight of is that hysteria in males is a very different thing from hysteria in females, so far as its manifestations are concerned. The symptoms are very much more stable in males than in females, so far as my own experience goes.

In a case at the hospital, not long since, one which I was preserving for a specially good clinic, a large negro, six feet two or three inches tall, who had been a cement worker, carrying hods and barrels, had suddenly lost the use of the entire arm and leg on one side. We had the characteristic hypothermic symptom of syringomyelia, and he had some of the other characteristics, so that I left the diagnosis open. A few days later, in the clinic room, on examination I found that not a single symptom of that which had been present was there, and I was holding a clinic on a perfectly well man. I have since been in doubt whether I had a case of hematomyelia or hysteria. I believe it was a case of hemorrhage in the spinal cord and not hysteria. Most of these patients are constipated before they take the rest cure. A very large percentage of the hysteria is due to the long-standing constipation. It is not the diet particularly which causes the constipation. I never give milk with anything solid; I believe that milk is not to be digested, but simply to be absorbed.

DR. G. W. DRAKE, Hollins, Va.—All hysteria has an organic basis. If people imagine they are sick, they are; there is an abnormal condition in some part of the nervous system. In listening carefully to the discussion of treatment it was evident to me that, while some of the gentlemen have tried very hard to make the differential diagnosis between organic diseases and hysteria, yet their treatment of hysteria is along the line of the treatment of organic disease. They are careful about the diet, and they give massage, and all their treatment is material. Because a lesion can not be seen with the microscope is no proof that it does not exist. Every ache or pain has a material pathology, and every abnormal action or disordered function is the consequence of a material disorder.

DR. D. I. WOLFSTEIN—I would be very much obliged if Dr. Mills or Dr. Mitchell, in closing, would try to draw the line a little more closely as to those cases which are not proper cases for the rest cure.

DR. CHARLES H. HUGHES, St. Louis, Mo.—I should couple with the rest the diversion cure and the change of environment cure. There are patients to whom in my experience the rest cure has proved the most restless kind of cure. So while I regard the rest cure for a certain class of overstrained society people, the class who largely came under the elder Mitchell's hands, and with whom he had the best results, as an excellent thing, there are patients to whom it is not applicable.

DR. CHARLES K. MILLS, Philadelphia—One matter to which attention was called is very important, viz., the diagnosis of hysteria from syphilis of the nervous system. Because the tracts of the nervous system are not found properly developed in a certain case, or a certain portion of the nervous system is relatively undeveloped in another case, apparently normal during life, except for the presence of hysterical symptoms, it is not just to argue that in such findings we have the anatomical basis of hysteria. The truth is that hysteria occurs in individuals of almost all types of organization, normal and aberrant. Every neurologist has seen hysteria in high-grade imbeciles, or has seen hysterical episodes in paranoiacs, and has seen the true hysterical stigmata in different varieties of insanity. On the other hand, he has seen under the influence of toxic causes, or mental strain, or profound physical exhaustion, or whatever cause, internal or external, a true hysteria develop in individuals not suffering from any form of insanity or arrested development.

DR. JOHN K. MITCHELL, Philadelphia—Several questions have been asked about the uses of massage. As to why oil should not be used, any one who has practical experience in manipulations with or without oil, or has attempted at all to do them himself, knows that deep kneading, which is the most important procedure of massage, altogether the most important, can not be properly done with the skin oiled; further, that any diminution of the small amount of friction which takes place between the skin and the hands of the operator is undesirable, because that friction is part of the treatment and should not be lessened in that way. This is quite apart from the unpleasantness of being greased all over, and the encouragement of the growth of hair, which you will find in women, is a great objection to the use of oil.

Dr. Cooper asks why I did not preach a sermon for which I have not had the text supplied. If he will supply the text in the person of a patient for whom he wishes to know the proper moral treatment, I shall be glad to try to answer him. The moral, unlike the general physical treatment, is different in each case, and must meet the exigencies of each particular problem.

Dr. Herman suggests that effleurage massage might be used. I distinctly said not effleurage. Deep kneading is the kind of massage we make most use of. Effleurage is extremely irritating to most nervous patients.

As to contraindications, these are not very numerous. Certain forms of acute disease seem to me to stand in the way, and, of course, the dispositions of certain patients render them unsuitable subjects for this form of treatment. We began by excluding such cases; we began by saying in what way the cases suitable for the rest treatment should be selected.

Finally, Dr. Hughes, who had not heard what I said, criticized what he thought I had said and what he thought I had omitted. I am quite sure that no sane person has ever proposed the rest treatment as an exclusive system or a universal panacea, or said that it is desirable for all cases; and Dr. Weir Mitchell has repeatedly said that he never thinks of using it until every other possible means of treatment has been exhausted. As to its being a method suited only for women suffering from too much fashionable society, I think I treat almost as many washerwomen and quite as many school teachers as those from any other class of life. If these persons are overstrained from social diversions I am afraid the poor souls will not be allowed much amusement. I can only insist and repeat, finally, that it was not proposed as a universal panacea, but only as a last resort, because of the immense time which it takes, and the great expense which it entails.

HEREDITARY SUBNORMAL COLOR- PERCEPTION.*

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Subnormal color-perception frequently presents a grotesqueness which always subtly attracts the attention of students of medicine and psychology. That there is a physical basis for this aberration of the sense of sight, is proved, although at times it seems necessary to search for the origin of the peculiar condition by assuming some metaphysical or vital perversion of energy of the human body causing an incoördination of neuronic action from the impinging light rays. Speculation, however, may be indulged in as to this type.

The more intimate we become with the knowledge of family histories found in such types of diseased functions, the more apt we shall be in determining the possible atavistic tendency to this state; and in knowing this possibility, we are as physicians made better able to cope with the broad subject of consanguinity of marriage or, indeed, of marital union of persons having any "weak points" in their moral, mental and physical composition. Then, too, the subject of education in

this broad light is interesting food for thoughtful research. This optimistic side of evolution can be better balanced with degenerative tendencies in the race; and by detailed studies, therefore, of regeneration and tendencies to shoot into a higher life, we may hope to bring it about in some measure. The preceding thoughts emanate from the fact that lowered color-perception occurs much less frequently in women than in men. By some it is said that only one woman in 3000, or .03 per cent., is subject to perversion of the color sense; and that one in 25 men, or 4 per cent., is so affected. This difference must be largely due to cultivation. It is also patent to us that acuteness of color-perception varies in persons of the same sex. In a recent "Study of the Deaf and Dumb,"¹ the impression has come to the writer's mind that they have a peculiar nicety of perception of the sense of color. It is very likely a compensatory epiphenomenon, just as the blind are said to be more acute in acoustic and touch perceptions.

The rather rare condition of an instance of color-blindness in a woman, as recorded by Drs. Holmgren, Jeffries and others, bears also on the subject of the heredity of the disorder, inasmuch as the transmission of one color-defect frequently runs through several generations, much as do the organic pigmentary defects of the retina and optic nerve degeneration as shown by Leber, Habershorn, Norris, Oliver, and Gould.

In reference to relational ties in such cases, Wilson and Jeffries tersely say that few of the adult color-blind whom they have tested did not know of some blood relative similarly affected. Consanguinity in ancestral marriage has long been known as causative to a marked degree.

Horner's law as to the hereditariness of subnormal color-perception bears very notably on all such cases. Briefly, he says: "The general law is, therefore, that sons of daughters whose father was color-blind are most likely to be the same, although not without exception; or color-blindness is transmitted in the revertible type from grandfather to grandchild." In support of this, Magnus says: "The hereditariness of color-blindness has been known as long as the defect itself. All who have seen many color-blind will have noticed that it was in their mother's family that other cases were found. I have frequently been assured that this or that cousin on the *mother's* side was also color-blind; and, now and then, that a more distant relative of the mother had also color-blind sons. In view of Horner's law, this is readily explainable; and this peculiar law is all the more interesting since we find that it is the same in reference to the heredity of other physiological abnormalities or defects."

As a more or less imperfect contribution to the subject, the record of the following case is herewith given. J. W. T. reported at my office on Feb. 15, 1898, suffering from hypochondriasis and recurrent melancholy. The man was very intelligent, and it was evident his social position, living among a set of uneducated relatives, "much annoyed" him. He had well-marked arteriosclerosis. The urine contained pus from the bladder cells and was alkaline in reaction—this the result of chronic cystitis following hypertrophy of the prostate gland. There was slight accentuation of the aortic second sound, but there were no evidences of other organic disease elsewhere in the body. There is no need of detailing mental phenomena other than stated.

This man could not distinguish red from green. The eyegrounds and the interior of the eye appeared normal.

* Presented to the Section on Nervous and Mental Diseases, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

1. American Annals for the Deaf, January, 1901.

There were no reversals nor contractions of the visual fields nor optical defects. He had discovered the abnormal color-perception years ago while a seaman, when he frequently placed red and green lights in false positions, thus causing him to lose his situation.

Of his children, one had chorea; one daughter was very nervous; one suffered from lateral curvature, and a girl aged 15 years also, on repeated testings, had been proven to have a lowered degree of appreciation of red and green. She was well otherwise. There were no other discoverable cases of subnormal color-perception in the family.

The patient's mental fabric was always queer. A year after I saw him he became insane—delusional—and was committed to an asylum for the insane, in which he died some eight months later. Dr. D. D. Richardson, in the State Hospital for the Insane at Norristown, was kind enough to send me the notes of the autopsy, in which it is stated that there was an absence of organic disease of the brain.

This case is most interesting because, in the words of Oliver,¹ "this fault of optic-nerve structure, which does not show itself for several years after the birth of the individual, indicates to the writer's mind at least that there is an inheritance of a physical material which is not only shorter lived than that which is found in the same organ in other organisms, but that it has a briefer existence than the other organs in the same general organism, a fault which shows that an imperfect material has been born, and dies prematurely because it is subjected to an amount of wear and tear that would not seriously disturb or injure a properly formed substance. Further, it serves as a living evidence that a substance has been improperly made, most probably on account of physical imperfection and repetition of faulty cell combination of similar kind extending through several generations; an evidence, which in measure, says that primarily acquired pathological characteristics of structural form may be transmitted through forthcoming generations, as imperfect formation of similar structure in due proportion to both the want of hygiene and care given to the afflicted subjects, and the reassociation of similarly degraded developmental cells; an evidence which gives answer in part to the transmission of ordinary structural characteristics, which, if acted upon in the same way as those which are not made, as it were, in the same peculiar manner, will produce far different and even what may be determined idiocratic results."

Singular as it is, the idealistic genius may yet be subject to subnormal color-perception, as in the case of our poet Whittier. In these instances we are baffled by man's limitations of knowledge to an annoying degree.

1407 Locust St.

DISCUSSION.

DR. G. W. DRAKE, Hollins, Va.—The paper is valuable to me in the fact of its arguing a physical material basis for the trouble. Heredity and environment make the man. Heredity has reference to the material constitution. We transmit to posterity our material peculiarities and so we transmit these mistakes or errors of function—abnormalities of form and structure. Color-blindness is the result of an abnormal condition of the color or visual center, which may be transmitted from father to son, and you will find it often traceable to heredity. The paper is valuable in that respect, and I note and call attention to the fact that there is a growing tendency—and you will notice it in every meeting of the ASSOCIATION—to materialize these troubles, and, as I remarked yesterday, some of our diseases that are misnamed will be corrected. I think the paper is a very valuable contribution to the Section.

DR. ROBERT H. PORTER, Chicago—In reading and discussing papers before this Section the word "abnormal" is often used

when "morbid heredity or morbid nerve manifestations" would more accurately express the idea of the reader or speaker. When disease makes sufficient impression on the organism to be transmitted from one generation to another, to simply say that it is an abnormal manifestation, the term is hardly accurate enough to convey the proper idea or meaning. It requires a strong impression to make the individual deviate from the normal and in medicine at least the effects should be called morbid, instead of abnormal. The paper read was of great interest to me on account of showing the relation that color-blindness has to other tendencies to degeneration. Most morbid nerve manifestations are associated with deterioration in some part of the nervous system. And, in the study of these problems I think that as the pathologist increases his investigations and the powers of the microscope are extended, the tendency will be to find structural change in the nerve cells. Perverted nutrition and disordered circulation of the blood are associated with most chronic nerve maladies, and sooner or later these are likely to produce structural changes in the cells or fibers of the nervous system.

DR. F. S. PEARCE, Philadelphia—I wish to express my wonder that all this mysterious class of hereditary disorders being transmitted through the unaffected mother as a rule, and generally to a son, as for example, in hemophilia. Pathologists tell us that a pigmentary degenerative disease of the retina is transmitted in the same fashion, i. e., through the mother, and presenting signs only in the male sex. While the point mentioned in the paper—early youth being the time for the manifestation (not that I believe subnormal color perception exists in earliest childhood in the majority of instances and the patient simply did not know that he was color-blind)—is unexplained, it may be that after a beginning steady use of the eyes, the faulty structure existing, a chemical change in the cell takes place, which may not even be seen in our methods of careful microscopic examination. Then, when the sight is taxed, the cell-function is overwrought, and finally degeneration takes place, bringing about the abnormal or morbid function at this particular epoch of life.

THE SIMPLEST EXPLANATION OF THE FUNCTIONS OF THE NERVOUS SYSTEM.*

G. W. DRAKE, M.D.

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HOLLINS, VA.

This paper is designed to be simply a suggestive presentation of the subject, not an exhaustive exposition. It is a brief rehearsal of the method employed by me in teaching physiology at the Chattanooga Medical College.

The key to the simplest explanation of the functions of the nervous system is, in my opinion, to base all nervous phenomena on the hypothesis of the existence of a specific energy peculiar to nervous tissue. It also very much simplifies the explanation to give to this energy a distinctive name and assign it a place with the natural energies. Conferring on it the dignity of a name will emphasize its importance, and it will be easier and more interesting to study its action and formulate its laws.

The rapid development of the laws of electricity, and its many practical uses are, doubtless in a great measure, due to the differentiation and naming of this energy so soon after its discovery. It was better that Röntgen's discovery was named X-rays than to have had no name.

It would not be inappropriate to call the specific energy, peculiar to the nervous system, "neuricity," from the Greek *neuron*, as electricity was named from *electron*, and for no better reason. The brain contains storage batteries of neuric energy for the supply of motive power to all the muscles and other organs and tissues of the body. Every voluntary muscle has its little storage battery in the motor area of the brain, from which energy is discharged by the action of the

* Presented to the Section on Nervous and Mental Diseases, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

will. When it is desired to move the arm, the will discharges the storage batteries for the muscles needed, and neuric energy flashes along certain fibers of the corona radiata, the posterior limb of the internal capsule, the crura of the crus, the pyramids of the bulb, the antero-lateral columns of the cord, out of the cord by the anterior root of a spinal nerve, and along that nerve and its branches into the muscles, causing them to contract. In an analogous way may be explained the motion of other parts of the body controlled by the action of voluntary muscles. By this method the anatomy of the brain, cord and spinal nerves is made a more interesting study, and the practical necessity of a knowledge of it is demonstrated.

In the medulla oblongata are located the little storage batteries for the supply of neuric energy to the involuntary muscles and to the glandular organs of secretion and excretion—to the liver, the lungs, the kidneys, the heart and blood-vessels, the salivary and peptic glands, etc. The spinal and ganglionic nerve-centers are subordinate storage batteries dependent on the dominating batteries in the brain, from which they are constantly re-energized. Sever their connection with the brain and the action of the organs which they supply soon ceases. The heart will beat when removed from the body, but only for a short time, on account of the impossibility of re-energizing its ganglia.

SENSATIONS.

Passing hastily over this part of the subject, we come next to the sensations. The simplest and most satisfactory explanation of the special senses is as follows: The brain, in the dark camera of the cranium, contains sensitive protoplasmic plates adapted to the formation of images by the action of neuric energy, and the pictures thus formed should be called neurographs. Sensations are the perceptions of neurographs by consciousness. The sensation depends on the neurograph, and the latter on the character of the cerebral plate on which it is formed and that of the peripheral endings of the nerves with which it is connected.

The Sense of Hearing.—Sound waves striking on the membrana tympani communicate vibrations to the internal ear, causing the liberation of neuric energy at the peripheral endings of the auditory nerve, and this is conducted to the auditory center of the brain, and there makes a neurograph of sound.

The Sense of Seeing.—Light from an object, falling on the retina, liberates neuric energy, which is conducted by the optic nerve and other fibers to the visual center of the brain, and there makes a neurograph of light. The beholder can not see an external object, nor its image on the retina, but a neurograph on the brain corresponding to the retinal image.

The Sense of Touch.—Mechanical touch communicating pressure to the peripheral endings of sensory nerves liberates neuric energy, which is conducted by afferent nerve-fibers to the sensory center of the brain, and there makes a neurograph of touch, corresponding to the character of the impression made on the peripheral nerve endings.

The Sense of Smell.—Odoriferous particles coming in contact with the membrane in the nose liberate neuric energy at the peripheral endings of certain nerves, and this is conducted to the olfactory center of the brain, and there makes a neurograph of smell.

The Sense of Taste.—Sapid substances in the mouth liberate neuric energy at the peripheral endings of gustatory nerves, and it is conducted to the gustatory

center of the brain, and there makes a neurograph of taste.

The Sense of Pain.—Lacerations, lesions, and hurts of any kind liberate neuric energy at the peripheral endings of certain sensory nerve fibers, it being conducted to the pain centers of the brain, and there making a neurograph of pain corresponding to the impression on the part affected. The sensation of pain is the perception of a disordered or abnormal neurograph, and has a material pathologic basis, either in the cerebral plate or some part of a sensory nerve with which the latter is connected. Every ache and pain has a material pathologic basis—a molecular disarrangement or displacement of matter.

The Sensation of Heat.—Sensations of heat are the perceptions of neurographs of heat formed on the brain by neuric energy conducted from the peripheral endings of sensory nerve-fibers, and liberated by the application of heat.

I do not believe that the heat and pain centers of the brain are the same, and I do not believe that either is identical with the centers of touch and general sensibility. These centers are as different as the sensations of which they form the material basis. Form determines function. Internal molecular changes are not necessarily manifest in a change of the superficial form, but they are, nevertheless, the basis of altered function. There is a distinction between internal and external form. The latter is visible, the former invisible. After the departure from a mass of matter of vital energy the internal form is changed by the action of chemical energy, and so the physiologist is prevented from determining the character of the living form, the microscope revealing only the superficies of the dead bodies, and chemistry analyzing the constituent elements.

The relative positions of molecules in cells and atoms in molecules are changed after death, and they doubtless undergo many changes in life, in response to the action of the various natural energies, but all modified and dominated by the presence of vital energy. It is interesting to study the neurons in the brain, and to imagine the great diversity of molecular movement produced by the action of neuric energy. The brain is a living kodak, constantly at work taking sight, sound, smell, taste, touch, and also mind pictures. It is covered over with neurographs resulting from "impacts" and "impulses" on peripheral nerve-endings in the various sense organs, and also from impulses of the mind. These neurographs are discernible to the consciousness of the individual in whose brain they are formed, but can not be demonstrated by scalpel or microscope. They are the product of the changed relations of molecules in neurons or atoms in the molecules or changes in both.

Consciousness learns the significance of these changes by experience, and transmits its knowledge to the mind.

It is important to make a sharp differentiation between brain and mind, and to avoid the use of the terms cerebral and mental as interchangeable synonyms. The brain is the mind's organ and medium of manifestation. It is the head of the nervous system, and contains different centers for the different faculties of the mind, and separate centers for the various sense organs, muscles, and glands of the body, together with pathways for neuric energy between the central and peripheral nerve-endings.

The study of the cerebral centers, their intercommunications and their nervous connections with the peripheral organs and tissues, is essential to a knowledge

of the causes of the various insanities and monomanias, the defects of the special senses, and the disorders of muscles and glands.

Not alone because the brain contains the intellectual and other psychic centers is it the most important organ in the human economy, but also because it contains the dominating storage batteries of neuric energy essential to the normal condition and functional activity of every tissue and organ. Centripetal and centrifugal energies control the movements of the planets, gravitation pulls the apple from the tree and hurls it to the ground, electricity runs the telegraph and telephone, and neuricity governs the man machine.

The energies are only known through their action on matter, and their names are arbitrary and conventional, but none the less essential and convenient than those of matter. Much would have been gained by assuming, long ago, the cause of nervous phenomena to be one of the natural energies, and giving it a specific and permanent name. While I do not insist on giving the agent of nervous action the name "neuricity," I do protest in favor of some name, any name, even if it be Y or Z, X having been already appropriated. Dispensing with such ill-defined and obscure terms as "nerve force," "nerve impulse," etc., which tend to confuse, and fail to satisfy the student of physiology, will remove much vagueness and greatly facilitate the study of neurology. I would be glad to see a uniform and systematic study of neuricity inaugurated, with the view of unfolding its laws, and demonstrating its correlation to the other natural energies. By this line of research will be developed the simplest explanation of the functions of the nervous system.

The failure to properly differentiate brain and mind has assigned to the domain of metaphysics and psychology work which belonged to the departments of physics and physiology. The functions of the brain are often confounded with the faculties of the mind, and, as a consequence, cerebral are misnamed mental diseases.

DISCUSSION.

DR. D. I. WOLFSTEIN, Cincinnati—I think that the reader of the paper is to be congratulated for having evolved for himself and the students a rather simple set of similes which are to make nervous force seem plain to them, but I do not think that anything could be done to the science by denominating the nervous force as neuricity. It is only a multiplication of terms to say neuricity. It reminds me of the saying of Goethe, that when our proper ideas are completely wanting the proper word usually occurs to us. I think this is the case here. The gentleman is naturally attempting to bring back to a material basis a great many things that probably never will be explained on such a basis, although that is the hope. As I said, I simply wish to emphasize the fact that it would be rather undesirable if we would want to introduce into the already overburdened nomenclature a class of names that would not simplify the subject.

DR. G. W. DRAKE, Hollins, Va.—It is very evident that my friend and critic did not comprehend my paper. I have had this theory, as you might call it, in my mind for years and years, and this is the first opportunity I have had of putting it on record, and I want it on record, because I believe the future will show the justice of the claim I make. Scientific investigation is coming around every session toward the views advocated in my paper. Note the session at St. Paul and every one we have had for several years—they all made the material basis of nervous phenomena paramount. But I have reference to his mistaking my meaning. I said I did not care anything about the name; just let us determine on some specific name, so that it could be studied as an entity and not a vague and obscure thing. The force or energy I am describing, I will take his name for it, if he will take my theory. The mistake he made was in believing that I confound neuric energy, as he said I changed the names several times; I did not. He may say I change the name electricity when I say electric energy.

I spoke several times of neuric energy instead of saying neuricity.

Just give that peculiar energy which belongs to the nervous system a name, or give it no name, but study it as an entity and as one of the natural energies, but I do insist on a name of some kind. But it is not vital energy; that is the point, showing that he did not comprehend my paper at all. Vital energy is in every cell of not only the human being, but in every cell of every vegetable in the universe. Every cell has vital energy, but nerve-cells alone neuricity, a peculiar energy associated with the nervous system. Force and impulse and all such terms are confusing. A peculiar energy belongs to the nervous tissue. Whether it is confined to it I can not say. If you will give that a name and study it, it will greatly facilitate the explanation of nervous phenomena.

PSYCHIC THERAPEUTICS.*

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A dictionary definition of this term says, it is "a systematic use of personal influence, especially that of the physician, in treatment of nervous diseases." In this definition may be found a good and sufficient reason for the success of some practitioners of medicine and apparently unaccountable failure of others. Nor is failure or success attributable to the specific materia medica remedies made use of by the physician in attendance upon the sick.

The influence of the mind over the body in conditions of health as well as of disease is always paramount. In a consideration of this influence, it is desirable that we remember the prime subdivisions indicated by the will, intellect and emotions. Together, these constitute and are the faculties of the mind. In health they are in a state of equilibrium. In sickness the balance is disturbed. The will becomes weakened, as shown by an increased pliability and eccentricity. The intellect is disturbed, which is manifest in an impairment of judgment and ability to reason, while the emotions through weakness itself become exaggerated.

These are the general physical and mental conditions which confront the physician in his daily work, and the way in which he meets them is of equal significance with his prescription. If he inspires confidence by his presence, a material factor has entered the lists as a remedial agent, but skepticism or doubt of professional ability will act as a disadvantageous element in its psychic influence upon any patient. Hence, the doctor himself becomes a powerful therapeutic agent. When strong in his perceptions, firm and positive in opinion, confidence is engendered. His will and judgment are made to dominate that of the patient and patient's family.

On the other hand indecision, wavering and apparent uncertainty militate against both physician and patient to the degree in which it is apparent. There is a psychic element present in all conditions of disease; and in some maladies may be said to hold the fort. So dominating are they in character that they sometimes completely overshadow actual pathologic states. This is particularly the case among many who are highly educated, refined and cultured. Their education, culture and environments develop a supersensitive organism of the mental and nervous system that is productive of symptoms of hysteria with its long train of sympathetic troubles ascribed to so-called functional derangements. So strong are these influences, that they not infrequently dominate and mask everything else that is manifestly present in a given case.

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The first and most important factor in a treatment of all such cases is to be found in a systematic use of the personal influence of the physician over his patient. This will take character and manifest itself in accordance with the dictates of his own judgment, and his plan of treatment will be as variable as the number of patients recorded on his visiting list. A discriminating use of positive instructions with placebo adjuncts is often as imperatively required as a so-called heroic treatment with drugs. Because of a recognition of this potent element in a treatment of diseased conditions, many, not a few, but many old practitioners become more or less skeptical in their appreciation of the value of drugs as curative factors, and their public expressions along these lines give a strong support to so-called hypnotists, "christian scientists" and faith-cure believers.

"A legitimate practice of medicine takes cognizance of all psychic influences and turns them to account in a treatment of disease. The personal influence of a physician should always be firm, not vacillating, positive and never negative. These attributes tactfully administered are sedative and may be anesthetic and narcotic. They possess the therapeutic property of being able to allay irritability and excitement. To illustrate: a visit to a dentist will usually allay the torment of a toothache, while the entrance of a physician within the lying-in chamber ameliorates if it does not completely arrest the throes of labor pains in a parturient woman. The personal influence of the physician in these and a whole host of actual pathologic as well as functional disturbances may become a most potent factor in this treatment.

Phobia or fear and joy are powerful psychic factors in both cure and causation of disease. Either will in a supersensitive individual produce pain or fatigue, exaltation or depression, thereby exciting the entire sympathetic nervous, muscular and glandular functions of the body. Under their influence the sphincters relax, a large amount of light limpid urine is voided, the functions of the liver and alimentary canal are disturbed, being either suppressed or exaggerated. For a control of these abnormal states or conditions the personal influence and suggestions of the physician are singularly powerful and effective.

This same personal influence of the physician is often most potent as a therapeutic agent when agreeing with the expressed or unexpressed wishes and desires of the patient.

Hope, the very anchor of the soul, prolongs life and sometimes saves it through the cheerful and positive assurance of the attending physician. The wise man who is a successful practitioner, uses his personal influence as a stimulant, sedative, anodyne, narcotic, anesthetic and nervine; and does it systematically, as though it were as important a therapeutic measure as the giving of a tonic, purgative or opiate. It is this personal influence that makes some men great and others small.

All that is known of the entire materia medica, as well as other resources in the art and science of medicine, are as wide open to the command of one physician as of another, and the differentiation between them is founded upon but two accomplishments: ability to diagnose pathological conditions and a systematic use of personal influence in the treatment of disease. All other therapeutic aids are but valuable adjuncts, not one of which is to be for one moment in the slightest degree deprecated, for they are cofactors of the greatest importance. It is this systematic use of the personal

influence of the physician that gives any foundation to christian science or faith curists. Eliminate this one powerful agent and there is nothing left of a visionary vagary.

The influence of environment and suggestion is as much a legitimate part of the reputable physician's armamentarium as a medicine chest or an instrument case; and no part of their value as therapeutic agents is conceded as belonging to quacks and charlatans. The whole domain of life, with all that is collateral to it from horizon to horizon, is in the broad and unlimited field of legitimate medicine. The personal influence and its systematic use is but a single therapeutic agent, and it is so potent and so powerful that its importance can not go unrecognized in a successful practice of the healing art.

DISCUSSION.

DR. T. B. GREENLEY, Meadow Lawn, Ky., said that he had seen a number of hysterical cases in which the symptoms were due directly to suggestions by the patient's friends. He referred to one case, that of a young woman who lost her voice. He decided that it was all imagination and gave her a placebo, but gave her very specific directions as to its use, and found her all right at the next visit. Another thought she was paralyzed and had spells like convulsions, which were clearly excited by the suggestion of her mother. He left a liniment with very particular directions about its use, and the next morning she was all right.

DR. A. BERNHEIM, Philadelphia, said that suggestion treatment loses some of its value by show performances. He thinks that doctors can do a great deal of good by psychotherapeutics. He has seen several cases treated and cured by psychotherapeutics. Hypnotic exhibitions are prohibited by law in Germany, as they may do much harm when in the hands of charlatans, and particularly because many patients may resent any treatment that has been exhibited on the stage. Psychotherapeutics can be utilized in practice. He cited the case of a young man who had to rise ten or twelve times a night to urinate. No cause for this could be found. He told him firmly that he must not get up, and the patient informed him later that he has since only had to get up once at night. He tested him by asking him if he ever had carache, and the next time he came, he said that he had carache.

DR. F. G. WHEATLEY, North Abington, Mass., said that the paper opens an exceedingly important field of therapeutics and one which teachers of therapeutics do not sufficiently recognize in the regular course of instruction given in the colleges. The tests of the ordinary medical examining board do not take into account the personality of the individual at all, and yet this personality is such an important element in the success or want of success in life that it seems as if it should be taken into consideration in granting licenses to practice medicine. The power of some physicians to influence patients has more to do with their success than their scientific attainments. A man may learn all that can be learned and pass his examination with great credit and go into practice and be a failure because he can not impress his clients with the idea that he can do them good. This power is not only of value in hysterical cases, but in others as well. If we can make our patients believe that we know what we are about and can do them good, the results will be satisfactory, but if we simply give them advice, without impressing on them our personality, we lose a great element of success. As the speaker said, there is an imaginary element in therapeutics and the use of this is one element of success. This is now principally in the hands of "Christian scientists" and the like. Until the medical profession meets this in a proper way we shall meet with persons who believe that faith and Mrs. Eddy can cure them when the best doctors fail to do so.

DR. J. N. UPSHUR, Richmond, Va., cited the case of a woman who had been sick for three weeks with gastric catarrh, but not of much moment. She had been in the hands of a young physician, who had certainly failed to impress her with his personality. At the time the speaker saw her she was not only convinced that she was very ill, but she was certain that she would die very soon. He made some recommendations which the doctor failed to carry out. Ten days afterward she was thoroughly disgusted with the treatment and, getting no better, the speaker was sent for and the other physician dismissed. It was learned that she had been in such great pain that the doctor had been giving her large amounts of morphin

hypodermically daily. These were promptly stopped and she was told she would have to get along without them. She thought that she had a tumor in the neighborhood of the right ilium, and complained of persistent pain on that side. The speaker took a tape line out of his pocket and proved to her that both sides measured exactly alike and that there was no tumor. He never heard a word afterward of this tumor, and she got well very soon.

TREATMENT OF DEFLECTION OF THE NASAL SEPTUM

COMPLICATED BY TRAUMATIC DEFORMITY OF THE EXTERNAL NOSE.*

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PHILADELPHIA.

For the purposes of this paper, deformities of the external framework of the nose are divided into two classes: flattening of the bridge of the nose, producing the deformity commonly called "saddle-back nose," and deflection of the end of the nose. A third class might be made of a combination of these two conditions, but would be without significance as far as concerns operations on the septum to secure increased breathing space. It should be borne in mind that operations upon the septum produce little effect upon the shape of the external nose, and are undertaken for the sole object of improving the breathing space.

Traumatic flattening of the bridge of the nose is generally due to the fracture of the base of the nasal bones, with dislocation from the nasal processes and depression of the nasal bones, with rotation outward on their long axes. The upper shield cartilages and sometimes the septum are involved. The most common lesion of the septum is a dislocation of the triangular cartilage and anterior portion of the vomer from their bony attachments. Both below and behind there is a deposition of new material, and usually a thickening, both of bone and cartilage. The result is the so-called septal redundancy. The septum has become too large to be crowded into the median line. The cartilaginous plates of the septum are also sometimes separated. Saddle-back nose does not interfere in the least with the success of an operation for deflection of the nasal septum, but lateral deflections of the external nose decidedly complicate matters.

Lateral deflection of the end of the nose is usually the result of fractures of both nasal processes, the nasal bones and displacement of the upper shield cartilages. The septum may or may not partake of the deformity. If it remains straight, it will no longer be parallel to the curved lateral nasal walls.

If deflected to a greater degree than the lateral walls, it will produce stenosis by encroaching upon the lumen of the naris of the concave lateral nasal wall. Therefore, the problem, in cases of stenosis in noses deflected to one side, is not to make the septum straight, but to render it as nearly as possible parallel to both lateral nasal walls. This is sometimes not easy to accomplish.

The methods that may be used to bring the septum into the median line will be considered with reference to septal redundancy, with reference to resiliency, and also with reference to the method of supporting the deviated area in its new position.

The simplest operation for the correction of septal deflection is expanding the striated side of the nose

with the index finger, which, with a slight boring motion, and with its palmar surface pressing upon the septum, is thrust through the anterior naris to a position beyond the deflected area. When carefully done the triangular cartilage thus can be dislocated from its attachments below and behind. The fragments overlap each other, thus providing for redundancy in both the vertical and horizontal diameters. The dislocated cartilage may be supported in a vertical position by a pin or tube. The operation has the advantage of being submucous. If septal redundancy was the main cause of failure in operations for the correction of septal deflections, nothing could be more simple or better than this operation.

It is not septal redundancy, but septal resiliency that is the main cause of failure in operations for deviated septa, and, because in operations where the mucous membrane of the septum is uncut, it is impossible to thoroughly bend the triangular cartilage; this operation commonly results in failure more or less complete; the septum sometimes remaining for several months in a vertical position and then gradually springing back into its former abnormal position.

The objections to simply removing the thickened angle of a deviated septum is that while it increases the breathing space in the narrow naris, it leaves the unobstructed naris in the same condition as before the operation. Often it is of the unobstructed naris that the patient complains and frequently when the ears become diseased, as a result of a septal deviation, it is that upon the same side as the unobstructed naris which becomes affected first.

Sajous describes in his book, published in 1885, what, he states, is the simplest operation for the correction of septal deviations. An incision is made along the crest of the deviation. The upper or movable flap of the septum is then pushed over and beyond the lower into the median line. It seems unnecessary to state that in Sajous' operation, when the upper portion of the septum is pushed over and beyond the lower, because of the septal redundancy, the parts overlap and the resistance of the lower flap tends to prevent the return of the upper into its former deflected position; but because a straight incision does not enable the flaps to overlap except in one diameter, either the horizontal or vertical redundancy is not provided for, and hence the resiliency of the septum is increased by the bending of the upper flap: because in either the vertical or horizontal diameter, the septum is crowded into a space too small for it.

In 1895, Watson described an operation, which he stated, was a modification of the well-known procedure of Ingals, but which was really a combination of the operations of Ingals and Sajous. A beveled incision was made through the crest of a horizontal deviation, and the vertical redundancy cut out with a knife, care being exercised in making both incisions that the mucous membrane on the concave side of the septum remained intact. In a paper published in May, 1899, he described his incision as along the crest of a horizontal deviation with a vertical cut from the anterior point of the first incision. The mucous membrane of the concavity of the deflection not being included in either incision, the first of these operations would seem to yield two triangular flaps; the second, one large triangular flap. Because the mucous membrane of the concave side of the septum is not cut through, and hence would prevent thorough bending of the flaps, it would seem that the operator's main object was to provide for redundancy, which is accomplished to the same degree as in the

* Presented to the Section on Laryngology and Otolaryngology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

operations of Roberts and Asch, who also employ triangular flaps. Redundancy of a septal deviation, both in the vertical and horizontal diameters is provided for equally well by a stellate (*), a cross-shaped (+), an L-shaped, an inverted T-shaped, a horizontal H-shaped (≡) or a U-shaped incision. This is not the case as regards resiliency.

Roberts stated that unless the resiliency of the flaps is thoroughly destroyed his operation will be a failure. Asch is almost equally emphatic as regards the necessity of thoroughly bending each flap in order to diminish, as far as possible, the resiliency of the septum. Doubtless the success of any operation for the correction of a septal deviation depends more upon the thoroughness with which the flaps are bent than upon any other detail of the technique.

It is the india-rubber-like resiliency of the septal cartilage, rather than the redundancy of a septal deviation, that interferes most with the success of operations for the correction of deviations.

Is there any method of overcoming this resiliency besides thorough bending of the flaps, which in the case of cartilage is never entirely destroyed by the most thorough bending? Leverage may be utilized by employing a quadrilateral flap. If its base be bent, the longer such a flap the more leverage has to be overcome to bring the edge of the flap into its former position. This is not true of triangular flaps, because the larger the flap the larger its base and consequently the greater its resiliency. The principle may be demonstrated by cutting flaps of various shapes in india-rubber balls. A narrow quadrilateral flap remains almost without support in the position in which it is bent. A triangular flap of the same size does not.

In lateral deflections of the whole tip of the nose, the part of the septum involved usually is not great and the deflection is of the so-called vertical variety. In some cases the area involved is not wider than the thickness of a lead pencil. It is difficult to understand how any operation by means of one or more V-shaped flaps could be done in a case of this kind. A U-shaped incision around the deflection, however, is readily made and yields a narrow quadrilateral flap consisting of the entire deflected area, and when the base of such a flap is thoroughly bent, it will sometimes hang in the position in which it is placed without any support whatsoever. If allowed to remain unsupported in the previously unobstructed naris the gradually returning resiliency of the base of the flap and the traction of granulations adhering from the upper ends of the U-shaped incision will gradually draw such a flap into the vertical line in the majority of instances; but there is always some danger of overcorrecting the deflection. It is, therefore, best to see that the flap is in the position desired one week after the operation. This was the method pursued in six cases of lateral deflection of the whole tip of the nose, four of which were exhibited at the Philadelphia College of Physicians.

The technique of the operation is as follows: The field of operation is cocaineized and then exposed by means of a self-retaining speculum. A thin saw is introduced along the floor of the nose beneath the deviation. The sawing is continued in a horizontal direction until the saw has penetrated somewhat deeply into the tissues. The direction of the sawing is then rapidly changed to a nearly vertical direction. During the sawing it is of the utmost importance that the saw should be held exactly parallel to the septum; in order that the cut shall be around and not through any part

of the deviation. The length of the vertical crura of the U incision is then quickly lengthened by means of a small bistoury curved on its flat, and the flap is thrust through the hole in the septum with the tip of the forefinger.

While the finger is still in the naris, it is carried up along the anterior and posterior crura in order to be certain that the edge of the flap has completely cleared them and the neck of the flap is then sharply bent. The whole operation can be done with considerable deliberation in two minutes. It is not necessary to denude the edges that are in contact, as the pressure results in necrosis at least of the superficial layer of the mucous membrane, after which the parts unite. Should non-union result, the edges may at any time be freshened with a ring-curette, a simple and painless procedure.

It is well to slip in a tube immediately after the operation and decide twenty-four hours afterward as to the necessity of wearing it. The tube serves to control the usually trifling hemorrhage which, however, may be so excessive as to require the insertion of a large plug of absorbent cotton saturated with peroxid of hydrogen into one or both nostrils.

In my earlier operations for correction of septal deflections, I invariably used an Allen tube when support was required; later, a tube devised by Dr. D. Braden Kyle. This tube is somewhat similar in shape to those of Asch and Meyer, but is made of pewter and so thin that its shape can be modified by pressure of the fingers, or quickly pared to any desired shape with a penknife. Most recently I have had the Allen tube slightly altered in shape and made of this same material, and I find the readiness with which its length and shape can be altered to be a great convenience.

However, the question of support is of little consequence in comparison with that of counteracting the resiliency of the septum. The writer claims for his method of operating that the shape and position of his septal flap enables an operator to overcome resiliency more certainly than by any method previously described. When the resiliency of a quadrilateral flap has been destroyed, at least for the time being, by bending the neck of the flap at a right angle, the overlapping of the edges of the flap upon the septum as occurs in the operations of Sajous, Seiler, Watson, etc., affords sufficient support in more than 80 per cent. of the cases, and no tube is required. Beveling the edges of the flap is of no consequence, because it does not increase the resistance tending to prevent the return of the flap to its former deviated position.

DISCUSSION.

DR. J. O. ROE, Rochester, N. Y.—I have been very much interested in Dr. Gleason's paper. His operation, as he has described it, is, however, like the Asch operation, adapted for the correction of deviations of the cartilaginous septum, and therefore adapted only to about one-third of the cases of deviation of the septum. The deviations of the septum may be divided into deviations of the bony portion, which comprise not more than 10 per cent. of the cases, deviations of the osseocartilaginous portion, which comprise fully 60 to 65 per cent., and deviations of the cartilaginous portion alone, which comprise about 25 or 30 per cent. of the cases. Therefore, in considering the correction of deviation of the septum we should take into consideration the correction of deviation of every portion of the septum and not the correction of the cartilaginous portion alone. In correcting lateral deformities of the nose, the lateral displacements which so often result from injuries, we have to take into consideration two conditions: 1, the cosmetic effect, and 2, the establishment of a normal condition of the nose for respiration. In operating for a cosmetic effect it is important that we should not lose sight of the respiratory function. Many patients apply to us for the correction of a deformity

of the nose, rather than for the relief of insufficiency of respiration caused by the associated deviation of the septum. In correcting the deviation of the septum, therefore, we should take into consideration the correction of the osseous portion as well as the cartilaginous portion of the septum. For the purpose of correcting deformities of this portion of the septum as you may know, I devised a method of correcting it by means of fenestrated forceps.

One of the difficulties, as the Doctor has stated, is in overcoming the resiliency of the cartilage. In my experience this can not readily be overcome unless we correct the deformity at the osseocartilaginous junction. This is most easily done by means of the fenestrated forceps. If we attempt to force the deflection of the septum up to the median line with a flat bladed forceps we find it well nigh impossible to overcome the resistance, or re-fracture it at all, but by means of the fenestrated forceps, as I have indicated, you can force the deflection beyond the straight line as far as you choose. Thus you can refracture it without rotating the forceps and lacerating the septum. Some cases of brain abscess have been reported attributed to the laceration of the septum from the use of the flat forceps. With the fenestrated forceps this is entirely avoided. Dr. Gleason's ingenious method avoids this danger, but is especially adapted only to special cases where the deflection is confined to the cartilaginous portion of the septum.

DR. F. J. QUINLAN, New York City—We have been following an operation in the Polyclinic which saves much of the slough we have heretofore had in these cases. I will illustrate this. When we find, on one side, the angular deflection of bone, we introduce on the other side a solution of boric acid, as much as the tissues will hold, which causes a great sagging. We then push the deflection into the sagging and let it be. The injection is made between the folds of the mucous membrane, a saturated solution of boric acid being used, and then we produce a convexity on the side of the deformity that we wish to overcome, and thus we are able to retain the integrity of the mucous membrane. I have done this operation several times. By the method I have described we cause mutilation of the tissues on only one side. The mucous membrane is intact, which gives it an additional splint-like structure and holds the septum so as to prevent it swaying to the other side. I have had two or three sloughs following the method described by the Doctor.

DR. DONNE, Philadelphia—I would like to add my experience to the excellent results the Doctor has obtained. I have made the U-shaped flap he describes, and the operation is of value in those cases in which the cartilaginous septum alone is deflected. I wish Dr. Gleason would give us the benefit of his experience in septal deformity complicated by traumatic deformity of the external nose. But taking the main subject of his paper, namely, the description of his U-shaped incision, I am thoroughly in accord with what he says. In some cases I have found the operation of Asch or that of Adams or Roberts of more value, but in the cases with a broad base, where the U-shaped flap can be well made, the operation described by Dr. Gleason has been particularly successful. In these cases it is our duty to operate wherever we can induce the patient and the friends of the patient to consent, because many of the cases of middle ear disease are due to deflections of the septum, and we can often relieve headache and chorea and some cases of asthma by these operations. I am in favor of using general anesthesia in these cases. I use, locally, the extract of the suprarenal capsule to prevent excessive hemorrhage and give a better opportunity to see the progress of the operation. The use of general anesthesia is of value because it gives better control of the case, especially in children, who are easily frightened by the appearance of blood and instruments. I have had a number of those cases and no untoward results have taken place. Very frequently the use of the splint for twenty-four hours has obviated any hemorrhage either during the operation or subsequently. One of the particular advantages of the operation described by Dr. Gleason is the fact that the septum is then held in position by the other portions of the septum, and the tube does not need to be used over twenty-four hours, which is an advantage over the operations in which the tube must be used for a long time. The operation overcomes resiliency better than any other operation I have done.

DR. E. B. GLEASON, Philadelphia—I will say in reply to Dr. Roe that when a man or woman comes to me with a deviated septum I straighten it by my method whether the cartilaginous portion alone or both the cartilaginous and bony portions are involved. In the case I have presented quite a large portion of the bony part of the septum was involved. When the bone is involved far back it is sometimes much harder to make a long posterior crux with the knife. I generally use a double-

edged knife, curved on the flat, for the purpose. In regard to the operation referred to by Dr. Quinlan as being done at the New York Polyclinic, it is an excellent one in those cases where only a very small portion of the septum is involved and where the length of the flap would entirely counteract the septal resiliency. In those cases where a large portion of the septum is involved the preservation of the mucous membrane interferes with the thorough bending of the flap and would be disastrous. I do not see any great advantage under any circumstances in saving the mucous membrane as has been described; and as one of the chief advantages of my operation over those employing triangular flaps is that it better counteracts the resiliency of the septum, the main cause of failure in septal operations; the mucous membrane of the concave septal surface is invariably incised in order to permit bending the flap as nearly at a right angle as possible. If the neck of the flap contains bone it breaks with an audible snap and the resiliency of that portion of the flap at least is entirely destroyed and gives no further trouble. Where the case is complicated by some deformity of the external bony framework it is a question for the patient to decide whether or not he wants an external operation done. You can secure good breathing space without an external operation.

DR. ROE—In those cases in which you have a long bending of the septum extending from far back, if you were to cut a little segment in the middle and shove it through, the deformity would still exist. How do you do in those cases?

DR. GLEASON—I do not saw a little part out of the center, but I go entirely around the deflection. It makes no difference how large the deflection is. I have never seen a case where the pharyngeal edge of the septum was involved. I have never seen a case of deflection of the septum where, if I held the saw parallel with the septum, I would not saw around the deflection.

DR. ROE—When there is a large deflection you would practically have to saw the entire septum.

DR. GLEASON—I have sawed two-thirds of the septum, and few cases will be found more extensive. But I would go further if I found it necessary. This case shows involvement of a large portion of the bony septum.

DR. QUINLAN—Do you put one or two tubes in?

DR. GLEASON—I use a large tube, which should drop in easily, and not be thrust in. If the slightest pressure is necessary to insert the tube the operation has been improperly done. The morning after the operation the tube is removed, and in rather more than 80 per cent. of my cases not again inserted. This was the history in the case brought before you. He visited my office every day for a week or so that I might inspect his septum, and in the meantime attended to his usual duties.

EXTENSIVE LACERATION OF THE EXTERNAL OCULAR MUSCLES; DIPLOPIA; SPONTANEOUS RECOVERY.*

WALTER L. PYLE, M.D.

ASSISTANT SURGEON TO WILLS EYE HOSPITAL.
PHILADELPHIA.

History of the Injury.—The patient was a practicing physician, aged 44 years, in good general health, and had never worn glasses. While riding a bicycle across his lawn at night, he ran into a blunt splicing hook of a clothes-line made of No. 10 telephone wire. The end of the hook entered the conjunctiva of the right eye, near the inner canthus, and tore its way out toward the external canthus, keeping below the cornea. The conjunctiva, subconjunctival tissue, and ocular muscle-tissue were extensively lacerated, and the end of the hook was found to be covered with blood, shreds of conjunctiva, subconjunctival tissue and fibers of muscle substance. The sclera was not perforated. The eye was dressed antiseptically and free boric acid irrigations were employed. Bleeding was quickly checked, and the wound healed kindly. However, there was immediate diplopia, which no prismatic combination tried by a local optician could relieve.

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Subsequent Diplopia.—I first saw the patient about four weeks after the injury. He came into my office wearing a black patch over the injured eye to prevent the diplopia, which was so annoying that, without exclusion of the right eye from vision, he was incapacitated for his daily duties.

The injured eye showed no signs of irritation; in fact, on first appearance it was apparently normal, but on closer inspection a faint conjunctival scar was seen, starting about 7 mm. below the cornea and to the nasal side of the insertion of the inferior rectus muscle, and extending in a straight line outward for about 2 cm. The field of rotation was not as much diminished as might have been expected, and the defect of motility seemed almost equally distributed. Compared with its sound fellow, the injured eye appeared slightly higher.

I endeavored to find a position of the head and eyes in which there might be fusion of the double images; and discovered that while sitting erect in a straight position facing a small circle of light about level with the eyes, by slightly lowering the chin, and rotating its point to the right, so that the head was inclined to the left at about an angle of 75 degrees, the patient had single binocular vision, that is, there was only one image of the light.

On moving the eyes downward from this point, there was immediate diplopia. The false image appeared lower and on the side of the uninjured eye—crossed diplopia—and the distance between the true and false images increased as the eyes were rotated further downward. When the eyes were directed downward and to the side of the injured eye, there was also an increase of the distance between the images. These findings were indicative of interference of depression and adduction of the right eye and pointed to injury of the inferior rectus muscle.

On rotating the eyes directly upward, the false image appeared higher on the side of the injured eye—homonymous diplopia—and the distance between the images increased as the eyes were further elevated. Still looking upward, and turning the eyes to the side of the uninjured eye there was also an increase of the diplopic separation. This suggested involvement of elevation and abduction of the right eye, and pointed to injury of the inferior oblique muscle.

Treatment.—The patient was quite anxious as to the advisability of operative treatment, which he had been told offered the best means of relief. I noticed that the slight exercise of muscles of the injured eye during the tests was causing an increase in the field of single binocular vision, and I instructed him to keep the blinder off the right eye until the next visit. By this time there was such diminution of the diplopia, that I was able to give him very satisfactory vision with a small amount of prismatic aid. Finally I urged a prolonged trial with a prismatic correction, thus exercising the disabled muscles, before proceeding to advancement. I corrected a small astigmatic defect, which brought vision up to 6/5 in each eye, and incorporated a 2 degree prism, base down, in the right lens, for distance use. This was very satisfactory so long as the eyes were not turned directly downward. For reading and other visual work at close range, I ordered a 4 degree prism, base down, incorporated in the right lens, and a 2.5 degree prism, base in, in the left lens, which also seemed quite satisfactory. After several weeks the patient complained of discomfort with the reading lenses. I wrote to him to try his distance lenses for close work, beginning with their use for short periods, and gradu-

ally increasing the length of time in reading with them. He was very soon able to dispense entirely with the reading glasses. Five months after the injury I saw him for the last time. The right eye appeared perfectly straight and level with its fellow. There was no diplopia except in looking directly downward. In the ordinary position of the eyes in reading, a 2 degree prism, base down, before the right eye, seemed to give perfect comfort. I ordered the full correction without any prismatic addition for distance and suggested a small presbyopic addition with a 2 degree prism, base down, right, in glasses for reading and other close work. Since then the patient has been quite comfortable, and except in reading often works without any glasses.

ANASTOMOSIS OF THE URETERS WITH THE INTESTINE.

A HISTORICAL AND EXPERIMENTAL RESEARCH.*
REUBEN PETERSON, M.D.

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CHICAGO.

(Continued from page 573.)

If the subsequent history of the successful cases be considered, the operation is placed in a still more unfavorable light. Of the twenty-two recovering, three died later of pyelonephritis and two of uremia after implantation of the second ureter. The post-mortem in one of these revealed a fibrous condition of the kidney whose ureter had been implanted fourteen months before. No autopsy was secured in the second case, but from the similarity of symptoms it is fair to assume that the pathologic conditions were the same as in the first case. In one case it is noted that the kidney was destroyed through stenosis of its ureteral orifice.

Of the eleven surviving cases, there are five with one and six with both ureters implanted. Two of these cases (those of Evans† and Winiwarter) must be excluded from further consideration, because each has a fistula, opening, the one case in the loin, the other in the perineum, and differing only in degree from other intestinal cutaneous fistulae. Martin's first case, one of exstrophy of the bladder, showed renal infection after implantation of one ureter, as shown by casts in the collected urine. The attempt to implant the second ureter failed, and presumably the urine still escapes over the pubes. In Boari's case, surviving six months with one ureter in the rectum, it is not stated whether urine still passes by way of the anus. The same criticism may be raised in Tuffier's case, which survived two years, with no signs of renal infection. This leaves one case, that of Chaput, which has survived unilateral implantation eight years. Chaput reports (Boari, *l. c.*) that three years subsequent to the operation the presence of urine could be demonstrated in the liquid evacuations. In the communication to me he states that after eight years there are about three liquid evacuations in each twenty-four hours. Evidently the discharges have not been examined with a view of ascertaining the condition of the kidney under consideration.

In one of the remaining cases (Peters') it is stated that as far as can be judged the strained urine is normal both in quantity and percentage of urea. This case has survived ten months with both ureters in the rectum. As far as can be ascertained no such examinations have

* Read before the American Gynecological Society, Washington, D. C., May 1, 1900.

† Died later.

been made in the other cases, and we are left in doubt as to the condition of the kidneys.

The fact that a patient survives after the implantation of one ureter into the bowel should not be used as an argument in favor of the operation, since there remains one functioning kidney, which can very readily support life. The supreme test of the operation lies in bilateral implantation, and individual cases are valuable only after the lapse of considerable time from the date of the operation, since marked kidney disease may exist for a time without the appearance of grave symptoms.

Fowler's uretero-rectal anastomosis stands in a class by itself, and will be discussed in connection with my own experimental work.

Experimental and clinical observations led Tuffier, as early as 1890, to the conclusion that ascending renal infection after uretero-intestinal anastomosis could only be prevented by the preservation of the ureteral orifices. He suggested for exstrophy of the bladder the formation of a vesico-rectal fistula by an incision in the septum separating the rectum and bladder and the suturing of the vesical and rectal mucosa. Catheters were then to be introduced into the ureters and carried out through the anus by way of the fistulous opening. By dissection of the exstrophied bladder wall a new bladder, smaller in size, was to be formed over the fistulous opening. Frank's operation of vesico-rectal anastomosis, performed by means of his coupler, is practically the same operation by a new technique.

In 1894 Maydl reported two cases of exstrophy of the bladder operated upon by an original method, consisting of the implantation of the vesical trigonum with its ureteral orifices into the sigmoid flexure. The predominant idea of this operation was the preservation intact of the ureteral orifices and their utilization as a means of preventing an ascending renal infection.

In order to ascertain whether this theory is borne out by clinical facts, thirty-six operations performed according to the technique laid down by Maydl have been collected, tabulated, and summarized.

I have ventured to make use of the term "uretero-trigono-intestinal anastomosis" as descriptive of the operation of uniting the vesical trigonum with its ureteral orifices to the intestinal tract.

SUMMARY OF 36 CASES OF URETERO-TRIGONO-INTESTINAL ANASTOMOSIS.

Number of operations.....	36
Number of operators.....	16
Operation performed for exstrophy of the bladder...	32
Epispadias without exstrophy.....	2
Exstrophy and adenoma of bladder.....	1
Incontinence caused by funnel-shaped urethra.....	1
Sex mentioned in.....	36
Males.....	30
Females.....	6
Age noted in.....	31
Average age.....	12 3-5
Oldest.....	35
Youngest.....	3
Recovery in.....	31
Number of deaths.....	5
Percentage of recoveries.....	86
Percentage of deaths.....	14
Deaths occurring four and fifteen months later of pyelonephritis.....	2
Mortality including these cases.....	19 per ct.
Implantation site mentioned in.....	35
Implanted in sigmoid.....	33
Implanted in rectum.....	2
Rectal drainage-tube used in.....	21
Sphincteric control over urine mentioned in.....	29
Referred to as satisfactory in.....	24
Occasional involuntary evacuations at night in.....	4
Sphincteric control referred to as poor in.....	1
Average frequency of evacuations.....	every 4-5 hours.
Lumbar pains after operation, usually transitory, noted in.....	5
Fistulae after operation.....	6
Number of cases living and well at end of 1 year.....	19
Number of cases living and well at end of 2 years.....	10
Number of cases living and well at end of 3 years.....	7
Number of cases living and well at end of 4 years.....	4
Number of cases living and well at end of 6 years.....	1
Number of cases living and well at end of 7 years.....	1

The mortality in the thirty-six operations is surprisingly low when it is considered that it is a difficult major operation, and that the list includes the first cases operated upon before the technique had been perfected.

When we compare this mortality with the 33 per cent. mortality accompanying ureteral implantation without the preservation of the ureteral orifices, we are forced to conclude that the explanation lies in the intrinsic dangers of the latter operation rather than a lack of skill on the part of the operators. Without the vesical ureteral orifice eleven deaths in thirty-three cases from rapidly progressive renal infection; with the ureteral orifices intact, five deaths out of thirty-six cases; two, at least, not being due to infection. Unfortunately, we have no detailed description of the causes of death in v. Eiselberg's three fatal cases, except that two died after one and five days.

Only two cases have died from ascending infection, and one of these (Schnitzler) was operated upon extraperitoneally and not according to the technique laid down by Maydl.

Since the operation is applicable chiefly to cases of exstrophy of the bladder, and the majority of cases of this anomaly occurs in males, one would expect the proportion found, of thirty males to six females.

The sphincteric control over the urine is remarkably good, it being reported as poor only in one case.

The six fistulae resulted, in some of the cases at least, from timidity on the part of the operator to trust to his suturing and to the employment of gauze drainage. They are all reported as eventually closing.

The noting in five cases of gradually disappearing lumbar pains would suggest a possible renal infection from which the patient slowly recovered. It may be more than a coincidence that in one of these cases (Herzel) where lumbar pain was noted, there was subsequent polyuria, a condition nearly always present in chronic interstitial nephritis. However this may be, the number of cases (ten) living and without apparent signs of renal infection, after the lapse of two years shows that renal infection, if present, can not be very severe.

The primary and secondary results of uretero-trigono-intestinal anastomosis are so much superior to those of ureteral implantation without the preservation of the vesical ureteral orifices as to demand always the performance of the first operation in preference to the latter.

In order to cover the entire field of uretero-intestinal anastomosis it only remains to consider the cases where union has to be attained by the formation of fistulae between the bladder and rectum.

This was first attempted by Loyd in 1851.

LLOYD,⁷⁴ 1851. *Exstrophy of bladder; formation of vesico-rectal fistula; death on the sixth day from peritonitis.* October 3, 1851, Loyd operated upon a male, aged thirty years, for exstrophy of the bladder and separation of the os pubis and epispadias. A skein of thread was passed through bladder and rectum and out of anus. Although the silk was removed on the sixth day the patient died soon after of peritonitis. At the autopsy it was found that the thread had passed through the peritoneum, which in this case was reflected low down in the pelvis.

JOHNSON,⁷² 1852. *Exstrophy of the bladder; vesico-rectal anastomosis; death from peritonitis.* Johnson performed vesico-rectal anastomosis by Loyd's method on an infant suffering from exstrophy of the bladder. Death resulted in a short time from peritonitis.

HOLMES,⁷¹ 1863. *Exstrophy of the bladder; vesico-rectal fistula by means of pressure necrosis; failure.* Holmes, in a boy with exstrophy of the bladder, endeavored to establish a free communication between the bladder and rectum by special

TABULATED LIST OF THIRTY-SIX CASES OF URETERO-TRIGONO-INTESTINAL ANASTOMOSIS (MAYDL'S OPERATION).

No.	Date.	Operator.	Conditions Demanding Operation.	Sex and Age.	Operative Result.	Site of Anastomosis.	Rectal Drainage Tube.	Sphincteric Control.	Remarks.
1	Nov. 3, 1898.	Allen, D. P. (51)	Exstrophy of bladder.	M., 15	Recovery.	Sigmoid.	Yes.	April 6, 1900, retains his evacuations from 5 to 7 hours.	Personal communication from Dr. Allen. April 6, 1900. Patient occupies position as dry-goods clerk.
2	..... 1894	Bergenheim, B. (52)	Exstrophy and adenoma of bladder.	M., 35	Recov.	Rectum..	"	1½ years after operation evacuations are every 5 to 6 hr. during the day; twice at night	Attends regularly to business and appears to be in good health.
3	Feb. 21, 1896.	v. Eiselsberg, A. (53)	Exstrophy. . .	M., 31	"	Sigmoid.	"	3 months after operation retains urine 6 to 7 hours; 3 years afterward perfectly continent.	Twelve days after operation slight infiltration of urine through incision; completely disappeared 6 days later; transitory pains in lumbar region. Well Jan. 23, 1899.
4	July 30, 1896.	v. Eiselsberg, A. (53)	" " . .	M., 8	"	" "	"	2½ years after operation soils the bed at night, but is continent during the day.	No pain in lumbar regions; abdominal fistula shortly after operation, discharging urine and feces; soon closed. Well April 3, 1900.
5	July 18, 1898.	v. Eiselsberg, A. (53)	Epispadias. . .	M., 6	"	" "	"	6 months after opera. sphincter control good.	Epispadias had resisted all other modes of treatment. Well Nov. 1, 1898.
6	Nov. 11, 1898.	v. Eiselsberg, A. (53)	Exstrophy. . .	M., 12	"	" "	"	.....	Well April 3, 1900.
7	Nov. 11, 1898.	v. Eiselsberg, A. (53)	" " . .	M., 8	Death.	" "	"	.....	Died in five days.
8	June 14, 1898.	v. Eiselsberg, A. (53)	" " . .	M., 6	"	" "	"	.....	Died next day.
9	Oct. 19, 1898..	v. Eiselsberg, A. (53)	Incontinence due to funnel-shaped urethra	F., 11	"	" "	"	.....	Died Nov. 11, 1898.
10	Sept. 14, 1896.	Ewald, Carl (54)	Exstrophy. . .	M., 5	Recov..	" "	No..	Urine passed involuntarily for a few days only; 2 years afterward evacuations every two hours during day; sleeps 10 hours at night.	No infectious renal symptoms two years after operation. No casts, 1900.
11	..... 1898	Ewald, Carl (54)	Epispadias. . .	M., 3	"	" "	"	Some incontinence while patient was in bed; function re-established when he began to walk about.	
12	June 28, 1898.	Frank, Rudolf (55)	Exstrophy. . .	M., 16	"	" "	Yes.	2 months after operation once in 5 hours; sleeps the whole night.	For two or three days bloody urine.
13	Oct. 31, 1898..	Frank, Rudolf (55)	" " . .	M., 16	"	" "	"	3 to 5 hours during day; 2 to 3 times at night.	For a month leakage of urine through abdominal incision. Well Jan. 12, 1900.
14	May 25, 1897..	Herczel, Emil (56)	" " . .	M., 5	"	" "	"	2¼ years after operation 6 to 7 hours; oftener at night.	One month after operation polyuria which lasted four months; shortly after operation had an attack of pneumonia, during which he suffered pain in lumbar regions; 2¼ years after operation polyuria still exists.
15	Dec. 20, 1897.	Herczel, Emil (56)	" " . .	M., 25	"	" "	"	6 months after operation every three hours, but sometimes involuntarily at night.	
16	Mar. 9, 1899.	Herczel, Emil (56)	" " . .	M., 11	"	" "	"	1 month after operation 5 to 6 hours; involuntarily at night.	
17	Apr. 23, 1895..	Kryn'ski, L (57)	" " . .	M., 24	"	" "	"	Continence could be more satisfactory.	
18	June 19, 1892.	Maydl, K. (58)	" " . .	M., 20	"	Sigmoid	"	Good control; able to work.	Pain in lumbar regions; urine bloody for few days. Living in 1899
19	Oct. 1, 1893...	Maydl, K. (58)	" " . .	F., 12	"	" "	"	Every three hours and the entire night.	Leakage of urine for short time through the abdominal incision; no renal infection. Living in 1899.
20	Jan. 2, 1895 .	Maydl, K. (59)	" " . .	M., 7	Death..	" "	"	.....	Died next day of shock.
21	Jan. 20, 1895.	Maydl, K. (59)	" " . .	F., 22	Recov..	" "	"	2 weeks after operation every 7 hours.	Pain in lumbar region. Well in 1899.
22	Nov. 23, 1895.	Maydl, K. (59)	" " . .	F., 7	"	" "	"	6 mo. after operation every 4 hr.	No trace of renal infection. Well in 1899.
23	July 2, 1897. .	Maydl, K. (60)	" " . .	M., 4	"	" "	"	3 wk. after opera. every 4 to 5 hr	No signs of renal infection. Well in 1899.
24	Nov. 29, 1897.	Maydl, K. (60)	" " . .	M., 7	"	" "	"	Satisfactorily.	Abdominal urinary fistula which closed later. Well in 1899.
25	Mar. 24, 1898.	Maydl, K. (60)	" " . .	M., 14	"	" "	"	3 to 4 hours in daytime; once at night.	One month after operation examination of urine shows no albumin. Well in 1899.
26	June 20, 1898.	Maydl, K. (60)	" " . .	M., 7	"	" "	"	Satisfactory.	Well in 1899.
27	Nov. 20, 1898.	Maydl, K. (60)	" " . .	M. 4½	"	" "	"	1 month after operation 5 to 6 hours.	Well in 1899.
28	..... 1895	Mikuliez, T. (61)	" " . .	M., 28	"	Rectum .	"	Very unsatisfactory.	Death 4 mos. later from pyelonephritis.
29	Feb. 24, 1899.	Nové Josserrand, G. (62)	" " . .	M., 5	"	Sigmoid	No..	At first incontinence; 1½ mos after operation, 6 to 10 evacuations in 24 hours,	No sign of any renal infection. Doing well May 17, 1899.
30	March, 1897.	Park, R. (63)	Exstrophy and other congenital defects.	M., 4	Death..	" "	"	.....	Died 53 hrs. after operation; could not be nourished per rectum because of congenital defect; no sign of peritonitis.
31	..... 1896	Rosegotti. (64)	Exstrophy. . .	M., 9	Recov..	" "	"	3 months after operation evacuations are 6 to 8 times in 24 hours.	
32	Jan. 27, 1895..	Schintzler. (65)	" " . .	M., 25	"	Rectum..	No..	.....	Rectal fistula followed operation; 1½ yr. after first operation patient died from effects of plastic operation to close defect. Post mortem showed well-advanced pyelitis.
33	..... 1896	Trombetta. (66)	" " . .	M., 10	"	Sigmoid.	"	2 to 3 hours in daytime; 3 to 4 times at night.	
34	Feb. 12, 1898	Tuffier, T. (67)	" " . .	M., 15	"	" "	No..	4 months after operation 5 to 6 passages in 24 hours.	No signs of intestinal inflammation.
35	Dec. 26, 1895.	Wolfler. (68)	" " . .	F., 9	"	" "	Yes.	After 6 weeks can retain her urine 6 hours; 1½ years after operation 5 to 6 times in 24 times; occasionally soils bed in sleep.	1½ years after operation no signs of renal infection.
36	Jan. 16, 1897..	Wolfler. (68)	" " . .	F., 8	"	" "	"	1½ years after operation every 2 to 3 hours; once at night.	Well 1½ years after operation.

screw forceps, which, placed in the rectum and bladder, destroyed the intervening tissue by pressure necrosis. The attempt failed, for although the urine passed into the bowel in considerable quantities, a good portion of it still continued to escape above the pubis. So much pain was produced that the rectal opening was allowed to close.

Rose,⁷⁷ 1872. *Vesico-vaginal fistula transformed into a vesico-vagino-rectal fistula; death from uremia ten months after operation.* Rose operated upon a woman whose vesico-vaginal septum had been almost destroyed by diphtheritic ulceration. He made a fistula opening 2 cm. above the anus and about 2 cm. in width in the recto-vaginal septum, and prevented contraction by suturing the mucous surfaces of rectum and vagina. The edges of the freshened surfaces of the labia were sewed

together and the vagina closed. The patient was able to control the liquid stools, which she passed per anum every two or three hours. She died ten months after the operation from uremia, the nephritis having its origin in the previous attack of diphtheria. The vagina, bladder, and rectum were found perfectly normal.

KEEN,⁷³ 1875. *Vesico-vagino-rectal fistula following typhoid fever; closure of introitus; well twenty-two years afterward.* A woman aged thirty-four, had been left with a vesico-vagino-rectal fistula from severe sloughing after typhoid fever. After a number of unsuccessful plastic operations for the closure of the fistulae the entire vulvar aperture was closed. The patient defecated, menstruated, and micturated entirely by the rectum. Micturition occurred only five or six times during the day and once or twice at night. The feces did not pass into the bladder. Eleven years subsequent to the operation a calculus was removed from the vagina, with recovery in three or four days. With the exception of the formation of a small fistula, which closed spontaneously, the subsequent history of the patient was entirely satisfactory. Twenty-two years after the operation she remained in perfect health, with no sign of renal infection.

THIERSCH,⁷⁸ 1881. *Exstrophy of the bladder; formation of recto-vesical fistula; well after eight months.* The patient was a child with a severe exstrophy of the bladder, together with a defective vagina and a bicornate uterus. A communication was made between a newly formed bladder and the rectum through repeated applications of a Samson's bowel-clamp, which produced a necrosis of the recto-vesical septum. The patient recovered, and although she had been passing all the urine per rectum for eight months at the time the case was reported, there was no rectal irritation or excoriation of the parts near the anus. The bladder remained clear of feces.

NOVARO,⁷⁵ 1890. *Exstrophy of the bladder; formation of a vesico-rectal fistula and new bladder; recovery; operation a failure.* Novaro, in a girl, aged three, suffering from exstrophy of the bladder, exposed the anterior wall of the rectum by a semilunar incision at the inferior border of the vaginal orifice. By a plastic operation he united the dissected wall of the bladder to the rectum, which had previously been opened 12 to 15 cm. The raw surface of the bladder was covered in by the freshened labia majora. The edges of the flap sloughed and allowed the urine to escape over the pubes. At the time of the report Novaro intended to form a cloaca by a supplementary plastic operation.

TUFFIER,⁷⁹ 1891. *Formation of recto-vesical fistula; partial success.* Tuffier established an artificial recto-vesical fistula with partial success, a fissure remaining which he intended to close later. The patient remained well. The urine passed by way of the rectum, could be held ten minutes.

In the 1899 edition of Duplay and Reclus, Tuffier, while mentioning the technique, does not report the case or give its subsequent history.

RESEGOTTI,⁷⁶ 1895. *Exstrophy of the bladder; formation of vesico-vagino-rectal fistula and closure of introitus; death from pyonephrosis.* By a plastic operation in a case of exstrophy of the bladder, Resegotti formed a bladder out of the abdominal wall and the labia majora and minora. An artificial vesico-vagino-rectal fistula was then made and the introitus closed. Complete continence ensued, the urine being passed voluntarily per anum every two or three hours. Double pyonephrosis soon developed, from which the patient died. Resegotti condemns the formation of communications between the intestine and the urinary tract.

GALLET,⁶⁹ 1896. *Formation of recto-vaginal fistula and closure of introitus; success.* A case is briefly mentioned by Gallet where, for a vesico-vaginal fistula, he closed the vagina and made an opening in the vagino-rectal septum. The patient did well and was able to control the urine two hours.

HALSTEAD,⁷⁰ 1900. *Exstrophy of the bladder; vesico-rectal anastomosis with the Frank coupler; death from shock.* Through the kindness of the operator, I am permitted to report the following unpublished case:

The patient was a boy aged 5 years, suffering from exstrophy of the bladder and other congenital defects. Jan. 9, 1900, the abdominal cavity was opened and the sigmoid attached to the serous surface of the posterior aspect of the ectopic bladder wall by sero-serous quilted sutures. The bladder-wall was next incised 1.75 cm. in a longitudinal direction just above the ureteral openings, and one-half of a Frank coupler introduced. The other half of the coupler was inserted into a longitudinal incision in the sigmoid. The adjacent edges were united by a series of quilted sutures. By a plastic operation a new bladder was formed over the coupler and the defect in the abdominal wall nearly closed. Child urinated several times during night through rectum. Died at the end of sixteen hours of shock. The post-mortem showed

no evidences of peritonitis. No escape of urine through sutured bladder-wall. Rectum contained nearly one ounce of urine. Right heart dilated.

It is unjust to include the cases of Loyd, Johnson, and Holmes in any consideration of vesico-rectal anastomosis as a treatment for exstrophy of the bladder, since the methods employed were exceptionally crude. The same may be said of Thiersch's case, although the patient was well at the end of eight months.

Halstead's case, where Frank's technique was employed, demonstrates the operation to be perfectly applicable to human beings. Frank's interesting experiments have shown that in dogs vesico-rectal anastomosis is a comparatively safe procedure; that the bladder remains free of feces, and that infection of the kidneys does not result in some of the cases operated upon. These findings are confirmed by the results of my own experimental work, which show that whenever the ureteral orifice is left intact, for a certain time there may be freedom from infection, even where that orifice continually comes in contact with virulent micro-organisms.

Of the five dogs reported on by Frank, the first three were examined fifteen, four and sixteen days respectively after the operation. The first two showed signs of renal infection, but the third showed two small foci of round-celled infiltration. The other two dogs were killed and examined twenty-seven and ninety-one days after the operation. In both cases there were unmistakable evidences of ascending renal infection. In other words, the longer time lapsing after the operation the more changes resulted in the kidneys.

How great this infection will be and to what extent the animal can overcome its infection can only be shown by allowing the animals to live a longer time before making the examinations. This Frank promises to do, and the results will be watched with great interest. The burden of proof, however, remains with him to show that renal infection after his operation is impossible or at least rare. Until such proof be forthcoming Frank's prediction that vesico-rectal anastomosis will become more popular than gastro-enterostomy will hardly be fulfilled. The question of infection must be definitely settled before other virulent micro-organisms are given admittance to a bladder already handicapped by disease.

(To be continued.)

Clinical Reports.

ACUTE TEMPORARY DILATATION OF THE HEART ACCOMPANYING THERMIC FEVER.

REPORT OF TWO CASES.

C. F. CLOSE, M.D.

CHICAGO.

Acute dilatation of the heart has been described as occurring under various conditions, chiefly as a result of excessive physical exertion. So far I have found no report of a case in connection with sunstroke or heat-stroke—*Hitzschlag*, as the Germans more exactly express it. The following two cases occurred during the excessively hot weather of the past summer.

Case 1.—A male, aged 17, born in America, of Danish parentage, and a photographer's assistant, had always been healthy. There was no constitutional disease in the family. The patient's occupation compelled him to work under a partially unprotected skylight the greater part of the day, where the heat was very intense. I was summoned soon after the attack of sunstroke, and found him suffering with the usual symptoms:

high temperature; rapid, feeble pulse; headache and dizziness; marked congestion of the vessels of the head and neck. He did not lose consciousness. The heart was found to be greatly enlarged in all its dimensions, but especially to the right, reaching to the right border of the sternum. The pulsations were very noticeable in the epigastrium just below the arch of the ribs. The sounds were very low and somewhat indistinct. A mild systolic murmur was heard over the tricuspidal valves. Under the ordinary treatment—recumbent position with elevation of and ice compresses to the head; cathartics, etc.—he recovered rapidly, and ten days afterward the heart had subsided to its usual, normal, boundaries.

Case 2.—A female, aged 23, unmarried, an American of German parentage, worked as teacher for a sewing-machine company, her business being to go from house to house where machines had been sold, and instruct the inmates in their use. This necessitated her being out the greater part of the day. During one of these trips she was overcome, on the street, by the heat and lost consciousness. When I arrived she complained of great dizziness, pain in the head, and was somewhat dyspneic. She presented practically the same symptoms as the preceding patient, and had been under my care some time before for catarrhal bronchitis, etc., so I was quite familiar with her condition, and the result of the examination of the heart was a great surprise to me. Formerly it had been absolutely normal, but now I found the dulness increased in all directions, but chiefly to the right as before, reaching slightly beyond the middle of the sternum. The sounds were somewhat muffled, but no murmurs. The pulse was rapid, and of low tension. As before, the patient recovered gradually, though not so rapidly. In two weeks the heart had gone back to its former dimensions, and aside from some dizziness and sensitiveness to the sun, she was as well as ever.

I have been able to keep both of these patients under observation since the attacks, and neither has shown any symptoms of "weak heart" since, nor had they before. Both are actively employed at work which throws some strain on the heart. I am inclined to believe that the cause of this acute dilatation may be looked for in the nervous system, and that it is a part of the general muscular relaxation the result of profound shock. Added to this we have a general venous congestion which especially overtaxed the right ventricle.

4707 Evans Avenue.

RUPTURE OF THE MEMBRANA TYMPANI FROM INDIRECT VIOLENCE.

WITH CONCUSSION OF THE LABYRINTH AND COMPLETE
DEAFNESS.

RICHMOND MCKINNEY, M.D.

LARYNGOLOGIST TO THE EAST END DISPENSARY.

MEMPHIS, TENN.

On Oct. 29, 1900, there came to my service at the East End Dispensary, a negro man, aged 23, with the following history: At two o'clock in the afternoon of October 28, a man had slipped up behind him and struck him a heavy blow on the right side of the head with a wagon-wheel spoke. For at least a half hour following this he lay senseless, and when he came to and arose to his feet he felt, as he described it, "foolish." Blood was flowing from his right ear and likewise from his mouth. This discharge of blood continued at intervals for some time. The evening of that day he had, as he judged from his sensations, a high temperature.

When I saw the patient on the afternoon of the day following, I found the drum membrane of the right ear to be in this condition: The entire membrane, with the exception of the membrana flaccida, was congested, it being especially red along the lower border, this probably being due to blood stasis in this portion of the membrane. The handle of the malleus was even more congested than the surrounding membrane. In the posterior half of the membrane was a perforation running for

almost two-thirds of its diameter. This perforation was not gaping, and was perfectly straight. Bone and air conduction were both entirely absent, the patient being completely deaf in this ear. There was no tinnitus. I append a drawing of the injured membrane.

After cleansing the ear, I inserted a strip of iodoform gauze, and instructed the patient to go home, remain quiet, and return the next day.

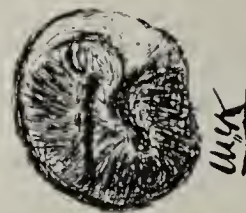
The following morning he again presented himself, and stated that the night before he had again experienced the sensation of high temperature, and continued to spit blood. After cleansing the ear I found that the discharge of blood from the wounded membrana had ceased. There was still, however, total inability to hear in this ear. The patient desired to go to work, but was instructed to return home and to refrain from any unnecessary physical exertion.

When next seen, on November 2, the perforation in the drum had entirely healed. Deafness was as marked as ever. He at intervals had continued to spit blood.

At this writing—November 20—the patient has returned to work with a practically perfect drum, but is still stone deaf in the affected ear. The expectoration of blood has wholly ceased.

Although cases of traumatic perforation of the membrana tympani from both direct and indirect violence are not of great rarity, still there are some features of this case which render it of more than passing interest.

As one of these, may be mentioned the continued expectoration of blood, and high temperature, which



might lead one to believe that in this case there was a fracture of the base of the skull. The manner and force with which the blow causing the injury was used would also lead to the opinion of a graver lesion. But this has been excluded, I should think, by the subsequent history of the case. Another interesting feature is the evident concussion of the labyrinth, with marked and permanent deafness following. But the most unusual and peculiar feature to me in this case was the fact that the rupture of the drum occurred in transverse relationship to the fibers of the membrana, and was perfectly straight and not oval and gaping as usually is the case in lesions of this membrane from indirect violence.

It is unfortunate, as concerns the hearing, that the therapeutic resources of the aurist do not permit him to close his reports of such cases as this with the gratifying words *restitutio ad normalem*.

Lyceum Building.

Intrarectal Urethra for Exstrophy of the Bladder.

Sonnbottin, of St. Petersburg, has cured a case of exstrophy of the bladder by a method described, in the *Semaine Méd.* of January 23, as extremely satisfactory in the one case in which he has had occasion to use it. Through a Kraske posterior incision the rectum is isolated from the side and two longitudinal incisions made in it. The fundus of the bladder is manipulated so as to bring the ostium of the urethra into one of these slits, where it is sutured. Two longitudinal incisions are then made below this point to the anus, and the edges of the flap thus obtained are sutured together above, thus providing a tube running from the urethral sphincter to the anus—an intrarectal urethra with its own sphincter and the anus intact below.

EXSTROPHY OF THE BLADDER.

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*[Awarded Senn Medal at the Fifty-First Annual Meeting of the American Medical Association, June 6, 1900.
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EMBRYOLOGY.

Before considering a congenital deformity of the bladder, it will be advisable to review briefly the embryological development of the genito-urinary system, and, of necessity, the embryo as a whole.

The ovum, a single cell with a single nucleus, soon after impregnation becomes, by karyokinesis, a mass of cells resembling in shape and appearance a mulberry, hence the name, morula. A clear fluid next accumulates in the center of this mass of cells; at first small, but gradually increasing in amount. Thus, the morula is converted into a globular vesicle, termed the blastodermic vesicle, the wall of which is at first composed of a single layer of cells—ectodermal, but later, a second layer of cells—entodermal—is completed. This double layer of cells is termed the blastoderm.

The first result of the segmentation of the ovum is the formation of the blastoderm and the disposition of its cells into the embryonic layers. At this time is seen the development of the area germinativa or embryonal area, by the accumulation of cells at a limited point on the inner surface of the blastodermic membrane. It is from this area alone that the body of the embryo is developed. The remainder of the germ forms what is termed the extra-embryonic structures, such as amnion, chorion, and yolk sac. In this germinal area there is seen an opaque line called the primitive streak. In the streak develops a groove, the primitive groove, bordered by two ridges, which will become dorsal plates, and, ultimately uniting, inclose a cylindrical space, the *tubus medullaris*, or the nervous system.

On cross-section, at this point, there will be seen a marked accumulation of cells between the ectoderm and entoderm, most noticeable on each side of the anterior extremity of the primitive streak. This is the third germ layer, the mesoderm.

The mesoderm at an early stage consists of four parts, two on each side: one near the medial line called the paraxial mesoderm—primitive segmental or vertebral plate—and a lateral plate on each side. The paraxial mesoderm undergoes transverse division into cubical masses, called mesoblastic somites or primitive segments. The lateral mesoderm splits into two layers: 1, outer-

parietal or somatic mesoderm; and 2, inner-visceral or splanchnic mesoderm. The somatic mesoderm uniting with the ectoderm is called the somatopleure. The splanchnic mesoderm uniting with the entoderm is called the splanchnopleure.

The cavity existing between the splanchnopleure and the somatopleure is the celum, body-cavity, or pleuro-peritoneal cavity, which will ultimately become subdivided into the great serous cavities of the body—pericardial, pleural and peritoneal. The germ, or germinal area, at this stage of its development, has the shape of a hollow sphere or vesicle. The differentiation of its cells into epiblast, endoblast, and mesoblast, has taken place. The foundation for every structure of the body is well under way and in tangible shape. The further growth and development consists chiefly in an unequal growth of the different parts; in evaginations and invaginations; the furrowing and constricting off, of certain areas.

In considering the further history of the development of the embryo, the mesoblast alone will be considered, excluding the other structures, because of their lack of close connection with the subject. The primitive segments are intimately associated with the development of the spinal column and muscles of the back; hence they will not be included in this review. The lateral plates have split into the somatopleure and splanchnopleure, between which is the celum or body cavity. The future development of these two structures is of paramount importance in an effort to arrive at a thorough understanding of exstrophy of the bladder.

In the earliest stage, the embryo lies flat on the surface of the yolk, as a watch-glass, and is not distinctly differentiated from the adjacent blastoderm. The cavity of the germ is one undivided space. But there soon appears the head-fold and tail-fold, and likewise similar lateral folds as if by an invisible constricting band which was gradually drawn tight until the large single cavity of germ has been divided into two spaces of unequal size. The smaller, or intra-embryonal portion formed the gut-tract, and the larger, or extra-abdominal division constituted the umbilical or vitelline vesicle, or yolk-sac, these two cavities uniting at a point which

is to become the umbilicus and communicating by means of a short canal, the vitelline or omphalo-mesenteric duct. These lateral downward folds of blastoderm are called visceral plates, and consist of the splanchnopleure internal and somatopleure external. The splanchnopleure descends from each side, meets in median line and, coalescing, it pinches off a portion of the yolk-sac, which is to become the gut-tract and is enclosed in the body cavity by the descending and coalescing walls of somatopleure. Hence the splanchnopleuric fold outlines and forms the intestinal canal. The somatopleuric layer, which accompanies or rather follows the splanchnopleure, constitutes the lateral and ventral body wall of the embryo, by fusion in the median line, except, of course, at the umbilicus. Failure of these somatopleuric folds to unite in the median line is the cause of various deformities, not the most infrequent of which is exstrophy of the bladder.

The allantois must be considered, as it is from this embryological structure that the bladder is formed. It is an evagination of the splanchnopleure, the gut-tract, the same as is the pancreas, liver and lungs. It sprouts from the hind gut, at about the same time that the amnion is being developed; it is, at first, solid and pear-shaped, but soon becomes vascular and membranous. It projects from the body, through the imperfectly closed anterior abdominal wall, into the cavity of the amnion and into contact with the false amnion, where, by uniting with the vascular system of the mother, the placenta is developed.

Bischoff, Reichert, Remak and others, claim that the allantois is of double origin, arising as two separate and distinct columns of cells, either solid or hollow, from the neighborhood of the Wolffian body, and soon coalescing. This order of events has been observed in some of the lower animals, but not in man. A human embryo of three weeks has been described, with a perfect single allantois. The allantois is the chief agent of the early circulation; it contains two arteries and two veins. The arteries are, at first, branches of the abdominal aorta, but subsequently, when the primary aortae coalesce, they become branches of the hypogastric arteries.

In the mammals, the extra-embryonic portion of allantois contains no cavity. At about the third month it is no longer of use and its extra-embryonal portion becomes the umbilical cord, its vessels becoming umbilical vessels.

Its intra-embryonic portion is divided into three subdivisions: 1. The upper, the urachus, at birth is an atrophied cord extending from fundus of bladder to umbilicus. 2. The middle third becomes the urinary bladder. 3. The lower third becomes, in males, the first part of urethra; in females, the entire urethra. The proximal portion of the allantois, that is, the part intervening between bladder and intestine, is designated as the "sinus urogenitalis," while the caudal end of intestine, which is in effect a pouch in which both

allantois and intestine terminate, is known as the "cloaca."

During the sixth week there appears on the surface of body, in the region corresponding to position of the cloaca, the cloacal depression, or proctodeum, which extends upward, forming the communication between gut—entoderm—and skin—ectoderm.

In amphibia, reptiles and birds, also in the lowest mammals, the monotremata, the cloaca is a permanent structure. In all mammals, except the monotremata, the cloaca undergoes division into a posterior or anal canal and an anterior or urogenital aperture, opening independently on surface of body; the latter in the female is the short urethra and fossa of vestibule, and in the male is the prostatic portion of urethra. This division is brought about by three folds, one from each side and one from the point of union of urogenital sinus and intestine. These folds coalesce about the tenth week and at the time of birth constitute the perineum.

The embryology of the ureters must also be considered, not only because of their intimate relationship to the bladder, but also on account of their participation in the most modern methods of treating deformities and certain diseases of the bladder. The ureters spring from the lower end of the Wolffian duct, as an evagination or budding, just before it enters the cloaca. The Wolffian duct is the first trace of the urinogenital apparatus to appear in the embryo. At first, it is a longitudinal column of cells, situated between the vertebral plates and the lateral plates and soon becomes hollow, its hind end uniting with and opening into the cloaca. Its upper end is connected with the pronephron and mesonephron, and is not open. Both of these organs, in mammals, disappear before birth, and the Wolffian duct becomes, in males, the vas deferens, and in females, a remnant known as Gärtner's ducts. The ureter springs as a bud from the Wolffian duct, ascends through a mass of mesoblastic tissue, called metanephric blastema, to the metanephron, or permanent kidney. Here, collecting-tubules from the ureter grow out and become continuous with masses of cells of the metanephric blastema, which then differentiate themselves into kidney tubules. At first, the ureter and Wolffian duct communicate by a common opening, with the intestine, so forming a cloaca, but this state of things lasts for a short time only. Owing to alterations brought about by processes of unequal growth the orifices of the ureters subsequently change their position, so as to open separately into the urogenital sinus, and still later by the further operation of the same agency, they come to open into the bladder, on its dorsal wall, thus gradually assuming their permanent location.

This cloacal stage of the development of the excretory apparatus has its counterpart as a permanent and normal structure in some of the lower animals. It has been held as a general principle that the higher animals, in the course of their embryological development, repeat, to a greater or less extent, the form of the lower mem-

bers of the class to which they belong. This principle is well brought out by Gadow, in his work on "The Cloaca and Copulatory Organs of the Amniota." He describes in detail these organs in the crocodilia, sauria, ophidia, aves, chelonia, monotremata, marsupialia and placentalia. He shows the gradual tendency toward the separate openings: one for the fecal current, and another for the genito-urinary secretion, as is found in man. It will be seen from his work that the natural cloaca is quite different from the artificial cloaca, as made by surgeons after implanting the ureters into the rectum.

In the animals in which it exists naturally the cloaca is subdivided into three compartments: 1. proctodæum, or external portion; 2, urodæum, or middle portion, urogenital; and 3, coprodæum, or inner portion, the fecal pouch. The middle segment, urodæum, is separated from the division above and below by folds of mucous membrane which do certainly serve as more or less of a protection. The ureters open at the summit of a papilla, and in many instances there exists a receptacle similar to a bladder, which communicates with the rectum. From this it will be seen that the kidneys are protected much more perfectly in these cases than are the same structures in man when the ureters are made to communicate artificially with the rectum. Then also, the consideration of the normal cloaca may evolve a solution of the question: "As some of the lower animals, and birds, have the bladder and rectum in one cloaca, why can not human beings live comfortably in the same condition?"

In attempting to answer this question, there are many explanations which might be advanced, all of which are lacking in the one essential, that of being conclusive. The urine of these animals might be antiseptic. The feces of these animals might be sterile or non-infectious. But that such is not the case has been demonstrated conclusively. Or, it might be said that, owing to the traumatism accompanying the implantation of the ureters into the rectum, the manufacturing of a cloaca, a *locus minoris resistentiæ* is established, which renders the danger of infection of these parts more likely to occur—a condition that is never present in a natural cloaca.

Van Hook answers this question, and says: 1. The urine of birds is very slightly moist; hence it can not mechanically carry bacteria to the kidneys, as is the case with fluids. This point is not of practical importance, as micro-organisms extend into solid as well as liquid media. Also, infection has not followed in animals with a natural cloaca where the urine is liquid. 2. Birds' ureters are supplied with mucous membrane, evolutionarily accustomed, as it were, to contact with infected solids and fluids. This seems to be the only rational explanation, and it also explains the fact that the liver, pancreas, salivary glands, the middle ear and Bartholin glands do not, as a rule, become infected from the more or less septic canal into which they open.

MALFORMATIONS.

Those organs which are placed in the median line of the body are more subject than the extremities to certain deviations from the normal development. The structures which have a more complicated mechanism and those which are formed latest in the stage of development of the embryo, are naturally more apt to be interfered with than those the formation of which is more simple and earlier in the history of the fetus. The bladder is formed late, and owing to its position in the median line—this being formed by the fusing of the visceral plates, which are comparatively complicated and also late in development—is frequently the seat of defective development, causing various malformations, some of which are consistent, and some inconsistent with life, some remediable by surgical means, and some not. A failure to complete the anterior wall of the trunk is not an uncommon defect, as is seen in cases of thoraco-gastro-schisis, thoraco-schisis, and gastro-schisis or fissura abdominalis. The latter is seen in different varieties: 1, extending the entire length of linea alba; 2, congenital hernia funis, at umbilicus; 3, closed at umbilicus, defect above; 4, closed at umbilicus, defect below. As a rule, Class 4 is associated with exstrophy of the bladder. The most common deformity of the bladder is

1. Exstrophy of bladder. Other malformations are:
2. Absence of bladder. When this exists it is almost universally associated with absence or imperfections of other important organs or structures, rendering life an impossibility. The condition is extremely rare, the organ usually being represented by a small overlooked pouch or rudiment. One interesting case is recorded by Fleury, in which the ureters opened directly into the urethra, and the girl lived to the age of 16 or 17 years. A post-mortem was held and no trace of a bladder could be found. Benninger reports a similar case. Bonn records a case in a new-born child in which kidneys, ureters and bladder were absent. Gross reports a case of marked arrested development in which the ureters ended in the gut near its termination, with imperforate anus, and the large bowel absent. A similar case was noted by Meyer. Under this heading might be included the peculiar case of Richardson; and, according to Chance, a case resembling Richardson's has been observed by Camper. Wytterhoeven reports a case of atrophy which was mistaken for absence. There existed a uretero-vaginal fistula for thirty years, causing the shrinking of the bladder to the size of a pea.

3. The opposite condition, that of multiple or supernumerary bladder. This is likewise one of exceedingly rare occurrence. Before we diagnose a multiple bladder, each bladder must be found to have its separate ureter, and all coats demonstrated. Many of the so-called multiple bladders are in reality merely sacculations or herniæ of the bladder. The following have been reported: Blasius found a double bladder; A. P. Smith, double bladder; Seibelli, triple bladder; Molenette, five

bladders, six ureters and five kidneys. Sacculation of bladder and bilobed or multiple bladder are frequently acquired, and not congenital conditions, due to pathological changes in the bladder wall or interference with escape of urine, as in prostatic enlargement or stricture of urethra, or due to enlargement of a certain portion of the mucous membrane. It is claimed by some authors that the bladder originates from a double allantois, which owing to arrested development might cause a bilobed bladder. A case is mentioned by Heyfelder in which the septum was almost complete. Holmes describes a cyst which might have been in all probability a hernia.

4. Imperforate bladder or atresia of urethra. This condition is very rare. Cases are on record which have been associated with exstrophy, and hence are doubtful.

5. The posterior wall of bladder may be the site of the malformation, and the bladder communicating with the pelvic cavity, vagina or rectum. This form is unusual.

6. Both the anterior and the posterior wall may be defective. This condition is still more exceptional.

The urachus is often the seat of arrested development: 1, failure to obliterate at any point, giving rise to a urinary fistula opening at the umbilicus; 2, it may close at both ends, forming a cyst, which may be subdivided into smaller cysts; 3, it may close at peripheral extremity, but the remainder be unobliterated and communicating with the bladder; 4, it may close at visceral end and the remainder, being open will cause a sinus at the umbilicus.

The abnormalities of the ureters consist of the following:

1. Double ureters are the most common, both of which may terminate normally in the bladder; both may terminate abnormally, or one may end normally and the other abnormally. Again, the double ureters vary in shape. Two distinct pelvis, with the ducts uniting at any point on their way to the bladder, may enter that viscus through a single orifice. They may remain entirely separate throughout their course; or a single pelvis may divide into two. Complete duplication has been reported by Chance, Schneider, Erlach, Ramsey and others.

2. Absence of ureter is extremely rare. Cases have been reported by Förster and Bartels.

3. Abnormal termination of ureter may exist by opening into a male genito-urinary organ, namely, bladder; prostatic portion of urethra; seminal vesicle, ejaculatory duct, vas deferens. In the female, the termination may be into the bladder; vagina; vestibule, urethra, under hood of clitoris, and Gärtner's duct. Open termination into the rectum is extremely rare. Such cases have been reported by Richardson, Camper, Simon, Gross and Meyer. Blind termination of ureter may exist as cystic dilatation; or no dilatation, associated with absent or atrophied kidney.

4. Congenital flexure of ureter may occur with no signs of inflammation, and after releasing the flexure, the fluid escapes easily.—Weigert. These conditions are in frequent association with other deformities.

An explanation of the anomalies of the ureter is given very clearly by Fenger. "If the ureter does not separate from the Wolffian duct, but remains a branch of the latter, the ureter will terminate in the seminal passages in man, and in woman in Gärtner's duct. If the ureter separates from the Wolffian duct, but does not move up into its normal place in Lieutaud's triangle, we will have an abnormal termination, low down in the prostatic portion of the urethra. If ureter separates from the Wolffian duct without emptying into a hollow organ, a blind termination results. If the ureter, instead of moving forward into the anterior portion of the cloaca, remains at its original location in the posterior portion, we find the termination of the ureter in the rectum. Double ureters originate either as a double branch from the Wolffian duct or as a single branch, which later divides."

The condition of exstrophy of the bladder includes, as a rule, all the cases of gastro-schisis in which the fissure is in the lower part of the abdomen. It is seen in different varieties or degrees of the same variety: 1. There may occur no fissure in either abdominal or bladder wall, but an absence of symphysis, with hernia of the bladder.—Mayo. 2. The bladder wall is perfect and protrudes through abdominal fissure or the umbilicus.—Vrolik. To this condition the term "ectopia vesicæ" has been applied. 3. The ordinary form is fissure in both abdominal and vesical walls. This form has been subdivided by Winkel as follows: *Fissura vesicæ inferior*, or closed symphysis with defect below; *fissura vesicæ superior*, or closed symphysis with defect above; absence of abdominal wall, of anterior bladder-wall, of symphysis pubis with cleft of external genitals. This last division he calls "eversio et ectopia vesicæ." 4. Anterior and posterior walls of the bladder may both contain a fissure, and thus occur in two halves, separated by an opening of the intestinal tract.—Bartels, Retzius, Friedlander, Rose, Fränkel, Meckel, Vrolik, Förster, Dietrich.

To the ordinary form of this defect many names have been given: *ectopia vesicæ*, *ectropium v.*, *ecstropia v.*, *extroversio v.*, *inversio v.*, *eversio v.*, *fissura v.*, *eversio et ectopia v.*, *exstrophy of the bladder*, and *congenital hiatus of bladder*.

The term "exstrophie" was first applied by Chaussier, in the year 1780, and has been almost universally adopted at the present time. The words "ectopia vesicæ" have been generally accepted as indicative of that rare condition described by Vrolik in which the anterior wall of bladder is not defective.

In the common form of exstrophy the clinical picture is so very characteristic that if the treatment was as easy to carry into effect as the diagnosis is easy to arrive at, the history of this affection would not be such a sorry

one as regards results in attempts at correction. Extensive fissura abdominalis occurs in females almost entirely. Exstrophy of the bladder occurs with much more frequency in the male. Of 68 cases collected by Mr. Earle in 1828, 60 cases were in males and 8 in females. Holmes in his experience found none in females. Sir H. Thompson reported 8 cases, 2 in females. McWhinney mentions 7 males and 2 females. Phillips collected 21 cases in females. Braxton Hicks reported 14 in males, 2 in females and 4 doubtful. Geoffrey St. Hilaire found one-fourth of the cases in females. Duncan says this condition is found "more often in males because the generative organs are more complex. It has been pointed out that deficiencies in anterior median line occur most frequently in the male. Deficiencies in posterior median line occur with more frequency in the female sex." These cases were frequently mistaken for hermaphrodites; or else male children were considered to be females. In 1808, Soden reported a case of exstrophy which is of interest, as it shows with what difficulty the sex of the individual has been decided on in some instances. The patient, 24 years of age, wore a skirt and was baptized Sarah L—. After examination by three medical men, Sarah was pronounced a male. In 1860, Buck and Coote wrote in the *Lancet*, under the title, "A Short Account of the Post-Mortem Examination of the Body of a Person Who for 73 Years Passed for a Female; Congenital Malformation of Penis, Scrotum, Testes and Pelvic Bones with Complete Absence of the Urinary Bladder." One explanation of the discrepancy in the proportion of occurrence in sexes, is that, cases in the female were not recorded. Owing to the natural modesty of the sex, there was less of an inclination to let the matter become known. As misleading features, might be mentioned the dress, usually that of a female; small testes lost in large labial folds of skin; the width of hips, causing the waddling gait, which is an exaggeration of the female gait; and the feminine mode of micturition, in those cases in which the urine is retained for a short space of time in the dilated ureters.

This deformity is not incompatible with a comparatively long lease of life, and even in some cases with the power of reproduction. In the male the sexual potentiality is usually absent, if not sterile, the abnormality rendering him impotent. In the female conception and delivery is sometimes possible, as in cases recorded by Huxham and Bonnett, Thiebault, Ayers, and Hamilton. Many of these cases die in infancy, but judging from the literature, the majority reach adult life, and cases are on record in which the age of 40, reported by Bartholin; 46 and 49, by Quatrefages; 71, by Flajain; 73, by Coote, and 80 years, by Hamilton, have been reached.

The patient is usually seen during infancy or childhood, with a tumor presenting in the median line of the hypogastrium, at the site of the mons veneris.—See Fig. 1. This tumor is a red vascular, round or ovoid

projection, which has at different times been mistaken for hernia, nevus and malignant tumor. Frequently this mucous eminence is divided into two, by a longitudinal narrow ridge, extending from top to bottom. This bilobed appearance was noticed by Champney, Chaussier, Breschet and St. Hilaire. It has been pointed out as a factor in favor of the theory that the bladder arises in two halves, which ultimately unite. This condition is one step in advance of those cases reported by Bartels, Rose and others, in which the bladder has not united and was in two halves, the halves being separated by an abnormal opening of the intestine.

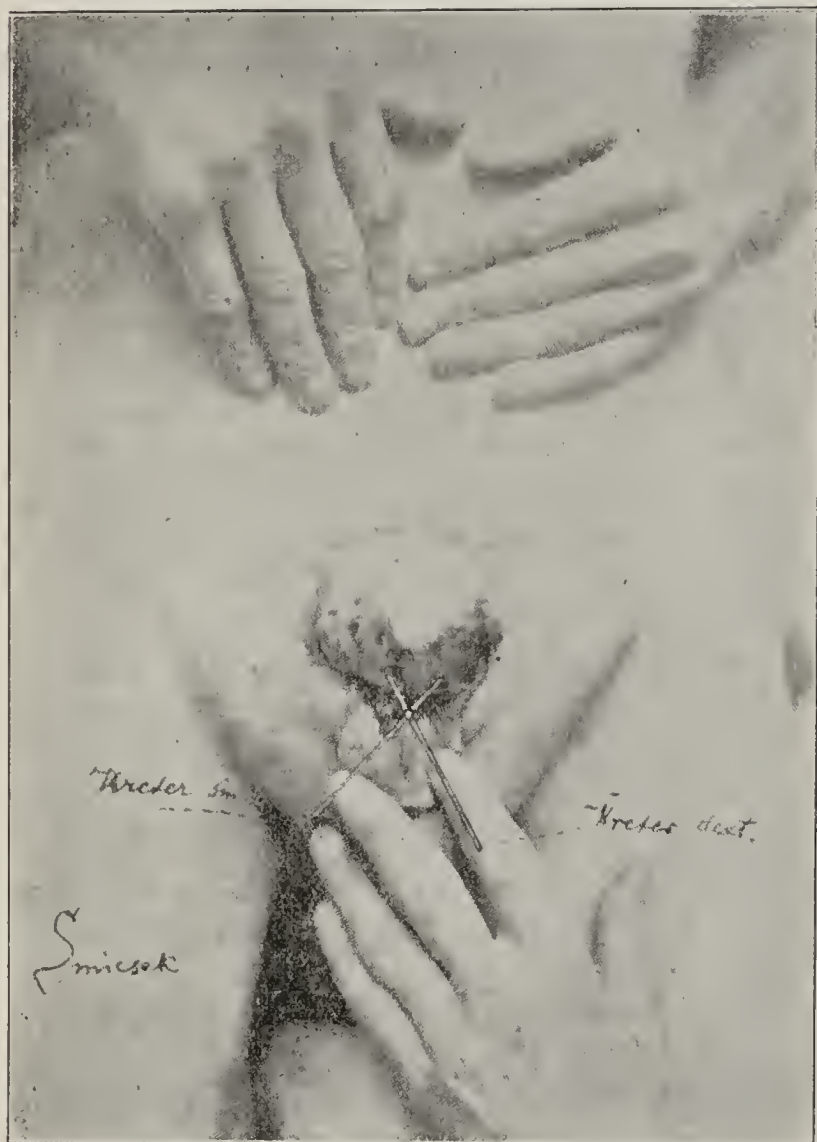
This elevated mass is, in reality, the mucous surface of the posterior bladder wall, which protrudes where the anterior bladder and abdominal walls are absent. This defect in the anterior wall of the bladder was formerly described as a cleft. Tenon, in 1761, observed and placed stress on the point that all of the anterior wall was wanting; that, as a matter of fact, but little more than the trigone remained. The degree of elevation depends on the intra-abdominal pressure. The recti muscles being separated, there is present a weakness in the abdominal wall at this location, a ventral hernia, as it were. Similar to other hernias, this swelling decreases or increases in size and volume, in accordance with the position and the movements of the patient. When standing it is more marked than when lying down and when straining, such as in coughing, sneezing, crying, defecating, etc., it becomes much more prominent.

The size of this swelling varies. In infants it is usually no larger than a walnut, but with advancing years it increases, and in adults may attain the size of a fist, from 2 to 3 inches long by 4 to 5 inches wide (5 to 8 by 10 to 12 cm.). The color is usually of a bright-red and is almost constantly varying slightly, owing to the external agencies which are always irritating this tender surface. At the edge of this mass, the margin where the mucous membrane passes into epidermis, is seen a boundary line or zone of smooth bluish tissue, such as is seen at the edges of the fissure in cleft-palate and hare-lip. In some cases this edge presents a margin of dense contracted connective tissue, evidence which has been claimed by some as a prenatal attempt at repair and cicatrization on the part of nature. The surface, as said above, is composed of mucous membrane, the "stratified, squamous or transitional" type of epithelium. The mucous membrane, as a rule, retains its characteristics and does not change as much as would naturally be expected, but persists as mucous membrane for many years, notwithstanding its location on an exposed part of the body, where mucous membrane is not found under normal conditions.

As bearing on this point, there might be mentioned the case operated on by T. Smith, in which he transplanted the left ureter into the colon. Afterward he noticed that the left side of the exposed mucous membrane of the bladder underwent a change in

appearance, "having become much lighter in color and somewhat cutaneous in character." That this exposed mucous membrane is kept continually moist may be the reason for its persisting as such. It is strange that in his case the urine from the right ureter should not have exerted an influence on the left side; for in the ordinary cases of exstrophy, a large portion of the mucous membrane is above the ureteral orifices; yet it maintains the characteristic features of mucous membrane. In the young it is tender and may bleed profusely on slight provocation, but soon becoming somewhat accustomed to the circumstances in

PLATE I.



Exstrophy of Bladder. (After Herzog.)

which it finds itself, its vascularity diminishes and the surface becomes quite tolerant of the unavoidable irritation, and the wall becomes quite hypertrophic. From the surface, usually at its lower portion, is observed the escape of the urine, which may dribble away almost constantly, or be expelled in small jets at irregular intervals. If in jets, it is almost certain that the ureters are more or less dilated. The ureters in many cases are dilated, as is also the pelvis of the kidney. Cooper mentions an instance where the ureter was larger than the rectum. Mörgelin reports a similar condition. Petit cites an instance where the dilatation was to an extent of 2 inches in diameter. Thilow relates finding the ureter very large, and Oliver reports a case of the ureter being as large as a child's intestine. Meckel

says the ureters are often found dilated in other varieties of congenital deformities, as, for instance, in a case of an acephalous monster, in which the genito-urinary apparatus was otherwise normal. He claims that this dilatation of ureter might be due to some cause other than obstruction.

The course of the ureter in exstrophy is somewhat altered from that taken under normal circumstances. The cul-de-sac between the rectum, or uterus, and bladder is greatly enlarged inferiorly and anteriorly, owing to what is practically an absence of the bladder from the pelvic cavity. They enter the bladder from below, after descending into this deep cul-de-sac, and then ascending to the bladder. Normally, they descend comparatively straight from kidneys to bladder.

On close examination, it will be seen that the urine makes its exit from two small pyramidal prominences; at the apex of each will be found a larger or smaller opening which is the orifice of the ureter. It will be noticed frequently that there is no umbilicus; if present, it is only a flat pigmented spot. This absence gives to the abdominal wall above the exstrophy a most peculiar appearance.

Wood calls attention to the crescentic border of cicatricial tissue to be felt and seen immediately above the tumor mass, which he considers to be the upper or omphalo-mesenteric portion of umbilicus. A case is on record by Champneys where the umbilical cord was divided in two just before reaching the child's body; and another case by Dietrich, where two umbilical cords ran separately to the placenta. According to Duncan, a similar instance is spoken of by Littré. The pubic bones are separated at the symphysis to the extent of a few inches, or the bodies of the pubes are absent, the rami being connected usually by a band or bands of firm connective tissue.—See Fig. 2. A fact relative to this point is that in birds which have a cloaca the symphysis is absent.

Divarication of the pubic bones, or cleft symphysis, is commonly said to be an invariable sign in exstrophy of the bladder; but cases are on record where the symphysis was perfect, as noted by Coates, Draman, Roose, Walther and Quatrefages. Exstrophy may exist without cleft symphysis; so cleft symphysis may exist without exstrophy, as stated by McWhinney, Meckel, Vrolik and Mayo. Exstrophy with cleft symphysis is the ordinary form. Exstrophy with perfect symphysis is an uncommon occurrence, as in the case of Coates and others. No exstrophy with cleft symphysis is also uncommon, as in the case of McWhinney and others, while no exstrophy with perfect symphysis is the normal condition.

This separation of the pubic bones causes a separation of the recti abdominales muscles. This is noted especially above the exstrophied mass, extending up to the ensiform, where a flat, hard and resisting surface can be felt 5 to 8 cm. (2 to 3 inches) wide at the bottom, becoming narrower as it ascends. This is the

connective tissue of the enlarged and thickened linea alba; the skin over this seems perfectly normal.

The thighs are separated farther than they are normally, owing to the cleft symphysis. When coupled with a bending forward of the body trunk, in an effort to protect the sensitive mass in the pubic region, it makes the gait a very characteristic one, and if once observed will be easily recognized on another occasion. The distress of the patient is both physical and mental, physically from the constant flow of urine and from the irritation caused by rubbing of the clothing. The irritation is not confined to the tender exposed mucous lining of the bladder, but often causes intertrigo, derma-

worth the living. The individual thus afflicted is usually normal in other respects and enjoys good health. This fact makes his isolation all the more pitiable. On account of the constant escape of urine, the clothing is saturated and the odor is almost unbearable to all but the patient, whose sense of smell seems to have become "acclimated," as it were. The penis is rudimentary, short and broad, and is attached to the bladder near the openings of the ureters, with an epispadias more or less complete. John Wood states that epispadias is always an accompaniment, and cites one case where only the anterior part was epispadias, the posterior portion of the urethra being closed. Küster re-

PLATE II.



Skiagraph, showing Separation of the Pubic Bones in Case of Exstrophy of the Bladder. (Dr. Weiner's Case.)

titis, and eczema of the surrounding skin, most usually of the thighs. The papillary orifices of the ureters are irritated by friction of clothes or other cause. These orifices present a warty appearance and may be seen to discharge pus or mucus. This appearance is aptly likened by Wood to the granular conjunctiva induced by entropion of the eyelids. This irritation and inflammation of the ureteral orifices produce the ordinary effects of obstruction, as is seen by dilatation and hypertrophy of ureter, pelvis and kidney. It is similar to the condition in ordinary pyelonephritis or surgical kidney, and in ascending infection of kidney in cases of cystitis. Mentally, he must suffer, for owing to his pitiable condition, he is excluded from society and from all the ordinary pleasures which are supposed to make life

ports a case of exstrophy in which the penile portion of urethra was closed, and on the dorsum of the penis a white cicatrix was visible. As a rule, it can be said that epispadias does exist without exstrophy; exstrophy does not exist without epispadias. The verumontanum and the openings of the ejaculatory ducts are to be seen in the bottom of this epispadias groove, the imperfectly formed urethra. The testicles may be descended or undescended; either in the abdominal cavity, inguinal canal or scrotum. The latter may be divided or imperfect.

Herniæ are not infrequently found in conjunction with exstrophy, either a single or double inguinal or ventral. The perineum is usually defective. The anus, being located immediately behind the scrotum, is often

imperforate, but more often perforate, with prolapsus. There is also present a general looseness of the mesentery of the large bowel and duodenum. The pouch of peritoneum, cul-de-sac of Douglas, descends deeply between the front of rectum and the posterior surface of bladder.

In the female, associated with the exstrophic tumor, the clitoris and labia may be found in a malformed or immature condition. There may be present prolapsus uteri, owing to the pelvic floor being weakened by the divarication of the symphysis. An exstrophied bladder may become carcinomatous, as in a case mentioned by Kelly. In a young male cat with exstrophy, dissected by Geoff. St. Hilaire, the conditions were found to be the same as in man.

ETIOLOGY.

The cause of the deformity termed "exstrophy of the bladder" has thus far been a matter of conjecture; and at the present time, nearly two hundred years after the detailed description of this condition by Mowatt, no theory meets with universal approval. In 1877, Francis Champneys, in reporting a case, delves into the then existing literature on the subject very extensively, and devotes considerable attention to the different ideas advanced in attempting to explain the existence of such a defect. Among the causative factors may be mentioned, not on account of any scientific value, but merely as interesting facts or coincidents, the few cases of so-called "maternal impression." One woman, who was employed in eviscerating geese during her pregnancy, gave birth to a child with exstrophy of the bladder. Another woman, one of the mob during the "reign of terror" in Paris, gave birth to a child with a similar defect. In another instance, a wife fell from a tree, alighting on her coccyx, and in describing her sensation, said that she "felt as if her insides were being forced out in front." Shortly after the accident she was confined, the offspring being perfect in every detail except the presence of an exstrophied bladder. And, also, the case reported by Mowatt where the mother had been struck by a cow's horn and "the fright remained with her and did terrify her sometimes in her sleep." An allied interesting case is recorded which may be termed one of "paternal impression." Shortly before the birth of a child the father dreamed that his son came to him and showed him the bleeding stump from which his external genitals had been removed. The child on delivery was found to have an exstrophy of the bladder.

But, passing from the fanciful to more substantial reasoning, many theories are to be found. They may all be classified under the three general headings of mechanical, pathological, and arrested development.

1. Mechanical: Breschet considered as the etiological factor the bursting of the bladder due to distention or fetal movement. Duncan placed the order of sequence as follows: imperforate urethra, distention from retention, divarication of pubic bones, and rupture of blad-

der. Foerster places the cause with the accumulation of fluid in allantois, preventing the closure of the abdominal wall over it. Creve thinks it is due to separation of the pubic bones. Roofe supposes the cause to be due to external injury, separating at the same time the bones of the pubes and bursting the bladder. Rose found the right kidney in the pelvis. Ahlfred regards as a cause the rupture of the exposed and distended allantois, the excretory duct of which has not been formed. Rolgans states that it develops at the end of the fourth month of fetal life, and that pressure of the umbilical cord against the anterior abdominal wall, as the fetus is head downward and the cord between the legs, would be a causative factor. Morgelin considered obstruction of the urethra sufficient cause, the obstruction and distention beginning before the visceral plates have fused to form the abdominal wall. He believes also that adhesions of the bladder to the yet ununited abdominal wall have more to do with failure to close than rupture of the bladder from obstruction of urethra. Chance deemed as a cause over-distention of the allantois, followed by rupture.

2. Pathological: Velpeau and Benjamin Phillips lay stress on the extreme thinness of the abdominal wall in the early stage of its development, and believe that then laceration or ulceration takes place, causing the defect. They also look on the absence of the symphysis pubis, not as a divarication, or simple absence, but as a necrosis of bone. They call attention to the cicatricial boundary. Chaussier notes failure of the abdominal wall to develop perfectly, then destruction of the anterior wall of the bladder. Wood usually found adhesions of the anterior abdominal wall to fetal membranes "due to inflammatory or degenerative processes arising from specific diseases, such as syphilis, etc." Perls asserts the cause to be the presence of adhesions between the lateral plates and the amnion.

3. Arrested Development: Vrolik says: "It can only be explained by an imperfect development of the urinary bladder from the allantois. It is not improbable that the urinary bladder is formed by two half parts, which approach each other anteriorly and posteriorly on the mesial line. If this juncture does not occur, the different forms of vesica inversa will occur." Meckel says that the bladder is originally a flat surface, the edges subsequently uniting. Failure of this union of edges is given as a cause. Fyres gives as a cause deficient development of the urachus—allantois. Bartels, in his case, found an abnormal opening of intestine separating the two halves of a double exstrophied bladder. He believes the allantois to be developed in two halves, and in this case, the cause was said to be due to an abnormal development of the intestine occurring before the two halves of allantois had united. Geoffrey St. Hilaire and Vrolik, because of the following co-existing malformations, considered the defect to be due to arrested development: fissures of head and face, umbilical hernia, abnormalities of intestine, imperforate

anus, spina bifida, bilobed appearance of the bladder in some instances, other defects in genito-urinary organs, occasional absence of the umbilical artery, fissured dorsal vertebræ, confluent toes, talipes, and genu valgum or varum. Reichel ascribed as a cause arrested development occurring in first weeks of fetal life, as a result of disturbances in formation of primitive streak, that is, coalescence of the borders of the primitive groove does not take place, or is defective.

This large number of various explanations is in itself sufficient to show that the causative factor or factors have not yet been pointed out. Many of these theories are at once seen to be based on a limited or imperfect observation of the cases or the literature. To the explanations classed under the heading of mechanical, the following objections have been raised: The bladder would be stronger than the abdominal wall. If the bladder ruptures, why should it always do so in the anterior wall and in a superior and inferior direction, while in adult life, when it occurs, as a rarity due to direct force or over-distention, in the majority of cases it extends from the insertion of the urachus down in the posterior wall, and the abdominal wall is never ruptured? The rupture need not be large, as a small opening relieves the pressure at once. Imperforation of the urethra does not occur; the urethra is too patent. Divarication of the pubic bones is not always present. No information is given as to how this injury to fetus causes this deformity. Pressure sufficient to cause atrophy of tissue in the abdominal wall would also be sufficient to stop or interfere with the circulation in the cord. If this pressure is the cause, why is the exstrophy so often associated with other deformities? Why is the defect so large as compared with the diameter of the cord and the area that it would press on? No case was found on record where the cord had exerted this pressure, and even partially produced this condition.

The objections to a pathological factor in etiology may be given as follows: This cicatricial appearance is seen in other deformities, such as hare-lip; and does not of necessity mean previous pathological change unless it should also apply to other deformities. If it is due to ulceration, why does not, occasionally at least, the intestine intervene between the bladder and abdominal wall and so fill in the gap or take part in the line of union? As a rule nothing except the deformity points to inflammatory change. That the os pubis is destroyed is very doubtful, and is not confirmed by any other investigator. Adhesions are not usual, and according to the majority of writers, syphilitic children are not prone to this deformity.

Under the caption of arrested development Meckel's embryology is not consistent with the facts. As to the others, under this heading, very little can be said, because no reason is presented for the sudden arrest of Nature's handiwork. It is found that the only theories which can be considered seriously are those which come under the heading of arrested development. Those

falling under either the mechanical or pathological, or even combinations of these, have been shown to have some serious objection. Unfortunately, after having arrived at the conclusion that arrested development is the cause of exstrophy of the bladder, no more is known than before. And, for this conclusion to be of any practical value, the reason for Nature's stopping before her work was completed must also be known.

The causative factor in the formation of exstrophy of the bladder may or may not be of any practical importance after it is discovered and made evident to the profession. Even if the etiology is known, it may not be possible to follow that rule which has become axiomatic and universally in force in the practice of medicine and surgery, namely, "ascertain the cause and then remove it." But, knowing the manner in which the malformation is formed, the surgeon in all probability will be better able to operate in an effort to repair the defect, as is done in hernia; in the latter the philosophy of the process is known, yet it is impossible to prevent its occurrence.

ANATOMY AND HISTOLOGY.

The bladder varies in shape, size and position according to the degree of distension. When contracted it is of triangular form, its cavity assuming a Y or T shape, and is almost hidden in the pelvic cavity. When moderately full it becomes rounded, and if completely distended it is of an ovoid shape, with the larger end below and posterior, and the smaller end above and anteriorly. A line through its long axis would start from a point between the umbilicus and symphysis (depending on the degree of distension), going in a direction downward and backward, and would strike the tip of the coccyx. The average capacity of the bladder is one pint, though, of course, under pathological conditions too numerous to mention, this capacity may vary from eight or ten pints to that of a few ounces. The normal capacity, according to Hunner and Lyon in a recent and excellent work on mensuration and capacity of bladder, is 430 c.c.

The relations of the normally-formed bladder are of importance from a surgical standpoint. Anteriorly, the bladder is in relation with the triangular ligament of the urethra, subpubic ligament, symphysis and body of pubis and, if distended, with the lower part of the anterior wall of abdomen. The wall of the bladder is separated from these structures by loose areolar tissue and connected to the pubic bones by means of bands of fascia, designated in this location as the anterior true ligaments—pubo-prostatic, or pubo-cystic ligaments. Posteriorly it is in relation, in the male, with the rectum; in the female, with uterus and vagina; in both, loops of small intestine may intervene. Superiorly it is in relation with the abdominal or peritoneal cavity, the urachus, and loops of small intestine. Inferiorly it lies over the urethra and prostate. Laterally, the sides, when distended, are rounded and prominent. When empty, they are merely curved edges. At the upper part

it is in relation with the peritoneal cavity and loops of small intestine; in males with the vas deferens; in females, the viscus is connected with the fascia by means of loose areolar tissue, which is continuous with the broad ligaments. Each side is crossed obliquely by the obliterated hypogastric artery, which joins the superior vesical artery and also serves for attachment.

The bladder, though a movable, or rather a distensible, organ, is held quite firmly in position by means of true and false ligaments. The true ligaments, so called because formed of folds of rectovesical fascia, are five in number: two anterior ligaments, extending from pubes; two lateral ligaments, extending from lateral wall of pelvis, and one, the urachus, serving also as a ligament. The false ligaments, formed by folds of peritoneum, are also five in number: two posterior, from sides of rectum or uterus, form the lateral boundary of recto-vesical fold of the peritoneum, and contain the ureters and obliterated hypogastric arteries. The two lateral are reflected folds of peritoneum from the iliac fossa; and one superior, a fold of peritoneum extending from the fundus to the umbilicus, covering the urachus and obliterated hypogastric artery.

The base of the bladder is a very important part of the organ. In the male it is triangle-shaped, bounded at the sides by lateral surfaces; in the front by the base of the prostate, and behind by the cul-de-sac formed by the rectovesical fold of the peritoneum. Behind the prostate are the vesiculæ seminales and vasa deferentia. The base of bladder is directed backward as well as downward and rests on the second portion of the rectum, to which it is adherent by dense fibro-areolar tissue. The bladder may be punctured through the rectum at this point without injuring the peritoneum. But in exstrophy the peritoneum dips down much deeper, as was found in Lloyd's case. In the female, it is separated from the rectum by the vagina and cervix. This part of the organ adheres to the vagina, its relationship depending on its degree of distension. The "neck of the bladder" is a phrase used to designate the junction of bladder and urethra, and by some anatomists to include the prostatic portion of the urethra. It is the lowest portion of the bladder when the individual is standing erect.

Blood-supply.—The arteries are the superior vesical and the obliterated hypogastric; the inferior vesical, which usually arises from the superior vesical; the middle vesical; the obturator, which gives off a visceral branch; and the sciatic, which occasionally does the same. All of these arteries arise from the anterior trunk of the internal iliac. The veins do not accompany the arteries constantly. They form an irregular and inconsistent network of vessels, which surround the lower part of the viscus more abundantly than its fundus—the vesicoprostatic plexus. These veins all terminate in the internal iliac vein.

Lymphatics.—These vessels arise from the entire surface of the organ, chiefly on the posterior surface and

neck, and run beneath the peritoneal coat through small glands to join others from the prostate; they finally enter the internal iliac glands.

Nerve-supply.—The bladder is in communication with the central and sympathetic nervous system by means of the sacral plexus of the former and the hypogastric plexus of the latter. The nerves arising in the hypogastric plexus have been traced almost exclusively to the fundus of the bladder; those originating in the sacral plexus, and especially the branches of the fourth sacral nerve, are distributed to the neck and base. Some of these nerves are distributed to the muscular coat and others to the mucous membrane. Microscopic ganglia are found along the course of the nerves in the bladder.

The wall of the bladder is composed of the following layers from without inward: 1, serous; 2, longitudinal muscular; 3, circular muscular; 4, submucosa, and 5, mucosa.

1. The serosa or peritoneal is not complete. The anterior surface is almost entirely devoid of peritoneum when the bladder is empty. The peritoneum is reflected from the bladder to the anterior surface of the abdominal wall, where it changes from visceral to parietal peritoneum. When the bladder is distended the urachus is not sufficient to prevent the falling down of the peritoneum as a cul-de-sac, and covering a large part of the superior portion of its anterior wall. This space, anterior to the wall and below the peritoneum, was first described by Retzius, and hence is called *cavum Retzii*, and is of great importance in cystotomy by means of the suprapubic incision. Laterally, the serous coat does not invest the entire surface, being absent below the obliterated hypogastric arteries. The posterior surface is entirely covered by the peritoneum. The base is only partly covered by this outer coat; it is absent where the bladder and rectum (or vagina) are in intimate relationship. The structure of this membrane is necessarily the same as the serous membranes in other parts of the body. It is composed of a layer of endothelial cells resting on a layer of connective tissue.

2. The longitudinal coat is composed of unstriped muscular fasciculi. It is separated into more or less perfect subdivisions of outer, middle and inner layers. The outer longitudinal layer originates from the body of the pubes—musculo-pubo-vesiculis—and extends up the anterior surface, over the summit and down posterior surface, becoming attached to the prostate, or in front of the vagina in the female. The fibers are somewhat oblique on the sides, and of course overlap each other. This layer has been named the "*detrusor urinæ*." Mercier ascribed to this muscle a double function: *a*, to force the urine toward the neck of the bladder, and *b*, to open the orifice and keep it so during the act of micturition.

3. The circular muscular or the middle layer is not particularly noticeable over the body of the bladder, but at the neck the fibers unite, forming the circular band of muscle called the sphincter vesicæ. The mus-

cular fibers of the neck have been described as descending into the urethra, or into the verumontanum or caps gallinaginis of the urethra. It is supposed that this structure acts as a valve to the urethra, falling down into the tube and obstructing it when the sphincter is closed and rising up so as to stand erect in the middle line, thus allowing the urine to flow by during the act of micturition. The internal longitudinal layer is thin and inconspicuous, except where two oblique bands of fibers originate behind the orifices of the ureters and converging become united and are inserted into the prostate gland or vagina. These were called "muscles of the ureters" by Sir C. Bell, and are supposed to maintain the obliquity of the ureteral insertion while the bladder is contracted, thus preventing regurgitation.

4. The submucosa is not very marked and consists of an interlacing of very loosely connected areolar tissue connecting the muscularis and mucosa in such a manner that the latter may be able to move considerably over the former. Within this layer are found the vessels and nerves which supply the mucosa.

5. The mucous membrane of the bladder is continuous with that lining the ureter and urethra. It is composed of epithelium in layers of cells, each stratum being composed of cells differing in size and shape from those of the other layers. In the deeper layer, that which rests on the submucosa, the cells are roughly columnar in shape; in the middle layers, more round or ovoid, and in the superficial layers the individual cells are distinctly squamous in configuration, the so-called "transitional or stratified squamous epithelium." The mucosa is connected to the muscularis loosely by the submucosa, and hence is capable of a limited independent motion. If the viscus is empty the mucosa is usually thrown into folds, which are not permanent, as they disappear on distending the bladder. At one situation, the triangular area at the base, these folds or rugae do not appear, owing to a more firm attachment to the muscularis. The mucous membrane shows no villi. Small racemose glands are to be found, especially at or near the orifice of the urethral opening. Small lymph-follicles are also present in the mucosa of the bladder.

The inner surface of the bladder presents at its base the trigone, trigonum vesicae, or "triangle Lieutaudii." This is, as the name implies, a three-sided space, with its apex located behind the urethral orifice, and its base bounded on each side by the openings of the ureters. This space is almost an equilateral triangle measuring about $1\frac{1}{2}$ inches (3 to 4 cm.) on each side. The mucous membrane over this area is bound quite firmly to the muscularis and presents no rugae. Immediately behind the posterior border of the trigonum the base of the bladder is normally more or less sunken, and is termed by the French the "bas fond." In cases of hypertrophy of the prostate or muscular atrophy or weakness this is the region which becomes deeper and is the seat of retention with its chain of symptoms and often of calculi-

formation. In many cases an increased thickening of the submucosa, causing an elevated ridge of mucous membrane extending from the trigonum forward to the urethral orifice, is present, which has been called the uvula vesicae. This divides the bladder into two halves, which may have something to do with embryologic formation.

The openings of the ureters into the bladder are quite peculiar and of the greatest surgical importance. The ureters are inserted into the bladder obliquely, according to Cabot, extending obliquely for the distance of 1 to 1.5 cm. between the mucosa and the muscularis. The opening on the mucosa is one at each superior angle of the vesical trigone. The orifice is at times difficult to locate, owing to lack of any visible opening and little or no change in the surrounding mucosa. At other times the opening is at the tip of a prominence, the "mons ureteris" of Kelly, or it may be in a more or less distinct depression. Kelly found in young nulliparous women, at the ureteral opening, a small round dark point, which was never observed in multipara. This oblique insertion is supposed to act as a valve in preventing regurgitation. The peculiar muscular bands described as running from the ureteral orifices to the prostate were supposed to be for the purpose of maintaining this oblique insertion even with marked contraction of bladder. The first to point out this valve-like action of the ureteral insertion was J. L. Petit, a Frenchman, who early in 1700 called attention to the fact that when the viscus was dilated the anterior wall of the duct was brought forcibly into contact, and held so, with the posterior wall of tube, thus sealing effectually the opening and preventing any back-flow. The fact of dilatation of ureters and pelvis of the kidneys was rationally explained by stating that the inferior orifice was closed; hence, urine could not escape as it was secreted from the kidney, and as the gland continued to functionate necessary dilatation of duct and pelvis occurred. This was accepted as an established fact for many years. With increase in knowledge and more accurate methods of observation it soon became a well-recognized fact that inflammation of the ureter and kidney did take place as a result of cystitis. These facts led to experimentation on the lower animals. Lewin and Goldschmidt, in 1893, reported experiments made on dogs and rabbits. Colored fluid was injected into the normal bladder, and the colored particles afterward found in the ureters and pelvis of the kidneys, in all probability carried there by an antiperistaltic movement. Courtade and Guyon repeated the above experiments with the same results, but noted the fact that the regurgitation occurred with less frequency in dogs, where the muscular development was more marked. Kelly, in recording his own observations on the reflux of air into the ureters, has noticed this phenomenon in at least twelve cases. The air enters without being perceived, but it soon becomes heated and then escapes in visible bubbles at the ureteral orifice.

He says in conclusion: "The fact that gas will enter the ureters simply shows that they are not air-tight under some conditions, and does not prove in any way that they are not water-tight under physiological conditions." These experiments, accompanied by observations, have caused it to be an acknowledged fact that regurgitation may and does occur, but not under normal conditions. When it does occur there is some pathological activity in the vicinity; or the fact that regurgitation does take place, if not followed by pathological change, will not be noticed. The experiments above cited demonstrate conclusively that regurgitation may and does occur in the normal bladder of the lower animals. Under normal conditions, if the valve becomes defective and nothing but plain non-infected urine regurgitates, no more damage is done than when the urine secreted by the kidney can not escape and there is resulting dilatation of the ureter.

But if septic matter, infectious material, is in the bladder, then the necessity under this abnormal pathological condition for a perfectly working valve is imperative. The experiments with clinical experience show conclusively that this valve is sometimes defective. The importance of the ureteral valve can not be overestimated, and certainly should be considered carefully before attempting implantation of this valve into a septic cavity like the rectum, sigmoid or colon. Another valve, like unto this, is sometimes defective, namely, the opening of the ductus communis choledochus, the mechanism of which is quite similar. It has been clinically established that this orifice is many times at fault, as in catarrhal cholangitis.

The ureter claims our attention when considering exstrophy of the bladder. It is a muscular tube 25 to 30 cm. (10 to 12 inches) in length, extending from the kidney to the bladder. On account of the higher position of the left kidney, the left ureter is longer than the right. The diameter is about that of an ordinary goose quill, 3mm.; but this is only an average diameter, and is not uniform, the tube presenting three quite constant points at which a diminution in the caliber will be found: 1, at a point 3.5 to 5 cm. (1½ to 2 inches) from pelvis of kidney; 2, the place where it crosses the iliac artery, and 3, at the junction of its pelvic and visceral portion. The duct runs a sigmoid course, its length exceeding the shortest distance between kidney and bladder. At the pelvis, on a level with the spinous process of first lumbar vertebra, the ureters are 9 cm. (3½ inches) apart; at the ileocecal line, 6 cm. (2½ inches); at ischial spines, 10 cm. (4 inches); at entrance into bladder, 4 cm. (1½ inches). On account of this tortuosity the ureter may be picked up and lifted 3 to 4 inches into the abdominal incision without doing any serious damage. Also in implanting it into neighboring tissues or organs, its lower end will permit of considerable transportation owing to this S-shaped course. The function of the ureter is to carry the urine from the kidney to the

bladder, and in doing this the muscular coat is called into action, as is seen in the peristaltic movement descending in waves at regular intervals. Thus, the function is not passive, but active. This peristaltic action was noticed by T. Smith, in 1879, while transplanting the ureter into the colon, and he spoke of it as follows: "It was observed that more urine flowed from the right ureter than from the left, and that the flow was not continuous, but at intervals; the ureters contracted and forced the urine out with a gush, etc." Kelly tells of starting this action by manipulating or pinching a ureter during an operation. The ureter is in its entire course extra- or retro-peritoneal, located in the retro-peritoneal space and surrounded by a layer of loose fatty tissue. It imparts a peculiar sensation when grasped by the fingers, and may be seen as a white cord behind the peritoneum, to which it is attached. This attachment was suspected, but it is due to Cabot's work that the fact was demonstrated under the microscope. Thus, in stripping the peritoneum, the ureter is always removed with it. When searching for the ureter in its upper portion, Cabot noted that the ureter was just external to the line of adhesion of peritoneum to the spine. In searching for the ureter in the pelvis, it can easily be located at the pelvic brim at the division of the common iliac artery. For convenience of description, the ureter has been arbitrarily divided into abdominal and pelvic portions, the dividing line being at the common iliac artery, about 3 cm. above the brim of the pelvis. The abdominal portion is about 12 to 15 cm. (5 to 6 inches) long. In passing down from the large into the small pelvis, the left ureter lies between the vertebræ and psoas muscle; the right ureter, on account of the inferior vena cava, is situated a little more laterally.

The pelvic portion has, as a whole, a sigmoid course, and is from 10 to 12 cm. (4 to 5 inches) long. It is at first on the inner side of the internal iliac artery. In the upper pelvis it presents, according to Glautenay, the following relations: It crosses the iliac vessels, lying behind the ileum on the right side and the sigmoid on the left side. It crosses over the pyramidalis and the obturator internus, separated by pelvic fascia; at this location it is behind the obturator and umbilical arteries, branches of the hypogastric. In the remainder of its course in women, it is crossed by the ovarian artery and vein, and the uterine artery. It passes through the base of the broad ligament, through a sort of ligamentous foramen, half way between the pelvic wall and cervix, along upper lateral vaginal wall; then curves to the anterior vaginal wall, terminating in the bladder midway between the cervix and meatus urinarius. In man it is crossed by the vas deferens and differential artery; then it passes on to the anterior surface of the seminal vesicle and enters the bladder, above the prostate.

The blood-supply consists of renal, spermatic, internal iliac and inferior vesical arteries. The blood-

supply of the ureter is a question of vital importance when implanting it into neighboring structures or organs. Any such procedure will necessitate the freeing of the duct for some distance; and hence the danger of separating it too much and interfering with its nutrition. Margarucci found a branch of the renal artery accompanying the ureter almost to the bladder, in dogs. From these, branches penetrate the walls to supply the mucosa. The ureter receives its blood-supply, for but a short distance, from the vessels of the bladder—hypogastric. It has its own vascular system, a branch of the renal, and does not anastomose to any extent with surrounding vessels. This would account for the possibility of isolating it from its surroundings without causing necrosis. Monari calls attention to the branches of the spermatic artery which serve to supplement those of the renal artery. These two branches form the main arterial system of the ureter, that coming from below the bladder being so small as to be hardly worth mentioning. Monari also studied on dogs the extent to which the ureter could be isolated from its surrounding connective tissue without causing necrosis. He found that from 12 to 13 cm. (5 inches) did no harm, if it was carefully replaced in contact with the tissue from which it was removed and the peritoneum allowed to cover it again. On the other hand, if isolated and kept away from adjacent tissue, as by wrapping gauze around it, if only to an extent of 6 cm., necrosis and leakage would result. The nerves are derived from the inferior mesenteric, spermatic, and hypogastric plexuses. The veins are not constant in their course and end in various neighboring vessels. The lymphatics are well developed, and form several networks between the different layers of the ureter. The wall of the ureter is 1 mm. thick and consists of three layers: fibrous, muscular and mucous. The fibrous layer is continuous above with the capsule of the kidney, and below with the fibrous capsule of the bladder. The peritoneum is connected by fibrous bands from this coat to the anterior wall throughout its whole extent. The muscular layer has been variously described as being subdivided into an outer and inner longitudinal, and a middle circular; and, again, as consisting of only an outer circular, and an inner longitudinal. There is no sphincter-like arrangement at the vesical orifice. The mucous membrane is continuous with that of the pelvis of kidney above, and of the bladder below. It may present longitudinal folds which are not permanent, as they disappear on dilatation. The mucous membrane is the transitional epithelium. No glands or papillæ are found.

HISTORY.

The literature of exstrophy of bladder is of comparatively recent date. According to Mazel, nothing relative to the condition is to be found in the writings of Hippocrates or Galen. The records of the "middle ages" are similarly devoid of reference to this subject.

The first case reported appears as late as 1595 and is presented by John Schenke. A similar case was also recorded about the same time by Tobias Cneulin. It is not until 1670 that the first record of a female case is found, which is reported by Van Horne. Thus it is found that the sixteenth and seventeenth centuries pass with their pages practically blank in relation to this condition. But during the eighteenth century, the attention of medical men is being attracted to it, and in 1713, a peculiar case is recorded by Richardson, as follows: "One John Warnsnope, of North Brierly, a poor boy, lived until he was 17 years of age and never made water, and yet he was very healthy, vigorous and active. He constantly had diarrhea on him, but without much uneasiness. The obstruction must have been in the kidneys, for he never had any inclination to make water. The serous part of the blood, which should have been thrown off by the urine, was discharged by the celiac and mesenteric arteries by the mediation of the glands into the guts. He died from fever." The above was written 187 years ago, and is interesting, because in all probability it was a case of ureterorectal, or vesicorectal anastomosis. The fact that the boy lived seventeen years is significant and of value at this time, when the Maydl method of treatment is being so widely discussed.

Huxham and Bonnett, under the title "Preternatural Structure of the Parts in a Woman, with an Account of Delivery," report the case of a woman who was 27 years old, in 1722. She was married, and had become pregnant. At the time of delivery, the physician was dumbfounded at finding neither vulva nor vagina. As a last resort, a free incision was made in the lower part of the abdomen, or where the vulva should be, and the successful delivery of a full-term child was accomplished. No mention of exstrophy of the bladder is made at this early date, but there can be no doubt that such was the condition existing.

Mowatt, in 1735, gives the following description of a case which came under his observation. This is the first valuable article to be found in the available English literature. "In November, 1732, a child was brought forth whose funis umbilicus was tied to the upper edge of a deep hole, and just above the ossa pubis this deep hole penetrated the peritoneum; but now a lump of spongy flesh rises out of it. The edges of the hole were at first and are now found sound. From the spongy flesh of this hole arise two papillæ about the size of the point of an ordinary probe, at which the urine constantly oozes; but when the child cries, the urine jets out as blood from the aperture of a small artery. The papilla on the left side is now closed, but the other keeps open as at first, through which the urine continually oozes and scalding all the parts, keeps them very raw. The penis arises immediately at the under side of the hole, was at first much less in size; it was and still is imperforated, and flat on the upper side next the glans, as if it had been slit

longitudinally. It has two small veins and a large prepuce inverted. The scrotum and testes were and continue in a good condition; the scrotum is corrugated very close to the end of two prominences; the raphe appears in its middle with wrinkles on each side; the testes lie under the prominences; they can be moved from the place they are seated in, either higher or lower as we please to put them. The distance between the scrotum and anus is longer than it should be; and the ossa pubis are longer and flatter than in other children. There is a large prominence on each inguen under which the testes lie. The child is healthy, active and stirring, and is very much affected with his misfortune; for he frequently cries upon viewing himself, and is very unwilling any other should see these parts. The mother is a very healthy woman; has brought forth another child every way sound and right in all its members. She tells that in May, before she was brought to bed of this her first child, she was struck in the belly with a cow's horn; she recovered the hurt in two or three days, but the fright remained longer with her, and did terrify her sometimes in her sleep. I have twice or thrice thrust down a small silver probe at the right papilla about an inch or more, but can not feel it in the perineum. I have also closed up the papilla two hours and three-quarters with a small tent and an astringent plaster over it, but can discover no swelling in the perineum, but rather in the belly. Upon withdrawing the tent the urine squirted a great way, but by the uneasiness of the child and the anxiety of the mother, I'm obliged to desist at present from any further experiments."

Devilleneuve, in 1767, reports a case, giving a comparatively accurate description of the condition found. In 1749, Buxtorf, assuming the condition found to be a hernia, made an attempt at relief in his case by applying a "plaster bandage."

The first rational attempt at treatment appeared near the close of the century in the silver-bowl of Jurine, of Geneva. The principle of this apparatus, the first and original method of treatment, is still in use at the present day, though, of course, the archetype of Jurine can at this date be hardly recognized, owing to the many important improvements and modifications. An apparatus for use in exstrophy is still recommended. Toward the end of the century there appears an account of a man 20 years old, in 1791, a certain Mathew Ussen, who is designated as a German traveler, was in the habit of going from place to place, and it is judged that he presented himself to medical men for examination, by whom he was looked on as a very rare curiosity. This Ussen was fitted with one of these silver bowls by Bonn, of Amsterdam. Upon seeing this same case, Roofe suggested connecting the "bowl" with a reservoir by means of a hollow tube.

It will be safe to make the assertion that, at the beginning of the eighteenth century, what is to-day known as exstrophy of the bladder did not exist and was not known as such 200 years ago. That there were

cases then, as now, no one will question, but that they were not recognized, nor the true significance of the defect understood, must be admitted. The coming of the nineteenth century brought with it a fairly good knowledge of what to-day is known as exstrophy of the bladder. Yet, leaving out the Jurine apparatus, very little advance had been made in attempts at treatment. Cases were recognized and reported with greater frequency, to be sure, and they had to a certain extent lost their novelty. In 1805 Duncan collected 50 cases; in 1828 Earle collected 68 cases, and in 1833 Velpeau, about 100 cases. But if the profession as a whole understood what had taken place, it was far from being a unit as to the cause. It is to be observed, as significant of the trend of thought at this time, that when a case was reported, it was not deemed sufficient to record the facts as found, but at the same time to theorize as to the cause of this unfortunate side-step on the part of nature. To think of "granting nature the exercise of reason in her operations," shows that man must have been keeping a somewhat close watch on Dame Nature and her methods. As showing the interest which had developed at the time, there appear in the *Edinburgh Medical and Surgical Journal* for 1805, three articles on this subject. One was by W. H. Coates, presenting the case of a female with the peculiarity that the symphysis was perfect. Another case was in a female, reported by Sir Astley Cooper, where the ureters were increased in size to that of the rectum, and a masterly review of the existing literature on the subject by Andrew Duncan, Jr.

Dubois and Dupuytren suggested, in 1806, that it might be advisable in these cases to attempt to bring the defective pubic bones in apposition at the median line by the application of a compression bandage. Soden, in 1808, reports a case which was peculiar, in the difficulty with which the sex of the child was determined upon.

In 1827 Hamilton presents the first case which appears in the literature from an American. This case was of unusual interest, because of the patient being delivered of a child at the age of 40, and subsequently lived to the age of 80 years. In 1832 is found an admirable description of this condition by J. J. Schneider, and also an exhaustive thesis on the same subject by J. L. A. De Quatrefages.

During the remainder of the first half of the nineteenth century, there are found among many reports of cases, a few suggestions as to treatment, all of which were tried and usually found wanting. One was the method of Earle, where cauterization of the exposed mucous membrane was resorted to. Mowatt and others made the attempt to dilate the ureters in the hope that they could be made to take the place of the defective bladder. Wattman, Gerdy and Langenbeck's cases are noted, in which attempts were made to close the cleft by sutures.

The suggestion by Delpech, Bünger and Froriep that flaps of skin from adjacent surfaces might be utilized

were all recorded before 1850. At that time McWhinney presented a very exhaustive paper on the subject, covering thoroughly the literature up to that date.

During the sixth decade, remarkable progress was made. Chance, in 1852, as an introduction to a presentation of two cases, says: "To the surgeons such cases are interesting because hitherto, as far as I know, they have entirely baffled every attempt at treatment. To the physiologist, however, they are still more so, because the agreement between them is so great that it proves such malformations are not the mere result of accidental erroneous development, but arise from some specific error acting invariably in the same manner, the nature of which error has not as yet been exactly determined." Following this, are the suggestion of Roux, that the ureters be transplanted to the rectum, and the operation of Mr. Simon, namely, ureterorectal anastomosis; that of Mr. Lloyd and Mr. Athol Johnson, vesicorectal anastomosis. Then came the first typical flap operation, that by Roux, who was succeeded by others; the decade ended with the comparatively successful cases of Drs. Paneoast and Ayres.

Despite this increase in the literature, that the condition of exstrophy of the bladder was still quite a rarity is shown by the report of Porter, in 1855, in an article entitled, "Bladder Outside of the Belly," where he gives a very accurate and complete description of a case, in part as follows: "A monstrosity so rare that comparatively few physicians of this country have ever had an opportunity of seeing it. Dr. Gross, of Louisville"—later of Philadelphia—"has seen but one, and that the individual in question. Professor Eve has seen two others, one of them in Great Britain. About 70 cases have been recorded in Europe, and a dozen in the United States. And, alas! there is no remedy for this dreadful deformity."

From 1860 till 1870 the flap operation was employed almost exclusively; and it was during this period of time that the method approximately reached perfection. Holmes presented a number of successful cases, on one of which he performed a vesicorectal anastomosis, on the principle of Lloyd, but by a different method. Wood introduced his method, which was destined to become the preferred flap operation. He operated on many cases, with remarkably few failures. In 1867, Thiersch presented to the profession a variation in the flap procedure, that is, the use of granulating flaps. During the next decade, in the vast majority of cases operated on, flaps were utilized. In this period, the method presented by Wood was repeated and underwent many modifications. The same can be said of the Thiersch method, but to a less extent. In 1872, Rose attempted to control the incontinence by making a communication between the vagina and rectum, and then diverting the urine into the rectum by closing the vagina. In 1876, Levis presented his ingenious procedure, and in 1879, Thomas Smith repeated the principle of Mr. Simon's operation. In 1881, Thiersch

repeated the procedure of Holmes, in making a vesicorectal anastomosis. Glück and Zeller reported the result of their experimental work on dogs, and Sonnenburg presented his method. In 1885, another variation is advanced by Trendelenburg in his method, which might be called the osteoplastic. The remainder of the decade was occupied in repeating or slightly modifying the methods already presented. At the close of this decade, in 1889, Segond reported a new feature, being in reality a modification of Sonnenburg's, but still characteristic enough to be differentiated by his name.

At the beginning of the tenth decade, a great deal of work was being done experimentally in the implantation of the ureters into the rectum, on the lower animals. A few such procedures had been undertaken on the human being, but with an unfavorable outcome, by Küster, in 1891, and Chaput, in 1892. R. H. Reed, in 1892, did some very interesting experimental work; and, in 1893, Van Hook, in his notable work on the ureter, devoted some time to ureteral implantation. In 1894, Maydl presented his method of ureteral implantation, which has met with almost universal success. Boari, in 1896, brought before the profession a device, resembling in some respects the Murphy button. This was followed by Chalot's apparatus, in 1897.

After the introduction of Maydl's method the authorities seem to have become divided. One class believed in the efficiency of the "valve"—the normal ureteral opening—to prevent ascending infection; while others considered this, as a safeguard, practically worthless. Those lacking confidence in the trigone as a barrier against ascending infection worked with the object in view of devising some method by means of which infection would be effectually prevented from involving the ureter and kidney; and those who were satisfied with Maydl's operation for exstrophy, carried on the same work with the complete removal of the bladder—as in tuberculosis and neoplasm—as the end in view. In 1896, Krynski and Vigoni published, each a work along this line. Pousson reported also some interesting cases, and has tabulated 52 operations, by various methods, since 1889. These were followed in the next year by Pisani, who, in so far as he preserves the trigone, has merely modified the principle of Maydl. Mathes reviews the subject of ureteral implantation into the intestine, and reports two cases operated on by Eisberg, after the Maydl method.

Toward the close of the century, and especially during the last few years, the literature has increased at a wonderful rate. During 1898 and 1899, Fowler and Martin each present a work on this interesting phase of the subject. The years 1899 and 1900, are found to be very prolific of contributions on this no longer neglected subject. Maydl reviews the operations by his method. The cases of Allen, Josseland, and Herczel add to the list, without increasing the mortality rate. Among other recent additions to the literature are: The masterly review of the subject by Mazel;

the brief, concise, thorough and very interesting discussion by R. Matas; the extremely interesting plastic operations of Rutkowsky and Mundell; the revival of the vesicorectal anastomosis in a much more practical method by J. Frank; the successful bilateral axial implantation for tuberculosis by C. Beck, of Chicago, and another for sarcoma by Krause; the unilateral case by Lenden, and the experimental work of Kalabin; the utilization of Sonnenberg's method by J. Rilus Eastman; the employment of the skin-flaps by Wheaton, Means, De Forest Willard, Shimonek and others; and the very recent experimental work reported by Peterson.

TREATMENT.

In considering the treatment for exstrophy of the bladder, the different methods may be classified under palliative and radical. The former includes all methods which, when completed, do not give to the individual control over the evacuation of urine; the latter includes all methods wherein the result does admit of the patient retaining the urine for a variable length of time. The object of the palliative method is, primarily, the covering and protecting of the tender mass of tissue; secondarily, the formation of a cavity variable in capacity, with usually no sphincter-action at its orifice, or if present, very weak and inefficient; and thirdly, the placing of the structures in such a manner that the out-flowing urine may be more easily conveyed into a suitable receptacle. By the radical measures the object in view is to utilize the sphincter ani as a sphincter, and the rectum, or some portion of the intestinal canal, as a receptacle. The sphincter vesicæ is beyond recall, and in consequence the sphincter nearest at hand is called into service. Many attempts at repairing of the sphincter vesicæ have been undertaken, but with almost uniform failure. But the method of treating epispadias, suggested by Trendelenburg, if carried out in conjunction with the flap operation, may some time produce quite an efficient sphincter. Trendelenburg cites a case which, after operation, could retain the urine for three hours. The fact, that in suprapubic cystotomy the opening may and does assume the properties of a sphincter, has been cited, but it must be remembered that this sphincteric action is due to the part played by the recti abdominalis muscles, which are in apposition, and the suprapubic opening between them. In exstrophy the recti muscles are separated from each other for a distance of from 1 to 3 inches, and, therefore, can not exert any sphincteric action.

A—PALLIATIVE.

I.—Apparatus.

II.—Flap. 1. Of skin: *a*, epidermis in (reversed); *b*, epidermis out. 2. Of mucous membrane: *a*, remaining bladder wall of patient; *b*, intestinal wall of patient; *c*, bladder wall of lower animals.

III.—Suture of edges of fissure: 1. By direct suture. 2. Preceded by preliminary measures.

IV.—Miscellaneous: 1. Dilatation of ureters. 2. plaster bandage. 3. Catheters in ureters. 4. Fistula in perineum. 5. Ureters inserted into the urethra. 6. Nephrectomy on one side and lumbar ureteral fistula on the other.

B—RADICAL.

I.—Axial implantation. 1. By sutures. 2. By apparatus.

II.—Vesicorectal anastomosis.

III.—Implantation of trigonum vesicæ.

IV.—Implantation in a manner imitating normal insertion into the bladder; or an attempt to make a valve.

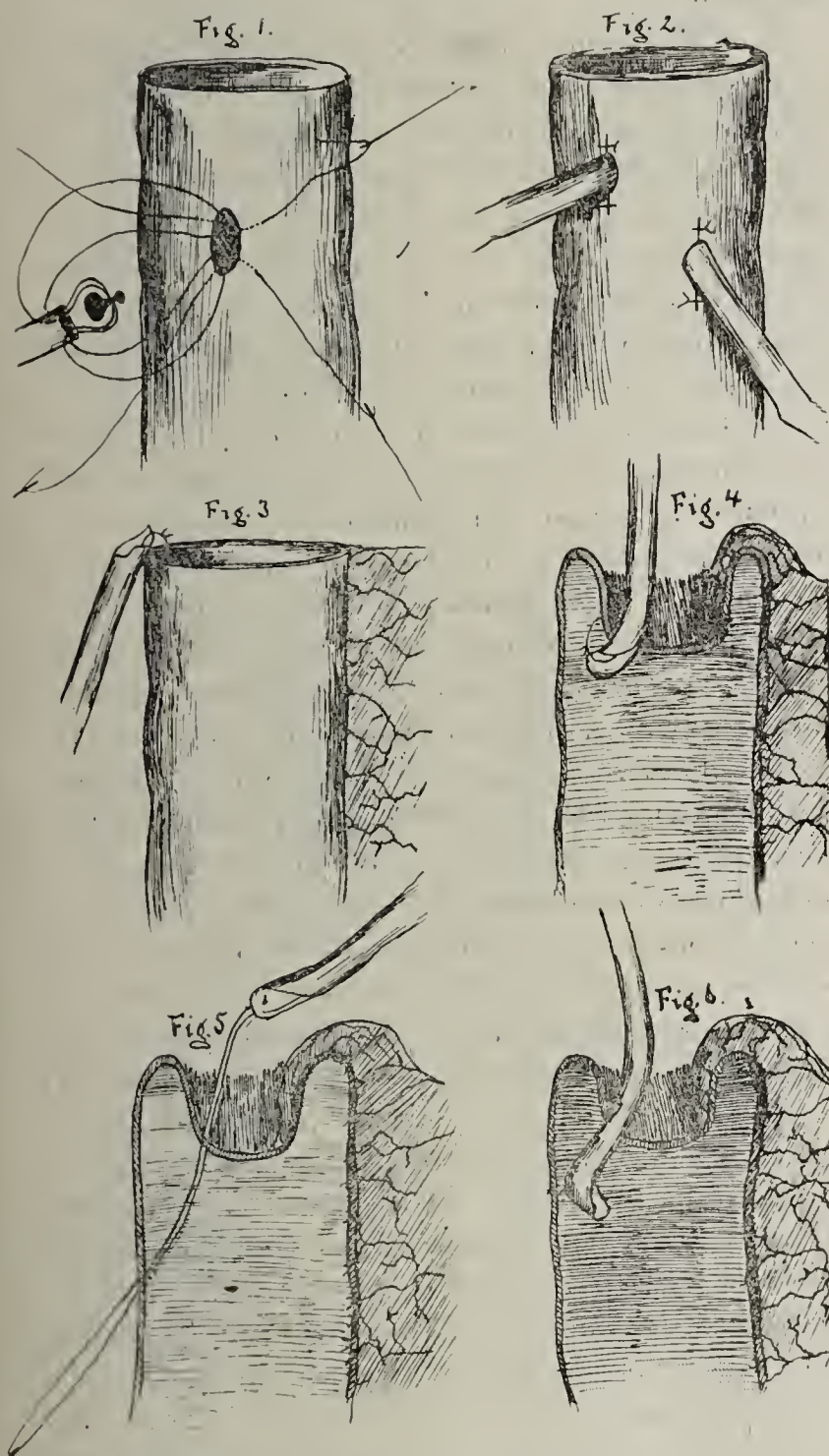
V.—Miscellaneous. 1. Vesico-vagino-rectal fistula, with colpocleisis. 2. Artificial anus; ureters inserted into rectum. 3. Artificial bladder: *a*, opening into urethra; *b*, opening into intestinal tract.

Palliative.—A. I. Apparatus. The efforts in this direction consisted in the application of an apparatus to cover the exposed mucous membrane. Jurine, of Geneva, was the first to contrive an apparatus meeting the requirements, which became known as the "Jurine bowl." This receptacle was attached to the anterior wall of the abdomen, immediately over the exstroverted bladder, and held in place by means of a belt and buckles. Being detachable, it was removed at night, cleaned and replaced each day. When properly applied, this contrivance controlled to a great extent the offensive odor. Likewise, it protected the delicate mucous membrane of the bladder, prevented excoriation of the adjacent integument by intercepting the escaping urine, and altogether was a priceless boon to the healthy, active young person thus afflicted. Bonn, of Amsterdam, in 1781, was the first to recognize the advantages of this apparatus. He modified the same and, as well as others, used it quite extensively, thus really introducing and establishing its merits. See Plate v, Fig. 1. This form of treatment was further improved by Roofe, in connecting the bowl with a reservoir by means of a tube. Another step in the treatment was the recommendation of Earle, that by cauterization of the mucous membrane, new connective tissue would form, which in contracting would reduce in size the space to be covered and at the same time lessen the sensitiveness of the area on which the bowl or shield would rest. This method of treatment in exstrophy of the bladder, though the oldest, is still recommended at the present day by many authorities. See Plate v, Fig. 2. "An instrument for everted exstrophy of bladder consists of a metallic or hard-rubber shield, to the lower extremity of which is attached an elastic tube, leading to a soft-rubber pouch, to collect the urine. This is buckled to the thigh, or may be carried down to the boot."

A. II. Flap, 1*a*.—Roux was the first, in 1852, to perform the regular flap operation, that is, the dissecting up of a portion of skin, leaving it attached at one point, its base, and turning it over as a leaf in a book on the exstrophied mass, with the epidermis in. He used an

abdominal and a scrotal flap, which were sutured over the mass. The stitches yielded and the flaps sloughed. Richard, in 1853, resorted to a modification of Nélaton's method of treating epispadias. He brought down an umbilical flap reversed. Then he dissected a scrotal bridge-flap, which was placed on the umbilical flap. This was the first application of superimposed flaps. The reversed flap with wound surface out was covered by the bridge-flap with raw surface in, thus giving normal epidermis on the outside, and the two

PLATE III.



Figs. 1 and 2, experiment No. 7. Figs. 3 and 4, experiment No. 8. Figs. 5 and 6, experiment No. 10.

wound surfaces in contact. Alquié, in 1856, used superimposed flaps, but added the new feature of effecting this in two steps. He was the first to make the flap operation in more than one sitting. Pancoast, of Philadelphia, in 1858, made the first successful flap operation. He used lateral semilunar flaps and sutured them in the median line. Primary union resulted, except at the inferior angle, which point was to have been operated on at a future time. But the patient died of pneumonia two months after the first operation.

Ayres, of Brooklyn, in 1858, was the first to report a successful case. A single curvilinear abdominal flap was employed, resulting in primary union of all except at the lower part of the line of union. This small opening was closed at a subsequent operation. This case was peculiar, in that the patient had been delivered of a child two months previous, with a resulting prolapsus uteri, which disappeared as a consequence of the operation. Holmes, in 1862, used lateral, superimposed flaps, the superior border of the flap being sutured to the abdominal wall at a second sitting. He has reported five cases with three successful results. The flap method which has met with the most favor and has been performed with success, such as accompanies a successful flap operation, is that performed, in 1863, by John Wood, of London. See Plate v, Figs. 3 and 4. On account of its popularity, his own words will be quoted in a description of the operation.

The upper flap should be figured by a line extending along the side of the bladder surface vertically upwards as far as the measured distance from the root of the penis to the upper margin of the bladder and then carried in a rounded curve across the "linea alba" at this point to join another vertical line of equal length on the opposite side of the bladder. The two groin flaps for superposition are to be made of a rounded lancet-shape, with their roots downwards and inwards at the base of the scrotum and continued along the side of the urethral groove for about half its length.

These flaps should be long enough and detached enough to meet in the median line for their whole length and no sharp angles should be left in their outline. The incision for making them should join that of the lateral border of the first or umbilical flap at about its center. In raising the umbilical flap care must be taken not to make the skin too thin, which is apt to be done in the center of its base near the upper margin of the bladder. At this point there is little or no subcutaneous tissue and the aponeurotic and tense linea alba is thin and easily injured by the knife, consequently the greatest care is required to avoid opening into the peritoneum or subperitoneal fascia.

It is better to lay hold of the flap with the fingers than to use the forceps, which are apt to damage the vitality of the edge of the flaps, on the direct union of which a good deal of the success of the operation depends. In raising the lateral or groin flaps the superficial external pudic vessels are divided, and are often large enough to require ligation.

The upper or umbilical flap should first be dealt with, folded evenly down with its skin surface to the bladder, its corners being stitched with thickish wire sutures to the cut edge at the root of the penis on each side.

The groin flaps should then be placed on the raw surface of the umbilical flap, with their inner edges held in contact along their whole length by six closely-applied wire sutures. The bases of these flaps should pretty closely embrace the root of the penis. The raw surface left by the reflection of the umbilical flap can be easily covered by drawing its edges together with three or four strong and long harelip pins, which have the effect of relieving any strain which may affect the reflected flap. At this stage of the operation the patient's shoulders should be well raised and his knees bent and adducted; to diminish the stretching of the abdominal parietes. The upper borders of the groin-flaps may be held upwards by one or two thick wire sutures, but the site of the groin flaps should be left to heal by granulation.

In the female, the umbilical flap should be large and the incision for the groin flaps on each side should be carried well down, so as to have their roots in great measure connected with the labia. When they are placed together and stitched on the umbilical reversed flap, the vagina should be almost

closed up by them, with but a small opening to allow the passage of the urine. Through this opening a very large india-rubber drainage-tube should be kept in the vagina and be changed and cleaned daily.

As a supplemental procedure in the male, the operation for the epispadias which remains, and for a preputial covering for the penis, will usually be found necessary.

This method, has been modified very extensively, and is, in fact, the principle upon which is based nearly all the flap operations of to-day. Slight variations and improvements have been presented by Michel, Ashhurst, Le Fort, Bigelow, Greig-Smith, Shrady, Mayo Robson, Wheeler, Marsh, Bennett, Richelot, Rickerts, De Forest Willard, and others. Moury, in 1871, utilizes the scrotum and perineum in forming the flap, which he turns upward and attaches to a short abdominal flap—1 inch—by means of a tongue-and-groove suture. The penis is slipped through a small opening in the center of the scrotal flap, thus allowing the urine to pass without coming in contact with the wound. Several cases are reported with a satisfactory result. Gross, in speaking of this method, says that it is the most eligible for males.

A. II. Flap 1*b*.—Thiersch began the operative treatment of exstrophy by curing the epispadias by his own method. The defect in the bladder was then covered with flaps of skin. He cut three skin flaps. An upper pendunculated skin flap, large enough to cover the whole defect, was taken from the middle abdominal region and turned downward, so that the skin surface was directed toward the mucous membrane of the bladder. This flap was sutured to the previously freshened borders of the defect. At the same time, two lateral bridge-shaped skin-flaps with a double pedicle were marked out and dissected up from the subjacent tissue. These two flaps, which are connected at their ends with the surrounding skin, remain, for the time being, in situ. Tinfoil, oiled silk, iodoform gauze, or the like, are inserted beneath them, and they are allowed to granulate. After a time, these granulating skin flaps are detached at one end, laid over the granulating first flap and sutured together in the median line. In this way the anterior wall of the bladder is composed finally of these three flaps of skin. The skinning over of the granulating defects is hastened by means of Thiersch's skin-grafts. Billroth modified Thiersch's method as follows: He covered the defect with lateral granulating flaps only; a lower and an upper skin flap are taken, which at different sittings are laid over the defect with the granulating surface directed inward.

A. II. Flap, 2*a*.—In the reversed flaps one of the most annoying features in the after-treatment was the formation of phosphatic calculi on the hairs which continued to grow on the epidermic surface of the transplanted skin. An effort to exclude this disturbing element was made by Segoud. He dissects up the posterior bladder-wall as far as the entrance of the ureters, and then turns it down so as to make a covering for the groove on the dorsum of the penis. The glans is stuck through the prepuce and the latter

is healed on to the bladder flap. The defect resulting from the detachment of the mucous membrane of the bladder is covered with two skin flaps. The urine flows from the ureters into a canal widened above and situated between the groove on the dorsum of the penis and the vesical mucous membrane, which has healed over it. Czerny used the following method: The vesical mucous membrane is dissected up from the periphery toward the center and then united, so as to form a cavity. This cavity is lined throughout with mucous membrane. The skin defects are covered with two lateral bridge flaps.

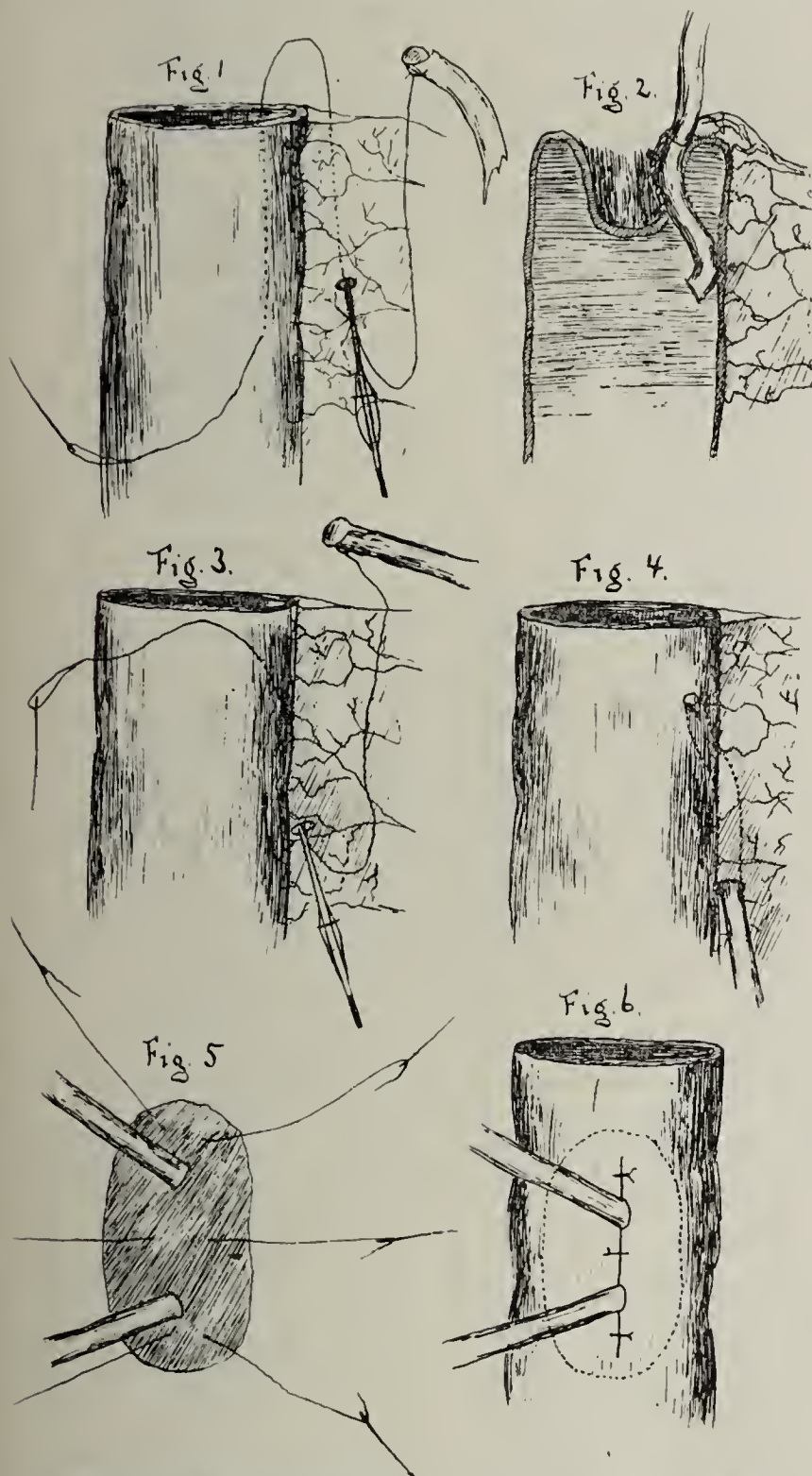
A. II. Flap, 2*b*.—Rutkowski, in 1899, presented a case in which he used a portion of the intestinal tract instead of skin, or merely mucous membrane, as the material with which to close the defect. By this method he, too, does away with danger of calculi forming on the hairs. At the same time he repairs a defect in a sero-musculo-mucous viscus by the aid of a sero-musculo-mucous tissue. This is certainly a much more ideal procedure than that where a tissue is employed which is composed of connective tissue, fascia and epidermis, with very little if any contractile muscular tissue or action. His method of procedure is as follows: He resects a loop of small intestine, leaving the resected portion attached to the mesentery. The severed intestine is reunited by an end-to-end enterorrhaphy. The resected loop is divided longitudinally along its convex border, thus giving a broad piece of sero-musculo-mucous tissue—quite similar to the normal bladder which is sutured into the defect of the bladder. One case is reported which left the clinic two months after operation. Upon dogs, he has watched the change in mesentery and mucous membrane. The vessels of the mesentery become gradually obliterated, and the columnar epithelial cells of the intestine in time are replaced by squamous epithelial cells as in normal bladder.

A. II. Flap, 2*c*.—Mundell, in 1899, having met with favorable results in experiments on lower animals, suggests the following method of using normal bladder tissue with which to repair the defect instead of skin, mucous membrane or intestine. "Transplant a portion of bladder wall of, say, a sheep, to the lower lateral abdominal fascia of the patient. After a period of seven or eight days, the union of the two tissues is sufficiently strong to allow a plastic operation whereby a skin flap, with the bladder attached, may be swung over on the extruded bladder and the edges of the attached piece of bladder sutured to the defective bladder."

A. III. 1.—Wattman made the first plastic operation in 1844 for exstrophy of the bladder. The normal skin was dissected up to a sufficient extent on each side, then pulled forward and sutured in the median line. This case was not encouraging in the result. Necrosis of the flaps took place and was followed by the death of the patient. Gerdy, in 1845, united the bladder in a man-

ner similar to Wattman's procedure, in two cases. The sutures yielded in both, and in one death ensued in five days. In 1849, Langenbeek made a similar operation. After loosening the skin from the posterior wall, it was drawn forward and the edges held in apposition by the aid of "insect-needles." Additional support was given by the application of adhesive plaster. No record was made of the outcome. Wakely, in 1851, suggested draw-

PLATE IV.



Figs. 1 and 2, experiment No. 11. Figs. 3 and 4, experiment No. 14. Figs. 5 and 6, experiment No. 24.

ing the edges over a silver bowl and then suturing in place. The object was to keep back the posterior wall of the bladder, which in many cases pushed forward and so obliterated the cavity. This was never put into effect. Wyman, in 1885, successfully closed the fissure in a case of exstrophy in a child five days old, by the use of hare-lip pins. The patient died two months later of a cause not associated with the condition or the operation.

A. III. 2.—As early as the year 1806, Dubois and Dupuytren proposed to approximate the fissured wall

by means of a compression bandage, thereby advancing the application of lateral pressure. This principle has been used quite extensively during recent years by Trendelenburg, Passavant, Neudorfer and others. The osteoplastic method, introduced by Trendelenburg in 1885, has for its object the restoring of the parts to their normal position. By a separation of the sacroiliac synchondrosis he was enabled to bring the rami of the defective pubes into apposition and so form an artificial symphysis. This was followed by suturing the defect in the median line. The separation of the sacroiliac synchondrosis, in children of 3 years, proved to be a very simple and safe operation. To close the defect in the bladder, borders of skin were freshened and held in apposition by means of silver-wire sutures. If primary union does not take place, a secondary operation becomes necessary. König and Küster modified the operation of Trendelenburg, while still retaining the principle. They performed osteotomy on the anterior portion of the pelvic girdle, instead of separating the sacroiliac synchondrosis. Passavant proposed to accomplish the closure of the pelvic bony gap by the application of "brisement force" under the influence of an anesthetic. This suggestion was carried out successfully by Koch. In 1886, Neudorfer relieved the tension and rendered approximation of the margins possible by means of two lateral horseshoe-shaped incisions—the convexity outward—which included all the structures of the abdominal wall to the fascia transversalis. Before suturing the cutaneous margins, the mucous membrane is detached on each side far enough to allow suturing of the same in the median line. Over this the skin is sutured; the os pubis, after its surface has been freshened, is sutured with silver wire. Mikulicz proceeds as follows: Two lateral curved incisions are made 3 to 6 cm. from edge of the vesical mucous membrane and almost parallel to it. This incision penetrates to, but not through, the transversalis fascia or peritoneum. Two lateral bridge flaps containing the entire thickness of the recti muscles are thus formed. The insertions of the recti are freed by removing a small fragment of the pubic bones with them. The entire flap is then dissected up and transplanted toward the median line. The bladder-wall is then dissected free and sutured in the median line, the sutures not involving the mucosa. The flaps are now united in the median line with silver wire. The lateral wounds are allowed to heal by granulation. Escape of urine is provided for by a catheter in the neck of the bladder. As in other flap operations, at subsequent sittings the epispadias is repaired and then the neck of the bladder receives attention. Schlange recommended practically the same, with the exception that the bladder-wall is not dissected free, thus avoiding the danger of sloughing of this portion of wall. Murry reports a successful recovery of a case in which he employed the simple procedure of dissecting free a lateral flap on each side and then uniting these in the median line with the aid of tension and button sutures.

A. IV. 1.—Mowatt, in 1735, made the first attempt recorded to relieve the condition of exstrophy. He endeavored to dilate the ureters by closing their orifices with "a small tent and an astringent plaster over it." This procedure caused the child so much discomfort that he was compelled to cease his efforts at treatment, which were, as well, in the line of investigation. In 1842, Chassaignac resorted to dilatation of the ureters. He closed the orifice by inserting a sound in the hope that the dilated ureter would act as a substitute for the bladder. Turbulent symptoms of urine retention were soon evident and his method yielded nothing of value. Breschet, in 1845, tried the above procedure and fever resulted. Gibb, in 1857, also made an unavailing attempt with the same method. Later, in 1861, Bouisson to this end devised a ureter clamp after the manner of a serrefine. But, as in the other cases treated on this line, no satisfactory result was attained.

A. IV. 2.—A plaster bandage was employed by Johannes Buxtorf in 1749. Thinking the protruding mass was a ventral hernia, he attempted to reduce it and maintain the reduction by employing a plaster bandage. The final outcome was the death of the patient.

A. IV. 3.—Catheters in the ureters were used by Pipelot in 1792, who attempted to remove the inconvenience arising from the continual dropping of urine. He retained them in place and allowed them to empty into a receptacle. This device, ingenious enough in itself, did not accomplish the desired result.

A. IV. 4.—A perineal fistula was made by Levis in 1876. He passed a needle, threaded with wire, through the bas fond of the bladder, through the intervening muscular and connective tissue, and out through the skin of the perineum, midway between the scrotum and anus. In this way he established a fistulous communication between the bladder and perineum. The bladder was covered with scrotal flaps and the deep perineal muscles through which the fistula passed were supposed to impart a sphincteric action. Only two cases were recorded, both of which met with an unfavorable termination. One death was due to peritonitis, and the other to an independent cause.

A. IV. 5.—Ureters inserted into the urethra. This ingenious method was introduced by Sonnenberg, with no attempt at a natural receptacle or sphincter. It is merely a method which is not so dangerous as the radical procedures, and as a result it leaves the patient in a condition more suitable for the application of an apparatus. In 1881 this surgeon extirpated the bladder in an extreme case of exstrophy. The entire posterior wall of the bladder was separated from the peritoneum without opening the latter and the resulting defect covered by sliding over a flap from the side. The ureters were dissected up from their normal situation and sutured into the dorsal groove of the penis beneath the edges of the skin flap. The patient's condition was so far improved that he could carry a simple urinal. This

method has been repeated with a good result by Nehans, and in this country by J. Rilus Eastman.

A. IV. 6.—Finally, nephrectomy on one side, with lumbar ureteral fistula on the other, has been recorded by Reginald Harrison, in 1897. The first step was a removal of the left kidney through a lumbar incision. The second step, eleven months later, consisted of an extra-peritoneal implantation of the remaining ureter into the right lumbar incision; recovery resulted.

OBJECTIONS: Against all these palliative operations may be placed the fact that, with a few exceptional cases, no sphincter is provided, and a receptacle large enough for practical purposes is not provided.

Apparatus, as a rule, does not fit, and so leakage occurs. If attached sufficiently tight to prevent leakage, pressure necrosis is liable to follow. Likewise, considerable attention is required to keep them clean and inoffensive.

Where a flap of skin is used, the urine comes in contact with the wound or raw surface, often causing infection and sloughing. That normal urine is aseptic has been demonstrated conclusively; but, in the majority of these cases, there exists a cystitis of the remaining bladder wall with occasionally a ureteritis or nephritis, in consequence of which the urine is not innocuous. Partial failure is the rule, necessitating one or more subsequent operations. Mikulicz operated on one case nine times, and Billroth on one case nineteen times in twenty-two months. In cases where the epidermis is turned in, phosphatic calculi often form on the hair, and cause much discomfort to the patient. The posterior wall of the bladder is not pushed back to its natural position in the pelvic cavity, and by its protrusion forward the new cavity is reduced considerably in size. The scrotal tissue, which is utilized in some methods, has been proved to be ill-adapted for use as a primary flap.

Where the remaining mucous membrane of the bladder wall is used, the newly formed cavity is usually too small to decrease the troublesome incontinence to any marked extent. This bladder wall, when removed from its surroundings, frequently sloughs from inefficient blood-supply. The utilization of the intestinal wall, after resection, isolation and enterorrhaphy, is certainly a most formidable procedure. Transplantation of the bladder wall from lower animals, thus far, has only been performed experimentally, and needs further investigation. Necrosis of the transplanted flap is to be expected as a result in many such cases.

The coaptation of the edges of the fissure by direct suture is rarely successful. There exists great tension, which often causes sloughing of the flaps, and in addition the same drawbacks that are to be found in other palliative measures. Matas says, in speaking of the results obtained by the various methods accompanied by preliminary steps: "Nor better functionally is the old and original method of Dubois and Dupuytren, resurrected subsequently in a more formidable and dangerous form by Trendelenburg, Passavant and Neudorfer." A

tendency to weakening of the pelvic girdle is present. There is no union in front and an artificial lack of solidity occurs behind. In females undue narrowing of the pelvis may result. Treves stated that "In the most successful cases a urinal can not be dispensed with."

Dilatation of the ureters, the plaster bandage, catheter-

PLATE V.

Fig. 1.



Fig. 2.



Fig. 3.

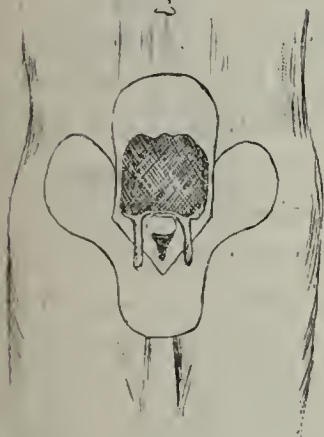


Fig. 4.

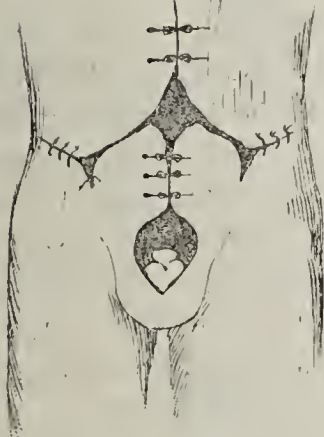


Fig. 5.

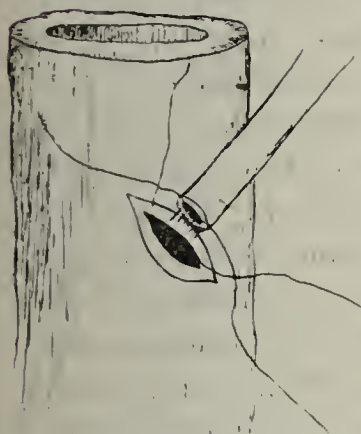


Fig. 6.

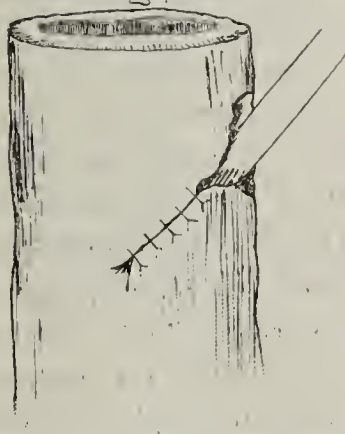


Fig. 1, apparatus worn by Matthew Ussen, 1791. Fig. 2, apparatus recommended at the present time, 1900. Figs. 3 and 4, Wood—flap method. Figs. 5 and 6, Chaput—uretero-intestinal anastomosis.

ters in the ureters, and fistula in perineum are merely of historic value. In cases in which the ureters are inserted into the urethra no attempt is made to form a bladder or sphincter, the aim being merely to facilitate the application of a receptacle. The method of treatment by a nephrectomy on one side and a lumbo-ureteral fistula on the other is very heroic and results in little, if

any, improvement of the patient's condition, the effect being a single lumbar urinary fistula instead of a double one in the pubic region. In this case the normal kidney was removed, which is, by the majority of surgeons, considered unjustifiable.

B. I. 1.—The deviation of the urine into the rectum was first suggested by Roux, of Toulon, and performed independently by John Simon, of London, who, in 1851, performed the first ureterorectal anastomosis. As preliminary investigation he experimented on dogs and found that direct implantation of the ureter presented great difficulties to be overcome, and the result was almost always fatal. Profiting by the experience of Mr. Lloyd, he examined specimens in the British Museum in an endeavor to find how low the fold of peritoneum extended. But this could not be satisfactorily determined. He had a catheter made with a stilet of watch-spring ending in a sharp point, in which was an eye for the thread. On July 5, 1851, he passed the catheter up the ureter and succeeded in perforating its coats and those of the rectum, and by means of forceps in the rectum, brought down the thread. The instrument was then removed so as to leave one end of the thread out of the rectum and the other out of the orifice of the ureter. A fresh thread was inserted in the needle and passed at a point about half an inch lower down in the ureter than was the first, so that two ends of the thread protruded from the rectum and two from the ureter. "Now, to obtain a loop bearing on the coats of ureter and rectum, and dependent on a single thread and without a knot, Mr. Simon tied the two anal ends together, and, pulling on the second thread, effected his purpose. The very same succession of measures were taken on the other side. A slight peritonitis and fits of vomiting followed, but recovery from the operation resulted. Three weeks after the operation, only a slight trickling through the aperture of the ureters was taking place, most of the urine passing into the rectum and being expelled with feculent matter. On the thirtieth and the forty-first day the ligatures came away. Four months after operation, as some urine still escaped the natural orifices of the ureters, and as the artificial orifices were demonstrably patent, an attempt was made to close the mouths of the ureters by needles and hare-lip pins, but this did not accomplish the object sought. "Death within a year, with extreme suffering from disease of ureters and kidneys," occurred. This operation was undertaken with two objects, according to Mr. Simon: 1, the establishing of a fistulous passage into the rectum from the ureters, two to three inches above their termination, where in these cases, they course closely against the bowel; 2, the closing of the terminal part of the ureter, so that no urine might be shed on the surface of the abdomen, but that all might pass into the rectum and thence be discharged per anum. The first was completely attained, and the second had been only imperfectly realized. "On post-mortem examination the ureters were found choked up with cal-

culons concretions, which had been the immediate cause of death. The concretions were chiefly phosphatic. It seems probable that the surgical measures employed had excited inflammation along the mucous surface of the ureters, and that with the mucopurulent secretion there had unfortunately been mixed (as occasionally happens in other mucous inflammations) sufficient mortar-like material to make calculi, which, being retained, became an increased and eventually a fatal cause of ureteral and renal irritation. The preparation showed these concretions and also the free fistulous communication between each ureter and the rectum." The operation of Mr. Simon, properly speaking, was not an axial implantation, being a lateral anastomosis instead; but to simplify the classification it has been included under this heading, with this note as explanatory.

In the *Medical Times and Gazette* of 1872, the following is to be found: "Mr. Jones succeeded in making ureters communicate with the rectum and in closing the anterior orifice of left ureter. The actual canterly is now being applied around the margin of the abdominal aperture, so that by contraction the right ureter may be drawn toward a sort of cloaca which exists between the ureters and rectum. In a second case the communication is also completed between the ureters and rectum. Clamp forceps have also been applied to the anterior ends of the ureters after the introduction of the galvano-caustic. These clamps remained a week and then separated. Still no urine escaped in front, so that it was hoped the case was completed. In a few days a little slough separated, allowing urine to escape in front. In this case all urine passed per rectum for twelve days." Thomas Smith, of London, gives the following report:

In selecting a spot for connecting the ureters with the bowel it seemed that the lumbar region offered the greatest facilities for the operation, since in this situation both the colon and the ureter could be exposed without injury to the peritoneum.

The plan proposed for accomplishing the object in view was the following: To pass a long probe or fine catheter up the ureter from its vesical end as far as the kidney, so as to assist one in recognizing the tube in the cellular tissue of the loins; next, to make the ordinary incisions in the loins as for opening the colon; to find the ureter through the wound, and to pass a temporary ligature beneath it so as to have it at command; next, having withdrawn the probe, to expose the posterior surface of the colon, and dividing the ureter as low down as possible, to insert its upper or renal end through a small incision into the colon and fasten it in position by fine sutures. It was proposed to operate on one ureter at a time and to make the performance of the second operation contingent on the success one might meet with in the first.

Operation, June 19, 1879. The ureter was stitched by means of fine catgut sutures to the back of the colon; a small opening being made in the colon, the end of the ureter was pushed into the bowel, so as to protrude about half an inch into its cavity. A fistula in lumbar wound remained, but closed June, 1879.

August 28, 1880, fourteen months after the operation, the boy being in good health, the second operation was made on the same plan and with the same object, namely, to introduce the right ureter into the back of the colon. He died fifty hours after the operation.

Post-mortem examination, twenty-eight hours after death. The peritoneal surface was quite normal; no trace of inflammation; the lower end of the left ureter was found terminating

just above the left common iliac artery. The pelvis of the left kidney was found distended with clear fluid having the appearance of urine; no trace of true renal structure could be found, what remained of the organ being reduced to a fibrous condition spread in a thin layer over the contained fluid.

The portion of ureter attached to the kidney measured $1\frac{1}{2}$ inch in length, and terminated on the back of the descending colon; a probe passed down the ureter could not be made to enter the bowel. The right kidney was much enlarged, being as large as the organ in an adult.

The capsule adhered to the cortical substance, which was very soft and friable and contained many small cysts; the medullary substance was much softer than natural, but contained no cysts.

The pelvis of this kidney and the upper end of the ureter were distended with urinous fluid, and the latter was attached by five sutures to the back of the colon; in the interior of the colon, at its point of attachment to the ureter there was a vascular patch of mucous membrane about the size of a shilling. A small probe could with difficulty be made to pass from the ureter into the cavity of the colon.

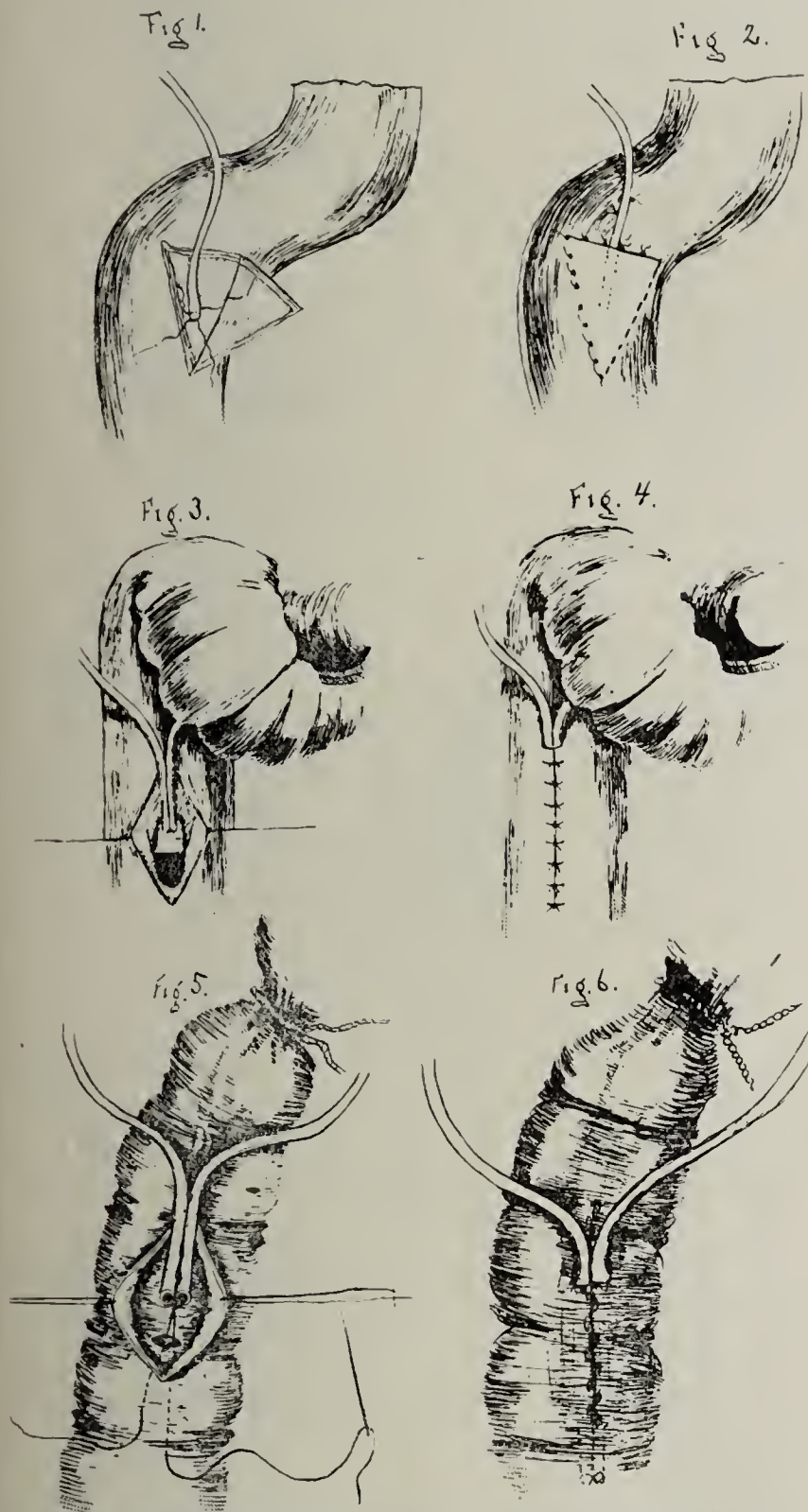
It is manifestly one's duty to record the facts of this case for the information of others, since it stands with Mr. Simon's case. I venture to record it as a warning to those who may be tempted like myself, to think that the miseries of ectopia vesicae can be alleviated by making the ureters discharge their contents into the cavity of the bowel.

Setting aside all difficulties that have to be overcome, and the immediate risks of the operation, it would appear that a permanent and direct communication between the ureter and bowel is of itself a fatal lesion.

These two cases of Simon and Smith, with such unfavorable results, caused the method to wane, and not having met with popularity, it is not again mentioned in the literature until introduced by Gluck and Zeller, in 1881. These surgeons worked experimentally on dogs. Their method was a total extirpation of the bladder, after which the ureters, in some animals, were implanted into the skin, and in others into the rectum. All of the animals in which the intestinal tract was selected for the urinary out-flow died. Novaro, in 1887, made three bilateral implantations on dogs. Two of the animals died, the third lived and was killed thirty days after the operation. Renal infection was reported absent, though no bacteriologic or microscopic examination had been made. Bardenheuer, in 1886, implanted a single ureter in a number of experiments. The animals all recovered from the operation *per se*, but at the necropsy the ureter in each case showed a stricture at the site of implantation, which caused a hydronephrosis. In 1888, Paoli and Buzachi, in four animals, made unilateral implantations. One recovery from operation is reported. Tuffier, in 1888, made experimental implantations into the rectum, but in all cases death resulted from pyonephrosis and general peritonitis. He inserted the ureters so far into the rectum that the ends floated free. R. Harvey Reed, in six cases of bilateral implantation experimentally, met with six deaths, in 1892. In three implantations of a single ureter, one died of peritonitis, one subsequently of ascending infection, and the third resulted in a "perfect cure," no stricture or ascending infection having taken place. This third case was not examined microscopically nor bacteriologically. The method used was as follows: A loop around each ureter, consisting of a double braided-

silk ligature, with ends tied together, and armed with a slightly curved needle. An incision was made about one inch long in the rectum. This loop and needle were inserted into rectum for about an inch in a downward direction, and the needle made to penetrate the wall of rectum and by gentle traction, ureter was pulled into the lumen of the bowel, the aim being to have it from $\frac{1}{2}$ to $\frac{3}{4}$ inch inserted into the rectum. The rectal

PLATE VI.



Figs. 1 and 2, Kryn'ski—uretero-intestinal anastomosis. Figs. 3 and 4, Fowler—uretero-intestinal anastomosis. Figs. 5 and 6, Martin—uretero-intestinal anastomosis.

wound closed with a continuous suture, which embraced the peritoneum surrounding the ureters and firmly fixed them in the rectum without obstructing the lumen of either ureter. The loops of thread were then put on stretch and cut off close to the peritoneal coat of the bowel. Its elasticity allowed the loops to drop back into lumen of the rectum, while the peristaltic action and the passage of feces would sweep them off the ends of the ureters and carry them out with the stools. There

was also incorporated in Dr. Reed's paper the following report: "In the case operated on by Dr. Leet, of Scranton, Pa., where the ureter was implanted into the rectum and the patient recovered from the operation, but died subsequently from an entirely different disease, not connected with the operation, I am told the patient suffered no inconvenience from the ureters being implanted into the rectum. And when a post-mortem was made there was found to be complete union without consequent nephritis. Neither was there stenosis of the ureter." Morestin, in 1892, performed in all sixteen experiments. Ten were bilateral implantations, all of which died, the cause of death being either peritonitis, pyelonephritis or hydronephrosis from stricture. Six were unilateral implantations, three being followed by leakage, and three by stricture. Küster performed, in 1891, on man, a complete cystectomy, followed by implantation of the ureters into the rectum. The patient died on the fifth day after the operation. The post-mortem revealed purulent peritonitis with kidney infection. Chaput experimented on dogs in a great variety of methods, but with almost uniform failure. In 1892, having heard of Reed's successful case on the dog, and considering that the operation could be more easily performed on the human being than on the lower animals, he decided to operate on the human being. For the relief of an uretero-vaginal fistula, he implanted one ureter into the colon. See plate v, Fig. 5 and 6. It is of interest to note that during this operation the iliac vein was opened by mistake, instead of the ureter. The result was called a recovery. Encouraged by the apparently favorable outcome of his first case, he again operated for tuberculosis of the bladder. The left ureter was inserted into the colon on Nov. 25, 1892. Recovery was complete and rapid; the result seemed to be a success. On March 1, 1893, the right ureter was inserted into the colon. Death occurred on the same day. Unfortunately, no autopsy was made. In his procedure, the posterior lip of the ureteral orifice is fastened to the still-intact intestine by three or four sutures passed through the muscular layers only. The intestine is then incised for about 1 cm. at a point several centimeters below the preceding row of sutures. The mucous layers of the posterior lips of the two orifices are immediately sutured, and the anterior lips are united by a row of sutures through the muscular wall. The entire end of the ureter should finally be buried at the bottom of a fold of the intestinal wall by means of Lembert stitches so placed that the union will be completely covered for a distance of about 2 centimeters. Rosceszewski, in 1892, made six one-sided implantations, five of which died. Three months after the first operation the remaining living dog was anesthetised and the ureter of the opposite side inserted into the rectum. The animal died of peritonitis. At the autopsy the site of the first inoculation was found to be the seat of a marked stricture, causing a pyonephrosis. Weller Van Hook, in 1893, in his classic contribution to the surgery of the

ureters, records some few experiments on the implantation of the ureter into the intestinal tract. After unilateral implantation eight times, five of the animals survived. But following the bilateral operation death occurred in all cases within six days. His method was as follows: After severing the ureter, ligate the cystic end of the duct, and then split the opening of the renal portion of the tube upward for a distance equal to three times its diameter. Cause two small needles armed with a single fine silk or catgut thread to pass from within outward through the split end of the ureter. The ureter is thus grasped in the loop. Now, pass the two needles into the bowel through a small longitudinal slit on the free border and carry them downward about one-half inch. When they are now pushed out through the rectal wall, the ends of the thread may be lightly tied together, drawing the ureter into position and permanently maintaining it there. The operation is completed by covering in the knot with two or more Lembert sutures, closing the rectal wound as well as possible without compressing the ureter, and applying a peritoneal graft. Thompson, in 1893, implanted experimentally into colon and rectum and, in reporting the same, mentions the difficult technique. After implantations into the small intestine, one animal recovered. On necropsy, a moderate hydronephrosis and a slight stenosis of the anastomotic opening was found. He called attention to the peristaltic action, which, by its short duration, but oft-repeated closure of the duct, may act as a causative factor in producing this dilatation. Giordano, in 1894, experimented on fourteen dogs, of which only three lived—77, 84 and 121 days, respectively. He endeavored to improve the results thus far obtained by operating extraperitoneally. Instead of using an anterior abdominal incision, he employed a lumbar, and in some instances even partially resected the sacrum. Duplay, in 1894, operated on a 10-year-old girl, implanting the ureters into the sigmoid, but death resulted. Rein, in 1894, in a case of exstrophy, sutured the ureters into the bowel. The immediate result was satisfactory, but the final result is unknown. Tuffier and Dujarier, in 1896, removed the bladder for carcinoma, after which catheters were fixed in the ureters by means of a stitch that penetrated the wall and its ends were left long. Small openings were now made in the rectum and the ends of catheters, ureters and stitches made to pass through these openings. Catheters and stitches protruded through the anus. Traction on these stitches was relied on to keep up the contact between ureters and rectal wall. The threads were knotted on a forceps and so prevented from retracting. Two months after operation the patient was in good health and able to work. Seven months after operation death occurred. No details were obtainable. Kalabin, in 1898, experimented on twenty-four dogs. On ten he made a bilateral implantation into the rectum, the animals dying in a few days from peritonitis. Fourteen unilateral implantations were made with no better re-

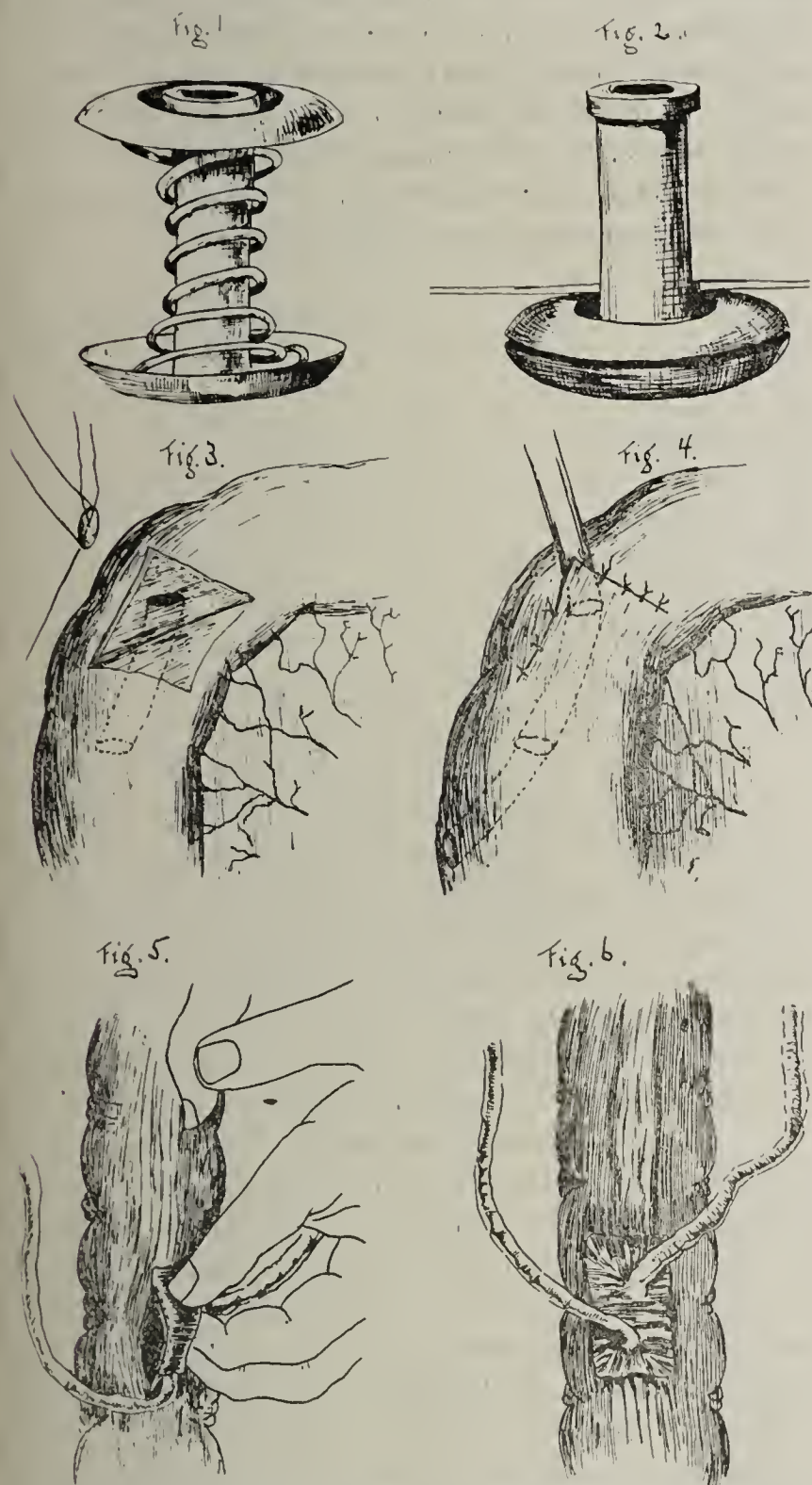
sult. In conclusion he states that implantation of both ureters is never admissible, and one ureter is to be attempted only in the most extreme cases. Sehnitzler, in 1898, reports two cases of direct implantation, the first for relief of an uretero-vaginal fistula, in which he made an unilateral implantation into the ascending colon, which resulted in recovery. In the second case—carcinoma of uterus—both ureters were implanted, one into the ascending colon and one into the descending colon. In this instance death ensued in a few days, and on post-mortem examination pyelitis was found on one side. C. Beck, Oct. 4, 1899, presented before the Chicago Medical Society a case on which he had operated three months previous. He said at this time there was not the slightest symptom of kidney infection, and gave the following description of his operation: "The operation as performed is a suggestion of Maydl, partly the operation of Dr. Martin, with some modification of my own. The ureters were not implanted in the same line, but one above the other into the sigmoid flexure. The ureters were implanted in such a way that after they had been cut off from the bladder at a distance of an inch the ends of the ureters were dissected, a flap was formed in the gut consisting of peritoneum, subperitoneal tissue and muscular tissue, leaving nothing but the mucosa and submucosa. This flap was turned back and the ureter put underneath it. Underneath the flap a small opening was made and the ureter was drawn about an inch and a half into the bowel, so that the ureter was hanging free, with a portion of it in the bowel. Around this flap the ureter was carefully sutured in a sort of a groove of the wall of the bowel. The peritoneum below was sutured for a short distance." Plate vii, Figs. 3 and 4. Dr. C. Beck lays great stress on the end of the ureter lying free in the lumen of bowel. On account of this fact he expects to prevent infection or stricture. This placing of the free end of the ureter deep into the lumen of bowel was first performed by T. Smith in 1879, and by Tuffier in 1888.

B. I. 2.—Achille Boari, in 1896, presented an ingenious apparatus resembling in many respects the Murphy button, which he had devised with a view to reducing the time consumed in these operations, and also as an aid in securing more perfect union in ureteral implantation. See Plate vii, Figs. 1 and 2. Two successful cases were reported in which the button came away on the eighth and twelfth days, respectively. In neither of these cases had there been any signs of uremia since the operation. Also Chalot, in 1897, advances a mechanical aid, to be used as is the Boari button. It consists of a small tube with olive-pointed ends; a groove or depression, between the bulbous ends, serves to retain the ureter and rectum in contact.

B. II.—Mr. Lloyd, in 1851, attempted to utilize the sphincter ani by establishing a communication between the posterior wall of the bladder and the anterior wall of the rectum. The procedure which Mr.

Lloyd adopted for eventually conducting the urine into the rectum was as follows: He introduced the index finger of his left hand into the anus and glided on that finger a seton-needle armed with a silk thread, to which was attached a thick skein of the same material. There was some difficulty in directing the needle around the pubic ligament from the rectum and close to the prostate into the posterior walls of the bladder,

PLATE VII.



Figs. 1 and 2, Boari-Button, uretero-intestinal anastomosis. Figs. 3 and 4, Carl Beck—uretero-intestinal anastomosis. Figs. 5 and 6, R. Peterson—uretero-intestinal anastomosis.

the greatest pains being taken to keep away from the peritoneum; but after a little while the needle was seen to transfix the tumor. The thread was now disengaged from the eye, the lance, which could be taken off from the stem, removed, the handle and stem withdrawn through the anus, and the skein pulled after the thread and made to pass through the protruded vesical walls. Mr. Lloyd considered that the traction exerted downward would cause the urine to pass by the skein into

the rectum, and that in all probability a canal might thus be formed which would materially diminish the inconvenience produced by the malformation. The case proceeded pretty favorably up to the fourth day. On the sixth day Mr. Lloyd removed the skein of silk, but the man became much worse and expired on the seventh day after the operation. The body was examined with great care and it was found on opening the abdomen that the immediate cause of death was peritonitis. The rectum had much deviated to the left side of the sacrum and the peritoneum covered it as low down as the anus, so that the seton-needle had passed through the cul-de-sac formed by that membrane so much lower than usual. Thus it became plain how the peritonitis had been excited. Mr. Athol Johnson's case was a repetition of Lloyd's experience. The patient was a child, and death ensued shortly after the operation, from peritonitis. T. Holmes, in 1869, reports a case in which, after performing a flap-operation, he was not satisfied—a sinus persisting—with the result obtained. In an effort to divert the flow of urine into the rectum, he made an artificial communication between the imperfect bladder and the rectum. Profiting by the experience of Mr. Lloyd and of Mr. Johnson, he endeavored to reduce the danger of infecting the peritoneal cavity by using an apparatus similar to Dupuytren's enterotome in making the opening. One blade was placed in the rectum, the other in the bladder, and the two gradually pressed together. In reporting the case Holmes says: "The attempt failed, for though the urine passed in considerable quantities into the bowel, a good part of it still continued to escape above the pubes. I endeavored to obviate this by closing the suprapubic opening altogether by plastic operation. The opening was thus in fact reduced to a sinus. But this caused such intolerable pain when the bladder was distended and such accumulation of sabulous matter in it, that I was fain to abandon the attempt, break open the suprapubic hiatus again and allow the rectal communication to close." Thiersch, in 1881, practically repeated the effort of Mr. Holmes. "In order to avoid the use of a urinal by allowing the urine to flow into the rectum," Thiersch, in the case of a girl, brought about necrosis of the vesicorectal wall by the continuous application of a clamp." J. Frank, in 1899, advises the use of his "bone-coupler," the same as is used for enterorrhaphy, as an aid in establishing a vesicorectal anastomosis.

The operation consists of anastomosing the bladder to the rectum with my decalcified bone-coupler.

The technic is as follows: In a male dog the incision is made in the groin, and in a bitch, in the median line. Generally the bladder is found distended, and is emptied by squeezing it gently with the hand, when the urine escapes through the natural channel. The rectum is next picked up and freed of its contents, as in any intestinal operation. The bladder and the rectum are then brought forward and placed in apposition for anastomosis. Two or three interrupted Lembert sutures are now taken about half an inch below the lower ends of the incisions determined on in the bladder and rectum, care being exercised in selecting them that the coupler, when it is inserted, will not encroach on the ureteral openings in the

bladder. A longitudinal incision is then made in the bladder large enough for the coupler selected, and a puckering string applied over and over the cut margin. The rectum is next opened in its long axis and a puckering string similarly applied. The suture should be taken so that the free ends lie uppermost, thus facilitating easy tying. The operator now slips the coupler into the bladder opening, at the same time gently spreading the collars apart, while an assistant makes one knot and draws down on the puckering string until the rubber tubing is felt; another knot is made and the ligature cut off short. The other half of the coupler is then slipped into the rectal opening, and likewise tied and cut off. Several interrupted Lembert sutures are taken around the borders to make the work more secure. The operation is very simple and can be accomplished in ten or fifteen minutes.

He states that of fifteen dogs operated on, ten recovered and five died. This procedure has been performed once on the human subject by A. E. Halstead, of Chicago, the patient living for forty-eight hours, during which time the urine passed per anum with no leakage at site of suture in bladder wall. Death occurred due to shock.

B. III.—Tuffier was the first to propose the implantation of the ureter with its sphincter, its normal orifice, in order to prevent stricture and ascending infection. This is the principle utilized by Maydl in his transplantation of the trigonum. Maydl, in 1894, presents two cases of exstrophy of the bladder which he operated on. It is, in brief, as follows: The bladder-wall is loosened from the abdominal wall; then he opens into the abdominal cavity, at its upper part, and excises from the bladder an oval area containing the ureteral openings. The margin of this area is 1.5 cm. ($\frac{5}{8}$ inch) away from the orifices. The ureters are carefully dissected out, after having sounds inserted into them. This area, with the ureters attached, is now detached from all surroundings and the remainder of the bladder-wall extirpated. The sigmoid flexure is drawn into the wound and a longitudinal incision made in its convex surface. The isolated area of bladder mucous membrane, with ureteral openings, is now sutured in this incision in two layers, a row of mucous stitches and then the Lembert stitches. The bowel is then replaced in the abdominal cavity and the wound closed with drainage. A permanent drainage-tube is inserted into the rectum. In 1896, he reports three more cases, two of which recovered and one died, the death being attributed to the prolonged narcosis. He reports, in 1899, five more cases, all of which recovered. This method of Maydl, or the principle, that of transplanting the trigonum, has been repeated quite extensively since its introduction, and has been modified slightly by some operators. Pisani extirpates all of the bladder except the site of the ureteral openings, which is transplanted to the posterior wall of the rectum, through an incision in the anterior wall. The mucous membrane of the posterior wall has been removed for an area equal in size to the surface to be transplanted. He has operated on two dogs; one died at the end of sixty-two hours of collapse, and the second on the sixth day, the post-mortem revealing septic peritonitis. Maucelaire similarly retains the trigone, but the method being so unique in other respects, it has been

included under another heading (Artificial Anus). Peterson's method is as follows: "A rectangular flap is formed out of the trigonum, the edges of this flap being made at least one quarter of an inch distant from the ureteral orifices. The sigmoid flexure is drawn downward and incised to a distance equal to the space between the ureteral orifices. This trigonal flap is spread over the incision, so that the orifices open into the incision in the bowel. The external coat of the bladder-flap is united to the bowel by a right-angled continuous suture. The bladder mucosa is pushed inward and the needle passed so that the external bladder wall is inverted and made to rest against the serous coat of the bowel." See Plate vii, Figs. 5 and 6.

The operations based on the plan of Maydl, performed since 1892, are given below, with results:

Date of report.	Operator.	Number of cases.	Recovery.	Death.
1894 . . .	Maydl	2	2	. . .
1895 . . .	Trendelenburg	1	1	. . .
1896 . . .	Maydl	3	2	1
1896 . . .	Trombetti	1	1	. . .
1896 . . .	Resegotti	1	1	. . .
1896 . . .	Krynski	1	1	. . .
1896 . . .	Park	1	. . .	1
1896 . . .	Wölfler	1	1	. . .
1897 . . .	Mikulicz	1	. . .	1
1897 . . .	Ewald	1	1	. . .
1897 . . .	Eiselberg	2	2	. . .
1898 . . .	Tuffier	1	1	. . .
1898 . . .	R. Frank	1	1	. . .
1899 . . .	R. Frank	1	1	. . .
1899 . . .	Nové Joserand	1	1	. . .
1899 . . .	Allen	1	1	. . .
1899 . . .	Herezel	3	3	. . .
1899 . . .	Maydl	5	5	. . .
		28	25	3

In 1897 Nové Joserand collected seventeen cases, including one by "Tarver," with no reference given. From the available literature, the only "Tarver" writing on this subject appears under the title: "Exstrophy of the Bladder in a Girl of 13 Years: Operation, Relief," in the *Medical Record*, July 10, 1897. This case was not operated on by Maydl's method, nor even a modification of the same. No communication was made with the bowel. Flaps of mucous membrane of the bladder were dissected free and then united, thus forming a small receptacle which held urine for from four to six hours at a time. Of the twenty-eight cases operated on by the Maydl method, or a close imitation of the same, three deaths are recorded, 10.7 per cent. In two cases, death was directly attributable to the operation *per se*, 7 per cent. And in this series only one instance is recorded where an ascending infection of the kidney and ureter has taken place, 3.5 per cent. These statistics, as is true of all statistics, must be viewed in the light of a possibility, that additional cases may have been operated on, but having met with an unfavorable outcome, have not been reported. The fact that these cases have lived for a number of years does not of necessity imply that the kidneys in these individuals are not infected. The first case operated on by this method, in 1892, has been lost sight of. The second case, ureters transplanted into sigmoid in 1892, is reported in 1899 as being in perfect health, thus making the duration of the trial extending about seven years. The first case of uretero-rectal anas-

tomosis on record in which the safeguard, the trigonum, was not preserved, lived for nearly one year and then died with infected kidneys. The case of Richardson, in which the urine passed per anum for seventeen years and then finally died "of fever," may be cited again in this connection. Cases of chronic cystitis may live comfortably for years without any symptoms of ascending renal infection; and, more rarely, other cases do acquire a pyelonephritis; the reason for this different behavior of these cases can only be surmised. It is claimed by some that even if infection may occur, the operation is nevertheless a justifiable procedure, because it allows the individual to become a useful member of society, at the same time enabling him to indulge in the customs of his associates as does the normal person. This state of affairs, it is claimed, if even for a short time, is to be preferred to a longer lease of life under circumstances which at best will make it pitiable. That the rectum will tolerate the presence and accumulation of the urine for a variable number of hours has been conclusively demonstrated by this series of operation and others, and also by the experimentation on the lower animals. In only two of the above cases was there incontinence, the others retaining the urine without any difficulty for from three to seven hours, and in one instance as long as ten hours. The Maydl method has not been employed extensively in experimenting on the lower animals; and in the few instances where it has been repeated on dogs the results have been essentially different from those obtained after operating on man. Kalabin has performed this particular method on five dogs, all of which died in from three to five days. R. Matas undertook to repeat Mady's typical operation on two dogs, with death following in twenty-four and thirty hours, respectively, from septic peritonitis, evidently caused by infection from the bowel during the operation.

B. IV.—In order to prevent ascending infection, which was found to be so frequent a sequel following implantation into the bowel, other methods were devised with a view to the formation of an artificial valve at the seat of the anastomosis, or in cases where the natural orifices could not be transplanted. The effort was made to make the union with the intestine in such a manner as to imitate the natural oblique course of the ureteral insertion in the normal bladder. Krynski, in 1896, turns back a triangular flap of rectal tissue composed of serosa and muscularis, and attaches the ureters in this exposed area; then makes a small opening in the submucosa and mucosa for the escape of the urine. The triangular area is then replaced and sutured in position over the ureteral ends. See Plate vi, Figs. 1 and 2. Vignoni, in 1896, made a V-shaped valve from the rectal wall; attached the ureters to this flap, and covered all by suturing the wound-edges over the valve. Fowler, in 1898, combined the advantages of a "valve" with those of an oblique insertion of the ureter into the rectum. See

Plate vi, Figs. 3 and 4. He makes a longitudinal incision in the bowel down to mucosa, the edges of which he dissects and retracts laterally. Then he cuts a flap in the mucosa, tongue-shaped, with its base up. This flap is folded on itself, with a mucous surface on each side, and fastened in this position with sutures. The ureters are fastened to this flap, and then the flap, with ureters attached, is pushed into the lumen of the rectum, and the wound closed, the mucous membrane first, followed by Lembert stitches which extend considerably above the distal extremity of the ureter. His procedure differs from that of Vignoni in having the ureteral openings in contact with a mucous instead of a fibrous surface, and hence less liability to contracture or stenosis. Franklin H. Martin reports and exhibits specimens from three animals in which he had transplanted the ureters into the intestinal canal. Specimens were removed in four, eleven and twenty-two months. Two were single and one double, and in each case kidney infection was present. These three cases were the successful results in a series of thirty-four experiments. This demonstration was shortly followed by a presentation of a new method of making the union. See Plate vi, Figs. 5 and 6. This, in brief, consists of the following steps: 1. Dissecting ureters free for a distance of 3 inches; ligate and cut. 2. The ureters are placed side by side and approximated in this position by stitches, which do not enter lumen of ducts. One suture penetrates adjacent walls of both ureters near orifices. This suture is left long and is armed with two needles. 3. A 2-inch long incision is made in upper wall of bowel, penetrating peritoneal and subperitoneal tissue only, and exposing an oval surface of mucosa 2 by 1 inch. 4. Strip bowel of contents and apply clamps; make small incision through remaining coats of bowel at about one-third distance from lower end of denudation. This opening must be large enough to admit the two ureters without pressure. Insert the two needles into lumen of bowel through this opening and bring them out, slightly separated, through the wall at a point about an inch below the opening; that will be a little below the lower border of denuded area. Now pull ureters into where the stay sutures make their exit. 5. Place ureters at right angles to the bowel. Secure them to fibrous and mucous coats of bowel by means of a number of sutures, taking care not to penetrate into mucosa of ureter or to cause a constriction of the tubes. 6. Bury ureters in muscular coat of bowel by folding it over them for a distance of 1 inch and securing it to ureters by fine silk sutures. 7. Peritoneal coat is united over the ureters until they divide, and under them above the point. 8. Close abdomen, with gauze drain. The following "principles of the operation" are presented: 1. The ureters empty into bowel in the direction of its long axis, and urine is discharged in direction of the fecal current. 2. The ureters are buried in the walls of the rectum for an inch or more; the act of defecation will empty the ureter

by a milking process. 3. The ureters are protected by muscular coat of intestine. This coat will hold ureters closed when rectum is aiding in defecation. 4. The ureters are implanted in lower bowel, which is normally empty except when defecating. This method was employed upon nine animals, seven of which died and two recovered. One of those which survived the operation was killed after about three months while in apparent good health. On examination one kidney was found to be infected.

B. V. 1.—Rose, Gallet, and Resegotti report the cases which are included under this section. By making a small vagino-rectal fistula, and then closing the anterior vesical wall, with a closing of the vagina, the urine was conducted into the rectum.

B. V. 2.—Maclaure advised the following procedure: A section of bowel is made at about the junction of the sigmoid and rectum. The distal end of sigmoid is sutured into the inguinal region or perineum as an artificial anus. The trigone, with the ureters, is placed within the proximal end of the rectum, which is then closed. This operation was performed on man by Gersuny.

B. V. 3a.—Tizzoni and Poggi conducted a series of experiments on dogs in an effort at making an artificial bladder from an isolated loop of intestine. In the first step, a loop of intestine was resected. At a second, the bladder was extirpated and the ureters inserted into one end of the isolated loop of intestine, the other end of which was connected with the urethra. As a result, incontinence was at first present, but normal evacuation soon followed. They also tried to do the entire procedure at one sitting, but met with failure in every instance.

B. V. 3b.—Hochenegg suggested an artificial bladder, also of a loop of bowel, but communicating with the intestinal canal.

OBJECTIONS: The liability to ascending infection of the ureter and kidney and stenosis of the opening of the duct, may be advanced as an objectionable point. Matas says: The operator who cuts off both ureters from the bladder and transplants them into the colon, must experience a certain and unavoidable anxiety—an anxiety that only further experience will overcome—that is born of the feeling that he has burned his ship behind him and has staked all his patient's chances, all his hopes, in the hazard of the game. It is the utter and absolute hopelessness of remedying the evil when this does occur that must make any conscientious operator vacillate and question his mind and his responsibility many times over before deciding to embark in so perilous an undertaking."

The above-stated weak points will be found to hold especially true of the methods of axial implantation.

In vesico-rectal anastomosis the normal ureteral insertion, as a safeguard, is retained. The method of J. Frank is undoubtedly a marked improvement over

the old and forgotten methods of producing anastomosis. Difficulty may be experienced in perfectly closing the anterior wall of the bladder. The operation is only applicable on the male, and it is noted in this connection that but few cases occur in the female. Martin and Taylor, in the "American Text Book of Genito-Urinary Diseases": "In the cases in which the intestine or rectum opens into the bladder, the bowel and contents greatly aggravate the severity of the inflammation and markedly favor ascending infection."

In implantation of the trigonum vesicæ, ascending infection occurs in some cases of cystitis, where the normal insertion of the ureters is not interfered with. 1. Is it not just as liable to occur, if not more so, after this area of bladder-wall is inserted into the rectum? 2. The so-called "muscles of the ureters," which tend to maintain this oblique insertion of the distal ends of the ducts, are separated from their origin and are hence rendered worthless. 3. According to Fowler, the rectum or sigmoid proper is not a closed cavity in the same sense that the bladder is, and accumulating urine can not exercise pressure to the extent that this occurs in the normal urinary viscous. 4. Danger of the implanted trigone to slough. 5. The existence of a congenital anomaly in the sigmoid or omega colon may occur, in which the mesentery is so short that it will be impossible to drag the colon to the median incision, thus seriously complicating the technique, as in Park's case. (Matas.) 6. The possibility of contaminating the peritoneum, in the course of the vesico-colostomy or subsequently, if sloughing should occur after the operation has been completed. (Matas.) Pisani's mode of procedure seems to present no particular advantage. Peterson has in no way decreased the time consumed, nor rendered the danger of kidney infection or peritoneal infection less.

The "valve" or particular manner of inserting the ureters into the wall of intestine, will, in all probability, prevent gross macroscopic contamination, but will be ineffective as a barrier against microscopic infection. The experiments thus far have not been particularly encouraging. Thompson, in speaking of the peristaltic action, considers it not a desirable point, but on the contrary regards the occlusion, short in duration but oft repeated, as a causative factor of hydronephrosis. This in itself is predisposing to infection.

1. In vesico-vagino-rectal fistula there exists the difficulty of establishing a water-tight communication from the ureteral orifices into the rectum. There are also the same objections as to others in this division. Ascending infection is reported in one case (Rosegotti), operated on in this manner. 2. The artificial anus theoretically is a marked improvement on the other methods, as the ureters open into, and the urine is conveyed to, a cavity comparatively sterile. The formation of an efficient sphincter for the bowel is doubtful and the resulting artificial anus would be by some considered but little improvement over the original con-

dition. The operation itself is quite formidable. 3. An artificial bladder opening into the urethra approaches in theory very closely the ideal. The mesentery as a band stretching across the abdominal cavity might be a cause of incarceration and strangulations of the bowel. But practically the procedure would be a most formidable operation. An artificial bladder opening into the intestinal tract is a similarly dangerous undertaking, and as it communicates with the bowel, the new bladder seems to be of no practical value. The method is open to the same objections cited above.

EXPERIMENTS.

The following experiments were undertaken with a view to determine which of the less complicated methods would prove the most desirable ureteral implantation. The form of the report is a condensed table, or list of the experiments, with the results, and followed by supplementary notes in which details deemed worthy of mention are recorded.

EXPERIMENT 1.—The right ureter was inserted into the rectum by the Van Hook method; the animal made an uneventful recovery.

EXPERIMENT 2.—Both ureters were implanted by the Van Hook method and the animal died on the second day after the operation. At necropsy a diffused peritonitis was manifest, and fluid was found in the peritoneal cavity.

EXPERIMENT 3.—The right ureter was inserted, after the plan advised by R. H. Reed; the animal escaped the next morning.

EXPERIMENT 4.—Both ureters were inserted in the same manner as in No. 3, and the animal died thirty-six hours after the operation. Fluid was found in the peritoneal cavity, with peritonitis.

EXPERIMENT 5.—A bilateral implantation, into the rectum was made according to the plan of Chaput. (See Plate V., Figs. 5 and 6.) Death followed on the second day from peritonitis and leakage.

EXPERIMENT 6.—A bilateral implantation was made by the method of Krynski. (See Plate VI., Figs. 1 and 3.) The result was about the same as in No. 5.

EXPERIMENT 7.—Implantation of both ureters was made by means of a "metallic nozzle." This contrivance consisted of a small tube with a bulb at one end, and two silk threads, each tied in the middle to the tube at the base of the bulb, and each end of each thread armed with a small round needle. (See Plate III., Figs. 1 and 2.) The needles were passed from within out through the walls of the ureter, at a reasonable distance from its cut end. Gentle traction on these threads drew the bulb into the ureteral orifice. A small opening was next made into the rectum and the needles passed into the opening and out through the rectal wall. Traction again brought the "tube" and ureteral end into the rectum; the threads were then tied on the outside, and the knot covered by a few Lembert stitches. Death resulted.

EXPERIMENT 8.—In this experiment an effort was made in the direction of an artificial bladder—from an isolated loop of intestine—similar to the method adopted by Tizzoni and Poggi. After making a median incision in the abdominal wall and bringing up a loop of intestine, six to eight inches of the bowel was resected, but retaining its attachment with the mesentery. This isolated loop was thoroughly cleansed by flushing with warm sterile water, then wrapped in warm compresses and laid to one side. The divided intestine was then united by circular enterorrhaphy and replaced in the abdominal cavity. The ureters were then located, ligated and divided; the proximal end was then laid on one end of the isolated loop of intestine and attached thereto by a silk suture, penetrating all coats of each. (See Plate III., Fig. 3.) This end of the loop was then invaginated, carrying with it the open end of the ureter, into

the lumen. (See Plate III., Fig. 4.) The invagination was fixed in place by sutures. The other ureter was attached in the same manner to the opposite end of the isolated loop, and the middle of the artificial bladder thus made was sutured in the abdominal wound and then opened. The animal died on the second day from peritonitis.

EXPERIMENT 9.—A second operation was done by implantation of the left ureter, one week after the first operation, by the same method, that of Van Hook. Death resulted on the second day. On post-mortem the right side showed slight dilatation; cocci and bacilli were found in the pelvis; left side was negative. Diffused peritonitis was evident, with leakage.

EXPERIMENT 10.—This case was in all respects like that of No. 8, except that the cut end of the isolated loop was first invaginated, and then the ureters drawn into the lumen by the Van Hook method, and attached to the wall beyond the margin of the invaginated end. (See Plate III., Figs. 5 and 6.) The anchoring stitch was covered by Lembert stitches. The animal lived five days. Necropsy showed a general peritonitis, but no leakage. Both ureteral orifices were patent.

EXPERIMENT 11.—An attempt at this point was made to more effectively guard against leakage and infection by drawing the ureter through the v-shaped, triangular space at mesenteric side of the bowel—which is formed by the non-blending of the peritoneum after it surrounds the bowel. (See Plate III., Fig. 5.) A darning needle with a double thread was attached to the ureter, and at a point about 2.5 cm.—1 inch—from the cut end of the isolated loop of intestine, the needle was inserted into and traversed this v-shaped space to the incised edge, where it was brought out. The thread, at its point of entrance into the mesentery, was then grasped by a slender anatomical forceps. (See Plate IV., Fig. 1.) As traction is applied to the needle and thread, the forceps burrows its way to the margin, thus dilating the track of the needle. The forceps is then withdrawn and the ureter is easily drawn into this "sleeve" and out to an extent of about 1 cm.—½ inch. Then the cut end of the bowel is invaginated up to the point of insertion of the ureter. (See Plate IV., Fig. 2.) The ureter is anchored to the wall of bowel as before mentioned in No. 10. (See Plate III., Fig. 6.) The animal died on the sixth day from peritonitis. Both ureters were patent.

EXPERIMENT 12.—A repetition of No. 11 with death resulting on the third day; peritonitis; both ureters patent.

EXPERIMENT 13.—In all respects similar to Nos. 11 and 12, except that only one ureter—the right—was inserted; the opposite end of isolated gut was included in the abdominal wound. Recovery was the result.

EXPERIMENT 14.—Both ureters. In an attempt to retain the advantages of the "sleeve" and to add those of obliquity in implantation into the intact bowel, a variation from the last procedure was adopted. The darning needle and forceps, as used in No. 11, were again utilized. The needle, armed with the thread which is attached to the ureter, is inserted into the triangular space between bowel wall and mesentery, and is made to travel in this space for a short distance. Then the point penetrates the walls and enters the lumen of the bowel. After proceeding in the lumen of the gut for a distance of about 1 cm.—½ inch—the needle again penetrates all coats and is brought out on the side of the bowel about .5 to 1 cm.—¼ to ½ inch—above the mesenteric attachment. The thread is grasped by the slender forceps, and by the aid of gentle traction, the forceps bores its way through the coats into the lumen of the bowel; then after slight dilatation of this artificial canal, the forceps is removed and the ureter pulled into the bowel, along the passage thus made. (See Plate IV., Figs. 3 and 4.) Death on the third day.

EXPERIMENT 15.—A repetition of No. 14, except that one ureter—the right—was inserted instead of both, with the result that the animal recovered.

EXPERIMENT 16.—Similar in all details to No. 14. Both ureters were inserted by the so-called "sleeve" method, resulting in death on the fourth day.

EXPERIMENT 17.—The animal in experiment No. 15 had recovered apparently. The right ureter had been implanted by the sleeve method into the ileum, five weeks previously. Now

the left ureter was implanted by the same method, with the result that the animal might be said to have recovered from the operation *per se*. But seeing that ultimate recovery was improbable, the animal was chloroformed nine days after operation. The right kidney was a hydronephrotic sac, enlarged to the size of a bladder fully distended. The right ureter was enormously dilated, with complete stenosis of the orifice. In the lumen of the bowel, the site of insertion of the ureter was almost obliterated in the folds of the mucous membrane. The ileum in the vicinity of the inosculation was decidedly hypertrophied. The left kidney, as also its ureter, was slightly enlarged, dilated and congested; the ureteral orifice was patent but reduced in size. Colon bacilli and cocci were present. There were no colon bacilli in the right kidney; a few cocci were present.

EXPERIMENT 18.—Both ureters were implanted by the "sleeve" method described in No. 14. Death occurred on the third day from peritonitis.

EXPERIMENT 19.—A repetition of No. 18, resulting in death on the sixth day.

EXPERIMENT 20.—Trigone. A typical Maydl method was employed. Death resulted in two days; necropsy revealed a diffused peritonitis.

EXPERIMENT 21.—The same as No. 20, with the same result.

EXPERIMENT 22.—The "sleeve" method, as in No. 14, was again employed. The right ureter was implanted, with a resulting recovery.

EXPERIMENT 23.—The same steps were utilized, as in No. 22, with the same result.

EXPERIMENT 24.—Left with trigone. A modification of the Maydl method was employed. An effort was made to reduce the number of stitches used and hence decrease the time consumed, and at the same time to lessen the liability of fecal fistula following, as has occurred in a number of otherwise successful cases on the human being. The following steps were employed in this procedure: 1. Removal of the trigone as in the Maydl method. 2. Bringing of the sigmoid into the abdominal incision. 3. An incision about 4 cm.—1½ inch—in length is made in the sigmoid. 4. The removal of the mucosa, by means of a curved curette, from the intestinal wall for a distance of 1 to 1.5 cm.—¼ to ½ inch—in all directions from the opening. 5. In the trigone three sutures are inserted, each armed with two needles, entering on the mucous surface of trigone. (See Plate IV., Fig. 5.) Two needles placed equally distant from the edge of the trigone and ureters, and one between the ureters. 6. The needles are inserted into the opening in the bowel, and are brought out, one on each side of the incision, near its superior and inferior angle, and one in the middle. 7. The trigone, having been folded in such a manner that its size is reduced to the least possible extent, is inserted into the bowel, through the opening made for it. 8. The six needles are removed and the three sutures tied. 9. The knots are covered by means of a Lembert suture. (See Plate IV., Fig. 6.) This method was put into effect only once, on an animal which had one ureter implanted by the "sleeve" method five weeks previous. The animal died on the second day. Necropsy revealed a diffuse peritonitis, probably due to infection at the time of operation. There was no leakage. The right kidney—first operation—showed a hydronephrosis, a greatly dilated sac, with but a rim of kidney tissue at its convex periphery. The right ureter was dilated to twice its natural size. There was absolute stenosis at site of implantation into the intestine, this point being but barely visible on the mucous surface of bowel. The left kidney was congested, but there was no dilatation of pelvis or ureter.

CONCLUSIONS.

The above table shows that twenty-four experiments were made; of these, one animal escaped, the result of which would in all probability have been a recovery, as it was an unilateral implantation, and the series shows that all unilaterals recovered. Of the remaining twenty-three experiments, five recoveries resulted, and in each instance with stenosis and hydronephrosis; this

is practically a removal of one kidney. The result attained in the foregoing series of experiments, was not altogether unexpected.

The literature establishes beyond peradventure, that uretero-rectal implantation has been, and still is, a very unsatisfactory operation. Especially is this true in cases where both ureters are transplanted at the same time. The results obtained in experimentation on the lower animals are most discouraging. Matas, in speaking of Maydl's operation on dogs, considers the operation to be much more simple in the human subject, and less likely to be followed by septic infection. Contamination from the bladder or bowel can be much more effectually guarded against, especially if the sigmoid mesocolon is long enough to permit the bowel to be dragged out of the median incision.

Chaput is quoted as saying: "I believe that the difficulty in obtaining good results in these operations on dogs is due in part to the very small size of the ureter in the animal, and in part to the great rigidity of the intestinal walls causing the suture to cut through the tissues and rendering union almost impossible. The experiments on dogs therefore are not to be relied on to furnish material from which to draw valuable conclusions as to the advisability of similar operations on man."

In every instance where both ureters were transplanted, death followed in from two to six days, being due to peritonitis, with or without leakage.

In each instance where a single ureter was implanted at a first operation, the animals recovered from the operation without any bad symptoms, and passed urine *per anum*, or through the artificial bladder in the case which recovered after the making of such a bladder.

The animals in which the second ureter was implanted at a second operation, died, in a similar manner to those in which the bilateral implantation was done at one sitting. The cause of this peritonitis is difficult to arrive at.

All ordinary precautions were taken against infecting the peritoneal cavity. The same steps were pursued in the preparatory technic, in the same room, and with the same instruments, which were found to be absolutely safe by the same operator in performing intestinal work.

Again, the dogs in which one ureter was transplanted recovered without any signs of peritonitis, but when two ureters were made to communicate with the rectum by the same method and under exactly similar circumstances, the operation was followed by this inflammation of the peritoneum and death.

On necropsy, it was found that in all cases of unilateral implantation, stricture and hydronephrosis resulted. The fluid in the sac was never purulent, but on making cultures of this fluid cocci were found, with a few colon bacilli. In the other cases, when the post-mortem was performed within a reasonable time after death, cultures were made, and in each instance both bacilli and cocci were found to be present.

The ureter was implanted into both the large and small bowel, with apparently no difference in result. Unfortunately, the animals did not survive the operation for a sufficient length of time to allow that conclusions of material value be arrived at.

But from the above experiments, there can at least be deduced the conclusion, as confirmatory of others, that the bilateral axial implantation of the ureters into the rectum is at best a dangerous procedure.

Further experiments with the implantation of the trigone will be carried on and reported in the future.

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TYPHOID BACILLI IN THE URINE. ✕

Not a few of the results of investigations that are made in the laboratory and at the bedside are of comparatively trifling value from the point of view of immediate results of a practical nature. From the standpoint of pure science, however, they may be worth much, and indirectly may lead to definite application in the ultimate aim of medicine, the prevention and cure of disease. In truth, much of our knowledge that is applied in the daily routine of medicine and surgery was obtained as the result of research undertaken with no thought or other incentive than the purely scientific one of discovering truth for truth's sake.

In the case of other facts that are announced as the result of scientific research, their applied working value is at once apparent, and they change not only existing theories but practice as well. Thus the discovery that typhoid bacilli are often present in the urine of patients ill with, or convalescing from, typhoid fever will be productive of great results.

The presence of typhoid bacilli in the urine of a patient ill with enteric fever is important, not only to the patient and his friends, but to the entire community in which he lives. It is important to the patient because it may mean a cystitis, a pyelitis, a prolonged convalescence or an imperfect restoration to health. Occurring as it does, in about 25 per cent. of cases, it should be carefully sought for by the physician, and every typhoid urine that is even slightly turbid, or that is voided with evidence of slight pain or local irritation, should be examined for bacilli. But this is not enough, for in many of these cases no evidence of the presence of bacilli is given by turbidity of the urine or disturbed act of micturition. In fact, subjective complaint is the exception. Typhoid cystitis, as shown by Curschmann, is relatively rare. The only safe way, therefore, is to examine the urine of every case, not forgetting that the organisms are often late in making their appearance and are seldom found before the third week. Their early detection and the proper treatment may save the patient from annoyance, and perhaps from something more serious, such as renal or vesical calculi, for the typhoid bacillus may, perhaps, play a rôle here as it does in the production of biliary calculi.

It is important to detect these cases, because of the great danger of spreading the disease by means of careless disposal of contaminated urine. Neufeld¹ has re-

cently presented this aspect of the case with unusual force, and he contends that the danger from infected urine is greater than from feces similarly contaminated. This arises in part because a given quantity of urine will contain as a rule a larger number of typhoid germs than will a similar quantity of feces. In one of Neufeld's cases he estimated the bacilli at one hundred millions per cubic centimeter. But another reason is that an article of clothing, a sheet, a bed-pan, a urinal, the hands or genitalia may be soiled with urine and the accident much more readily escape notice than a similar mishap with fecal matter, thus increasing the danger of spread of the disease to those caring for the patient. From the point of view of public health the danger from improper disposal of typhoid urine is great. Water fouled with fecal matter will give evidence to sight or smell more quickly than if the contaminating substance is the nearly colorless and less malodorous urine. Urine is more apt to be carelessly thrown out than are feces; a patient recovered from typhoid, especially if he be in the country, is more likely to carelessly urinate than to defecate near a spring, well, brook, stream or pond, and thus to infect the drinking water. And the bacilli remain for a much longer time in the bladder and, therefore, in the urine than in the intestine and the feces. In Gwyn's case² they were found in urine voided five years after the attack of typhoid. There seems to be a constant inoculation and reinoculation of the urine as it comes from the kidney, by the organisms present in the bladder, so that the culture-medium being constantly supplied, the growth is repeatedly transplanted and is slow to die out. Thus a patient, months or years after his attack of fever, may unwittingly infect a supply of drinking water and start an epidemic of the disease.

In the management of these cases urotropin has been found to be very efficacious. Given in doses of about 30 grains a day, it causes the turbid urine rapidly to become clear and sterile. Occasionally relapses have been noted. If the bacteriuria is due to some other organism than the Eberth bacillus, the effect of the drug is not so certain.

THE TREATMENT OF EPILEPSY WITH OPIUM AND BROMID.

The essential nature and the intimate pathology of epilepsy are as yet not understood, and we are still without a specific or invariably successful method of treatment. In fact, all of the remedial measures at our command can be said to be only palliative, as even when the attacks have remained in abeyance for long periods of time, definite assurances of cure can not be given. In all cases distinct good can be accomplished by a careful regulation of the diet and the mode of life, and among drugs there is none, intelligently used, that seems so efficient as the bromids. The latter, however, by no means always bring about the desired result, and even when they lessen the number and the severity of

1. Deutsche Med. Woch., Dec. 20, 1900.

2. Johns Hopkins Hospital Bulletin, June, 1899.

the attacks, their use is not wholly unattended with unpleasant effects, and their influence may after a time be lost. Inasmuch as physiologic, as well as pathologic, activity, like all other forms of force, is expended along lines of least resistance, one is at times justified in taking radical steps for the purpose of breaking up what may be designated as the convulsive habit.

Within recent years a combination of opium and bromid, with various accessories, has been proposed in the treatment of epilepsy, but there has been some want of agreement as to the results obtained therewith. Meyer and Wickel¹ report a small series of cases thus treated, in which the severity of the attacks was mitigated, and both the physical and mental condition was improved. The underlying principle of the plan pursued consists in a gradual increase in the dose of opium, but not beyond 14 grains daily; in careful regulation of the diet; and in applications of cold water. Whether the patient has previously taken bromid or not, the treatment is begun with doses of $\frac{3}{4}$ gr. of powdered opium thrice daily. This dose is increased $\frac{1}{6}$ gr. on the third day, an additional $\frac{1}{6}$ gr. on the fifth, and so on until, on the fifty-first day, the daily dose will be 14 grains. This maximum dose is given for but one day, being replaced on the following days by a mixture of bromids—potassium bromid, 15 gr.; ammonium bromid and sodium bromid, each $7\frac{1}{2}$ grains—in doses of 30 grains thrice daily for two days; then 35 grains for two days, 40 grains for two days, and thereafter 45 grains thrice daily.

From the beginning a dilute solution of hydrochloric acid—1.5 to 200—is given thrice daily after meals in doses of a tablespoonful. In the diet, alcohol, coffee, tea, bouillon, sausage, acids, and strongly spiced articles, mustard, pepper, vinegar, and all spices are forbidden, and salt is restricted to a minimum. Meat is permitted in small amount, and the patient is encouraged to take demulcent soups, eggs, rice, etc., and if constipation be present, fresh vegetables. The diet must be regulated somewhat by the surroundings and the circumstances of the patient. During the first period of bromid administration, cocoa, eggs, and scraped meat, may be added.

From the first day of the period of opium administration a cool bath is taken in the evening before eating, at first at a temperature of 86 degrees for ten minutes, and reducing the temperature 2.25 degrees, and the duration of the bath one minute daily until a temperature of 70 and a duration of three minutes are reached. The baths are thus continued for a week, then, with the same temperature, but for four minutes, for another week; next at the same temperature for five or six minutes. In the first week of the period of bromid administration the bathing is intermitted, then being resumed at 86 for ten minutes and following the course already laid down. Every third day the patient is weighed, and pulse, temperature and respiration care-

fully observed. The bowels must be kept regular by means of enemata, infusions, abdominal massage, but not purgatives; besides note is taken of the number of attacks and of other details of the patient's condition.

The most important contraindications for the treatment are serious impairment of the nutrition and weakness of the heart. The number of attacks is not diminished during the period of opium administration; it may even be increased. Subsequently, however, the attacks become less frequent, and during the period of bromid administration they cease altogether. The mental state also exhibits distinct improvement. The treatment is to be continued by the administration of large doses of bromid—if possible 2 drams daily—for at least a year, with a tablespoonful of the solution of hydrochloric acid—1.5 to 200—thrice daily, and the same diet as was used during the period of opium administration, avoiding especially alcohol, tea, coffee, spices and meat beyond moderation. A quiet mode of life and avoidance of physical and mental excess, especially excitement, are further conducive to the success of the treatment.

THE EDINBURGH TRADITION AND CLINICAL INSTRUCTION.

In an address entitled "The Edinburgh Tradition and other Topics," Adami¹ emphasizes the great value of bedside teaching, more especially as carried out in the hospitals in Montreal, and he discusses the question why this method has been practiced so long in Montreal, while "elsewhere on the continent until recently clinical instruction and the free entry of students into the wards have been most exceptional?" "The democratic air of the states" is not considered adequate to explain the difference. The fact that many hospitals secondarily became attached to medical schools has been one cause, without doubt, of the opposition to the entrance of students into the wards. In Montreal the founders of the hospital and the earliest members of the staff were likewise the founders of the medical school, and they endeavored to exemplify in the new institutions the traditions of their youth. The Montreal school was developed by men from Edinburgh, and they continued the "Edinburgh tradition," that is, introduced the scheme of teaching in vogue for some time in Edinburgh. The men who founded the Montreal medical institution in 1823, and who became the medical faculty of McGill in 1829, were all Scotch. The Toronto school and the older schools in the United States were founded by English graduates. In London there was no regular instruction in the wards of hospitals until 1808. The Edinburgh school was well developed in 1750, and it was years in advance of London schools in the important matter of bedside instruction.

Adami quotes, from an old volume, notes showing that in 1780 there was in Edinburgh a well-developed

1. Berliner Klin. Woch., 1900, No. 48, p. 1085.

1. Montreal Med. Jour., 1900, xxix, 559-570.

system of practical clinical instruction. Gregory, Hume, Duncan, and other Edinburgh teachers, at the beginning of the nineteenth century, taught the men who in Montreal inaugurated a system of ward work that has given the McGill school an important standing on this continent. From this school have come men who have carried this tradition with them to other medical schools. This is an excellent illustration of the great influence that methods of instruction may exercise in the development of institutions. The influence of teachers and of methods of teaching go farther than merely to the present generation of students. As these scatter they are bound to carry with them the traditions and methods of their teachers. Hence the fundamental importance of guiding prospective medical students to those institutions whose methods and standards must be considered the best from the present point of view.

"The democratic air of the States" has something to do with the establishment of proper methods of clinical instruction in our large public hospitals, in so far as the management of these institutions is after all an accurate index, not of any one class a little more intelligent than the rest, but of the main mass of the people. Wherever these institutions are managed according to the expediency of practical politics—and many of them unfortunately are so managed as yet—there the true interests of medical education are sure to suffer in some way or other. But perhaps more harm is done our medical students by the democratic air of the medical colleges themselves, many of which feel free to offer courses in medicine without any facilities whatsoever for adequate clinical instruction, giving no consideration to the lessons taught by the history of medical teaching in this and other countries. A conservative regard for traditions surely would have prevented the starting of medical schools under conditions that prevent them from being such otherwise than in name.

METHODS OF EXAMINATION BY STATE BOARDS AND HOSPITALS.

The various state boards and licensing bodies are entrusted with the important duty of determining to whom shall be granted the right to practice medicine and surgery. For this purpose examinations are held. As far as known all examinations of this kind are written; a series of questions are propounded in the various branches, the applicants write the answers, the papers are corrected and graded by the members of the examining body or their representatives, and if the marks when added reach a certain average, the necessary papers are granted. In practically all states the applicants for license must present evidence of having satisfactorily fulfilled certain requirements and conditions before they are admitted to the examination. In the majority of the states demanding special examination these requirements include graduation from a medical college, and many states specify the colleges whose diplomas

are "recognized" for this purpose. One of the weak points in this machinery is the character of the examination. Written examinations alone do not furnish the requisite basis for determining whether the applicant is a proper person to be given the right to practice even though he holds a diploma from a recognized college. The most that a written examination can do is to show something as to the degree of book-learning possessed by the applicant. No really satisfactory opinion of the practical training and practical knowledge attained by those examined is secured by this method. An applicant may be able to tell all about acute lobar pneumonia without ever having seen or studied a single actual case of the disease. He may describe with great fulness of detail the management of a serious case of labor without ever having seen the inside of a lying-in chamber. He may give the steps in the examination of sputum for tubercle bacilli without the slightest practical experience in clinical microscopic diagnosis. Much of the knowledge that is paraded in the written examinations may be of very recent acquisition, and undoubtedly it often is the result of a hasty process of cramming with the particular end in view of passing the examination.

It may be urged that the holding of a diploma from a recognized medical college guarantees a certain amount of practical fitness to engage in active professional work. Graduation from the better schools probably does. In some of the better schools practical examinations are now in vogue. But what significance in this line is to be given the diplomas of the much larger number of institutions without adequate equipment and with notoriously low standards? In order to remedy this serious defect in the state examinations their scope must be enlarged so as to include practical tests. Patients should be examined, diagnoses made, and treatment prescribed for the concrete actual case by the applicants. Practical laboratory manipulations, such as are used every day by the properly qualified practitioner, should be introduced as part of the examinations for license to practice. This is done in other countries and is done in the examinations for appointment to the medical corps of the U. S. Army and U. S. Marine-Hospital Service. Certainly the hospitals and public medical institutions of every state contain suitable materials for this purpose. And the examining boards surely can command the services of men competent to properly carry out the necessary tests. Examinations of this kind would be actual tests of the qualifications of those that apply for the right to practice. In the framing of new laws and the amendment of existing laws governing admission to practice in the various states this necessary improvement should be incorporated, if not practicable under the old rules, as it is plainly one of the next steps in the evolution of state regulation of medical practice.

The foregoing is applicable with additional force to hospitals that choose internes by competitive examination. Here it concerns not the mere grading of the applicants, but the more difficult problem of determin-

ing relative merit. The adequate solution of this problem demands practical examinations; for the competitor who possesses an equal amount of theoretical knowledge but greater practical training than his fellow-contestants is the one most worthy of appointment to the coveted position. In this way only can the best men be selected.

Practical, not theoretical, knowledge should be the qualification required. A man with a little book-learning and a good memory is on top under the present system: the man with brains, and with practical knowledge but without the ability to put it in words, is liable to be at the bottom.

WASHINGTON'S GOVERNOR AND MEDICAL PRACTICE.

The Governor of Washington has vetoed a medical practice act that passed the legislature, because it ruled out the osteopaths. The use of drugs, he claims, is the ruin of the race, and "the osteopaths are perhaps showing us a better way." It is a pity that a man has been elected to such high position, whose mental qualifications are such that he can not see the difference between legitimate medical practice and indiscriminate drugging, and no recourse from the latter but osteopathy or similar forms of quackery. He accuses physicians of "poisoning the springs of life," and calls "the contents of the drug-store perhaps more dangerous to the future well-being of the race than those of the saloon," this last being perhaps a politician's sop to the liquor trade. The spirit, however, of the extracts of the veto message that have been published, is generally that of a sanctimonious quack, who thinks he can libel an honorable class of fellow citizens with impunity from his official position. The members of the profession of the state of Washington should remember this insulting message, and like those of Colorado, previously mentioned in these columns, put an extinguisher upon the future political aspirations of their libeler.

MARK TWAIN AND OSTEOPATHY.

Some time ago the public was edified by the sensible humor and sarcasm of Mark Twain on the subject of "Christian Science." It is too bad that he, like other mortals, has his share of unwisdom, which he exhibits in recent remarks credited to him, endorsing osteopathy in particular and unlimited license in medical practice generally. He has lived so long abroad, it would seem that he is peculiarly jealous of personal liberty in America, a peculiarity often noticed in other individuals from foreign lands. His long residence in Vienna, where he apparently found matters temporarily satisfactory notwithstanding the police and other regulations, has apparently given him an appetite for license that he wants indulged. The state here, he says, stands for liberty, and without full freedom for osteopathy things would be as unsatisfactory as the garden of Eden was to Adam and Eve; people will want what they can not get. The comparison is not such a bad one, and the medical profession will not object if this view of the case, including the consequences, is considered by the legislators before whom he appeared in behalf

of the frauds. Mark Twain is clearly a man with a somewhat kinky intellect, but it hardly seems that he will be taken seriously in his argument in behalf of those masseurs who call themselves osteopaths.

CALIFORNIA AND CHRISTIAN SCIENTISTS.

We were aware that the California legislature has had some queer propositions before it in the form of bills, and it therefore does not cause much surprise that it has followed the lead of some other state legislatures in putting "Christian Scientists" on an equality as regards medical practice with other recognized schools of medicine. The chief arguments that affected the intelligent legislators were that these scientists were a numerous and good class of people, which, as the *Sacramento Bee* says editorially, "would have been as pertinent regarding a bill enabling the inmates of the various lunatic asylums of the country to practice medicine." As that paper says, "it is doubtful whether the intelligent legislators who advocated and voted for the bill ever read any of Mrs. Eddy's books, or even know who she is"; and it gives for their benefit a little brief account of the "profitess" and her doctrine, that ought to enlighten them. It would be well if every legislature had near at hand so able and sensible an adviser on medical matters as have the California Solons in the *Sacramento Bee*.

THE DETERMINATION OF SEX.

Some day, perhaps, we may fully understand the mechanism underlying the determination of sex, but at the present time we must acknowledge the existence of certain deficiencies in this respect. Many hypotheses have been proposed, but no one satisfies all of the conditions, although each may contain some element of truth, and be based on the observation of some actual factor. Even apart from this circumstance, however, it seems probable that the process is not a simple one, but is dependent on a complexity of influences, at least some of which have been individually pointed out. On the basis of general knowledge, it seems probable that each parent contributes something in the determination of the sex of the offspring, and it appears likely that the final determining factor must be referred to some peculiarity in nutrition, affecting the spermatozoid, the ovum or the embryo, alone or severally. From this point of view, the hypothesis of Schenk would be most acceptable, though even it must be considered as crude and not sufficiently comprehensive. At a recent meeting of the Obstetrical Society of London, Dr. E. R. Dawson¹ read a paper on "The Essential Factor in the Causation of Sex," in which he took the ground that each ovary normally discharges ova independently of and probably alternately with the other, normal single pregnancy resulting from the fertilization of an ovum from one ovary only by the combined secretion of both testicles, the male parent thus not influencing the sex of the child, which depends rather on the ovary that supplies the ovum fertilized: if the right, a male; if the left, a female. Illustrative cases were cited in support of the view propounded. In the case of plural

1. British Med. Jour., Dec. 15, 1900, p. 709.

births, the sex of the children would be the same or different, accordingly as the fertilized ova were derived from one or both ovaries. Apparent exceptions to the rule were ascribed either to the grasping by the tube on one side of the ovary on the other side, or to the transmigration of ova. This hypothesis is not entirely new, nor probably is it correct. It seems most unlikely that the spermatozoid should be wholly without influence in sex determination, and it is scarcely more likely that what might be designated the accident of the situation of the ovary on the right or left side should have any decisive influence in this connection. As a matter of fact, some animals possess but a single ovary.

NEW SPECIFIC BLOOD REACTION.

A discovery of some importance from a medicolegal point of view is announced from Germany. Uhlenhuth¹ has found that by repeatedly injecting rabbits with defibrinated blood from various animals, a serum can finally be obtained which gives a specific turbidity with samples of the blood of other individuals of the same species. The blood samples to be tested must be diluted with water, to a pale red color, filtered or cleared by precipitation, and then have an equal amount of 1.6 per cent. solution of common salt added. This last is important, as without it the rabbits' serum gives, with water, a turbidity that might be confusing. Uhlenhuth has tested this reaction with human blood as well as with that of other animals, and in all cases obtained the specific reaction, the rabbits' serum failing to produce turbidity with any sample not taken from the species of animal from which it was inoculated. The test, moreover, is one of exceeding delicacy, the merest traces of blood serving to identify the animal from which they came. A specimen of dried stain on a board from a human being, ox, or horse, four weeks old, was enough when dissolved in salt solution. As regards the nature of the reaction, the author suggests the existence of a specific "coagulin" formed in the body, but whatever further research may prove so far as this is concerned, the importance of the discovery itself is manifest. It is to be hoped that this work will be followed up and confirmed by other workers.

THE YELLOW FEVER GERM.

There appears on another page the substance of the "interim report" of Dr. H. E. Durham and the late Dr. Walter Myers, the British yellow fever commission that has been investigating this disease in South America. Their discovery of a new claimant for the "germship," so to speak, of yellow fever, is an interesting addition to the sum of facts on the disease. The report was prepared before the authors had received any accounts of the later experiments of the American investigators in Cuba, as they remark that the man-to-man transference of yellow fever by a mosquito is hardly intelligible for bacillary disease and that it "does not seem to be borne out by the experiments." The incontestable evidence offered by Drs. Reed,² Carroll and Agramonte was evidently unknown to them, and it certainly does not specially favor a bacterial theory of the etiology.

The American experimenters offer no positive theory as to the actual germ, however probable it might appear, from their results, that it is a protozoan, but as the case stands the conclusion that yellow fever is not due to such an organism can not be implicitly accepted. Nevertheless, the findings of Durham and Myers are to be taken as part of the sum of facts that is needed before the questions are solved, and they may have important side bearings on their solution. Like the American studies, they have cost a valuable life. Dr. Myers, like Dr. Lazear, is to be enrolled among the physicians who have sacrificed themselves in the search for knowledge that is needed for the good of mankind.

NEW HAMPSHIRE'S VITAL STATISTICS.

The Sixteenth Annual Report of the New Hampshire State Board of Health contains some interesting data regarding causes of death in that state, which are not altogether in accordance with prevailing notions as to the mortality. For example, consumption, which is as a rule considered to stand at the head of fatal diseases, falls from first to second place in 1898 and to fourth in 1899, pneumonia, heart disease, apoplexy and paralysis exceeding it in the number of their victims. Moreover, while it has held first place every other year since that state has had any accurate system of registration, excepting in the year 1892, there has been a steady decrease in its fatality, from 24.18 per 10,000 living population in 1884 to 14.43 in 1899, and its percentage of the total mortality has fallen from 14.01 to 8.26. This decrease also begins to appear from the first and before the microbe origin of the disorder was generally recognized, and therefore can only in part be attributed to special precautions based on that knowledge. The State Board is inclined to credit the decrease of mortality from this disease largely to better sanitation, ventilation, etc., of late years, as well as to the dissemination of information regarding it, in which it has been especially active of late. Pneumonia, on the other hand, is a disorder that has an increasing, as phthisis has a decreasing, mortality, and this is particularly aggravated in certain years by the prevalence of influenza. The average death-rate from pneumonia, between 1884 and 1899 inclusive, is 617, but this has been exceeded every year but two since 1889. The increase in mortality from cardiac and nervous disorders is likewise notable, the number of deaths from the former, prior to 1893, having been between 400 and 500, while since that date between 600 and 700 have been annually recorded. Of nervous diseases collectively, the average mortality for the past sixteen years has been 949, with a gradually increasing proportion, till in 1899 the deaths from these causes reached a total of 1111, the highest ever reported. Cancer statistics, contrary to experience in some other regions, have been remarkably uniform, with an annual average somewhere between 200 and 300. New Hampshire is supposed to be a typical New England commonwealth and, therefore, its statistics are of special interest. It has, however, few large towns, and its population is more largely rural than with its southern neighbors, which fact is to be considered. The decreased mortality from consumption is both welcome and significant, and the increase in that from pneu-

1. Deutsch Med. Woch., February 7.

2. JOURNAL A. M. A., February 16.

monia is in accordance with experience in some other sections. While the influenza epidemics of 1890 and 1899 may have had their influence, the increase was, from the figures, already apparent before the earliest of these dates. It seems not altogether unlikely that, with greater care, largely in personal hygiene and general sanitation, the "great white plague" may permanently take a less prominent place in the list of scourges to the human race, but new questions and diseases will then arise, and pneumonia, carcinoma, cardiac and nervous and other disorders appear in our mortality lists with more formidable frequency. Probably the sanitary golden age is still almost as far in the dim future as ever.

Medical News.

CALIFORNIA.

Sanitary inspectors are now detailed by the State Board of Health to inspect all incoming trains from the South and East, at Oakland.

Merritt Hospital, Oakland, is to be located on a site—about 5½ acres on Hawthorne Avenue—secured by the trustees of the hospital.

CONNECTICUT.

Yale Medical School, New Haven, has received an anonymous donation of \$100,000 which is to be applied to the construction of a clinical building—a laboratory of clinical medicine and surgery.

Dr. William R. Tinker, South Manchester, has been appointed by the coroner of Hartford county, medical examiner for the town of Manchester to fill the vacancy caused by the death of Dr. Julian N. Parker.

The State's death-rate for January was 19 per 1000 per annum. Infectious diseases caused 16.4 per cent. of the deaths, which numbered 1439, or 173 more than the average for the month for the five preceding years.

Incipient tuberculosis is to be treated in a state institution, especially provided, if a bill introduced in the legislature becomes a law. The bill, which has received the unqualified support of the New Haven Medical Society, provides for the establishment of a state hospital in some suitable locality for the treatment of incipient pulmonary tuberculosis, and appropriates \$100,000 for the purchase and the erection of buildings.

DISTRICT OF COLUMBIA.

An unlicensed practitioner has been arrested at Washington, while passing under an assumed name, for practicing medicine without a license.

Tributes to deceased members of the Medical Society of the District of Columbia—Drs. Rosier Middleton and William P. Manning—were presented and adopted at a recent meeting of the Society.

Emergency Hospital changes include the appointment of Dr. Clifford Spiro as resident physician, vice Dr. W. R. Moulton; Dr. R. S. Beale, promoted to senior assistant, and Dr. Boyd Dixon, appointed junior assistant, as the result of a competitive examination.

An Examining Board consisting of Col. Alfred A. Woodhull, assistant surgeon general, U. S. A., Major Louis A. Le Garde, surgeon, U. S. A.; Capt. William C. Borden, assistant surgeon, U. S. A., and Capt. Frank R. Keefer, assistant surgeon, U. S. A., designated by the Secretary of War, met at Washington, February 11, to examine candidates for admission to the medical corps of the army. Medical boards have been ordered to convene at San Francisco and Manila, P. I., for a similar purpose.

ILLINOIS.

Dr. William Jayne, Springfield, has been appointed a member of the State Board of Charities, vice R. D. Lawrence, deceased.

Senator Busse has introduced a bill amending the inheritance tax law by providing that when beneficial interest passes to a hospital or other charitable institution, it shall not be

subject to tax, but that the exemption shall not apply to institutions operated for profit.

Chicago.

Dr. Frederick C. Schaefer has been appointed gynecologist to St. Elizabeth's Hospital, and surgeon-in-chief to St. Hedwig's Hospital.

Dr. John H. Reeves, who was one of the defendants in the fraudulent insurance case, in which Dr. Michael N. Regent was recently convicted, has turned state's evidence and will testify in the third trial which is now in progress.

The deaths for the week ended March 2 were 434, or 87 fewer than the preceding week, and 103 less than the corresponding week of 1900. As compared with the corresponding period of a year ago, there were 68 fewer deaths from the acute pulmonary diseases and from diphtheria. There were only 9 from diphtheria during the week, as against 32 a year ago. Of these deaths, 165 were due to diseases of the respiratory system.

A coroner's jury has decided, in the case of a decedent who fell, breaking five ribs, and was given treatment by the Dowie method, that if medical aid had been rendered the deceased he would have recovered from his injuries and would certainly have been spared the physical agonies he suffered. It also recommends that a law be enacted which will compel medical examination by licensed physicians in cases of accident or external violence.

The smallpox situation is substantially unchanged; of 21 "suspect" cases reported, 11 were found to be smallpox and were removed to the Isolation Hospital, their premises were quarantined and disinfected, and all persons in the respective neighborhoods were vaccinated. Since the ripening of the vaccine lymph, systematic vaccination of the lodging-house districts has been resumed. At the close of the week there were 35 cases under treatment in the hospital, 9 had been discharged and none died.

February Mortality.—The total deaths for February numbered 1933, giving an annual death-rate of 14.32 per 1000, as against an annual rate of 15.21 per thousand for February, 1897. As compared with the preceding month there were 307 fewer deaths during February, and as compared with the corresponding month of a year ago there were 172 fewer. The reduction was chiefly in the deaths from pneumonia, bronchitis and influenza, there being 184 fewer deaths from pneumonia, 41 less from bronchitis, and 54 less from influenza, a total of 279 from these three diseases. There was also a lesser mortality from cancer, typhoid fever, diphtheria and from violence.

INDIANA.

The Wood medical bill, with an amendment excluding practicing osteopaths who are graduates of regularly constituted osteopathic schools, passed the senate, February 21.

Indiana deaths for January numbered 3400, 602 more than for January, 1900. The tuberculosis mortality increased 23 per cent. over the previous month, and respiratory diseases and measles and puerperal infection were more prevalent.

The Methodist State Hospital, Indianapolis, will be built on Twenty-ninth street, near Illinois, as soon as the executive committee secures subscriptions sufficient to warrant beginning the work. The intention is to begin with a small building and to enlarge as the needs of the institution increase.

IOWA.

Dr. Alpheus A. Deering, Boone, while on a trip in California, fell and broke his leg. February 18, and is now under treatment at Palo Alto.

The Cedar Valley Sanatorium has been established and will soon be opened at Cedar Rapids, under the medical directorship of Dr. George D. Sitzler.

Smallpox in the county jail, Des Moines, has caused the abandonment of the courts and county offices located in the building, and the quarantining of the entire structure.

KENTUCKY.

The Kentucky State Medical Society will hold its forty-sixth annual session in Louisville, May 22, 23 and 24.

Free public baths for Louisville have been reported on favorably by the committee of the board of aldermen and \$5000 appropriated for the purpose.

Dr. E. C. Dudley, of Chicago, was the guest of Dr. William H. Wathen, Louisville, February 25, and held a clinic in the hospital of the Kentucky School of Medicine.

The formal opening of the hospital for the medical department of the University of Louisville occurred February 21.

The hospital is already in successful operation, and has accommodation for about fifty patients.

LOUISIANA.

The medical department of the New Orleans University (colored) held its annual commencement, February 26, graduating two.

A quarantine proclamation was formulated by the State Board of Health, February 25, governing all vessels engaged in the fruit-importing trade.

Fifty thousand dollars has been donated the Charity Hospital, New Orleans, by some unknown philanthropist, through Dr. Rudolph Matas. It was given unconditionally, for the purpose of increasing the nursing staff in the hospital and providing a suitable building to be used as a trained nurses' home.

Charity Hospital.—At the annual meeting held February 4 the Charity Hospital, New Orleans, elected the following officers: Dr. Ernest S. Lewis, vice-president; Dr. Jefferson D. Bloom, house surgeon; Dr. Erasmus D. Fenner, first assistant; Dr. James M. Batchelor, second assistant; Dr. Oliver L. Pothier, pathologist, and Dr. Maurice J. B. Couret, assistant pathologist.

Appointments.—The State Board of Health has appointed Dr. Fred Turney, Rigolets Station, and Dr. George H. Douglas, Atehafalaya Station, quarantine physicians, and the following as resident medical inspectors: Dr. J. L. Fridge, Belize, British Honduras; Dr. Augustus Smith, Livingston, Guatemala; Dr. J. S. Allison, Port Cortez, Spanish Honduras; Dr. King Holt, Bluefields, Nicaragua; Dr. Percy Ahrons, La Ceiba, Spanish Honduras; Dr. Allen Jumel, Port Limon, Costa Rica; and Dr. L. A. Wailes, Bocas del Toro, United States of Colombia.

MAINE.

The State Hospital at Augusta, which has a capacity of 500 insane, now has 767 such patients.

Dr. E. H. Wheeler, Camden, has been appointed assistant surgeon in the U. S. Volunteer service, with rank of captain.

Dr. Philip H. S. Vaughan, Augusta, has been selected as assistant superintendent of the Eastern Maine Insane Hospital at Bangor.

The State Medical Association, on account of the conflict of dates with the meeting of the AMERICAN MEDICAL ASSOCIATION, has changed the time for its annual session to June 12-14.

MICHIGAN.

Deaths in Michigan, for February, numbered 3173 or 498 more than for the preceding month. The increase is assigned to the prevalence of pneumonia and influenza.

The Semicentennial of the medical department of the state university was celebrated February 22. Dr. William F. Brakey, Ann Arbor, spoke on "Medical Education in the Early Fifties," and Dr. Victor C. Vaughan, dean, considered the ideals of the medical department.

Smallpox Infected Mail.—The State Board of Health has received a report from a health officer giving an instance where smallpox was apparently contracted by the handling of infected mail. There is but one case of the disease in that city, and that person has not been away from the city; he has been distributing mail, and the health officer suggests that as the mail carriers, when sorting mail, moisten their thumbs in their mouths, the only probable source of the disease is some infected letter handled in that manner.

MINNESOTA.

Bethesda Hospital, St. Paul, reports receipts of \$132,291 for the nine years of its existence, and \$79,944 disbursements. The buildings are valued at \$56,990.

Dr. Samuel Friedlander, Minneapolis, who sued for \$5050 for false arrest, and damage to his reputation as a physician and citizen thereby, was awarded \$175 damages, February 20.

MISSOURI.

Dr. Thompson E. Potter, St. Joseph, was seriously injured in a runaway accident, February 24.

Dr. E. Victor Wedding, Kansas City, who was sued by a patient, for \$2000 for alleged malpractice, had a verdict rendered in his favor, February 14.

Dr. Robert L. Evans, Boonville, has been made a member of the Cooper County court, under the provision of the new

law which makes the county court ex-officio members of the State Board of Health.

NEW JERSEY.

Vaccination is progressing rapidly at Woodbury; the two cases of smallpox are doing well, and the health board does not anticipate any further spread of the disease.

Muhlenberg Hospital, Plainfield, has been given a site for its new building, with 500 feet frontage and a depth of 300 feet, by James A. Martine. The land is valued at \$10,000.

Friction between the house staff and the superintendent of the Orange Memorial Hospital has culminated in the resignation of Drs. Frank H. Glazebrook and Henry P. Merrill, February 25.

Christ Hospital, Jersey City, in its twenty-seventh annual report shows that 4633 patients were cared for, 1171 of whom were bed patients in the hospital. The mortgage debt was reduced \$3000 during the year.

NEW YORK.

Subscriptions to the Ogdensburg City Hospital annex already amount to \$15,500.

The Craig Colony for epileptics now has 620 patients, and with the completion of the four new buildings now under construction, 120 more can be received.

Buffalo.

Dr. Matthew D. Mann has been elected park commissioner.

Dr. W. Scott Renner sailed for Europe March 6, to spend two months in Berlin and Vienna.

Dr. P. W. Van Peyma has been elected chairman of the board of school examiners for the year 1901.

The Emergency Hospital, which is supported by the Sisters of Charity, will soon remove into its new building.

Dr. John Farr, formerly of Buffalo, has been appointed an assistant surgeon in the army. Dr. Farr was for some time house surgeon at the Fitch Accident Hospital.

New York City.

The Post-Graduate Medical School and Hospital has received an anonymous gift of \$15,000, to endow three beds in the children's ward.

The nurse in Bellevue Hospital who was charged with manslaughter, in having caused the death of one of the insane patients, has been acquitted.

Early in March, the first number of a scientific quarterly, under the title *New York University Bulletin of the Medical Sciences*, edited under the auspices of the New York University Medical Society, will be published.

Appointment.—The governor has appointed Dr. Daniel Lewis, former member of the State Board of Health, state health commissioner under the new law. He will have jurisdiction over the matters formerly coming under the notice of the state board. The salary is \$3500 a year, and his term expires Dec. 31, 1904.

New Periodical.—The annual circular of the New York University is to be converted into a periodical, each number of which will contain, besides the circular matter, statements of recent progress in the university. This bulletin will be issued twice a month, except from August to December.

Smallpox.—New Cases of smallpox continue to be recorded. A public school teacher in Manhattan has just been reported with the disease, and two centers of smallpox have been unearthed by the health officials in Brooklyn. Eight cases were discovered in a row of tenements in Warren Street, and eleven smallpox patients were found in a four-story double apartment house in Driggs Avenue.

Hemophilia.—Elmer W. Roach, of Brooklyn, a student of dentistry, has died after three weeks of almost continuous bleeding from the nose and gums. This case of hemophilia is of special interest because Mr. Roach had reached the age of 22 years, and because about nine years ago he lost a leg in a railroad accident. If he had been a "bleeder" at that time he could not have survived the injury.

OHIO.

The estate of the late Dr. Alexander Neil, Columbus, valued at \$150,000 is to be distributed equally among his three daughters.

Dr. John L. Boylan, Milford Center, fell from the roof of his barn, February 22, breaking two ribs and receiving other injuries.

Dr. Robert C. M. Lewis, Marion, formerly surgeon for the T. and O. C. R. R., has been appointed surgeon for the C., S. and H. R. R.

The vacancies on the medical staff of the National Military Home, occasioned by the resignations of Drs. Beal and Miller, have been filled by promoting Dr. Edward S. Breese to be first assistant surgeon; Dr. George H. Kress, second assistant; Frank W. Roush, third assistant, and A. L. Light, fourth assistant.

PENNSYLVANIA.

A conference has been held for the purpose of making a new annex to the Allegheny City Home for the Insane at Claremont. The new annex will cost about \$120,000.

The pathologist to the Hospital for the Insane, at Norristown, will be compelled, hereafter, to examine the cattle at that institution in order to prevent tuberculosis, as certificates given by drovers are unreliable.

Drunkards Insane.—A resolution has been introduced in the house of representatives providing that persons of aggravated intemperate habits, be placed in an insane asylum until they are cured, and that they be recommitted in case of recurrence.

Philadelphia.

Dr. S. Weir Mitchell will leave for Vancouver, about March 15, and later go to Japan, returning in June.

Dr. Francis R. Packard has assumed the editorship of the *American Journal of the Medical Sciences*, to succeed Dr. Alfred Stengel, resigned.

The coroner's jury a few days ago recommended that the licenses of two women physicians be revoked, because they were conducting private maternity hospitals at their respective homes.

President Shoemaker, of the Pennsylvania Hospital, has appointed Messrs. John B. Garrett, and John Story Jenks, Dr. John B. Chapin, and Dr. Thomas G. Morton, a committee to make arrangements for the 150th anniversary of that hospital, to be held early in June.

GENERAL.

Honolulu's Board of Health has directed the attorney general to draft a bill, for presentation to the next legislature, prohibiting the landing of any persons suffering from any contagious and infectious disease. The bill is aimed especially at lepers and consumptives.

Congress of Nurses.—The International Congress of Nurses is to be held in Buffalo next September, for the purpose of strengthening the national and international organizations which the nurses of this country, Great Britain, the British colonies, Denmark, and Holland have been developing during the last few years. The nurses' national organizations in all these countries are pledged to work steadily for the advancement of educational standards and ethical development, and those of English-speaking countries also have in view the attainment of state examinations and registration. The organization in the United States is affiliated with the National Council of Women, and within the last year an international council of nurses has been organized, and will hereafter hold quinquennial meetings with those of the International Council of Women. The chairman of the congress is Miss Isabelle McIsaac, of the Illinois Training School for Nurses, Chicago, and the secretary, Miss Banfield, of the Polyelinie Hospital, Philadelphia.

California Plague Investigation Ended.

(Special Telegram from Our Own Correspondent.)

SAN FRANCISCO, CAL., March 7, 1901.—The Federal Commission, which, as recently noticed in THE JOURNAL columns, has been making an investigation of the plague conditions in San Francisco, has completed its work and its members left for the East on March 5. Inoculation experiments have been performed in all of the following cases and showed the positive presence of plague in every instance, these cases having occurred in San Francisco during the investigation of the Commission. In brief, these cases, which bring the number previously reported in THE JOURNAL to thirty-two, are as follows:

CASE 26.—Chun Ah Chon, a male actor, 44 years old, born in China, died February 5, at the Chinese theater on Washington street.

CASE 27.—Lum Hong Yuen, a male laborer, aged 37 years, born in China, died at his residence, 28 Ross alley, February 6.

CASE 28.—Wong Chi Lin, a male, aged 50 years, a cigar-

maker, born in China, and residing at 15 Waverly Place, died February 7.

CASE 29.—Tom Shom, a male actor, aged 51 years, died at his residence, 814 Washington street, February 10. This case was under observation by the commission for three or four days before his death.

CASE 30.—Ny Ah Boek, a male, 45 years old, died February 11, in St. Louis Alley. This case was attended by Dr. Mather, of San Francisco, and by him reported as suspicious. Glandular enlargement was found in the neck in this instance, and at the autopsy, which was performed by Prof. Simon Flexner, of the commission, the spleen was found very much enlarged, septic, the lymph glands of the neck much enlarged, hemorrhagic, and necrotic. Plague bacilli were found in enormous numbers in both the spleen and glands.

CASE 31.—The details of this case are not yet completed.

CASE 32.—Fong Lung Why, a male cook, 33 years old, was born in China. He died at his residence, 13 Waverly place. This man came from Sacramento about two weeks before death, and was sick when he arrived. There was no enlargement of the superficial lymph glands, but the spleen was much enlarged, septic, and contained enormous numbers of plague bacilli. The organism was obtained in pure culture from the spleen.

CANADA.

The Montreal Medical Society, consisting of French members, discussed and considered at the last meeting, the question of a new civic hospital for Montreal. The society favors a single hospital under the direct management of the city.

Dr. M. S. Frazer, of Brandon, Manitoba, one of the delegates to the tuberculosis conference recently held in Ottawa, and connected with the Indian department, as the medical superintendent of the Brandon Industrial School, will make a report on tuberculosis as it affects the Indians, so that the department may take any steps necessary to prevent this disease.

Ontario's Smallpox.—The situation in the province as regards the spread of smallpox is a trifle alarming. There are 3 cases in Toronto, all progressing favorably, and 83 in the province. In the County of Algoma there are 57; Carleton and Norfolk, 1 each; Middlesex, 2; York, Simcoe and Muskoka, each 3; Renfrew, 11; Haldimand, 1. The provincial board of health has organized a smallpox camp at Sudbury, where there are said to be 17 cases.

Sherbrooke Medical Society.—At the annual meeting held last week, Dr. J. F. J. Austin was elected president and Dr. J. O. Camirand, secretary-treasurer. The "lodge-doctor" was the principal topic of discussion and the Society decided to adhere to its previous decision, each member pledging himself to accept no position from any society as lodge physician. Another question was the relation of the doctors and druggists in the matter of counter prescribing, and it was decided to hold a conference in the near future, with the druggists of the city, to discuss the matter.

Injured in Chemical Laboratory.—An unfortunate accident occurred in the laboratory of Professor Ruttan, of McGill's faculty of medicine, recently, and will probably result in the partial blindness of a first-year medical student. The accident occurred through the unexpected explosion of a quantity of sulphuric acid and alcohol with which the students were experimenting. The test-tube of a neighboring student was submitted to Shaw's nose for his opinion as to the nature of the gas being given off, when it frothed up in his face, terribly burning it and also permanently injuring the right eye.

Indian Girls as Nurses.—The department of Indian affairs is considering the advisability of training girls at the industrial school at Brandon, Manitoba, in general nursing. This has been recommended by Dr. Fraser, who has the medical supervision of the institution. The value of having Indian female nurses in the Northwest can not be doubted, as the doctors are in many instances some distance from the Indian reserves, and it is also thought that the training of these girls would be in this way an education in the matter of preventing the spread of consumption amongst the Indians. Trained nurses will be brought to Brandon to train and instruct the female pupils in this work.

FOREIGN.

The hospital connected with the Tokyo University, Japan, according to mail advices just received, was burned January 29. Twenty-one patients were burned to death and ten patients and eleven nurses and attendants injured.

Smallpox in Dawson has abated, according to word from Port Townsend, Wash., bearing date of February 26. Public

vaccinators are making a house-to-house visitation, accompanied by a squad of policemen.

The death of Prof. H. Schapiro, of St. Petersburg, is announced. He was the author of works on internal medicine. Prof. A. Rocha, editor of the *Coimbra Medica*, also died recently, and Mexico has lost a prominent member of the profession in the death of Prof. Alfonso Herrera.

Antituberculosis dispensaries are to be established in Paris, by a benevolent society. They are to be for the treatment of tuberculosis alone, and medicine, food and garments distributed gratuitously. The society will also supervise the patient at his home, to render the conditions as favorable as possible for recovery.

The Progress of the Plague.—On February 27, 7 new cases of plague were reported in Cape Town, South Africa, 2 being Europeans. The plague returns give 3396 deaths as the total for all India for the last week in January, with 3277 for the preceding week. In Bengal, where the greatest number of cases and deaths occurred, there were 2261 deaths, and in Bombay City 427 deaths during the last week in January, with 308 the previous week. In that city the epidemic increased markedly, with a report of 922 deaths for the second week in February. In Mauritius, the week ending February 14, 14 new cases of plague were reported with 10 deaths. In England, according to the *British Medical Journal*, the London County Council has authorized its Public Health Committee to spend £50,000 if necessary, in dealing with suspect and contact cases of plague. London has been divided into four districts for the purpose of isolation, and thorough accommodation for contacts and suspects will be provided in each district. Arrangements have been made for providing, in a few hours, for the accommodation of 200 persons at a time, at a cost of £16,000, and 600 more can be provided for within a few weeks should it be necessary. While these buildings are not to be commenced unless plague actually appears in London, £7000 is to be spent on the drainage, water-supply and preparation for the foundations for these temporary buildings.

Correspondence.

The Modern Methods of Quarantine.

ST. PAUL, MINN., Feb. 18, 1901.

To the Editor:—In the *N. Y. Medical Journal* of Nov. 3, 1900, Dr. A. H. Doty discusses this subject as bearing upon marine sanitation. It is true, as he states, that in the past there has been much unwarranted fussiness in the administration of marine quarantine. Methods have been in vogue that caused much delay in the discharge of passengers, mails and cargo, that were in no way based upon scientific teaching, and that were largely in demand chiefly for the benefit of the port sanitary officials.

Had Dr. Doty confined his arguments to marine sanitary methods deserving of criticism, his field would have been sufficiently wide. But there are many statements in his paper which have no bearing upon the disinfection of a cargo of iron in the hold of a vessel, or of rags that supposedly have been steamed and baled under pressure in a foreign country, or of passengers lined up on the deck, or of mails lying in an open boat. For example, the following statement appears: "Contrary to popular belief the most careful investigation, both from a scientific and a practical standpoint, has demonstrated that the clothing actually worn by well persons is not a medium of infection." There are few modern sanitarians who will accept this view. Few, I think, will admit that the well can not carry in their clothing the infection of scarlet fever or of smallpox directly deposited or transmitted through the atmosphere, from a patient in the stage of desquamation. Clothing soiled with the infectious discharge from a patient ill with typhoid fever, tuberculosis, or diphtheria can certainly convey infection to others.

The following are a few illustrations of this fact: My father, a physician, was attending scarlet fever patients. He tried to prevent conveying the disease to his own family of small children, by carefully removing the suit worn while visiting such patients before returning to his home. In spite of these precautions, however, he undoubtedly did convey the disease to his own children, one of whom died in consequence.

A few years ago, while in attendance upon scarlet fever patients, I was careful so far as my clients were concerned, but somewhat careless in my methods as related to my return home, and my wife contracted the disease, beyond doubt through my carelessness. Dr. Montizambert, Director General of Public Health in Canada, in reporting on a recent outbreak of smallpox in Winnipeg (1900), says: "Careful and continual inquiry lead to the conclusion that he must have contracted the disease from the unpacking of infected clothing during his voyage from Hongkong." Quite recently infection of a family in Minnesota, with smallpox, was traceable to the visit of the father to one of his rented houses, in which there had been cases of smallpox a short time previously. His clothing must have conveyed the disease for he himself was not ill. Recently a woman whose child had died of diphtheria borrowed mourning goods of a neighbor. Diphtheria, soon after this borrowing, appeared in the family of the lender, undoubtedly due to infection, through the medium of the loaned clothing.

I mention these cases as a few that have come under my own observation. Dr. Doty admits that it is "within the bounds of possibility" for such cases to occur exceptionally. I venture to say that instead of being exceptions they are of daily occurrence, but unreported. The casual investigator will often fail to discover the source of infection in an outbreak of scarlet fever, smallpox or diphtheria, when the careful observer will find the fault to rest upon some healthy individual as the transmitter of the disease. Dr. Doty further states: "The busy medical practitioner may during the day visit many cases of infectious disease and may go from them to others without previously changing his clothing or performing disinfection. He has reason to believe that he does not act as a medium of infection; as he sees no evidence of it in his own home, nor is evidence presented to him that he transmits disease to his patients." That the busy practitioner may do as thus stated is too true. Surgeons hesitate to go from a patient having an infectious disease to any operative work. Why should they hesitate if there is no danger of their conveying infection. I contend that every physician in attendance on certain infectious diseases, such as scarlet fever, smallpox, diphtheria, etc., should wear a protective gown, and this should be moist with an antiseptic solution at the time it is worn, or should be disinfected as soon as possible after such a visit. Dr. Doty, after expressing himself as to the absence of danger from the clothing of non-infected persons, says: "in municipal sanitary work this knowledge is valuable as we are then reasonably assured that the disease will not spread—at least to any serious extent—through the medium of clothing worn by well persons." Truly, this is a remarkable position to be taken by a sanitarian at this date. Were it true it would mean that the quarantine of the homes of those ill with smallpox and scarlet fever is unnecessary; that so long as the actual patient is kept at home no danger can follow the promiscuous mixing of other members of the family with the public at large. If his statement is true it means that the exclusion of healthy children, resident in an infected house, from school is a mistake. It may be true that there may be the attendance at school of many children from infected homes without the appearance of many cases of disease due to such exposure, but this does not prove the non-existence of danger from such a course. One has but to study the rise in numbers of infectious diseases following the general opening of schools in the fall to realize that the association of children has much to do with the spread of infectious diseases, and that this increase in disease is dependent on the intermediate as well as the mediate infectious children. Dr. Doty, in support of his opinion, says: "As a matter of fact, many careful observers believe that the activity, at least of some, of the specific organisms is inhibited by an exposure of only a few minutes to air and sunlight." This proves nothing. Admitting some of his statements to be true, the argument does not apply to clothing, much of which gets little sunlight or air, even when in use.

It may be well to touch upon two other statements in Dr. Doty's paper: 1. "As far as I am able to ascertain no authentic report exists which shows that cargoes of vessels have trans-

mitted bubonic plague through the medium of infected rats or other sources." This, it is not necessary for me to argue on further than to say that even should the statement be true, it does not prove that "rats or other sources" might not have transmitted the disease. He further states: "rats collected at New York from coffee-carrying vessels from Rio Janeiro and Santos, during the recent outbreak of plague in these two places were examined bacteriologically and in no instance was there the slightest evidence of bubonic plague." What, may I ask, does the Doctor expect to prove by this statement? To me it represents but a fortunate circumstance, for no one questions, I presume, that rats may be infected with the plague bacillus, nor would any one question the fact that had any of the rats on any of the ships examined been infected, a careful bacteriologic examination of such rats should have demonstrated the fact. 2. He also says: "Most careful investigation has failed to present satisfactory evidence that either foreign or domestic rags act as a medium of infection (for anthrax) although they include all kinds of wearing apparel, which is frequently filthy and offensive." Yet the Doctor must admit that anthrax has been brought into this country through infected media in ships' cargoes; and if capable of transmission in such media, why is it not possible that rags should be a means of transmission if infected?

I think any one who has traveled extensively by water can realize that there is much absurd maritime inspection, but that does not prove that infectious diseases can not be transmitted by cargo, passengers or clothing; or, in other words, that infected human beings are the only means of transmission for infectious diseases.

In conclusion, I can not agree with Dr. Doty either in the premises or conclusions presented in his article, and I think my position in this respect will be borne out by sanitarians and bacteriologists in general.

H. M. BRACKEN, M.D.

Fatality of the Rattlesnake.

KNOXVILLE, Tenn., Feb. 26, 1901.

To the Editor:—Your editorial on the "Fatality of the Rattlesnake" induces me to say a word on the subject. The professor referred to therein is manifestly not posted on rattlesnakes. During the past eight years I have had occasion to spend a considerable portion of six winters in Southern Florida. The diamond rattler is a denizen of that region, and since I made my first visit there eight years ago, I know of three men, a horse, and a number of dogs dying from rattlesnake bites. The diamond rattler is said to be the most poisonous of all, and attains an enormous size; fortunately he is usually peacefully inclined, and all he asks is to be let alone.

On one of my visits there I talked with an Indian on the subject, and asked him how he cured rattlesnake bites. He very promptly answered: "Don't cure him. Big sleep. Big sleep." So, not only the Indians of that section, but the whites also consider a man as good as dead when a diamond rattler strikes him.

C. DEADERICK, M.D.

Association News.

New Members.

The following is a list of new members of the A. M. A. for February, 1901:

ALABAMA.
Kilfiebrow, J. Buckner, Mobile.

ARKANSAS.
Christlan, R. B., Little Rock.

CALIFORNIA.
Barbat, Wm. F., San Francisco.

CONNECTICUT.
Bell, Newton S., Windsor.

FLORIDA.
Pierce, Claude C., Key West.

ILLINOIS.
Lockhart, Charles H., Wlitt.
Davis, John A., Farmer City.
Scott, R. G., Geneva.
Bench, Edward M., Galena.
Fisher, Frank B., Springfield.
Plummer, Amzi S., Peoria.
Blshop, Arthur M., Chicago.
Giles, Henry Wiley, Wataga.
Ballard, C. N., Chicago.
Lyons, John A., Chicago.
Montgomery, Frank H., Chicago.

INDIAN TERRITORY.
Donohue, Philip, Afton.

INDIANA.
O'Day, John C., Montpelier.
Allen, Horace R., Indianapolis.

IOWA.
Neill, Hiram, Sibley.
Ratliffe, J. J., Waukon.
Struble, Andrew, Inwood.
Evans, M. M., Le Grand.

KENTUCKY.
Schultz, Wm. F., Covington.
Dickinson, Jos. S., Trenton.
Forsythe, M. L., Harrodsburg.
Meredith, T. O., Burgh.

LOUISIANA.
Powlett, Stephen L., Hammond.

MARYLAND.
Morrison, Wm. Baker, Hagerstown.
Pitsnogle, J. E., Hagerstown.
Penrose, Clement A., Baltimore.

MASSACHUSETTS.
Pierce, A. Martin, New Bedford.
Miller, Jarred H., Wollaston.
Crowell, Samuel, Boston.

MICHIGAN.
Burnham, Wm. A., Hancock.
Gammon, H. B., Hastings.
Campbell, Alexander Mackenzie, Grand Rapids.
Long, C. M., Escanaba.

MINNESOTA.
Palmer, Walter A., Redwood Falls.
Hirschfeld, Adolph, Minneapolis.
Nippert, L. A., Minneapolis.
De Jong, Conrad, Edgerton.
Cutts, Rollin E., Minneapolis.
Hunt, W. A., Northfield.
Murphy, Wm. B., Minneapolis.

MISSOURI.
Witherspoon, T. C., St. Louis.
Ketcham, C. M., Carthage.
Robinson, G. W., Joplin.
Wallace, Charles H., St. Joseph.
Burke, Foster W., Laclede.

MISSISSIPPI.
Bridges, Robert Richard, Bridgeville.
Ward, B. F., Winona.

NEBRASKA.
Fochtman, John H., Cozad.

NEW HAMPSHIRE.
Wheat, A. F., Manchester.

NEW JERSEY.
Weeks, David F., Trenton.
Bennett, J. K., Gloucester City.

NEW YORK.
Bemis, Morris N., Jamestown.
Douglas, W. E., Middletown.
Evans, Wm., Westtown.
Myers, Frank D., Slate Hill.
McPhall, Donald T., Purdy Station.
Smith, Harrie Eugene, Mt. Vernon.
Bullard, W. Duff, New York City.
Manning, F. O., New York City.
Hubbell, Marvin D., New York City.
Neuhaus, G. E., New York City.
Farrington, Jos. Oakley, New York City.
Herter, Christian A., New York City.
Ferguson, James A., New York City.

NORTH DAKOTA.
Hood, Charles E., Drayton.

OHIO.
Koehler, James A., Shelby.

PENNSYLVANIA.
Tappan, L. N., Philadelphia.
Deaver, Richard W., Philadelphia.
Everitt, Ella B., Philadelphia.
Middleton, Wm. J., Steelton.
Blanchard, Geo. A., Scranton.
Gibson, Maris, Wilkes Barre.
Shively, J. B., Shippensburg.
Shoemaker, Levi L., Wilkes Barre.
Gross, H. F., York.
Boyle, Julius J., Susquehanna.

SOUTH DAKOTA.
Butler, Clarence A., Dell Rapids.

TENNESSEE.
Mitchell, R. H., Memphis.
Cherry, E. Otis, Newbern.
Crofford, T. J., Memphis.

TEXAS.
Florer, T. W., Waxahachie.
Horsley, John S., El Paso.

VIRGINIA.
Culpepper, Vernon G., Portsmouth.
McGuire, Stuart, Richmond.

WISCONSIN.
Winslow, Rush, Appleton.
Noyes, Geo. Kasson, Milwaukee.
Giberson, Peter C., Mt. Horeb.

St. Paul as a Place of Meeting.

Many of the members of the AMERICAN MEDICAL ASSOCIATION remember with pleasure their last meeting in St. Paul. It was June, 1882, nearly twenty years ago, the month being one of the most beautiful in the year in Minnesota. Some of the members have passed away since then, and younger men have taken their places, but those still living, who were in St. Paul then, speak with enthusiasm of the saintly city, its beauty, pleasant environments and the cordial hospitality that made the meeting of 1882 so memorable a one. This year the ASSOCIATION will find many changes, and the physicians and their wives who were there then and who have not visited St. Paul in the interim will have some difficulty in recognizing it. For in nineteen years St. Paul has grown from a town to a city; a city of broad asphalted streets, with electric cars running in every direction, fine public buildings, good hotels, beautiful churches, theaters, pretty parks in the city, and Como Park outside. There are four well-equipped hospitals, which the citizens justly claim are not equalled in any city of the size in the country. Then there is picturesque, historic Fort Snelling, only a few minutes drive or street-car ride from the city; Hamline University, the St. Paul Seminary and the Agricultural College, all institutions in near suburbs and all worth a visit by the tourist. Minneapolis, which contains much of interest, is connected with St. Paul by two electric lines. St. Paul, situated as it is on the high ground on the left bank of the Mississippi, has so many natural advantages that it has not been difficult to make it one of the most beautiful cities of the West. The old union depot has been enlarged as the city has grown, and near it runs a car line from which the strangers

can transfer to all the other lines running through town and out into the suburbs. The electric-car system in the twin cities is in every way abreast of the times. The ASSOCIATION is fortunate in the time of the meeting, June, as Minnesota weather is then "showing off." The city will be looking its prettiest, as it is just after the "spring cleaning," and before the hot sun of midsummer has had a chance to blister the fresh green leaves. The season is also just beginning at near-by lakes, of which there are so many. The sunny skies of Minnesota have been compared to those of Italy, and the combination of cool air and the warm June sun make this particular season of the year the most desirable one for out-of-town visitors.

Married.

HORATIO B. WITHERS, M.D., to Miss Mary L. Wester, both of Mineral Wells, Texas, February 12.

HARRY P. FINDLEY, M.D., Massillon, Ohio, to Miss May Quinby, of Monmouth, Ill., February 14.

DANIEL G. R. LEQUESNE, M.D., Cleveland, Ohio, to Mrs. Mary R. French, of The Dalles, Ore., at Toledo, Ohio, February 25.

Deaths and Obituaries.

Abbott Hodgman, M.D., New York University, 1858, died at his home in New York City, February 27, aged 68 years. He served on the staff of Blackwell's Island Hospital, N. Y., having medical charge of the local prison for eight years. In 1884 he was a member of the commission appointed to investigate tenement conditions. He was a member of the AMERICAN MEDICAL ASSOCIATION and a trustee of both the Metropolitan Museum of Art and the New York Savings Bank.

Samuel Camp, M.D., New York University, 1851, of Great Barrington, Mass., died February 29, aged 72. He began practice in New Marlborough, Mass., and four years later went to Michigan, returning to Great Barrington in 1859. He was surgeon of the Twenty-seventh Massachusetts infantry during the Civil War.

Seneca T. Hyde, M.D., University of Vermont, Burlington, 1866, a successful practitioner of Neponset, and a member of the Norfolk District and Massachusetts Medical Societies, died at Hamilton, Bermuda, where he had gone for his health, February 17, aged 65.

John H. Renner, M.D., Northwestern University Medical School, Chicago, 1864, died at his home in Lagro, Ind., from Bright's disease, February 21, aged 70. He was a member of the AMERICAN MEDICAL ASSOCIATION.

William B. Thomason, M.D., University of Georgia, Augusta, 1854, who had practiced in Bullock County for nearly half a century, died at his home in Louisville, Ala., February 2, aged 74.

Thomas O'Reilly, M.D., Royal College of Surgeons, England, 1849, died February 24, at his home in St. Louis, Mo., where he had practiced for more than fifty years, aged 74. He was a member of the British Medical Association.

William F. Aiken, M.D., Harvard Medical School of Boston, 1886, killed his wife and himself February 27, at his residence in Savannah, Ga. He was 35 years of age and had been mentally unbalanced for several years.

Matthew C. Martin, M.D., Milwaukee Medical College, 1899, died at the Milwaukee County Hospital, of which he was assistant resident physician, February 21, from typhoid fever, aged 25.

William Glenn, M.D., University of Minnesota, 1893, and professor of physical diagnosis at Hamline University, died from pneumonia, at his home in Minneapolis, February 20, aged 41.

Deweese Cunningham, M.D., Medical College of Ohio, Cincinnati, 1871, an esteemed practitioner of Wurtemburg, Pa., died from heart disease at his home in that place, February 19, aged 59.

William F. Frost, M.D., Rush Medical College, Chicago, 1896, died at the residence of Dr. Harry R. Desmond, Plattsburg, Mo., February 18, from pulmonary tuberculosis, aged 27.

Edwin A. Fessenden, M.D., Bellevue Hospital Medical College, New York, 1889, died on February 28, at Portland, Me., from poisoning by carbolic acid accidentally taken, aged 55.

Horatio N. Bradshaw, M.D., Rush Medical College, Chicago, 1867, died at his home in Superior, Neb., February 22, after an illness of three weeks.

Street Jones, M.D., Bellevue Hospital Medical College, New York, died from pneumonia, at his home in Goldsboro, N. C., February 20, aged 27.

Littleton F. Brittingham, M.D., Missouri Medical College, St. Louis, 1847, died suddenly at his home, Hannibal, Mo., February 24, aged 80.

Warden James Byers, M.D., College of Physicians and Surgeons, New York, 1889, died at his home in Brooklyn, N. Y., February 22, aged 38.

John W. Elliott, M.D., University of Louisville, Ky., 1883, of Lake City, Miss., died after a long illness at Yazoo City, Miss., February 14.

B. F. Longstreet, M.D., Jefferson Medical College, died at his home, Mount Auburn, Cincinnati, Ohio, February 21, from la grippe, aged 52.

Stephen J. Clark, M.D., University of New York, 1861, for many years a practitioner in New York City, died in Sing Sing, N. Y., February 24.

J. J. Bozeman, M.D., Medical College of the State of South Carolina, Charleston, 1857, died at his home in Ninety-Six, S.C., February 19.

E. F. Tidwell, M.D., Louisville Medical College, 1882, a practitioner of Lester, Ark., was found dead at Camden, Ark., February 25.

Samuel B. Park, M.D., Beaumont Hospital Medical College, St. Louis, 1888, died at his home in Winfield, Kan., February 14, aged 56.

Charles E. V. Gissy, M.D., Washington University, St. Louis, 1875, died at his home in Breese, Ill., February 21, aged 47.

Charles S. Hinman, M.D., Dartmouth Medical College, Hanover, N. H., 1875, died at his home in West Charleston, Vt., aged 54.

Miscellany.

Yellow Fever Investigation.—We give below the abstract of the interim report published by H. E. Durham and the late Walter Myers, of the Liverpool School of Tropical Medicine's yellow fever investigation, in the *British Medical Journal* of February 23. The complete report was interrupted by the authors being attacked by yellow fever, and, as previously noticed in THE JOURNAL, the results to Dr. Myers were fatal. This abstract was published before its authors could have known of the results reported by Reed, Agramonte and Carroll, in THE JOURNAL of February 16. The authors' conclusions are as follows:

1. Sufficient search reveals the presence of a fine small bacillus in the organs of all fatal cases of yellow fever. We have found it in each of the fourteen cadavers examined for the purpose. In diameter the bacillus somewhat recalls that of the influenza bacillus; seen in the tissues it is about 4 microns in length.
2. This bacillus has been found in kidney, in spleen, in mesenteric, portal and axillary lymphatic glands, etc., taken from yellow fever cadavers directly after death. In the contents of the lower intestine apparently the same bacillus is found often in extraordinary preponderance over other microorganisms. Preparations of the pieces of "mucus," which are usually, if not always, present in yellow fever stools, at times may almost present the appearance of "pure culture."
3. Preparations of the organs usually fail to show the presence of any other bacteria, whose absence is confirmed by the usual sterility of cultivation experiments.
4. It is probable that

this same bacillus has been met with but not recognized by three other observers. Dr. Sternberg has mentioned it; and he has also recorded the finding of similar organisms in material derived from Drs. Domingos Freire and Carmona y Valle; but he did not recognize its presence frequently, probably on account of the employment of insufficiently stringent staining technique. 5. It is probable that recognition has not been previously accorded to this bacillus by reason of the difficulty with which it takes up stains (especially methylene blue), and by reason of the difficulty of establishing growths on artificial media. 6. The most successful staining reagent is carbolic fuchsin solution (Ziehl), diluted with 5 per cent. phenol solution (to prevent accidental contamination during the long staining period), immersion for several hours, followed by differentiation in weak acetic acid. Two hours staining period may fail to reveal bacilli, which appear after 12 to 18 hours. The bacilli in the stools are often of greater length than those in the tissues, and they may stain rather more easily; naturally the same is true of cultures. 7. Since the bacilli are small and comparatively few in numbers they are difficult to find. To facilitate matters at our last two necropsies (14th and 15th) a method of sedimentation has been adopted. A considerable quantity of organ juice is emulsified with antiseptic solutions, minute precautions against contamination and for control being taken; the emulsion is shaken from time to time and allowed to settle. The method is successful and may form a ready means of preserving bacteria-containing material for future study. The best fluid for the purpose has yet to be worked out; hitherto normal saline with about one-fifth per cent. sublimate has been employed. 8. Pure growths of these bacilli are not obtained in ordinary aerobic and anaerobic culture tubes. 9. Some pure cultures have been obtained by placing whole mesenteric glands (cut out by means of the thermo-cautery) into broth under strict hydrogen atmosphere. Investigations into the necessary constitution of culture media for successful cultivation are in progress. 10. Much search was made for parasites of the nature of protozoa. We conclude that yellow fever is not due to this class of parasite. Our examinations were made on very fresh organ juices, blood, etc., taken at various stages of the disease, with and without centrifugalization, and on specimens fixed and stained in appropriate ways. We may add that we have sometimes examined the organs in a fresh state under the microscope within half an hour after death. 11. The endeavor to prove a man-to-man transference of yellow fever by means of a particular kind of gnat by the recent American Commission is hardly intelligible for bacillary disease. Moreover, it does not seem to be borne out by their experiments, nor does it appear to satisfy certain epidemiological conditions. It is proposed to deal more fully with the epidemiology and epidemiology of the disease on a later occasion. 12. We think that the evidence in favor of the etiological importance of the fine small bacillus is stronger than any that has yet been adduced for any other pretended "yellow fever germ." At the same time there is a much further work to be done ere its final establishment can be claimed. The acquisition of a new intestinal bacterium would explain the immunity of the "acclimatized."

Extra-respiratory Cough.—A. Martiner devotes an article, in the *Presse Médicale* of January 23, to the reflex coughs which occur without symptoms in the respiratory passages. The aim of treatment should be: 1, to diminish the sensibility of the mucous or serous membrane starting the reflex; 2, to diminish the excitability of the nerve center presiding over the cough; 3, to act on the centrifugal routes, and 4, to induce the will to control the bulbar center. The first of these indications includes the removal of the cause and, sometimes, anesthetizing the mucosa. Frequently the cough is arrested instantaneously by cocaineizing the nasal fossæ or drinking a chloroform-cocaine potion. Opium and its derivatives answer the second indication in ordinary coughs, but are injurious in this so-called reflex cough. The bromids are useful and also Meglin's pills—5 eg. each of extract of hyoseyamus, extract of valerian and zinc oxid. for one pill—to be taken three times a day. The centrifugal routes are sometimes brought under control by applying two Milan plasters over the phrenic nerve, one in the cervical region above the clavicle, between the two heads of the sternocleidomastoid muscle; the other at the lower edge of the ribs, over the "phrenic button." This measure has proved particularly useful in reflex coughs accompanied by hyperesthesia along the course of the phrenic nerve. The will-power should be strengthened by suggestion.

Societies.

COMING MEETINGS.

Medical Society of the Missouri Valley, Omaha, Neb., March 21, 1901.

Tri-State Medical Society of Iowa, Illinois and Missouri, Keokuk, Ia., April 2-3, 1901.

Medical Association of the District of Columbia, Washington, D. C., April 2, 1901.

Tennessee State Medical Society, Nashville, April 9-11, 1901.

Florida Medical Association, Jacksonville, April 10, 1901.

Western Ophthalmological and Otolaryngological Association, Cincinnati, Ohio, April 11-12, 1901.

Medical Association of the State of Alabama, Selma, April 16, 1901.

Medical Society of the State of California, Sacramento, April 16-18, 1901.

South Carolina Medical Association, Florence, April 17, 1901.

Medical Association of Georgia, Augusta, April 17, 1901.

Louisiana State Medical Society, New Orleans, April 18-20, 1901.

Medical and Chirurgical Faculty of Maryland, Baltimore, April 23-26, 1901.

Texas State Medical Association, Galveston, April 23, 1901.

American Association of Genito-Urinary Surgeons, Old Point Comfort, April 30, 1901.

Association of American Physicians, Washington, D. C., April 30, 1901.

Italian Congress of Pediatrics.—The general secretary of this Congress, which will convene for its fourth session at Florence, October 15, is Dr. Luigi Concetti of Naples.

German Congress of Surgery.—The date appointed for the thirtieth session of the Congress is April 10 to 13, and the place, Berlin. Professor Czerny, of Heidelberg, has the arrangements in charge.

German Congress of Dermatology.—The seventh session of the Congress opens at Breslau, May 28, with addresses by Finsen, Schiff, Freund and others. Professor Neisser of Breslau is to preside.

Southwestern Iowa Medical Association.—The seventh annual convention of this Association was held in Creston, February 21. Dr. Vernon L. Traynor, Council Bluffs, was elected president; Dr. Donald Macrae, Council Bluffs, vice-president; Dr. Frank E. Sampson, Creston, secretary, and Dr. Joseph P. Claybaugh, Creston, treasurer.

Columbus (Ohio) Academy of Medicine.—The annual meeting and banquet of the Academy was held February 26. President Dr. James C. Lawrence in the chair, and Dr. Theodore W. Rankin officiating as toastmaster. Dr. Dudley P. Allen, Cleveland, was the guest of honor, and responded to the toast: "The Profession in the Metropolis of Ohio."

Oneida County (N. Y.) Medical Association.—The members of the First District Branch of the New York State Medical Association, residing in Oneida County, met at Utica, February 25, and organized the Oneida County Medical Association, with the following officers: Dr. William B. Reid, Rome, president; Dr. Henry C. Palmer, Utica, vice-president; Dr. J. O. Stranahan, Rome, secretary, and Dr. John Groman, Utica, treasurer.

New York State Medical Association.—A special meeting of the members of the First District Branch was held in Utica, February 25, for the purpose of reorganizing the branch association. The meeting was opened by an address of welcome by the president, Dr. Charles B. Tefft, Utica, after which the following officers were elected: Dr. J. Wallace Douglas, vice-president, Boonville; and Dr. Edgar H. Douglas, Little Falls, secretary and treasurer.

Sullivan County (N. Y.) Medical Association.—The members of the Fifth District Branch of the New York State Medical Association, residing in Sullivan County, met at Liberty, February 19, for the purpose of organizing the Sullivan County Medical Association. The following officers were elected: Dr. Charles S. Payne, Liberty, president; Drs. Frank P. Howser, Centerville Station, and Stephen W. Wells, Liberty, vice-presidents; Dr. John L. C. Whitecomb, Liberty, secretary, and Dr. Charles W. Piper, Wurtsboro, treasurer.

PHILADELPHIA NEUROLOGICAL SOCIETY.

Meeting held February 25.

President Dr. James Tyson in the chair.

Astereognosis.

DRS. W. H. TELLER and F. X. DERGUM exhibited a case of this affection. The patient was a man 30 years of age, who

was, on Nov. 17, 1900, struck on the head by a base-ball bat, and was admitted to the Jewish Hospital six days later, unconscious. A small cut was present over one eyebrow, and there was a depression in the region of the fissure of Rolando. There was complete paralysis of the right arm and leg, and deviation of the right eyeball. An incision was made over the depression and the bone removed. The membranes of the brain were congested but intact. A clot extending for two inches down into the brain substance was removed, and on removal a small amount of brain substance discharged. The patient, who had been unconscious for six days, several hours after the clot was removed regained consciousness and, on the following day, the paralysis of the right arm and leg began to disappear.

Six weeks later Dr. Dereum found astereognosis present. At this time the man was totally unable to recognize anything placed in the right hand, such as a spoon, scissors, or other object, but these could be at once determined by the left hand. Tactile sensation was partly preserved on the right side. Hypesthesia was marked in the region of the extremities. When the eyes were shut with the right hand, the man was unable to tell the position in which the fingers were placed. There was some defect of the muscle sense. When he would stand and close the eyes he would sway considerably. There was more or less ataxia of the right arm. When he closed his eyes he was unable to touch the tip of the nose without considerable trouble. It was evident that he had a lesion of the parietal lobule involving the parietal convolution, giving rise to the astereognosis.

DRS. GEORGE L. WALTON and WALTER E. PAUL, of Boston, by invitation, read a paper entitled "Astereognosis with Illustrative Cases." Dr. Walton stated that the literature on this subject had been considerably added to by Dana, Burr, Sailer, Mills, Keen and other writers. As to the differentiation between hysteria and an organic lesion in which astereognosis is present, if hysteria, this symptom will disappear suddenly. It appears that the muscle nerve fibers follow a different course from those of the cutaneous sensation. The ability to close the eyes, and to recognize objects depend on contact sense and muscle sense. The first case reported was one who had occipital headache, involuntary movement of the eye, and ankle-clonus. This patient was unable to recognize objects with the left hand. The temperature and pain sense were lost. The patient gradually became worse and an operation was done by Dr. Warren. The surface of the brain presented no abnormality. A cyst was, however, detected lower down. Six weeks later the paralysis gradually disappeared, but death subsequently occurred.

The second case had been seen on Dec. 7, 1900, the patient stating that for some time there had been numbness of the left hand and later numbness of the left leg. Slight aphasia was also present. When seen she was unable to recognize an object such as a bottle, but could recognize a key. A short time later double optic neuritis appeared. In this case an operation was done and a growth, the nature of which was doubtful, removed. No change in the paralysis occurred, except that the aphasia became more marked as well as mind blindness.

In a third case the paralysis was limited to the lower extremities. The patient could distinguish a pencil if applied transversely over the foot. In this case there was a history of paralysis of the left leg, and attacks of Jacksonian epilepsy occurring in one toe on the left side. Double optic neuritis was present. The Babinsky reflex was present. Pain and temperature sense were normal. In this case an opening was made in the skull in the region of the fissure of Rolando, and just behind the fissure the remains of an old clot found. The next day the motor paralysis extended to the hand. Articles placed in the hand could not be recognized. Convulsions occurred a few weeks later, but subsequently she regained a moderately good condition. The speaker does not believe that experiments on the lower animals would be of a very great value in the determination of the exact nature of astereognosis. In over fifty old cases of hemiplegics astereognosis was not present in thirty of them.

DR. F. X. DERECUM, in discussing this paper, expressed belief that we have to deal with both a motor and a sensory astereognosis.

DR. CHARLES W. BURR thought the term "astereognosis sense" not altogether a good one; "astereognosis faculty" seems preferable. He once saw a man who had suffered from a fracture of the skull, from which he had recovered. When seen by the speaker there was no disturbance of sensation. He knew the position of pain, of heat and of cold, but with his eyes closed could not recognize a single object. He also knew of a case of mind blindness in which heat and cold were recognized. In his opinion there is some center in the brain which stores up things which have been felt, and this center might be in the posterior parietal lobule.

DR. J. HENDRIE LLOYD stated that he at one time treated a case in which the patient could not tell the term to apply to an object placed before her, such as a knife, key or handkerchief, but when these were placed in her hand they could at once be recognized.

DR. WM. G. SPILLER spoke of different writers who had made investigations on this subject. He referred to the different tracts in the cord, such as that conveying tactile sense, some writers believing this to be in the lateral columns while others place it in the posterior.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Meeting held February 18.

Parker Syms, M.D., President.

Ulcer of Placenta; Umbilical Cord Severed Before Birth.

DR. EDEN V. DELPHEY presented this specimen. The patient, a multipara, aged 32, while hanging up clothes suddenly experienced a tumultuous sensation in her abdomen, and this immediately followed by the onset of labor, though she had been pregnant only 7½ months. That evening, or about twelve hours later, Dr. Delphey performed manual dilatation, and with the aid of forceps delivered a dead fetus. It was found that there was only a short stump of umbilical cord attached to the child at its birth, though the total length of the cord was fourteen inches. Examination of the placenta after its spontaneous delivery revealed the presence of an ulcer, one inch in diameter, and this the pathologist reported to correspond to a broken down gumma. Two hours after the birth of the child the mother developed symptoms of internal hemorrhage and severe collapse, and died.

Lack of Uniformity in Prescribing Myopic Glasses.

DR. S. BUSBY ALLEN read a paper on this subject. He said that carelessness in prescribing eyeglasses for myopes leads to much distress on the part of the patient, and if not relieved the ultimate effect may be morbid introspection and even mental deterioration. There is considerable difference of opinion concerning the effect of accommodation.

DR. HENRY OPPENHEIMER pointed out that by proper attention to the habits of life of many children much can be done toward preventing the development of a high degree of myopia. Such children should be encouraged to participate in out-door games, and should be prevented from reading in a poor light, or in faulty positions which tend to produce congestion of the vessels of the head. It is most important to correct, as far as possible, the effort at convergence.

DR. FRANK SKEEL said that the apparent lack of uniformity in prescribing glasses for myopia is explained by the necessity for treating each case by itself. For low degrees of myopia, it is his custom to prescribe glasses which fully correct the error; for high degrees of myopia, very little can be done. When the myopia is found to be increasing, marked benefit will often accrue from keeping the eyes under the influence of atropin for six weeks or more.

DR. J. H. WOODWARD agreed with what had been said about the great importance of correcting very early in life the slight degrees of myopia. Where it is moderate in degree, glasses for distance should be worn, also for reading, in order to strengthen the muscles of accommodation. There would be

less myopia among our school children if they were not so over-worked in school.

DR. J. HERBERT CLAIBORNE said that it had been his practice for many years to endeavor in youth to give the myope as nearly as possible perfect distant vision, the glasses being worn for both near and distant work. By a process of education the muscles of accommodation can be readily accustomed to this change.

A New Operative Method of Exposing the Seminal Vesicles and the Prostate for the Purpose of Extirpation or Drainage.

DR. EUGENE FULLER read a preliminary report on this subject. It will appear in THE JOURNAL.

A Contribution to the Bottini Operation for the Radical Relief of Prostatic Obstruction.

DR. L. BOLTON BANGS, author of a paper on this topic, expressed the opinion that enlargement of the prostate usually begins in early life. Although he has had an experience of three years with the Bottini operation, he looks upon it as a serious one, for which the patient should be most carefully prepared. The operation requires skill, and should be done very slowly, as this slowness is the best guarantee against secondary hemorrhage. The operation is apt to be followed by frequent and scalding urination, and with bloody urine for twenty-four or forty-eight hours. In from one to three weeks there is very often secondary hemorrhage. From the tenth to the fourteenth day dark particles of burned tissue make their appearance in the urine; occasionally there will be larger fragments. In 11 out of his 35 cases there was fever, and 6 had distinct chills within twelve hours after the operation. The patient should not be allowed up for one week, and should not resume his occupation for about two weeks more; in any case, he should be kept under careful observation until the urine becomes clear and there is no longer irritation. It is important that during the operation the electric current be kept up sufficiently to preserve the blade of the instrument constantly at a white heat. In one of his cases it failed in the midst of the operation, and he was compelled to complete the work with a Paquelin cautery. The result was instructive, for the Paquelin cautery had produced a thick, leathery eschar, but no action in the adjacent tissues, while the galvanocautery had produced a peculiar change in these tissues, which could be readily appreciated by the surgeon, yet the eschar was fine and thin. In 20 per cent. of his cases an increased amount of spontaneous urination resulted, while 20 per cent. were not improved. The greatest benefit was noted in those who had been largely or completely dependent on the catheter. One death was attributable to the operation, having been caused by sepsis, and as two others had occurred within two weeks, they were mentioned, though he does not feel at all sure that the operation was either directly or indirectly, responsible for them.

DR. WILLY MEYER said that he had done this operation on thirty-nine patients. He called attention to the fact that gonorrhea was a factor in about 75 per cent. Local anesthesia is ordinarily not advisable, but if employed better results will follow from mixing two-thirds of an ounce of a 2 per cent. solution of cocaine with one ounce of a 3 per cent. solution of eucain. Where the kidneys had been normal he used either general or spinal anesthesia. The latter acted very well in the five cases in which it was tried. As he believes the depth of the incision in the Bottini operation is of importance, he is in the habit of repeating the posterior incision at the time of operation. The pain after the operation is often intense, and for this reason he has adopted the plan of tying in a smooth Mercier catheter. In this way, much relief is afforded, and if the precaution to keep the urine loaded with antiseptics is taken, the effect of such a practice is to set up a sort of continuous antiseptic irrigation. He is confident that it is a valuable procedure, though not in accordance with established practice at the present time. The after-treatment is certainly arduous and most important in a case operated on by Bottini's method. He thinks that prostatectomy will come to be the operation for "hard" prostates and those having a hard nucleus.

DR. EUGENE FULLER said that he had long been an earnest advocate of prostatectomy, and the results from Bottini's method certainly do not make him feel like abandoning the method he has so long championed and practised. He is of the opinion that the Bottini method will result in relapses from the formation of the cicatricial tissue—indeed, his chief objection to that method is in the fact that one must burn through the tissues of the bladder to reach the prostate. Another serious objection is that it provides no means of securing for the bladder the surgical rest which, in its diseased state, is so often imperatively demanded.

DR. J. W. S. GOULEY said that the selection of the operation should be founded on an exact diagnosis. It should be remembered that Mercier failed in his prostatotomies and prostatectomies where there had been any considerable enlargement of the supramontanal folds. He believes that the Bottini operation is contraindicated in those cases in which the third lobe projects 2 or 3 cm. into the bladder. He himself introduced Mercier's operation into this country, and has performed it upwards of fifteen times. Where the prostate is very large, irrespective of whether it is soft or hard, prostatectomy is the operation to be selected, and he believes its dangers have been much exaggerated. He has dissected about one thousand prostates, and as an outcome of this experience is in a position to assert that the really hard prostate is of rare occurrence.

DR. S. ALEXANDER paid a tribute to Dr. Bangs for his very fair and judicial presentation of his experience with the Bottini operation, and pointed out that this paper has placed the profession in possession of certain new facts. The author has shown that the operation is not always successful, that the period of convalescence is longer than we have been led to suppose, and that he can not claim that a permanent groove remains in the prostate, for he has seen contraction of fibrous tissues as a result of a burn. Through the courtesy of Dr. Bangs, he was allowed to examine a prostate taken, at autopsy, from a man who subsequently died from an entirely independent cause. That specimen showed scars, the result of contraction, but no grooves. When a prostatectomy is done, the whole prostate is not taken out, but only those portions causing the obstruction. He does not deny that his operation of prostatectomy is associated with a high rate of mortality and is a very difficult one, but he contends that it is founded on a correct principle, and that the bad results are purely the outcome of a defective technique and of our general ignorance of the subject. He believes the Bottini operation a valuable form of prostatotomy for certain cases. It should be constantly borne in mind that the principal cause of obstruction is not intravesical.

CALIFORNIA ACADEMY OF MEDICINE.

Regular Meeting, January 22.

Arsenious Acid in Malignant Growths.

DR. H. M. SHERMAN occupied the chair, in the temporary absence of the president, Dr. D. W. Montgomery.

DR. HOWARD MORROW read a paper by Dr. Montgomery and himself, entitled "Arsenious Acid in the Treatment of Cancer of the Nose and Face," and presented several cases. The paper consisted of the histories of some patients so treated, and described the technique and the indications for its application. In the clinic they had long talked of the advisability of taking up this mode of treatment, especially since the publication of the articles by Dr. A. R. Robinson, of New York, in favor of it. The histories of the patients shown ran as follows:

Mrs. R., aged 67, entered the clinic on Aug. 27, 1900, showing an epithelioma on the right temple, one-half an inch behind the right eye-brow; it was of about the size of a five-cent piece, and not ulcerated. The paste was applied for two days in succession; it healed kindly in three weeks, and the remaining scar is hardly perceptible.

F. M., aged 60, entered the clinic on Aug. 28, 1900, with an epithelioma of the right cheek, just below the outer canthus, which he said had lasted for ten years. The epithelioma was the size of a dime, ulcerated in the center, and surrounded by a typical waxy border with dilated capillaries crossing over it.

He supposed it to have started from the burn of a sulphur match. The paste was applied three times, for twenty-four hours each time; the resulting sore healed in four weeks, and the scar is very small.

T. B., aged 73, entered the clinic July 6, 1900, for an epithelioma of the nose, which he said had lasted for five years. The lesion was slightly larger than a split bean, was ulcerated in the center, and was surrounded by a hard, raised border, covered with dilated capillaries. There were two applications of the paste, of twenty-four hours each; the resulting sore healed uneventfully in four weeks, the scar being hardly noticeable.

C. F. S. entered the clinic on Aug. 27, 1900, suffering from a rodent ulcer on the right side on the upper lip, over one-half inch in diameter; it had an ulcerated center, and the border was hard, waxy, and infiltrated. There was a great amount of infiltration throughout the right half of the lip. The paste was applied four times for twenty-four hours each time, and the infiltration entirely disappeared, the lesion healing in five weeks, leaving nothing at present but a hypertrophied cicatrix. This was the most difficult case of all to treat, as the position was awkward and the infiltration deep.

Two other patients had been treated and discharged as cured, but the authors had been unable to trace them. They thought that all cancers situated at mucocutaneous junctions, or on mucous surface, in which there is apt to be early involvement of the lymphatic nodules, are best treated by the excision of the growth itself, and adjacent lymphatic channels and nodules; but that the small-celled variety, commonly known as superficial epitheliomas, or rodent ulcers, and usually situated upon some part of the face, are best treated by methods other than operative. The most effective of the non-operative methods are the actual cautery and the various caustics. The caustics commonly employed are chlorid of zinc, chromic acid, caustic potash, formalin, and arsenic. Other methods have been used, such as injections of silver, arsenic, alcohol, aniline dyes, toxins, and electrolysis, but the results have not been satisfactory. Treatment by the x-ray is uncertain, many cases not healing at all, and in all it is very slow. Liquid air has been used experimentally in a few instances; it is more painful than caustics and no better in its results.

The patients presented had been treated by arsenic. The strength of the arsenical paste has considerable to do with the result. Marsden never used arsenic stronger than two parts of the arsenious acid to one of the diluent, nor weaker than equal parts of the arsenic and diluent.

In a great many of the recipes given by writers the arsenic is used in smaller quantities; in many, in ridiculously small. The paste used by the authors contained 5 parts of arsenious acid, 3 of gum arabic, and 2 parts of cocaine. Just before applying, this powder was mixed with enough water to make a thick paste; the amount of water used is of importance, for if not enough is added to the powder the paste will ball, and not apply well, and if too much is added the paste will run. It will be observed that this paste is only as strong as the weakest recommended by Marsden.

The area to be cauterized was first surrounded by a piece of adhesive plaster, then the paste was applied and covered over with gauze or cotton held in place with adhesive plaster. This dressing was left on for twenty-four hours. Frequently the dressing was applied for several days in succession until there was a marked gangrenous slough. One objection to this treatment was the slight amount of pain felt after the cocaine had lost its effect, and another is the acute inflammatory edema which sometimes closes one or both eyes. The edema quickly subsides, however, after the paste is removed. In many cases the cosmetic results from the arsenic treatment are superior to those following surgical means, and this is an important point with growths on the face. Arsenic certainly seemed to have a selective action on malignant tissue, as they had tried it on two lesions that were not cancer, and where it only caused a trifling reaction. One was a large vascular mole, and the other a chronic localized infiltration from pus infection, and it had no effect on either except to cause slight congestion of the parts. It seemed to them that it was just

as necessary to have experience in the use of arsenic as it was in the use of the knife in the treatment of cancers. One has to know something of the strength of the paste which should be used, the length of time to apply it, and the amount of tissue to be destroyed. One needs to know what accidents to fear, and also what appearances, apparently threatening, may be disregarded. The inflammatory edema, for instance, while very threatening looking, is in reality very innocent. The hole made by the cauterization is also very portentous looking, but it is wonderful what a small scar it leaves on healing. A large amount of bone may be laid bare at the bottom of a huge ulcer, and yet the lesion may heal kindly without any necrosis of the bone. Immediately after cauterization, on looking at the horrid disfigurement, one vows never to use arsenic again, but when the result is complete those vows are forgotten.

DR. T. W. HUNTINGTON said that these cases show very satisfactory results of the treatment, but not more nor less than from the use of the knife. While recognizing these cases as a form of this disease, he hardly believes that they were the true, or the highest degree of, malignant epitheliomas. There is a difference in the malignancy brought about by the age of the growth and the conditions under which it appears. The location in these makes the diagnosis, in his mind, a little doubtful. He has removed many such tumors, with the same results, and with less pain and suffering. Several years ago, in conjunction with Dr. Cluness, he used the paste with considerable success. The results finally were not as satisfactory as he desired; some were bad, afterward showing a return with a high degree of malignancy.

DR. H. M. SHERMAN voiced the opinion of Dr. Huntington as to the degree of malignancy of the disease, and he also prefers the knife as more certain and more thorough in its work.

DR. HOWARD MORROW said they had treated several cases with formalin, by brushing it over the surface, but that there was much more pain than by the treatment with the paste. Several cases seemed to have gone on with questionable results, the disease spreading over the nose and forehead. The cases shown were probably not truly malignant. The tendency to malignancy usually increases with age.

DR. D. W. MONTGOMERY said that Dr. Huntington's statement regarding malignancy and superficial cancer of the face and nose is true. There is a difference of degree and of kind. Several years ago a woman, with a rodent ulcer close to the eye, came to the clinic. The ulcer was removed with the knife and a flap from the forehead filled in the incision. A year and a half afterward she returned and could not close the eye. There was paralysis. Metastases had occurred either from the knife or before the operation. She had been previously operated on in Stockton. This case was originally a typical rodent ulcer, but had degenerated and become malignant. Another case similar in character was seen some years ago, which he refused to treat with arsenic. The tumor had grown from a sebaceous gland. It was a nodular epithelioma which was removed by the knife. Four months after, the man returned with a scar too large and extensive for the area involved in the first operation. The scar tissue was taken out and found to be cancerous. He then sent the patient to Dr. Sherman, who removed some nodules from the neck, but whether they were cancerous or not was not demonstrated. The operation was an extensive one and required the removal of a large amount of tissue. The patient has remained well for three years. In such a case Dr. A. R. Robinson would have used paste. There are some cases of cancer of the face where the tumor is cut out repeatedly, which, unless treated by arsenic, formalin, chromic acid, or the x-ray, never heal up. There is one danger with the knife, namely, one is never certain as to the exact amount of healthy tissue that should be removed, for the tissues retract and draw away, and yet the operator believes that all the diseased structures have been cut out. He has seen such work frequently done. This is most common in superficial growths of the mucous membranes and of the skin. More surface than the area of the disease must always be destroyed. Arsenious acid seems to have a selective action on cancerous tissue.

Spina Bifida.

DR. H. M. SHERMAN exhibited a specimen of spina bifida, showing a small cyst imbedded in the middle of the tumor. Morton's fluid was used for injection. After the operation the tumor contracted somewhat, and then remained stationary. The child became marasmic, seemed about to die, and was sent home, but subsequently came back for the removal of the tumor, which *pari passu* grew with the child. An incision was made through the skin and fatty tissues, and the sac tied off. He would not use Morton's fluid in many of these cases, though he believes that it does not interfere with the cord, and if it flows into the canal, does no harm. In this case, on account of the very small neck of the cyst and size of the tumor, the fluid was not allowed to enter the canal. Morton's fluid, in small tumors, covered by skin, may be advisable. If, after the use of the fluid, the mass still remains cumbersome and in the way, removal is best.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment will be answered in these columns.]

Treatment of Infantile Colic.

Illoway, in *Phil. Med. Jour.*, states that the treatment of infantile colic is divided into: 1, the immediate relief of the infant, and 2, the removal of the exciting cause. As treatment for the first he gives the following formula recommended by Starr:

R. Sodii bicarb	gr. xv	1
Syrupi	℥ss	16
Aq. menth. pip. q. s. ad.....	℥ii	64

M. Sig.: One teaspoonful as needed for a child of 1 month.

It may be made more efficient by the addition of two drops of aromatic spirits of ammonia to each dose, or in severe cases, one drop of spirits of chloroform. Or, in severe cases, he advises potassium bromid or chloral as follows:

R. Potassii bromidi	gr. xv	1
Chloralis hydratis	gr. viii	5
Syrupi	℥ss	16
Aq. menth. pip. q. s. ad.....	℥ii	64

M. Sig.: One teaspoonful at one dose and repeat if necessary two or three times at intervals of half an hour.

Illoway has found that infants readily become accustomed to the opiates and require increased doses from day to day; consequently he prefers the following formula:

R. Chloralis hydratis	gr. vi-x	36-66
Mucilag. acaciæ	℥i	4
Lac. asafetidæ	℥ii	8
Essent. anisi	℥ss	2
Aq. feniculi	℥iii	12
Syr. rhei arom.....	℥iss	6

M. Sig.: One teaspoonful for a dose. To be repeated in one-half hour if necessary, for an infant from 2 to 6 weeks old. For older infants the dose of chloral can be increased if necessary to 1½ grains.

He states that he has found nothing superior to the milk of asafetida for immediate relief and the infants will take it very readily. It is innocuous and can be placed with perfect safety in the hands of the mother or nurse. He gives it in the following combination:

R. Lac. asafetidæ	℥ss	16
Syrupi mannæ	℥iiss	10
Essent. anisi	℥ss	2
Syr. rhei aromat.....	℥i	4

M. Sig.: One teaspoonful at a dose.

He states that the administration of a few teaspoonfuls of warm sweetened fennel tea after administering the above will not only do away with the taste in the infant's mouth, but to some extent increases the action of the asafetida.

Dewee's carminative, which was official in the U. S. P. in 1880, and known as *mistura magnesiæ et asafetidæ*, and which

was mentioned by Illoway in his article, is composed of the following:

R. Magnesii carbonatis	℥iss	6
Tinct. asafetidæ	℥iiss	10
Tinct. opii	m. xix	1 30
Sacchari	℥iiss	10
Aquæ q. s. ad.....	℥iv	128

M. Sig.: One teaspoonful, to be repeated in half an hour if the infant is not relieved. This sized dose is calculated for a child 2 weeks or 1 month old.

Occasionally, he states, in infants with a peculiarly sensitive tract, an opiate may be required and the camphorated tincture answers best prescribed as follows:

R. Tinct. opii camph.....	℥i	32
Aq. menthæ pip.....	℥v-℥vss	160-175
Syr. rhei arom.....	℥i-℥iiss	32-48

M. Sig.: One teaspoonful, to be repeated in half an hour if necessary. A third dose can be given in two hours.

In colic due to over-feeding or to indigestion, to constipation or to improper food, the suffering of the infant is quickly relieved by the following:

R. Misturæ rhei et sodæ.....	℥ss	16
Spts. etheris comp. (Hoffman).....	m. xl	2 66
Syr. rhei arom. q. s. ad.....	℥i	32

M. Sig.: One-half teaspoonful, to be repeated in one-half to three-quarters of an hour for an infant 3 or 4 weeks old. For younger infants the dose is fifteen to twenty drops; for older ones, from one-half to one teaspoonful, according to age.

REMOVAL OF THE CAUSE.

If due to flatulency where the digestion is retarded, Starr advises the administration through the whole colicky period of *vinum pepsini*, three times a day in fifteen-drop doses.

The following is recommended by Thompson for the same condition:

R. Sodii bicarb.....	gr. iii	18
Papainæ	gr. i	106

M. Ft. chartula No. i. Sig.: One such after each meal.

Or,

R. Sodii bicarb.....	gr. xlv	3
Spts. ammon. arom.....	m. xv	1
Spts. chloroformi	m. xv	1
Syrupi	℥iiss	10
Aq. destil. q. s. ad.....	℥ii	64

M. Sig.: One teaspoonful after each meal.

Incontinence of Urine in Children.

J. Blake White states that the following combination is of good service:

R. Sodii benzoatis		
Sodii salicylatis, āā.....	gr. xxx	2
Tinct. belladonnæ	m. xv	1
Aquæ destil. q. s. ad.....	℥iv	128

M. Sig.: One teaspoonful in water four or five times a day.

The quantity of sodium salicylate may be increased to double the amount if necessary.

Methylene Blue in Treatment of Malaria.

Dr. M. Dunn states that there is no remedy equal to methylene blue in cutting short malarial fever. He prescribes it as follows:

R. Methylene blue	gr. ii	12
Quinina sulphatis	gr. ii	12
Ferri carbonatis	gr. i	66
Acidi arsenosi	gr. 1/50	1012

M. Ft. cap. No. i. Sig.: One such capsule every three hours.

Sodium Persulphate in Tuberculosis.

Garel, of Lyons, as noted in the *Jour. of Tuberculosis*, states that this salt can exert a very remarkable influence over the appetite and digestive organs, and as an oxidizing agent it excels even arsenic and vanadium, and is much less toxic. The sodium persulphate should always be taken on an empty stomach, one and one-half hours before eating. According to Nicholas, one dose of 2½-5 grains (.15-.30) in twenty-four hours suffices. Its administration is indicated only in the earlier stages of the disease to arouse the appetite and to promote nutrition in anorexia and weak digestion.

Treatment of Acute Gout.

The following treatment of acute gout is recommended by Bartholow:

A sufficient quantity of colchicum should be given to increase the secretion from the skin, the intestinal mucous membranes and the kidneys, but nausea and vomiting should be avoided. Better results are obtained when it is combined with an alkali, as:

R. Vini colchici sem. 3iii 12
Spts. ammon. arom. q. s. ad. 3ii 64

M. Sig.: One teaspoonful every three hours in water.

Or,

R. Tinct. colchici sem. m. xx 1 33
Potassii bicarb. gr. x 66
Aq. pimentæ q. s. ad. 3i 32

M. Sig.: At one dose, to be repeated every three or four hours.

The following combinations are recommended by Sir Henry Halford:

R. Ext. colchici radicis. gr. vi 25
Pulv. ipecacuanhæ et opii
Ext. colocynth. comp., āā. gr. xii 75

M. Ft. pil. No. xii. Sig.: One pill night and morning.

Or,

R. Ext. colchici rad. gr. x 66
Pulv. digitalis
Ext. colocynth. comp., āā. gr. xx 1 33

M. Ft. pil. No. xx. Sig.: One or two pills, to be taken three times a day.

Quinin as an Antipyretic.

Egbert, in *Merck's Archives*, favors the combination of quinin with acetanilid as antipyretic in the earlier stages of inflammatory diseases. In his opinion a fluid mixture is preferable:

R. Quininæ sulphatis 3i 4
Acetanilidi 3i 4
Elixir arom. 3i 32
Syrupi (chocolated) q. s. ad. 3iv 128

M. Sig.: One to two teaspoonfuls every three or four hours.

By combining quinin in small doses with other cinchona alkaloids the effect of the dose is augmented. He recommends the following:

R. Quininæ sulphatis
Cinchonæ sulphatis
Cinchonidinæ salicylatis, āā. gr. xxx 2

M. Ft. cap. No. xxx. Sig.: One to two capsules every three or four hours.

Thiocol in Chronic Bronchitis.

Dr. J. A. Goldmann, of Vienna, claims to have obtained splendid results in treatment of chronic bronchial catarrh with thiocol (the potassium salt of guaiacol-sulfonic acid) prescribed as follows:

R. Thiocol 3iiss 10
Syr. aurantii q. s. ad. 3iii 96

M. Sig.: One teaspoonful for a child, or one dessertspoonful for an adult, three times a day in milk or coffee.

As a Resolvent of Tuberculous Glands.

Descroizilles, as noted in *N. Y. Med. Journal*, recommends the following as a local application:

R. Tinct. iodi gr. xv 1
Magnesii sulph. 3iiss 14
Sodii chloridi 3x 40
Aque destil. 3ivss 144

M. Sig.: To be applied locally on compresses.

A Lotion for Checking Night Sweats of Phthisis.

Herschfeld reports excellent results from sponging the body with the following mixture:

R. Balsami peruvianæ gr. xxx 2
Acidi formici
Chloralis hydratis, āā. 3iiss 10
Alcoholis 3vi 192

M. Sig.: Sponge the patient's body at night.

Acute Bronchitis in Children.

The following prescription is recommended by A. Agramonte

R. Solutionis ammon. acetat 3iv 16
Spts. etheris nitrosi. 3iiss 6
Syrupi ipecacuanhæ 3iiss 6
Syrupi senegæ 3i 4
Syrupi limonis q. s. ad. 3iv 128

M. Sig.: One teaspoonful every four hours.

The above combination will produce elimination from the skin, kidneys and bronchial mucous membrane.

Correction: In last issue, on p. 594, the second prescription under "Treatment of Blepharitis," should have Vaselini 3iii instead of gr. iii.

Medicolegal.

Seven Thousand Dollars for the Loss of an Eye.—The Court of Civil Appeals of Texas, says, in the case of the De La Vergne Refrigerating Machine Company vs. Stahl, that the verdict here returned of \$8000 is much larger than that in any case which it has been able to find, or which counsel seem to have been able to find, involving the loss of an eye, with the usual consequences of such injury. Here the party seeking to recover damages therefor was a young man, a mechanic, 24 years of age, when hurt. And while the court considers \$8000 as excessive compensation in such a case, it holds that the loss of an eye is a serious injury, and says that it will affirm the judgment if a remittitur of \$1000 be made from the \$8000.

Extent of Liability of Seller of Patent Medicines.—The case of West vs. Emanuel was brought by a mother to recover from a druggist damages for the death of her daughter, alleged to have been caused by a headache powder, sold to her by the druggist. At the close of her case, and on motion of the defendant, a compulsory nonsuit was entered. This, the Supreme Court of Pennsylvania holds was proper, as the evidence introduced failed, in its opinion, to establish or disclose a cause of action. The powder, it explains, was a patent or proprietary medicine, sold by the manufacturer to drug stores, and by them sold to their customers. And in the sales of patent or proprietary medicines furnished by the compounder of the ingredients which compose them, the court holds, the druggist is not required to analyze the contents of each bottle or package he received. If he delivers to the consumer the article called for with the label of the proprietary or patentee upon it, he can not be justly charged with negligence in so doing.

Prohibiting Additional Hospitals Where Built up.—A Pennsylvania act of 1899 for the protection of public health, prohibits the establishing of maintenance of additional hospitals, pest-houses, and burial grounds in the built-up portions of cities. In construing this, in the case of Commonwealth vs. the Charity Hospital of Pittsburg, the Supreme Court of Pennsylvania holds that it was properly decided in the court below that the phrase "built-up portions of cities" must be understood in its ordinary and popular meaning, and with reference to the object of the act, viz., the protection of the public health, the object of the act being presumed to be to remove supposed sources of contagion from immediate contact with a large population. It also approves of construing the word "additional" to refer to new buildings not already established, and not to mean in addition to the total number then maintained in the whole of the city. It also seems to think that the act is single in its purpose, namely, to protect the public health, and at the same time a general act, for the protection of the public health throughout the commonwealth, regulating the location of the institutions in questions by prohibiting them in all the more populous places of the state, down to a certain line, where the supposed evil does not exist. Nor does it consider that the act deprives a hospital of its property, or the use of it, without due process of law, or denies to it the equal protection of the law, in contravention of the federal constitution.

County Not Liable for Treatment of Pauper Inebriate.—The Supreme Court of Wisconsin holds, in the case of the Put-

ney Brothers Company vs. Milwaukee County, that neither the county board nor any county officer has authority under any specific statute of that state to contract with a private person or corporation for the medical treatment of a pauper for what is termed "inebriety," and entail a liability therefor upon the county, his board being simply a minor incident of the treatment. Inebriates may, indeed, it says, be received into county asylums, under certain restrictions, and may be committed to a county poor-house, and the county become liable for their care in whole or in part, but the statutes seem to go no further. Thus, it appearing that the legislature of Wisconsin has provided certain methods by which inebriety or habitual drunkenness may be dealt with, the supreme court thinks it plain that it has excluded other methods, and that the general provisions requiring the county or town to care for and relieve paupers refer to necessary food, clothing, ordinary medical treatment, and the like, and not to medical treatment looking toward the cure of inebriety as a disease. There is, therefore, it insists, no authority resting in any officer or public body to incur liability for such treatment. And such being the case, there can, it holds, be no ratification by the county, as a county can not ratify the unauthorized acts of its agents which are beyond the scope of its corporate powers.

Liability for Aggravation of Latent Disease.—The case passed upon by the Supreme Court of Colorado entitled the City of Denver vs. Hyatt was brought by the latter party to recover for injuries alleged to have resulted from a fall caused by a defective sidewalk. The jury was instructed, in effect, that, if the plaintiff was predisposed to a disease which was aggravated or accelerated by reason of the accident, she was entitled to recover the damages necessarily resulting from such aggravation or acceleration; in other words, that to the extent she was caused to suffer from the effects of a latent disease, above that which she would have suffered had it not been for the accident, she was entitled to recover damages. This, the supreme court holds, was not error. The sidewalks of a city, it says, are for the use of those with organic predisposition to diseases as well as for the healthy and robust and any injuries which the former sustain by reason of defects in such sidewalks, which result in aggravating an already diseased condition, are results for which the city must respond, if otherwise liable. The evidence was clear at the time of the trial the plaintiff was suffering severely from some internal difficulties, which were manifest for the first time shortly after the accident. These troubles were of such a serious nature as to render her practically helpless. What particular internal organs were affected was not clear. The physicians called did not agree upon this proposition. Neither were they a unit as to what might have been the proximate cause of this condition. One of them gave it as his opinion that her internal condition was caused by the fall. None of the others stated directly that it was not, but they stated that they had never known such a condition as she presented due to an accident, or that such condition was not necessarily attributable to the accident. From other evidence it appeared that the plaintiff prior to the accident was a healthy and vigorous woman, and had never suffered from a deranged condition of any internal organs prior to that time; that shortly after the accident, as before stated, she was affected internally. Now, this fact, in connection with the testimony of the physicians, the supreme court thinks, was amply sufficient to warrant the conclusion by the average layman, and to sustain a jury finding, that the deranged internal condition which she manifested at the trial, and which had existed a long time prior thereto, was caused by the fall.

Not a Case for Fee-Bill Charges.—The Supreme Court of Wisconsin says that, upon the question of the value of the plaintiff's services, in the case of McNamara vs. McNamara, the jury seem to have gone widely astray. This was a controversy between son and father, both of whom were practicing physicians. The son claimed \$12,000 to be due him for consulting and advising with his father in his practice for a period of five years and ten months, alleging an express promise by the father to pay what such services were reasonably worth. The answer was a general denial, with a counterclaim for

money advanced. The son kept no books of account, and during the years in question never made a memorandum of a single case he treated, or concerning which he counseled or advised his father. His guess was that his father called upon him on the average of four times a week, and that he counseled with him as to four cases at each visit. His estimate was that he advised with his father concerning 1000 cases each year, and that his services were worth a little less than \$2 for each case. Three physicians were called as experts for him, and were asked a hypothetical question similar to the following: "Q. Doctor, if the defendant in this case consulted with the plaintiff in a professional capacity on an average four times a week, and at each consultation discussed four patients on an average, or say sixteen to eighteen cases a week, and in consultation the plaintiff would prescribe for the different parties, give advice as to the medicine to be given, how much, and the general treatment, and all such other advice and information as is incident to a consultation for treatment, those cases being of a syphilitic nature and venereal character entirely, or 90 per cent. of them at least, what, in your opinion, would such services be worth per year?" One answered, in the neighborhood of \$4000 per year; going according to the fee-bill fixing rates for consultation. The second testified that he would charge \$4160 per year for such services. The third thought from \$2 to \$5 a consultation would be a reasonable charge. But that such testimony was of no value in arriving at a correct conclusion, the Supreme Court thinks evident from the fact that the hypothetical question did not cover the material facts in the case. The relation of the parties, the circumstances under which the services were rendered, the time employed, the nature and extent of the consultation, and all the circumstances surrounding the service, it holds, were material in arriving at a reasonable answer. The attempt to apply fee-bill charges to such a situation, it declares, was absurd. On this account, and because it considers that prejudice was aroused and no proper foundation for the recovery allowed was found in the evidence, it grants a new trial notwithstanding that the \$11,000 verdict returned by the jury was cut down by the trial judge to \$6000.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

New York Medical Journal, February 23.

- 1 State Care of the Insane. Henry W. Coe.
- 2 The Normal Declinations of the Retinal Meridians. (Concluded.) George T. Stevens.
- 3 *The Relation of Scurvy to Recent Methods of Artificial Feeding. J. P. Crozer Griffith.
- 4 The Pathology of Intrauterine Death. (To be continued.) Neil Macphatter.
- 5 A Simple and Accurate Method of Substitute Infant Feeding. Henry D. Chapin.
- 6 *Clinical Report of the Use of Chloretone as a Hypnotic. A. A. Stevens.

Philadelphia Medical Journal, February 23.

- 7 *The Value of Sputum Examinations to the General Practitioner. M. Howard Fussell.
- 8 *Resection of the Rectum per Vagina. John B. Murphy.
- 9 Amputation of Both Feet Under Spinal Anesthesia With Cocain. Augustus C. Behle.
- 10 Sarcoma of the Ribs. C. C. Warden.
- 11 Congenital Umbilical Hernia: Report of a Case, and Table of Cases Hitherto Reported. Homer E. Safford.

Boston Medical and Surgical Journal, February 21.

- 12 *U. S. Army Pathologic Laboratories in the Philippine Islands. Joseph J. Curry.
- 13 *Dysenteric Diseases of the Philippine Islands, With Special Reference to the Ameba Coli as a Causative Agent in Tropical Dysentery. Joseph J. Curry.
- 14 *Uterine Fibroids. Homer Gage.
- 15 *Dysbasia Intermittens Angiosclerotica (Intermittent Lameness of Vascular Origin). James J. Putnam.

Medical Record (N. Y.), February 23.

- 16 *Necessity for a More Careful Investigation as to the Cause of Outbreaks of Infectious Diseases. Alvah H. Doty.
- 17 *A Method of Fixation for Loose Kidneys. Robert T. Morris.
- 18 *Convulsions With Scarlet Fever, and the Report of a Very Severe Case With Perfect Recovery and Important Deductions from the Treatment. Herman E. Hayd.

Medical News (N. Y.), February 23.

- 19 *The Value and Accuracy of the Roentgen Method of Diagnosis in Cases of Fracture. Charles L. Leonard.
- 20 *Pharyngeal Adenoids and Hypertrophied Tonsils. J. H. Woodward.
- 21 A Report of Some Cases of Abdominal Surgery, With Remarks on the Diagnosis of Carcinoma of the Cecum and the Surgical Treatment of Carcinoma of the Liver and Gall-Bladder. (Concluded.) Charles G. Cumston.
- 22 The Sustaining Treatment of Typhoid Fever, With Special Reference to the Use of Hypnotics. A. H. Buckmaster.
- 23 Compound Dislocation of the Knee. Walter Lathrop.
- 24 Nasal Obstruction: Mouth Breathing; Catarrh; Dilators. Norburne B. Jenkins.

St. Louis Medical Review, February 23.

- 25 *Report of Two Cases Illustrating the Transformation of Senile Warts into Carcinoma. G. Wiley Broome.

Cincinnati Lancet-Clinic, February 23.

- 26 *Suprapubic Cystotomy for Traumatism, With Perineal Drainage. J. G. Carpenter.
- 27 Alcohol. George B. Orr.
- 28 La Grippe. Charles P. King.

Medical Fortnightly (St. Louis, Mo.), February 11.

- 29 *Note on the Color of Renal and Vesical Stones Relative to Their Detection by Radiography. Reginald Harrison.
- 30 Diseases of the Lungs and Pleura. (Continued.) Albert Abrams.
- 31 The Rational Treatment of Erysipelas. Charles W. McIntyre.
- 32 Puerperal Convalescence. A. D. Wilkinson.

Virginia Medical Semi-Monthly (Richmond), February 8.

- 33 Diagnosis and Treatment of Some of the Ordinary Fractures, With Report of Cases. Wallace Neff.
- 34 Hydrotherapy. T. W. Keown.
- 35 *Suprapubic Cystotomy for Traumatism, With Perineal Drainage. J. G. Carpenter.
- 36 Some Remarks on the Present Status of the Physician in the United States. Emil Amberg.
- 37 *Chromic Acid Used as a Cauterant, Followed by Toxic Action. John W. Shaw.
- 38 The Location of a Six-penny Wire Nail in the Left Bronchial Tube Six Months After Its Inception, by Use of the X-ray, and Its Successful Removal. Samuel Lile.

Bulletin of the American Academy of Medicine (Easton, Pa.), February.

- 39 American Medical Colleges and Their Betterment. Parks Ritchie.
- 40 The Use of Clinic Records in Teaching Medicine. W. B. Cannon.
- 41 Methods of Clinical Instruction and the Management of Clinics. F. C. Hotz.
- 42 Remarks on Medical Education. Gustav Fütterer.

The Alienist and Neurologist (St. Louis, Mo.), January.

- 43 The Employment of Physical Methods in the Treatment of Nervous Diseases. (Concluded.) Aug. Hoffman.
- 44 The Application of Electricity in the Treatment of Some Diseases of the Nervous System. Alex. L. Hodgdon.
- 45 Some of the Medical and Legal Phases of Insanity. Charles O. Molz.
- 46 Degeneracy Stigmata as a Basis of Morbid Suspicion. James G. Kiernan.
- 47 *Autopsychorhythmia, or Repetition Psycho-nenrosis. C. H. Hughes.
- 48 Study of Four Cases of Mental Disease and Four Intracranial Tumors Connected Therewith. J. W. Blackburn.
- 49 *Malthusianism and Degeneracy. Harriet C. B. Alexander.
- 50 Dangerous Paranoiacs—With Autobiography of One. J. E. Courtney.
- 51 Possible Cause of Insanity Among Americans in the Orient. Albert B. Ashmead.

Western Medical Review (Lincoln, Neb.), February 15.

- 52 *The Pathology of Fractures. Lewis Schooler.
- 53 *Treatment of Fractures of the Neck of the Femur. John Prentiss Lord.
- 54 *Some Observations on Compound Fractures. D. S. Fairchild.
- 55 *The Ambulatory Treatment of Fractures. Frederick Rustin.
- 56 *Treatment of Skull Fractures. James H. Dunn.
- 57 *Carcinoma of the Thyroid Gland. A. E. Halstead.

Austin Flint Medical Journal (Mason City, Ia.), January 15.

- 58 *Colostomy—Inguinal and Lumbar. D. W. Finlayson.
- 59 Derangements of Circulation and Digestion Due to Overlooked Obstruction in Upper Air Passages—Cases. J. Neimack.
- 60 Should the Minimum Age of Graduation for Medical Students Be Placed Higher Than Twenty-one Years? M. J. Kenefick.

Medical Bulletin (Philadelphia), February.

- 61 Chancroids and Chancre. John V. Shoemaker.
- 62 Sloughing of Bowel and Appendix. D. J. McCaa.
- 63 Fracture of the Skull. F. W. Frankhouser.
- 64 Fat: A Dietetic Specific in Phthisis Pulmonalis. Henry Y. Ostrander.

International Medical Magazine (N. Y.), February.

- 65 *Some of the Diseases of the Genito-urinary Tract and Their Treatment by Electricity. W. H. Walling.
- 66 Thermol in Typhoid Fever. Oliver L. Miller.
- 67 Start the Baby's Diet Right. Floyd M. Crandall.
- 68 Treatment of Tubercular Abscesses. James K. Young.
- 69 Fistula in Ano. Samuel G. Gant.
- 70 Treatment of Acute Catarrhal Conjunctivitis. Walter L. Pyle.
- 71 Sexual Neurasthenia. D. J. McCarthy.
- 72 Acute Catarrh of the Intestines (Enteritis Acuta). Boardman Reed.

Love's Medical Mirror (St. Louis, Mo.), January.

- 73 Care of the Sick. Thomas O'Reilly.
- 74 The Girl at Twelve. James H. Taylor.
- 75 The Therapeutic Effect of Iodine Demonstrated by Physiologic Action and Pathologic Demonstration. L. H. Warner.

Interstate Medical Journal (St. Louis, Mo.), February.

- 76 *Polyarthritides Deformans in Infancy; Apropos of a New Case Observed in a Boy of Five and a Half Months. Dr. Moncorvo.
- 77 Successful Cataract Operation on a Patient Ninety Years Old. James M. Ball.
- 78 *Observations on Influenza, Winter of 1899-1890, and the Present Epidemic. Algernon S. Barnes, Jr.
- 79 A Case of Dislocation of the Head of the Humerus, With Fracture at Its Anatomical Neck. F. E. Prewitt.

Peoria Medical Journal, February.

- 80 A Case of Pancreatitis. F. A. Guthrie.
- 81 Ether or Chloroform: Which? (Concluded.) William R. Allison.

Indiana Medical Journal (Indianapolis), February.

- 82 As to the Profession Itself; Its Rights and Privileges. O. A. Rea.
- 83 One Year's Obstetrical Emergencies. Lucy Woodward Gardner.
- 84 A Case of Recurrent Placenta Previa. E. J. Kempf.
- 85 Surgical Clinic. (Prostatic Cancer.) Robert T. Morris.
- 86 Case of Inverted Uterus of Twenty-one Years' Duration. Orange G. Pfaff.

American Medical Compend (Toledo, Ohio), February.

- 87 *A New Method of Hysterectomy. Byron Robinson.
- 88 Acute Atrophic Paralysis. C. A. Faber.
- 89 *Pruritus Ani. J. A. Duncan.
- 90 Diphtheria. Harry A. Lewis.
- 91 *Common Mistakes of the Physician. C. W. Motts.
- 92 Practical Experience With Sulphate of Magnesia. A. M. Duncan.
- 93 *The Doctor. J. A. Kimmell.

Canadian Practitioner and Review (Toronto), February.

- 94 Some Points in the Surgery of the Kidney. James F. W. Ross.
- 95 *Hydatid Cyst of the Tail of the Pancreas. George A. Peters.
- 96 Case of Dystocia from Uterus Bicornis With Contracted Pelvis. K. C. Mellwraith.

Canada Lancet (Toronto), February.

- 97 A Historical Sketch of Canadian Medical Education. (Continued.) Walter B. Geikie.
- 98 Aneurysm of the Descending Portion of the Arch of the Aorta—Rupture. Harold C. Parsons.
- 99 Report of a Case of Ischio-scrotal Eczema Madidans Rubrum. N. E. Aronstam.

Medical Summary (Philadelphia), February.

- 100 Up-to-date Treatment of Typhoid. J. R. Shellenberger.
- 101 Good Health. (Continued.) George J. Monroe.
- 102 Atmospheric Influences. J. L. Wolfe.
- 103 Therapeutic Uses of Ung. Crede. Max Staller.
- 104 Sexual Perversions. (Continued.) Drs. Pennebaker and Tripp.
- 105 *New Treatment of Morphinomania. Maurice B. Ahlborn.
- 106 A Successful Treatment of Rachitis. Henry Y. Ostrander.
- 107 Fever. Ben H. Brodnax.
- 108 The Saline Laxative or Seidlitz Dosimetric Used in Critical Age, or Change of Life, Etc. W. C. Buckley.

Pacific Medical Journal (San Francisco), February.

- 109 The Microscope in Medicine. S. M. Mouser.
- 110 The Cause of Heart Failure in Chronic Heart Disease, and Its Medicinal and Dietetic Treatment. Alfred W. Perry.
- 111 Dr. Havelock Ellis on the Psychology of Sex. R. W. Shufeldt.
- 112 How to Feed the Sexually Impotent. V. G. Veckie.

Occidental Medical Times (San Francisco), February.

- 113 An Address in Memory of Prof. R. Beverly Cole. Wm. Watt Kerr.
- 114 Angioma of the Internal Jugular Vein. Plugging of the Lateral Sinus and Ligation of the Vein. W. S. Thorne.
- 115 Indications for the Use of Protargol in Gonorrhea. A. B. Grosse.
- 116 The Plague. W. H. Kellogg.
- 117 *Results of Ligation of One Ureter. Minora E. Kibbe.
- 118 Demonstration of Patients Treated for Cancer With Arsenical Paste. Douglass W. Montgomery.
- 119 Pernicious Anemia. E. E. Kelly.

Texas Medical Journal (Austin), January.

- 120 Some Advances Made in Our Knowledge of Immunity and Protective Inoculation. Henry W. Harper.

Texas Medical News (Austin), January.

- 121 Double Hare-lip Complicated With Projections of the Inter-maxillary Bone, Blandin-Roses' Operation. Report of a Case. Joe S. Wooten.
122 Cocain Anesthesia by Lumbar Puncture. William Keiller.
123 Six Weeks With English Surgeons. R. H. T. Mann.
124 The Cause and Prevention of Malarial Infection. R. W. Knox.
125 Malarial Hematuria. Walter T. Brown.

American X-Ray Journal (St. Louis, Mo.), February.

- 126 The Development of the X-ray Plate. J. N. Scott.
127 *A Review of Cases of X-ray "Burns." E. A. Florentine.
128 Gall-stones Under the X-ray. J. Rudis-Jieinsky.
129 Case of Tissue Injury by X-ray and Result of Prosecution in Court. L. A. Peree.

Georgia Journal of Medicine and Surgery (Savannah), January.

- 130 A Critical Survey as to the Etiology and Transmission of Malarial Fevers Through Infection by Mosquitoes. Edward N. Liell.
131 *Malaria—Its Etiology, Symptoms and Diagnosis. H. Stuart MacClean.
132 Etiology and Diagnosis of Malaria. Albert Woldert.

International Journal of Surgery (N. Y.), February.

- 133 Brief Consideration of the Etiology of Malignant Growths. R. H. Cowan.
134 Nose and Throat Work for the General Practitioner. (Continued.) George L. Richards.
135 Treatment of Fractured Patella by Operative Measures. F. H. McNaught.
136 Regional Minor Surgery. (Continued.) George G. Van Schaick.
137 Practical Suggestions Upon the Treatment of Rectal Diseases. James P. Tuttle.
138 The Technique of Surgical Gynecology. (Continued.) Augustin H. Goelet.
139 Three Laparotomies for Penetrating Wounds of the Abdomen. E. W. Walker.
140 Some Remarks on Tetanus. J. J. Thomas.

AMERICAN.

3. Infantile Scurvy.—The etiology of scurvy in infants has been studied by Griffith, who reviews the statistics and also reports a number of personally observed cases. The points of interest to which he calls attention are: that there is a generally accepted view that patented foods often produce infantile scurvy and some cases show that recovery may follow their withdrawal without other treatment. Whether this is because they are deficient in certain ingredients or whether they commonly contain or are derived from starch, remains to be determined. The cases also indicate that the sterilization of milk is capable of producing scurvy though this is a less prominent etiologic factor. It is shown that scurvy can develop on a diet of milk, which has not been long heated or which is even raw, and in which case we are lead to suspect the action of a low percentage of proteids. Some of the cases also show that fruit juices may produce a cure without any change in the diet. In conclusion he remarks that while there are dietetic factors, the individual element is markedly present in this disease: what is one baby's meat is another's poison.

6. Chloretone.—Stevens gives his experience with this drug and concludes that we have in it a special hypnotic of moderate power, rarely giving rise to unpleasant after-effects, but of which a tolerance is quite readily acquired, and it should be adopted for use in cases of insomnia, unattended with pain, high fever, or pronounced nervous excitement.

7. Sputum Examinations.—Fussell insists on the necessity and value of sputum examinations, describes the technique, and discusses their practicability for the average practitioner. To show their value three cases are reported. He maintains that it is perfectly practicable for any physician possessing a microscope with a moderately high power, or with an oil-immersion lens, to make the examinations himself, and describes the simpler procedure.

8. Rectal Resection Per Vaginam.—Murphy describes and illustrates his method of excision of the rectum through the vagina, and reports five cases. His conclusions are that the advantages offered by this route are: 1. The sacrum and pos-

terior bony wall of the pelvis are not disturbed. 2. The field of operation is as extensive and the anatomical parts as accessible as in any transsacral operation. 3. The peritoneal cavity is opened in both the vaginal and sacral operation, and in neither is it a source of great danger. 4. The diseased tissue is more accessible for inspection and the extent to which the operation may be carried upward is as great, if not greater, than by the sacral route. 5. The peritoneum may be drained freely through the vagina. 6. A perfect end-to-end approximation either by sutures or with the use of a button may be secured. The preferable method is by interrupted silk suture because, as there is no peritoneum on the sphincteric segment, failure of union with the button is to be feared. 7. The sphincter is retained and the peritoneal body is restored. There is a diminished action of the levator ani muscle. 8. When operation is complete, the parts are practically in their normal position. He remarks that he has performed the same operation on male cadavers and found, by splitting the sphincter directly through the median line anteriorly and posteriorly cutting back to the coccyx and opening the retrovesical fold of the peritoneum, practically the same field for operation may be opened as in the female, several inches of bowel be dissected and end-to-end union secured. Either anteproctical or postproctical drainage may be used. The cut ends of the sphincter are united anteriorly and posteriorly and the lateral nerve-supply on the other side is not disturbed.

12. Army Pathologic Laboratories in the Philippines.—The army pathologic laboratories on hospital ships and at Manila are described by Curry, who gives general remarks on the diseases of the Philippine Islands. He speaks of the special embarrassments in such laboratories in the tropics, on account of the frequent contamination by air organisms and the rapid putrefaction processes in cadavers. The bacterial flora of the tropics is, he says, as rich and varied as its botanical flora, and a great many organisms are met with that were hitherto unknown. As regards the climate, he thinks the Philippines are not specially unhealthy for a tropical region.

13. Dysenteric Diseases in the Philippines.—Out of over 20,000 cases treated at the First Reserve Military Hospital at Manila, there were 1999 cases submitted for dysentery and 2186 for diarrhea, a total of 4185 or over 21 per cent. of the total. About one-half of the cases of diarrhea were probably dysenteric, making a total of 3000 cases, of 15 per cent. of total admissions. Dysentery is responsible for the highest mortality among the troops and is, moreover, a persistent disease occurring repeatedly after the first attack. It is generally traced to impure drinking water. Of the coincident affections he mentions malaria, and also typhoid fever, pneumonia and tuberculosis which appear in a small percentage. The amebic type of dysentery is the predominating one, occurring in a little over 60 per cent. of the cases of those that come to autopsy, and is responsible for more deaths than all the other types combined. Abscess of the liver has been found in about 16 per cent. and general peritonitis in about 25 per cent. due to perforation of ulcer or rupture of the abscess. In addition to this there was general peritonitis in one case, without perforation of the bowel, the infection passing through the thin base of the ulcer in the cecum. In all cases of abscess active ameba were demonstrated both in the abscess contents and the contents of the large intestine. The question as to whether the ameba is of primary or secondary origin is discussed, and the author favors the view that it is the principal causative agent in at least one type of the disease. In several cases the bacillus of Shiga and Flexner has been found in cultures. He has not had much experience with the antidysenteric serum of Kitasato, though its results are in Japan believed to be of value. He recognizes two distinct types in the Philippines, the amebic dysentery and the acute dysentery, in a number of which the Shiga bacillus was found. In addition to this there were cases of subacute and chronic dysentery in which neither the amebæ nor bacilli occurred.

14. Uterine Fibroids.—Gage reports a method which he has followed in 50 cases. He has resorted to dilatation, and

curettement in 5, with other measures to some extent, and he has operated by morcellation for submucous fibroids projecting into the uterus in 15 cases, and while he has had no deaths he has had serious septic complications in several. In 3 cases he has removed the tubes and ovaries with good results. In 2 he removed the uterus by the vaginal route, one following an unsuccessful curettement and the other for supposed carcinomatous degeneration. He would not choose the method for this purpose, but it is applicable for the removal only of small tumors and is not so satisfactory as the operation from above. He has performed abdominal hysterectomy 25 times with 3 deaths; two of them he thinks were due to defects of technique, in lack of knowledge of any other source. His method of operating is to cut the broad ligament between two clamps down to the attachment of the round ligament, divide the peritoneum through the uterus from side to side at this level and strip it back keeping close to the uterus until he can feel the uterine arteries between the peritoneal folds, secure with silk ligatures and then amputate the cervix. He cauterizes the divided uterine canal, securing the ovarian arteries and vessels of the round ligaments and finally uniting the anterior and posterior layers of the peritoneum by continued sutures from one side of the pelvis to the other. The most important steps are, he thinks, the absolute control of all hemorrhage about the stump so that there should be no accumulation of clotted blood from the space between the stump and its new peritoneal covering and the treatment of the uterine canal. During the past he has tried, whenever possible, to leave at least one ovary, but confesses failing to observe any special advantage in the results. The operation with its progressively diminishing mortality and completeness is almost ideal when performed for the relief of symptoms definitely known to be due to fibroid. It would be ideal, but for the fact that it unsexes the patient, and this makes it objectionable in young women. As regards myomectomy, the only great danger is from hemorrhage and the supposed difficulty of controlling bleeding from torn uterine muscles, simply a lack of technique, and every year is bringing additional testimony to the unsoundness of this objection. He performed myomectomy only six times, but with the very best results. It is especially applicable in cases of young women after it is made clear that the fibroid is steadily growing.

10. Dysbasia Intermittens.—This condition, which consists in intermittent lameness following exercise, is described by Putnam, who reports a case, and confesses to feeling a little doubt as to the correctness of the generalization of Erb and Charcot that the condition is due to the fact that when the muscles are in use a very unusual supply of blood is needed, which can not be supplied on account of arterial defects, or that vascular cramp is induced. In his case a careful examination of the patient's arterial circulation in the involved foot was made before the treatment was begun, and afterward, and no special change of conditions noted. He is inclined to think that perhaps vascular spasm is the best explanation. The treatment employed by him was galvanism followed by faradism following the indications laid down by Erb. After the bath treatment had been abandoned, the patients undertook to give himself a kneading and massage of the calves of the legs, and improved. Possibly the influence of warm weather had something to do with the improvement.

16. Causes of Infectious Diseases.—Doty pleads for more careful research into the origin of any case of infection, and, if well marked cases can not be found, says we should look for mild or convalescent ones. The physicians should be more careful to disinfect everything that the patient had used or had. He is satisfied that the clothing of well persons and cargoes of ships are rarely the means of transmitting disease, but the danger from mild, ambulant and convalescent cases which pass unnoticed should be recognized.

17. Floating Kidney.—Morris describes the operation performed by him for the last two years, for which he does not claim anything excepting that it seems rational and has been up to the present time the most desirable in its results in his hands. In this operation a flap of capsule including the larger

part of the mesial surface of the kidney is incised with a scalpel and the flap of capsule then stripped up from the parenchyma but remaining attached at the convex border of the kidney. The flap of capsule is drawn through a slit in the psoas muscle or in the quadratus muscle, as one chooses, and is there sutured in place. This brings bare parenchyma also in contact with the psoas or quadratus fascia, where it forms a firm connective tissue attachment. The operation avoids the necessity for passing the suture through the parenchyma of the kidney and he has had no reports of the recurrence of the difficulty in his cases up to the present time. In his general remarks on floating kidney he maintains that this condition is so common that probably every practitioner has a number of patients under his care suffering from this cause. The reason it is not more often clearly recognized at the autopsy is that the organ returns to its place and becomes fixed there by rigor mortis. In some instances the condition gives no trouble, in others there are distressing complications; in others still those of general enteroptosis. Cases for operation, according to his view, are those which continue to produce important symptoms after the diagnosis has been well made and abdominal support and general medical treatment tried without effect. The method of examination practiced by him is that prescribed by Israel. A line is drawn parallel to the middle line of the abdomen, distant from the middle line of the abdomen as far as the point in the middle of Poupart's ligament and extending to the costal border. In examining the right kidney the fingers of the right hand are placed on the upper extremity of this line, the left hand at the same time lifts the quadratus lumborum muscle. The fingers of the right hand are depressed more and more with each expiration of the patient until the lower pole of the kidney can be felt or at least approximated. The patient is then asked to take a deep inspiration, when the kidney, if loose will slip out beneath the examiner's fingers very distinctly and can often be carried to a point below the navel. The loose kidney commonly falls into its normal position with the patient in a recumbent position, but often is discovered at some other point in its line of excursion.

18. Scarlet Fever.—The subject of convulsions with scarlet fever is discussed in connection with a case which is elaborately reported by Hayd. He summarizes his deductions from this case, in substance as follows: 1. Every case of scarlet fever is a law unto itself. 2. Convulsions may and do occur when least suspected. 3. The urine should be frequently examined, not only as to specific gravity and albumin, but urea calculations should be often made. 4. Mere specific gravity is not a sufficient indication as to the amount of urea eliminated, as yet it may be retained in poisonous quantities; moreover, a large quantity of water may be voided with fair specific gravity and yet convulsions occur. 5. Albumin need not be present, or only a trace can be found, and yet convulsion occurs, but it will be found perhaps in great amounts following it. 6. Only the most digestible food and nourishment should be given, if possible such as produces little gastric and intestinal putrefaction, the best being milk, because the amount of toxalbumins and putrefactive residue is reduced to a minimum. 7. If milk can not be digested or will not be taken, no food should be administered for days by the stomach, but the patient be allowed an abundance of water and nourishment by nutrient enemata. If broths are borne, chicken broth made according to the directions of Dr. Pryor of New York, as found in his book, is a pleasant and nutritious food. 8. In any severe case of convulsion only a small amount of food by the stomach should be given at any one time, and frequent urea calculation should be made to see that the proper quantity of urea is eliminated, and if it is not increased after the ingestion of food, the food must be withheld or such be substituted as will not interfere with urea excretion. 9. If gastric irritability exists, give the stomach and bowels rest, which also rests the kidneys and permits them to rehabilitate themselves either in function or to develop new renal secreting cells. Scarletinal nephritis is a desquamative process and epithelial cells are no doubt often quickly formed. 10. The amount of urea passed in twenty-four hours differs in different individuals and it may be

roughly stated that an excretion of 10 gms., or 150 gr. of urea for a child 10 years old, weighing 60 pounds, will protect her from convulsions. His patient is passing over 500 gr. every twenty-four hours. 11. Hypodermoclysis is a very valuable and safe method to introduce water into the system, and, with the proper precautions, as much as two or three pints may be used without danger of severe abscess formation. Deionormal salt solution should be used, first boiled, and the skin be thoroughly disinfected by washing with soap and brush, and again with a bichlorid solution—1 to 2000—and subsequently with alcohol. The needle and fountain syringe, with tubes, should be placed in boiling water and boiled for a few minutes to ensure perfect cleanliness. 12. Enteroclysis or the introduction into the bowels of a number of quarts or even gallons of water, with a temperature ranging from tepid water to 80 degrees, if much fever be present, should be employed once or twice during the twenty-four hours. 13. Strychnin and digitalin are the most valuable heart stimulants and brandy the best food and diffusible stimulant.

19. **X-Ray Diagnosis.**—The correct mechanical principles employed in securing the data on which the diagnosis of the Roentgen method is based, insures, according to Leonard, absolute results when the technique of its employment is correctly understood and the data obtained by its use rightly interpreted. The advantages of the method are not only the recognition of the disease known to be existing, but multiple fractures are often shown where only one was suspected. The exact line of fracture is determined and more correct information is obtained without manipulation, saving the patient unnecessary pain and causing no further traumatism to the tissues. This increased facility in diagnosis is not the limit of its usefulness, however, the accuracy of setting and efficiency of fixation apparatus or other methods of treatment can be demonstrated and the necessity of otherwise operative interference can be diminished. The Roentgen method has created a higher standard by which the treatment of fractures may be judged and practitioners can not be said to have employed all the means and knowledge without the use of the *x*-ray. The skiagraph has been admitted as evidence and suits for damages will undoubtedly be based upon its evidence. The safety of practitioners lies in its employment to prove that reduction and fixation have been accomplished or, if not, proof that he suggested it to the patient and was refused its employment. It can never, however, form a basis on which the amount of damages is assessed, which will depend on functional disability and loss which the patient has sustained. Whenever the skiagraph is introduced as evidence the defendant should demand the privilege of having a similar examination and should employ expert testimony to fully explain its meaning to the jury. One great advantage of the method is the possibility of establishing an absolutely negative diagnosis, which is valuable in many cases.

20. **Adenoids.**—The mischief due to adenoids consists, according to Woodward: 1. in the excitation of aural disease; 2. their effects on the patient's general health. He reviews the symptoms dependent on the condition, their development, and the accessory symptoms, including in the latter chorea, epileptiform attacks, and deafmutism. As regards treatment, he thinks we should not wait for the retrogressive hyperplasia which occurs during adolescence, because, prior to this, serious damage may be done. The operation, he claims, is not necessarily dangerous, and while hemorrhage is profuse it ceases spontaneously. Anesthesia is, he thinks, the greatest danger, and he avoids the use of it when he can. The only after-treatment required is cleanliness of the wound, cod-liver oil, iron and fresh air. He also remarks on the condition of hypertrophy of the faucial tonsils and operates for their removal. Up to the present time he has not seen a patient in whom tonsillotomy had been done who had not derived some benefit from the operation.

25. **Carcinoma from Senile Warts.**—Broome reports two cases of carcinoma developing from senile warts, one of which

was treated by local measures which seemed to be so effective that he concluded the carcinoma was practically destroyed and closed the breach made by the carcinoma, by plastic operation. Union took place by first intention. The cosmetic effects were entirely satisfactory and there is no evidence of return, though only three months has elapsed. He discusses the etiology of these malignant growths, and suggests the probability of the parasitic nature of the growth.

26. **Suprapubic Cystotomy.**—After giving the history of the operation, Carpenter reports several cases and remarks in regard to the method. He says, bend, do not tie down the penis when the bladder is distended. Cut down, not up, in opening the bladder in suprapubic cystotomy. Feel for the knot of the urachus, and cut below toward the neck. The peritoneum does not extend below this point. The danger of over-distending the ulcerated, attenuated, sacculated bladder is mentioned and, if necessary, he advises to cut open the peritoneum, having the incision repaired after the pathologic condition has been removed. The operation should be done to remove calculi, foreign bodies, tumors, for stabs, gunshot wounds, rupture of bladder, drainage in the bladder, the passage of urine in stricture, etc. In stone cases the operation of election is Bigelow's, but the stone may be too hard to crush. For polypus, papilloma, removing hypertrophied lobes of prostate, foreign bodies, etc., for cure of peritoneal fistula, which can not be otherwise cured, the suprapubic is the best and most successful method. One must not forget to keep in the mesial line and avoid veins in the prevesical space. It may be necessary to divide, transversely, the thick fascia forming the linea alba close to the symphysis pubis, also to divide the recti muscles transversely if the resistance is so great as to interfere with the rest of the operation. The bladder, after having been opened, is held by fixation forceps, or sutured to the wound, as deemed best: one or two fingers in the rectum to open the posterior wall may be necessary. Hot water is the best agent in bladder surgery. When the bladder is healthy and the wound aseptic the bladder wall may be sutured and get preliminary union, but if it is diseased or engorged no attempt should be made to suture it. Drainage should be used if the case demands, and the patient kept scrupulously clean.

29. **Renal and Vesical Calculi.**—Harrison remarks that it would be interesting to know if observations have been made as to whether the color of the urinary calculus apart from its chemical composition exercises any influence on the shadow cast by the *x*-ray. It has occurred to him that if such were the case, it would be possible to bring this about artificially. In a recorded case he found that a white phosphatic stone was deeply stained blue by the patients having been treated previously with a course of methylene blue for cystitis, and he has seen other similar cases since and wondered whether different degrees of intensity in the radiograph of oxalate of lime calculi were explainable in this way. He suggests this as a practical point. The stone detected by radiography may permit of a delay in operating, without detriment, which is an advantage.

35.—This article also appears elsewhere. See ¶26, above.

47. **Autopsychorhythmia.**—This is the name given by Hughes to a symptom of repetition of certain words and phrases, a sort of repetition psychoneurosis. He refers to a number of cases and compares it with the echolalia and other symptoms. The form of insanity toward which this condition tends is, in his opinion, that in which imperative conceptions predominate or have predominated in the initial stage. Its pathologic lesion is evidently in the mind area of the brain cortex, not focalized exclusively in the speech area. It is a psychic and not a purely psychomotor involvement.

49. **Malthusianism.**—Alexander discusses Malthusianism and its influence on civilization, maintaining that, on the whole, it has been a decidedly potent factor in the advancement of the race, notwithstanding the fact that Malthus underestimated the increase of subsistence resultant on the utilization of waste and over-estimated the human rate of increase.

37. **Chromic Acid.**—Shaw reports a case in which chromic acid was used for condylomata of the genitals, and produced decided toxic symptoms, nausea, rapid pulse, cold extremities, perspiration, etc. The dressings were immediately removed, but the conditions continued for thirty-six hours and then the patient gradually returned to her normal state. He finds little literature on the subject in text-books, though a similar case with more disastrous results was reported a few years ago by Dr. J. Wm. White, the strength of the solution in both cases being the same, 100 gr. to the ounce.

52.—See abstract in THE JOURNAL of January 12, p. 126.

53.—Ibid.

54.—Ibid.

55.—Ibid.

56.—Ibid., p. 127.

57.—Ibid., p. 126.

58.—**Colostomy.**—Finlayson argues for the benefits of colostomy, maintaining that it should never be performed without fully informing the patient as to the consequences, but also holding that it will relieve the conditions in hopeless cases, make life comfortable and even prolong it. In many non-malignant cases it may often make life endurable and cause little inconvenience or embarrassment. He favors the operation on the left side. The special point is that the diagnosis and prognosis must point unerringly to its necessity, and it should be performed as low down as possible so that the nutritive processes may be nearly completed. The technique of the operation is not described.

65. **Electricity in Genito-Urinary Disease.**—The disorders in which Walling thinks electricity valuable are impotence, catarrhal condition of Cowper's glands, spermatorrhea, enlarged prostate, varicocele, hydrocele, stricture, gonorrhea and syphilis. In cases of sexual weakness anesthetic areas receive the cathode and all irritable portions the anode whether the current be galvanic or faradic. Sitzings may be given of fifteen minutes three times a week. In enlarged prostate he uses potassium iodid solution directly to the gland by the cathode, to produce cataphoresis. In hydrocele he claims electrolysis presents a perfectly satisfactory method of treatment. The technique of the different methods is given in detail.

76. **Arthritis Deformans in Infancy.**—Moncorvo reports a case of a child 5 months old showing this condition, and notices the literature. He thinks there is no doubt as to the influence of heredity and rather favors the microbean theory of the condition. The symptoms are noted. The affected joints are mostly symmetrical and painful; acute and subacute conditions become attenuated and are followed by articular lesions which have a slow course or remain stationary. There is more or less marked anemia and he has also found a sensible diminution of hematin, and reduction of hemoglobin which, according to Bannantyne, reveals the action of the toxins developed by the bacilli. Symmetrical invasion of joints makes a clear distinction from gout. In infantile polyarthritis the general character is benign and a happy termination is the rule, though in some cases it may last into adult life or old age. As regards treatment, iodotherapy and electrotherapy are the surest means to combat infantile polyarthritis deformans.

78. **Influenza.**—Barnes compares the epidemic in St. Louis, in 1899 and 1900, with that of the present winter, which last he considers is causing more painful symptoms and more general complications. The most usual symptoms are general malaise, stabbing sensation in the region of the tonsils, with aching bones, and frontal headache. The other symptoms that may occur are in some cases complete aphonia, present for several days, cough, hoarseness, frequently pain in the chest and abdominal muscles, and the tongue is white but not furred, the breath very offensive, but the marked odor of the body noted in the epidemic in the preceding winter is not present. The bowels in most cases are normal; the urine dark, fever slight, cervical glands not enlarged, ear symptoms in some cases quite severe, though not so general as last winter. The treatment is

largely symptomatic: quinin in small doses, with kryofin to relieve the pain, heroin for the cough, in 1/12 gr. doses every three hours, with ammonia chlorid and pilocarpin. The usual cough remedies do not seem to be effective. Local treatment is of great value. As to prevention, he advises the patient to remain indoors after dark, eat wholesome digestible food and dress properly, keep the bowels open, use but little liquor, and to secure plenty of rest and fresh air.

87. **Hysterectomy.**—Robinson reports the method he follows after performing vaginal hysterectomy, which he thinks has its advantages, leaving the oviducts and ligaments *in situ* and the utero-ovarian vascular circle intact. The patients make excellent and painless recoveries. The operation is performed as follows: The cervix is seized by traction forceps and a circular incision through the vagina is made about the neck, after which the anterior and posterior uterine surfaces are freed, and the oviducts, ovaries and broad ligaments also freed from the abdomen if necessary. Then, with a strong pair of seissors, the uterus is split from the cervix to the fundus about one-half inch from the lateral uterine border toward the median line on each side. The external uterine tissues of the lateral segments thus left *in situ* are closed by bringing together the cut peritoneal edges with sutures about a half inch apart. These four or five sutures applied to the lateral uterine segment readily control the slight hemorrhage from the lateral arteries of the utero-ovarian vascular circle. The sutures are subsequently removed. The operation, therefore, consists in the removal of about three-quarters, or two-thirds of the median portion of the uterus, including its cavity, leaving only one-eighth or one-fourth of the lateral border *in situ* on each side. The closer the myometrium is cut away from the endometrium the more and more is its hemorrhage of a capillary nature and more easy to control. The operation saves all the internal genital organs intact, excepting the central portion of the uterus, and by using silver wire for sutures may be done almost without pain or suppuration.

89. **Pruritus Ani.**—Duncan remarks in regard to this condition: that the cause, whatever it may be, whether chronic eczema, herpes, constipation, diabetes, worms, over-mental strain and worry which is a frequent cause, may have to all be looked after to relieve the symptom, and he mentions amongst the direct remedies to be used, local applications of hot water, carbolic acid, lotions, and one that he has never seen mentioned elsewhere, collodion. He says: separate as widely as possible the folds of the skin and mucous membrane and then apply common collodion freely. This will relieve, for a time, all the itching.

91. **Mistakes of the Physician.**—The mistakes here noted by Moots are those made by many of us in adopting the profession, mistakes in regard to personal disposition, pessimism, etc., and he thinks, too, about one-half of the physicians pay too little attention to their dress and toilet and to the condition of their offices. Too many are practically loafers, many are too hasty, and many violate good principles in obstetrics by too early resource to instruments. Other errors are lack of care in examinations, and especially the lack of business methods. Physicians should be charitable and have a brotherly feeling toward other physicians.

93. **The Doctor.**—Kimmell's paper, like the one preceding tells what the doctor should do. He should have sufficient mental caliber in the first place, and should be a more broadly educated man, should be industrious, cheerful, and of high principles.

95.—See abstract in THE JOURNAL of January 5, p. 57.

105. **Morphinomania.**—Ahlborn reports a case in which he treated the morphin habit by giving heroin, as it occurred to him that as a morphin derivative with a sedative and stimulating action, it might be of some use. The patient being accustomed to the hypodermic method of using morphin, he put him on hydrochlorid of heroin, giving it in the form of 1/12 gr. tablets, allowing one of these for each 1/2 gr. of morphin he had been in the habit of taking. As he was consuming about

12 gr. of morphin a day, this allowed him 2 gr. of heroin every twenty-four hours. Strychnin was also kept up and the patient treated for the relief of an existing urinary trouble. The patient declared that he did not need morphin under this treatment; he slept better, and it was continued for about a month, when no craving for the drug being manifested, it was decided to cut down the dose gradually and it was reduced one-half without producing any unfortunate symptoms. The patient had recovered his spirits and had no drug craving whatever. One month later the amount was reduced to about .25 gr. a day, and, in the course of two weeks it was entirely withdrawn, the tonic treatment being pushed. It is now more than seven months since the patient was discharged and he has not returned to his old ways. The second and third cases were treated in the same way. The author claims that in these cases at least it has been a very valuable drug. He claims that the cases cited show that heroin will take the place of morphin without injurious effects, satisfies the craving and allows the withdrawal of the drug without the bad effects commonly observed.

117. Ligation of Ureter.—Kibbe reviews the opinions of authorities in regard to ligation of one ureter, and finds that two general propositions may be deduced: 1. That life is possible in man after ligation of one ureter. 2. Given a local disease of the distal portion of the ureter of considerable extent, without infection in it or the kidney on the other side, where anastomosis is impossible, simple ligation rather than the severer operation of nephrectomy would seem worthy of consideration.

127. X-Ray Burns.—Florentine reviews the question of x-ray burns and the precautions which have been recommended. The grounded screen is, he thinks, more or less effective, though not absolutely so, and he suggests the possibility of individual idiosyncrasy as affecting the incidence of these accidents. He suggests that there is no known means of absolute protection, but he gives a list of those which have shown a tendency to help the situation: 1. Short exposures, which are perfectly satisfactory with our present approved apparatus and materially reduce the danger. 2. Distance between the active tube and part to be exposed; at least eight inches with the improved apparatus is equally effective and adds sharpness and detail to the negative. 3. Always avoid exposing the part frequently unless the rays are used for their therapeutic results, then the tube should be regulated according to the best knowledge of the effect to be produced. 4. Where much density is to be overcome and exposure necessarily long, use the protective screen impervious to the dangerous rays. 5. The vacuum should be as high as required to give the best results with the shortest exposure. He also claims that injuries were more frequent immediately following the earlier use of the x-ray than now, and by using the precautions mentioned and with our improved apparatus these may be almost entirely eliminated. It makes no difference whether a Ruhmkorff coil, a Tesla coil, or a static machine is used, their improper use invites danger. There is a needless alarm among the laity and we should deal with our patients honestly and wage an active war against fake institutions, and quacks and characters that swindle.

131.—This article has appeared elsewhere. See THE JOURNAL of February 9, title 30, p. 403.

FOREIGN.

British Medical Journal, February 16.

The Heart-Index Interval in Aortic Regurgitation. PAUL M. CHAPMAN.—The prolonged interval in aortic insufficiency has been studied by Chapman, who accounts for it by the slow propagation of the pulse wave in these cases. Increased arterial tension tends to obliterate this delay, while diminished arterial tension makes it more manifest. The hypertrophied heart also contracts more slowly, owing to the delay of propagation of the nervous impulses through the enlarged muscles; this he considers a new point noticed by himself. He discusses the question at length, giving evidences for these conclusions, and believes that they are firmly established.

Effects of Muscular Exertion, Sudden and Prolonged, in Young Adolescents. W. COLLIER.—In attempting to ascertain the effects of severe muscular exertion, we have, Collier remarks, to study first the physiologic changes set up by moderate exertion. The effects of exercise on the two most important organs, the heart and lungs, are first noticed. The first effect of exercise is to increase the force of the heart's beat and cause an active congestion, which swells the pulmonary capillaries and diminishes the air space. As the muscular effort continues, it increases the amount of CO₂ that is thrown into the blood, stimulating the respiratory center of the brain; inspiration becomes deeper and more frequent and more air is thrown into the air cells, impeding the circulation in the pulmonary capillaries, and the heart beats more and more quickly, but each ventricular systole is less vigorous and we have passive congestion of the lungs, which is a marked obstacle to the elimination of CO₂. This can not be done beyond a certain point, as too much CO₂ in the blood brings about the cessation of all effort. We have here, therefore, physiologic emphysema. In athletes who have been through years of athletic competitions, we often find the following signs of physiologic emphysema: 1. Absence of apex-beat either on inspection or palpation, while at rest. 2. Absence of all superficial cardiac dullness on account of the large emphysematous lung covering the heart and separating it from the thoracic wall. 3. A hyper-resonant note above the clavicles and above the sternum. If the cause of this is repeated too often, or kept up too long, it is quite possible that it may become converted into a pathologic condition, leading in later life to the same consequences as we have from old-standing bronchitis and chronic asthma. Another effect is to throw a great strain on the right side of the heart, since passive pulmonary congestion implies overdistention of the right ventricle. The author calls attention to a form of heart strain not uncommon among girls and young women, who do much running up and down stairs. It is generally associated with a certain amount of anemia, and probably due to atonic conditions of the heart muscle induced by impoverished blood. The most prominent symptom is breathlessness on exertion and great frequency and tumultuous action of the heart. Girls about the ages of rapid growth with marked functional changes may have minor forms of dilatation of the right side of the heart, especially liable to occur with overexertion. The effect of severe muscular exertion on the left side of the heart is to produce a physiologic hypertrophy, and if this is overdone there is danger in it. Insomnia is not an uncommon troublesome symptom with this form of physiologic hypertrophy. Collier advises that boys in schools should be examined before being allowed to take part in athletic exercises, and especially in the adolescent periods and when they are growing rapidly. Cases of severe and sudden breakdown in well-fed boys and college students are rare. The danger lies in the future, some twenty years or more after. He notes the prophylaxis, advising physical examinations of school boys and students, but says that the danger is less in this class than with the lower middle classes outside of public schools. In concluding his paper he remarks on the physical standard of the army being too high. Many men are rejected on account of insufficient weight or chest measurement. A long, narrow chest may have equal lung capacity with the broad one, but the tape only measures the horizontal diameter; it takes no cognizance of the vertical. Intermittent albuminuria is mentioned, and Collier explains it on the ground of some defect in the walls of the blood-vessels of the kidney. The condition often gives rise to no special trouble, and the treatment for it seems to do very little good.

Cases of Adult General Paralysis with Congenital Syphilis. R. PERCY SMITH.—The possibility of general paralysis in adults being due to the same cause as when it occurs in young persons suffering from congenital syphilis is noticed by Smith, who reports two cases: 1. The full account of a patient of Dr. Mott's, mentioned by him in his Croonian lecture on degeneration of the neuron as possibly of this nature. 2. The other one was a personal observation of his own. In both

cases they were women of 28 and 24 years respectively. There was no suspicion of acquired syphilis, but little doubt as to paternal. The parietic symptoms were characteristic.

Wind Exposure and Phthisis. CHARLES A. DAVIES.—The paper by Gordon, of Exeter, in which he attributed the great frequency of phthisis to wind exposure in certain English districts, is the text of Davies' article. He gives the facts as regards the Isle of Man, showing that the conditions there do not bear out Gordon's views. In fact, if the wind theory is true, the regions in that island which give the least rate of phthisis should give the highest, and he can not find anything that supports the theory that strong winds are accountable for the peculiar distribution of disease in the Isle of Man, whatever may be the cause elsewhere. Phthisis among women and children who shut themselves up in small cabins can not properly be attributed to wind exposure, though it is done to escape the inclemency of the winds; it is due to vitiated atmosphere.

Thyroid Extract as a Remedy, with Illustrative Cases. P. BLAICKIE SMITH.—The author reports several cases where thyroid extract was used for conditions other than myxedema with remarkably favorable results. One was a case of extensive carcinoma, in which many of the nodules disappeared and there was a general temporary improvement. In other similar cases, however, the same treatment seemed to be ineffective. Another case was that of a child three years old, suffering from edema and bullæ, with constant relapses. The case proved refractory to all radical treatment, but thyroid extract in 1/3 gr. doses two or three times a day, given as a last resort, was extremely effective. The third case was one of obesity associated with Bright's disease, in which the effects were perhaps less unusual, but were very striking.

The Lancet, February 16.

Remarks on Agglutination by Plague Blood. E. KLEIN.—Various observers have noticed that the blood of persons convalescent from plague possesses the power of agglutinating plague bacilli in cultures. Klein has investigated the case and finds certain difficulties. In the first place good emulsion is hard to make. The plague bacilli are naturally aggregated in cultures and a uniform distribution of microbes is not as easy to bring about as with some other organisms. He tried to make a workable emulsion from gelatin surface cultures, by distributing the gelatin growth in physiologic salt solution, and he finally succeeded. The emulsion in bouillon, as generally used for other bacilli, is not applicable since it is not itself without effect in causing agglutination of plague bacilli. Experiments with the salt solution with the blood of rats that had been injected with Haffkine's prophylactic, and later with living plague cultures, showed a very marked agglutination in ten minutes, and control experiments with normal human blood and normal mouse's blood showed no such effects.

Deutsche Med. Wochenschrift (Leipsic), February 7 and 14.

Bacteriology of Articular Rheumatism. F. MEYER.—Two years of efforts to cultivate a micro-organism from the blood or joint effusion in cases of articular rheumatism resulted negatively. But when mucus taken from the tonsils was employed no difficulty was experienced in cultivating a peculiar, delicate streptococcus which induced a seropurulent, usually sterile, joint affection in animals, not leading to sepsis. The lesions showed a special affinity for the serous membranes and the endocardium.

Bactericidal Power of Electric Light. H. STREBEL.—A series of tests and experiments is described which, the writer states, formed the first scientific demonstration that the bactericidal power of light is exclusively the property of the short-wave rays beyond the violet—the ultraviolet. He describes an improved technique for radiotherapy, enhancing the bactericidal power of the light by using, instead of the ordinary carbon arc-light, electrodes made of a combination of aluminum, cadmium, zinc and carbon, and cooling the compressorium with a stream of compressed air, determining the power of the light not by the visible appearance, but by its action on aristo paper.

February 14.

Operating in the First Moments of Ether Inhalation. P. SUDECK.—In about two hundred operations at Hamburg, the surgeon began his work after the first or second deep inhalation of ether by the patient, without waiting for absolute narcosis. It was found that complete unconsciousness accompanies the first inhalations, if the patient's attention is diverted from the operation, if the instruments are concealed, etc. Brief operations can thus be concluded with the minimum of ether, and before the patient reaches the stage of agitation. Kuemmell has thus amputated a leg or arm in feeble, elderly persons, with no intimation on their part that they experienced pain. Occasionally the patients say that they feel the surgeon's touch, but no pain. Harless is quoted as saying that the ether "may reach the brain through the lamina cribrosa at the first whiffs, as a brief anesthesia with unconsciousness is observed at this time, which is sufficient for a rapid operation." During the extirpation of glands in the axilla the raised abducted arm showed no voluntary nor reflex tendency to adduction, which testifies to the effectiveness of the insensibility induced by the first whiffs of ether.

Operative Treatment of Pulmonary Tuberculosis. H. SARFERT.—Experiences with 150 cadavers showed that the best route for surgical intervention on the lung is by resection of the second rib, detaching the pleura with the hand as one cuts the pages of a journal, freeing the lung without opening the pleura, and after locating the lesion by palpation, opening the cavity with the knife or thermo-cautery. No large vessels are encountered and the operation is remarkably simple. It is indicated in case of a single large cavity, with the remainder of the lungs and the large bronchi very little, if any, affected, and no other organs involved. Sarfert thus operated on a woman of 40 and found the conditions exactly as favorable as in the cadaver. Solid adhesions were found after resection of the second rib, and the loss of blood was remarkably slight, both in the wound in the blunt detached lung and in the newly formed layers of connective tissue on lung and pleura. The position and size of the cavity were readily ascertained and it was extensively opened. There was no asphyxia nor dyspnea. The large cavity communicated with a second smaller one; both were easily tamponed. The wide gap left between the apex of the lung and the thorax gradually closed by granulations. Neither the previous hectic fever nor hemoptysis recurred. The wound had closed in three months to a granulating strip 3cm. wide with a crater 3cm. deep. After two months of euphoria the patient succumbed to an attack of pneumonia in the lower lobe of the other lung. The autopsy showed that very few tubercular nodules were scattered over the lung that had been operated on; there were no evidences of the cavities. The apex had become transformed into tough connective tissue, but the remainder of the lung was air-tight.

Muenchener Med. Wochenschrift, January 29.

Clitoris Crises in Tabes. G. KOESTER.—A case of this rare complication of tabes, of which Pitres has published three cases, is described at length. The clitoris crises correspond to gastric crises and also to the genital disturbances in men during the course of the affection.

Influence of High Temperature on Milk. H. CONRADI.—Heating milk above 80 C. produces a permanent chemical or physical change in its constitution beyond that usually recognized. The normal coagulating point of the milk by calcium and similar salts is diminished by 8 to 12 degrees, while the action of rennet is retarded.

Prophylaxis of Venereal Diseases Among Students. W. SCHOLTZ.—The pamphlet warning against the dangers of venereal disease which is now distributed among the students of Germany when they enter the universities, has already commenced to bear fruit, as Scholtz is able to prove by statistics from the clinics, etc.

February 12.

Tendon Transplantation in Case of Paralytic Deformities. E. KUNIK.—The remarkable benefits to be derived from this tendon transplantation in cases of old paralytic deformities are extolled by Kunik, who states that the number of

actually hopeless cases is being gradually reduced. The tendons are lengthened, shortened or transplanted as indicated, but the operation is not undertaken so long as a trace of spontaneous improvement is apparent under massage, baths and electricity. When the condition has been stationary for six to twelve months or the deformity is rapidly increasing, the operation is indicated.

Treatment of Perineuritis of the Sacral Plexus. A. GUTTENBERG.—The prognosis of this affection is favorable even in elderly persons. General tonic treatment should be supplemented by local massage, the patient in the position allowing easiest access to the affected nerves. The massage should only last a few minutes and should be very gentle, stroking the thickened cords or nodules from the side toward the sacrum, slowly increasing the pressure. The limb is then repeatedly hyperflexed to stretch the sacral nerves and promote absorption. Neurasthenic conditions are benefited usually by wet cold packs, and gentle gymnastics and baths cure the muscular atrophy. In patients with a suspicion of thrombosis and in elderly persons digital massage is substituted by a rectal injection of a pint of tepid water retained for a few minutes, and repeated twice a day. By these means improvement is soon evident. The pains and other disturbances disappear and with them the anemia and concomitant symptoms of irritation of the nervous system. Five cases are described; pains, weakness, trembling of the lower limbs, accompanied by anemia and a palpable "Rosenkranz" swelling or general thickening of the nerve were the most prominent symptoms.

Wiener Klinische Rundschau, February 10.

Thickening of Peripheral Nerves from a Cold. H. PROPPER.—A case is described of palpable perineuritis in consequence of trauma and two others of peripheral neuritis due to rheumatic influences. In the latter the long saphenous nerve was palpably thickened. Reviewing similar cases in the literature, Propper asserts that peripheral neuritis from a primary cause—catching cold—is of frequent occurrence. The more exposed nerves, such as the facial, cervicobrachial, sciatic and crural nerves and the saphenous are especially sensitive. They are sometimes thickened to twice their normal size. These swellings of the nerves from rheumatic influences may be either unilateral or bilateral. In a few cases the tendon reflexes were exaggerated with these purely peripheral affections.

Wiener Klin. Wochenschrift, February 14.

Mechanical Treatment of Certain Varieties of Vertigo. V. URBANTSCHITSCH.—The dizziness that occurs when one whirls the body on the vertical axis can be overcome by practice. In the same way one can become accustomed to the dizziness caused by swinging the head around, etc. For two years the writer has been applying this principle to the treatment of vertigo, with remarkable success. He describes two typical cases consecutive to an operation for the cure of caries of the temporal bone, in which the horizontal semicircular canal had probably been injured. In one the vertigo after ten weeks was still so intense that it was impossible for the patient to ascend stairs or to walk alone. Systematic exercises, swinging the head around, repeated several times a day, stopping when distinct dizziness appeared and waiting for it to subside improved the patient so much in two weeks that he was able to balance his one-wheeled, heavy scissors-grinding machine as before without trouble.

St. Petersburg Med. Wochenschrift, January 26.

Carcinoma Under Thirty-two. W. VIERHUFF.—Five patients between 28 and 32 years of age have been in Vierhuff's charge during the last few years, all with carcinoma of the stomach or intestines. The first and most constant symptom was good appetite with repugnance to food. At every attempt to eat nausea and discomfort in the stomach were experienced. Weakness and emaciation were frequently noted before the gastric contents showed abnormal conditions. Intermittent fever was also observed, appearing with symptoms simulating malaria. Kusick and Treyman have each observed three cases of malignant neoplasms. In the latter's cases the age was between 26 and 29, and all were located at the portio. In spite of apparently favorable conditions the cases terminated fatally in one to nine months to two and one-half years. Three

cases of carcinoma of the rectum in still younger girls were also rapidly fatal.

Vratch (St. Petersburg), XXI, 48, 51 and 52, 1900.

Massage-Plaster Open Splint for Fractures. PILETZKY.—The plaster splint used by Piletzky for simple fractures is made of a bag of gauze filled with plaster mixed with carded flax. An opening is left over the region of the fracture and through it the spot is massaged, commencing the very first day. After eight to twelve days the splint is removed for massage of the entire limb and passive movements. At the end of two weeks active movements are commenced. The massage is done twice a day for ten to fifteen minutes. Nine cases are described, demonstrating the exceptionally rapid recovery, the patients walking in twelve to thirty-three days after fracture of a bone in the leg and in twenty to twenty-seven days after fracture of the femur.

Semana Medica (Buenos Ayres), December 20.

Sodium Hyposulphite in Bubonic Plague. J. PENNA.—Six patients severely ill with bubonic plague were treated by subcutaneous injections, in the vicinity of the infarcts, of 1 gm. of sodium hyposulphite to the cubic centimeter, every three hours. The bubo became gangrenous in two cases, one of them fatal. The remainder recovered. Penna's previous experiences with this treatment in twenty cases were described in THE JOURNAL of January 19, p. 220.

Bulletin de l'Acad. de Med. (Paris), January 29 and February 5.

Sterilization of Cocain. RECLUS.—One gram of cocain hydrochlorate in 100 grams of distilled water is distributed in small vials which are plugged with cotton and placed in a water-bath. The temperature is gradually raised to 100 C. and the boiling continued for half an hour. This method has proved more satisfactory than that of Tyndall's in three years' experience. The cocain remains intact and retains all its properties, the light-rotating power is not altered nor is the anesthetic action modified.

February 5.

Glycosuria and Diabetes of Dyspeptic Origin. A. ROBIN.—These conditions are frequently misunderstood and erroneously treated. Dyspeptic glycosuria is characterized by temporary, irregular, comparatively insignificant glycosuria during digestion only. It is frequently accompanied by transient albuminuria and always by an exaggeration of the general nutritive interchanges, nitrogenous and nervous. This glycosuria is noted in dyspeptics with a good or even an exaggerated appetite, with the stomach distended, with hyperchlorhydria, and the liver large and more or less tender. Accessory symptoms dependent on the primary cause are neurasthenia, vertigo, phosphatic, milky urine, dermatoses, cardiac phenomena and profuse sweats. It may develop into actual diabetes, but yields usually to suitable treatment of the hypersthenic dyspepsia. It is probably due to two causes: The exaggerated reflex excitation of the duodenum, etc., by the passage of a hyperacid chyme, stimulating the biliary function by reflex action, and the direct excitation of the liver cells by the elaborated or transformed glycogen. Dyspeptic glycosuria thus differs completely from the alimentary variety and from latent diabetes. It is the result of excitation while the others are the result of insufficiency. But the frequently repeated excitation may in time lead to genuine diabetes—that is, continuous excitation. Dyspepsia may be the prime cause in many cases of diabetes, and this explains the gravity of dyspepsia in a diabetic. The treatment is merely that of ordinary hypersthenic dyspepsia. In mild cases sedative medication is sufficient; in others, an exclusive milk diet may be required. If the glycosuria persists, the functional activity of the liver must be modified with antipyrin combined with sodium bicarbonate, or sodium arseniate and potassium arsenite, or lithium carbonate, codein, opium, belladonna, valerian, etc. One or two doses of 50 to 75 eg. of antipyrin combined with 50 eg. of sodium bicarbonate or the judicious use of sodium arseniate are usually sufficient. In case of dyspeptic diabetes or considerable glycosuria, the activity of the liver must be reduced at once, and the following three-day course of treatment instituted: First, the diabetic regime, suppressing all raw and acid foods. One and one-half

hours before breakfast and dinner a powder of 50 eg. to 1 gm. of antipyrin and 50 to 75 eg. of sodium bicarbonate in seltzer water should be taken and during meals no beverage but Vichy water from the the Lardy spring. After meals one of twelve powders containing 4 gm. each of calcined magnesia and sodium bicarbonate mixed with 6 gm. of prepared chalk should be given. If gastric crises or pyrosis occur, or sensations of burning, constriction or dragging-down are felt in the epigastrium in the intervals between meals, one of ten powders should be taken containing 15 gm. of calcined magnesia, 7 gm. of bismuth subnitrate, 7 gm. of prepared chalk, 5 eg. of codein and 10 gm. of sodium bicarbonate. As soon as the sugar disappears from the urine, this medication can be suspended and treatment addressed solely to the hyperasthenic dyspepsia be inaugurated, commencing with a strict milk diet. If the sugar reappears in large amounts the antipyrin treatment must be resumed, but if it is minimal, 15 eg. of lithium carbonate are usually sufficient, taken before breakfast and at night, dissolved in a spoonful of water, to which is added a tablespoonful of a mixture of 5 eg. sodium arseniate in 300 gm. of distilled water. If the irritating action of the arsenic is feared, rectal injection of 5 c.c. of a mixture of 8 gm. of Fowler's solution in 92 gm. of distilled water may be substituted. In old-established cases the treatment of the diabetes and of the dyspepsia should alternate as the symptoms of each predominate. Starches and sugar should be avoided.

Bulletin de la Soc. des Hop. (Paris), January 24 and 31.

Cellular Elements in Pathologic Cerebrospinal Fluid.—Communications from Widal, Sicard, Monod and others announce that the cerebrospinal fluid contains cellular elements, lymphocytes predominating, in chronic affections in which the meninges are involved, and this is especially noticeable in tubercular meningitis, tabes, general paralysis and meningomyelitis. This symptom, indicating an alteration in the arachnoid mater, may in certain cases clear up the diagnosis between a central and a peripheral lesion, or confirm a dubious diagnosis of tabes or general paralysis. The cellular elements were not found in any of the cases of hemiplegia or peripheral neuritis examined, nor in alcoholics nor hysterics. In acute processes such as cerebrospinal meningitis, polynuclear elements predominated, indicating more extreme processes of defense. Lymphocytosis and the causal meningitis have been observed in 11 cases of general paralysis and 7 of tabes, none negative. Meningitis had been noted previously in 11 cases of paralysis and 9 of tabes, but the fluid was not examined.

Presse Medicale (Paris), February 2.

Hygiene of the Ear. LERMOYEZ.—Among the other measures recommended are mentholized olive-oil, 1 to 50, which is stated to be specific for coryza in children. It sterilizes and renders the nasal passages permeable, with no possible danger to the ear as from other substances. The child lies on his back and a few drops of the oil are instilled from a syringe or dropper three times a day. Intense nervous deafness may be caused by reflex action of worms in the intestines. The hearing is also liable to suffer, Lermoyez adds, from prolonged mental exertion in the quiet of the study. The ear hears, but it is the brain that listens, and if the latter is overworked, the hearing suffers.

To Banish the Bacilli from the Mouth and Throat After Diphtheria. MAETHER.—The conclusions of the writer's tests are that peroxid of hydrogen and ammonium carbonate are effective gargles for eradicating lurking bacilli after diphtheria. Ammonium carbonate has the advantage of dissolving the mucous secretions and thus allowing the disinfectant access to the bacteria. Maether recommends a combination of the two, gargling first with a 1 per cent. solution of ammonium carbonate and then with a 10 per cent. solution of commercial peroxid of hydrogen. If bacilli still lurk in the deep crevices of the tonsils, they must be mechanically dislodged with a fine sound.

Revue de Chirurgie (Paris), February.

Ligature of the Abdominal Aorta. P. TILLAUX AND P. RICHE.—The abdominal aorta has been ligated in thirteen

cases, with a mortality of 100 per cent. according to the literature. Experiments in this line on animals were reported as early as 1667, and have been numerous during the last century. They prove that ligature of the abdominal aorta is not necessarily fatal, except perhaps in the rabbit. It is followed by anemia and paralysis in the hind legs, but not by gangrene nor permanent paraplegia. In man, the gravity of obliteration of the aorta varies with the cause and extent. It is unsuspected when congenital; but may prove rapidly fatal when of embolic origin. Consecutive gangrene and paralytic phenomena have been observed, the latter ranging from intermittent limping—claudication—to complete paraplegia. In every case of gangrene or persisting paralysis, the obliteration was not restricted to the aorta. In 11 of the 13 clinical cases the aorta was ligated on account of non-sacculated aneurysm, and twice on account of hemorrhage. In 7 the ligature was applied through peritoneum, in 6 by the retro-peritoneal route. Gangrene did not occur in any of the cases; the symptoms of cerebral congestion noted were rare and insignificant and the paralytic phenomena were inconstant, variable and transient. None of the deaths were directly attributable to the operation. Indications for ligature of the abdominal aorta are extremely rare, but study of the cases on record shows that the surgeon need not hesitate when he encounters the indications, as the obliteration of a sound aorta entails merely slight transient disturbances in the circulation, incapable of compromising the vitality of the lower limbs, and transient paraplegic disturbances. The details of all the cases are given, continued through several numbers of the *Revue*.

Study of Osteomalacia. G. GAYET AND L. M. BONNET.—The conclusions of this comprehensive study of osteomalacia are that the affection is due to a disturbance in the nutrition of the bones, consisting in an insufficient supply of lime salts and leading to the softening of the skeleton. This disturbance in nutrition may be local or general. Local osteomalacia is observed after traumatism, infections of the bones and also in certain nervous affections. The lesions are of the same character in the local and in the general forms, but with variations not explainable by the apparent etiology, the clinical variety nor the extent of the generalization of the affection. There is nothing specific in the pathogenesis, but there are predisposing causes in age, sex, climate, etc. The actual determining cause is still obscure; but the facts that have been observed point to disturbances in the nervous system as the chief factor.

Protection of Raw Surfaces in Laparotomies. E. QUENU AND JUDET.—Since 1895, Quenu has made a practice of covering with serous membrane all the raw surfaces left after a laparotomy. By this means normal conditions are re-established and exudation is prevented. In case of vegetating cysts of the ovaries the entire pelvic cavity is made extraperitoneal by suturing the vesical peritoneum to the sigmoid loop and the peritoneum over the promontory. The method is particularly advantageous in case of salpingitis, supplemented by abdominal drainage if necessary. Traction on the organs brought together by the suture must be carefully avoided. The patients complain less of colic, and drainage can be discontinued in two to four days. Micturition and defecation have never been affected. Only 5 deaths have occurred in Quenu's last 129 operations for salpingitis, and they include one case of tubercular peritonitis, 3 from extension of the preceding pelvi-peritonitis, one from generalization of tubercular peritonitis and one from cachexia due to a renal complication. Tardy digestive disturbances and abdominal pains are less frequent than in the past, which testifies to more perfect intestinal functioning and the absence of adhesions. Post-operative occlusion of the intestines occurred in only one case, in which cure was easily effected by a secondary operation. The writer concludes that with peritonization recoveries are not only more frequent but they are more perfect and permanent.

Surgical Complications of Typhoid Fever. E. LOISON.—In the personal case described, the small intestine became perforated on the sixteenth day of typhoid fever, the patient being

a young soldier. Loison operated fifteen hours later and the patient recovered. Keen's statistics gave the proportion of recoveries after surgical intervention on account of typhoid perforation as 19.3 per cent.; Platt, 20.3 per cent.; Mauger in 1900, 23.3 per cent., and Loison has now collected 16 successfully operated cases with 74 failures, a proportion of 21.6 per cent. The best results have been attained during the first twenty-four hours after perforation or commencement of the peritonitis, but the condition of the patient is the best guide. Subsidence of the primal peritoneal shock must be awaited. In the 16 successful cases, operation was made between the sixth and twelfth hour in 6; between the twelfth and twenty-fourth in 4, at the twenty-sixth in 1 and at the sixtieth hour in another. In Legueu's case a large perforation was found near the ileo-cecal valve. The tissues were too friable for suturing and the place was patched with a graft of omentum. The perforation occurred on the twentieth day and the operation was performed six hours later. The patient, a youth of 15, recovered with a stercoral fistula which healed spontaneously in three weeks. Loison prefers a median incision as more convenient for locating the perforation. If in the small intestine, it is usually near the ileo-cecal valve. Transverse suture is preferable to longitudinal, judging from the results published. If the intestine is very friable it can possibly be sutured to the abdominal wound. Total resection of the loop may sometimes be necessary, but the bad results after extensive resection discourage further attempts in this line. There are only five cases on record in which death occurred in consequence of new perforations after the operation.

Semaine Medicale (Paris), January 30.

The Adequate Dosage Method Applied to Various Nervous Affections. GILLES DE LA TOURETTE.—THE JOURNAL described the details of this method of administering the bromids in epilepsy, Oct. 27, 1900, p. 1120. The results obtained with it have surpassed the most sanguine expectations and the principle is now being applied to other diseases. The method is based on the determination of the actual individual tolerance in each patient, by watching for certain physical signs and symptoms, peculiar to each drug, indicating the approach of intolerance. The individual adequate dose thus established is maintained for a length of time sufficient to completely abolish the cortico-motor hyperexcitability of the brain in epilepsy, and with it all tendency to seizures. The three-week period plan is followed, increasing by 1 gm. a week until the proper dose is ascertained, then maintaining it at this point in three-week periods, as for instance: 3, 4, 5; 3, 4, 5; 3, 4, 5 gm. and so on. It is then gradually diminished to final suppression. In this point there is a slight modification of the original method as first published. Other nervous diseases successfully treated in this way have been severe, associated forms of migraine, Menière's vertigo, grippal neuralgia and tic-douloureux. The results emphasize the exceptional benefits to be derived from this "proper-dose method." In a typical case of ophthalmoplegic migraine in a man of 35, for example, the paroxysms recurring frequently, sometimes every week and lasting three or four days, there has been no recurrence since a course of treatment last September. The adequate dose of bromid in this case was found to be 7, 8 and 9; 7, 8, and 9 gm., determined by the pupil sign and general manifestations at the close of the first third week. The complete course for this severe migraine requires about eight to twelve months. Quinin is the specific in Menière's disease.

Centralblatt f. Chirurgie (Leipsic), February 2 and 9.

Direct Suture of the Resected Ureter. A. V. GUBAROFF. In an operation which required resection of 3 cm. of the ureter, the ends were sutured together at once, a small slit downward from the top in the peripheral end allowing it to be fitted over the central end. A stitch at the back and at each side held the parts in position and the slit was sutured as the final step. The patient died thirty-one days later from amyloid degeneration. The ureter was found practically normal with scarcely a trace of the defect and invagination. Absorbable suture material was used, and the stitches were taken lengthwise.

February 9.

Treatment of Injury of the Internal Soft Parts of the Knee. C. LAUENSTEIN.—The writer has found that recovery was more prompt and satisfactory when the extravasated blood was evacuated by puncture, followed by immobilization of the joint for a few weeks. He has found it possible to determine the existence of rupture of the capsular ligament by inserting a bougie through the puncture-opening.

Muscular Transplantation for Contraction of Knee. C. BRUNS.—In three cases of recurrent contraction of the knee after an old, healed infection, Bruns transplanted the tendon of the biceps into the tendon of the quadriceps. The results have been very satisfactory, the contraction and pain are completely abolished and the patients regain normal use of the limb. In one the contraction was consecutive to gonorrheal gonitis, the patient 24 years of age; in another to fungus of the knee in a boy, and in a third, a woman who had been confined to her bed for years on account of the extreme painful contraction of both knees from articular rheumatism. This patient has not been allowed to get up yet, but the knees are now normal.

Queries and Minor Notes.

PHYSICIANS AND THE AUTOMOBILE.

LEAD, S. D., Feb. 22, 1901.

To the Editor:—In considering the purchase of an automobile, will you advise me which one or make is most practicable for a physician's use? Is an electric vehicle better than one of gasoline power?

H. S. J.

ANS.—We are unable to advise our correspondent. While the electric automobile seems to us to be too limited in its radius of action for general country practice, it has many advocates, but the gasoline motor seems to be the most popular at the present time. The question of automobiles is an important one and THE JOURNAL will be glad to hear from its correspondents in regard to the matter, especially from those who have had experience in their use. Many are now using the automobile instead of the horse, and it would be interesting to those who are thinking of adopting this mode of conveyance if physicians now using them would give their experience for publication in these columns.

LABORATORY INOCULATION.

IOWA CITY, IOWA, Feb. 14, 1901.

To the Editor:—Will you inform me whether there have occurred, to your knowledge, any cases of accidental inoculation with diphtheria in the laboratory while working with cultures, and references?

L. F. G.

ANS.—Yes, such accidents have occurred, and dangerous attacks of diphtheria have been the result. Fortunately they are rare and appear to depend on purely accidental conditions. We can not give definite references.

MALARIA DATA

YOAKUM, TEXAS, Feb. 13, 1901.

To the Editor:—In THE JOURNAL of the 9th, I note reference to a paper by Wells on malaria, also by Edwards, Preble and Favill, and will be very much obliged if you will give me the name and address of the publishers of each of the papers.

W. S.

ANS.—The articles were published in the *Chicago Medical Recorder* for January. Address Medical Recorder Publishing Co., Pullman Bldg., Chicago.

PRACTICE IN ILLINOIS.

COLUMBIA, MO., Feb. 18, 1901.

To the Editor:—What is the law governing practitioners in Illinois? If one holding a diploma has to go before the state board, give address of one of the members.

ANS.—This question was answered in THE JOURNAL of February 16, to which the correspondent is referred. The secretary of the State Board of Health is Dr. J. A. Egan, Springfield, Ill.

PRACTICE IN KENTUCKY.

KANSAS CITY, MO., Feb. 26, 1901.

To the Editor:—Kindly give the requirements of the State Board of Health of Kentucky regulating the practice of medicine in that state, also name and address of secretary of the board.

R. J. S.

ANS.—A diploma from a reputable medical college, endorsed as such by the State Board of Health; registration with the county clerk after receiving certificates from the board is essential. Dr. J. N. McCormack, Bowling Green, Ky., is secretary of the State Board of Health.

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Address.

THE STUDY OF ANATOMY.*

LEWELLYS F. BARKER, M.B. (TOR.)
CHICAGO.

With the advent of October, with its cool and bracing days and restful nights, there is regularly a quickening of activities in academic circles. The occupant of a professorial chair, re-invigorated by temporary sojourn in forest or field, at the seaside or in the hills, resumes his teaching with renewed enthusiasm, and engages again in that original investigation which represents the most absorbing interest of his life. The student, too, perhaps as yet less conscious of the actual need of an occasional remission from his labors, has nevertheless had his holiday, and returns to the college of his choice ready for another season of diligent application, and eager to begin once more the arduous tasks which the pursuit of knowledge entails.

It has long been customary in colleges in which medicine is taught, to call a meeting of the faculty and students at the beginning of the autumn session. Such a meeting permits of the reunion of former teachers and students, and the introduction and welcoming of new teachers and new students. It gives, further, opportunity for the making of certain special remarks; and I have noticed that there is almost universally a tendency on the part of the faculty to grant the privilege of remark-making to some member of it who has lately been added to the staff. Being myself one of the most recent additions to an already large staff-family, the privilege has this year been gracefully allotted to me. However great a sacrifice on the part of my colleagues this may represent, the new-comer, on this occasion, like the distinguished member of the faculty who last year addressed you, considers it a great favor to have the opportunity of expressing the pleasure he has in coming among you and being counted one of you, and to meet with an occasion on which he can, more or less generally, indicate the aims and scope of the science which he represents, and so publicly justify the position which he holds. Fortunately, in this latter respect, the task is an easy one, for anatomy has in medicine long ago won its place as a science essential as a basis for all subsequent medical studies, and, moreover, my predecessors in office have been men of such sterling merit, power and inspiration, that the subject is here appreciated and revered. Especially true is this of him who has immediately preceded me as the occupant of the chair, and who has left it in order to accept a chair of surgery; while we commiserate anatomy on losing so able a representative, we must congratulate surgery on the enlistment in its service of so well-

trained and enthusiastic an anatomist. He has, at this College, developed, among other things, a course in surgical anatomy—easily one of the best in America—and this part of the anatomic work he has promised, for the present at least, to retain. You join with me I know, in wishing my colleague, Professor Bevan, a continuation of that success which he has already attained in the field of his ultimate choice.

The year in which we live marks an important epoch in the history of the College. Of a whole series of advances, I wish to call attention especially to one. Beginning with this autumn quarter, a closer relationship than has ever existed before between Rush Medical College and the University of Chicago has been established. Not entirely satisfied, for what true lover long is, with that "sisterly" relationship which the term "affiliation" represents the College has this year appointed to two of its fundamental chairs—physiology and anatomy—men who are already occupants of chairs in the same sciences at the University of Chicago. That such closer bond of union can not fail to be of the greatest value, both for Rush Medical College and for the University of Chicago, I confidently believe. That it is only the forerunner of a still deeper intimacy, many I am sure, both in the University and the College, fondly hope.

On thinking over anatomical subjects in the search for material for this address, the ideas which came to me grouped themselves, in the main, under two headings: 1. What does the science of anatomy include? 2. How can the study of anatomy best be prosecuted? Each of these headings corresponds to matter enough for any single occasion; I have therefore decided to spend the time in a consideration of the former of the two questions, and to reserve for another time and place what I have gathered in answer to the latter.

Of the whole group of the natural sciences, there is perhaps no other member, the province of which is less well understood by the general public than is the science of anatomy. As ordinarily thought of by the layman, it is a science, the study of which necessarily precedes the practical work of medicine and surgery; a science which is largely if not wholly descriptive, and one which, to be mastered, requires prolonged occupation, scalpel in hand and pipe in mouth, with dead and partially decomposed human beings. Such a view of the science, though perhaps not surprising when we recall the methods by which anatomy—so-called—has frequently in this and other countries, been prosecuted, could, I do not need to tell you, be scarcely more widely removed from the truth. Anatomy is not simply a descriptive science; the study of it as a preparation for practical medicine and surgery represents only one side of its interest and usefulness; the scalpel is now perhaps the coarsest instrument it employs; its work is by no means confined to the human body alone, much less to the dead human body, and when it does deal with the

* Delivered before the Faculty and Students of Rush Medical College, Oct. 5, 1900.

latter, the material can be so well preserved that even the fragrant Havana is said to be more offensive to some sensitive souls than are the odors from the well-kept preparation room.

Even medical men differ markedly in their conception of what anatomy includes, their ideas being largely based on the kind of anatomy they themselves were taught, and on the anatomic needs of the particular branch of medicine which, after graduation, they have cultivated.

Nor is there uniformity of opinion among the pure anatomists themselves, as can be readily seen by a perusal of the various addresses made by scientific anatomists in different parts of the world during the last twenty years. A free expression of opinion on the subject has, however, gone far to make the aims and scope of the science clearer, until at present its principal representatives are more clearly in accord, with regard to them, than ever before. In what this accordance consists, I can, I believe, make clearest to you by glancing briefly at the various steps through which the science has passed from the period when the earliest anatomic observations were recorded to the present day.

There can be no doubt that from the earliest times, curiosity concerning, and interest in the make-up of the human body has existed. The references to man's body and its organization frequently to be met with in the pages of the old Hindu Vedas and of the earliest writings of all the oriental nations, make this very evident. Nevertheless, the awe in which men stood before the human cadaver, together with the penalties threatened by religious leaders for any molestation of it, appear to have effectually prevented any systematic examinations; and the little knowledge possessed by the ancients, aside from the conclusions drawn from animals killed for food or for sacrifice, seems to have been drawn from the instances in which, through the violence of war, the chase, or the natural elements, the human body became dismembered or eviscerated.

The earliest dissections of the human body of which no doubt exists, are those which were undertaken at the Alexandrian School, by Herophilus and Erasistratus, supported and protected by the intelligent Ptolemaic rulers. The name of Herophilus is still familiar to every beginner of anatomic studies in the term *Torcular Herophili*. The statement is made, though I hope it is not true, that these daring anatomists went so far, with Ptolemy's sanction, as to dissect living criminals, from which Tertullian designated Herophilus as *lanius*.

This opportunity for the anatomic investigation of the human body appears to have been unique, and it continued only for a short time. Even Galen's studies, the results of which were held, for the following ten centuries at least, to be infallible, were limited to the bodies of animals; he recommended, it may be remembered, the study of the bodies of apes and swine—the animals which in his opinion were nearest to human beings. After Galen, the natural horror which the examination of the dead body excites, together with the edicts of the church against dissection, prevented any further progress of descriptive human anatomy for a very long period. The church declared that Galen had been infallible, and that therefore no further anatomic studies were necessary. Fortunately for science, which knows but little of infallibility, certain of its votaries in high favor at Rome, gained permission in the fourteenth century to make dissections of human bodies, and to use them for demonstration before students.

Mondiui in Bologna again opened the path for scientific anatomic inquiry, and started in Italy a movement which placed that country, as far as medicine is concerned, in the lead. Students from distant lands were attracted, as they always have been and always will be, to the point where progress was making the greatest headway.

The great Vesalius, often known as the father of anatomy, was among these wandering scientists. Born in Belgium, and educated in France, he prosecuted his anatomic studies in Italy, especially when professor at Padua, to such a degree that he merits a place among the world's greatest reformers. This energetic, truth-seeking, idol-breaking, authority-denying man dared to look at things as he saw them, rather than as Galen had said they should be, and thus made discoveries of the first importance in anatomy; by his artistic powers he rendered many of them imperishable; best of all, he broke forever the tyranny of tradition in anatomic knowledge, and threw wide open the gate by which men must always enter in the pursuit of anatomic truth. Vesalius was a contemporary of Luther; the year of his death is that of the birth of Galileo and of Shakespeare.

It was the spirit which animated Vesalius which later led William Harvey, the founder of physiology, to the discovery of the circulation of the blood, and Giovanni Battista Morgagni, the founder of pathology, to that mode of conception which Virchow has designated "the anatomical idea in medicine." It is the spirit which is embodied in every scientific worker of to-day who accepts the records of past investigation only as a guide—a guide which must be fallible since it is human—and which, therefore, must be repeatedly controlled; a guide which needs constant revision on account of the ever-increasing extension of the domain of sense, and one which, if not added to significantly by the scientist in his lifetime, will stand as an everlasting witness to his inefficiency, a perpetual testimony to his lack of consequence.

Like all the natural sciences, anatomy in its earlier stages consists of necessity, in the amassing in an empirical way of a store of naked facts. In other words, the subject is purely descriptive until a sufficient number of facts have been collected to make their arrangement and classification worth while. Adequate descriptions are based on intelligent observation which in turn is dependent on the skilful use of the organs of sense, including the means which modern technique is ever inventing to extend them. The body is examined externally and internally in its various parts; it is looked at, it is felt. The size, shape, color, weight, consistence, and reciprocal relations of the parts are noted; the results are recorded, the attempt being made to establish the material content of the science with all possible certainty, sharpness, and clearness. The parts have first to be distinguished and named, then accurately described, their physical characters being established in language. The description of a natural object that shall call up in the mind of the reader a precise image of the object, and that shall serve as a reliable guide to a succeeding observer, does not fall within the province of every man's capacity; happy indeed is the anatomist who possesses the power, for, as has more than once been pointed out, an exact and clear description of the known is often of as great value as the so-called "discovery" in the region of the unknown.

The satisfactory naming of the various parts alone is a task of far greater difficulty than at first appears.

An object must be studied for a long time, in many countries, and by men who know the relations of anatomy to every subject with which that science is allied, before a name for a part which shall be in accord with all the requirements can be decided on. Almost every part has at various times received a series of names; periodic revisions of nomenclature by representative committees are accordingly desirable in order to arrive at uniformity among anatomists and to relieve the science of an immense number of names, since at best it must be grievously burdened.

Ever since the time of Vesalius there has been an unbroken series of anatomic observers who have devoted their powers to the attaining of skill in dissection and anatomic description; with energy and endurance and often at great personal sacrifice, this band of anatomists has developed this side of our science until it has reached the degree of precision which characterizes it to-day; a state, indeed, which many believe to be practically complete and incapable of further progress. Of the difficulties overcome by Americans in helping with this work since Mr. Giles Firman made the "first anatomy in the country," a good idea can be gained from the admirable historical review that we owe to E. M. Hartwell. While it is obvious that there must be a temporal limit to the discoveries which the naked eye is to make in anatomic fields, one has nevertheless only to refer to the current journals to see that the limit has not yet been reached. But the limits of progress in anatomic description will by no means be synchronous with those of macroscopic discovery of the objects themselves; indeed, considering the complexity of man's architecture and the different and ever-varying view-points whence descriptions are being written, it is scarcely conceivable that man will ever attain to descriptions which will be satisfactorily final. To the surgeon, to the artist, to the physiologist, to the scientific anatomist the details of parts are of utterly different significance; the varying scale of anatomic values requires in each case a special description; an objective characterization of all details, merely as such, would make anatomic descriptions so ponderous and chaotic as to render them totally useless to anybody. Nor can illustrations, in colors and otherwise, which are perhaps even more valuable than anatomic descriptions, ever be completely objective. The exact plates of anatomic objects which approach of late years ever nearer to that degree of accuracy which will permit of the taking from them of mathematical measurements, never attain actually to perfection; there must always be an element of subjectivity in them which may be inconsonant with the needs of some other observer at some other time.

Again, the greater or less degree of variability to which all parts of the animal body are subject makes it difficult for anatomists to agree as to what shall be called normal, and thus the same object has frequently to be described in several different ways, and pictorially multiply exactly represented. There thus remains, and ever will remain, a task for the anatomist in the domain of anatomic description and illustration (Cf. His, W.).

If it be true that in the fields just referred to there is still much work to be done, the statement is all the more justified with regard to the taking of measurements and weights of the body and its parts. The shape of the natural objects is nearly always such that the localization of fixed points whence measurements can be taken is rendered very difficult—so difficult that frequently the comparison of the measurements of one ob-

server of an object with those of another observer of the same are useless. Again, owing to the variability of the bodily dimensions in the two sexes, in different races, at the various ages of life, according to individuality or under different physiologic conditions, unless a whole series of data accompanies a given measurement, the result may be of no value to a succeeding observer. In modern anthropology, however, definite criteria are always attended to, and the measuring method is proving to be of the highest service in the elucidation of the questions which that science has to solve.

The difficulties of anatomic measurement in large part obtain also when the weighing of anatomic objects is undertaken. Notable results have already been obtained, however, not the least of those in connection with the central nervous system being gained through the comparatively recent work of my colleague, H. H. Donaldson, in the University of Chicago. The application of the method to the determination of the normal by H. Thoma may also be referred to as the beginning of a long series of investigations which, in the end, can scarcely fail to be of the greatest importance. As His, who has discussed this and the foregoing subjects in an admirable manner, points out, it is difficult to imagine how the study of variations in constitution is to be approached unless this and similar methods are the ones employed. As he says, it must be of decisive influence for the physiologic capability of an individual, whether in his organism the musculature predominates over his nervous system, his epithelial tissues or his glandular organs, whether his heart is relatively large or small, whether accordingly it can increase the average blood-pressure in the arteries to a great or to a slight degree, whether the man has a large or small liver, or whether he has a long or short alimentary canal. The study of anatomy with the unaided sense organs is, as we have seen, one of no small magnitude, and one not yet complete. What then is to be said of that descriptive anatomy which invades the territory into which the eye, only with the aid of the microscope, can penetrate. The field of the microscopic anatomist is at least a thousand times wider than that of the macroscopic worker, and in that field what has been said above concerning description, pictorial representation and anatomic measurement equally holds good. It will yet be long ere the collection of microscopic data will have been completed. New methods open up new problems, and at present progress, descriptive microscopic anatomy may probably occupy workers for centuries to come. Even with the methods and microscopes now at our disposal we have entered a museum the largest part of which has yet to be catalogued, and who can say what new doors the methods and the microscopes of the century just before us are about to open up. The science of histography is almost as undeveloped as was geography before the voyage of Columbus. Between the histographic world of to-day and the architectural world of stereochemistry who will dare to prophesy what rich territories may exist?

The mere observation and registration of naked facts does not, however, satisfy for long the cravings of the investigating human intelligence. Indeed, there is something of a blunting character about the process if long continued without the synchronous operation of other faculties of the intellect. Man is a classifying and generalizing animal; there lies deep in his nature a desire to arrange the facts he observes in an orderly manner, with the object of understanding them. It is in the attempt to satisfy this human tendency that

anatomy, instead of remaining a purely descriptive science, becomes elevated to a plane on a level with the other inductive sciences.

Evidences of attempts at anatomic classification are found among the earliest anatomists. The close resemblance of certain parts to one another soon gave rise to the idea of organic systems—such as the muscular and nervous systems. The keen observations of Aristotle on the partes similes and the partes dissimiles may be recalled, as well as those of Fallopius, outlined in his "Tractatus quinque de partibus similaribus." It was left to the organizing brain of the young Frenchman, F. Xavier Bichat, to get a grasp, for the first time, of the relation of elementary tissues to the general architecture of the body. Although, through over-work and impecuniosity, his penetrating eyes were forever closed at the early age of about 31 years, Bichat left behind him three treatises—his "Traité des membranes," his "Recherches physiologiques sur la vie et la mort," and his "Anatomic générale"—a legacy so valuable that we can not help lamenting, with wondering regret, the too early arrest of his labors. He recognized the fact that whereas in chemistry the more complex bodies are composed of simple elements, so in the architecture of man's body simple tissues are variously combined to form the complex mixture of tissues which are ordinarily known as organs. He distinguished some twenty-one systems or tissues—the cellular, the osseous, the fibrous, the cartilaginous, the nervous, the muscular, the medullary, etc.—basing his classification on the manner in which each tissue behaves in the presence of various reagents, the physical and vital properties of each, and, finally, the character of each when met with under diseased conditions. In other words, Bichat was the founder of the modern science of histology, or, as it is sometimes designated, general anatomy.¹

Before following the progress of anatomy further along this line, a word must be said concerning what must be regarded perhaps as the first direction taken by the investigating mind toward the understanding of organic forms, namely, the physiologic—in its first stages, the purely teleological.

As has long since been pointed out, the language of anatomy is sufficient evidence of the long existence of the teleological conception of this science. For thousands of years the individual parts of the body have been known as "organs," and the processes going on in them as "functions." Just as function was unthinkable without a corresponding organ, so an organ without function was inconceivable, and thus, wherever in the series of well-understood parts of the body one remains over whose purposeful participation in the processes of life is not understood, toward this is directed over and over again the mental acumen of the investigator to assign to the reluctant organ a definite significance.² It is not my purpose here to enter into a discussion of teleology. The world has been widely enough explored to utterly dispose of that gross anthropomorphic form of teleology which pointed to a humanly scheming architect of the universe, and whether or not we accept some more correct form of teleology is, at present, a matter for individual opinion. This much is certain, that while no teleological view of Nature actually explains the organization of a human body, the teleological conception has been particularly heuristic in its effects in

the investigation of the relation between the physical processes in, and the physical characters of, the various parts of the body. Ever since Galen, though animated by a false telology, wrote his "De usu partium," in which the size, position, number, consistence and structure of the various parts are treated as facts which can be understood only through the investigation of the purposes which they subserve, this mode of consideration has been among the most influential. Even to-day a large part of the profitable research undertaken by anatomists, physiologists and pathologists has for its aim the elucidation of the relation of structure to function, especially in microscopic domains. The work done in Ludwig's laboratory was largely of this nature, and as recently as 1883 H. v. Meyer³ has asserted that the only possible way of understanding the organs is to proceed to the study of them from the physiologic viewpoint. But if this were true, then all scientific anatomy would be physiology, a statement which narrow-minded physiologists might applaud, but which broader men know to be untrue. Physiology is one of the daughters of anatomy, and is not likely so soon to forget the fifth commandment. Johannes Müller was the last great scientist who covered both fields of anatomy and physiology; since his time investigators have cultivated one of the two at the expense of the other, a division of labor which we must recognize on the whole as beneficial, though that it is accompanied by certain drawbacks must also be confessed. Especially difficult is it to sharply separate the study of structure from that of function in the science of cytology, founded by Schleiden and Schwann, pupils of Johannes Müller in the fourth decade of this century. The development of the cell-doctrine, modified as it was somewhat later by the introduction of the protoplasm theory by Max Schultze, marks a most important epoch in the history of both anatomy and physiology. Its value for the more practical side of medicine is sufficiently in evidence when one of its direct outgrowths, the cellular pathology of Rudolph Virchow, is recalled. The appalling elaboration of technical methods during the last few years has led to the accumulation of cytographic data which remove all the comfort we once had in looking on the cells as elementary structures. Though cytophysiology is as yet far behind cytography in its state of development, there no longer remains any doubt that in approaching the cell we stand before an organism of enormous complexity of constitution, endowed with functional activities which must for long remain to us unfathomable. Any one who has worked much with protoplasm and nucleus, with archiplasm and centrosome, with cell-fibrils and cell-granules under various physiological conditions, can not fail to appreciate the fact that here only the threshold of inquiry has been crossed—the exploration of the real nature of the cell only just begun. Indeed, the evidence is fast accumulating in favor of the opinion that many of these morphological cell-constituents represent precipitates due to the action of reagents, and the laws governing their regular appearance under definite conditions are being investigated. It is exactly in these studies that structural and functional investigation still do well to go hand in hand, a fact which a survey of the cytological hand-books, now becoming so numerous, will show, is meeting with general recognition. I believe it was Du Bois Reymond who ventured the statement that "an ocean steamer, with all its machinery and intricacies of construction,

1. Duval, M.: *L'anatomie générale et son histoire*; Rev. scient., Paris, 1886, xxxvii, 65; 107.

2. His, W.: *Ueber die Bedeutung der Entwicklungsgeschichte fuer die Auffassung der Organischen Natur*, Leipzig, 1870.

3. Von Meyer, H.: *Stellung und Aufgabe der Anatomie in der Gegenwart*; Biol. Centralbl., 1883, No. 12.

is far less complicated in its composition than a cell." Would that the cell were no more complicated than the ocean steamer in construction!—the modern investigator would then soon be ready with the solution of its problems. Alas, the difficulties are not confined to the study of these organisms as individuals; already we have entered on the investigation of their social relations, and cell-altruism and cell-egoism, cell-states and revolutionary cells are discussed as actively among cytologists as are the similar social questions concerning organic individuals of another order by the people at large. Further, in cytophysics and cytochemistry, research is at present most active—these subjects representing one of the most interesting subdivisions of recent physiology. Should the gulf between the present microscope picture of the cell and its chemical structure ever be bridged, stereochemistry would enter into the domain of anatomy. So much in general with regard to the physiologic view-point in anatomy!

Closely allied to the foregoing, and in reality an offshoot from it, is the mode of consideration of the surgical and topographical anatomist. In this branch the individual regions and cavities of the body are dealt with with regard to the reciprocal position of the various organs and systems. Surgical anatomy studies these relations only in as far as they are of importance in operative procedures; topographical anatomy, a wider subject, studies the relations mentioned independently of their significance to the surgeon. The various regions of the body are studied sometimes in layers, sometimes with regard to serial clues to a particular structure. Sections of frozen cadavers have here proved to be of great value for the study of relations and for helping the student to make mental reconstructions of the parts analyzed by dissection. Surgical and topographical anatomy are thus seen to be subjects of very high practical importance—the former especially for the surgeon, the latter also for the worker in internal medicine. It is this kind of anatomy which has been brought to so high a state of cultivation in Great Britain, and especially in London, where most of the anatomy has been taught by men in surgical practice. Valuable as such instruction is for surgery and medicine, it should not be forgotten that it is applied anatomy rather than anatomy proper, and no less a scientist than Macalister has deplored the lack of advances in anatomy in England, attributing it largely to the one-sided mode of instruction in vogue, and to the examinations, to the passing of which the teaching is, in large part, directed. Surely certain morphological considerations are as important for the student of anatomy as the learning by heart of the various relations of an artery, especially if the student is not to become a surgeon; it would be melancholy indeed if there were not at least some members of the anatomic classes who regarded the study of the architecture of the brain and spinal cord as interesting and as important as that of the perineum.

But anatomy as a science would never have attained to the dignified position it now holds had the minds engaged with it remained satisfied, after observing and registering its material content, with attempting the explanation of the human body from the physiologic view-point or with exhausting the possibilities of its relation to the surgeon's knife.

As in the other natural sciences, the causality-need of the intelligence has forced the anatomist to undertake the investigation of the origin of the organic forms which he studies, and of the relations of these forms to other similar and dissimilar organic forms accessible

to examination. In other words, the comparative and the genetic methods of study have been resorted to. Comparative anatomy and embryology together constitute morphology, at least in the sense in which the term is ordinarily used, and in morphology we recognize the part of anatomy which makes it truly worthy of being designated a science.

In the application of the comparative method, not only are the different parts of the human body compared with one another—the arms with the legs, the brain with the spinal cord, the skull with the vertebral column, the various segments and segmental partitions with one another, but man, recognized as a member of a long series of animals, is compared with each of them in turn, and they with one another, with the object of establishing groups of type forms and of learning the plan of architecture, not only of the single creature, but also of the whole series. At first, anatomists studied the forms which to them seemed to resemble man most closely, but the gradual transition from one form to another was so striking that animal after animal was studied until, finally, the whole world of organisms has been submitted to the examination of the comparative investigator. Oken and Goethe, Cuvier, Meckel, Geoffroy St. Hilaire, Lamarck, Wallace, Darwin, Haeckel, Huxley, Gegenbaur and Leidy are names which have become very familiar to us in this field. The world of living creatures is a unitary system, of which man is an inseparable portion. First, when the whole system has been worked through do the form and significance of many of man's parts become intelligible. The animal series can be thought of as a tree with the simplest forms at the root, the trunk branching at its origin, each branch in turn subdividing into limbs and twigs until the highest degree of differentiation is reached. It is this recognition of the lawful relation of organisms to one another which the study of comparative anatomy has afforded us. Such a recognition, now general, was little less than startling to those who first arrived at it. That it pointed to some more general law, was obvious. As Goethe, himself no mean participator in comparative studies, beautifully expressed it:

Alle Gestalten sind ähnlich und keine gleichet der anderen.
Und so deutet das Chor auf ein geheimes Gesetz.

Has this secret law been discovered? Many believe so, and look upon Darwin's doctrine of descent as a generalization worthy, on account of its scientific value, of being placed side by side with Newton's theory of gravitation. Whether the evolutionary doctrine be unequivocally accepted or not, certain it is that the relationship of forms which comparative anatomy reveals finds in this genealogic conception of Darwin a more satisfactory explanation than any other hitherto offered.

Closely allied to the phylogenetic mode of consideration is that which we designate as the embryologic, ontogenetic or developmental. In the human species, as in every other, the life of the individual member is of short duration; each human organism has a beginning, a period of growth and development, followed, even in the life of maximum length, in the course of a few decades by decline and death. Generation follows generation as wave follows wave on the surface of a ruffled sea. In the transference of life from one generation to another the material substratum sinks to a minimal amount—the new human being begins as a fertilized egg-cell $1/120$ of an inch in diameter, weighing only a minute fraction of a gram. From this simplest of beginnings it gradually passes through a long series of developmental stages, the character of these stages varying somewhat under

environmental influences, each stage being the necessary consequent of a preceding one, and at the same time the necessary antecedent of the stage which follows it, until, finally, the organism attains to the fulness of differentiation of which, under the circumstances of its environment, it is capable.

In this long series of developmental stages, which every mammal passes through, the earliest are very, very simple and correspond in form closely with the lower forms in the animal kingdom. But as cell-division in the embryo proceeds, the shaping of the organism becomes more complex, resembling higher and higher forms of animal life, until, finally, that of mammals is assumed. Even at this period the unskilled observer might easily be confused if he were required at a glance to distinguish a human embryo from those of several other mammals at a similar period of development. Ultimately, the differential characters of the species become clearly marked, and even the tyro can easily recognize them. The more skilled the observer, however, the earlier in the development will the species-criteria be decisive.

Comparative embryology becomes all the more astonishing a study when we realize that the embryologic history of every higher animal is, for a long period at least, almost identical with that of a whole series of allied forms. No wonder then, this state of things being acknowledged, that the embryologists, like the comparative anatomists, have pictured the genetic relations of the different animal forms also as a tree, a tree which on close examination is found to accord very closely with the tree of relationship constructed by the comparative anatomists.

Comparative anatomy and embryology are therefore closely interwoven subjects, and each may, in a way, be looked upon as a control for the other, though each has its special problems, and each sets about the solution of these in a manner peculiar to itself. Take, for example, the attempts at an explanation of the series of forms through which the individual passes in its development. Many comparative anatomists, accepting Darwin's doctrine of the origin of the species through a struggle for existence among generations influenced by heredity and variation, would explain the development of the individual member of a species as a temporarily compressed recapitulation of the developmental course of the species as a whole. While this doctrine that "ontogeny repeats phylogeny" has been maintained by eminent scientists, there are others who are unwilling to accept what can not be proved; and some of the embryologists especially feel it their province to attempt to explain from embryologic studies alone, and without reference to phylogenetic history, the origin of the various form-stages through which the individual passes. Already great strides have been made in the direction mentioned, especially through the investigation of the laws of growth, and the field of developmental mechanics, though so lately entered upon, has proven to be one of the most fruitful of those thus far tilled. One of the foremost investigators along these lines goes so far as to assert that the growth of every organic germ must, as a process strictly regulated according to time and space, possess a mathematical expression in which the velocity of growth of each point is determined in its dependence on the time and the position. Whether such formulæ will ever be set up, and the kingdom of organic forms thus subordinated to the domination of simple numbers, seems doubtful, but in any case the conception is an interesting one. We need not, however, look into the

nebulous distance for the advantages to accrue from developmental study. Near at hand are thousands of facts of the greatest importance for anatomy as a whole, and for the practical branches of medicine and surgery to be gained only through this method of study. There is scarcely a part of the body but what is now better understood than was otherwise possible. I need only mention the remarkably complicated morphology of the brain and sense organs, the distribution of the intestines, the grouping of the various voluntary muscles, the puzzling course followed by certain of the nerves and the origin of the reproductive organs in the two sexes, to call to mind some of the features which embryology has done much to illuminate.

I dare not pass by unnoticed here two phases of investigation which naturally follow upon the others, but which have only very recently begun to be extensively cultivated, viz.: those of histogenesis and comparative histology. Histogenesis stands in the same relation to comparative histology as does embryology to comparative anatomy. Indeed, the anatomist is simply pushing the microscope into embryology and comparative anatomy, and the progress made is, in a way, comparable to the advance from gross descriptive to microscopic anatomy. By histogenesis we mean the study of the development of the individual tissues, including that of the individual cells—cytogenesis. By comparative histology and cytology we refer to the comparative microscopic study of the various tissues and cells through a series of animals. The light thrown by these methods on many of the unsolved problems of structure is unexpectedly brilliant, and the future has much to hope from them; Macallum, too, has shown how important these methods can be in helping to explain certain pathologic phenomena met with in heart muscle, and there can be little doubt but that we are on the brink of the discovery of a series of relations between histogenetic conditions and pathologic processes.

Lastly, as a crowning piece to the whole system of anatomic study, experimental morphology must be recognized. As but a child among the kindred sciences, it is of robust constitution, being the offspring of vigorous parents, and, in this country especially, in an environment most suitable for its healthy growth. The anatomist is no longer confined to the study of adult forms, or of forms in their natural mode of development; he can now, to a certain extent, artificially control form-production by resorting to the experimental method. The experiments which have been made upon heteromorphism, upon the artificial production of malformations, and upon the grafting of embryos, are full of interest, so much so as to disturb the equanimity of the soberest of scientists. During the last year or two we have been—I was about to say—shocked by the bringing of the proof by my colleague, Professor Loeb, that the eggs of several species not naturally parthogenetic can be fertilized, or at any rate brought to development, in the absence of spermatozoa, solely through the action of simple physiochemical influences. With miracles such as these already performed, we can but stand in awe of the work of the future.

Most sketchily and imperfectly, I fear, I have tried to give you an idea of what the study of anatomy includes, viz.: descriptive or systematic anatomy—gross and microscopic—physiological, surgical and topographical anatomy; histology or general anatomy, including histography and cytology, comparative anatomy; embryology; comparative histology and embryology; histogenesis, and, lastly, experimental morphology. Assuredly the

subject is wide. It is, I am sorry to say, too wide to be mastered in all its details even when a whole life-time is devoted exclusively to it. The scientific anatomist, after familiarizing himself with the main facts and principles of its various subdivisions, does best, in agreement with the great law of division of labor, to direct his efforts toward the acquisition and promulgation of knowledge, in some one portion of it.

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PARESIS OF THE EXTERNAL RECTI ASSOCIATED WITH IRREGULAR TABES.*

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PHILADELPHIA.

The multiform clinical manifestations which constitute the symptom grouping of so-called locomotor ataxia, are believed by most modern pathologists to be caused by an atrophy or degeneration of the sensory neurons, followed by sclerosis; although as suggested by Berger, Gowers, Oliver and others, this condition is probably preceded by a low grade inflammation.

The varying symptoms, besides those caused by disease of the spinal cord, consist of disturbances of the function of special cerebral nerves, sometimes of the cerebrum and occasionally of the cerebellum.

The medulla oblongata seems to be the connecting link between the spinal and the optic nerve affection. A broad generalization of the ocular symptomatology has recently been presented in a paper by Dr. Charles A. Oliver, as the outcome of a most painstaking series of investigations based upon the study of 100 cases.

The long-recognized pre-ataxic and ataxic divisions, it is thought, should give way to the more scientific initiative or probably inflammatory stage, and later to a degenerative one.

The ocular manifestations, summarized by Swanzy, and previously very thoroughly expounded in the exhaustive treatise of Berger, are as follows: 1, atrophy of the optic nerve; 2, paralysis and ataxia of the orbital muscles; 3, pupillary alterations; 4, paralysis of accommodation; 5, narrowing of the palpebral fissure; 6, imperfect closure of the lids, associated with twitchings in the orbicularis palpebrarum; 7, epiphora; 8, reduction of intra-ocular tension.

It is to the consideration of the second division of symptoms that I will specially call attention.

Paralysis of the ocular muscles occurs in from 20 to 25 per cent. of tabetic cases. They are usually found in the pre-ataxic or inflammatory stage, and not infrequently exist as an initial symptom. Indeed, according to Gowers, in four-fifths of the cases, the paresis constituted an initial symptom. Schmeichler concludes that paresis begins, if it develops at all, with the first symptoms of tabes; at times precedes these by many years, occasionally appears suddenly, but the progress as a rule is a gradual one. After lasting for a few weeks or a few months, it may disappear, not to trouble the patient again perhaps for several years.

The two types of involvement are: the transient paralysis or paresis of a few days or weeks, and the permanent paralysis of one or more muscles. Oscillatory twitching—mostly in a horizontal direction—was first observed by Friedreich, who applied to it the term nystagmus, and thought it an ataxia of the muscles, but since this patronymic is given by ophthalmologists to those clonic spasms of the muscle which appear, even when the patient is looking directly forward, it is clear

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why they do not mention it or say merely, as did Mauthner, that it is supposed to occur. As to the order of involvement of the muscles, Swanzy notes the externus as the one most affected, next the oculomotor, and next, probably, the levator palpebræ. Woinow and Berger also give the externus the first place, while Erb and Chareot assign it to the oculomotor. In Javal's experience, the levator was most frequently involved and, succeeding this, the internal rectus, the externus and superior oblique being very rarely diseased. Landolt, de Watteville and Von Graefe are in entire accord with Javal in this judgment, and oppose Berger in his statement that paralysis of the internus is comparatively infrequent.

In the parietic or paralytic condition, the symptom of special annoyance is the diplopia. The cause of the paresis has been regarded as a vascular disturbance or a slight endymitis in the nuclear region. It sometimes develops into a chronic endymitis, with granular hyperplasia. They begin, says Pierret, as nuclear, extend toward the periphery, as descending neuritis, and here continue after the nuclear affection has disappeared.

Dejerine's examinations proved that not all ocular paralyses in tabes are of nuclear origin. The muscle involvement is seldom complete, and is limited usually to one eye. The complete and permanent paralysis of an isolated orbital muscle, occasionally noted in locomotor ataxia, is probably due, according to Swanzy, to a peripheral, rather than to a nuclear disease, but occasionally a well-marked muscular paralysis, affecting a number of muscles, occurs.

It is not possible to diagnose locomotor ataxia with certainty in a patient who shows only ocular symptoms, the diagnosis between this disease and insular sclerosis remaining doubtful until general symptoms develop.

The eye muscles paralyzed in tabes have in themselves nothing absolutely characteristic. The paralysis develops rapidly and usually disappears slowly. In cases of tabes that succeed syphilis, the lesion is not syphilitic in histologic character. In this sort of case, as well as in the type in which syphilis can be excluded, the disease is a degenerative one and rarely influenced by anti-syphilitic treatment. It is to be regarded as a degenerative sequel of syphilis, rather than a true syphilitic disease. This view is in accord with the experience of Dr. Mills.

The case which has formed the basis of my brief study of paresis of the external recti, as symptomatic of irregular tabes, has been under observation since Feb. 13, 1897. The period during which organic symptoms of the spinal segments, or more properly, segments of the cerebrospinal system, have been carefully noted, has been two years, the only ocular manifestation having been recurring attacks of paresis of the left external rectus muscle.

The patient is a male, aged 30, with an unusually fine mental equipment, and at his initial visit was in perfect condition physically; married, with one (healthy) child. His mother, at an advanced age, has very severe asthma. The family history is otherwise good and, as bearing on his present condition, negative. At the period of his initial visit vision was reduced to 4/200 in each eye, refraction highly myopic and astigmatic, with huge characteristic crescents, the astigmatism being against the rule. There was no muscular abnormality, excepting an exophoria of .5 degree. With the appropriate correction, the vision equaled 20/25 in each eye.

Fifteen months later—May, 1898—the patient again reported, complaining of numbness of the lips, particularly the upper, with anesthesia of the roof of the mouth, some aching in and over the left eye, apparently more aggravated during periods of constipation, but no paresis of any external eye

muscles or other distinctive eye symptoms. There was left hyperphoria of 2 degrees. Four days later the same vertical error and, in addition, an insufficiency of 10 degrees of the externi-esophoria. Three days later the esophoria had increased to 16 degrees, and double images had become almost constant, but distinctly more marked at the close of a busy day, as was also the anesthesia of the roof of the mouth.

Pupillary study, beyond the slightest sluggishness, showed no abnormality. The right knee reflex was slightly diminished, also the left. There was entire absence of any hemorrhage or splotches in the eye ground, and the form field—beyond a slight outer contraction—was normal.

Inclined, at this early period, to regard the case as probably specific in origin, I had a consultation with his family physician and friend, Dr. Louis Jurist, who remembered having treated him for a skin rash some years previously, which he regarded as specific. The patient stoutly denied the existence of any such condition, and no other symptoms, primary or secondary, were present. At my suggestion he was placed on mercurial inunctions, followed by iodids. At the end of about two months the diplopia had disappeared, but the remaining symptoms were about *in statu quo*; the treatment was demoralizing his stomach and intestinal tract, his appetite was very poor and the general languor was pronounced. The diplopia had disappeared, but, as I now believe, entirely independent of the treatment.

In September, 1898, there was an esophoria of 10 degrees. In November, 1898, diplopia was again in evidence for a few days, although general symptoms were better, knee-jerks both active, the upper lip moderately anesthetic, the hard palate more sensitive. The potassium iodid was discontinued and salol and bichlorid substituted. The patient now required a prism of 20 degrees, and one week later, a prism of 26 degrees.

Codein, strychnin and quinin were ordered by his general physician, Dr. Jurist. Tabes now seemed to offer the best explanation of the symptomatology. At his visits late in December, 1898, a slight defect in articulation was noted, with some recent shooting pains in the limbs, although these had not been frequent nor of great intensity.

A consultation with Dr. Mills was held early in January, 1899: in addition to the symptoms enumerated above, he examined for the tendon and muscle phenomena in the lower extremities, and found that the knee-jerks were present but slightly sluggish. The tendo-Achillis jerk was, however, absent on both sides. He had not then developed ataxia. The diagnosis of tabes was made, although his knee-jerks were retained, chiefly because the total syndrome could only be explained on this theory. The absent tendo Achillis jerk made Dr. Mills feel that this case was one in which the sacral cord had suffered more than the lumbar segments. From the diagnostic standpoint, the most important cases of tabes are those in which one or more of the well known symptoms like ataxia, lost knee-jerk, or lancinating pains are absent for a shorter or longer time. An important point to bear in mind, in a case like the one under discussion, is the possible development of general parietic symptoms later in the history of the case.

Dr. Mills prescribed iodid and hypophosphites. There was some improvement and exacerbation until May, 1899, when the diplopia was again very marked. This time he was placed on iodid of lithium and chlorid of gold and sodium. Because of disturbed digestion, the iodid had to be stopped, and the gold and sodium retained with a gratifying improvement in the diplopia, the esophoria in June being reduced to 6 degrees at 6 m.

In July, 1899, he was able to use his bicycle with comfort, his appetite was improved, he gained 10 pounds, and there was no doubling unless tired at night—esophoria, 5 degrees.

In the early fall, diplopia was again in evidence, convergence became very marked, anesthesia and numbness of the lips and palate increased, with a number of laryngeal crises, and a further study of the deep reflexes of the lower extremities, ankle and foot showed their entire absence.

A rest in the South for three months resulted in a further removal of the diplopia, and the general condition, up to the past February, remained unchanged.

In March the patient sailed for a year's trip abroad. He was desperately seasick while crossing, and wrote me from Heidelberg that the diplopia had again recurred.

The following points are especially noteworthy in connection with the study of the case I have cited: 1. In a period of two years, absolutely the only ocular manifestation was a series of parietic attacks of the left

external rectus muscle, the duration of the paresis varying from a few weeks to about three months. 2. The retention, during almost the entire period of observation, of the knee-jerks. 3. The existence of various foci of degeneration, as especially illustrated in the comparatively early involvement of the sacral cord and the consequent loss of the deep reflexes of the lower extremities; the paretic ocular muscle, the numbness, the laryngeal crises. 4. Although a specific history was thought to be present, the antisiphilitic treatment was quite nugatory or possibly damaging, for the reason previously stated. 5. The therapy, aside from the stomach and intestinal requirements, that gave the best, although but palliative result, was chlorid of gold and sodium.

DISCUSSION.

DR. S. D. RISLEY, Philadelphia—Dr. Ring has honored me with a request to open the discussion on this very important topic, but I can not, in the very few moments allowed, enter into any extensive general consideration of tabes. A few years ago, through the courtesy of friends, I went through several general hospitals in Philadelphia and studied the ocular conditions in every case of tabes I could find. The result of those studies, I am sorry to say now, were never published, but left a very pronounced impression upon my own mind. In the first place, a very large proportion showed a greyness of the outer halves of the optic nerves, but in many instances this was not present until late in the disease. Another point that impressed itself on my mind was the abnormalities of ocular motility, which often came on very early in the disease. It is generally said that these ocular paralyses are transient. That is certainly so in a large number of cases, but there is a group like the one presented to-day in which it is not transient. I have never seen a case in which the external recti were involved that the paresis proved to be transient. The transient cases of paralysis were always of one of the vertically acting muscles or of the internal recti. The paralysis is often quite transient, lasting but a few hours or days. In this connection I recall the case of an eloquent clergyman who was to have been one of the speakers at the dedication of the Bartholdi fountain at the Centennial Exposition in Philadelphia, in 1876. He was sitting on the platform awaiting his turn to speak, when he suddenly became nauseated and giddy, and was compelled to leave the platform. He thought it was due to the heat, but from his lucid statement it appeared to be a plain case of diplopia due to a transient palsy of the internal rectus. The symptoms disappeared after a few hours, but occasionally, afterward, he was annoyed by brief periods of disturbed vision which he learned to know were due to impaired muscular balance. I did not see him until 1881, when he was sent to me by the late Dr. William Pepper, because of this disturbance of vision. He then had, in the left eye, an absolute macular scotoma with a contracted field, and a distinctly grey outer half of the nerve. The patellar reflexes were impaired, but station was good. The disease slowly progressed until there was total atrophy of the optic nerve, and no perception of light. The right eye was healthy and vision normal; no contraction of the field and no scotoma. Perhaps six years later he came complaining of trouble with the other eye. I found here also a macular scotoma with the same appearances about the disc, and this also passed to complete blindness. His gait was now ataxic and he died a few years ago, twenty years after the transient attack of diplopia and fifteen after the commencing atrophy of the optic nerve on the left side, having been confined to his room for many years. The initial symptom in this case occurred in 1876, and for ten years afterward he pursued his professional calling and was called on for many public addresses besides, while during those ten years he could not be made to believe he was in any sense ill.

I wish to allude to one other point concerning the treatment. For many years I have been using bichlorid of mercury in these cases. I have one man who has been under my care since 1884, a novelist who has followed his calling without interruption, and is now, in addition, the editor of a literary publica-

tion, and has for sixteen years taken bichlorid of mercury internally, in doses anywhere from 1/100 gr. three or four times a day to 1/24 or even 1/12 gr., he regulating the doses himself up to the point of relief from the lightning pains. His reflexes are absent, his station impaired but variable, but at no time has he manifested any disturbances of ocular motility. He came under observation in 1884 for impaired vision. There was a central scotoma for red and some concentric contraction of the fields. He was an excessive smoker and the victim of irregular habits culminating in an occasional spree. When made to comprehend his danger, he corrected his habits in great measure, but the tabetic symptoms slowly advanced. The relief from pain secured by the corrosive sublimate is of great interest. The etiology, as we know, is obscure, but most observers regard it as due to syphilis. In one case under my care for about ten years, with paralysis of the externus, the patient believed that his disease was due to excessive venery. How correct his own view in this case was I do not know, but it was his firm conviction.

DR. JOHN E. WEEKS, New York City—I would like to suggest that in all probability this particular salt of mercury is not necessarily the only one that will produce amelioration of the painful symptoms in tabes, but that mercury in ointment, the simple metallic mercury, is sufficient in many cases. I have reference particularly to a case recently under observation, in which inunctions were used very freely, the patient being kept at the point of saturation for some time; the relief of pain, as well as the improvement in his general condition was extremely marked. The idea that tabes is a disease due to an affection of the peripheral neurons is perhaps completely established at the present time; the atrophy of the optic nerve is secondary to degeneration of the ganglion cells in the retina.

DR. L. WEBSTER FOX, Philadelphia—A man I had under observation some time ago, who had gone the rounds of the hospitals, told me the only relief he got was from excessive doses of whisky. I do not wish to encourage the drinking of whisky in such cases, but only mention this as one of the many remedies that have been applied to these cases.

DR. RING—Dr. Fox's suggestion confirms my opinion that some of these cases, even though they are specific, do not get relief from the use of antisiphilitic treatment, the lesion being rather a degenerative sequence of syphilis. It may be of interest, in closing, to note, from a letter I received from this patient the day before I left Philadelphia, that the patient has had another recurrence of the diplopia following a severe voyage and desperate seasickness.

THE AMOUNT OF MYOPIA CORRECTED BY REMOVAL OF THE CRYSTALLINE LENS.*

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Despite the hundreds of reported cases, great uncertainty still remains as to the exact optical effect produced by removing the clear crystalline lens from a highly myopic eye. The great mass of these cases are so reported as not to throw any definite light on the optical questions involved. To point out what is our present knowledge of the subject, and to urge the reporting of more exact data regarding future cases are the purposes of this paper.

Myopia due to Excessive Corneal Curvature.—If a high myopia were due solely to excessive curvature of the cornea—the anteroposterior length of the eyeball and the refractive power of the lens being no greater than in the average emmetropic eye—the removal of the crystalline lens would cause substantially the same optical effect as it would in the emmetropic eye; that is, about 11 D. of change as measured at the cornea; or 12 to 13 D. as measured by a concave lens placed in the usual position for spectacle lenses.

Myopia due to Excessive Refractive Influence of Lens.—With a myopia due solely to the excessive refrac-

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tive influence of the lens, whether from excessive curvature, high refractive index, displacement of the lens forward or all of these combined—the corneal curvature and anteroposterior axis remaining the same as for the emmetropic eye—the eye after removal of the lens would possess the same refraction as would a previously emmetropic eye after removal of the lens; that is, whatever the amount of previous myopia, the eye would be left hyperopic about 11 D. measured at the cornea, and would require for its correction a convex 10 D. lens placed in the usual position.

Myopia due to Increased Length of Axis.—When myopia is due to increased length of the anteroposterior axis of the eyeball, the optical effect of removal of the crystalline lens, as measured in diopters, either at the cornea or at the usual position for correcting lenses, increases directly with the increase of the axis. The higher the myopia the greater the effect of removal of the crystalline lens. Yet as to the amount of myopia that should be just corrected by removal of the crystalline lens, as to the previous refraction of the eye which when rendered aphakic will become emmetropic, different writers are widely at variance.

My own approximate estimate¹ by means of the "dioptric eye," was 18 D.; Hirschberg's, by the rule² of finding the correction after operation, by subtracting half the myopia from + 10 D., is 20 D.; Otto's,³ by calculation, 20.08; Hirschberg's, by calculation, 21; Weiland's,⁴ by approximate calculation, 25.61; Percival's⁵, by calculation, 25.85; Weiland's, by accurate calculation, 25.952. The last three are based on the schematic eye of Listing, with the dimensions assigned to it by Helmholtz, generally regarded as the most exact conception of the average refraction of the human eye.

Let us contrast the theoretic possibilities of the case. The myopia of an eye that will be rendered emmetropic by removal of the crystalline lens will be: For myopia due to corneal curvature, 13 D.; for axial myopia, 26 D.; for lens myopia of any amount the eye will never be left emmetropic, but will be made hyperopic, 10 D.

Finally we must compare with these theoretic possibilities the effects reported of removal of the crystalline lens in actual cases; although it must be noted that the majority of these reports show, upon the very face, that they are loose and inaccurate. Very few of them are based on full and carefully determined data. In not a half dozen cases out of the whole series are measurements of the corneal curvature mentioned. Cross⁷ calls attention to the uncertainties attending determinations of high myopia by the common subjective methods, and states that he used skiascopy in some of his 48 cases. In only 3 out of 114 did Deutschman recognize any astigmatism prior to operation. Of course looseness and inaccuracy in the determination of the myopia before operating, greatly diminishes the value of such statistics; and absence of measurements of the corneal curvature makes them worthless for certain important purposes.

Still, it is worth while to compare these recorded results with those of theoretic investigations. I have tabulated the recorded results of 296 cases. The first column gives the diopters of myopia before operation; the second gives the theoretical change to be expected for axial myopia, according to Eperon,⁸ the third gives the average change observed; the fourth the maximum and the fifth the minimum change reported; and the sixth column gives the number of cases of each degree of myopia included. The diopters of myopia or of change are averages of the two principal meridians, where astigmatism is reported.

Previous Myopia.	Theoretic Change.	Average Change.	Maximum Change.	Minimum Change.	Number of Cases.
10	14	16.60	19	15	5
11	14.64	16.67	19	13	6
12	15.2	16	18.50	14	12
13	15.67	17.2	19	15.5	24
14	16.3	17.14	19.50	14	37
15	17	17.15	21	12	28
16	17.5	17.70	24.50	13	58
17	18.23	19	22	16	14
18	18.8	19	24	15	38
19	19.36	18.50	20	16	6
20	20.10	19.81	24	16	32
21	.....	20.20	20	19	5
22	21.4	21.25	25.5	18	15
23	.....	21.67	26	19.5	6
24	.....	22.40	24	21	3
25	.....	23	23	23	1
26	.....	23	23	23	2
30	.....	27	28.5	26	3
35	.....	29	29	29	1

It is obvious that the number of cases on which the above table is based is insufficient to furnish accurate and reliable averages. Still, the table may be taken to indicate about what those averages will be. And it does bring out with certainty the wide range between the maximum and minimum effects that may be produced. Added numbers of cases can only separate the maximum and minimum more widely.

We must conclude from this table, that for a given amount of myopia the effect of removal of the crystalline lens may vary 10 D. or more. Such a variation is too great and too common to be explained as mere inaccuracy of observation. While the general trend of the figures indicate that a lengthened anteroposterior axis is the most important cause of very high myopia, variations of corneal curvature, or of lens refraction, or of both, are factors of practical importance. We never can predict with exactness the effect of an operation until these are taken into account.

One other point is that the calculations based on the Helmholtz values of the schematic eye indicate that 25 or 26 D. of axial myopia should be corrected by removal of the crystalline lens. The reported cases indicate about 20 D. Clearly, either the high myopias are usually partly curvature myopias, or some of the values assigned to the schematic eye are at fault. The careful measurement of the corneal curves in each case, both before and after operation, with the accurate determination of the refraction at both times, would go far toward settling this question.

After lens extraction the curves of the cornea, as measured by the ophthalmometer, continue to change for several weeks or months. It is the permanent form of the cornea that is of interest in this connection; and we can not set any definite time when the changes will cease. Still, after six months the change is slight, and after a year will rarely be of any importance. Some such time must be allowed to elapse before any reliable evidence can be afforded by a given case, as to the influence of the operation in checking the tendency of myopia to increase or in bringing about a decrease.

In all cases of lens extraction through a large corneal incision, there is for a time a bulging of the cornea causing temporary increase in the anteroposterior axis of the eyeball. This gradually diminishes with corresponding diminution in the refraction of the eye. This occurrence, which is a common sequel of such operations, seems not to have been taken into account in the reported cases. It is the probable explanation of the claim that removal of the crystalline lens tends to cause subsequent shortening of the anteroposterior axis.

In conclusion, let me urge both for the good of the individual patient, and for the advancement of our knowledge of the refraction of the eye, and of this operation, the more complete and exact study of the ocular refraction and the curvature of the cornea, both

before and after the removal of the crystalline lens for high myopia.

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ON CERTAIN CLINICAL FEATURES OF EPIDEMIC INFLUENZA.*

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PHILADELPHIA.

In its symptomatic manifestations influenza is the hysteria of epidemic disease. Its puzzling obscurities, unique development, grotesque variations, distressing complications, and surprising sequels, make it paradoxically a type of the atypical in the class of infectious diseases, as is its functional analogue among the neuroses. No tissue seems too hidden; no structure, too strong; no function, too staple; no organ, too resistant, nor organism too robust to escape its Briarean grip.

This introductory arraignment is not stated as a proposition for subsequent proof—that is hardly necessary in the presence of practitioners, most of whom have already made a similar induction—but simply as a potential head from which the octopus-like tentacles grow, reach out, suck and sap their victims in the many ways more specifically referred to in what follows. My observations and deductions are based upon an analysis of 128 cases of influenza.

Onset.—The type of onset most frequently met with in the epidemic just passed was a combination of the cerebrospinal and respiratory forms; for the first two or three days, however, the symptoms of the former element predominated over those of the latter. In cases characterized by severe head, back and limb pains, prostration was extreme for from five to seven days; while those in which the dry bronchial cough was most distressing were not nearly so prostrated; indeed, many such did not feel ill enough to remain in bed more than one or two days, if at all.

A special feature in the onset of a great number of cases was the early appearance of congestion and suffusion of the conjunctivæ, a feature which, it will be recollected, was very distinctive about the third week of December, 1889, when the first cases of the great pandemic then beginning here were rapidly increasing in number.

Fever.—The mild cases showed little or no rise in temperature; and in the cases of severe suffering the temperature rose above 103, and that only during the first two or three days of the disease; in two uncomplicated cases only did the fever reach 105, each case representing an extreme of life, one having occurred in a 14-month infant, and the other in a woman of 72 years. The fever declined usually by a rapid lysis lasting two or three days. Continued fever for ten days was observed in one case. Subnormal temperature was frequent during convalescence, associated with bradycardia. In several instances the thermometer registered a daily remission ranging between 95.4 and 97 for nearly a week.

Cerebrospinal System.—Of the 128 cases, 6 were affected with such specially severe pains in the loin nerves and muscles as to indicate a true lumbago, although general pains and aching were also present. Pain and soreness of the sternocleidomastoid and other neck muscles were frequently noticed in connection with influenzal sore throat. Cephalalgia of intense type was present in 7 cases, the pains having been of a constant, severe, throbbing nature, with occasional sharp neuralgic darts, particularly through the temples. In a few cases marked nuchal pains, similar to those of a malarial paroxysm, were met with. One woman suffered greatly for nearly forty-eight hours from burning pains in the front and outside of the left thigh. There were 9 cases of influenza characterized by special involvement of one or more intercostal nerves, principally around the lower half of the chest. So prominent were the pains here that one felt almost sure that pleuritis must be present, until careful physical examination and closer study of the behavior of the pains and of the course of the case gave negative results in that direction. Enteralgia was marked in one case. In this connection Franke¹ mentions having met with peripheral neuritis of the intercostal and abdominal nerves simulating pleuritis, pericarditis, gastric ulcer and appendicitis. He refers also to the occurrence of pain and tenderness on the sole of the foot in some recent cases of "grip," due to ostitis of the tarsal and metatarsal bones, or to inflammation of the plantar fascia. Not one of my cases was so affected. However, in a case of neuritis affecting the plantar nerves of the left foot, which, for a time, closely simulated metatarsalgia or Morton's painful affection of the foot, the moderate pain, tenderness and disability beginning early in December, 1899, became particularly severe and intractable during the height of the influenza epidemic in March and April last; since that time rapid subsidence of the symptoms has taken place. This case was both rheumatic and traumatic in origin, having resulted from a strained position of the foot on damp ground while playing golf, the patient having a history of rheumatic sciatica and myositis. In 3 instances otalgia was a marked symptom; in one case facial neuralgia on the left side was the prominent feature for the first two days of the "grip" attack. Only one case manifested extreme mental disorder; this took the form of an acute maniacal delirium lasting nearly three weeks. The patient, a woman aged 50, was stubbornly deluded with the idea that she would die, even when much improved physically, saying often day and night, "I'll never get well; I'll never get well." She was passing through the menopause, had suffered somewhat from insomnia and gastrointestinal indigestion with flatulence, and had an unfavorable family history; an uncle and two brothers had died insane, and another brother is on the verge of insanity with alcoholism. The patient's previous mental and physical balance and health—before the climacteric—was excellent, and at this writing—June 4, 1900—her equanimity is nearly restored. Spitzly² reported a case of maniacal excitement which began on the fourth day of an influenzal attack and lasted nearly a week, ending in complete recovery.

Conjunctivitis.—As mentioned before, this was a frequent concomitant of the influenza epidemic and, as well, early in the attack of a number of cases. In 13 I found the hyperemic and watery membranes and eye-lids markedly affected, besides 4 cases in which suppuration had set in. The most severe case of purulent conjunctivitis occurred in a retired merchant aged 72, who had been afflicted with chronic articular gout for about twelve

* Presented to the Section on Materia Medica, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

years; a purulent bronchopneumonia was also associated with the influenza attack.

Otitis Media Purulenta.—This was present in 2 cases: in one it appeared five days after the onset in an infant having a severe bronchitis at the same time; in the other, in a medical student, it terminated an attack of influenza which began one week after a sharp attack of follicular tonsillitis had subsided.

Faucial, Tonsillar and Pharyngeal Inflammation.—A great many cases of influenza began with moderate coryza and faucial or pharyngeal soreness. In fact, faucial redness was found to be an early objective symptom of considerable constancy and value in the diagnosis. In 12 cases only was there distinctly marked tonsillar inflammation—not follicular—associated with the acute stage of the disease.

Respiratory System.—Laryngitis was a prominent manifestation of la grippe in 7 of my cases. There was little or no fever at any time; and the general aching and depression were seldom present to a degree that required a stay in bed longer than one day. The onset was characterized by sudden huskiness of the voice, and, within twenty-four hours, speaking became a mere wheezy whisper. It may be worthy of special record that, by stethoscopic auscultation over the thyroid cartilages of the larynx, in every case, one or two high-pitched dry or sibilant râles were heard, and during expiration only. In one case of influenzal laryngitis the nervous depression, although slight, lasted a little over three weeks.

Bronchitis was more or less common in nearly all of the cases, but I have noted 23 in which this was especially severe. And yet, the almost total and continued absence of any physical sign—any interrupted respiratory murmur or dry or moist bronchial râles—makes one hesitate to call the cause of the distressing, irritating, and exhausting coughs and substernal sense of tightness and oppression a real bronchitis. Indeed, it seemed that the cough was due rather to bronchial nerve irritation—in view of the selective affinity for nervous tissue by the active bacilli or toxins of this disease—or to congestion of the mucous membrane, with scanty, tough exudation, if any at all.

Marked dyspnea was a feature in several cases without, however, any symptomatic or physical evidences of cardiac, pulmonary or renal complications to account for it; and hence the inference that it was purely nervous in origin is probably a fairly true one.

Bronchopneumonitis was associated with influenza in 5 cases, having developed within six or seven days after the first symptom of the "grip" attack. The only physical signs of diagnostic value were those elicited by auscultation; especially in children were palpation and percussion of no service, because of the thin, elastic chest-walls and normally exaggerated resonance as compared with adults, so that any relative dulness that the small area of catarrhal consolidation might produce was practically eclipsed by the surrounding resonance rendered all the deeper and louder in tone by the tympanitic quality resulting from the adjacent relaxed and congested lung tissue. One case, in a very old man of gouty habit, with a patch of consolidation about the size of a small orange below the left scapula, terminated in an abscess and final healing. Soft pleural friction sounds were heard over the area. Thick greenish-yellow pus was expectorated freely for two weeks.

Dry pleuritis over small areas in the postero-axillary region was associated with 5 cases of influenza. In 4 cases of pulmonary tuberculosis, the dry pleuritis over

the seats of consolidation was distinctly aggravated, as regards pain, cough and pleural crepitation, during superadded attacks of la grippe.

Gastrointestinal System.—Anorexia was common in most cases, but in 4 instances the depression of function was so extreme as to be really quite distressing for two or three weeks. The tongue was heavily coated and flabby, as in cases of chronic gastric catarrh, and while nausea and vomiting were absent, the aversion to all food of even the most delicate and appetizing preparations and service was so extreme as to necessitate rectal feeding for a while. In 3 cases—all women—the attack of influenza produced such nervous irritability of the gullet and stomach that the taking of liquid, soft or solid food gave rise to immediate painful oppression and efforts at eructation or regurgitation back of the precordial and epigastric regions, due most likely to cardio-spasm and pyloro-spasm. Flatulence and sluggishness of the bowels were present in a few cases otherwise normal in function. In 2 instances deficiency of liver action was pronounced, as shown in pasty, clay-colored stools, although jaundice was not evident.

Cardiovascular System.—In 3 severe or fulminant cases, two of which were in children, acute dilatation of the heart³ was demonstrable by percussion, with diffuse, tumultuous ventricular impulse, and soft, short, systolic, blowing murmurs of relative insufficiency at the auriculo-ventricular orifices. These physical signs disappeared completely in convalescence. Tachycardia, with a pulse-rate of 142, though not much out of ratio with the temperature, namely, 105 F., occurred in a woman of 74 years of age. Bradycardia, however, was a remarkably frequent accompaniment of influenza recently during the convalescent period. This was especially noted in 13 cases, all adults with the exception of a girl of 11 years, who had a very mild attack; after defervescence, which occurred the third day, her pulse-rate varied between 56 and 65 for several days. In the other instances, abnormally infrequent pulse-rates varying between 44 and 60, and lasting from three to seven days was the usual occurrence. Nervous depression and sub-normal temperature were often associated, as observed also by Byrne.⁴ From confirmatory conversations with a number of practitioners it would seem that bradycardia during convalescence has been a marked feature in recent cases of influenza. Painful, excessive throbbing of the abdominal aorta was a prominent symptom in one young woman of hysterical tendency.

Vasomotor disturbance, in the form of greatly exaggerated and depressing flushes, was a feature throughout the course of the attack in three women passing through the climacteric. The pulse was peculiarly irregular as to rhythm and volume, along with occasional intermittency and persistent compressibility in 7 cases convalescing from "grip."

Influenzal Nephritis.—There were 2 cases of acute nephritis, from the causation of which everything could be excluded except influenza. Both patients were males: one aged 38, the other 18 years—seen with Dr. T. V. Crandall. The former had had a chancre, and had been a heavy drinker of alcoholics. The onset in both cases was sudden and characterized by the general pains and febrile disturbances so common, followed, in a few days, by a puffiness of beginning dropsy. Albuminuria was copious, one-third by volume in the older man, and a trifle over one-half in the other; the tube-casts were more abundant in the urine of the younger man, and were covered with renal cells and leucocytes, but later became granular. The older—syphilitic—patient died

in uremic delirium; the younger had extreme anasarca, but is now on a fair way to recovery, with free urine of 1018 sp. gr., only an occasional cast and, as yet, no distinct cardiovascular changes.

Herpes labialis was observed in 30 per cent. of the cases; but no skin eruptions similar to scarlatina or measles, as reported by Herman,⁵ were witnessed by me.

Complications.—There were 2 cases of influenza which, during the decline of the fever, but before the normal was reached, were complicated with lobar pneumonia, one in the right, the other in the left lower lobes, with pronounced pleuritis at the same time. Both cases ended in pulmonary abscesses. One patient was a boilermaker, recovering in three weeks; the other was a colored sexton with a tubercular family history, and is now—June 4—in his fourth week of typhoid fever with the abscess cavity gravely retarding his chances of recovery.

Nephritis as a complication occurred in one case, a young schoolmistress, while suffering from a recurrent and fatal attack of "grip" during the second week of April. Her first attack, from which she recovered fairly well, lasted throughout the last week in January and the first two weeks in February, and was complicated also with extensive right-sided fibrinous pleuritis. It should be stated, too, that she had had chronic rheumatic endocarditis with mitral insufficiency and cardiac hypertrophy for twelve years.

Peripheral neuritis complicated 6 cases; in 2 the shoulder was affected. There were occasional burning pains, increased on motion of the deltoid and triceps, felt in those muscles, and passed along the course of the circumflex nerve, and of the musculospiral nerve at the insertion of the deltoid tendon, but not below the elbow. In 2 cases the neuritis was limited to the antero-external surface of the thigh—anterior crural nerve—and in two others, to the lower part of the leg, coursing especially behind, one the external, the other the internal malleolus, and over the instep, apparently quite superficial. These neurites developed usually during the beginning of the subsidence of the most acute symptoms and lasted from three weeks to two months. Paresthesias and slight paresis were noted, but no palsies.

Upon other diseased conditions the complicating effect of influenza was always varied, sometimes interesting and seldom absolutely negative. It was my experience, however, that whereas superadded influenza was fatal in but one instance—that one of chronic endocarditis previously referred to—the fatalities were more frequent in which influenza was itself complicated with some other affection. In a case of gastric ulcer in which blood was vomited copiously several times, the only effects were elevation of temperature, moderate bronchitis, and slight delirium for six days. In 2 cases of emphysema the chronic bronchitis was very much aggravated, the sputum became purulent and viscid, and the cough distressingly hard and weakening to the body. Cardiac dilatation and dyspnea were threatening in one case. Four cases of dry tubercular pleuritis were marked by pain, cough and increased friction murmur. An aged Jewess, with kyphoscoliotic chest, chronic adhesive pleuritis and chronic bronchitis with emphysema, suffered great intensification of cough and dyspnea; the bronchitis became purulent, and fever and marked prostration ensued. In 2 cases subject to asthmatic attacks for years, the effect of influenza was to develop these attacks with intensity, and in both cases to give rise to purulent bronchitis. One of the patients had had hay asthma, coming on late in August, for many years,

never at any other time, but said he suffered the same during his "grip" attack. Three cases of chronic valvular endocarditis affected with la grippe showed some cardiac arrhythmia and dyspnea. A walking case of pernicious anemia manifested only irritative dry tracheo-bronchial cough and increased weakness and dyspnea, and recovered nicely within ten days. In a case of large uterine myofibroma there were several attacks of fainting and increased uterine pains and a hemorrhage. The pains and after-depression in two cases of dysmenorrhea were considerably increased during the influenzal attacks. A woman of 56 years, of lithemic habit, who had been under treatment for neurasthenia for three months, was seized with an attack of influenza in the middle of April, while convalescing, and suffered great physical prostration and considerable cardiac irregularity for two weeks.

I hesitate to do more than mention that two cases of tertian intermittent malarial fever came under my care during the height of the "grip" epidemic; for, although no estivo-autumnal parasites were found in the blood of either patient—only the tertian hyalin and pigmented forms—I know of no data which would justify the claim that influenza is a predisposing cause of malarial attacks, even when so exceptionally prevalent during a season characterized by the recurrence of plasmodial activity in persons having had one series of paroxysms, as occurred in both of these cases last autumn; still it may not be altogether a hypothetical blunder to assert the possibility, at least, of such an etiologic relationship.

Recurrences.—There were four persons in whom second attacks of influenza were experienced after complete recovery from first attacks—hence, not relapses—after intervals varying from three to six weeks. Two were primary cases of pulmonary tuberculosis, one was a case of chronic valvular endocarditis—mitral—and one a woman at the menopause.

Sequels.—The following were observed: Unilateral sweating of the right side of the face and neck only, in a man aged 42; this symptom was noticed first two weeks after convalescence, lasted six weeks and disappeared unassisted as suddenly as it came on. Phlyctenular keratitis occurred two weeks after an attack of influenza in a negro boy 3 years of age, with a moderate degree of rickets. Erysipelas of the face and neck followed one week after a "grip" attack in a middle-aged woman, and terminated in an egg-sized abscess at the base of the left posterior anatomical triangle of the neck—inner portion of supraclavicular fossa—with recovery after incision and drainage. Melancholic depression lasting nearly two months followed a severe seizure in a woman aged 52, in the climacteric. Total deafness resulted in a girl of 3 years, who had severe head pains and delirium for one week. Paraparesis lasting several weeks was present also, but cleared up completely. Neuritis in the left shoulder in 1 case; and marked physical prostration and lack of ambition to resume any work whatsoever for some time after convalescence was established, were common to many patients.

Discrimination from other Affections.—It is not my purpose to enter into any details concerning the diagnosis or differentiation of influenza from other diseases. But closely woven with the warp threads of the clinical features previously outlined are the woof threads of diagnosis shuttled to and fro often in the judgment until the morbid design is complete, true, well-defined, substantial and therapeutically suggestive. So that, it may suffice to mention merely those affections that, in my ex-

perience, entered into the question of diagnosis. Thus, the symptoms of onset and development not infrequently made it necessary to decide upon influenza by the exclusion of the following diseases, principally: Acute muscular rheumatism or myositis, follicular tonsillitis, measles—in children, prior to the skin eruption and in the absence of Koplik's spots—intermittent malarial fever, cerebrospinal meningitis and typhoid fever—in lingering febrile cases.

In conclusion, among certain reflections that may be expressed based upon a study of some of the clinical and epidemiologic characters of influenza recently prevalent, are the following:

1. The disease has a ferret-like selection for "weak spots"; for the defective strands in the systemic rope, and especially for nerve tissue. Huchard⁶ believes that the frequent pulmonary congestions met with indicated lower arterial pressure due to paresis of the vagus and diminished elasticity of the pulmonary vesicles.

2. The prominence of suppurative complications. Reading the recent classical Wesley M. Carpenter Lecture, by Dr. F. A. Packard, on "Infection through the Tonsils," makes one alert to the probability of the tonsils being gateways for the entrance of pus staphylococci and streptococci, as well as the bacilli of Pfeiffer. Congestive redness of the fauces appearing a day or two before the attack has been testified to by a number of careful observers. Huchard refers to the seriousness of secondary infection induced even in mild or attenuated forms—of influenza—by lowering the resistance and exalting, seemingly, the virulence of the ordinarily harmless bacteria of the body. It may be well, as Cotton suggests, that the intractable cases of la grippe are due really more to a streptococcus or staphylococcus infection, similar to the various resulting suppurative complications in pneumonitis, tuberculosis, scarlatina, pertussis, diphtheria, tonsillitis, and so on.

3. The relation of seasonal and meteorologic conditions to the prevalence of influenza and certain complications, as pleuritis, pneumonitis, neuritis and tonsillitis: The height of the severity of the "grip" epidemic was unusually late in coming this year—1899-1900—last year having been more of a normal seasonal "grip" year, the height lasting about seven weeks, beginning in the first week in December, 1898. As my notes show, there was a progressive increase in the number of cases of influenza from late in December, 1899, till April, 1900, the climax of the recent epidemic occurring during the six weeks from the middle of March to the end of April. My influenza cases numbered 5 in December, 12 in January, 22 in February, 35 in March, 47 in April, and 7 in May, 1900.

Now, as shown in a paper read by me in May, 1899, before the American Climatological Association,⁷ influenzal outbursts are preceded by relatively warm, moist, and calm weather, but prevail with the onset of cold, clear, dry and windy weather, when the meteorologic data show an abnormal increase of the barometric pressure, lower temperature, abnormal temperature ranges and diminished equability, lower percentage of relative humidity, and increased prevalence of north and northwest winds. These observations I was able to confirm during the recent epidemic in connection with practically all of my case groups.

The meteorologic conditions favorable to the epidemicity of influenza prevailed at a time when the respiratory complications noted are usually favored, also, as independent affections, that is, after a remarkably warm and mild breeding December we had a re-

markably late and cold spring, a season when the imprudent and impatient expose themselves too much and clothe themselves too little; insistently and recklessly making a fetich of a date or a festival to change their attire instead of sensibly adapting themselves to the axiom that they can not change the weather—hence the anginas, pleurites, pneumonites and neurites.

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SURGICAL CIRCUMCISION.*

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It would be a work of supererogation to recite here the indications for removal of the prepuce; your specialty has made them an every-day occurrence through the whole gamut, from those immensely elongated foreskins with adhesions, concretions of urinary salts and smega, to the barely enlarged fold which causes no perceptible local disturbance and yet provokes most serious reflex conditions. I believe that my experience does not differ from that of other genito-urinary specialists, who are often called in by pediatricists or general practitioners to operate, and afterward learn that the removal of an almost normal foreskin was followed by cessation of enuresis, infantile convulsions, or glycosuria that had resisted other treatment.

How should circumcision be performed, and who should perform it? The preparation of the field of operation is naturally the same as that employed for any other surgical procedure, and the details and precaution to be observed are necessarily the same.

Ordinary humanitarian sentiment prevents consideration of circumcision without anesthesia. It is perfectly true that millions of infants have been circumcised while entirely conscious, and no subsequent evil has befallen them; I do not believe, however, that any physician would rend a mother's heart by so torturing her babe. It is specious to hold that an infant's sensibilities are not sufficiently developed to permit it to perceive pain. If so, why does the infant cry when a maladjusted pin pricks it, or when its delicate skin is irritated by a badly folded or moistened diaper? Is it logical to assume that its shrieks of agony, when the foreskin is cut or torn off, are but reflex?

The choice between local or general anesthesia is necessarily governed by the age and condition of the patient. As a rule, general anesthesia should be employed in all children under the fifth year, provided no cardiac or pulmonary condition prohibits. General anesthesia too may be necessary in older children, whose mothers have striven to render them unfit for the battle of life by pampering them into milk-sops, or by convincing them that they are not born to suffer even the slightest inconvenience under any circumstances.

* Presented to the Section on Diseases of Children, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

Those brave little fellows whose mothers reared them properly in the just pride of giving *men* to the nation, are easy subjects of local anesthesia when circumcision is required. Some of these will insist upon being so placed that they can see every step of the operation and ask numerous amusing questions while it is being performed.

When deliberately done, the operation requires but a short time; the few instruments for the purpose are in every pocket-case. When carefully performed, under strict aseptic precautions, it leaves, within four to seven days, a union of skin and mucous membrane as perfect as if the patient had been born without a foreskin.¹

Simple as is the technique of this circumcision, it in great part answers the question, "Who shall perform circumcision?" We might stretch a point in this regard when viewed as a religious rite, if those who perform it had received the instruction to do a surgical operation in a surgical manner. Considering the origin of the operation in detail would lead us into the domain of theology, which we have as little ability to invade as have non-medical men to perform surgical operations. But we may recall that when Moses laid down the law of circumcision the priests were not only theologians, but law-givers and physicians as well. Five thousand years ago diseases were necessarily treated and operations performed in the light of the then existing knowledge. The extraordinary vital resistance of the races and of individuals who are circumcised may account for the wonderful escape from infection, which the majority of infants undergo. The Mohelim or Mauhelim in different regions perform the operation differently. All grades of uncleanness are common. Some circumcisers suck blood from the cut; no one is deputed to ascertain that the operator (sic) is free from tuberculosis, syphilis, carious teeth, or even that he has a clean mouth with which to perform this filthy act. Others squirt a mouthful of wine or vinegar over the wound from an equally unexamined mouth. Some, it is true, have a very neat set of instruments for performing the operation, but none of them have as much as a bit of sterilized catgut to ligate the artery of the frenum, should it be cut. Others tear the prepuce with the thumb-nail, which is kept long for the purpose. The fact that finger-nails can not be kept aseptic suffices to denounce this method.

It would be un-American to deny any one the performance of an act which his religion demands. But when this act entails a surgical procedure upon a defenseless babe, the safeguards that should be placed around it furnish a question that jurists may well consider. Sociologists and political economists, too, might well investigate whether the risks of spreading syphilis, tuberculosis, erysipelas and other diseases by non-professional operators outweighs any fancied encroachment upon the rights of the individual. A glance at textbooks on law teaches that even the unborn have rights; has not the child a week old an inherent right to protection from infection? Has not the public a perfect right to protection from the spread of disease? Does not the babe when infected with a communicable disease become a menace to the public?

Last year France enacted a law forbidding circumcision performed otherwise than in the presence of a physician. This was a step toward the proper end, but

it can not prove as effective as might be desired; operators who must invariably expect asepsis of those who aid them know too well from sad experience the result of placing too much confidence in them. Unfortunately, the French law alluded to became effective at a time when our sister republic disgraced herself by a wave of irreligious persecution. The purpose of the law would then necessarily be misunderstood by the ignorant.

It is far from me to inveigh against circumcision of infants. To do so would be to defy the experience of all practitioners and particularly that of genito-urinary specialists. It would be folly to assert that the Jews of to-day are more moral than their uncircumcised brethren; the fact, however, remains that numerically those circumcised in infancy occupy less of a space in the annals of venereal diseases than do others.

While these considerations could be extended almost throughout the whole domain of medicine, I think enough has been said to ask your discussion of the following

1. Circumcision is a surgical operation, requiring all the precautions of asepsis and surgical technique, without which it is a danger to the individual and to the community.

2. Circumcision of infants, especially when the prepuce is large, contracted, adherent or deformed, is a benefit to the individual and a protection to the community.

3. The rights of individuals to the free exercise of religious liberty would be in no wise infringed if the operation of circumcision were performed by physicians.

4. The state should protect future generations by requiring that circumcision be performed by physicians.

5. If, for the sake of religious sentiment, devout Jews desire to have their babes circumcised by none but Jews, there are many Jewish physicians who could become Mohelim, so that while performing the religious rite they may conduct it as modern aseptic surgery demands.

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DISCUSSION.

DR. LOUIS FISCHER, New York City—I would like to ask the author the after-treatment of circumcision—whether he uses merely a dry gauze dressing, a dusting powder, or what?

DR. EDWIN ROSENTHAL, Philadelphia—I would like to know whether Dr. Valentine advocates—in infants 1 or 2 days old having an impervious meatus—the use of the same technique? I have never known the professional circumciser to use any sutures, simply using lint. Does Dr. Valentine advocate the use of sutures and the same technique in the very young infant as in the adult? I would also like to ask whether he advocates the performance of circumcision from a purely hygienic standpoint, even in persons in whom there is no special indication?

DR. F. C. VALENTINE, New York City—I resort to no after-treatment. Inasmuch as the gauze retains the mucous membrane and skin together, nothing more is required. The slight oozing of blood which follows the coaptation of the lips of the wound takes place into the gauze itself, thus completing the adjustment and retention of the parts *in situ*. It forms a hard ring which drops off in from four to seven days, leaving no evidence of circumcision. I think in an infant of a day or two, with merely a tight and not large foreskin, I would content myself with simply snipping the prepuce, because usually when a child is relieved so early there is absorption of the dependent foreskin so that barely any deformity remains. On the other hand, if there are adhesions of the mucosa to the glans, I would certainly remove the entire foreskin for fear of a return of the adhesions. The desirability of circumcision is too large a subject for discussion at this time, but it is generally believed that fewer Jews and circumcised Mohammedans come to the genito-urinary specialist for the treatment of venereal disease than other nationalities. I say that they are comparatively rare, and by that I mean that perhaps in an average of say fifty cases daily I see four or five Jews. In southern Russia there is a sect of Jews who do not practice circumcision, and I am told that among them venereal disease is just as fre-

1. The complete technique of painless circumcision of infants and adults is fully detailed on pages 90 to 101 of "The Irrigation Treatment of Gonorrhea, Its Complications and Sequelæ." Wm. Wood & Co., New York, 1900.

quent as among the uncircumcised of other faiths. We hear considerable of making the toilet of the prepnee, yet it will often be found very filthy in men who are singularly clean about the rest of their person. I am not prepared just yet to advocate universal circumcision.

DR. FISCHER—I saw a secondary hemorrhage following on the second day after a surgical—not a ritual—circumcision. It was not a case of hemophilia. I should like to know the after-treatment for the unusual, not simply for the normal cases.

DR. VALENTINE—It is inconceivable to me how secondary hemorrhage can occur except in cases of hemophilia. It is a singular thing, however, that hemophilia occurs more frequently among the Hebrews than in any other race. I must admit I have seen secondary hemorrhage follow ritual circumcision. Here, torsion or ligation has been required. Uncleanly people sometimes allow the circumcision wound to become dirty and infected. By the technique alluded to in my paper the parts are protected from infection, though before adopting this method I did occasionally see these cases. I saw one case of infection after circumcision by the method described in a case which had been operated on by a beginner. Examination showed a stitch abscess from unclean catgut, and a neglect of proper precautions at the time of operating. These accidents should not occur. I have never performed circumcision upon a hemophile, but should I do so the chances are that I would try the effect of suprarenal extract. I should also treat the hemorrhage on general surgical principles. Sometimes in performing circumcision a vein is cut, with resultant hematoma. Even a very small hematoma can cause considerable fever—perhaps even as high as 104.5. In one such case all that was necessary was to curette out the hematoma and re-dress the parts. Within an hour or less the temperature had dropped to the normal.

TREATMENT OF LARYNGEAL TUBERCULOSIS AT THE MONTEFIORE HOME FOR CHRONIC INVALIDS (N. Y.)*

W. FREUDENTHAL, M. D.

NEW YORK CITY.

One of the most difficult chapters in the treatment of the upper air-passages is the management and treatment of laryngeal tuberculosis. In fact, to the hospital physician this has been one of the most disagreeable tasks possible. To see these most miserable of sufferers live for months, or even years, with constantly increasing pain, for whom even the swallowing of their own saliva is a dreaded effort, has been an occurrence of every day; and we, as physicians, have been as a rule practically helpless in combatting this disease. Morphin, internally and locally, quickly reached its effectiveness in most cases, and for many patients the cocain spray is extremely disagreeable. For the last ten years I have had to attend to these patients at the Montefiore Home, where we have sometimes as many as twenty or thirty suffering from laryngeal tuberculosis in every stage possible. That under the above condition of our comparative helplessness it was not pleasant to treat these patients and see them suffer pain constantly, with occasional relief lasting half an hour or a little longer, every one will admit. Luckily things have changed in the last few years, and I confess that nowadays it is a pleasure to treat such patients. They look happier, they feel better, can swallow much better, and last, but not least, they are anxious to receive the treatment, while formerly they not infrequently tried to avoid it. All these facts have also been noticed by other physicians who have seen the patients at the above institution.

However, before I describe the methods applied nowadays, I will say that there is a stage foregoing the formation of tubercles and ulcerations in the larynx. Such conditions we can see quite often in an institution like

the above one, where there are besides the many consumptives just as many afflicted with some form of nervous or other troubles. These conditions in the larynx, which I might sum up under the name of

"PRETUBERCULOUS LARYNGITIS,"

have to be treated with as much care as the outspoken tuberculous affections of the larynx. Of course, this is done with greater ease in a closed hospital with mixed patients—i. e., tuberculous and non-tuberculous—where every one showing any of these symptoms is considered suspicious and treated accordingly. But with people who already have signs of tuberculosis of the lungs, and manifest some catarrhal symptoms in the larynx, this can and ought always to be done in private or dispensary practice as well. If in this stage a patient is treated conscientiously I am convinced that in many cases an outbreak of tuberculosis of the lungs can be avoided.

The symptoms of this stage are anemia, hyperemia and swelling. In making these divisions I agree perfectly with Otto Ringk,¹ when he says: "The treatment of this first stage is to be considered according to whether we have to deal with anemic or with hyperemic mucous membrane. The strictest differentiation between the medicaments after this point has been decided assures the possibility of success. The former naturally will need more irritant drugs than the latter.

In the anemie stage I have found the following to be of service: insufflations of zinc soziodol with sugar-of-milk, with applications of nitrate of silver in 3 per cent. solutions, liquor ferri sesquichlor. (1 to 30) and balsam of Peru with spir. vini rectific. I have not risked applying any strong astringents or caustics for fear that we might get not only a hyperemia, but as it occurred in a case of Ringk's, an edema of the entire mucous membrane of the larynx. I need not remark that such an accident is the last to be desired, and that we have to be on our guard in making applications.

In the hyperemic stage I have used, with here and there remarkably good results, the following solution: Creosote, 5; spir. vini, 10; glycerin, 50. (The creosote can be used even stronger; see Schech.) Applications of tannin, alum and other astringents have also been used with benefit. That different inhalations ought to be used besides this treatment, and that especially at this stage any catarrhal condition of the nose or throat ought to be looked after very carefully, I will only mention in passing.

After ten years' experience at the Montefiore Home, I am convinced that there exists such a pretuberculous laryngitis, and that it can be treated successfully in a number of cases, thus preventing the real outbreak of tuberculosis in the larynx. Once an erosion or an ulceration is to be seen in the larynx, we treat the patient as tuberculous. This leads us to tuberculous laryngitis itself, and we see here, as is generally conceded, four different forms, viz.: 1, the tuberculous infiltration; 2, the tuberculous ulceration; 3, the tuberculous tumor, and 4, miliary tuberculosis of the larynx. I do not wish to go into details as to the pathologic anatomy of these conditions. Allow me to remark only that I have repeatedly seen, and here I agree with B. Fränkel, miliary tubercles in the larynx. Virehow even recommends the larynx to all those who want to study the true tubercle. These tubercles, however, are located very superficially and break down at a very early stage, leaving a small shallow ulcer. This is the reason that

* Presented to the Section on Laryngology and Otology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

1. Monatsschr. f. Ohrenheilkunde, p. 180, 1889.

we so often see ulcerations but not miliary tubercles. At the Montefiore Home, where I examine the patients and watch them at a time when they show no symptoms of tuberculosis and complain only, perhaps, of a little scratching in the throat, I repeatedly saw, as I have said, some miliary tubereles.

That in the general treatment of laryngeal tuberculosis pure air is as essential as anything else, goes without saying, and this fact has been recognized by the directors of the Home. Upper Broadway—near One Hundred and Fortieth Street—where this institution is located, has become a great thoroughfare, with entirely too much dust and traffic for consumptives. Therefore, a new home with all modern improvements is being erected in the country, at Bedford Station, N. Y.; and it is the purpose to gradually remove all the consumptives to this country place. This plan will surely bear excellent results in the near future. I need not mention that general treatment is carried out, including hydrotherapy, rest-cure, etc. A great problem for us still is how to keep all these patients occupied, but I hope we shall come nearer the solution of this when all consumptives are housed in the country.

LOCAL TREATMENT.

We now come to the most important point, the local treatment. The majority of our patients are in an advanced stage, and the treatment is thus so much more difficult than it is in many other institutions. At one time the application of different powders was very much in vogue. The most important of these, which still are popular to a certain degree, are boric acid, iodol, eucrophen, dermatol, aristol and pyoctanin. The latter is recommended by Bresgen, Rosenberg, Sehech and others.

More important were the fluids used for direct application, and there is hardly any new or old drug that has not been recommended. The iodoform ether solution, which at one time could be seen in almost every clinic in the United States, is now very little used; Rosenberg's menthol with oil, carbolated glycerin, resorcin, balsam of Peru with collodion, the phenolum-sulforicinicum, the injections of creosote and orthochlorophenol in glycerin, all have their followers, and have been applied with some satisfaction in a certain number of cases.

Lactic Acid Treatment.—The remedy par excellence, which for the last ten or twelve years has predominated over all, is lactic acid. I can speak with a certain authority about lactic acid, as I witnessed the very first experiments made in Berlin in 1885, by Professor Krause, and followed up some of these cases until their death. Since 1885 I have used lactic acid constantly. I know its advantages and disadvantages. We had seen tuberculous ulcers heal under nitrate of silver, under zinc chlorate, and other astringents, but it was claimed that the proportion was larger under lactic acid. There was some truth in this assertion, and I myself applied lactic acid during all that time, merely for want of something better, for I knew how many patients dreaded these applications—the pain, which sometimes lasted from ten to twenty hours after lactic acid had been rubbed into the ulcerations, was terrible to them, and others again feared the spasm of the glottis more than their usual pain. In a dispensary, where consumptives come and go, we do not notice how many stay away from such treatment, and judge only from those who remain. It is different in a sanatorium where the same patients are seen constantly, and I know quite a number who used all kinds of excuses only to stay away from the lactic acid treatment. It is different now. Since new drugs

have given us the ability of making these people comfortable, they anxiously wait for treatment, and I have seldom known any one to miss it voluntarily.

Menthol-Orthoform Emulsion Treatment.—The way we proceed is the following: We generally cleanse the larynx, if this be necessary, with any indifferent spray, or swab it with cotton, etc. This is advisable also when there are secretions below the larynx in the trachea and down to the bifurcation. This previous cleansing makes the patients cough up the greater part or all of this secretion, and they can retain the drugs better. Whether these drugs do not in this way reach some ulcerations in the trachea which can not be seen by laryngoscopic examination, is a question which I should not like to decide here. It is, however, conceivable that fluids especially run down the trachea and gradually reach deeper ulcerations in the trachea.

After this cleansing a powder consisting of saccharated suprarenal gland—about 3 to 6 grains—is insufflated into the larynx mostly, on to the ulcerations. I do this in the beginning of the treatment, when I do not know the toleration of the patient, for the following drugs. But now it seems to me almost rational to use it in all cases of dysphagia, as it helps to prolong the local anesthesia. I have entirely abandoned the use of cocain for these cases, and this for several reasons: 1. The paresthesia following the application of cocain is very disagreeable to many patients. 2. It undoubtedly affects the heart in some cases. 3. The solution decomposes quickly—this holds good for all cases. The powdered suprarenal gland has no toxic effect if applied in this manner; it does not produce the paresthesia, but on the contrary, within one-half to one minute, a pleasant cooling sensation sets in, and it does not decompose readily in this powdered form.

The next step is the application of my menthol-orthoform emulsion. I have been using this emulsion for over two years, and the more I use it the better I like it. Carl Kassel was the first one to use an emulsion with olive-oil. He says² that my emulsion is a great improvement on his, but that a bad taste persists after its use. I have never heard any complaint of this from any patient, nor from any other physician, and I think the Doctor is mistaken in this respect. If anything, the taste of the menthol-orthoform emulsion is pleasant.

There can be no doubt that the anesthetic properties of the orthoform on the mucous membranes of the ulcerated larynx are of immense value. And there is no longer any question that by means of the application of orthoform we are able to relieve pain, and cause a disappearance of the difficulty in swallowing, lasting, according to my present experience, from a few hours to three, four, or even five days. These patients are not only able to take nourishment readily, and thereby are placed in a better position for a possible cure, but in favorable cases we completely remove the pain.

In all irritations of the larynx menthol is of excellent service. No doubt the good results obtained some fifteen years ago, by my friend Prof. A. Rosenberg, of Berlin, with injections of menthol with oil, were due to this fact. It relieves the cough and with this much of the secretion. This is the reason I added menthol to the above emulsion. I use the following:

R.	Menthol.	1, 5, 10 or 15
	Ol. amygdal. dulc.	30
	Vitelli ovorum	25
	Orthoformi	12 5
	Aquæ dest. q. s. ad	100
Ft.	emulsio.	

2. Ibid., p. 245, 1899.

I commence with 1 per cent. menthol in this emulsion, and as quickly as the toleration of the patient permits I increase it to 10 per cent., and it has been in the rarer cases only that I have used 15 per cent. menthol. This is a drug that causes a burning pain, especially if applied as it has to be done, directly on the ulcerations. But as I should not like to miss its good effect, as above stated, I frequently induce preliminary anesthesia with the suprarenal gland. But many patients tolerate menthol without any pain whatever.

I wish to cite a few examples of cases treated in this manner.

C. B., 48 years of age, a cigar-maker, had been forty years in the United States. His mother died of dropsy, his father of old age, and one brother of tuberculosis. He has three children; one child died of pneumonia. He was a moderate drinker, but heavy smoker—20 to 30 cigars daily. Six years ago he had some diseases of the lungs, which kept him in bed five weeks.

Oct. 17, 1899, when seen, he was below the average height, and somewhat poorly nourished. Percussion was dull in the upper left portion anteriorly and posteriorly, with tenderness on percussion in many places, especially on the left shoulder. Over both lungs were numerous small moist râles, especially over the left apex; over the right apex expiration was roughened and prolonged. The spleen was enlarged and palpable, and there were tubercle bacilli in the sputum. The larynx showed interarytenoid infiltration with papillomatous excrescences, slight ulceration on the right side of the epiglottis. I injected menthol-orthoform emulsion—menthol 10 per cent.; no cocaine.

By March 22, 1900, the ulcerations on the epiglottis were healed, and the interarytenoid infiltration had disappeared. The epiglottis was now marked horse-shoe shape, and much thickened. There was no pain till the day before. A broad, somewhat deep ulceration on the right aryepiglottic ligament was to be seen. For experiment, no application was made.

On March 26, pain in swallowing was severe, and he could eat but one meal daily. The ulcer was covered with a thick tenacious phlegm and debris. Cleansing of the ulcer and application of menthol-orthoform emulsion was tried, and repeated March 29, with such success that on April 2 the patient felt much easier again and could eat, but had some pain. The ulceration looked clear, and was only superficial.

On April 16, there was renewed attack of pain on the right side of the larynx. The right arytenoid was enlarged and edematous.

April 21, after a quantity of badly tasting pus had been expectorated, the patient again felt easier.

On May 14, subjectively, the patient remained the same during all the treatment; i. e., under regular treatment with orthoform-menthol emulsion he could swallow all the food he wanted, and his appetite being good he ate well. Only when taking thin fluids as water, tea, etc., he had to be careful, else he would get a paroxysm of coughing which would be followed by vomiting. Objectively his condition was worse. The epiglottis was very flat and very much thickened; the aryepiglottic ligaments—especially the right one—were infiltrated and the arytenoids enlarged. The ulcers would come and disappear again after treatment.

I selected this case first to show how a man with such advanced laryngeal tuberculosis can go around eating his meals regularly, joking and enjoying life. Of course, *quoad finem*, his prognosis is doubtful, especially as the condition of the lungs became worse. But if this man has to die we have at least saved him months and months of terrible, sometimes almost unbearable, pain. Besides, we have given him the possibility of being nourished well for the last six months, and if his power of resistance is strong enough he has another and greater chance of recovery. That such ulcerations do heal under the treatment mentioned, this case has shown repeatedly.

Before giving the history of the next case, let me quote from a former article of mine regarding surgical intervention in such cases. I remarked³: "I am able to report 29 cases the history of which I have found, although I know that more than double this number have been operated upon by me. I will, however, base my conclusions only upon these 29 accurately described cases. Of these 18 were not improved, in 7 a slow amelioration occurred which could be attributed to the operation, and in 4 an almost immediate improvement took place. Of the 18 unimproved cases, 13 were in an advanced stage of pulmonary phthisis, that is, with formation of cavities, etc., and 5 were in the earlier stages. None of these 18 patients experienced any relief after curettement; the majority, indeed, attributed the deterioration in their health to the operation, and in many cases I was of the same opinion. I was struck by the fact that a large number of infiltrations, with or without formation of ulcers, were in the interarytenoid space, forming the well-known polypoid excrescences on the posterior wall. In the 7 patients of the second class slow improvement occurred, and I have noted this in affections of almost all parts of the larynx. As this amelioration constantly followed on the surgical treatment, I consider myself justified in ascribing it to the latter. In considering the last 11 cases, one would be inclined to regard these surgical operations in the nature of a salvation, but unfortunately we must not lose sight of the first 18 cases, in which the results were not good. And if I were asked to give the indications for curettement I would not be able as yet to state them accurately, in spite of the fact that many laryngologists have studied the subject for over a decade. An important factor is that we are still unable to observe or appreciate the extension of the tuberculous process to the invisible portions of the larynx, or the contiguous parts, or otherwise to form an idea of its progress, which is governed by laws as yet unknown to us. As for me, I always regard such intervention as an experiment, and leave the decision to the patient. We learn, therefore, from the above statistics, that while we have been able to effect some excellent results, we have not been spared marked disappointment in a large number, and, indeed, in the majority of cases."

This was my standpoint somewhat over a year ago. I therefore resolved to try for one year without curettage. There were several cases in which, according to former views, curettement was indicated. Although I was tempted to do it repeatedly, I abstained, and after a year's trial without curettement, I believe my patients are just as well and perhaps better off than they would have been with the operation. Whether in the future I might not come across any cases in which it will be indicated, I can not say. My present view may be illustrated by the following case.

M. G., 49 years of age, a waiter, had been four years in the United States. His father died at 46, of some sudden throat illness, his mother at 58, of pneumonia; two sisters, two brothers and his wife and children are all well. He was well up to three years ago, when he had a chill, and on the following morning could not talk above a whisper. Last winter he began to cough and expectorate; no pain, but could not eat; had night sweats; has lost thirteen pounds in the last four months.

Sept. 20, 1899, there was extensive dulness over both upper lobes; exaggerated respiratory murmur; here and there moist râles. The left, anteriorly, in a limited area, showed slight bronchial breathing; there was whispered voice, the sounds not increased. The heart sounds were somewhat accelerated.

3. Phila. Med. Jour., March 25, 1899.

The sputum contained tubercle bacilli. The patient had had repeated hemorrhages.

When my service commenced, on January 1, he had outspoken tuberculous laryngitis, especially infiltration of the left ventricular band. This infiltration was so marked that it covered the whole vocal cord. There were superficial ulcerations on the left aryepiglottic ligament, and the patient had considerable dysphagia. He received injections of orthoform-menthol emulsion, first only once a week, then twice weekly, and felt very much improved. During my temporary absence from the service he did not get the injection, and felt worse. His condition improved as soon as I resumed the treatment. No ulcerations were to be seen, but he felt better after the injection.

Now, after five months' treatment, the patient is in such a condition that he very rarely complains of pain. The infiltration is so much less that the vocal cord can be seen; there are no ulcerations, and the thickening of the left aryepiglottic ligament has disappeared. The patient would not think of submitting himself to operative interference, and I am of the same opinion. There is a great possibility that if we stopped with the orthoform-menthol emulsion his pain would return, also his irritating cough, and through that probably ulcerations and infiltrations (?) too. But as long as these injections can be administered so easily, why discontinue them? Why try anything else?

There is one point I can not emphasize enough, viz., to make these injections carefully. If one is in a hurry and injects the whole syringe at once, in most cases a coughing spell will set in, and bring up all the emulsion. This will occur even when the preliminary anesthesia of the larynx with the suprarenal gland has been effective, as much of the emulsion goes down into the trachea. But if one is a little careful and injects the emulsion slowly, it will adhere to the surface, and the good results will surely appear.

Treatment with Oil.—There are some patients, however—and luckily they are the exceptions—who can not stand anything, be it cocain or anything else. They gag at the slightest provocation, or they vomit just as easily. These are patients who lack the smallest particle of energy, or who are exhausted from a very long illness, and near the end. For this class I have tried olive-oil.

Last year Paul Cohnheim, an assistant of Boas, of Berlin, reported the case of a man with *ulcus ventriculi*. This man, on his own account, had for weeks taken large doses of linseed-oil, and was thus cured. The oil worked like a grease—lubricant—by diminishing or abolishing the friction. We see this, as Cohnheim correctly says, in other parts of the body, too, as for example in the urethra and anus. Just as easily as large masses of feces pass the anus with comparative ease, even in the presence of rhagades or ulcers, so does food pass the oiled stenosed pylorus. Rosenheim applied this treatment in carcinoma of the esophagus, with surprisingly good results; also Boas and Akimo-Peretz saw good results. The latter gave 50 to 100 grams of an emulsion of oil of almonds daily before each meal.

I read all this only a short time ago, and it occurred to me that by lubricating the esophagus with any oil the food ought to pass more readily through that difficult place behind the infiltrations or ulcerations of the larynx, thus partly, at least, relieving the dysphagia. The first case treated in that way was that of M. Y., 34 years of age, a salesman. He was suffering from advanced tuberculosis of the lungs, and complained of great dysphagia and ulcers of the tongue. He was so weak that he could hardly sit up. An examination of the larynx was impossible, as he had too much pain in

holding out his tongue. Insufflations with the suprarenal gland, or injections of the menthol-orthoform emulsion, or even cocain, were useless, as he vomited up everything. I therefore tried to improve his lingual ulcerations first. These were situated on and around the tip of the tongue. They spread especially on both sides, and under the tongue at least an inch in each direction. There was no diabetes nor any specific infection. In this case even the concentrated lactic acid had been used before he entered the home, with no good whatever. The application of the menthol-orthoform emulsion had the same negative result, and I am almost inclined to believe that orthoform has very little effect on the tongue, but as yet I can not judge sufficiently in that respect, as these cases are rare. At any rate, he did not improve, and as an experiment I gave him a glass of olive-oil one-half hour before his breakfast. After four days he said he could swallow a little easier. I now had 10 per cent. nitrate of silver applied to his tongue, and injected, into the larynx, a few drops of the menthol-orthoform emulsion, which he retained. The olive-oil was continued, and three days later he again felt better and I was able to examine his larynx. There were deep ulcerations on the epiglottis, and both aryepiglottic folds. The vocal cords were irregular and ulcerated. His tongue improving but slowly, I again tried lactic acid for it, but if anything it made it worse.

These cases of lingual tuberculosis are not frequent, and I just recall one case by C. E. Bean, of St. Paul.⁴ He says: "Lactic acid has been very much vaunted, and one or two cases are reported as having been cured by means of this remedy, well rubbed into the ulceration; but the numerous failures to even afford temporary relief seem to demonstrate the fact that it is no more to be depended upon when the disease is situated in the tongue than when it has been developed in the larynx; and the result of treatment in that location has been disappointing." My experience is about the same. I can not report much more about the patient, except that within a few days he could swallow a little easier, and that he left for Europe.

The next case I treated with olive-oil was a private patient: N. O., 48 years of age, a business man. Eighteen years before he had acquired syphilis, and for four years had had tuberculosis. He complained only of great dysphagia, and the conditions were about the same as in the previous case. He rejected everything, and an examination in his bed was impossible. I ordered one glass of olive-oil every morning, which he took with great reluctance. After five days the house physician reported to me that there was some improvement in swallowing. I then saw him three days later, and after taking the olive-oil with great disgust he felt much better, as he had been able to take quite a little nourishment. As he had now decided to leave for the country I did not make any further trial with orthoform, etc., but advised him to continue for some time with the oil. At this last visit I saw in the larynx all the symptoms of advanced tuberculosis. A few weeks later I heard that his dysphagia was improving steadily. In the two other cases treated with olive-oil, I did not see any improvement whatever, and I shall not report them in detail. However, I consider it just, in suitable cases, to give this a further trial, and shall do so in the future.

Phototherapy.—The last of our resources in treating laryngeal tuberculosis is phototherapy, or treatment with the electric or sunlight. I have had some results

4. Bean, C. E.: Report of Two Cases of Buccal Tuberculosis, N. Y. Med. Jour., Sept. 14, 1889.

with that treatment, but I have not reached any final conclusions in regard to it. However, I shall publish all my experience in phototherapy in the near future.

Heroin for the Cough.—And now one word about the bronchial cough in these cases. Among the most distressing symptoms of laryngeal tuberculosis is the concomitant bronchial cough, which is often of a most harassing character, and contributes materially to the patient's exhaustion by preventing rest at night. For its relief we were formerly forced to rely on morphin and codein, although both these drugs left much to be desired. Aside from its well-known after-effects, morphin is particularly objectionable because of its tendency in many instances to disturb the digestive organs, and thus impair the patient's appetite. Codein, while in general preferable to morphin, has the disadvantage of being uncertain and unreliable in action. The introduction of heroin has been a decided advance in the treatment of cough in phthisical cases. In an article on the "Treatment of Dysphagia and Cough. Especially in Tuberculosis,"⁵ I have reported my preliminary results with this new drug, which were most favorable. Since then its continued use has given very satisfactory results. The irritable cough in tuberculous patients frequently yields to the administration of heroin, and this occurs in cases in which both morphin and codein have proved completely inefficient. The action of heroin in modifying the respirations by diminishing their frequency and increasing their force, renders the breathing much easier. Aside from some lassitude and slight constipation, I have never observed the least after-effects from heroin, and as my experience relates now to several hundred cases in dispensary and private practice, I feel convinced that the drug is perfectly safe when used with ordinary precautions. In several instances, however, the constipation was sufficiently marked to call for the administration of laxatives, such as extract of cascara sagrada and aloin. My observations in this respect are in accord with those of Einhorn, Manges, and others, who have reported their results. Although we can not be sufficiently conservative in admitting to our confidence any new remedy which claims our attention, my experience with heroin has now been so extensive that I have no hesitation in assigning to it a prominent place in the list of medicaments for the relief of cough.

In summing up my experience with tuberculous laryngitis, I should like to emphasize the fact that there is a pathologic condition which might justly be called pretuberculous laryngitis. This ought to be treated with great care in every consumptive patient. Regarding the treatment of laryngeal tuberculosis we are nowadays fortunate enough to give great relief to by far the majority of these patients. Of these remedies which are so potent, I should like to mention: 1. The saccharated suprarenal gland for the induction of preliminary local anesthesia. 2. The menthol-orthoform emulsion for the production of a longer local anesthesia, and for its curative effects. 3. Olive, almond or sesame oil for the relief of the dysphagia. 4. Phototherapy. 5. Heroin for the relief of bronchial cough. Lactic acid ought to be dispensed with as antiquated and barbarous torture to the patients. Finally, I would like to say that here is a large field for further fruitful investigations in which every one ought to be interested; and the more we work in this field the more relief we shall give to our patients and the more cures we will effect.

DISCUSSION.

DR. EMIL MAYER, New York City—I would like to endorse the use of orthoform for this particular condition, and would call attention to the preparation with the white of the egg, for which I believe Dr. Freudenthal is responsible; that makes a very stable preparation and one that is valuable. I have found orthoform mixes very well with some of the liquid vaselin preparations, such as benzonol, and I have used that sometimes when the emulsion was not to be obtained. It may be said also that orthoform is not only of use for the painful deglutition that is associated with the tubercular trouble, but also in those conditions following operations. Nothing will give your patient so much comfort after a tonsillotomy as this emulsion.

DR. HOLBROOK CURTIS, New York City—One thing brought out was the use of the suprarenal extract. I reported, a few months ago, my first case, and I have now three using the extract for painful deglutition, and with most remarkable results. It has at the same time a most excellent effect on the edema. I have also used the suprarenal extract in quinsy and edema of the glottis with remarkable effect. I think it will prove of great value.

DR. RICHARDS—I would like to ask Dr. Freudenthal whether this solution can be sprayed through an atomizer.

DR. FREUDENTHAL—Not this solution; I use it with an ordinary laryngeal syringe.

DR. W. FREUDENTHAL—I am glad Dr. Mayer had the same experience as I did, and I shall try this solution in benzonol, which I think will be very good. I have not used this emulsion for tuberculous cases alone, but I have used it in syphilitic cases as well. In a case that came to me recently I injected this solution for severe pain, and the patient experienced almost immediate relief. The effect on edema is very good, which is due largely to its action as an astringent.

TREATMENT OF ATROPHIC RHINITIS BY ELECTROLYSIS.

AND SOME EXPERIMENTS TO DETERMINE THE EFFICIENCY OF NEEDLES OF DIFFERENT METALS.*

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Atrophic rhinitis has been the bane of the rhinologist since the diseases of the nasal mucous membrane began to receive special attention. It is not at all surprising that the disease remained incurable during the time in which the diseases of the upper air-tract were treated by the ophthalmologist or otologist as a side issue to what he considered of more importance. Not only this, but most other diseases of the nasal cavities were considered incurable, not alone by the laity, but by the profession as well. This is hardly to be wondered at when we remember that the treatment of the different diseases of nasal cavities was much the same and consisted in the use of a spray and the application of a solution of nitrate of silver to the surface of the nasal mucous membrane or to such part of it as could be easily reached. The patients were given a spray to use at home, and I think that they accomplished as much by its use as was accomplished by the physician himself. These sprays were usually composed of varying combinations of alkalis, and each specialist had a formula of his own which he was only too apt to think was a specific. In the use of watery sprays the fact that the nose was made for the passage of air and not for water, seems to have been overlooked. That these sprays gave temporary relief, but did not cure, was at last recognized by all, and while it may be necessary for the physician to occasionally use a spray for cleansing purposes, I am inclined to think it is well for the patient to cleanse his own nose as a rule.

The medical sprayer, if you will allow the expression, did not cease to exist when he found that sprays did not

* Presented to the Section on Laryngology and Otology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

cure nasal disease, but the argument was changed and he frankly admitted that the so-called catarrhal diseases were incurable in this climate—it made no particular difference where he might be, one place was too windy, another too dusty, another too cold, in another the climate was too variable, etc., *ad nauseam*—but if the patient will use this spray, the disease will be prevented from growing worse. This advice was given to all patients, but more especially to those who suffered from one of the most horrible of the diseases of the nasal cavities, horrible not from disfigurement or from danger to life, but from the persistent and almost unbearable odor which accompanies it. In this disease it would seem that a spray might be of some use, and it undoubtedly is of some slight benefit, but there is usually not enough of it in volume or force to dislodge the crusts, and if the patients rely on the spray for treatment they are condemned to live with this disgusting odor always with them, an object of aversion to themselves and avoided by their friends. Fortunately they early lose the sense of smell and in this way are relieved of a part of their burden.

To cure this disease confers as great an obligation on these patients and their friends as the cure of any other loathsome disease. With the zeal born of specialism, earnest, intelligent men have set themselves the task to accomplish this object, and while much yet remains to do, we have already succeeded to a great extent in curing the disease. As is often the case, our treatment has outrun our knowledge of etiology, and while we are already able to cure a large proportion of the patients, we do not know as yet what part the bacteria play in the production of the disease, neither do we know how much the disease may depend upon or be influenced by the general systemic condition or by the presence of a nasal empyema, or what part the cephalic index may play as a predisposing cause. It has not yet been definitely settled whether the bacteria which are found in such numbers in the nasal cavities in cases of atrophic rhinitis are of primary or of secondary importance, and as I have nothing new to offer, I will not take your time with a review of the opinions of others on the subject. I do wish to call your attention to the importance of a close differential diagnosis between true atrophic rhinitis and disease of the accessory sinuses. That many of the cases which are diagnosed as atrophic rhinitis have their origin in a nasal empyema there is not the slightest doubt. I have seen so many cases with all the symptoms of a typical atrophic rhinitis and have found after the crust formation was stopped that there was a discharge from a nasal empyema, that I feel that the recognition of this condition can not be insisted upon too strongly. Whether the nasal empyema—when it exists—is of primary or of secondary etiological importance is a question to be decided by the physician in each case, but if we expect to be successful in treating these cases, the nasal empyema must receive attention. The diagnosis of this complicating disease is easily made. If after the nasal cavity is thoroughly cleansed we find pus appearing within a short time in one or both the pathways of the drainage from the accessory sinuses, we may feel reasonably sure that we have to deal with a collection of fluid in one or more of the sinuses. The enlarged middle turbinate which is so often found in cases of atrophic rhinitis may be the cause of a nasal empyema by interfering with the drainage from the accessory sinuses, or the cell which is contained in this enlargement may be the site of the empyema. If we are satisfied that we have to deal with a

nasal empyema as a complication of the atrophic condition, we should not hesitate to remove enough of the turbinate to improve the drainage. I have removed the anterior wall of the enlarged middle turbinate, with the most gratifying results, in cases where I had reason to believe that the empyema was the cause of the crust formation. It is always well to examine very thoroughly for a possible sinus involvement those cases which follow scarlet fever, measles, typhoid fever, diphtheria, and erysipelas. If a nasal empyema is found to exist it is unnecessary to add that it should be treated by thorough drainage. What proportion of the cases of atrophic rhinitis depend upon sinus disease is very hard to determine; from my own experience I should think fully 50 per cent. have this origin or are seriously influenced by this complication.

After this brief review of the most important complication of the disease, we will next consider its treatment by electrolysis. In 1895, at the meeting of the Belgian Laryngologists and Otologists, held in Brussels, Cheval announced that he had been able to cure 91 per cent. of his cases of *ozena* by interstitial electrolysis. This statement was received with more or less incredulity by the other laryngologists, and the method was tested very thoroughly by Bayer, of Brussels, and by many others during the next year. Bayer, who was at first skeptical, after a year's experience reported favorably, as did many others. Among the enthusiastic advocates of the method are Brindel, of Bordeaux; Rethi, of Vienna, and McBride, of Edinburgh. All observers unite in the report that there is an immediate and decided lessening of the odor and a marked decrease in the amount of crusts and that they are easily removed from the nose. The improvement often occurs after the first treatment and it rarely requires more than five or six applications to accomplish all that can be hoped for. Cheval reports that 70 patients were cured in a single sitting, 12 required several, and 3 were still under treatment. One case was improved, but not cured after six sittings. One of the most striking results of the treatment is the disappearance of all odor. This often occurs on the day of the first treatment, and it may not return for months, even though the crust formation does not entirely cease. The important question then is, For how long a time does this improvement continue? This will, of course, vary in individual cases, and may be from a few months to a year or more. McBride exhibited two cases before the British Medical Association, in 1898, in whom the improvement had lasted for a year without any return of the odor and with but slight tendency to crust formation. Brindel, while noting improvement in all, admits that it is not permanent. In the ten cases which he reports, at the time of writing there was no return of the odor or crusts, and they had been under treatment as follows: 1, eleven months previously; 3, ten months; 1, nine months; 1, eight months; 2, seven months; 1, five months; 1, three months. Of these only two could be said to be cured, that is, in which the atrophy had entirely disappeared. Hajek and Ghiari both have protested against considering these cases as cured when the odor and crusts have only been relieved, but no anatomical changes have taken place. Hendselsohn also cautions against placing too much reliance on the permanence of the cure.

If we seek for an explanation of the effect of the galvanic current upon the tissues in cases of atrophic rhinitis, we find various opinions expressed by different writers. Bayer attributes it to the effect upon the nervous system, Gantier and Javier to the deposition of a

copper salt in the tissues, Delavan to the mechanical stimulation of the tissues. If we investigate the action of the galvanic current upon living tissue we shall be able perhaps to explain the effect which it has in these cases. In doing this we must of necessity go over much ground that is perfectly familiar to you all. It may be well in the beginning to make this statement: that the passage of the electrical current, as we know it, is always destructive to cell life, that it is always and everywhere a life-destroyer and not a life-giver. If the destruction is not carried too far it may act as a stimulant and it may also have a remedial action by liberating certain elements from the tissues through which it passes or by depositing remedies in them. It is not material whether we consider the change in the cell by which this destruction is accomplished as chemical or mechanical. The galvanic current outside of the battery passes from the positive to the negative pole and when passing through living tissue carries along with it a certain amount of the basic elements of the cells, thus destroying their chemical structure. The removal of the base from the salt liberates those elements which are known as the acid-forming, and these being liberated by the current appear at the positive pole. Oxygen and chlorine are the elements that appear at the positive pole, with perhaps others in infinitesimal quantities, and they unite with the metal of the electrode and form a salt which may in turn be decomposed and the metal carried along with the current. It is evident that many things may have an influence over this electrolytic action. The first to be considered is the resistance of the tissues, which, of course, varies for the different structures through which the current passes, and while we are not able to estimate this for different tissues and perhaps different individuals, we do know that all of the current does not follow the path of least resistance; for example, if we have two substances, one of 1 ohm resistance and the other of 1000 ohms, the current will pass through the higher resistance in inverse proportion to the lesser. We have next to take account of the diffusion of the current. This is probably about equal to the diffusion which takes place when a current passes through the earth; at least we have no better way of estimating it. An electrical current passing through the earth between points one mile apart is diffused about 1100 feet each side from the center, or a lateral diffusion of rather more than one-third of the linear distance, and forms an almost perfect ellipse. There is a large conducting area for the current as soon as it leaves the needle, and, further, the current does not all pass from the needle on the side toward the other pole, and in the use of electricity in the treatment of disease it is rarely possible to place the two poles in the most favorable position to obtain least diffusion. It would seem to follow from this that the best results would be obtained when it was possible to concentrate the current, and this has been the result of experience in other branches of medicine.

After this brief allusion to some of the factors which influence electrolytic action in the tissues of the human body, we will now consider the direct effect when a positive electrode of copper or other metal is used. If a copper needle is used for the positive pole, we should expect to have formed an oxygen and chlorine compound of copper, and this was the salt that Cheval and Bayer found, by chemical analysis, deposited on the positive pole. If another metal is used—with the exception of platinum, which is not affected by the gases liberated by the electrical current—we should get a salt with the

metal used as a base. It has been claimed that the oxychlorid of copper is soluble in the lymph plasma, and some writers think that the beneficial results are obtained by the diffusion of this solution of the oxychlorid of copper through the tissues. We will speak of the solubility of this salt in connection with the inquiry into the amount of copper salts which may be obtained by electrolysis. It is interesting to inquire how much of this salt is deposited in the tissues during an ordinary treatment by electricity. According to Park Benjamin, one ampere flowing for one hour would liberate $1\frac{1}{10}$ grams of an —ic salt, or $2\frac{3}{10}$ grams of an —ous salt. It is quite probable that the salt formed in the tissues is a mixture of the two, and we will call it, speaking roughly, 20 grains of the combined salt. Twenty milliamperes, which is a very liberal dose of electricity, would therefore liberate one-fiftieth of 20 grains in one hour, and in ten minutes, the usual length of the sitting, one three-hundredth part of 20 grains or one-fifteenth part of 1 grain. To deposit 1 grain of a mixed salt of copper in the tissues would require one hundred and fifty minutes, or two and one-half hours. These figures are, of course, not absolutely accurate, but are approximately so. In this connection it is well to call attention to the question of the solubility of the oxychlorid of copper which is found deposited upon the positive pole. In Roscoe's chemistry several oxychlorids are given. He notes the most common one, which is known in commerce as Brunswick green. The oxychlorids are evidently varying mixtures of the oxid and chlorid of copper, which would, in the presence of a saline solution like the lymph-plasma, break up and the chlorid salt would be dissolved, the oxid remaining in an undissolved condition. The fact that Cheval was able to remove enough of the oxychlorid of copper from the copper needle for chemical analysis would seem to indicate that the salt which is formed upon the surface of the copper needle is insoluble. It will be seen from the varying chemical and electrolytic conditions which may influence the deposition of a salt of copper that it is manifestly impossible to determine the amount which would be left in the tissues during an ordinary treatment by electrolysis, but we may be sure that under the most favorable conditions it would be no more than the amount which I have given, and it is probably less.

It does not seem as though the deposition of an infinitesimal amount of a mixed salt of copper in the tissues could produce the immediate and lasting results which follow the interstitial application of the galvanic current; and while it is not claimed that even the small amount of copper which it may be possible to deposit possesses no remedial properties, I have not been able to detect any difference in the results when either copper, silver, steel or platinum needles were used as the positive pole, or when both poles were of the same metal. I will not weary you by giving any detailed case histories, but will simply give the summary of the cases treated: Whole number of cases treated, 15; those in which the nasal empyema was of paramount importance, 8; number treated by copper and platinum, 2; by steel and platinum, 1; by silver and platinum, 2; by platinum and platinum, 2. I took the cases in rotation from my clinic and private practice, and I am fortunate in being able to report an equal number treated by the different electrodes, except the steel. I have not included those cases where the sinus disease predominated, because I not only used electricity, but improved the drainage as well, and in some of the cases repeatedly

washed out the affected sinus. I do not feel that it would add to our knowledge of the value of electrolysis as a remedial agent in the treatment of atrophic rhinitis to include the good results obtained by measures directed to the relief of the nasal empyema. Of these seven cases of atrophic rhinitis, four were relieved of the odor and crust formation in one sitting, two in three sittings, and one in five. Two of them have remained free from odor and nearly free from crust formation for fourteen months, three for eleven months, one for eight months, and one had a return in a little over two months. The cases of nasal empyema were all very much benefited by the improvement in the drainage and the washing out of the cavities involved, but, as often occurs in the treatment of nasal empyema, the discharge was not entirely stopped in all of them. There is one point that should not be neglected, namely, that the improvement in the crust formation may improve the drainage from the accessory sinuses to such a degree that the nasal empyema which is an accompaniment, if it be not a cause of the crusts, is made permanently better.

I have gone very fully into the question of the deposition of copper in the tissues because I believe it is well to know, when it is possible to do so, to what to ascribe the results which we obtain by any method of treatment. It now remains for us briefly to consider the question of the mechanical stimulation of the tissues and the effect upon the nervous system of interstitial electrolysis. The mechanical effect of the passage of the galvanic current through the tissues of the body may, for all practical purposes, be considered as nothing. Even if the current produced decided mechanical effect, this would not explain the results obtained by this method of treatment, for it is a well-known fact that other forms of mechanical stimulation have to be repeated at short intervals and for a considerable length of time; for instance, those who use vibratory massage in the treatment of atrophic rhinitis recommend that it be used every other day for three months, and then at longer intervals for several months more. There is every reason to believe that the galvanic current is an irritant to the nerves when it is brought in contact with them, but this irritation lasts practically only so long as the contact exists and it hardly seems possible that the application of the galvanic current would produce such lasting results. I am very well aware that the use of electricity is vaguely supposed to be beneficial in the treatment of nervous diseases, but I think that I am stating what is the general opinion of the leading neurologists when I say that, with one exception, the use of electricity is confined to diagnosis and not to treatment. The exception is the use of the faradic current in the treatment of some forms of muscular atrophy and the unanimity of opinion in regard to its use shows very conclusively that the faradic current is not of benefit in other conditions. The action of the faradic current has been defined as a mechanical massage, and this definition explains the results obtained by its use. If the action of the galvanic current in cases of atrophic rhinitis can not be attributed to any of the theories given, to what then is it due? If we go back to the explanation of the effect produced by the passage of the galvanic current we shall find that it breaks the chemical combination of the cell by its power to attract the basic elements and that they appear at the negative pole and that it repels the elements that are known as the acid-formers and that they appear at the positive pole. The effect of a current which produces therapeutic results must be the same, only to a less degree, as that which is

produced by the larger volume of current. If the destruction of the tissues of the body by the galvanic current is mechanical, then the therapeutic effect is the result of mechanical action, but I think no one claims that this is so. As I said earlier in this paper, the passage of the electrical current always produces the same result, the destruction of the cells, and this is only modified in degree, but not in character, by the amount of the current which passes, and by the force which drives it through the tissues. Between the large volume of current which produces extensive destruction of tissue and the very weakest, which is practically inert, lies the therapeutic use of the galvanic current. The action of the current is probably mostly confined to the soft parts, as the periosteum is a poor conductor of electricity. In the chemical destruction of the cells of the soft parts, the weakest cells are destroyed first, and this occurs in two ways: 1, by the direct action of the current, and 2, by the action of the acid-forming elements which are liberated around the positive pole. That the bacteria are also destroyed by the same action, the examinations of Bayer would seem to indicate, as he found that the number of colonies was very much reduced after treatment by electrolysis. The source of the oxygen and chlorine which are liberated around the positive pole is very largely the lymph-plasm; this is composed of over 90 per cent. of water, holding in solution albumin, fibrin, fatty matter, extractive matter and salts of sodium, potassium, calcium and magnesia. Of these various salts, sodium chloride occurs in the greatest quantity, being 65.2 per cent. of the inorganic salts. From this brief review of the chemical composition of the fluid upon which the galvanic current must have the greatest effect, it will be readily seen from what source the oxygen and chlorine are obtained which are liberated around the positive pole. The water and the chloride of sodium are broken up into their constituent elements by the action of the electrical current. If an electrode of platinum is used on the positive pole the oxygen and chlorine thus liberated are free to unite with the tissues; that they remain free in the tissues or that they escape does not seem probable when we remember the avidity with which these elements unite with others to form new combinations. While these substances are formed in minute quantities, still the effect may be, and undoubtedly is, considerable. The destruction of the cells and the liberation of oxygen and chlorine around the positive pole, which unite with the other elements to form new combinations that may be, temporarily at least, acid in reaction, in my opinion, is the explanation of the results obtained in the treatment of atrophic rhinitis by interstitial electrolysis. The effect is local, and in some cases immediate, the odor and crust formation often disappearing on the day of the first treatment; and coincident with this result is the change in the character of the secretion which, from beingropy and sticky, becomes liquefied and easily removed. This would tend to prove that there was a change in the chemical reaction of the tissues, or at least of the secretion, produced almost at once.

Many of the writers advise placing the needle of the negative pole beneath the mucous membrane of the septum: I do not consider this a safe procedure, for the reason that the sodium and potassium which are liberated around the negative pole are active escharotics and are liable to cause the destruction of considerable tissue, and may even cause perforation of the septum. There can be no doubt that we have in interstitial electrolysis a remedial agent of undoubted efficacy and that

we may confidently expect from its use, in a large percentage of the cases at least, that the odor will cease, that the crust formation will be lessened, that the nasal mucous membrane will become moist and healthy in appearance, and that the secretion will become liquefied and lose its ropy, sticky character, and that these results will last for several months. It is needless to add that this is a more favorable showing than can be secured by any other known method of treatment. Electricity will not stop the discharge when this depends upon a nasal empyema, although it may have a beneficial effect upon the crust formation even in these cases; neither will it stop the odor when that depends upon the same cause. The conclusions to which I wish to draw your attention are:

1. Electrolysis has a curative action in atrophic rhinitis in so far as it stops the tendency to crust formation and the odor, in typical cases.

2. It does not stop the discharge or the odor if these are caused by nasal empyema.

3. That better results are obtained if the needles are placed comparatively near together.

4. That it makes no difference in the result what metal is used for needles, and it therefore follows that the diffusion of the copper salt is evidently not the curative agent.

5. That the improvement in the condition of the nasal mucous membrane is most noticeable in the area around the positive pole.

6. That this improvement is probably due to the liberation of oxygen and chlorine, and the chemical change resulting from the presence of free oxygen and chlorine in the tissues or the acid reaction produced thereby.

7. That the needle of the negative pole should not be placed beneath the membrane of the septum.

I wish in closing to acknowledge my indebtedness to Dr. C. L. Sopher, of Wakefield, Mass., for his valuable assistance in collecting electrical data for this paper.

419 Boylston Street.

DISCUSSION.

DR. J. F. CULP, Harrisburg, Pa.—I was very much interested listening to Dr. Cobb's paper this morning. There is one thing he did not mention, that is, the unpleasant effect following the application of the electric current in the treatment he mentioned. Such effects are sometimes even more than unpleasant. I have personally seen this method tried and violent headache follow its application. I have seen very decided earache, and I have heard of decided syncope following the application of the current. In regard to the statistics attending this method of treatment, some of them are fallacious, for I personally know of cases that have been reported as cured, and in which the physician has spoken in the highest term of the cure, that have relapsed in a very short time after the publication of the paper reporting them. Undoubtedly there is very much in the treatment, and I think I express the opinions of some of the other members of the Association when I say I would like very much to hear a little more of the detail of the application of this method of treatment.

DR. EDWARD PYNCHON, Chicago—A good idea is that of having the patient attend to the cleansing part himself. I have done this, and am not afraid of having the patient use the douche twice a day, at first, perhaps, with a solution of phenol, and afterward with bicarbonate of soda, a teaspoonful to a pint. I also insist on his sniffing, every hour, a small quantity of an alkaline solution, perhaps a one-half strength of the Dobell solution. In this way I have had no trouble in controlling the ozenous condition in atrophic rhinitis or in sinus disease. In connection with the atrophy, there is almost invariably present a hypertrophic condition of the middle turbinal upon the same side, and I have had very satisfactory results by early surgical treatment of such hypertrophied body. One thing which keeps up the condition of atrophy is the fact that there is an increased current of air in the lower part of the nose, as it can not circulate in the upper part of the nose owing to the occlusion thereof.

DR. C. M. COBB, Lynn, Mass.—In regard to the strength of current and the details and unpleasant symptoms that may result, and last but not least the duration of the cure, no one claims that these cases are permanently cured. In many instances they will stay in a reasonably comfortable condition for months. If they have been using any wash or cleansing spray at all they are very likely to keep using it, and that will often deceive you as to how much you have done. I invariably tell them to do nothing with the nose, that they may blow the crusts out, but that they should not use any spray. The treatment simply prevents any secretion sticking to the mucous membrane. Whether there is just as much secretion, or whether there is more I can not say, but it does not stick and form crusts. I use a platinum needle, which is not easily affected and is easily kept clean, and does not form any oxid or other salts. One little point is that you must keep the needles apart in their course, for if you get a short circuit before the current gets into the tissues you will not get any effect. I use a rheostat like the one used by dentists. I never use an amperemeter because it is not possible for the instrument-makers to make an accurate milliamperemeter at the price they charge for them. They are approximately correct, that is, some of them are and some are not. But if you have a rheostat so you can control the current, and then turn the current on until the patient is sensible of it you will not be likely to use too much current and cause headache. Another thing, if you introduce the needles into the bone of the middle turbinate you are much more likely to give a shock to the patient. I think the nasal speculum of hard rubber is a great advantage. I have a patient under treatment, and when he asked why I did not use the battery on the other side I told him that my battery was out of order. He perhaps thinks that it is a long time being fixed, but the truth is, I wanted to see how he would do without the use of the battery. You know some believe that the treatment affects not only the side to which you apply the current, but also the other side and the pharynx as well. I do not think that this is true. In the case I have mentioned the man has one side comparatively comfortable, while the other side, to which the current was not applied, is about the same as it was before. Dr. Pynchon mentioned hypertrophy of the middle turbinate. In those cases I remove the anterior part of the middle turbinate, and it is wonderful how much of the atrophy supposed to exist in the lower turbinate disappears. The nose becomes moist and the patient is more comfortable. It is not necessary in these cases to remove the whole turbinate, but if you will cut a good sized section out of it you will improve the case in every way.

THE NATURE AND TREATMENT OF VERTIGO.*

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Among the various consequences of organic and functional disturbance of the nervous system with which we are called upon to deal, what is technically known as vertigo is surely one of the most common. Often insidious in its advent, obscure as to ultimate pathology, in its treatment baffling, it has come to be regarded as a most slippery adversary, a kind of ignis fatuus of the clinic, at the view of whose antics and illusive ways erudition and experience stand aghast.

Yet despite the unsatisfactory condition of present knowledge, there is no denying the eminent practical importance of the subject. Consider for a moment the amount of apprehension and annoyance caused by the symptom itself; then its frequency, as an accompaniment or sequence of the most disparate pathological conditions, and you will concede, I think, that a warrant is provided, sufficient to justify a careful sifting of available data, an analysis of which may incite, perhaps, to the formation of a more consistent concept of the phenomenon itself, and hence to more rational management.

Besides the more common forms of vertigo described in the books: that which accompanies disorders of the

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stomach; that due to lithemia—the most common of all, in my experience—that associated with disease of the inner ear—Ménière's disease—that found in chlorosis and other forms of debility, and notably in neurasthenia; that traceable to ocular difficulties; and that associated with epilepsy, toxic agencies externally or internally derived, etc., the more conventional varieties; there are many others, less commonly regarded, notably those associated with cerebral and cerebellar disease; compression of the medulla oblongata; multiple sclerosis; meningitis; spinal concussion and oculomotor paralyses.

To enter into a discussion of these individual varieties would quite transcend the limits and objects of the present paper, involving as it would the citation of an enormous array of collateral symptomatology—the symptomatology of the various diseases of which vertigo is but a single, albeit an important, symptom.

I speak advisedly of vertigo as a symptom, for the very good reason that, as you all know, there is no single lesion which may be regarded as peculiarly that of the affection itself.

Disparate, however, as are the conditions which may give rise to vertigo, I am confident that their ultimate effect upon certain important cerebral faculties must be practically the same. And, if called upon to say in few words in just what—psychologically speaking—the essence of vertigo consists, to define as far as may be the condition of the mind during vertigo, I would state that general or special perception is more or less perverted, and consciousness diminished in scope and alertness, whereby the faculty of orientation possessed by the individual—that faculty by virtue of which he is able to keep accurately informed respecting his relations to his environment—is manifestly impaired.

This statement of the author is not, however, to be received as an attempt at infallible utterance touching a matter of conceded complication; but is rather to be regarded in the light of a thesis whose tenability he will endeavor to defend by such facts and arguments as he is able, at this time, to bring forward.

In the first place, then, it were well to remember that those ganglionic mechanisms of the brain most intimately associated with perception may suffer derangement in two ways:

1. They may undergo more or less direct derangement from adverse potentialities acting within the cranial vault. Derangement of the cerebral circulation, septic influences and intracranial disease, are such causes.

2. The perceptive mechanism may be interfered with by adverse potentialities acting through the afferent nerves.

Let us consider first some of the data bearing on the second eventuality. When a person, seated in a revolving chair, is rapidly rotated he will experience, either during the continuance of such rotation or immediately upon its cessation, the characteristic symptom of vertigo. The occurrence of the phenomenon is not, however, due, as one might imagine, to the operation of the centrifugal force called forth by the rotation of the chair, but is to be ascribed largely if not entirely to the chaos engendered in the faculties of perception—general, and special also, if sight and hearing are operative—by the rapid and unusual change of place by the person experimented upon. I have been able to prove the truth of this proposition by reversing the experiment. Placing the subject in an armchair, I caused a cylindrical screen of white cloth 7 feet in diameter, suspended by a swivel from the ceiling, to rotate around him, with results identical as to character, but somewhat less in degree.

In a word, vertigo usually supervened either during the rotation of the screen or immediately upon the cessation of such rotation. Naturally, such vertigo was only called forth when the eyes were open and the gaze fixed upon the rotating screen. Nor, as intimated, was it as intense as in the preceding experiment, when the subject himself was rotated; and for the very good reason, that under the last named circumstance—when the eyes are open—not only is common perception—muscular sense, etc.—but visual perception as well thrown into a condition of disarray, so that correct orientation on the part of the ego touching the topographical relations of the subject to environment is no longer possible. Surely, there can be no doubt as to the truth of deduction thus experimentally derived. Now, to take up the first eventuality—that in which vertigo is produced by intracranial causes—we find the phenomenon induced—the vertigo corresponds in all respects with that induced by the revolving chair and the revolving screen. There remains, then, no other conclusion possible than that phenomena thus identical must ultimately have a common origin. That common cause is perversion of perception, a perversion brought about in the one case through potentialities acting through the afferent nerves; in the other, by morbid elements acting upon the brain itself.

Concerning Certain Further Modifications of the Mental Faculties which Accompany Vertigo.—While, as previously shown, the proximal cause of vertigo is to be found in derangement of perception, this by no means represents the full extent of the psychical disorder. In all degrees of vertigo, but especially so in the severer ones, consciousness is always more or less impaired, such impairment being obviously the direct result of secondary confusional states engendered by the faulty percepts. Yet, while to the average physiological psychologist this secondary influence is certainly thinkable, there are—or were—not wanting some who obstinately held to the idea that in the milder forms of vertigo, at least, there was no impairment of the vividness of consciousness, nor of that alacrity of mind inseparable from vivid consciousness.

To set this matter at rest once for all, I determined, some time ago, to artificially induce rotary vertigo—the most typical form—and by noting the reaction time during the persistence of the vertigo, possess myself of infallible data on which to base a judgment.¹

For the purpose of carrying out these investigations I designed and made use of apparatus, whose principal features are these:

An arm-chair (Fig. 1, *a.*) is supported in the center by a steel shaft, about two feet long, pointed at its lower extremity, to serve as a pivot. The shaft, at its upper end, immediately below the seat of the chair, passes through a steel ring, which receives support from a framework of iron bars (*b*); while, at its lower or pivoted extremity, a steel socket, set in the wooden cross, which serves as a base, affords the necessary fixation. Four feet from the chair, and appropriately supported by iron braces, is another shaft of steel, pivoted in like manner to that previously described, and surmounted by a wheel, provided with a crank handle (*c*).

The steel shaft supporting the chair and that surmounted by the crank wheel are provided, at their lower ends, a few inches above the wooden base, with sprocket-wheels, which in turn are connected by a stout chain.

1. A preliminary report of these undertakings may be found in an illustrated article, published in the New York Medical Journal, Sept. 7, 1895.

From this disposition it follows that by turning the crank handle (*c*) it is possible to rotate the chair (*a*) at such speed as the exigencies of experimentation may determine. To enable the occupant of the chair to transmit the return signal to the recording apparatus (Fig. 3), I have devised the following arrangement:

Upon the cross-bar (Fig. 2, *e*) are fastened six stout copper springs *f*, which are, in turn, connected with an equal number of binding posts (Fig. 1, *g*). These springs impinge against six circular tracks of copper (Fig. 2, *h*) secured on the under side of the bottom of the chair. Each track is carefully insulated from its fellows, and is connected by means of a gutta-percha-covered wire with one of the binding posts (*g*¹ Fig. 1) on the side of the chair. From this disposition it is evident that the binding posts *g* are placed in direct communication with the binding posts *g*¹. Now it is clear that the recording apparatus (Fig. 3) can be attached by insulated wires to the binding posts *g*; and in the same way the simple key for returning the signal (Fig. 1, *i*) may be connected with the posts *g*. For the sake of simplicity, a resonant sound, like that produced by the stroke upon a bell (Fig. 3), may be employed to give the signal. The extra binding posts are for attaching the apparatus required for the determina-

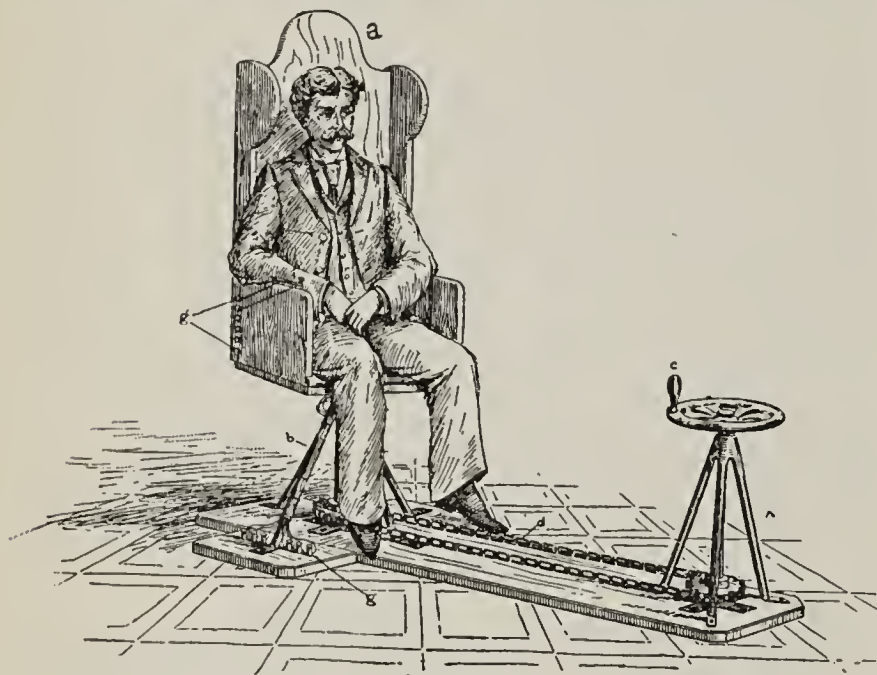


FIG. 1.

FIGURE 1.

tion of the discrimination time in vertigo. This question of discrimination time I shall, however, reserve for a subsequent paper.

The Reaction Time and Other Psychological Phenomena in Vertigo.—As some who read this may have forgotten the precise nature of what is known among psychologists and physiologists as reaction time, a word or two of explanation will perhaps prove acceptable.

It is a matter of experimental demonstration, as well as the result of ordinary experience, that mental processes of all kinds require a certain amount of time for their accomplishment. Moreover, the length of time consumed is in the direct ratio of the complexity of the mental act. To illustrate this point, let us assume that an impression is made upon the retina of the eye, and that as soon as that impression is perceived the subject presses upon the key of an electrical apparatus and so records the interval of time between the peripheral excitation and the issuance of the same in the purposive act—the so-called “reaction time.” It will be found, as a result of a series of observations of this kind conducted by the aid of appropriate apparatus, that the average time in

different persons is from one-tenth to two-twelfths of a second.

If, however, instead of making a single impression of uniform character upon the retina, we make heterogeneous ones, as when red and blue are displayed in indefinite order, and the subject is instructed to press the key only when the color red appears, the interval of time is at least twice as long. This additional consumption of time is due to the fact that not only is the mind obliged to take cognizance of the impressions, but to distinguish and select from them. Hence, the use of the term “discrimination time,” to designate this more complicated variety of psychical reaction. As a matter of course, it is possible to determine the reaction time to touch, hearing, and sight; but in conducting such investigations it should always be remembered that the duration of the reaction period is markedly influenced by a variety of agents which interfere with the spontaneous and co-ordinate action of the cerebrospinal mechanism, and more especially of the brain. Thus the reaction time is shorter in health than in sickness, and it is longer after the ingestion of alcohol, ether, chloroform, or other agents which retard cerebral metabolism.

It follows, therefore, that by comparing the reaction time, after we have in some such way modified cerebral function, with the average normal reaction time, we shall, by a simple process of subtraction, be in a position to judge of the extent to which we have thus influenced the course of normal cerebration, particularly in its relation to the external world.

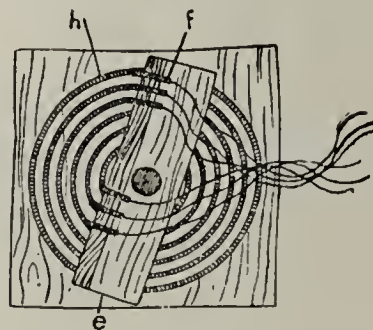


FIGURE 2.

To appreciate the wide significance of this fact, it must be borne in mind that the central elaboration implied by what is termed reaction time is essentially composed of the perception of a sensation originating from without and the formation thereupon of a definite volitional impulse.

The average values of reaction time are variously stated by different observers; in my opinion, those given by Waller are as nearly correct as any: to touch, 14/100 of a second; to sight, 18/100 of a second; to hearing, 16/100 of a second.

Various means of computing reaction time have been suggested and employed; that which consists in the use of an electromagnet, having upon its armature a pen to record upon a revolving cylinder the instant when a visual, touch, or auditory stimulus is applied, and the signaling (pressing of a key) by the subject when the stimulus is felt, is, in my opinion, the best.

As a result of numerous observations with this apparatus I have found that the reaction time in vertigo is increased to three-tenths and even four-tenths of a second, according to the intensity of the vertigo. I may add that this intensity is directly dependent upon the rapidity of rotation of the subject. It follows, therefore, that in the determination of the reaction time we have a means of ascertaining with scientific accuracy the degree of intensity of the vertigo. It would be a manifest omission were I not to mention that something may also

be learned regarding the condition of the mind during vertigo by the aid of self-observation, though only when the rotations are relatively slow, since introspection is extremely difficult, if not absolutely impossible, when the vertigo is severe.

In this way a decided diminution in the power of attention may be observed; the subject is quite unable to carry on protracted thought so far as the analysis of external impressions is concerned; yet, in spite of all this, the power of introspection, or subjective analysis, remains but slightly impaired in minor degrees of vertigo. It is, however, curtailed and even entirely lost in severe vertigo. This loss of the power of introspection is the immediate precursor of absolute unconsciousness.

Finally, the ability to perform tasks necessitating rhythmical and delicate motor co-ordination, as in playing upon a musical instrument, is lost in the severer degrees of vertigo. It is true that it is often possible to execute a series of automatic or semi-automatic acts, as exemplified in a simple scale; but to play a composition necessitating a conscious demand of memory, or to improvise, is out of the question. This point I have tested in both violin and flute players.

In conclusion, it may be said that while there is a certain obtunding of sensibility in the severer degrees of

are fixed upon surrounding objects. The last-named symptom may be avoided to some extent, by darkening the room, so that the surrounding objects are no longer visible. It is noteworthy, too, that when the object looked at it fastened to the chair, so as to revolve with it, nausea is much less readily induced.

Suppression of Vertigo Through the Monopolization of the Field of Consciousness by Vivid Sense Impressions, Particularly Those of Hearing.—There is one other suggestive and curious fact, which I have ascertained with regard to rotary vertigo, which I can not forbear communicating to you, before leaving the purely experimental side of the inquiry.

Knowing the importance ascribed—erroneously I think—to the inner ear as a part of the mechanism of equilibration; the thought occurred to me one day, to fasten a phonograph to the back of a revolving chair, and, connecting the instrument with the ears of the person experimented upon by india-rubber tubes, note any possible effects produced upon him by musical vibrations during the revolution of the chair.

Fancy my astonishment, when, after the very first attempt, the person experimented upon, a man of veracity and judgment, declared that, during moderately rapid rotation, he experienced no vertigo whatever. When, however, during the next experiment, I asked him to suddenly remove the tubes from his ears, while the chair was rotated, he declared that the vertigo immediately made itself felt with full intensity.

Wishing to determine whether such an inhibitory effect was alone obtainable through the sense of hearing, or whether the like might be brought about through vision, I removed the phonograph; had the subject hold an electric light of ten candle power in his hand and fixedly regard it while the chair was rotated at moderate speed.

Again, to my considerable surprise, he declared that he felt practically no "dizziness," although the inhibitory effect did not seem quite as pronounced as that obtained by sound impressions. I may add, as the result of further observations, that vertigo of moderate intensity only is thus capable of sensory suppression. Moreover, the acoustic and visual excitation should be intense in character—the musical vibrations loud, strident, the object looked at bright, dazzling.

These observations dispose utterly, in my judgment, of the old theory which assigns special importance to certain portions of the inner ear in connection with equilibration.

With regard to the suppression of the vertigo through vivid impressions of sight and sound, particularly the latter, the explanation is not far to seek. The morbid percepts engendered by rotation, that under ordinary circumstances would have culminated in the production of vertigo, are overborne by the vivid sense of impression, submerged, as it were beneath the vastly more intense percepts of sight or sound, which monopolize the field of consciousness completely.

Only when, as in the extreme degrees of rotary vertigo, the morbid percepts rise to such a degree of intensity as to defy neutralization, do the acoustic and visual impressions fail to inhibit.

From the foregoing experiments, which are unique in medical literature, and which offer indeed, the only means of scientifically determining very much about the nature of the phenomenon under consideration, I have felt justified in deriving the following conclusions:

1. That vertigo is primarily a derangement of perception, if a sufficiently expansive meaning be given to

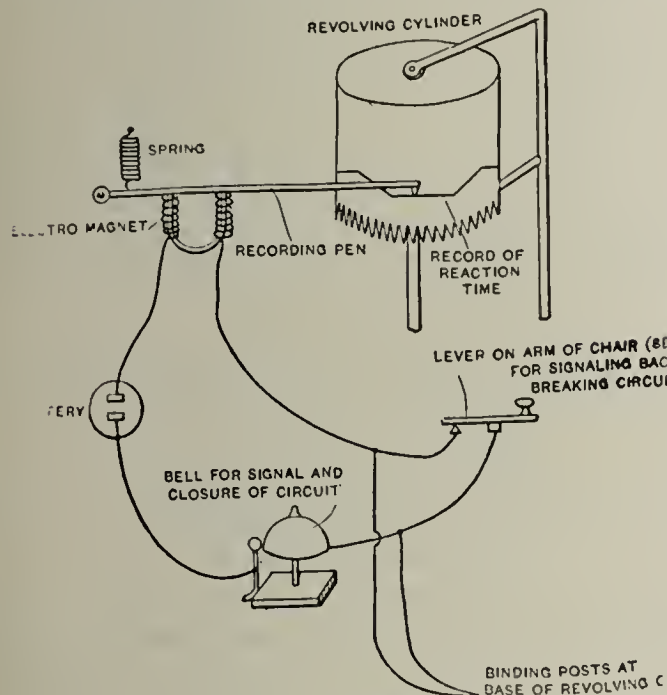


FIGURE 3.

vertigo, complete analgesia appears only with the advent of total unconsciousness.

Physical Phenomena Present in Rotary Vertigo.—But the reaction time is by no means the only phenomenon of which we are able to take cognizance by the aid of the rotary chair. In the first place, since the vertigo persists for a short time after cessation of rotation, it is possible to make some observations as to the subject's physical condition. Acting upon this principle, I was able to ascertain that in vertigo of moderate intensity the pulse, while somewhat increased in rapidity, is diminished in fulness. I have also observed a diminution in the rapidity of respiration; but this is not a constant phenomenon.

Again, when the vertigo is severe, the inhibitory effect of the brain upon the spinal cord is diminished to such a degree that reflex action, and especially the patellar tendon reflex, is decidedly exaggerated. There is likewise diminished vigor of voluntary muscular contraction, as shown by the dynamometer.

Finally, in severe vertigo there is apt to be a facial pallor accompanied by a marked dilatation of the pupils. Nausea, too, sometimes occurs, especially when the eyes

the term to also include morbid impulses transmitted through afferent nerves other than those of special sensation.

2. This derangement of perception is, however, always accompanied by some impairment of consciousness.

3. This impairment of consciousness, as declared by the lethargic reaction-time and by introspection, is undoubtedly due to the confusional conditions engendered in contiguous centers of higher mental action—cortical centers, according to current physiological opinion—by the advent of the faulty percepts.

4. Vertigo may, however, be engendered by direct impairment of the functional efficiency of the centers of perception, without the intermediation of the afferent nerves. On this admission only is the vertigo accompanying auto-intoxication and that associated with intracranial disease to be accounted for.

5. Though the clinical causes of vertigo seem, at first view, irreconcilably disparate, they have at least this in common, that they one and all are capable of interfering either directly or indirectly (reflexly) with cortical function, with consequent impairment of consciousness.

6. To regard vertigo as essentially a cortical derangement, of either direct or indirect origin, accords, therefore, with the experimental data and is clinically explanatory.

7. Rotary vertigo—but only of the milder sort—may be more or less inhibited by vivid impressions, particularly those of sound, which outweigh—submerge as it were—in consciousness the vertigo, or rather the perverted percepts, which are its essential essence.

8. Finally, the impairment of consciousness, due to interference with cortical function, is in the direct ratio of the intensity of the vertigo.

Therapy.—The rather lengthy analysis, which has led up to these conclusions, has made, I fear, somewhat undue demands upon attention and time alike. I have chosen, however, rather to incur the risk of some blame on the score of prolixity than to affront scientific fitness by an empty *ipse dixit*. To have acquired, indeed, some insight into the real nature of the phenomenon we are considering; to be able, hereafter, to replace crass empiricism by rational management; to acquire, in a word, some mastery in what is concededly a baffling field, has seemed to me well worth the trouble it has cost.

If there is one thought more vividly suggested by these researches than any other it is this: That in so far as the abatement of the symptom itself is concerned, the vertigo, in short, our efforts should be immediately addressed to the cortex. Only by diminution of the susceptibility of that region to irritative influences, whether from without or within—whether due to fluctuations of the cerebral circulation, or to the presence of intracranial disease, or toxic elements in the blood, or disturbing influences transmitted through the afferent nerves—only, I repeat, by obtunding the irritability of the cortex can we hope to render the supervention of vertigo impossible, or if not altogether impossible at least unlikely.

Is this deduction, derived wholly, as it is, from pure theory, capable of further and more convincing demonstration? Or to come to the point in a few words, is the conclusion buttressed likewise by the laboratory and by the clinic?

This question I have sought to answer by experimentation on the one hand, and by an inquest into the therapeutics of vertigo, due to various pathological causes, on the other. To meet the inductive exactions of the problem, I have invoked the services of a rotary chair,

which has figured so prominently in the previous experiments. Determining by the number of rotations to the minute the exact degree of vertigo it was proposed to induce, I was able to compare the sensations of the subject before and after medical interference.

The first subject, a man peculiarly susceptible, was given 40 grains of potassium bromid at 8 a.m.; at 12, this dose was repeated, with the result that shortly thereafter he displayed hebetude and marked somnolence. Hereupon, having placed him in a chair, I rotated the latter at precisely the same speed as before the ingestion of the bromid; but to his astonishment and my own gratification he declared that he experienced no "dizziness." I then considerably increased the number of rotations, but without manifest effect. Since this first and quite convincing observation, I have made similar tests with moderate inhalations of ether, nitrous oxid, and with the internal exhibition of chloralamid and trional; and while the results obtained from the last two remedies were not as striking as one might perhaps have anticipated, those from the inhalation of nitrous oxid and ether were quite satisfactory, the vertigo being practically entirely suppressed while they were exhibited. The essentially complete accord existing between these results of laboratory work and those obtained in the clinic is certainly striking. Glance through the published statistics, and con over your own experience, and you can not fail to be impressed by the fact that those remedies are most effective which, by general admission, exert a pronounced sedative effect upon cerebration, upon that higher mentalization which current physiological opinion regards as wholly, or almost wholly, traceable to cortical action—belladonna, opium, the bromids. Many can recall vividly enough, no doubt, cases of vertigo, whose very causation was a mystery, yet, cases nevertheless, in which these remedies, empirically administered, perhaps, and without even a pretense of analysis, served completely. It is, of course, not to be forgotten that what we are here principally concerned with is the symptomatic management of the affection.

When, on the other hand, we attack the problem of radical cure, of eradication of the exciting cause, we find ourselves immediately confronted by various and complicated difficulties, whereof the exhaustive consideration would require a great deal more space than that available in a paper of the compass of the present writing.

If there be feeble heart-action with consequent irregularity and lethargy of the cerebral circulation, you will think of nitroglycerin, strychnin, digitalis and other remedies of which they are the prototypes.

To combat those stomachic derangements which are such a common cause of vertigo, you will have a wide choice of expedients, to the use of which your broad experience and common sense will show the way. So, too, with the toxic varieties of the affection—those largely due to inefficiency of the excretory apparatus. Here, again, your knowledge of general medicine will stand you in good stead, both in arriving at a correct diagnosis, and deciding the question of diet and medication.

Sometimes, however, matters are not so obvious. Cast about with what diligence one may, the exciting cause refuses utterly to reveal itself. In such cases, careful attention to the condition of the eye and ear, especially of the eye, may bring the necessary information, with consequent enhancement of the chances of complete relief. Would that the opportunity of successfully coping with the affection were always as favorable! Unfortunately, as already remarked at the beginning of the

argument, vertigo is not infrequently the consequent of grave organic disease of the central nervous system or of important viscera—notably of the kidney and liver. Aside from the palliative treatment usual in such cases, we may profitably seek to cope directly with the vertigo itself, along the lines already fully indicated. Indeed, it is precisely in such discouraging dilemmas that a rational insight into the true nature of the symptoms will be found most useful.

53 West 38th Street.

DISCUSSION.

DR. A. L. BENEDICT, Buffalo, N. Y., said that while this paper might equally well have been read in the Section on Physiology, it is a very valuable contribution to the study of therapeutics and, therefore, appropriate. He approves of the attitude of the writer as to the organs of special sense. There has been nothing more beautifully demonstrated in physiology than that the semicircular canals are organs of equilibrium. He was astonished to hear the reader of the paper attack the accepted view as to the action of the semicircular canals, and cited, in illustration, a personal experience: Recently, during a journey, he spent part of the night in meditating on the wonderful mechanism of the semicircular canals. When he awoke in the morning he discovered that what he thought was the front of the ear was the rear and that the ear was going in the contrary direction to that which he had thought. Similar experiments have made him sceptic with regard to the semicircular canals. He thinks that many of our ideas of equilibrium come from the liver. For instance, in going up and down in an elevator, the feeling is referred to just below the diaphragm. He was glad that the lecturer had taken away the old view as to the function of the semicircular canals—it is a beautiful theory, but it is not well substantiated.

DR. W. B. HILL, Milwaukee, Wis., said that the reader of the paper had illustrated the fact that all treatment should be based on physiology, which alone affords a rational basis for therapeutics.

THE PHARMACOLOGIC ASSAY OF DRUGS AND ITS IMPORTANCE IN THERAPEUTICS.*

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NOTE.—The word "pharmacology" is employed as meaning "the study of the changes induced in living organisms by the administration in a state of minute division of such unorganized substances as do not act merely as foods."

After a correct diagnosis has been made, one of the most important questions to be considered by the physician is, that of dosage. Especially is this true when, as often occurs, the patient's life depends upon prompt and efficient aid. But if the drugs prescribed are not of fixed and definite strength our efforts may prove utterly unavailing.

Until a few years ago we were obliged to employ pharmaceuticals of uncertain and varying strength. This variation was due not alone to differences in the process of manufacture, but also to the fact that the amount of active constituents contained in the crude drug itself varies from season to season, is modified by habitat, climatic influences, method of collecting, curing, handling, storing, etc. Where the active principles only are employed, the dose can be fixed exactly. In the case, however, of certain important drugs, such as the heart tonics, ergot, etc., a chemical assay is impossible with our present technique, owing to lack of knowledge of the active principles and of their therapeutic value, as well as to the ease with which chemical break-down occurs. Hence

the question arises: "If chemical assay fails to give accurate data relative to the pharmacologic activity of a drug, by what method or methods may such information be obtained?" During the past six years I have been trying to answer this query, and desire at this time to consider briefly some of the methods of pharmacologic assay, the results obtained, and the clinical value of the drugs experimented with.

Of the many theories offered to explain the reactions between the elements of the animal body and drugs, chemical affinity seems the most plausible—the normal function of a given organ being altered in degree by the union occurring between the protoplasm of its cells and the given drug.

It is important in making comparisons of the results obtained from the administration of drugs to animals that the following be kept in mind: Since different species of animals react differently to the same drug, as they do to the same species of bacteria, it is necessary to determine by numerous experiments the type of animal best suited for the assay of each drug.

The animals employed in any pharmacologic test must be as nearly as possible of the same species, age, weight, sex, and general physical condition. The conditions obtaining in the experiments should always be constant as regards environment, food, method and time of administering the drug, length of time for making observations, reading and recording results, etc. Animals, during the time of experimentation, should be kept as nearly as possible in the natural condition. The method of administering the drug should be the one that will allow the greatest rapidity and certainty of absorption and produce the least harm to the animal.

The activity of the tested drug should be compared each time with a standard preparation which represents the active properties of a drug of average quality; the strength of the standard being determined by assaying a large number of samples obtained from different sources.

A sufficient number of animals should be employed in each test to determine the average reaction of a normal animal. Drugs should be given to animals in proportion to their weight and general physical condition. As great care should be exercised in carrying out the several steps of a given assay as in making a chemical determination.

Pharmacologic action is quantitative; in other words, the physiologic processes of the animal body are altered in degree, but not in kind, by the influence of drugs. This fact is more clearly demonstrated in healthy than in diseased subjects, the disease process or processes present often causing great variability in therapeutic results. If we could always get our tubercle cases at exactly the same stage, and if diphtheria always meant the presence of the same number of diphtheria germs, of the same virulency, and producing toxins of the same strength, etc., therapeutics would become more exact, provided our drugs were uniformly active.

Abundant evidence has been adduced to demonstrate the quantitative nature of pharmacologic reactions in normal animals. In some instances the means available for recording pharmacologic changes are more exact than in others, consequently the limits of error will be greater with some drugs than with others.

The reaction upon which to base a pharmacologic assay differs according to the nature of the drug. The minimum fatal dose, the amount of protection conferred against a poison, change in blood-pressure, general or special change in the physical condition, etc.—any one

* Presented to the Section on Materia Medica, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

of these may be in particular instances utilized to fix the standard of strength.

The following illustrations will demonstrate the reliability of pharmacologic methods as a means of determining the degree of activity possessed by a given drug. At the meeting of the ASSOCIATION in Denver, I gave in some detail a method for assaying strophanthus and the other heart tonics by determining the minimum fatal dose for frogs. Since then I have had abundant opportunity to verify the reliability of the method. Three tinctures of strophanthus of unknown strength which had been colored to exactly resemble each other were recently referred to me for assay. These were numbered 1, 2, and 3. In order to check the results ob-

tained, three tinctures were prepared from these, as follows:

No. 4 = 5 c.c. of No. 1 + 3 c.c. standard tincture + 2 c.c. alcohol.

No. 5 = 5 c.c. of No. 3 + 3 c.c. standard tincture + 2 c.c. alcohol.

No. 6 = 5 c.c. of No. 1 + 5 c.c. of No. 3.

The following table gives the results reported by my assistants:

No. 1 = 50 per cent. reported strength of standard tincture of strophanthus (standard tincture of strophanthus = 0.00015 c.c., the minimum fatal dose per gm. for test frogs). Mogk.

No. 2 = 100 per cent. standard tincture. Mogk.

No. 3 = 150 per cent. standard tincture. Mogk.

No. 4 = 57 per cent. standard tincture. Actual strength 55 per cent. Variation 2 per cent. Hamilton.

from investigation of a complaint that a certain shipment of glands from a packing house was not the genuine article. The tracings were obtained from the carotid artery of dogs anesthetized with chloretone. Microscopical and macroscopical examination showed that the complaint was well grounded, the glands being thymus instead of suprarenal. Here we have an instance of undoubted quantitative reaction from the administration of an animal substance to an animal. The details of this work are to be given in a subsequent paper.

Probably the most complicated of pharmacologic assays is the one with which the medical profession is most familiar. I refer to the assay of antidiphtheric

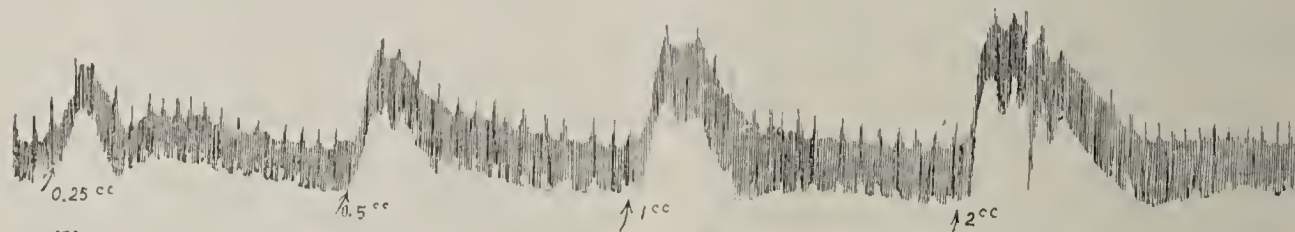


Fig. 1.—Blood-pressure tracing taken from the carotid artery of a dog anesthetized with chloretone. The suprarenal liquid was diluted with normal saline solution to 5 c.c. in each instance, and slowly injected into the femoral vein.

tained, three tinctures were prepared from these, as follows:

No. 4 = 5 c.c. of No. 1 + 3 c.c. standard tincture + 2 c.c. alcohol.

No. 5 = 5 c.c. of No. 3 + 3 c.c. standard tincture + 2 c.c. alcohol.

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No. 4 = 57 per cent. standard tincture. Actual strength 55 per cent. Variation 2 per cent. Hamilton.

serum by the determination of the smallest amount of serum that will neutralize a given quantity of diphtheria toxin.

The question has been raised as to whether this should be called a pharmacologic assay. It seems to me there is no ground for objection to such a classification, as both the toxin and antitoxin are "unorganized substances which produce changes in living organisms and do not act merely as foods"; moreover, the bouillon containing the toxins formed by the germ is comparable to a tincture of nux vomica or other drug, as both are solutions containing the products of vegetable cells in solution. In the one case we have the products of a plant composed of a great many cells working together; in the other instance the products are formed by many

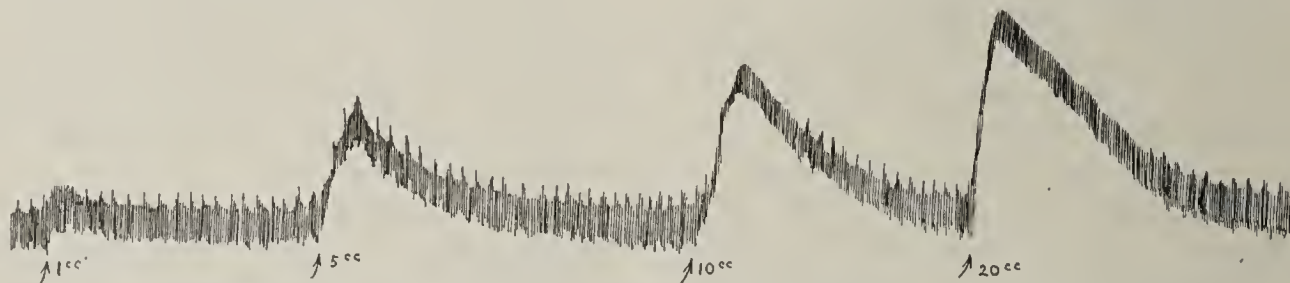


Fig. 2.—Blood-pressure tracing obtained in the same manner as No. 1. Suprarenal liquid solution was, however, more dilute than that employed in No. 1.

No. 5 = 107.5 per cent. reported strength of standard tincture. Actual strength 105 per cent. Variation 2.5 per cent. Mogk.

No. 6 = 100 + per cent. reported strength of standard tincture. Variation less than .5 per cent. Hamilton.

The above table shows that two men assaying tinctures of strophanthus of unknown strength by the use of frogs are able to obtain results showing a maximum variation from the actual strength of only 2.5 per cent. Similar results have been again and again obtained by the application of this method.

Abel and other workers claim that the active principle of suprarenal glands, producing hemostasis when applied to mucous membranes, when injected into the circulation produces marked temporary rise in blood-pressure. That this rise in blood-pressure varies with the amount of extract injected is well shown in tracings Nos. 1 and 2, while tracing No. 3 gives the results obtained

isolated vegetable cells. The antitoxin also resembles the suprarenal gland extract in that both are the products of animal cells. The medical profession the world over are agreed that antitoxin can only be assayed by experiments upon animals. In standardizing antitoxin by any of the methods now in use, at least three factors cause a variation in the results, viz., variation in the strength of the toxin, which gradually becomes weaker; variation in the strength of the antitoxin, which also gradually becomes less potent; and variation in the reaction of the guinea-pig to the toxin and antitoxin. On the other hand, in pharmacologic assay of plant drugs, only one variable factor is present, the test animal, since, as a rule, the drugs themselves retain their active properties unimpaired for a sufficiently long time to allow an assay to be made.

Other examples might be cited, but surely a careful consideration of the above results should carry convic-

tion to an unbiased mind that it is possible to determine the pharmacologic strength of drugs from their action on the lower animals.

That, in the absence of pharmacologic assay, great variation exists in the strength of certain drugs, has been demonstrated over and over again by the physician at the bedside. One can appreciate the necessity for such an assay if it is remembered that some of the most powerful poisons known belong to the class of drugs which do not admit of chemical assay. Only a short time ago I found three samples of tincture of strophanthus, purchased in the open market, to be of the relative strength of 1 to 3 to 5. Yesterday one digitalin—Germanic—was found twice as strong as the same preparation from a different manufacturer. Tracing No. 3 indicates what might happen in the case of preparations from the suprarenal glands. Many other instances of variation in strength might be mentioned much more startling than these, some of which have been reported previously; but multiplicity of illustrations is not necessary to prove the necessity of employing, as far as possible, drugs that have been chemically

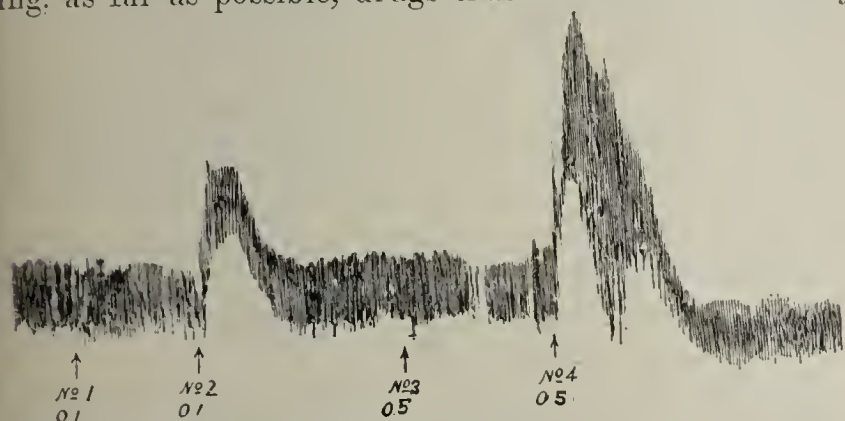


Fig. 3.—Blood-pressure tracing taken from the carotid artery of a dog. No. 1, result obtained from the injection into the femoral vein of a 0.1 c.c. of the extract submitted for assay; No. 2, result obtained from the injection of 0.1 c.c. suprarenal liquid; No. 3, result obtained from the injection of 0.5 c.c. of extract submitted for assay; No. 4, result obtained from the injection of 0.5 c.c. of suprarenal liquid with chloretone.

or pharmacologically assayed in the treatment of disease.

DISCUSSION.

DR. A. B. LYONS, Detroit, Mich., questioned the propriety of discussing a paper when the author was not present to defend it.

DR. LEON L. SOLOMON, Louisville, Ky., said that the paper raises the question on which the Convention for the Revision of the Pharmacopeia, at its last meeting, needed some light. It rejected all formulæ for standardizing by physiologic assay. The chairman of that convention did not think it was possible to standardize drugs by physiologic tests.

DR. LYONS said that he represented the chemical assay of drugs, as his experience had been in this line of work particularly, so that he would not assume to decide on the value of the physiologic assay of drugs. He would, however, state that, generally speaking, there is not a single chemical assay practiced that can give exact valuation of the physiologic or therapeutic effect of the drug in question, except perhaps in the case of opium. He thinks, therefore, that the chemical processes may well be supplemented by physiologic tests. He wishes to be distinctly understood as favoring the supplementing of chemical by pharmacologic tests, and insists that many of the drugs, especially animal extracts, can never be standardized in any other way. He can not understand, therefore, why the convention on revision of the U. S. Pharmacopeia so positively refused to adopt any pharmacologic tests. He said that he would endeavor to have this unreasonable taboo removed in future conventions.

DR. LEON L. SOLOMON, Louisville, Ky., said that it seemed to him that there was some sort of pressure exerted at the pharmaceutical convention against these pharmacologic tests, and that those who were most active by reason of their pressure at former pharmacopeial conventions, by their knowledge of the customs and methods, had succeeded in preventing proper consideration of this subject.

DR. C. T. MCCLINTOCK, Detroit, Mich., said that the physiologic action of a drug is not a question of opinion, but one of fact. In the case of the organic extracts this is the only possible way of proving their activity. Chemical assays may be criticized, but the rise in blood-pressure from the effects of suprarenal extract, for instance, is a matter of demonstration.

THE UNITED STATES PHARMACOPEIA OF 1900.*

PROF. JOSEPH P. REMINGTON, PH.D.,
PHILADELPHIA.

The United States Pharmacopeia occupies a unique position among the pharmacopeias of the world. Its authority is established throughout the country, mainly through the voluntary assent of the physicians and pharmacists of the United States.

It is true that the government is represented in the convention through the Departments of the Army, Navy, and Marine-Hospital Service, and the custom houses recognize the work in their regulations for the admission of drugs into the country; many of our state laws acknowledge the authority of the book by demanding a compliance with its established standards; but the fact remains that the work is not revised or published by the government, but through a representative body of physicians and pharmacists assembled in convention every ten years in the City of Washington.

The thoroughly republican method of reaching the consensus of opinion in both professions, in giving expression of these by the decennial revisions of the book, exhibits one of the best examples of effective submission to authority and is typical of the highest form of citizenship in a modern republic.

European pharmacopeias are government books and have behind them the weight of authority which the laws of the country demand. For many reasons it must be regarded as more than desirable to continue the American method of revision and publication as long as possible, and it is likely that no change will be made so long as wise, conservative and progressive counsels govern the controlling body.

The Pharmacopeia of 1890 was received, not only in this country, but abroad, as a work fully equal to any published in the world, and it is sincerely hoped that the professions of medicine and pharmacy will give to the new committee of revision appointed last month, that loyal support which was so generously extended to the old committees in former years; as is well known, the decennial convention assembled on May 2, 1900, in Washington; delegates were present from every part of the Union: Twenty-eight states were represented by delegates from various medical and pharmaceutical bodies; national organizations were represented through the AMERICAN MEDICAL ASSOCIATION and the American Pharmaceutical Association; while the government sent accredited delegates from the Army, Navy, and Marine-Hospital Service.

Medicine and pharmacy were about equally represented; fifty-seven medical colleges, medical departments of universities and state medical societies sent delegates; while fifty-nine colleges of pharmacy, pharmaceutical departments of universities and state pharmaceutical societies sent delegates.

It will be seen that the convention was a thoroughly representative one; this is further shown by the officers selected to preside over the deliberations, which were

* Presented to the Section on Materia Medica, Pharmacy and Therapeutics, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

as follows: President, Dr. Horatio C. Wood, of Philadelphia; vice-presidents, Profs. A. B. Prescott, of Ann Arbor, Mich.; O. A. Wall and Drs. R. W. Wilcox, of New York, N. S. Davis, Jr., of Chicago, and A. L. Langfeld, of San Francisco; secretary, Dr. H. M. Whelpley, of St. Louis; assistant secretary, Dr. W. G. Motter, of the District of Columbia, and treasurer, Dr. Wm. M. Mew, of Washington.

It will thus be seen that the officers represented the different sections of the country. The committee of revision, consisting of twenty-six members, was selected without geographical considerations, but solely with the purpose of selecting men who were regarded by the convention as fitted by training and technical knowledge to revise the work. Charles Rice, of New York, was unanimously re-elected chairman. Philadelphia is represented by six members, as follows: Drs. H. C. Wood, H. A. Hare, John Marshall, Professors Remington, Sattler and Kraemer; New York by six members, Drs. J. J. Abel, R. W. Wilcox, Profs. Virgil Coblentz, Gregory, E. H. Squibb and the chairman; Boston has but one member, W. R. Scoville; Baltimore, two members, Professor Caspari and Dr. Dohme; Chicago has four, Drs. N. S. Davis, Jr., and W. S. Haines and Professors Oldberg and Hallberg; St. Louis, Prof. James M. Good; Atlanta, Dr. George F. Payne; Madison, Wis., Professor Kremers; Lawrence, Kans., Prof. L. E. Sayre; Ann Arbor, Mich., Prof. A. B. Stevens; and Louisville, Prof. C. Lewis Diehl.

A constitution and by-laws were adopted at the last convention which will place the work on a more stable basis than ever before. Important changes were made in the general principles to be followed in the revision of the next Pharmacopeia, the most prominent of which are as follows:

The Committee of Revision is authorized to admit into the Pharmacopeia any product of nature of known origin; any synthetized product of definite composition which is in common use by the medical profession, the identity, purity or strength of which can be determined. No compound or mixture shall be introduced if the composition or mode of manufacture thereof be kept secret, or if it be controlled by unlimited proprietary or patent rights.

After each pharmacopeial article—drug, chemical or preparation—which is used or likely to be used internally or hypodermically, the committee is instructed to state the average approximate—but neither a minimum nor a maximum—dose for adults, and, where deemed advisable, also for children, in the metric system, with the approximate equivalent in apothecaries weights and measures. It is to be distinctly understood that neither this convention nor the committee on revision created by it intends to have these doses regarded as obligatory on the physician or as forbidding him to exceed them whenever in his judgment this seems advisable. The committee is directed to make a distinct declaration to this effect in some prominent place in the new Pharmacopeia.

Probably the most important work, so far as the Section on Materia Medica is concerned, is the change of policy above outlined with reference to synthetic remedies. The Pharmacopeia could never be regarded as abreast of the times if such remedies were entirely excluded. It is not the purpose of the writer to argue this much-mooted question, but the action of the committee must be regarded as wise and just.

No Pharmacopeia in the world is justified in opening its pages and giving the weight of its authority to chem-

icals or preparations whose formulas are secret or so controlled that their identity, purity or strength can not be determined.

It is possible that this rule may seem to work an injustice to a manufacturer who has secured a wide acceptance of his product, but who chooses for commercial reasons to keep his process or the composition secret. But, on the other hand, to open the door to one preparation which did not fall within the rule would necessarily mean the admission of an enormous flood of remedies more or less unstable in popularity and without those elements which would make a remedy useful for ten years.

Although previous conventions voted down the resolution to introduce doses into the work, the convention of 1900 was compelled to recognize the almost universal demand for this innovation; under the limitations indicated in the previous paragraph, it must be admitted that the introduction of doses will be shorn of its dangers.

An interesting discussion took place at the last session of the convention, and a resolution passed, which plainly indicates that the convention desired to have the widest publicity given to the authority of the work and no restrictions should be placed upon the proper use of the text of the book; of course the copyright will be guarded as heretofore, so as to prevent the republication of the book in its original form, but inasmuch as its authority depends largely upon the consent of "the governed," the greater publicity given to Pharmacopeia formulas must tend directly toward a general adoption of its formulas and processes.

In conclusion it may be stated that a very successful meeting was held and there is every reason to believe that the Pharmacopeia of 1900—which will probably see the light in three years from now—will be received with the same welcome which has been loyally accorded to its predecessors.

DISCUSSION.

DR. LEON L. SOLOMON, Louisville, Ky., said that the wisdom of the last revision committee is very prominent in relation to the question of the introduction of doses into the United States Pharmacopeia. He recalled having seen, recently, a number of reports from societies to which the question was submitted: "Shall the Pharmacopeia prescribe doses?" This is a very important question, since there may be law-suits for damages in case some physician wished to overstep the dosage laid down by the Pharmacopeia. Therefore, he is glad to hear that the revision committee resolved to put down the average dose, but not to restrict it by giving a maximum, which properly should be left to the individual physician. The question with regard to patented synthetic articles is also important. The idea seems to be that the door should be open for the limited reception of these drugs. In the resolution passed in this Section, last year, we did not confine ourselves by words, but expressed the opinion that patented synthetics should be admitted to the Pharmacopeia, without stipulating that such articles should be in general use. This wording is surely a wise one and is worthy of the committee, which has also shown its wisdom in other directions.

DR. A. B. LYONS, Detroit, Mich., said that, with regard to the introduction of doses of drugs, he has somewhat different views from those which prevailed in the convention. The view he entertains is that the pharmacopeia is the only authoritative standard we have in relation to drugs, in this country. Questions are continually arising as to maximum doses. While it should be left to the physician to use any dose he chooses, yet some authority should lay down some limit, so that the dangerous doses may be known. Then, if the physician has occasion to exceed that limit, he should be required to show by some mark or sign that he assumes the responsibility of the excessive dose. This is necessary for the protection of the druggist. At present the prescription comes into the pharmacy and there is no authoritative statement as to what is a dangerous dose of the agent.

The druggist knows that physicians are sometimes absent-minded, and is unwilling to put up the prescription without consulting the prescriber, and this involves delay in a case where moments may be precious. Again, if there were a standard and the druggist puts up a dangerous dose, he can be blamed for it, but if there is no standard, he can lay the blame on the physician.

PROF. J. P. REMINGTON, Philadelphia, said that the last speaker is the author of a work on assaying of drugs, and with a chemist's demand for exactness, he desires everything reduced to a certainty. However, we know that doses can never be certain quantities. Suppose, for instance, the Pharmacopeia states that $\frac{1}{8}$ gr. of morphin is a safe dose; every physician knows that this dose must be exceeded in many cases and, while it would be desirable for some reasons to admit doses to the U. S. Pharmacopeia, yet it might be a source of great inconvenience in actual practice. For instance, a druggist seeing an unusual dose may delay the compounding of a prescription and cause the death of a patient. He would like to ask how many physicians would engage to *always* indicate an unusual dose, by underscoring or other means, he might do it in many cases, but at some time he would be sure to overlook it and cause trouble and delay. Such a rule would also put it in the power of pharmacists to annoy the physician in a very disagreeable way, by returning a prescription, especially if he has law and authority behind him. He wished to remind the Section that for thirty years the druggists have been trying to get doses into the Pharmacopeia, and that thus far the effort has been successfully resisted by the physicians. The only way in which they can safely be introduced into the Pharmacopeia would be with the understanding that they are not to be regarded as authoritative, and this is practically what the convention ordered the committee to do, for the next Pharmacopeia.

ASTIGMATISM, ITS DETECTION AND CORRECTION.*

H. BERT. ELLIS, M.D.

LOS ANGELES, CAL.

From the standpoint of an oculist, astigmatism is that difference in the curvature of the meridians of the refracting media of an eye which causes rays of light from a point after being refracted to be focused in a line, oval or circle, but never in a point. In examining the refraction of such eyes, it is seldom necessary to study more than the meridians of greatest and least curvature, the so-called principal meridians, which are, as a rule, at right angles to one another. When the error of refraction for these has been corrected, it is corrected for all meridians excepting in cases of irregular astigmatism. Astigmatism may exist in the cornea alone, in the lens alone, or in both, while that of the cornea may be augmented or neutralized by that of the lens. We are, consequently, obliged to take under consideration the radii of curvature of the principal meridians of the whole refractive system in fitting glasses for the correction of this defect.

What method or methods shall be used to detect the full amount of astigmatism in any given eye? This is the question over which the beginner in refraction stumbles most. The methods may be divided into two broad classes: Subjective and objective, and they must be used in conjunction for the best results. Personally, I believe it best to obtain the corneal astigmatism first, and this may be measured accurately and quickly by means of an ophthalmometer, of which there are many varieties on the market, and it would be presumption on my part to say which is best. They are nearly all accurate, and so will fulfil the purpose for which they were invented. How useful is the ophthalmometer? Is it of any use? Is it not, indeed, more harmful than useful? Are not its readings more frequently mis-

leading than time-saving? All these questions have been and are being asked of me by the young practitioner and by those who know nothing of its use except from literature. My answer has been in the great majority of cases, "I find it useful and a great saver of time." While the information gained is sometimes misleading, it is seldom so, and as a time-saver in refracting it is to me a great factor, although I should never prescribe cylinders from the ophthalmometer readings alone.

Of all methods of measuring the total amount of astigmatism certainly the most accurate, after the details of the method have been acquired, and undoubtedly, the most satisfactory to the operator, is skiascopy or retinoscopy. The patient's eyes, however, must be completely under the influence of a cycloplegic. The use of the plain mirror, the source of illumination, close to the operator's eye at a distance from the patient of 1 m., is perhaps the most satisfactory working distance and method. By this method you not only obtain the full amount of astigmatism, but also whatever other refractive error exists.

The ophthalmoscope is used to detect astigmatism, both by the direct and indirect methods, but I am free to confess that personally I should not be able to prescribe from the knowledge gained by this method, and I have always doubted the integrity of those making claims to be able to diagnose accurately low amounts of astigmatism existing in any given eye by this method.

The direct method is used by noting the difference in the strength of the glasses used to bring out distinctly the horizontal and vertical vessels in the region about the macula. The indirect method is hardly worthy of passing notice, because it is not exact and the error must be large in order to be recognized at all.

Of the subjective methods, where we depend on the answers of the patient for our information, it is hard to say which is the best, the quickest, and at the same time the most accurate. In fact, all the subjective methods are more or less slow and, at the same time, more or less inaccurate.

The old stenopeic slit method, which has almost gone out of date, has some points of excellence which make it worthy of more use than it has of late received. The fact that an astigmatic eye is able to distinguish lines which run in the direction of the focal line has been the cause of many methods being invented embodying the principle of the stenopeic slit. Dr. Edward Jackson has for years used a circular card with three parallel 2 mm. black lines with two spaces of the same width, pivoted to a disc with degree marks. Dr. James Thorington has, within the past year, called the attention of the medical profession to his pointed line test, which consists of a series of one-minute black squares, in two sets of three parallel lines at right angles to each other, mounted on a pivot and run by clock work. The perforated disc test and the Hotz test have the same principles involved. Pray's letters are too confusing as a rule to be of great practical value. The astigmatic chart, as typified by the clock face, is also going out of use very largely, except for verification.

The cobalt-blue or chromo-aberration test has some points of advantage as an ametropic test. By it the oculist may be enabled to tell at once the nature of the patient's refraction, but not the exact correction or angle of the astigmatic error.

The subjective test, which is the final court of appeal, is the trial lenses, and these are more or less involved in all the other subjective tests.

* Read by title. In the Section on Ophthalmology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

As to the correction of astigmatism, just so much of the error should be corrected as can be worn with comfort after a few days exercise with the correction. If a compound error, where the myopia or hypermetropia and the astigmatism are of about equal amounts, the astigmatic error is of the greater import, and the ametropic conditions may be best corrected and the symptoms sometimes completely relieved by correcting the astigmatism alone; whereas, the correction of the hypermetropic or myopic error alone would leave the patient in just as great suffering as before the correction. In cases where the hypermetropia or myopia is much greater than the astigmatic error, the correction of the astigmatism alone would be of little value. So, in these cases, a portion of the hypermetropia or myopia must be corrected with the astigmatism. Where large errors of astigmatism exist and there are no symptoms referable to the eyes directly or reflexly, then the oculist is perfectly justifiable in leaving the errors uncorrected.

In presbyopic cases, however, it is the writer's opinion that in nearly every case the correction for astigmatism should be added to the presbyopia.

I suppose that we all have considerable difficulty with our lady patients in regard to their wearing spectacles. At least I find nine out of ten who beg to have nose glasses, or threaten that they will not wear the spectacles, and probably five out of ten will get the nose glasses any way. This factor, I think, is encouraged by the habit of some of the oculists in acquiescing in the whims and notions of their fair patients, and also, by the habit that they have of wearing nose glasses themselves, either because of convenience or looks. I must enter my protest, however, against their use in all cases of astigmatism.

"UREINE."

EXPERIMENTS TO DETERMINE THE TRUTH OF THE
RECENTLY ANNOUNCED DISCOVERY BY MOOR OF
THE TRUE CAUSE OF UREMIA.*

JOHN WEATHERSON, C.E., M.D.

CHICAGO.

When the article by Dr. William Ovid Moor,¹ of Rome, Italy, on "The Discovery of Ureine," appeared and subsequently formed a communication to the Thirteenth International Medical Congress, Paris, 1900, it was pointed out that, if true, it was the most important contribution to urinology, of recent times.

As it offered new fields in the study of the etiology of uremia, dropsy, etc., I began experiments² to isolate and to determine its toxic properties.

The method given by Moor for its isolation is substantially as follows: As "ureine" is supposed to be destroyed by a temperature of 80 C., a large quantity of urine is heated at the low temperature of 50 C., until no more evaporation is seen to take place. Silver nitrate is used to precipitate the ehlorids; the liquid is then cooled to promote separation of the phosphates, when both chlorids and phosphates are filtered out. The filtrate is again heated at 65 C., until no more evaporation is seen to take place. Alcohol and oxalic acid are used to precipitate the urea which is filtered out. The alcohol is evaporated at 55 C. The sulphates and remaining solids are separated out by cooling and filtering. The color pigments are removed by treating

with mercuric nitrate, neutralizing with sodium carbonate and filtering. The remaining alcohol and water are evaporated at 55 C., when nothing is supposed to remain but "ureine," a pale yellow, oily liquid of a heavy specific gravity and resembling, in aspect, olive-oil.

I have repeated this experiment again and again, following exactly the method given by Moor, and using normal urine in amounts varying from 1000 c.c. to 1700 c.c. for each experiment. I never obtained anything—except in one well-defined case which I will mention later—but a yellow aleoholic liquid which could easily be evaporated at the low temperature of 55 C., and leaving scarcely any residue.

Moor states that this mysterious organic liquid is destroyed by high temperatures, and that, to be obtained pure, an excess of reagents is to be avoided.

To know exactly when every milligram of solid substance of the urine is precipitated, without having added an excess of reagents, is no simple matter. In my later attempts to isolate this organic toxin, I employed the following method: After examining a part of a twenty-four-hour specimen of urine for specific gravity, color, amount of urea, etc., I place from 1000 e.c. to 1500 e.c. of the urine in a large porcelain evaporating dish and evaporate over a low yellow flame at a temperature of not over 50 C. A smaller dish may be used and urine added as the water evaporates. In about thirty-six hours, or as soon as no more vapor is seen to arise from the liquid, the remaining fluid is carefully treated with a saturated solution of silver nitrate until all the ehlorids have been preeipitated.

To exactly determine this point, I use the following test: On a watch-glass resting on white paper, place a few drops of a saturated solution of neutral potassium chromate. On to this, from time to time, add a drop of the urine and silver nitrate mixture, until a faint pink tinge appears. This pink tinge is due to silver chromate and signifies that all the chlorids have been precipitated and that a trace of excess of silver nitrate now exists. This excess is used up by adding 5 to 10 c.c. of the original concentrated urine set aside for this purpose.

The liquid is now cooled sufficiently for the separation of the phosphates and then filtered, and we wash the filter with distilled water until the liquid comes through colorless. We have now removed all of the ehlorids and practically all of the phosphates. The filtrate is now put into a beaker and the water evaporated on a water-bath at a temperature of not over 65 C. To determine this point, Moor uses a large mercury thermometer, placed in the liquid and rapidly withdrawn at 65 C., from time to time. He says a puff of vapor will be seen to arise from the bulb as long as any water remains,

To the remaining liquid add one-half its volume of absolute alcohol. Moor now adds 1 gram of pure powdered oxalic acid for each 100 c.c. of urine used in the experiment. He then carefully adds an aleoholic solution of oxalic acid, stirring and allowing the precipitate to settle after each addition, until all the urea has been precipitated as oxalate of urea. I did not add any specific amount of oxalic acid, since this would vary as the percentage of urea of different urines varied, but I carefully added the oxalic acid and made the following test for excess: On a watch-glass resting on black paper, place a few drops of silver nitrate solution. To this, from time to time, add a drop of the liquid until a white preeipitate occurs. This white precipitate is not due to ehlorids, since they have been removed, but to silver oxalate ($\text{Ag}_2\text{C}_2\text{O}_4$), and signifies that all the urea has been precipitated, and that a trace of excess of oxalic

* Read before the Chicago Medical Society, Feb. 21, 1901.

1. Medical Record, Sept. 1, 1900.

2. These experiments were performed in the laboratory of Dr. Wm. E. Quine, of which I have charge.

acid now exists. This excess is used up by adding a few cubic centimeters of the liquid set aside for this purpose. Filter out the oxalate of urea and wash with absolute alcohol. Evaporate at 55 C. The sulphates and remaining solids may largely be removed by cooling and filtering, using alcohol freely to aid filtration. Next, to remove the coloring matter, treat the filtrate carefully with a saturated solution of mercuric nitrate [$\text{Hg}(\text{NO}_3)_2$] until no more precipitate occurs.

To determine this point I use the following test: On a watch-glass resting on white paper, place a few drops of a strong solution of potassium iodid. To this, from time to time, add a drop of the liquid until an orange or red precipitate appears, which is due to mercuric iodid. This signifies that all the pigment has been precipitated and that a slight excess of mercuric nitrate now exists, which is used up by adding a few cubic centimeters of the filtrate which has been set aside for this purpose. Now neutralize with sodium carbonate, testing with red and blue litmus paper. Filter again and evaporate at 55 C. Pure "ureine" is now supposed to remain.

This method is exactly the method given by Moor, except the tests for excess of reagents, which I have added. This method could be improved upon by using barium chlorid to precipitate the sulphates, instead of trusting to concentrating, cooling, filtering, etc.

I have repeated this experiment, with the refinements here given, many times, and have never obtained anything but clear yellow water and alcohol, which could easily be evaporated at the low temperature of 55 C.

Not succeeding in proving that the "ureine" of Moor is a constituent of urine, I began a series of experiments to prove that it is not. In this I was more successful.

1. Moor, in his publication, assumes that all the water of the urine is evaporated, when he can no longer see vapor arising from the bulb of a large mercury thermometer which is rapidly withdrawn from the liquid when at a temperature of 65 C. It will be remembered that he performed his experiments during the hot summer months. If he had performed them in winter, and as soon as evaporation appeared to cease he had opened his windows to chill the atmosphere of his laboratory, he would have discovered watery vapor arising long after it ceased to be visible in a warmer atmosphere. It is well known that the watery vapor of expired air of man and animals, which can not be seen in summer, is plainly visible on a cold wintry day. Again, he fails to consider the considerable amount of water which would be retained in thick concentrated urine as water of crystallization and which is very hard to drive off at the low temperature of 55 to 65 C.

Water is no doubt present long after Moor assumes it to be absent. But I have been able to evaporate 1600 c.c. of urine on a water-bath, at the low temperature of 55 C., to the consistency of a thick syrupy mush, amounting in volume to not more than two ounces, and driving off nearly all the liquid except what was retained as water of crystallization. The evaporation required several days, but the temperature was never near the point required to decompose "ureine" (80 C.) if any had been present.

To prove that the remaining fluid is water of crystallization and not an oily liquid "ureine," the following experiment is conclusive: Pour the thick syrupy mass mentioned above, from the beaker on the water-bath into a large flat dish. On cooling, the liquid crystallizes into a solid mass, which soon becomes quite hard and dry. Fifty c.c.—nearly two ounces—of liquid "ureine,"

which is stated to exist in normal twenty-four-hour urine, should be plainly visible if present. The volume of the entire mass which I obtained by evaporation amounted to less than two ounces.

Now, since by supposition, "ureine" is an oily liquid, which remains intact and constant, at temperatures below 75 to 80 C., and since normal urine can—except some water of crystallization—be evaporated to dryness at the low temperature of 55 C., the conclusion is irresistible that there is no such substance as liquid "ureine."

2. It is well known that the total solids of average twenty-four-hour urine amount to from 60 to 70 grams. This includes both organic and inorganic substances. Also, it is known that, of the above amount, urea constitutes about one-half or from 30 to 35 grams. Moor states that the specific gravity of "ureine" is 1270, or it is as heavy as glycerin. That is, "ureine" is nearly as heavy as urea, whose specific gravity is 1323. Yet farther along in his article he states that "ureine" exists in amount equal to twice that of urea. That scientific investigators all over the world should fail to discover an organic substance in the urine amounting to 50 to 60 c.c., which would weigh 65 to 70 grams, or as great as the total known solids, is highly improbable.

3. Moor asserts that he examined the urine of a diabetic woman and found 6 per cent. of "ureine," 2.1 per cent. of urea, and that the specific gravity was 1025 and that the total urine passed in twenty-four hours was 1250 c.c. This statement alone would condemn the article before any scientific body in existence. Let us consider it in detail.

I carefully made up two solutions as follows: Solution No. 1 consisted of distilled water, in which was dissolved 2.1 per cent. of pure urea crystals, which equalled the amount found in this diabetic urine. Solution No. 2 contained 0.9 per cent. of sodium chlorid, the normal amount for 1250 c.c. of urine. By the Mohr-Westphal balance I found: Specific gravity of Solution No. 1 = 1005.5; of solution No. 2 = 1006.5. The formula for the specific gravity of mixtures gives slightly higher values.

To find what the specific gravity of a solution containing water and 6 per cent. of a liquid "ureine," whose specific gravity is 1270, would be, I make use of the following well-known formula:

$$X = (V^1 \times S^1) + (V^2 \times S^2) \div (V^1 + V^2)$$

where V^1 and V^2 represent the volume of the liquids used, and S^1 and S^2 their respective specific gravities. Substituting 94 per cent. water with a specific gravity of 1000, and 6 per cent. "ureine" with a specific gravity of 1270 we have:

$X = (V^1 \times S^1) + (V^2 \times S^2) \div (94 + 6) = 1016$, the specific gravity due to "ureine" alone. This formula, while the one commonly used, is not absolutely correct when tested by experiment, because the actual volume of a mixture does not always equal the sum, in figures, of the separate volumes used. This is due to what is known in physics as "interpenetration" resulting from the porosity of substances, which exists even in liquids. But it is sufficiently correct for our purpose. We now have: Specific gravity due to 2.1 per cent. urea = 1005.5; due to 0.9 per cent. Na Cl = 1006.5; due to 6 per cent. "ureine" = 1016; total for only these three substances = 1028.

I have not considered the specific gravity due to sulphates, phosphates, pigments, sugar, etc., which without "ureine" would bring the specific gravity to about 1025, as Moor found it. But if 6 per cent. of a heavy

liquid had been present, the specific gravity would be about 1040 instead of 1025. This experimental and mathematical check on the specific gravities is the most conclusive proof we have that the whole proposition is without foundation.

But while there is no such a single toxic substance as "ureine," it is well known that normal urine is toxic. That it is not due to urea or uric acid has been proved many times. Bouchard states that there are at least seven different toxic agents in normal urine. None of these have been completely isolated. Their sum-total, including pigment, however, amounts to but a few grams.

It has been found by experiment that an aqueous extract of the urine, when injected into rabbits, causes contraction of the pupils and convulsions, but no coma: while an alcoholic extract of the urine causes deep coma, but no convulsions nor contraction of the pupils.

Since we have shown that Moor probably did not drive off all the water of the urine by evaporating at low temperatures, and since he used alcohol freely in all his experiments, and since the rabbits into which he injected his supposed "ureine" died with both coma and convulsions, the irresistible inference is that Moor's "ureine" is a mixture of aqueous and alcoholic extracts of the several toxic ingredients of normal urine. His 50 to 60 c.c. of "ureine" probably consisted of water and alcohol, in which were dissolved a little pigment with the several organic toxins, and some compound of oxalic acid.

It will be remembered that in precipitating the urea, Moor uses an alcoholic solution of oxalic acid, after he uses the powdered form, and which he makes, by dissolving 3 grams of oxalic acid in 10 cubic centimeters of hot alcohol. I made up such a solution, but used it only a few times and then only in small quantities. From Watt's "Dictionary of Chemistry," I learn that if alcohol and oxalic acid be heated together at a high temperature, one part of oxalic acid will combine with nearly the same amount of alcohol to form di-ethyl-ether, or oxalic ether, which is a colorless oil whose specific gravity is 1079. Whether true oxalic ether, or some closely related compound was formed in this case, I do not know, but at any rate when I evaporated the excess of alcohol from the solution I had made up, I found a liquid which left a permanent oil stain on paper, similar to that produced by olive-oil, but not so marked. Oxalic acid dissolved in cold alcohol did not leave these oil spots.

It is interesting to note that at the close of the second attempt at isolation which I performed by Moor's method, I found about 4 c.c. of a liquid which resembled "ureine." But this was the only time, and it was in this experiment that I used the extra quantity of the alcoholic solution of oxalic acid mentioned above. This liquid looked like olive-oil and left a permanent oil stain on paper. It did not have the odor of urine, but it was a pale-yellow color and had the aromatic odor of alcohol. This liquid I believe to be, principally, some oil closely related to oxalic ether. At any rate, a drop of it, with a drop of silver nitrate solution, gave the white precipitate of silver oxalate. It is the presence of some oxalic compound, no doubt, that leads Moor to ascribe de-oxidizing powers to "ureine," oxalic acid being a great reducing agent and readily decolorizing solutions of the permanganates. The presence of this substance, no doubt, helped to mislead Moor. Again, he states that "ureine" belongs to the alcohol group of the aromatic series, and that it splits up at a temperature of about 80 C. There is

undoubtedly alcohol there, because he put it there, and his statement that "ureine" splits up at 80 C. is no doubt due to the fact that the boiling point of alcohol is exactly 78.39 C. Again, he states that the characteristic odor of urine is due to "ureine." In my own experiments I found that the odor disappeared when the pigment was removed, due probably to some substance precipitated at the same time. Considerable pigment remaining, however, would give an odor, and also add toxic properties, since the researches of Ritter, Bouchard and Lenoir show that when normal urine is deprived of coloring matter its toxic powers are reduced one-third.

The subject of toxins of the urine is very interesting and highly important, but I can not see that Moor has added anything to our present knowledge of urinology.

DISCUSSION.

DR. JOHN A. WESENER stated that after going over Moor's article very carefully he finds that there is no chemistry whatever in his paper. In fact, it is an article made up simply of words and facts relegated to the background. He was very glad to see that the essayist has shown most emphatically the absurdity of Moor's new compound—ureine. He said that there are a few points to be considered in this article, and when these are thoroughly brought out the so-called "wonderful compound," "ureine," will immediately fade from sight. Moor says that the specific gravity of ureine is 1.27, and the amount of ureine found in the urine under normal conditions is nearly twice that of urea; therefore, assuming that we have a 6 per cent. solution of ureine, the specific gravity of that solution alone would be 1.015. It is known that when the last two figures of the specific gravity are multiplied by 2.33, and then these figures computed to the total amount of urine passed in twenty-four hours, we get approximately the total solids. Furthermore, we find that if a given quantity of urine is evaporated to dryness, and then weighed, the total solids would correspond very well with the above principle. Moor says that ureine decomposes very readily at low temperature, 80 degrees splitting it into new compounds. The speaker suggests that evaporation under those conditions should have been done in a vacuum. Moor's method of removing salts and coloring matter from the urine is a very poor and inaccurate one. Furthermore, Moor says that potassium ferrocyanid and ferric chlorid, when treated with ureine, turn blue. The speaker has always been taught that potassium ferrocyanid and ferric chlorid, when mixed, always gave Prussian blue. Moor probably means to use the red prussiate of iron instead of yellow, but even a mixture of red prussiate of iron and ferric chlorid will turn blue when treated with organic substances. For example, tincture of guaiac will change this solution to a blue color; therefore the speaker would not be surprised that the coloring matter in the urine should, when treated with these two salts, give a blue reaction.

Moor's formula of oxalate of urea can not be recognized by chemists as belonging to any known compound. How he estimated urine is beyond the speaker's comprehension. If he simply weighed the solution, then what he weighed was a most impure product. He not only weighed a certain amount of coloring matter, but also salts, which he failed to remove by his process. The statement is also made that the urine is a liquid composed of water and inorganic solids. It is known that the urine contains between 3.5 and 4 per cent. of solid matter, of which 1.75 per cent. is inorganic and 2.25 per cent. organic. Moor tells us that ureine belongs to the alcohol aromatic group, and when heated it splits into oxy acids, etc.

Probably the most emphatic and absurd statement made by the author is that "the fermentation of urea is caused by ureine, and that bacteria alone could not bring about this change, and without ureine all organic matter would become converted into urea, which would remain in Nature without any use, and thus within a limited period of time all vegetable and animal, as well as human, life would cease." It has been shown most emphatically that pure solutions of urea are changed to ammonium carbonate by a great variety of bacteria. In order to have the fermentation brisk and rapid a certain amount of nourishment in the form of peptones, ammonia salts, glyocol, etc., is necessary. Furthermore, if a decomposed urine is precipitated with alcohol, this precipitate dried and powdered and an aqueous extract made of it, and then added to a solution of pure urea, fermentation takes place quickly, ammonium carbonate being the result.

In this particular instance the enzymes of the bacteria change the urea into ammonium carbonate.

The speaker does not think any members of the profession need have any fear that without ureine urea would remain as an end product of nitrogenous metabolism. The bacteria will very readily convert it into ammonium carbonate in spite of the fact that it is, in the opinion of Moor, a most stable compound. In fact, the air itself would in time change urea to ammonium carbonate. Bacteria not only change ammonia to nitrites and nitrates, but we have a reversible action where the nitrates are changed back to ammonia. These salts are much more stable than urea, being inorganic instead of organic.

DR. WILLIAM A. EVANS said that the essayist had answered the statements of Dr. Moor so thoroughly that neither the original paper nor the refutation thereof would require any attention. From the statement, in Dr. Weatherston's paper, that urea was non-toxic, he gave some observations drawn from a paper written by Dr. Herter for the *Welch "Festschrift."* Since 1865, when Frerichs popularized the belief that uremia was not due to urea, there has been a growing disposition to regard this substance as almost, if not entirely, harmless. The work of Dr. Herter demonstrates that while urea is not a very actively toxic agent, and while it is readily eliminated by any one of several routes, at the same time it has some toxic action, and is responsible for some part of the symptoms known under the symptom-complex of uremia. He determined that the dog's kidneys secrete twenty times the normal quantity of urea; that ten grams of dog's kidney can secrete 1.57 grams of urea in one hour; that the kidney of the Batrachian was less efficient, and that the mammalian kidney rose in efficiency as it advanced in the scale of life.

It has been determined by other authorities as well as by Herter that when a large amount of urea is thrown into the circulation the amount recovered from the urine is considerably less than the amount injected. This difference represents the urea which was stored in the liver, the brain, the muscle and other structures, as well as the urea which is eliminated by the gastrointestinal tract, and the sweat glands. In 1898 Drs. Hoelscher and Wesener showed that in some cases of chronic nephritis and acute articular rheumatism the proportion of urea in the sweat amounted to .3 of 1 per cent. Herter and Wakeman have shown that whereas there is habitually some little elimination of urea by the gastrointestinal tract when the percentage of urea in the blood amounts to .2 of 1 per cent., there is a great increase in gastrointestinal elimination, accompanied by congestion of the mucosa and submucosa, dropsical accumulation in the epithelium, together with considerable desquamation thereof; that if the proportion of urea amounts to considerably above .2 of 1 per cent., the gastro-intestinal epithelium fails to eliminate urea further. In the experiments of Herter if an urea solution stronger than 4 per cent. was injected, there followed hematuria, albuminuria, decrease in the quantity of urine, and finally total suppression; that the decrease in the waters of the urine preceded the decrease in urea. It was demonstrated that in the case of dogs and monkeys convulsions, bearing a close resemblance to uremic convulsions, came on when the blood contained .3 of 1 per cent. urea, and death invariably followed when the blood contents of urea had amounted to .6 of 1 per cent. The urea in normal human blood amounts to .05 of 1 per cent. In pathologic conditions accompanied by a normal kidney epithelium, there is but little danger of accumulation of urea in the blood or in the tissues, regardless of the amount that is manufactured or absorbed. If, however, there is destruction of kidney epithelium as the result of causes acting at present, or as the result of causes previously acting, for example chronic nephritis, there is liable to be an increase in the blood-current of urea. Bradford offers a study of three cases of anuria, in which the blood percentages were .277, .324 and .44, respectively. Herter, in a study of fourteen cases of lobar pneumonia, found increases of urea ranging from an increase of 64 per cent. in one case to an increase amounting to 1200 per cent. in another. In every case of chronic nephritis examined the urea in the blood was found to be increased. He divided his cases into three groups: The first, in which the percentage of urea in the blood was .1 of 1 per cent. or less; the second, in which it varied between .1 of 1 per cent. and .3 of 1 per cent.; the third, in which it was .3 of 1 per cent. or over. The symptoms of these cases were those ordinarily recognized as the symptoms of uremia. The mode of death of the dog that died after taking unusually large injections of urea was the same as that in the condition known as uremia. It is difficult to determine whether the symptoms of uremia are due to urea or to other urinary ingredients, but it is to be remembered that in the case of the dog no urinary ingredi-

ent was injected except urea. Dr. Herter makes the statement that creatin, uric acid and other members of the xanthin group could not be the pathogenic agents in these cases. He called attention to a point that clinically has been observed most frequently by all of us, namely, that there is great difficulty in determining whether the symptoms of uremia were due to urea by quantitative examination of the urea in the urine. It would be necessary to examine the urine quantitatively for urea day by day for a considerable time, and to know with certainty how much urea was absorbed from the food, and how much was excreted by the gastro-intestinal tract and by the perspiration. As these considerations are altogether impossible, the quantitative determination of the urea in the urine gives us an altogether incomplete idea as to the amount of urea in the blood, and it is the urea in the blood and in the tissues that is responsible for any effects that urea might have.

DR. WEATHERSTON, in closing the discussion, stated that Professor Haines, of Rush Medical College, had been working on the same subject and had conducted a series of experiments which corroborated his own conclusions.

ANASTOMOSIS OF THE URETERS WITH THE INTESTINE.

A HISTORICAL AND EXPERIMENTAL RESEARCH.*

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CHICAGO.

(Continued from p. 635.)

AUTHOR'S EXPERIMENTAL WORK.

The following experiments, begun nearly eighteen months ago, have been performed at the Post-Graduate Hospital and Experimental Laboratory and in the Physiological Laboratory of the Chicago University. The bacteriologic and microscopic work has been conducted entirely by my friend, Dr. F. Robert Zeit, professor of pathology at the Post-Graduate Medical School, and I gratefully acknowledge my indebtedness to him for the thorough manner in which he has performed a most arduous task.

Dogs were used for all the experiments, and chloroform was always employed for anesthesia. As the work was to include the intestinal tract, various methods of emptying the animal's bowels preparatory to the operation were tried. The administration of cathartics the day previous to the operation was a dismal failure, as a diarrhea always ensued, and even after the exercise of the greatest care liquid feces escaped through the incised gut wall. As the operation was to be upon the lower bowel, attempts were made to empty it by large rectal injections, but this method failed until it was accidentally discovered that it could be most satisfactorily accomplished on the anesthetized animal. The rectum and descending colon can be so thoroughly cleansed by this method as to enable one to entirely dispense with bowel clamps. This has been dwelt on at some length because fecal contamination was responsible for many deaths in the first series of cases.

The most rigid asepsis was employed in every operation. Silk ligatures and sutures were used. The abdominal wound was closed by interrupted through-and-through sutures. In the large majority of cases it was found impossible to keep the abdominal wound aseptic, and suppuration ensued, but in only a few cases was this followed by any serious results.

For the first twenty-four hours the animal was given nothing but water, and the diet was limited to milk for the next two days. After the first few days the surviv-

* Read before the American Gynecological Society, Washington, D. C., May 1, 1900.

ing dogs were given ordinary food. After the first week the animals were allowed to run with their fellows, and no especial care was given them except to note carefully any change in their condition.

In giving a detailed account of the experiments no attempt will be made to gloss over faults in technique, which, in the light of subsequent operations, were apparently inexcusable. When one form of operation failed another was tried, only to find later on that the change had been made in the wrong direction. The loss of so many animals necessitated a vast amount of work, since the main object of the experiments was to determine the ultimate effect upon the animal of uniting the urinary and digestive tracts.

Three series of experiments were conducted:

1. Bilateral uretero-intestinal anastomosis.
2. Lateral uretero-intestinal anastomosis.
3. Uretero-trigono-intestinal anastomosis.

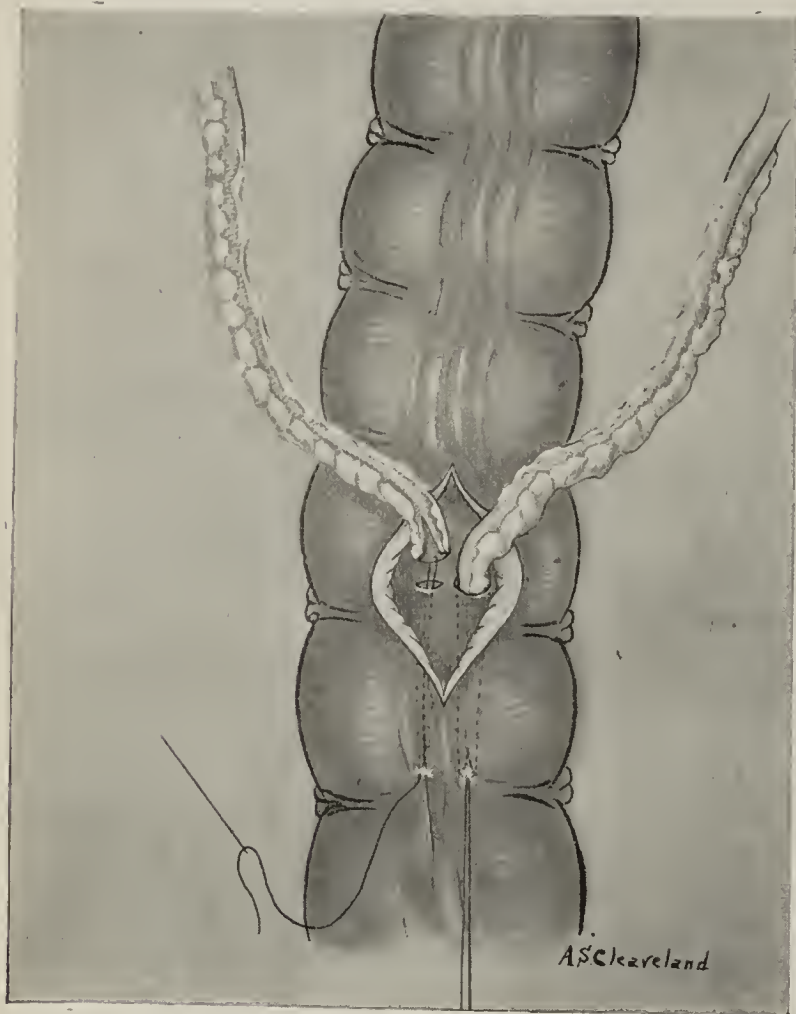


Fig. 12.—*Uretero-intestinal Anastomosis.* Serosa and muscularis incised. Ureter split and drawn through small incisions in mucosa by sutures passed through intestinal wall $1\frac{1}{2}$ inches below lowest point of incision.

1. BILATERAL URETERO-INTESTINAL ANASTOMOSIS.

Both ureters were implanted simultaneously in the rectum in twenty-eight dogs, with five recoveries and twenty-three deaths. In five dogs an operation similar to that described by Fowler was employed. The serous and muscular bowel coats were incised for a number of inches and a mucous flap formed upon which the ureters were implanted and sunk in the bowel. All these dogs died in from two to five days, of peritonitis and escape of urine into the peritoneal cavity from a sloughing of bowel-flap and giving away of the stitches.

In twenty-three dogs the following plan of operation was adopted with various modifications of technique: An incision was made into the bowel-wall through the serous and muscular coats. The ureters were implanted in the rectum through small incisions made in the mucosa and either their outer coats or peritoneal coverings. The serous and muscular flap was then drawn over the

ureters and secured by interrupted Lembert sutures. In some cases the ureters were passed through one and in other cases two incisions in the mucosa. Of these twenty-three cases, five recovered and eighteen died.

Causes of Death. In most of the cases death ensued from general peritonitis, usually accompanied by escape of urine into the peritoneal cavity. This escape of urine in most instances arose from a slough at the site of anastomosis. In a few cases there was a well-marked slough of one or both ureters. In three cases one or both ureters pulled out of the incision and opened into the peritoneal cavity. In three instances uremic coma, caused by acute nephritis, was responsible for death.

The ureters were, as a rule, dilated in the dogs dying shortly after the operation, although the uretero-rectal orifices were patent to a stream of water injected into the pelves of the kidneys. In the majority of instances the pelves of the kidneys were dilated and filled either

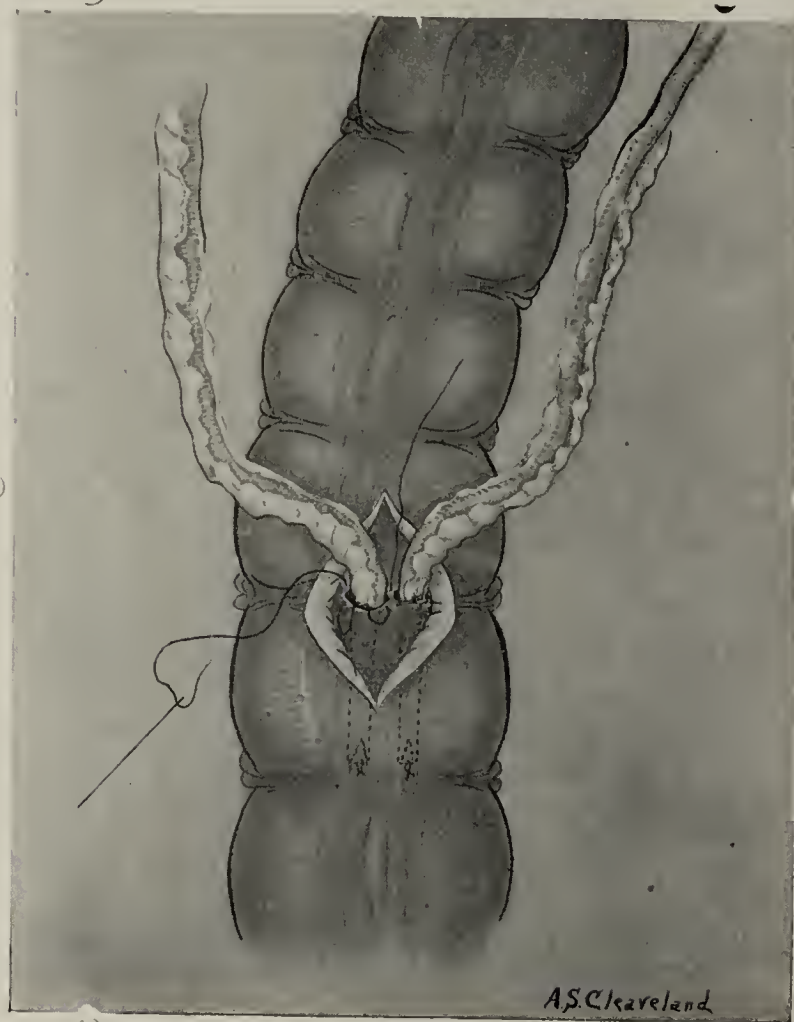


Fig. 13.—Both ureters held in place by tying of lower sutures, showing method of closing mucosa about ureter by passing sutures through mucosa and peritoneal covering of ureter.

with urine or purulent fluid. The split kidneys showed evidences of acute nephritis, being enlarged, soft, and intensely congested.

In a few instances bacteriologic and microscopic examinations were made, although this was considered unnecessary in the other fatal cases, since the causes of death were only too apparent.

All the dogs in this series were operated upon without a proper cleansing of the rectum, and fecal extravasation through the incision made in the mucosa was extremely common. This led, in quite a number of cases, to infection of the flap and sloughing of the sutures.

At first the incisions in the bowel were made unnecessarily long and too much raw surface was exposed to the dangers of infection. The statistics improved immediately the incision was shortened.

In the first eight cases the ureter was located near the bladder and then dissected upward for a number of

inches by the finger. This was a mistake, since it interfered with the ureteral blood-supply and did not leave any peritoneum on the ureteral coat.

Any failure to close securely the mucosal openings through which the ureters passed led to fecal extravasation; if they were closed too tightly stricture of the ureter and hydronephrosis ensued. It was soon found that the dog's ureter was extremely delicate and would not stand sutures passed through any of its coats without great danger of resulting stricture. This was obviated by passing the sutures through its fatty and peritoneal envelopes.

The chances of pulling out the ureter were found to be lessened by securely fastening the two ends of the ligature, by means of which the ureter was drawn through the incision in the mucosa. The greatest care was found necessary in order not to constrict the ureters by the serous sutures. A number of deaths from hydronephrosis

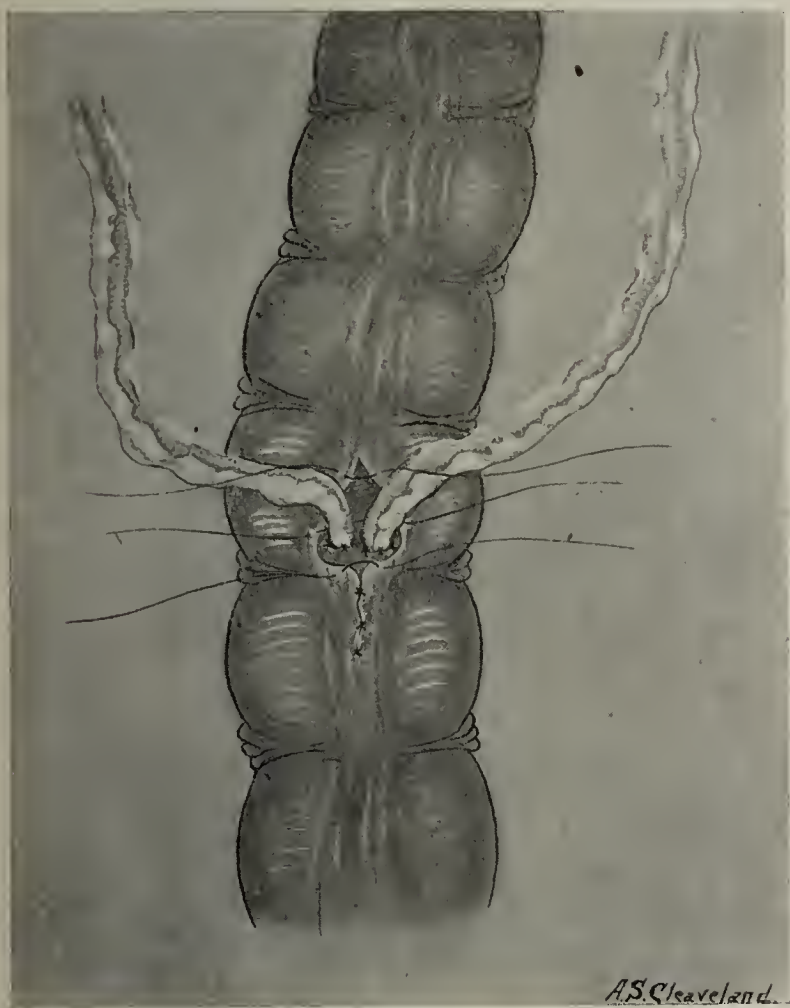


Fig. 14.—Ureters secured in position, serosa and muscularis being closed about ureters by a row of interrupted Lembert sutures.

and hydronephrosis were explainable from the failure to observe these precautions.

Naturally the greatest interest centers in the five dogs that recovered from the operation, and, therefore, these experiments are given in detail.

Experiment 22. Dog I. Large black spaniel. Operation February 26, 1899. An abdominal incision was made, three inches in length, as low down as possible, and two inches to the left of the penis. The ureters were lifted up from the bottom of the pelvis and loosened for three inches by the scissors, care being taken to preserve a portion of the peritoneal covering. Each ureter was severed about one and one-half inches from the bladder and wrapped in sponges. A one-half inch incision was now made through the serous and muscular coats of the rectum and the two flaps separated outward by blunt dissection. A suture armed at each end with a needle was passed through the end of each ureter after the latter had been slit upward one-third of an inch. Two small one-fourth-inch incisions were now made at the lower and outer surfaces of the exposed mucosa. Through these openings the needles were passed and brought out of the bowel one inch below the point of entrance. The ligatures were now tightened and the ureters drawn downward through the incisions in the mucosa.

The mucosal apertures were closed about the ureter by fine silk ligatures passed through the mucosa and outer coats of the ureter. The serosa was now closed by interrupted Lembert sutures. (See Figs. 12 to 14.)

The dog made an excellent recovery, had good control over his urine, which he voided, mixed with feces, about every four hours. One month after the operation he did not seem so well, and there was a whitish discharge from the penis, with straining and considerable pain. These symptoms increased in severity, and the dog was killed forty days after the operation.

Pathologist's Report. Post-mortem April 26, 1899, forty days after operation. Liver, spleen, heart and lungs normal. In the rectum was a papilla, on the sides of which were two ureteral openings, both of which were patent. Capsules of both kidneys slightly adherent. Left kidney showed a few yellowish purulent foci on cortex, with yellowish rays from pelvis to cortex. Right kidney was slightly granular. The bladder, small and contracted, contained whitish purulent fluid.

Bacteriology. Substance and pelves of kidneys free from bacteria. Bladder contained short bacilli, similar to diphtheria or streptococci, no bacteria in heart, liver or spleen.

Histology. Proliferation of interstitial connective tissue forming dense rays from papillae to cortex with retraction on surface of cortex. Many dilated desquamated tubules. Increased connective tissue around glomeruli. Some cloudy swelling in remaining epithelium of tubules.

Experiment 25. Dog II. Large hound. Operation March 11, 1899. Technique same as in Experiment 22. This dog



Fig. 15.—Author's modification of Maydi's operation (uretero-trigono-intestinal anastomosis). Rectangular vesical flap containing ureteral orifices. Ureters have been dissected free from their peritoneal coverings in order to be more plainly seen.

hardly had a sick day after the operation. April 20, was killed while fighting with a bulldog.

Pathologist's Report. Autopsy April 20, 1899, forty days after the anastomosis of both ureters with the colon, twelve inches from the anus. Pyemia; secondary infection; endocarditis. Ureters were patent and emptied into two small papillae in rectum size of small peas and one-eighth of an inch apart. The intestine was studded with smaller papillae. Left kidney: purulent foci in cortex. Pelvis contained purulent fluid. Pyelonephrosis ascendens; hydro-ureter. Right kidney apparently normal, no dilatation of ureter, but pyelitis present and a few purulent foci in cortex; capsule strips easily. Bladder was contracted and contained purulent fluid. Spleen soft, liver contains a few purulent foci. Heart and lungs normal except fibrinous thrombi in both ventricles extending into large vessels.

Bacteriology. Left kidney cortex, coli bacilli. Right kidney cortex, coli. Bladder: large coli and a few small diphtheroid bacilli and streptococci. Liver: many coli. Spleen: no bacteria.

Histopathology. Left kidney: hyperplasia of interstitial connective tissue. Walls of small blood-vessels thickened. Fatty and cloudy epithelial cells lining tubules here and there filled with granular detritus. Right kidney: interstitial infiltration from pelvis to cortex in narrow rays surrounded by tubules showing cloudy swelling and fatty degeneration of lining epithelium of convoluted tubules in places necrotic.

Experiment 18. Dog III. Small brown dog; operation February 11, 1899. Same technique as in previous experiment, except the silk stitches used to close mucosal opening took in outer coat of ureter instead of merely peritoneal and fatty coverings. Was never in as good health as dogs I and II. Gradual loss of flesh. Died May 6, 1899. Post-mortem same day.

Pathologist's Report. Died from pyemia and secondary infection eighty-four days after operation. Implantation of both ureters in rectum. Pylonephrosis and pyoureter on right side; ureter not patent. Pylonephritis left side; ureter patent. Spleen and liver soft, bladder contracted and filled with purulent fluid; heart contains organized thrombi.

Bacteriology. Both kidneys contain coli; bladder contains staphylococci and diplococci; unfortunately the blocks were lost, and no microscopic examinations were made of the kidneys.

Experiment 27. Dog IV. Large dog; operation April 17, 1899. Same technique as in other experiments; died May 26; attendant failed to notify pathologist until the dog was in bad condition.

Pathologist's Report. Death from pyemia and endocarditis after thirty-nine days. Implantation of both ureters in rectum; operative results good. Right kidney: pyelonephritis and pyeloureter. Left ureter normal. Both ureters patent. Bladder contracted, containing purulent fluid; endocarditis; spleen large and soft; purulent foci on surface of liver. No bacteriologic or microscopic examinations made.

Experiment 19. Dog V. Medium-sized gray bitch; operation February 15, 1899. Same technique as in other operations, except both ureters passed through one incision in mucosa and secured by sutures through mucosa and peritoneal coverings. Dog made a good recovery. Lost some flesh for first month, then remained in perfect health until killed, twelve months later.

Pathologist's Report. (Dox X, pathologic report.) Both ureters in rectum; killed after thirteen months and ten days; recovery from pyelonephritis with contracted kidney. Cultures taken while alive, under chloroform; liver and spleen normal; bladder, contracted to size of hickory nut; kidneys, capsules opaque and congested, slightly adherent, surface nodular and contracted; pelvis, opaque and thickened; radiating yellow lines from pelvis to surface of kidney. Pelvis of left kidney contains a mass of grayish concretions. Ureters: bilateral dilatation; patent. Smears and cultures from both kidneys. Spleen, liver and left ventricle were negative.

Histopathology. There is present an interstitial pyelonephritis; abscesses emptied by absorption of pus and evacuation into the pelvis of the kidney. The newly formed connective tissue has matured and contracted. Microscopically the elevated portions consist of fairly normal parenchyma. The retractions consist of new formed and matured connective tissue with atrophic glomeruli and thickened capsules in its neighborhood. The blood vessels have thickened walls. The tubules are dilated and desquamated.

The operative results in the five dogs recovering from the operation may be termed fairly good. In only one case was the ureter thought not to be patent. In all the other instances the ureters were patent and opened at the sides of small papillae in the rectum, the openings looking not unlike the normal vesico-urteral orifices. (See Fig. 20.) In four of the cases, however, the ureters were dilated, showing that the uretero-rectal openings had contracted. In one case pyo-ureter, and in another hydro-ureter, was noted.

Each of the five cases showed the gross lesions of an ascending renal infection confirmed in nearly every case by bacteriologic and microscopic examinations. The extent and virulence of the infection varied. In three cases it was so severe as to lead to secondary infection, endocarditis and pyemia. In one case the dog when killed was recovering from a pyelonephritis, and in the most interesting animal of the lot a complete recovery took place after the pyelonephritis, with resulting contracted kidneys. In both these cases the cortex and pelvis of the kidneys were free from bacteria, showing that the animals had become immune to the colon bacilli. In the other cases, however, the micro-organisms were

abundant and showed the presence of an active infective process.

2. LATERAL URETERO-INTESTINAL ANASTOMOSIS.

Sixteen dogs operated upon, with three recoveries. Twelve died of general peritonitis due to leakage through the stitch-holes; one died of hemorrhage.

The object of these operations was to unite the ureters to the bowel by a lateral anastomosis, so that dilatation of the ureters and ascending infection could be avoided. The task presented many technical difficulties because of the small size of the ureters even in the largest dogs, and the tendency to leakage when the through-and-through stitch was employed. The ureters were cut away close to the bladder and dissected upward for two and a half inches, together with a fold of peritoneum. A slit one-half inch in length was then made in the ureteral wall one-half inch above cut end, and the same length incision made in the serous and muscular intestinal layers. The anastomosis was made by a continuous right-angled stitch passing through the ureteral wall and the peritoneal and muscular layers of the intestine. Before the suture was drawn tight the bowel mucosa was cut the entire length of the incision. In the first two dogs recovering the mucosa was simply incised. In the last animal a portion of the mucosa was removed. The operation was completed by tying the severed ureters.

Experiment 32. Dog VI. (Dog V Pathological Reports.) Great Dane pup. Operation September 20, 1899. Lateral anastomosis of left ureter with rectum, according to method described above; mucosa simply incised.

Pathologist's Report. Dog lived sixty days. Right kidney capsule adherent, ureter dilated; nodule size of pea where ureter entered rectum. Heart: fibrinous organized clot in right auricle and ventricle. Liver covered with numerous yellowish areas.

Bacteriology. Right kidney, coli; Liver, coli.

Histopathology. Same as in dog I. Death from pyelonephritis with pyemia.

Experiment 33. Dog VII. (Dog VIII. Pathological Reports.) Yellow bitch. Operation September 22, 1899. Technique same as in Dog VI. Lost flesh, and died December 18, 1899. Autopsy, same day.

Pathologist's Report. Died eighty-seven days after operation. Right kidney, capsule adherent; pyelonephritis. Right ureter contains pus. Liver hyperemic. Heart, yellow fibrinous thrombi in left auricle and ventricle. Septic endocarditis. Death due to pyemia and endocarditis.

Bacteriology. Left heart, liver, and right kidney show coli.

Histopathology. Right kidney atrophic and granular, much interstitial hyperplasia, with contraction. Some small-cell infiltration, dilated desquamated tubules and atrophic glomeruli, with thickened capsules.

Experiment 50. Dog VIII. (Dog IX. Pathological Reports.) Operation November 18, 1899. Same technique as in other two dogs, except line of sutures protected by peritoneal flaps.

Pathologist's Report. Death due to toxemia and pyelonephritis. Ureter patent and not dilated. Left kidney very much enlarged. Pelvis dilated and filled with pus.

Bacteriologic and microscopic examinations showed findings already described in cases of pyelonephritis.

This last case has been included among recoveries, since death was due to infection and not to failure of technique. The first two cases died in sixty and eighty-seven days respectively of pyelonephritis, pyemia, and septic endocarditis. They can hardly be considered fair tests of the operation of lateral anastomosis, since the slit in the mucosa partially closed, and may have produced the dilatation of the ureter. The last case, however, was perfect from an operative standpoint, there being absolutely no obstruction to the flow of urine or dilatation of the ureter. Yet death resulted in ten days from pyelonephritis and pyemia.

(To be continued.)

Clinical Report.

ABDOMINAL HYSTERECTOMY FOR MULTIPLE FIBROMA WITH A FIVE-MONTH GRAVID UTERUS.

GEORGE R. GREEN, M.D.
MUNCIE, IND.

On July 13, 1900, I was asked to see a married woman 28 years of age. She was confined to bed with a temperature of 101 F., irregularly enlarged abdomen, nodular in form, but



with some elasticity, circumscribed peritonitis on the left side with pain and great tenderness, so much tenderness in fact as to make abdominal palpation almost valueless. Ten years



ago the patient complained of a lump in her side; it remained stationary, however, or increased very little in size. Eighteen months before my visit she had married, and thirteen months later gave evidence of pregnancy, i. e., suppression of menses,

morning sickness, etc. At this time this tumor—so long known to exist—began to grow rapidly and became very painful, so much so that she was finally forced to keep her bed and accept the daily use of anodynes to secure rest.

At the time of my visit she looked ill, her weight was not over 90 pounds; she was pale and weak, with rapid pulse, loss of appetite, abdominal distension and constant pain. I advised an exploration, so that, if possible, the growth might be removed, or at least its exact nature determined, explaining to the patient that the fact of a possible pregnancy would not necessarily prevent us from removing a fibroma if found advisable, her general condition being such that she would otherwise hardly live to the end of gestation.

On the morning of July 17, with the usual precautions, I opened the abdomen by a median incision and, separating some extensive adhesions on the left side and enlarging the abdominal opening, I succeeded in bringing a fibroid as large as my two fists into the opening; this was followed by another as large, and lastly, a gravid uterus studded with many other like growths of various sizes and scattered over the entire uterine wall, some subserous, others deeper. For the first time I held a living gravid uterus in my hands, and I was very forcibly impressed by the very great thinness of its walls, and if the normal uterus at term is as thin as that, I only wonder why more of them do not rupture during the violent contractions necessary in labor.

Hastily consulting with my assistants, we thought the only feasible thing to do was to remove the entire mass, uterus included. Ligating the uterine arteries, I cobble-stitched through the cervix to prevent the possibility of vaginal infection, and cut away the entire mass, cutting through the cervix close to the stitches; but little blood was lost, though the shock was profound, and after irrigating the abdominal cavity with hot salt solution, I allowed as much normal salt solution as I could to remain, and closed without drainage. Twenty-four hours later the pulse-rate was 140 and I gave, by hypodermoclysis, one quart of normal salt solution into the tissues underneath the mammary gland and requested the nurse and attending physician to repeat in eight hours and again in sixteen.

From this time the patient gradually improved and on removing the dressings on the tenth day the abdominal wound was healed. She was out of bed in four weeks and is now well. So far none of the nervous manifestations of the artificial menopause has developed.

The specimen was presented to the pathological section of the Indiana State Medical Society.

112 W. Jackson St.

Psychoses Following Operations.—At the meeting of the Edinburgh Obstetrical Society, February 13, Dr. J. Haliday Croom (*The Lancet*, March 2) read a paper on psychoses following peri-abdominal operations, and reported cases, incidentally making some remarks on operations undertaken on insane women for a cure of the mental disease. Dr. Croom considers that under no circumstances ought any insane woman to be operated on unless there is some distinct condition that is compromising life. Removal of ovaries and other operations with a view to influencing better conditions of insanity and hysteria were very unpromising. After degenerative processes have taken place in the brain, he considers it absolutely useless to look for any mental cure by any form of operative procedure. As regards the insanity from operation, his own records show five cases in a thousand abdominal sections. In looking for the causes of these mental disturbances after operation, the first factor was the hereditary one, and the second possibility was sepsis; loss of blood, defective action of the kidney, etc., also had their influence in producing mental symptoms. In removing the ovaries the climacteric was induced and the woman placed in all the possible risks of that period. Probably a neurotic constitution was an essential prerequisite for the development of post-operative insanity. For illustration of the possibilities even without operation, he reported a case of mental disturbance for menstruation, in a woman with good family history, where no operation had been performed. He calls attention to the fact that the normal functions of the uterus and ovaries are themselves not unassociated with mental aberration; alterations in the temper, actual hallucinations, disordered appetites of all kinds were occasional accompaniments of these perfectly normal processes.

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REORGANIZATION OF THE BRITISH MEDICAL ASSOCIATION.

The need of a better organization of physicians is felt in the United States, where the disadvantages of an ununited profession in the struggle against united quackery, and other evils, are every day manifest. In other countries similar evils are to be fought and like needs for organization exist; therefore, we hear of movements in the direction of furthering professional interests, such as business association, etc., in almost every quarter of the globe. Organizations and combinations are the special feature of the present day, and medicine can not be an exception to the rule. Organization to meet the new conditions as they arise is the essential to success, and this fact is apparently being more generally recognized now than at any time in the past.

The British Medical Association has been taking steps, through a strong committee, toward its reorganization, and the recommendations of the committee—its first or provisional report—are given in a supplement of forty-eight closely printed pages of the *British Medical Journal* of February 16.

At the present time the British Medical Association has, as an essential element, a system of local organizations called Branches, in which only about two-thirds of the members of the Association are included. It transacts its affairs in General Meetings and through the Council, the latter being partly representative and partly created in such a manner as to make it more or less perpetual. The powers of this body are ill-defined, although it practically controls all the affairs of the Association, the wishes of the General Meeting, as expressed by resolutions, not being necessarily respected. Nevertheless, the will of the General Meeting, if an attempt were made, would legally override that of the Council. Regarding this, the committee says: "The powers thus possessed by the General Meetings, though their exact extent has been for some years in dispute, are unquestionably great, and in view of the essential unfitness of such meetings for such duties, are a source of danger to the Association. In any association of 18,000 persons, it is impossible that all should attend a General Meeting; in the British Medical Association it is impossible that more than a very small proportion should attend such a meeting; those who attend do so on their own account without any authority or power to

represent others; and thus the decisions of a very small assembly whose composition is quite fortuitous stand legally as the decisions of the whole Association. This applies to every question of policy whether concerning the internal affairs of the Association or the general interests of the profession." The committee therefore suggests that this condition should be changed. The Association, it says, has outgrown its present limitations and its plan of organization, which has not been changed since 1874.

The recommended organization includes primary units or Divisions, corresponding as nearly as possible to parliamentary districts or constituencies. A certain number of these are grouped to form a more comprehensive body called a Branch, numbering not less than 200 members. All memberships in the Association must be through these Divisions. It will be one of the duties of the Division delegate to keep a list of all the medical men in his Division territory and act as a recruiting officer for the Association. The Branch is to supervise the Division, and still above it is the General Council, made up of the delegates from the respective Branches and the general officers of the Association, subject in some respects only to the general annual business meeting. If, in its judgment, any resolution adopted by the annual general business or delegate meetings does not properly represent the wishes of the Association, it can, within certain limits as to time, refer it with its own views thereon to the consideration of the special meetings of all the Divisions, and in that case the said resolution would not be valid or binding unless it received the approval of the majority of the members present and voting in the said special meetings of the Divisions. This is the referendum feature of the plan, which, as we understand it, is a final check on the Council in all business and other matters of importance. Provisions are made for details of voting, office holding, subscriptions, etc., but the above are the leading features of the proposed reorganization that are of interest to us. On the whole, the plan seems to be a good one.

Possibly the scheme thus tentatively set forth will be more or less modified, but the fact that it has been prepared as an attempt to meet needs that exist is of interest. It is evidence that a better organization in the medical profession is a recognized necessity in Great Britain, and it may be valuable in a suggestive way to the profession in this country. It is evident that there are some difficulties ahead if the plan is to apply to England's dependencies, and some of them do not appear to us to have been fully considered. The medical profession in the Dominion of Canada, for example, would be much more advantageously affiliated with a well-organized profession in the United States than with one in a distant island with which they are only politically connected; and equally serious disadvantages appear to us possible in the government of an Antipodean profession by a predominantly insular organ-

ization. The world has not yet grown so small that distance is altogether annihilated, and sentimental British imperialism may prove less influential than local interest and feelings. A thorough local organization, however, with a general central control of such extent as will co-ordinate and economize effort, seems to be one of the best methods of meeting the needs of the profession as they arise, and such a plan as above indicated ought to fulfil this indication, perhaps better than any other.

The British Medical Association is to be congratulated on having a committee which took hold of the matter so thoroughly, and which has taken the time to present such an exhaustive and complete report. The result will be watched with interest by many on this side of the Atlantic.

PARASITIC HEMOPTYSIS.*

The discovery of the lung fluke in hogs in this country has led the zoologists of the Bureau of Animal Industry in Washington to collect the principal facts in regard to this parasite and to bring the chief features of the human form of this infection to the attention of practitioners. The disease is not discussed in our works on practice, and as cases are liable to appear in this country and to be imported by soldiers returning from Asia, we certainly owe thanks for the timely warning. As pointed out by Stiles,¹ zoology and human and comparative medicine are three closely allied callings, and the medical profession should not be backward in recognizing its indebtedness to the labors of zoologists and veterinarians.

The lung fluke is known under various names, the correct one, according to Stiles, being *Paragonimus Westermanni*. Perhaps the most frequent synonym is *Distomum Westermanni*, which is the term used by the Japanese pathologist Katsurada in a recent and valuable article.² Discovered by Kerbert in 1878, in a tiger, it was found afterward in man, in Formosa by Ringer, in Japan by Baelz and others. Since then it has been found in various parts of Japan, China, and Corea. The American zoologist, Ward, found it in the cat and dog, and lately it has been found in hogs by the inspectors of the Bureau of Animal Industry. It is in Japan that the disease is most common in man, there being, according to Katsurada, quite a number of endemic foci in that country, no region of which is wholly free from the infection.

The complete life cycle of the lung fluke has not yet been demonstrated. The eastern physicians regard the water-supply and mollusks as the sources of infection. Encysted or free-swimming larval forms (cercaria) will in all probability be the stage in which the parasite enters its final host—man, cat, dog, tiger, hog (Stiles).

The manner in which the worm, 8 to 16 mm. long, 4 to 6 mm. broad, 2 to 5 mm. thick, enters the lung is not known. Once here the eggs are laid, which may be expectorated as such and which do not develop until they have left the host. Some observers describe the development of a ciliated embryo—miracidium—from eggs subjected to a temperature of 30 C. The fate of these embryos under natural conditions is not yet known.

The disease in man, produced by *Paragonimus Westermanni*, was named parasitic hemoptysis by Manson in 1880, and this is the name it seems destined to bear in English literature. As indicated by the name, hemoptysis is the chief clinical symptom. The sputum is dirty red to brown, due to the presence of the eggs, which are microscopic—about 80 to 100 mikrons long and 48 to 60 broad. Blood is present intermittently; cough is common, but not constant. As many as 12,000 eggs may be expectorated daily. It is evident that unless careful microscopic examination of the sputum is made the cases would naturally be mistaken for tuberculosis. The eggs are oval, brownish-yellow, one end being broader than the other, and provided with a thin shell. The contents are surrounded by an additional membrane and show a clear, rounded body, granular cells and clumps. The disease does not appear to be very dangerous as to life. Katsurada, in a community in which the disease is endemic, found the parasites in the lungs in but four of the cadavers subjected to autopsy in his institute. Recovery may occur and patients live for years if the eggs are confined to the lungs. Embolism of worms and eggs into the brain may take place, and cases of Jacksonian epilepsy due to this cause are described by Yamiagiwa, Katsurada and other Japanese observers. This event renders the prognosis unfavorable.

The pathologic changes have been studied, especially in Japan. Katsurada describes the lesions in four cases. Small cavities or cysts are found in the lungs, particularly under the pleura, surrounded by newly-formed tissue and containing the worms and their eggs together with detritus. The cavities communicate with bronchi, a fact that seemingly points to the bronchial tubes as the routes of entrance. It is thought that the hemorrhages result from the rupture of capillaries and smaller arteries in the walls of the cavities. The granulation tissue in the walls of the cavities not rarely contain multinuclear giant cells, which Katsurada regards as foreign body giant cells. Areas of scar tissue are also present in affected lungs. In the brain the embolized ova produce a multiple cortical encephalitis with giant cells. Similar foci containing eggs have been found in the liver, mediastinum, diaphragm, and elsewhere.

The lung fluke disease being present in the dog, cat and hog in this country, it stands to reason that infection in man may occur. Perhaps unrecognized cases already have occurred. So far no specific treatment is known. The underlying principles of an intelligent prophylaxis are indicated in what has been said in the

* See Editorial, xxxv, p. 1633.

1. Proc. Phila. Path. Soc., 1901, iv, 59-79. Abstract of paper by Stiles and Hassall on The Lung Fluke, to appear in xvi, Annual Report of the Bureau of Animal Industry.

2. Ziegler's Beiträge, 1900, xxviii, 506-523.

foregoing. Stiles advances the existence of this disease as an argument for courses in tropical medicine, and certainly opportunities should exist in this country for training men for medical duties in the tropics.

THE LATERAL-CHAIN THEORY OF IMMUNITY

Long before the day of bacteriology it was known that an attack of some diseases conferred protection from subsequent attack by the same disease, and various more or less fanciful explanations of this phenomenon were offered. As, gradually, it became known of a number of diseases that they were due to the action of minute forms of vegetable life, better crystallized conceptions of the disease-process, as well as those of recovery and immunity, were possible. The morbid process may be attributed to the reaction between the tissues of the invaded body and living vegetable cells, together with the products of their vital activity, and recovery and immunity, when they occur, may be considered merely as phases in this process, as a result of something added to or abstracted from the body. Much difference of opinion has existed and much discussion has been waged as to how recovery is brought about and immunity is induced. In order that the first event shall take place it is necessary for the invading bacteria to be destroyed or eliminated, and for the establishment of the second, either an antitoxin must be introduced from without or generated within the body; and it is with regard to the manner in which these results are brought about that agreement has been wanting. Of the several views put forward, that of Ehrlich has, perhaps, been received with greatest favor. This is known as the lateral-chain theory of immunity. It is based largely upon experimental evidence, and affords an ingenious explanation of the processes that are supposed to take place in the development of immunity following recovery from infectious diseases acquired naturally or induced artificially.

The cell is believed to consist of a nucleus, or central group, and to be provided with various lateral processes—in the sense in which these terms are used in organic chemistry. The cell may be injured by the entrance of the poison generated by the bacteria, in accordance with its chemical affinity, into combination with one of the numerous processes, which it does not destroy, and from which it is separable under certain conditions. This relation, which is established through a special molecular group of the toxic body, constitutes the channel through which the actual poison exerts its influence upon the central group, whose disturbance represents the true disease. If this influence is excessive the central group dies; otherwise it will do what it is physiologically accustomed to do, viz., throw off the process that has become unnecessary for its existence—by combination with the poison—and replace it by a new process—a regenerative procedure that, like all such processes, is completed only through redundancy of growth; or, as is thought by some, the detached and greatly in-

creased lateral-chain material breaks up the combination between the poison and the cell. In this way active immunization is brought about. The chain substance generated in excess to replace chains that have become useless, and thrown into the circulation, also represents the antitoxin, which, after recovery from disease, enters into combination with the toxin by reason of its clinical affinity, and, thereby, after recovery from disease acquired naturally or induced artificially, protects the individual against the poison introduced and thus renders him immune. The blood serum of such a person, impregnated with lateral chains, is also capable, if introduced into a second person, who receives the toxin in question, of neutralizing the latter, or, if introduced subsequently to the poison, combining with it. Immunity depends upon chemical combination of the toxin with the antitoxin. In the process of active immunization the body itself prepares the immunizing material, while in passive immunization the body receives the material from an actively immunized body. In the first event the cell-body is active; in the second it is not called upon. When the cell-body has generated antitoxin for a long time the immunity is more protracted, but in the second event only so long as antitoxin can be believed to be still present in the blood. As the combination depends upon chemical affinity the immunity is specific. Only that one among the many lateral chains neutralizes the toxin that is capable of uniting with it by reason of its chemical affinity, and this relation is mutually reciprocal. The production of the immunizing substance is attributed to a nutritive function of the central group of the cell, but passive immunization is provided with the weapon for its defense by active immunization from the material that this has produced in excess of its own needs.

The lateral-chain theory of immunity has been invoked to explain also the elimination of the bacteria that must take place in order for recovery to occur. It is, accordingly, assumed that the bacteria, in accordance with their chemical constitution, cause the throwing off of a lateral chain which unites with the protoplasm of the bacteria and through the intermediation of one of its complexes attracts a fermentative substance contained in the serum which effects a solution of the bacteria.

HAZING AND MEDICAL COLLEGES.

A recent occurrence in an eastern medical college does not speak very highly for the maturity, manliness, and scientific spirit of the undergraduates of the institution. A professional school is generally supposed to be free from some of the idiotic puerilities that have been so frequent in institutions for primary culture, and hazing, we had supposed, was being left in the remote past by men who had gone far enough to choose the profession of medicine. The student, however, in the college referred to, who was maltreated in a certainly unpleasant and mortifying way, and who brought

his tormentors into a police court, has been ostracized, it is said, by the whole school, including his own class. The transaction does not reflect any special credit on these students.

MISSOURI'S NEW PRACTICE ACT.

While the medical practice act that has just passed the Missouri legislature is in the line of progress generally, it is to be regretted that it gives to masseurs, who call themselves osteopaths, a legal right to treat the sick in that state. Osteopathy, however, is a Missouri product, and special influences were doubtless at work in its behalf. One of the legislators, opposing the bill as a whole, in a published statement calls attention to the point that ought to have been manifest to others of his colleagues. He asks: Why are physicians of the recognized schools obliged to be examined and to pay for the privilege, while osteopaths are exempt? The bill, he says, discriminates against all schools of medicine except osteopathy, and therefore is class legislation. It would be a pity if this alleged fact should balk the purpose of the act, as he says it will, on the ground of unconstitutionality. These masseurs certainly ought to be subjected to some regulation, even in Missouri, where this latest moonshine product originated.

CONSUMPTION CURES.

Since public attention has been focused upon tuberculosis, the number of consumption cures has multiplied almost daily, and in the editorial advertisement of one of them, in a New York paper, their number up-to-date is given as 153. They range from burying in carrion, which is perhaps the most repulsive, through every possible form of remedial treatment up to the metaphysics of "Christian science," and human credulity would seem to be pretty nearly exhausted, if it were not actually inexhaustible, on this subject. It is a curious inconsistency of the human mind that it can take in at once the terror of an incurable disease, and this belief in the multiplicity of its cures. It is in fact a snatching at straws in many cases. Consumption is not an incurable disorder, and probably many more patients with tuberculous infection recover than succumb to the disease, but this is due to hygienic conditions and natural resistance; at least it has been so in the past. At the present time we are learning to utilize well-known principles in combating this disease, but specific medication for its cure does not seem to be as yet on any scientific or well-established clinical basis, though, as a lay paper says, "it is a cold day when there is no consumption cure announced."

BIOLOGIC TESTS OF THE PROTEIDS IN VARIOUS MILKS.

The most important nutritive substances in milk are the proteids. It is of essential importance for the perfection of substitutes for mother's milk that the nature of the proteid constituents of various milks is understood more clearly than heretofore. The question whether the proteids in the milk of various animals are identical may be a very important one indeed. In order to gain some insight into this problem Schütze¹ resorted to the

method suggested by the experiments of Bordet, Metchnikoff and others on hemolysins, spermotoxins, etc., and injected one lot of rabbits, at frequent intervals, with increasing doses of sterilized cow's milk, a second lot with goat's milk, and a third with the milk of a woman. After about three weeks of this treatment the serum of the rabbits acquired the power of coagulating the milk with which it had been injected. But this power is specific in the sense that the serum of rabbits treated with cow's milk coagulated cow's milk only and not goat's or woman's milk, and vice versa. This shows conclusively that the proteid molecules of various milks differ from one another. It was long ago learned that patients do not utilize the milk of various animals in the same degree, some doing better than others on the same milk. Schütze also found that when milk is boiled for half an hour it is no longer coagulated by its specific lactoserum, thus demonstrating that heat greatly modifies the molecular structure of the proteids. It remains to determine the exact degree of heat necessary to sterilize milk without causing much or any change in the structure of its proteid molecules. It seems that each animal species has its own peculiar milk, and it must be regarded as settled that it is impossible to make preparations from cow's milk that will have the same composition as human milk. At the same time it is not denied that artificial feeding may give excellent results. Lactoserum may become, however, an important agent in determining the degree of exact composition of the proteids in the various preparations offered as substitutes for human milk. This biologic test again shows the manifold variety of the products of cells, and in a much more striking manner than the chemical analysis has been able to do up to the present time. It seems that Fisch,² by analogous experiments, obtained similar results to those of Schütze. The field offers many inviting opportunities for further studies.³

THE GERM OF SMALLPOX.

The germ of smallpox has heretofore received no general recognition, though the conviction that variola is a germ disease is unavoidable. The latest on this subject is to be found in the *British Medical Journal* for February 23, in which are two communications bearing on this subject. Dr. M. Funck, director of the Institut Sérothérapique, and chief of the bacteriologic laboratory of the University of Brussels, reports the results of his studies in this direction and the finding, in vaccin and smallpox pustules, of morphologically identical organisms which he considers as the cause of vaccinia and variola. These appear under three forms, representing different stages of the same protozoon: 1, an isolated green sphere showing slow movements; 2, the same infecting epidermic cells, and 3, a morula form consisting of agglomerated sporoblasts; the last is the one most frequently found in old vaccins, while the first form is more common in perfectly fresh material. The inoculation of these organisms into susceptible animals produced all the symptoms of vaccinia

1. Zeitschr. f. Hyg. u. Infektionskr., 1901, xxxvi. 5-8.

2. St. Louis Cour. of Med., February, 1900.

3. See also JOURNAL A. M. A., March 9, p. 672.

and the subsequent immunity. In the pustules of confluent smallpox the same elements were found and their behavior will be described in a forthcoming paper. From these facts, Funck concludes that variola and vaccinia are identical, that vaccinia is only the attenuated form of smallpox, and that the immunity it produces is not an exception to the general laws of specific immunity. The discovery of the protozoon is not claimed as a new one, as its presence in vaccine corpuscles was recognized by L. Pfeiffer—in 1887—whose work is highly spoken of by Funck. That bacteria are not the active agents in vaccinia the author considers proved by the fact that he finds vaccine matter after a certain period absolutely free from microbes, though still active, and the pustules thus produced are also themselves sterile. This seems to have some important practical bearings and probably explains the well known better action of ripened vaccine. The second communication is by Monckton Copeman, medical inspector to the local government board in England, who describes zooglae-like masses found in collodion capsule cultures of vaccine lymph sealed up and placed within the peritoneal cavities of rabbits and dogs, the method being the same as that followed by Noeard and Roux in studying the micro-organisms of bovine pleuropneumonia. The fluid contents of these capsules was found capable of producing typical vaccinia in the calf. He has since demonstrated apparently similar organisms in genuine smallpox in man. Whether these zooglae masses are the same as the third type of manifestation of the sporozoon of Funck is not entirely clear, but they are described as “made up of bodies resembling spores, only the periphery of which took the stain.” There is no record of the detection of any actual microbe. It seems possible that we will at least have light thrown on the etiology of this disorder, the first in which artificial immunity was secured, but one of the last so far to evade our search for its germ.

THE SURGICAL TREATMENT OF ASCITES DUE TO CIRRHOSIS OF THE LIVER.

It is taught generally that ascites in cirrhosis of the liver is due to mechanical obstruction of the portal circulation. Where the portal congestion is relieved through existing collateral channels, ascites may be absent. Cases of cirrhosis with ascites have been recorded in which the formation of more or less extensive peritoneal adhesions, due to repeated tapplings or other causes, has been followed by recovery from ascitic accumulations. Ascites in cirrhosis of the liver may be regarded, then, as an indication that sufficient collateral circulation can not be established spontaneously, most likely on account of absence of some of the natural but inconsistent communications between the portal system and the general venous system. Packard and Le Conte¹ discuss the surgical treatment for the relief of the ascites of cirrhosis, brought to the attention of physicians by Talma, and first carried to a successful issue by Drummond and Morison. The various methods employed all aim at producing a collateral circulation through peritoneal adhesions. Packard and Le Conte have collected, from the literature, twenty-two cases in which surgical meas-

ures were resorted to for relief of ascites. The actual results are difficult of succinct statement, but contrasting the worst view with the best construction there is found an operative mortality somewhere between 23 per cent. and 7 per cent., and the recoveries run between 41 per cent. and 64 per cent. These statistics can not be regarded otherwise than as encouraging. The method is still on trial, and an accurate estimate of its value is not yet possible. Enough has been learned, however, to show that surgical treatment of ascites in cirrhosis is not absolutely contraindicated for the reason that removal of ascites is directly detrimental to health and life; for it has been urged by some that ascites in cirrhosis is an expression of toxemia, and that its removal would not tend to benefit the patient. Le Conte recommends that an incision be made to the left of the median line, under local or chloroform anesthesia, and that the parietal peritoneum over the liver, spleen and omentum be dried and gently rubbed with a gauze sponge, the same treatment being applied also to the surface of the organs, and the omentum stitched to the anterior abdominal wall with two or three stitches of catgut. In the meantime the ascitic accumulation may be drained off through a suprapubic opening in which a drainage-tube may be left if the latter can be cared for properly. Otherwise both wounds should be closed at once. Drainage is regarded as useful for three or four days until the adhesions become firm, but great care must be used to prevent infection. Packard and Le Conte conclude that the operation has won a distinct place, and that in the future the suitability of particular cases for the operation may be more clearly established than is the case at present. They recommend the operation in cases of pure portal cirrhosis where persistent and well-directed medical treatment is followed by insignificant results. As yet operation is not indicated in other forms of cirrhosis. In the diagnosis of cases for contemplated operation, care should be taken to eliminate syphilitic cirrhosis, in which recovery is possible under proper medicinal treatment. The relief of ascites in patients with atrophic cirrhosis would be a blessing, as otherwise constant treatment and repeated tapplings are necessary and the sufferers are doomed to perpetual invalidism. The earlier the relief comes, the better, because then the liver has more of a chance to regain its functions by compensatory hyperplasia in the event that the process of contraction is brought to a standstill.

GERMAN ANTIVIVISECTION BIGOTRY.

The Prussian culture minister, it is said, has established a detective bureau to watch all medical literature for cases of questionable operations and experiments. It is evident that the antivivisection bigotry and outcry against fictitious cruelties is not entirely confined to America, and there is some comfort in the recognition of this fact, though it does not cause any serious discomfort here so long as the antivivisectionists are unable to interfere with perfectly legitimate work, as in their ignorance they are inclined to do. The Germans have one advantage over us, however, in that these misguided enthusiasts have not been able there to interfere with necessary sanitary measures, such as vaccination, as they have to some extent in this country and in Great Britain.

1. Am. Jour. of the Med. Sci., 1901, cxxi, 251-270.

Medical News.

CALIFORNIA.

A quack was recently fined \$100 in Los Angeles for practicing medicine without a license.

In San Jose, a man who has been travelling through the state under the title of the "Old Quaker Doctor," has been arrested, the result of investigations by a joint committee from the Pastors' Union of San Jose and the Santa Clara County Medical Society.

Three "Indian doctors," who secured the deeds to a ranch near Santa Rosa in exchange for an alleged practice in that place, and who were sued on account of misrepresentations, have been defeated in court, the deeds to the property annulled and the ranch returned to its original owners.

DISTRICT OF COLUMBIA.

Honorary Membership.—The Imperial Medical Society of Constantinople, Turkey, at its meeting February 15, elected Surgeon-General Wyman, of the U. S. Marine-Hospital Service, to honorary membership. This is the oldest scientific body in Constantinople, has done much to improve the sanitary condition of the Empire of Turkey, and, as an aid to its work, receives the patronage and protection of the Sultan.

GEORGIA.

Waycross, on account of the prevalence of scarlatina, has decided to prohibit public gatherings of all kinds, including religious services, for two weeks.

A hospital for incurables was opened in Atlanta, March 2, by the Atlanta Circle of King's Daughters and Sons. It has accommodation for ten patients and is under the medical charge of Dr. James M. Brawner.

Smallpox in Atlanta is to be under the control of hospital and charities committee of the city council, provided the ordinance committee's recommendations are approved by the council. This will make the position of the local board of health rather an anomalous one.

In Atlanta, four physicians who inspected cases of smallpox were paid \$190 each for the service, or at the rate of \$5 a visit. The council reversed its action and requested a refund. Two doctors complied, and now the council has passed an order returning the amount refunded.

ILLINOIS.

An isolation hospital, to cost about \$3000, is to be erected in Springfield.

Smallpox is reported in Anna, 50 cases; Belleville Township, several cases; Cogden, 1; Petersburg, 1 new case, and Tallula, 1 case.

The Galesburg Sanatorium has been incorporated by Dr. Ewing Van D. Morris, H. M. Chase and Fred H. Holmes, with a capital stock of \$75,000.

Typhoid fever is epidemic in Rock Island. The health officer, Dr. George G. Craig, Jr., reports 376 cases of the disease between Nov. 1, 1900, and March 1, 1901. He claims that the infection is due to city water and urges that the inlet pipe be examined.

Reporting death.—A bill introduced in the assembly, March 7, provides that it shall be the duty of every surgeon who performs a surgical operation and of every physician who advises and arranges for the same, after which death results within thirty days, to report the same to the coroner of the county within twenty-four hours. It shall be the duty of the coroner to call a competent physician, who has had no previous connection with the case, to make a thorough investigation of all the circumstances before the coroner's jury and report the same as the statute provides in other cases. Violation of the provisions is made a misdemeanor punishable by a fine of \$500 or thirty days' imprisonment.

Chicago.

Michael Reese Hospital was recently damaged by fire to the extent of \$2000.

Dr. Christian Fenger, on account of distinguished service rendered in the United States and abroad, has been made a Knight of Dannebrog, by King Christian of Denmark, and has received the cross of that order.

Smallpox.—Only 9 new "suspect" cases of smallpox were reported during the week ended March 9 of which 7 were verified, and 6 of these were removed to the Isolation Hospital and 1 quarantined with the family at home. The mild type of the

disease remains unchanged, only 1 death having occurred in the 134 cases treated since Nov. 30, 1900. The situation no longer causes the health department any anxiety.

Vital Statistics.—The mortality for the week ended March 9 was 478, equivalent to an annual death-rate of 14.18 per 1000. The chief causes of death were: respiratory diseases, including tuberculosis, 196; heart diseases, 38; nervous diseases, 31; Bright's disease, 25; violence, 26. An excess of 44 deaths over the number recorded for the week previous is interpreted by the health department as the beginning of a period of rising death rates after six weeks of unprecedentedly low winter mortality. Increased frequency of the germs of pneumonia and influenza in the laboratory examinations made for physicians indicates these as the diseases to be most dreaded and to be most guarded against.

Effects of Weather.—March weather is proverbially trying in Chicago and the catarrhal condition caused by raw winds, dampness and sudden changes of temperature favors the growth and activity of the germ of all diseases of the throat and air-passages. Hence the health department cautions against exposure to cold and wet, to the debilitating effects of overheated and poorly-ventilated rooms, street-cars and other places; and, the desirability of undereating rather than overeating at this season of the year. The observance of Lent in its dietetic feature, is a sound hygienic measure, in the opinion of the department.

INDIANA.

Dr. Hiram W. Bowman, St. Joe Station, has been appointed coroner of De Kalb County.

A public hospital is to be established in Bloomington, and the committee which has the matter in charge already has a fund of \$3000.

Smallpox patients have filled the Indianapolis Isolation Hospital, and the board of health is now considering the problem of the disposition of additional cases. There are now fifty-three persons under quarantine in the city.

Indiana Medical College, Indianapolis, is to have a new building four stories in height, thoroughly equipped, heated by steam and lighted by electricity. The building committee has awarded the contract which calls for a completion of the building by September 1.

IOWA.

The County Hospital of Louisa county, at Wapello, has been completed at a cost of \$10,000. It is thoroughly furnished and equipped and is ready to receive patients.

The Fairfield Hospital Association has named as members of the medical board of the hospital, Drs. J. Fred Clarke, Calvin Snook and John V. Bean, Fairfield, and Dr. Samuel K. Davis, Libertyville.

A tract of land, 200 by 300 feet, was donated by the city council of Cedar Rapids, March 9, as a site for a hospital, which is to be erected this season by the Sisters of Mercy, at a cost of not less than \$50,000.

Dr. Marion R. Hammer, Newton, was found guilty of assault with intent to commit murder, March 2: the motion for a new trial was overruled, and he was sentenced on March 5, to 3½ years in the penitentiary at Fort Madison.

The medical department of the state university, at Iowa City, suffered to the extent of \$200,000 by fire March 10. The medical building was entirely destroyed. As the school would have closed in three weeks, its work for the year will not be seriously crippled.

KANSAS.

Dr. Frank McCallum, Kansas City, who went as volunteer to the Philippines two years ago, has been made captain and assistant surgeon of volunteers.

One thousand cases of smallpox in the state, and 500 of these in Crawford and Cherokee counties, are given by the secretary of the State Board of Health as the number on March 7.

The State Board of Health has been named by the governor, and the recommendation sent to the senate for approval. The following are nominees: Dr. S. Jay Crumbine, Fort Dodge; Robert J. Morton, Greent; B. J. Alexander, Hiawatha; S. W. Williston, Lawrence; G. W. Hollenbeak, Cimarron, and others.

MARYLAND.

Baltimore.

Dr. Aaron Friedenwald has been elected president and Dr. Abraham B. Arnold, treasurer of the Baltimore branch of the Alliance Israelite Universelle, for the ensuing year.

The Woman's Medical College celebrated the twentieth anniversary of its founding, February 22, at the college building. The committee in charge of the exercises consisted of Drs. Eugene F. Cordell, John G. Jay and Pearce Kintzing.

Mortality Rate.—The mortality from pneumonia and bronchitis has created alarm. Many physicians attributed it in large measure to unheated street-cars. From Nov. 1, 1900, to Feb. 18, 1901, there were 498 deaths from pneumonia and 102 from bronchitis. During the present session, 45 cases of pneumonia have been admitted to the Johns Hopkins Hospital, with a mortality of 28.8 per cent. Seventeen recovered by lysis.

Appointment.—Dr. Clarence B. Farrar, a graduate of the Johns Hopkins University, has been added to the staff of the Sheppard and Enoch Pratt Hospital for Nervous and Mental Disease, as clinical and laboratory assistant, and provision has been made for young graduates of medical schools, as resident assistant physicians, that they may devote themselves to the special study of nervous disorders. An effort is made to exclude all but curable patients, although a few chronic cases are temporarily admitted. The net amount received from the bequest of Enoch Pratt, after the expenses of the litigation, was \$1,069,300.

Hazing by Students.—There has been trouble at the University of Maryland's School of Medicine, on account of the hazing of a freshman, who, in the dissecting room had his mustache cut off with a pair of dissecting scissors. By the advice of the Dean, as he says, he had the offender arrested and fined. This created bad feeling, and he was pelted with rotten eggs and other articles and roughly jostled on attempting to attend lectures. The medical faculty has passed resolutions forbidding the practice of hazing and authorizing the dean to suspend any student found guilty of maltreating, molesting, or in any way interfering with, any other student. The hazzee now announces that he may resume his studies in a few days.

MASSACHUSETTS.

Dr. Richard H. Thompson, Malden, has been appointed city physician.

The **Emergency Hospital** at Springfield, was opened February 26, and is under the charge of Drs. E. V. Hardwick and R. W. Brayton.

A **state sanatorium for consumptives** is the aim of a bill introduced by Senator Fitzgerald, which appropriates \$150,000 for this purpose. The sanatorium, if established, will probably be located in the mountains in the western part of the state.

The **Hospital for Consumptives**, Boston, will be located on Marcella Street, and the mayor has recommended an appropriation of \$80,000 for its equipment and maintenance. There are now four institutions in Boston where consumptives receive free treatment.

MICHIGAN.

Two health officers, Dr. Michael D. Ryan, president of the Saginaw Board of Health, and the health officer of Gilmore Township, Isabella County, are ill with smallpox.

Dr. Beverly D. Harison, Sault Ste. Marie, secretary of the State Board of Health, who was not reappointed by Governor Bliss, refused to surrender his office and was sustained in his claim by Attorney-General Owen, who holds that the term of office does not expire until October.

The Health of Michigan.—For the month of February, compared with the preceding month, pneumonia, pleuritis, inflammation of the kidney, scarlet fever, erysipelas and whooping-cough were more prevalent; and typhoid fever, inflammation of the bowels, intermittent fever, diphtheria, smallpox and measles were less prevalent.

By the will of Mrs. Palmer, who died March 7, and who was the widow of Dr. A. B. Palmer, of the medical department of the University of Michigan, Ann Arbor, \$20,000 is bequeathed to build a new ward in the hospital, and \$15,000 for the maintenance of free beds in the institution.

The **state contagious disease inspector**, Dr. George E. Ranney, Lansing, has gone to Boyne Falls, to investigate a smallpox epidemic at that place. The disease has been diagnosed by an outside physician as chicken-pox, and the lumbermen are said to be determined to break quarantine and threaten to fight their way through if they are opposed.

MINNESOTA.

Medical inspection of schools in Minneapolis, by volunteer inspectors, commenced March 11.

A **detention hospital** for the temporary care of persons insane, or supposed to be, was advocated by the Ramsey County Medical Society at its last meeting.

A **bill** has been introduced, authorizing practicing physicians to compound medicine under the same restrictions placed on druggists without securing pharmacists' licenses.

The **license and control** of massage and bath parlors, faith healers and mind readers is provided for in a bill providing that the council or other governing body of any city or town may prescribe license fees and reasonable rules for their control.

The **report of Health Commissioner Dr. John M. Robinson**, Duluth, shows that 98 per cent. of the smallpox patients in the city had not been vaccinated within seven years, and that 267 out of the 309 patients, or 86.4 per cent., had never been vaccinated.

MISSOURI.

Lutheran Hospital, St. Louis, recently opened its new additions, containing twenty rooms for private patients, a modern operating-room, diet-kitchens, dining-rooms for nurses, etc. It has been furnished by various organizations connected with the Lutheran churches of the city.

The **Hall medical bill** has passed house and senate and now awaits the signature of the governor to become a law. The opponents of the bill employed all the obstructive tactics known to adroit parliamentarians, without avail, and now the "Christian Scientists" have given up the fight and retired from the field.

Hospital Staff.—The German Hospital, Kansas City, has the following medical staff for the year: Drs. Julius Bruehl, Charles H. Lester, Robert T. Sloan, Lincoln G. Taylor, Charles F. Wainwright and Isadore J. Wolf, on the medical side; Drs. Jacob Block, George O. Coffin, Andrew L. Fulton, George Halley, Louis W. Luscher, and E. Van Quast, on the surgical side; Drs. Blencowe E. Fryer and John H. Thompson, oculists and aurists.

MONTANA.

A **military hospital**, with a capacity of twenty beds, is to be built at Fort Keogh, near Miles City.

The **bill to create a state board of health** has been favorably considered by the house in committee of the whole, the compulsory vaccination clause being stricken out.

In **Helena** the members of the board of pension examiners have resigned on account of the unreasonable and unnecessary work required and the unreasonably small fees allowed.

The **osteopathy bill** has been passed with amendments by the senate, the amendment making it a misdemeanor to prescribe medicine while practicing under the osteopathy law, by a person not a regularly licensed physician.

NEBRASKA.

A **state health inspector**, with a salary of \$1800 a year, is created by a bill which provides for the organization of county boards of health, to prevent the spread of contagious diseases. The bill leaves the compensation of the county inspector to the liberality of the county board.

An **ultimatum** has been promulgated by Health Commissioner Dr. Victor H. Coffman, Omaha, in which he calls the attention of physicians to the fact that it is the duty of the health department to take cognizance of all sudden deaths, accidents and emergency cases. The police and health departments are to be notified, and physicians who fail to give notice to the health commissioner are subject to fine.

Medical Staff.—The medical staff of the County Hospital, Omaha, is as follows: Drs. Andrew W. Riley, Salon R. Towne, Willson R. Bridges and William F. Milroy, medicine; Drs. John E. Summers, Jr., Charles C. Allison, H. P. Hamilton, August F. Jonas and John C. Anderson, surgery; Dr. Charles Rosewater, obstetrics; Dr. H. Clayton Sumney, dermatology; Drs. Harold Gifford, Henry L. Burrell and Henry B. Lemere, ophthalmology and otology, and Drs. Ewing Brown, Fred Rustin, gynecology.

NEW JERSEY.

Dr. Daniel M. Dill, Newark, has been appointed superintendent of Essex County Hospital for the Insane.

Dr. Francis W. Bennett has been appointed surgeon and physician to the Pennsylvania Railroad Company, at Atlantic City.

Mob law ruled in Orange, March 11, when the isolation hospital which is being erected by the board of health, was demolished.

Dr. Chauncey V. Everitt, Jersey City, has been appointed physician in succession to his father, Dr. John R. Everitt, who resigned.

Medical Library at Orange.—By the generosity of the widow of the late Dr. William Pierson, the physicians of the Oranges have become possessed of a library of 8000 volumes. For the present the books will be placed in the building in honor of erection to the memory of Dr. Joseph William Stickler, whose estate contributed another library of value along other lines. The local physicians have named a committee of organization, to report, at an early date, on a plan embracing lecture halls as well as accommodations for readers.

NEW YORK.

Dr. Joshua J. Sweet has been appointed health officer of Unadilla.

Dr. Charles D. McCarthy has been appointed health officer of Geneva, for a term of three years, at an annual salary of \$300.

Utica has appointed fifteen ward physicians who, with two exceptions, receive a salary of \$100 per annum, the two receiving \$125 each per annum.

The January deaths in the state numbered 12,524, or 2000 above the average, the deaths from acute respiratory diseases being 2720. There were 2570 deaths at and above the age of 70 years—as many as under 5 years.

Influenza in New York.—The State Board of Health has issued a statement relative to the prevalence of la grippe in this state, since its appearance in 1889. The number of deaths each year, from the disease, is as follows: 1890, 5000; 1891, 8000; 1892, 8000; 1893, 6000; 1894, 3000; 1895, 5000; 1896, 2750; 1897, 3000; 1898, 2500; 1899, 7000; 1900, 11,500. The affection has varied greatly in severity in different years; it seems likewise to have varied in virulence in different localities and to have shown various types, likewise in the rapidity of its spread. It is evidently communicable from the individual directly, possibly immediately, and conveyed in infected clothing. Like all zymotic diseases susceptibility to it varies; unlike some, immunity does not follow a previous attack. The state is now in the course of the twelfth recurrence of the disease, affecting the mortality of December by about 300; it increased the number of deaths in January by probably 3000, and was still progressing during February.

German Hospital.—This Buffalo institution was opened to the public on March 10. The building reflects great credit on the German citizens who have worked so unremittingly in behalf of the institution. The hospital will be non-racial and non-sectarian. The following staff is announced: Internal medicine, Drs. Conrad Diehl, Emil S. Tobie and Thomas Lathrop consulting, and Drs. Henry C. Bushwell, William C. L. Meisburger, Julius Ullman and Robert Hebenstreit, attending; surgery, Dr. Roswell Park, consulting, Drs. Marcello Hartwig, Herman Mynter, John G. Meidenbauer and Henry G. Bentz, attending; gynecology, Dr. Matthew D. Mann, consulting, Drs. Charles H. W. Auel, Max C. Breuer, Herman E. Hayd and Sigmund Goldberg, attending; obstetrics, Dr. Charles H. W. Auel, consulting; diseases of children, Drs. Ludwig Schroeter, Charles Weil and Herriott C. Rooth; eye and ear, Drs. Lucian Howe and Julius Pohlmann, consulting; Dr. Jacob Goldberg, attending; nose and throat, Drs. George F. Cott and W. Scott Renner, attending; skin, Dr. Ernest Wende, consulting, Drs. Grover W. Wende, Jacob M. Kraus and Alfred E. Diehl, attending; genito-urinary, Drs. Alois Joki and Julius Reister; nervous, Drs. William C. Krauss, Floyd S. Cregs and Herman G. Matzinger; pathology, Drs. William G. Bissell, Harvey R. Gaylord and J. A. Miller.

New York City.

The Academy of Medicine is to receive the medical library of the late Dr. Abbott Hodgman, by his will.

A fire at the Eastern District Hospital, Brooklyn, March 8, caused a panic among the patients, but was put out before any injury was done to the inmates.

A practitioner in Brooklyn has been found guilty of filing a false death certificate, in the case of a patient who died from smallpox, and has been fined \$100.

The Eye and Ear Hospital has opened its new pavilion for the treatment of communicable diseases. It is the gift of Mrs. Eveline Bliss and her daughters, in memory of the late James N. Platt.

The Bureau of Contagious Diseases reports that smallpox increased in the city during February, 139 cases having

been reported. Since November 5, 311 cases have been reported, with 42 deaths.

Library Books and Communicable Diseases.—A resolution has been passed by the Bureau of Health providing that no books shall be loaned from the public libraries to persons affected with contagious diseases. It will be the duty of the assistant medical inspector of the bureau to furnish a list of such patients, and a list will be sent daily to the different public libraries.

OHIO.

Dr. B. B. Taylor, who has been on duty at Columbus Barracks for the past year, has been made captain and assistant surgeon of volunteers.

In Cincinnati, two men have been arrested on the charge of using the prefix "Dr." without having complied with the law requiring registration.

Dr. R. D. Sikes, Newark, has been promoted to medical examiner for the Baltimore and Ohio Railroad Company, and has been transferred to Allegheny, Pa.

The Huron Street Hospital, Cleveland, is to be freed from debt. John D. Rockefeller has promised to pay \$5000, if the balance, \$10,000, is secured by October 1. The trustees have already raised \$3000 of this amount.

PENNSYLVANIA.

Smallpox is still epidemic at Scenery Hill, whose population is composed mostly of negroes. Up to March 7 21 cases had been reported. A rigid quarantine is being maintained.

Dr. R. L. Taylor, medical inspector of Pittsburg, states that during the year forty-five cases of smallpox were treated at the Municipal Hospital. In his opinion the disease came from twenty different sources. The municipal hospital, it is believed, is inadequate to the needs of the city.

School Directors May Quarantine.—Representative Hamilton, of Jefferson county, has introduced a bill providing that directors of schools in townships, in addition to the powers vested in them, shall also be given the power to prohibit, from attending school, any child or person who resides in a building in which epidemic disease exists. The following are specified: Smallpox, varioloid, scarlet fever, typhoid fever, yellow fever, relapsing fever, diphtheria, etc.

Philadelphia.

Dr. H. C. Wood is in the South, on account of his health.

Jefferson Medical College has asked an appropriation, from the legislature, of \$300,000 for the establishment of a new hospital, and other improvements.

The deaths from tuberculosis, during the past year, were 2717; from pneumonia, 2915. The mortality from diphtheria was lower than for previous years.

Surgeon H. W. Austin, in command of the national quarantine in the Delaware River and Bay, has been given orders to provide for night inspections of vessels.

Dr. A. H. Cleveland has been elected laryngologist and rhinologist to the Presbyterian Hospital, a department which has only been recently established by the board of trustees.

The University Medical Magazine, with the March number, becomes the *Medical Bulletin of the University of Pennsylvania*. It will hereafter contain no advertising matter and will be somewhat changed in form, the policy of the publication, however, not being altered.

TENNESSEE.

The Greenville Board of Health has raised the quarantine against all smallpox-infected points.

The new building for the Memphis Hospital and Medical College will be started early in April, and is to be ready for occupancy in November.

The Central Hospital for the Insane, Murfreesboro Pike, Nashville, is much overcrowded, and the management has asked for an appropriation of \$20,000 for a new building.

Meharry Medical College, Nashville, graduated a class of 40, at its twenty-fifth commencement, February 27. Bishop Walden, of Cincinnati, delivered the address to the graduating class.

TEXAS.

Dr. James A. Sadler, one of the oldest physicians in Sherman, is in a critical condition from cerebral hemorrhage.

Dr. S. E. Hudson, Austin, has severed his connection with the *Texas Medical Journal*. Dr. F. E. Daniel assuming control.

The following appointments to the Medical Examining Board are announced: Dr. Samuel F. King, Sherman; Dr. Stephen A. D. Moore, Van Alstyne, and Dr. Winston B. Markham, Denison.

VERMONT.

Dr. Donly C. Hawley, Burlington, secretary of the State Medical Society for the past fifteen years, and president of the Board of United States Examining Surgeons, for pensions, has been elected mayor of Burlington on the republican ticket.

At the annual meeting of the directors of the Fanny Allen Hospital, Burlington (Winooski Park), the following staff was elected for the present year: attending surgeons, Drs. W. G. E. Flanders, D. C. Hawley, P. E. McSweeney and O. W. Peck; attending physicians, Drs. A. T. Arkley, Lyman Allen, A. J. St Germain and J. W. Sheehan; consulting surgeons, Drs. L. M. Bingham, Wm. B. Lund, W. R. Prime and J. D. Hanrahan; consulting physicians, Drs. A. P. Grinnell, C. M. Ferrin, W. J. Labelle, H. Pepin and E. A. Burdick; specialist in diseases of eye, ear and throat, Dr. H. E. Lewis; consultant, Dr. Chictien Zaugg; pathologist, Dr. J. H. Linsley.

WISCONSIN.

Dr. Ernest L. Bullard, Waukesha, has been appointed superintendent of the State Hospital for the Insane at Mendota, vice Dr. W. A. Lyman, resigned.

Major John R. McDill, Milwaukee, who went to the Philippines as surgeon of the Thirtieth Volunteer Infantry, and who made so exceptional a record there as to be recommended for promotion by General McArthur, has decided not to return with his regiment, but will remain in Manila and assume control of a private hospital, the first of its kind to be established there.

GENERAL.

Army Dentists.—Dr. John S. Marshall, Chicago, president of the examining board of dental surgeons, U. S. Army, announces that candidates for appointment as dental surgeons in the army will be examined in the following named branches: anatomy, physiology, histology, physics, chemistry, metallurgy, dental anatomy and physiology, dental materia medica and therapeutics, dental pathology and bacteriology, orthodontia, oral surgery, theoretical operative dentistry, theoretical prosthetic dentistry, practical and operative, and practical prosthetic dentistry. An average of 75 per cent. will be required in each subject for theoretical examination, and 85 per cent. in the practical examinations.

Appropriations.—Congress, at its last session, appropriated \$35,000 for the erection of the necessary buildings and quarters for a laboratory for the investigation of infectious and contagious diseases, and matters pertaining to the public health, under the direction of the surgeon-general of the U. S. Marine-Hospital Service; and authorized the secretary of the navy to transfer to the secretary of the treasury five acres of the old Naval Observatory grounds, for use as a site for the laboratory. The same bill contained appropriations of \$50,000 for a boarding vessel at Reedy Island, Del., and \$40,000 for a boarding vessel at Port Townsend, Wash., quarantine stations, and \$29,500 for improvements at Delaware breakwater, Cape Fear, Savannah, Columbia River and Reedy Island quarantine stations.

CANADA.

Carberry, Manitoba, is to have a new hospital, erected on the cottage plan.

Dauphin, Manitoba, will erect a modern hospital in the immediate future.

Winnipeg's vital statistics for February were: 110 births, 62 male and 48 female; 71 deaths, 40 male and 31 female; marriages, 39.

The Mount Royal cemetery bill has passed the legislature of the province of Quebec. It provides for the erection of a crematory on the cemetery premises in Montreal, the first of its kind in the Dominion of Canada.

Dr. Wilfrid T. Grenfell, superintendent of the National Mission to Deep-Sea Fishermen, at present in Montreal, established the third hospital in Labrador last summer, and it has accomplished much good in relieving the sufferings of the fisher people.

Winnipeg General Hospital.—The number of patients treated at this institution during the past twelve months was 2649. In the out-door department there were 1435 consultations. Of the indoor patients, 1684 came from Winnipeg, 785 from other places in the province, 150 from the other provinces, and 30 from the United States.

Vaccination Crusade.—Dr. Laberge, Montreal's city health officer, has started a vaccination crusade in order to protect the city from the introduction of smallpox from surrounding centers of infection. He states that the health officials are meeting with less opposition to vaccination in Montreal every year. The old smallpox pavilion contains only four beds, which shows the facilities Montreal has for coping with the disease.

St. John Hospital.—The annual work done at the public hospital, St. John, N. B., last year, shows that 1038 patients were treated, 446 being medical, 486 surgical and 106 eye and ear. The amount expended on hospital maintenance was \$28,291.59. The out-door department treated 1102 cases, medical and surgical, and of these 1029 received prescriptions. There were also 412 eye and ear cases, of which 398 received prescriptions.

Neglects Smallpox.—Montreal's civic council is scarcely up to modern hygienic requirements. Recently the secretary of the provincial board of health notified the council that six cases of smallpox were in the outskirts of the city, and suggested that immediate steps be taken to have a temporary isolation hospital improvised. The council showed its appreciation of the urgency of the matter by ordering the communication to lie on the table for a week.

Health Legislation.—The government bill respecting public health has passed its third reading in the Quebec legislature. By it the secretary of the provincial board of health will receive a salary of not more than \$2400 per annum; and the board of health may further provide for the appointment of analysts, a statistician and the other necessary officers. There are provisions, too, to the effect that unvaccinated children may be prevented from attending the schools of the province.

Ontario Vital Statistics.—Complete returns have been received regarding births, marriages and deaths occurring in Ontario during 1900. There is an all-round increase, but the most encouraging report is that referring to births, which shows that the birth-rate of the province has increased substantially during the year. This may be accounted for by the fact that there have been a good many prosecutions before magistrates' courts for failure to register births under the provisions of the registration act. The following shows the births, marriages and deaths for the past three years, 1898, 1899 and 1900 respectively: births, 46,599, 44,705, and 46,019, being an increase of 1314 over the previous year; marriages, 15,375, 16,514 and 17,123, an increase of 609; deaths, 26,370, 28,607, and 29,594, an increase of 987. Dr. Bryce, secretary of the Ontario Board of Health, estimates the birth-rate last year at 19.19 per thousand, as compared with 19.4 in 1899 and 20.4 in 1898.

Lodge Practice in British Columbia.—On two or three former occasions notice has been taken in the columns of THE JOURNAL with regard to the action of the Victoria Medical Society in refusing to accept lodge practice from the fraternalists of that city. The very latest phase of the situation looks as though the medical men were going back on their former laudable resolutions. During the past summer, the special committee on the matter, appointed by the fraternalists, has not been by any means idle. Petitions were circulated throughout British Columbia, praying that the medical act of the province be amended to permit of the entrance of the practitioners of the other provinces of the Dominion or practitioners duly qualified from the British Isles, without taking the prescribed examinations of the medical council of the province. So numerous have been these petitions, and so fully have they been signed, that the medical practitioners of Victoria are on the eve of returning to the fraternal fold, and thus renouncing their former worthy and honorable action. Surely the legislature of the province, before whom the petitions now lie, will not permit of such rank coercion.

From the Yukon.—Dawson, as reported in the columns of THE JOURNAL recently, is still overrun with mad dogs. The epidemic has assumed alarming proportions and has been so serious as to compel a conference between the police, medical men and leading citizens regarding the best method of dealing with the conditions present. Many persons have been bitten, and the present condition of affairs is a menace to public health and safety. The consensus of the medical opinion is that the disease is undoubtedly rabies, of the type called "dumb rabies." The matter is a serious one from another point of view, a first-class "husky" or "malamite," trained to the sled, being worth from \$300 up. Those individuals who have been bitten had their wounds immediately cauterized; but a sense of insecurity and uneasiness prevails among the citizens, as the medical men state that the disease may develop at any time within eighteen

months. The citizens are allowed to shoot a dog on sight, when it shows the least evidence of madness; and it is feared that the continuation of the epidemic may cause the extinction of the entire dog species in the Yukon territory. A supply of the Pasteur serum has been ordered.

Consumption Sanatorium for Nova Scotia.—In the legislative assembly of Nova Scotia, last week, Premier Murray laid on the table the report of the special committee appointed by the government to make recommendations in regard to the establishment of a sanatorium for the treatment of the consumptives of the province. The report recommends a single sanatorium, and that the location be either Dutch Village, near Halifax, or on the shore of the Bedford Basin, at or near the village of Bedford. The congregate plan should be adopted for a small number of patients—accommodation being provided for twenty patients, arranged on the plan of the sanatorium of Dr. Phillips, at Craighleith Hospital, Edinburgh, with a competent and special trained nurse and no medical resident superintendent, but two regular medical men to be appointed to make specified visits every week. The committee expressed the opinion that the treatment of consumptives should be carried on near large centers of population; and that the sanatorium act of the province, enacted at the last session of the legislature, be amended so that it would provide for municipalities receiving government aid for sanatoria, the same as provided for in the Ontario act. Dr. A. P. Reid, secretary of the provincial board of health, endorses the recommendations, but thinks it would be better to have a regular resident medical superintendent. He disapproves also of the Atlantic seaboard as not being a suitable site for the purposes of a sanatorium.

FOREIGN.

Among deaths noted abroad are those of Dr. Bawater J. Vernon, F.R.C.S. Eng., January 28. He was a well-known London surgeon of St. Bartholomew's Hospital.

Professor Ostroumoff, of Moscow, retires this year from his connection with the medical faculty, after forty years of service. The students have founded a scholarship in his honor.

The pamphlet, signed by twenty professors, portraying the dangers of venereal diseases, and which is now given to each student at the German universities, has been reprinted by the Bavarian military authorities and distributed among the troops.

Unna's prize for the best work on the histology of primary cutaneous carcinoma was not awarded last year. The amount of the prize is now increased to 600 marks, and the same subject is still open to competition. Articles should be sent to the publisher of his *Monatsschrift*, L. Voss, Hohe Bleichen 34, Hamburg.

Prizes Offered by Belgian Academy.—The Académie Royale de Médecine de Belgique offers a number of prizes open to foreigners. Among them are the following: 800 francs for the best work with new research to determine the relations between the neurons—closed, Jan. 20, 1903; Alvarenga prize of 800 francs for the best work in any branch of medicine, received before January, 1902; anonymous prize of 8000 francs for the best work on pathogenesis and treatment of diseases of the nerve-centers, especially epilepsy—this prize can be divided; 30,000 francs will be added to this prize in case a cure for epilepsy is discovered, or some similar progress is reported.

New Mexican Publication.—The *La Cirurgia Contemporanea* is a new periodical from the City of Mexico. It is the organ of the Mexican Surgical Society, and will be published monthly. It will cover the field of general surgery, gynecology, otology, laryngology, ophthalmology and genito-urinary diseases, and is under the editorial direction of Ramon Macías. The first issue, with its introductory, makes a very favorable impression and contains articles on spinal analgesia, hysterectomy and colostomy, the latter two with illustrations. The editors appear to have broad and liberal ideas as regards the field of medicine which they represent, and the new publication starts out under the most favorable auspices and is likely to be a creditable exponent of Mexican surgery.

Progress of the Plague.—According to cable reports, 15 new cases of bubonic plague were reported in Cape Town, S. A., on March 11, and 97 persons were isolated on account of having been exposed. On the same date two colored persons died in the street, and one European on being removed to the hospital. The affection is extending to the more prosperous classes and the removal of several thousand Kaffirs from the city is being consummated, the government having decided to remove the people from one-third of the city's area and cleanse it. One soldier employed at the castle has been attacked. Since the

outbreak there have therefore been 119 cases and 25 deaths. According to the *British Medical Journal* of March 2, 400 died of plague in the City of Bombay on February 24 and 25.

Medical Appointments to the King.—According to *The Lancet*, the king has appointed Lord Lister to be sergeant-surgeon-in-ordinary; Sir William MacCormac, Bart., K.C.V.O., F.R.C.S., and Sir Thomas Smith, Bart., F.R.C.S., to be honorary sergeant-surgeons. Other appointments are—to be honorary physician to the king: Dugald McEwan, M.D.; Sir James J. L. Dennet, K.C.B., M.D., inspector-general of hospitals and fleets; Sir John Watt Reid, K.C.B., M.D., LL.D., director-general of the medical department of the navy (retired); Adam B. Messer, M.D., inspector-general of hospitals and fleets; Henry C. Woods, C.V.O., M.D., inspector-general of hospitals and fleets (extra). To be honorary surgeons to the king: Sir James Jenkins, K.C.B., M.D., inspector-general of hospitals and fleets; Timotheus J. Haran, inspector-general of hospitals and fleets; Sir James N. Dick, K.C.B., director-general of the medical department of the navy (retired); William H. Lloyd, M.D., inspector-general of hospitals and fleets; Alfred G. Delmege, M.V.O., M.D., deputy inspector-general of hospitals and fleets (extra).

LONDON.

Hunterian Oration: Evolution of the Human Skull—Man and Ape.

The Hunterian Oration at the Royal College of Surgeons is usually devoted to a somewhat general description of John Hunter's life and work, and the influence of his example and principles on the growth of surgery. The orator of this year, Mr. Macnamara, the ophthalmic surgeon, instead, selected for his discourse a single biological theme. John Hunter laid the foundation of the superb museum which, after his death, was purchased by the nation and committed to the care of the college, and which has since been enriched by many benefactions. From its treasures, Mr. Macnamara selected the "unrivalled collection of skulls," and endeavored to show the manner in which this collection throws light upon the sources from which the populations of Europe have been derived. He stated that the numerous characters common to man and the larger apes prove that they had descended from the same stock. The inability of apes to speak he explained by the fact that the anterior portion of their skulls underwent early ossification and this prevented the growth and development of speech centers. In man, on the other hand, this ossification does not take place until the age of 20, and development is possible. In prehistoric times the skull has not this power. The skull found in the tertiary formation in Java is clearly on the boundary line between men and apes, and the human skulls of the pre-glacial and inter-glacial periods more closely resemble those of the chimpanzee than of existing Europeans. With these skulls of low development are found the simplest and roughest implements. After the glacial period the skulls, though of a low type, are still better developed. Europe was then peopled by the Africo-Europeans or Iberians, a short, powerful, long-skulled race.

Mr. Macnamara attributes the better development of the Iberians to the alteration in the climate and fauna of Europe, which compelled them, in the struggle for existence, to make better use of their brains. They were followed by a race of tall people, with large, well-formed skulls, who possessed domestic animals, and used a language which still survives. After them came a tall, broad-skulled Turanian people, then a short, small-boned, broad-skulled Mongolian race. Notwithstanding many changes on the European continent, the distinctive characters of some of these races remain. In the countries which border the Mediterranean, the people are still short, dark and long-skulled (Iberians). North Germany and Scandinavia contain a large proportion of the tall, fair, long-skulled Teutonic race (Aryan), while a vast triangle, with its apex in central France and its base in eastern Russia, is inhabited by the descendants of the broad-skulled Turanian and Mongolian races.

Extraordinary Fraud—A Man Obtains His Own Death Certificate.

A man aged 35, described as a Dublin medical student, came to lodge in London and called on a doctor, minutely describing to him the symptoms of Bright's disease. He also brought urine for analysis, and it contained a large quantity of albumin. One day, when the doctor called, he appeared to be very drowsy and dangerously ill. Early on the following morning a man resembling the patient called on the doctor, but he was clean shaven and in good health, while the patient had a heavy moustache. The visitor posed as the brother of the patient, who, he said, had passed away in great suffering during the

night. He was given a certificate of death. In pursuance of his usual practice the doctor visited the chamber of death. In the dimly-lighted room what appeared to be a human body was perceptible on the bed, but on examination the "corpse" proved to be a dummy composed of pillows, blankets, boots and a poker. The man who obtained the certificate, on being questioned, said: "I am the dead body," and asserted that he had committed the deception to deceive his people into the belief that he was dead. A search in his box, however, showed that he had a life policy of \$1000. For having made a false declaration for the purposes of death registration, he has been sentenced to nine months' imprisonment. It appears that the man was really ill and had a high temperature, but simulated the special symptoms of Bright's disease.

Eclipse Blindness with Thrombosis of the Retinal Artery —Hemorrhage into the Vitreous.

At the Ophthalmological Society, Dr. R. D. Batten has reported the case of a woman aged 28, who watched the eclipse on May 28, 1900, without other protection than "screwing up the eyes" and looking between her fingers held close together. Objects immediately appeared black, and, next morning, she could see only "portions of things." On June 6, when she was first seen, she had lost the lower half of the field of vision in the left eye, $V = 6/18$. Above the disc was a white patch, possibly an absorbing hemorrhage, and the hazy edematous retina obscured the view of the disc and retinal vessels. The edema increased until June 20, and then rapidly cleared, leaving a patch of choroidoretinitis above the disc. One of the upper-retinal arteries was occluded and the others were reduced in size. The vitreous opacities cleared and the macula was unaffected. V. improved in the injured eye to $6/12$. In the right it was $6/6$.

Mr. Lawford said that he had observed three cases of eclipse blindness, but without ophthalmoscopic signs. In all, however, the scotomata had persisted with deterioration of vision. Mr. Jessop had published three cases. In all, vision improved, but there was a slight permanent scotoma. Mr. Bokenham gave details of two cases, in one of which there were retinal hemorrhages. V. improved from $5/60$ to $6/12$, but there was a marked central scotoma. Dr. G. A. Berry thinks the scotoma is usually permanent in the worst cases. The public is not aware that blue glasses are worse than useless in looking at the sun and bright lights. It is the blue and violet rays which do damage. In Russia, red or yellow glasses are employed.

Correspondence.

Port Limon and Yellow Fever Reports.

TREASURY DEPARTMENT, OFFICE OF THE SUPERVISING SURGEON-GENERAL, MARINE-HOSPITAL SERVICE, WASHINGTON, D. C.,
March 8, 1901.

To the Editor:—In THE JOURNAL of March 2, under "Correspondence," is a letter from Dr. Edmond Souchon, president of the Louisiana State Board of Health, which takes exception to some of the suggestions contained in a paper by Dr. Nicholas Senn, published in THE JOURNAL of January 19. Dr. Souchon quotes Dr. Senn's suggestion of placing the port of New Orleans under the jurisdiction of the U. S. Marine-Hospital Service, etc., and makes the following statement: "This expression is most unfortunate, especially as coming so soon after the signal failure of the Marine-Hospital Service to recognize the existence of yellow fever in time at Port Limon last year. That service admitted the existence of the fever there several weeks only after the distinguished representative of the Louisiana State Board of Health, Dr. Will H. Woods, had advised the board of the presence of the fever at Limon, and after cases had occurred on fruit vessels plying between that port, New Orleans and Mobile. Mobile was guided by the reports of the representative of the U. S. Marine-Hospital Service and escaped infection only by enforcing the most rigid measures. Although Mobile had not actually recognized Limon as infected, she treated vessels from there as if the port was infected. Finally she did proclaim Limon infected."

In refuting Dr. Souchon's statements, I think it necessary to first disavow any inspiration either from myself or, so far as I know, from any officer of the Service, prompting Dr. Senn in his expression of opinion, but I can not allow Dr. Souchon's statements to go unquestioned.

So far from the signal failure of the U. S. Marine-Hospital Service to recognize the yellow fever in time at Port Limon last year and only admitting its existence there several weeks after Dr. Woods had advised the Louisiana State Board of Health of its presence, I have to state that the advice of Dr. Woods, as referred to, was about the middle of July, whereas by reference to the *Public Health Reports* of May 4, 1900, page 1072, it will be seen that Acting Assistant Surgeon Thomas, of the Marine-Hospital Service, cabled from Port Limon as early as April 20 the existence of one fatal case of yellow fever in that port. Moreover, as early as April 20—see *Public Health Reports* of that date—a report from Acting Assistant Surgeon Hodgson, specially detailed to obtain information concerning Central American ports, was published bearing date of April 7, in which he states as follows: "Port Limon, Costa Rica, is the cleanest town south of the Rio Grande on the seacoast, but I consider it the most dangerous. I think that yellow fever is endemic in the port." etc.

Dr. Souchon's letter would leave the impression that no notice of the condition of this port was given until his own officer advised the Board of the fever at Limon in July, and it is to relieve this impression that I quote the above publications. Now, so far as the report of Dr. Woods referred to is concerned, the Service never has and does not yet admit its correctness, but to be entirely on the safe side the bureau published a cable from Acting Assistant Surgeon Thomas, dated July 17 and published in the *Public Health Reports* of July 27, as follows: "Woods reports to State Board Health, New Orleans, La., 1 case yellow fever, 1 suspicious. Drs. Carson, Steggall, Aguilar and myself disagree with Woods," and in *Public Health Reports* of August 3, under date of July 19, Dr. Thomas explains at length his reasons for disagreeing.

It is understood that Dr. Woods, after reporting this case as yellow fever, reported to his board four other cases as yellow fever, all of which were seen by three of the consultants in the first case, by whom they were not even regarded as suspicious. No official reports of these as yellow fever cases have ever been received at this Bureau, but the charts and the statement from Acting Assistant Surgeon Thomas showing them to be malaria are on file.

August 18 and 22, cases of yellow fever which occurred on vessels were reported by Acting Assistant Surgeon Thomas. (See *Public Health Reports*, August 31, p. 2164, and September 7, p. 2276). On October 31 another case occurred on a vessel and was duly reported by Acting Assistant Surgeon Thomas over the cable. (See *Public Health Reports*, Nov. 30, 1900, p. 2929). On October 31 there was one case of yellow fever reported in Port Limon, which was duly cabled.

It is true that Mobile was guided by the reports of the Marine-Hospital Service, but as to enforcing most rigid measures they were no more than are ordinarily enforced under like circumstances.

I deem the above statements necessary simply to show the watchfulness and care of the Marine-Hospital Service at Port Limon last season.

To summarize, in April, a representative of the Service made a full report on the sanitary conditions of Port Limon. On April 20 a case of yellow fever was reported by the acting assistant surgeon stationed there. July 17 a suspicious case, with the full facts, was reported by the acting assistant surgeon, who, however, denied, together with three other prominent physicians, the diagnosis of Dr. Woods, who stood alone in his belief. The remaining cases of yellow fever that occurred at Port Limon, four in number, were duly reported as soon as they occurred.

All the above facts were published. Respectfully,

WALTER WYMAN, M.D.
Surgeon General, M.-H. S.

Committee on National Legislation and Annual Conference, Washington, D.C.

To the Editor:—By an amendment to the quarantine laws, the last Congress authorized the Surgeon-General of the U. S. Marine-Hospital Service, with the approval of the U. S. Sec-

secretary of the Treasury, to designate and mark out the boundaries of the quarantine grounds and anchorages for vessels at the United States quarantine stations, and imposed a penalty of fine or imprisonment or both for the violation of any part of the act or any regulation made in accordance with the act.

Another section of the amendment provided for quarantine measures to apply to vessels arriving in collection districts without entering a port of the United States. This is intended particularly for fishing-smacks and other small craft which leave Cuban ports for smuggling rum and tobacco into the United States along the coast of Florida; these vessels were liable to convey infection by landing their sick on this coast.

To further aid in the enforcement of the quarantine laws the act gave authority to national quarantine officers to administer oaths.

The above law was recommended by the Committee on National Legislation of the AMERICAN MEDICAL ASSOCIATION, and approved, at their annual conference, held at Washington, D.C., Feb. 20 and 21, 1901, of the legislative delegates from the various states of the United States. Concerted action in the future will, it is hoped, secure more legislation indorsed or proposed by the national conference with the legislative committees of the AMERICAN MEDICAL ASSOCIATION.

H. L. E. JOHNSON, M.D.

Chairman Committee on National Legislation, AMERICAN MEDICAL ASSOCIATION.

Quarantine Against Plague.

NEW YORK, March 8, 1901.

To the Editor:—Dr. Doty is quoted by Dr. Bracken, in THE JOURNAL of March 9, p. 677, as having said that "rats collected at New York, from coffee-carrying vessels from Rio Janeiro and Santos, during the recent outbreak of plague in those two places, were examined bacteriologically, and in no instance was there the slightest evidence of bubonic plague." I add that neither did Dr. Doty's bacteriological examination disclose bubonic plague in the body of the dead laborer on one of the lighters to which the cargo was being removed in mid-bay—who suddenly died of pneumonia. Yet the man's hands had been in direct contact with the rat-infected cargo, and had breathed into his lungs its dust. Credit is due President Murphy, of the New York Board of Health, for his firmness in not permitting the port quarantine service to unload those ships at their piers. Had that been done, some sick rats could have come ashore to infect our sewers by their droppings, or by transferring their infected fleas to our rats. And this plague pneumonia, if the bubonic stage was delayed, might have gained its foothold here. The Bombay Medical Union claimed that in some such way their city became infected from sugar cargoes from Hongkong, which were unloaded at the granary-piers, the feeding places of the Bombay rat.

Dr. Doty's position, at the time of our controversy, was wholly on the side of the coffee importers and the New York Chamber of Commerce.

ALBERT S. ASHMEAD, M.D.

Washington's Governor and Medical Practice.

SPOKANE, WASH., March 4, 1901.

To the Editor:—I noted with great pleasure your very just criticisms on the conduct of Governor Thomas of Colorado, in a recent issue of THE JOURNAL, also the manner in which the profession has turned him down. I take pleasure in informing you that our state legislature has similarly rebuked John R. Rogers, the present governor of the State of Washington.

At the beginning of the present session of our legislature one of the representatives from this county, Dr. C. G. Brown, introduced a bill which was a slight improvement over our former medical act, in that it prevented osteopaths and other quacks from practicing without having been properly licensed. It also made possible conviction of parties practicing medicine without the necessity of proving that they actually received money for the services. In addition to this, it has a provision for recognizing the licensed graduates from other states, having regular licensing bodies. This bill, after passing both houses, was vetoed by the governor in a long harangue on the blessings of osteopathy, which was published in all the papers in the

state. The bill was immediately reconsidered, through the efforts of Dr. Brown, and has now passed both houses with a safe majority, and is a law. Yours very respectfully,

C. P. THOMAS, M.D.

[THE JOURNAL of March 9 editorially commented on this action of Washington's governor, the news of the above reprimand to his veto having been received after that issue of THE JOURNAL was on the press. Ed.]

Subscriptions for Ollier Monument.

To the Editor:—The undersigned constitute a committee similar to those formed in several European countries for the purpose of receiving subscriptions for a monument commemorative of the distinguished scientific services of Prof. Leopold Ollier. Among the members of these committees are Lord Lister, Professors von Bergmann, Czerny, Durante and other leading men. The municipality of the city of Lyons has dedicated an open space adjacent to quarters of the various academic faculties on the border of the Rhone, named in his honor "Place Leopold Ollier."

The profession of this country is well aware of the great services rendered by Professor Ollier, especially in the domain of plastic and osseous surgery. His labors have been most fruitful in the domains of surgery, of physiology and pathology. The committee hopes to raise not less than \$1000 as a testimonial from the profession of America. Check should be forwarded to Dr. W. W. Keen, 1729 Chestnut street, Philadelphia, at as early a date as possible.

COMMITTEE:—Robert Abbe and William T. Bull, New York; P. S. Conner, Cincinnati, Ohio; A. T. Cabot, Boston; Howard A. Kelly, Baltimore; W. W. Keen, Philadelphia; Rudolph Matas, New Orleans; Wm. J. Mayo, Rochester, Minn.; W. F. McNutt, San Francisco; Roswell Park, Buffalo, N. Y.; Clayton Parkhill, Denver, Colo.; Maurice H. Richardson, Boston; Nicholas Senn, Chicago.

Married.

GEORGE A. BROUGHTON, M.D., Oxnard, Cal., to Miss Mary Livingston, of San Francisco, Cal.

WILLIAM A. CAVEN, M.D., Hazelwood, Pittsburg, Pa., to Miss Margaret Elizabeth Wireback, of Monessen, Pa., February 28.

GEORGE W. MCCOY, M.D., U. S. M.-H. Service, formerly of Bristol, now stationed in San Francisco, Cal., to Miss Edith Miller, of Pennsylvania, at San Francisco.

Deaths and Obituaries.

Richard J. Dunglison, M.D.

Dr. Richard James Dunglison died at his home in Philadelphia, March 5, from dropsy and heart failure, following an attack of pneumonia a year ago. He was born in Baltimore, Nov. 13, 1834, and came of a medical family, his father being Dr. Robley Dunglison, professor of institutes of medicine and medical jurisprudence in Jefferson Medical College, and his grandfather, Mr. John Leadam, a noted surgeon of London, England. He was graduated from Jefferson Medical College in 1856, but after a few years relinquished the practice of medicine for the field of medical literature. He was editor of two editions of "Dunglison's Medical Dictionary," and of the "History of Medicine," of which his father was the author; was editor of *Dunglison's College and Clinical Record* for fifteen years, one of the original editors of the *Philadelphia Medical Times*, for several years Philadelphia correspondent of the *Medical Times and Gazette* of London, and a frequent contributor to the medical literature. He was the author of the "Practitioners' Reference Book;" "A Handbook of Diagnosis, Therapeutics and Dietetics;" "A New School of Physiology and Hygiene;" "An Elementary Physiology and Hygiene," and "The Present Treatment of Diseases." He also translated Guersant's "Surgical

Diseases of Children," from the French. From 1862 to 1865 he served as acting assistant surgeon in the United States Army, in various military hospitals in Philadelphia, for the last two years of that time being executive officer of the Filbert Street Hospital. He was a member—and for many years treasurer—of the Philadelphia County Medical Society; and of the College of Physicians of Philadelphia; a member and, in 1875, corresponding secretary of the Pennsylvania State Medical Society; of the American Academy of Medicine, of which he was secretary and treasurer for several years and vice-president in 1890. He was for many years a member of the AMERICAN MEDICAL ASSOCIATION, of which he was assistant secretary in 1876, and treasurer from 1877 to 1894. He was also assistant secretary of the International Medical Congress in 1876, and corresponding secretary of the Centennial Medical Commission in the same year. In 1877 he served as secretary of the executive committee and chairman of the finance committee of the Ninth International Medical Congress. He was also corresponding secretary of the Alumni Association of Jefferson Medical College from its inception, and for many years honorary local secretary of the New Sydenham Society of London.

John Dean Ross, M.D., University of Pennsylvania, 1832, died at his home in Williamsburg, March 5, aged 95. He founded the Blair County Medical Society in 1848, and was the first president. He was president of the State Medical Society in 1865, and at the time of his death was its oldest member. He had been a member of THE AMERICAN MEDICAL ASSOCIATION for forty-seven years.

Charles F. Knight, M.D., Medical School of the Valley of Virginia, Winchester, 1852, one of the pioneer physicians of Missouri, formerly superintendent of State Asylum No. 2 for the Insane, one of the founders and the first president of the St. Joseph, now the Ensworth Medical College, died March 4, at his residence in St. Joseph, after a lingering illness, aged 71.

J. Stone Armstrong, M.D., Jefferson Medical College, Philadelphia, 1879, a prominent physician of Buffalo, and at one time grand master workman of the A. O. U. W. of New York State, died at his home, March 4, from pneumonia, after a short illness, aged 61.

R. Wilson Carr, M.D., University of Maryland, Baltimore, 1852, a member of the Walker expedition to Nicaragua, a surgeon in the Confederate Army, and for a quarter of a century a resident of Sedalia, Mo., died at his home in that city, March 5, aged 70.

George Holmes Bixby, M.D., Harvard Medical School, for many years a gynecologist in Boston and a frequent contributor to the literature of that specialty, died at his home in Boston, February 26, after many years of invalidism, aged 63.

James Chapman, M. D., New York University, 1852, for many years a surgeon in Medina, N. Y., and in the Civil War, died from paralysis, after an illness of several years, at his home in Medina, February 27, aged 77.

Thomas H. Morrow, M.D., Northwestern Ohio Medical College, Toledo, 1889, of Erie, Mich., while driving across the tracks in Toledo, Ohio, February 27, was killed by a train.

Aloysius X. Whiteford, M.D., Washington University School of Medicine, Baltimore, 1873, died at Parkville, near Baltimore, February 28, after a lingering illness, aged 52.

Lawrence J. McDonough, M.D., University of Vermont, Burlington, 1886, died at St. John's Hospital, Lowell, Mass., after an illness of three months, March 2, aged 45.

S. A. Mercer Given, M.D., University of Pennsylvania, 1887, Clifton, Pa., died at that place, February 23, aged 41, from diabetes, after a long illness.

Fred L. Thayer, M.D., Harvard Medical School, 1871, died after a long illness, from Bright's disease, at his home in West Newton, Mass., aged 53.

Frederick Hibbard, M.D., Medical College of Ohio, Cincinnati, 1884, died suddenly at his home in Little Hocking, Ohio, February 23, aged 40.

James C. Smiley, M.D., who had practiced in Kewanee, Ill., for more than thirty-five years, died at his home in that town, March 3, aged 70.

Tillie Dittenhoefer, M.D., University of Oregon, 1896, died suddenly from heart disease, February 22, aged 40, in Portland, Ore.

Alpheus J. Clemmons, M.D., College of Physicians and Surgeons, Keokuk, Iowa, 1879, died at St. Joseph, Mo., March 8.

William G. M. Seiple, M.D., University of Pennsylvania, 1867, died at his home in Lehigh, Pa., March 1, aged 55.

William B. Young, M.D., Jefferson Medical College, Philadelphia, 1845, died at his home in Higley, Fla., February 22.

Robert Stone, M.D., College of Physicians and Surgeons, New York, 1858, died in New York City, March 7.

Book Notices.

MASTERS OF MEDICINE. THOMAS SYDENHAM by John Frank Payne, M.D., Oxon. Fellow and Harveian Librarian of the Royal College of Physicians. Cloth. Pp. 264. Price, \$1.25. New York: Longmans, Green & Co. 1900.

The life of Sydenham is not "an open book," and the paucity of material referring to the man and his work makes a satisfactory biography out of the question. The author has placed before the reader all that is known of the "great physician," but no attempt is made to fill in gaps which reliable records have left. To those who had formed a high opinion of Sydenham, without inquiring why he has been placed on the pedestal he seems to occupy in British medicine, the reading of this book will be a disappointment. Not that the author has not done his work well, for he has, but the records do not appear to show that Sydenham was such a remarkable man. If asked what Thomas Sydenham had done that he should be regarded so highly, few would be able to give a satisfactory answer. He is supposed to have first described that form of chorea which still bears his name, but his biographer quotes Sturges as saying that Sydenham's original description of it was so imperfect that the disease could hardly be recognized therefrom, and the biographer confesses that "it is not a very complete picture of the disease." He introduced a liquid form of opium, a preparation similar to wine of opium of later time, called "Sydenham's laudanum," and which appeared in books, under this name, till quite recently. The biographer credits this with making its originator more widely known than did his writing. His books do not show any great amount of wisdom, nor did they have any material effect on the practice of the time.

The book, however, is not only an interesting, but is also a valuable one in that it depicts the profession as it was then. It shows that quackery was just as influential at that time as it is now; and there is some satisfaction in knowing that, in this regard at least, we are no worse off than was Sydenham and his fellows.

PARALYTIC DEFORMITIES OF THE LOWER EXTREMITIES. The Principles of their Surgical Treatment. By E. Noble Smith, F.R.C.S. Edin., L.R.C.P. Lond., etc., Senior Surgeon to the City Orthopedic Hospital, and Surgeon to All Saints' Children's Hospital, London. With 51 Illustrations. Cloth. Pp. 99. Price 5 shillings. London: Smith, Elder & Co. 1900.

This little work is a general review of the aspects of paralytic deformities of the lower extremities, with especial consideration of the question of functional treatment. While brief, the work is a valuable addition to orthopedic surgery. It is fairly well illustrated.

OBSTETRIC CLINIC. By Denslow Lewis, Ph.C., M.D., Professor of Gynecology in the Chicago Polyclinic. A series of Clinical Lectures on Practical Obstetrics delivered to Students and Practitioners in Cook County Hospital, Chicago, together with Remarks on Criminal Abortion, Infanticide, Illegitimacy, the Restriction of Venereal Diseases, the Regulation of Prostitution and other Medico-Sociologic Subjects. Cloth. Pp. 640. Price \$3.00. Chicago: E. H. Colegrove. 1900.

Dr. Denslow Lewis has reproduced, in book form, the clinical lectures given by him in 1887 in the Cook County Hospital, Chicago. These include the majority of the subjects included under the general head of obstetric practice, and also some

ociologic papers which do not necessarily fall under the head of clinical lectures. Dr. Lewis is an able lecturer and knows how to present the cases in an interesting and edifying manner, and his lectures will be profitable reading. The student and practitioner both will find the perusal of this work instructive. We wish we could say as much in favor of the make-up of the book which is defective in several ways. The paper is of inferior quality and the changes of tints are almost trying to the eyes. It is a pity that such a meritorious volume in many respects is not better presented to the public.

ETHICAL MARRIAGE. A Discussion of the Relations of Sex from the Standpoint of Social Duty. By Delos F. Wilcox, Ph.D. Cloth. Pp. 235. Price \$1.25. Ann Arbor, Mich.: Wood-Allen Publishing Co. 1900.

Ethical marriage, the author says, is a protest against the idea that the matter is to be discussed by physicians alone. This is, therefore, a popular presentation, including certain subjects which are not commonly said to be suitable for general discussion. The author's treatment is commendable in some respects, and in others open to objection. We can not say that we think the book as a whole one to be recommended to the young, notwithstanding the excellent moral tone of many of its chapters. It is a curious fact that the author idealizes a writer who is not, in the opinion of many who have glanced over his works, the most moral in his tendencies, and for that reason we should have some suspicion of his judgment on these matters. The book is well written and doubtless will be found readable, but we do not think it as good a work as some others that have been issued under the same apparent auspices.

PHYSICAL DIAGNOSIS IN OBSTETRICS. By Edward A. Ayers, M.D., Professor of Obstetrics in the New York Polyclinic. With Illustrations. Cloth. Pp. 276. Price \$2.00. New York: E. B. Treat & Co. 1901.

This work is meant to serve as a guide to physicians and undergraduates in the examination of pregnant, parturient and puerperal women. It is, indeed, an elaborated case-taking chart, emphasizing all important points to which attention should be directed in the study of clinical obstetrics. In the training of medical students, in most schools of America, less care is given to practical and bedside obstetrical teaching than to any other branch of medicine. The facilities for the imparting of thorough instruction are scanty, and teaching methods are crude and undeveloped. Dr. Ayers has done good service in showing how much can be done by a competent and conscientious teacher who desires to give his students something besides systematic didactic lectures. It is a pity that the book is not printed in better style. Most of the illustrations are badly reproduced and several qualities of paper are used. The work is in no way creditable to the publishers.

Clippings from Lay Exchanges.

RARE SURGICAL OPERATION.

New York, March 7.—“A clerk in an insurance company is in St. Luke's Hospital, recovering from a surgical operation, one of the rarest known to medical science. The operation is known as gastro-antrostomy, and consists of removing the patient's stomach, cutting away several malignant growths in the vicinity of the pylorus and restoring the stomach to its former place.” The patient “complained some months ago of severe pains in his stomach and was troubled with insomnia. . . . a tube inserted. . . . showed a total disappearance of all acids and a destruction of the pepsin. . . . Examination disclosed a systematic degeneration of the pancreas. . . . The stomach was cut away from the intestines and the organ was lifted completely out of its place and laid on a cushion of antiseptic clothes placed on the patient's chest. The stomach was then put back in its accustomed place. . . . But little blood was apparent throughout the whole operation. . . . The patient rallied at once and it was seen that the operation was a success.”—*Evening Post*, Chicago, March 7, 1901.

MURPHY BUTTON EXPLAINED.

“A tube was inserted in Mr. —'s abdomen leading into the

intestines. . . . This tube is closed with a Murphy button, so called from having been invented to suit the case of Colonel Michael C. Murphy, the police commissioner.—*New York Tribune*, March 8, 1901.

ONE OF FORTY.

“One of the oldest and wealthiest residents of this section (Sioux City, Iowa) submitted to a delicate operation yesterday. His malady is one of the rarest in the world, less than forty other similar cases having ever come to the notice of medical men. It is called eurthro millilagia, which causes the blood to coagulate and refuse to go back to the heart. The pressure caused by the active blood against the stagnant portion causes great pain in the parts affected. . . . The operation consisted in cutting nerves controlling veins near the instep. . . . A French physician published a book in two volumes in which eurthro maliligia is exhaustively treated of and a remedy suggested. The patient sent for the books, had them translated, and has undergone the operation on the suggestion of the French specialist.”—*St. Paul (Minn.) Dispatch*.

HOW HE SETTLED THE BILL.

“A well-known physician recently sent to the address of one of his patients a bill for professional services, and within ten days received the following letter written on the back of his memorandum: ‘Dear Sir: This note was put in my box by mistake. I han't the man hee's dead and aint no relation of mine anyway. I don't see how your eonshens will let you dun the dead. Why don't you live a better criston life and let live and try to meat that man who dide in heaven which is worth moar than forty dollars to enny doctor.’—*Fl. Smith (Ark.) Elevator*, March 1, 1901.

“BONIFIED” OSTEOPATHY.

“William Hartford, a graduate under Andrew T. Still, the founder of Osteopathy, has located. . . . at Champaign, Ill. He does not pretend as having graduated from the great colleges in Europe and America, for such a thing is disgusting to an honest and meaning people, but he does claim that he is the only bonified osteopathist in Champaign county and is perfectly willing to substantiate what he says.”—*Farmer City (Ill.) Sun*.

MEDICAL JURISPRUDENCE.

“The condition of Judge — at the present time is more serious than at any time since the beginning of his recent sickness. . . . His son, Dr. —, of Chicago, assisted by the local physician, is in constant attendance and everything known to the medical jurisprudence is being done to prolong his life and alleviate his suffering.”—*Council Bluffs (Iowa) Nonpareil*, Feb. 26, 1901.

LADY ASSISTANT NEEDED.

“Dr. — returned Monday evening. . . . He was called to Blue Earth to treat several cases of appendicitis, among them some ladies which rendered it necessary for him to take his lady assistant.”—*Fond du Lac (Wis.) Commonwealth*.

A VALUABLE COMBINATION.

“L. L. —, the undertaker, has just completed a course at the San Francisco College of Physicians and Surgeons, and passed his examination with 97 per cent.”—*Oakland (Cal.) Tribune*.

GASTRIC AND STOMACH TROUBLE.

“A lady in Hedding, N. H. . . . says the after-effect of the grip was a serious gastric and stomach trouble.”—*Chicago Times-Herald*, Jan. 12, 1901 (Adv.)

THE NEW SURGEON-GENERAL.

“Dr. — left last month for San Francisco where he was appointed surgeon-general in the United States Army.”—*Lawrence (Mass.) Telegram*.

MEDICAL SURGEON.

“Joe B.—, the medical surgeon, of Logansville, has moved to Crayon.”—*Urbana (Ohio) News*.

APPENDICITIS.

“Dr. Swaney took another attack of Appendicitis a few days ago.”—*Youngstown (Ohio) Telegram*.

Miscellany.

The Population of Germany.—According to the census of Dec. 1, 1900, as announced by the official organs of the empire, this is 56,345,014, of which 27,731,067 are males. Thirty-three of the largest towns aggregate 9,108,814. Since 1895 the population has run up to 7.78 per cent., the highest rate for any quinquennial period for the last thirty years.

Influence of Extract of Feces on the Blood.—Dogs and rabbits were injected subcutaneously with various extracts of fecal substances. The aqueous extract produced a marked effect on the composition of the blood, diminishing the number of red corpuscles and the amount of hemoglobin, with pronounced anemia in various organs, the animals dying of pernicious anemia. The experiments are reviewed in the *St. Petersburg. Med. Woch.*, No. 4; the results suggest an explanation of the etiology of idiopathic pernicious anemia in man.

Total Excision of Larynx.—A case of total excision of the larynx is reported in the *Medical Press and Circular* of February 16, in a man of 55, for carcinoma. The larynx was removed under complete narcosis, without previous tracheotomy, and a canula being employed only after the operation was finished. The patient wears an artificial larynx, by means of which he speaks quite intelligibly and so that he can be heard over a large room. The malignant growth occupied the whole left half of the larynx and anteriorly extended through the midline to the right hand, extending downward to the cricoid cartilage.

The Commission Evil.—The following is taken from the *Texas Med. Gaz.* for February: "We append a clipping from the *New England Medical Monthly* concerning the payment of commissions on cases referred to the surgical or other specialist by the general practitioner. There has never been a question of ethics or morality before the profession that had as little to recommend it to decent men as this so-called commission evil. The discussion of it needed only to be carried to its logical conclusion to show that, as far as his relation to the patient is concerned, there is no honorable ground left for either the man who tenders the fee or the one who accepts it. It is gratifying to see that the profession at large, whose common sense can usually be relied upon, has come to this conclusion and we will hear much less of it, in the future, than in the past. The article is written from the standpoint of 'a member of a medical society, in which the president, vice-president, secretary and various committees are all comprised in one man,' in other words, the writer himself: 'Speaking of confidence in each other brings us to another comment in our local society transactions. We view with great alarm the entrance of a commercial spirit in parts of the profession, and the birth of a son of the commercial spirit in the form of the commission evil. That would promptly destroy whatever confidence the people have in our profession as a whole, and it would undermine the very pillars and foundation of responsible medical service. There are men in the profession whom our local society holds in reverence, and we often refer cases to them for special treatment that is better than any that we can give the patients who have put their trust in us. If one of these men were to offer us a commission for referred cases he would promptly fall from his pedestal before our very eyes, and become a statue of Achilles with his head in the mud. We are engaged in special work ourselves. We have not often been asked to give any commissions and, as a local society, we pride ourselves in the belief that certain men gave one good look at us and then did not dare to ask it. There is a homely old saying about birds of a feather having a fondness for getting close to each other, and our society believes that the commission birds will soon be distinguished as a class by that responsible element in society which knows pretty well the character of its legal, clerical and medical advisers. We believe that the giver and receiver of medical commissions will carry in their countenances the little cloud of dishonor that recognized by one's self is recognized by others.'"

Societies.

COMING MEETINGS.

Medical Society of the Missouri Valley, Omaha, Neb., March 21, 1901.

Tri-State Medical Society of Iowa, Illinois and Missouri, Keokuk, Ia., April 2-3, 1901.

Medical Association of the District of Columbia, Washington, D. C., April 2, 1901.

Tennessee State Medical Society, Nashville, April 9-11, 1901.

Florida Medical Association, Jacksonville, April 10, 1901.

Western Ophthalmological and Otolaryngological Association, Cincinnati, Ohio, April 11-12, 1901.

Medical Association of the State of Alabama, Selma, April 16, 1901.

Medical Society of the State of California, Sacramento, April 16-18, 1901.

South Carolina Medical Association, Florence, April 17, 1901.

Medical Association of Georgia, Augusta, April 17, 1901.

Louisiana State Medical Society, New Orleans, April 18-20, 1901.

Medical and Chirurgical Faculty of Maryland, Baltimore, April 23-26, 1901.

Texas State Medical Association, Galveston, April 23, 1901.

American Association of Genito-Urinary Surgeons, Old Point Comfort, April 30, 1901.

Association of American Physicians, Washington, D. C., April 30, 1901.

Austin Flint Medical Society.—This Society recently held its tenth annual banquet at Pittsburg. About twenty members were present. Dr. Joseph Stein acted as toast-master.

International Congress of Physiology.—The fifth session of this Congress will be held at Turin, September 16 to 19, in Professor Mosso's Institute. The secretary is Dr. Treves, Corso Raffaello, 30, Turin, Italy.

Tri-State Society of Iowa, Illinois and Missouri.—The ninth annual meeting of this Society will be held at Keokuk, Iowa, April 2 and 3. Dr. Henry Hatch, Quincy, Ill., is president, and Dr. William B. LaForce, Ottumwa, Iowa, secretary.

French Congress of Surgery.—The subjects announced for discussion at this Congress, which will meet in Paris, October 21 to 26, are "Surgery of the Spleen" and "Treatment of Tubercular Lymphadenitis," with addresses by F  vrier and Broca.

Louisville (Ky.) Society of Medicine.—At a meeting of this Society, March 4, the following officers were elected: Dr. Richard T. Yoc, president; Dr. William A. Jenkins, vice-president; Dr. Waller O. Green, secretary, and Dr. A. Henry Falconer, treasurer.

Ingham County (Mich.) Medical Association.—The physicians of Ingham County met at Lansing for organization, March 1, and elected Dr. Frank W. Shumway, Williamstown, temporary president, and Dr. Alexander D. Hagadorn, Lansing, temporary secretary.

Tippecanoe County (Ind.) Medical Society.—The annual meeting of this Society was held in Lafayette, March 4. Dr. Milton S. Hopper was elected president; Dr. Franklin B. Thompson, vice-president; Dr. John S. Morrison, secretary, and Dr. George K. Throckmorton, treasurer—all of Lafayette.

Medical Society of the Missouri Valley.—The thirteenth semi-annual meeting of this Society will be held at the Barton Hotel, Omaha, Neb., March 21. Dr. Vernon L. Treynor, Council Bluffs, Iowa, is president, and Dr. Chas. Wood Fassett, St. Joseph, Mo., secretary.

Madison County (Ala.) Medical Society.—At a recent meeting at Huntsville, this Society endorsed the bill restricting child labor in factories, and adopted a resolution asking the representatives in the legislature to support a bill for compulsory vaccination in the state.

French Congress of Neurology.—The neurologists and alienists of France hold their congress this year, at Limoges, in August. The subjects announced for discussion are the "Physiology of the Muscles Tonus, and Modifications of the Reflexes in Case of Lesions of the Cerebrospinal Axis"; "Acute Delirium" and "Attendants in Asylums," to be presented by Crocq, Carrier and Taguet.

Laennec Society, Baltimore.—At the last meeting of this Society, Dr. W. S. Thayer read a memoir on Laennec, and Dr. Louis Hamburger spoke on "The Physical Signs of Pulmonary Tuberculosis as Described by Laennec." He exhibited a model

of the first stethoscope made by Laennec. It was twelve inches long, and a nearly solid tube with a small central canal. One end was hollowed out to contain a stopper for use in auscultating. The instrument was formed of two equal halves fitting onto each other for greater convenience in carrying. Laennec made his own stethoscopes and did not bare the chest in examinations. At the same meeting Dr. Sowers read a paper on "The Growth of Our Knowledge of Acute Miliary Tuberculosis."

Orleans Parish (La.) Medical Society.—At a meeting of this Society, recently, in New Orleans, Dr. Louis G. Lebeuf reported the case of a puerpera who died on the fourteenth day from cardiac embolism, having given no previous signs other than unrest and a vague premonition of death. Dr. William Scheppegegrell presented an article on "Dust as a Factor in Diseases of the Upper Respiratory Passages." As a result of the discussion on this paper it was resolved to take steps to secure the passage, by the city council, of a strict ordinance against spitting in public places. In response to an appeal from Dr. Rudolph Matas, of the American Committee on the Ollier Monument, the Society voted \$25 for the fund to erect, in Lyons, a monument to this great French surgeon. A special committee was appointed to study the mosquito as a means of propagating yellow fever.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting held February 27.

Dr. George Erety Shoemaker in the chair.

Typhoid with Unusual Temperature.

DR. ELIZABETH PECK reported two cases of typhoid fever. The first was in a woman 32 years of age, and in whom nervousness was a pronounced symptom. What was striking in this case was the excessively high temperature, which often rose to 109 F., probably due to hysteria. The temperature was taken by several thermometers, simultaneously in the mouth, axilla, and rectum. It was observed that at times the temperature in one region would be higher than the others, and would alternate. The patient made an uneventful recovery.

Registration of Tuberculosis.

DR. MATTHEW WOODS read a paper on the registration of tuberculosis from the standpoint of private practice. He considers the question of registration a large one, and that probably the majority of the families of this country could point to one relative who had died from the effects of this disease. To register these cases might place a ban upon them. The boy or girl applying for a position might be asked for a health certificate showing that no member of his family had been a sufferer from consumption, and if so might be turned away as being unfit. Italy has tried registration, but the rules were so rigorous that it was abandoned. One of the most beneficent policies in the treatment of these cases is to keep from the patient the knowledge that he has consumption. We may err in the diagnosis of such cases, and he has never seen benefit result from telling the patient that he has tuberculosis. Such knowledge will cause the patient to become more despondent, and too often plunge him into debauchery. He called attention to Goethe and Michael Angelo, both of whom had suffered from pulmonary hemorrhages, the former dying at the age of 88. The death certificate would apprise the health office of a death from tuberculosis and the officials could then disinfect where necessary. Before death the patient should have instructions from the physician in regard to personal hygiene.

Home Treatment of Tuberculosis.

DR. L. W. FLICK read a paper on this subject. By "home treatment" he meant treatment where the disease had been contracted. In his experience it is hardest to keep these patients up to the usual standard of nutrition. The home treatment consists of inclosed and open treatment, the former being that in institutions; the open, where more or less liberty is allowed. Good results have been achieved by the closed treatment, and this may be the method of the future. He considers that one of the greatest drawbacks in any treatment is that the disease is not recognized early enough, and frequently not until an attack of pneumonia or influenza has occurred. Persistent indigestion, with loss of flesh might suggest tuber-

culosis. When the disease is first recognized, he thinks one of the most important things is to tell the patient that he has consumption, and that no patient ever becomes worse for such knowledge. As to the treatment, he usually limits solid diet to one meal, and gives large quantities of milk, frequently as much as six quarts. Eggs are also valuable, and he allows from six to a dozen a day. Pastries are to be avoided. An abundance of fresh air, both day and night, is imperative. At night the windows should be left open. During the day, the patient may be wrapped up warm and remain in the sunlight, with free ventilation. He may at times be allowed to remain out of doors, or on the roof of his home. Anywhere, so long as he gets plenty of fresh pure air. Of medicines, he relies mostly on the iodine compounds, by inunction. In some cases inhalations may be of service. Arsenic, strychnin, and iron are all good.

DR. J. C. WILSON also believes that the patient should be told that he has consumption and warned of the danger to others. Hospitals for the treatment of these cases should engage the attention of health authorities.

DR. R. G. CURTIN spoke of certain complications which might be opposed to home treatment. He believes that most patients with tuberculosis do not get enough sunlight. He referred to a case in which pronounced benefit followed an out-door life, in a change of climate, with only a simple diet. As to registration, he spoke of a case occurring at the Philadelphia Hospital, who had suffered for years with an ulcerative process affecting the lung, and had been put in the ward with cases of tuberculosis, yet he lived for years and no bacilli could be found after repeated examinations.

DR. C. M. COOPER, Edinburgh, being invited to take part in the discussion, stated that in England certain institutions have been established for the treatment of tuberculosis. As a rule these institutions only admit those patients in the early stages of the disease. The results achieved have been good.

DR. J. M. ANDERS agreed with the statements of Dr. Flick, and said that over one-half the cases of tuberculosis must be treated at home. Too little detail has been given to home treatment.

DR. S. SOLIS-COHEN said that persistent hope on the part of the physician is all-important. His experience is that if the patient is told of his condition it proves beneficial.

DR. A. V. MEIGS believes that registration would not prove beneficial.

DR. I. J. MAYS expressed doubt as to the benefits to be derived from registration.

DR. GUY HINSDALE said that, regarding the registration of tuberculosis the objections are chiefly imaginary. He does not believe in concealing from the patient the communicable nature of the disease, and thinks that if some treatment—Philadelphia treatment, New York treatment, or Boston treatment—is adopted, it is a makeshift, adopted from necessity. Cases no doubt recover there, lives are also no doubt very much prolonged by treatment, and therefore the principles that have been laid down must be applied daily. He contrasted the conditions found in a well-managed hospital with those in the homes from which the poorer patients come, the change being quite as great as when a patient with means is sent to one of our well-known sanitariums or health resorts. People who leave their homes for hospitals, sanitariums or even open resorts will do a great deal more for themselves under the new circumstances than they would have done at home. They will rise at 6 a. m., to drink mineral waters at a spring a half mile away; they will join an early procession walking barefoot on the damp grass; or they will readily conform to a regime, adapted to the needs of a tuberculous invalid, that they would soon tire of at home. The force of example helps them to keep in line with the rules best adapted for them. But left by themselves, in their homes, the patient who has some prospect of being cured will often neglect himself, and the physician may lose sight of him for long periods when the cough or other symptoms are not urgent, but when medical oversight is needed in just the same degree.

He does not think the prime requisite for treatment can be had in city homes. We do not realize how impure city air is

until we go into the forest or to the seashore. It is like trying to cure diphtheria without antitoxin, or malaria without quinin, to treat pulmonary tuberculosis without pure air, and there is no such thing as pure air in our homes, no matter how well constructed, if we make mountain or sea air the standard. There is too much dust, smoke, carbonic acid gas and other products of exhalation, not to speak of pathogenic organisms. Another objection to our city homes is the fact that under ordinary conditions, during the colder season, we are subjected to great transitions of relative humidity of the air. We leave a house heated by a furnace, in the rooms of which the air has a relative humidity of 25, 30 or 35 per cent. We pass out into an atmosphere of 60, 70 or 80 per cent. relative humidity, and so we go in and out and adapt ourselves as best we can to these variations. Under the open air method of treatment, the patient has few if any of these transitions; he takes the humidity as he finds it night and day, for the most part. If he happens to be in Colorado or New Mexico, he has dry air all the time. Here he is inclined to make his "home" out of doors, and when he accomplishes that I will thoroughly indorse the "home" treatment of phthisis.

The place where a person has contracted phthisis is *not* a good place to remain in for treatment. If the patient is too poor or too advanced in his disease to go elsewhere, we have no alternative. But it has been observed that most consumptives live or die according to their strength of character in adjusting their life wisely to their disease, and for this reason many can not to be trusted to live again among the environments in which the disease has been acquired.

JOHNS HOPKINS HOSPITAL MEDICAL SOCIETY.

Meeting held March 4.

Dr. Howard A. Kelly in the chair.

Pernicious Anemia with Symptoms of Spinal Disease.

DR. THOMAS MCCRAE exhibited two cases, both males. One a laborer, aged 38, dates his sickness from December, 1898. He was able to work until March, 1900. Just before the latter date, he suffered from a carbuncle, and now complains of stiffness and numbness in his arms and legs. Knee-jerk is exaggerated. There is no complaint of the anemia, although hemoglobin is 50 per cent. and red corpuscles 2,500,000.

The second was an elderly man, whose sickness began 1½ years ago, when he fell down stairs and afterwards could not work. He complains of numbness of the limbs and holds himself stiffly, walking with stiffness and difficulty. The knee-jerks were elicited only with difficulty. Hemoglobin was 73 per cent. and red corpuscles 3,500,000.

Both patients are taking arsenic, and the first has very bad teeth, of significance in view of the recent investigations of Hunter, who believes that caries of the teeth bears an etiologic relationship to the disease.

DR. W. S. THAYER said he had seen similar cases, with marked ataxic symptoms, although none had occurred in the hospital. He regards the outlook in such cases as very bad. He has been astonished to hear the value of arsenic in pernicious anemia and leucoeythemia questioned recently by a distinguished Boston clinician. There is positive evidence of its usefulness in these conditions. Sometimes this occurs with great rapidity, although he acknowledges it is but temporary.

Frequency of Gall-Stones in the United States.

DR. CELIA D. MOSHER said that the records of 1655 autopsies, 1038 male and 617 female, made at the hospital have been carefully analyzed, and Dr. Welch has assured her that no gall-stones were overlooked in these cases. Of the 1655, 6.4 per cent. were found to have gall-stones. This corresponds to the smallest prevalence reported in Europe. The majority of cases here occur after 30, and the maximum is reached after the age of 40. The condition is less frequent in the colored than in the white race, and males were affected only five-ninths as often as women. Examination of the records at the Alms-house (Bayview Asylum) shows that the paupers there have gall-stones twice as often as the hospital patients. She could offer no explanation of the greater frequency among the pau-

pers and Europeans. As to the greater prevalence in women, she thinks it may be due to tight-lacing and the wearing of belts.

DR. H. A. KELLY said he had for some time been in the habit of examining for gall-stones, and also into the condition of the appendix, in all cases of laparotomy, and he has found gall-stones present in 8 per cent. of all his patients, and especially with ovarian tumors.

Diabetes Mellitus Associated with Hyaline Degeneration of the Islands of Langerhans in the Pancreas.

DR. EUGENE OPIE spoke of his latest researches on these bodies, which resemble the glomeruli of the kidney. They appear to have some relation to the blood. The most common lesion of the pancreas is inflammation. Diabetes does not occur in all cases of pancreatitis, and Dr. Opie has studied cases of the former, to find, if possible, the peculiarity in the pancreatitis with which it is associated. He has been able to distinguish two forms of pancreatitis. In one of these the islands are involved, in the other not, and it is with the former only that diabetes occurs. The condition found is a hyaline degeneration of the islands; the nuclei disappear and they become homogeneous in appearance, sometimes granular. In obstruction of the pancreatic duct, as from calculus, or pressure, or in ligation of the duct in dogs, the acini are destroyed, but the islands remain intact; hence there is no diabetes in these cases. Dr. Opie, therefore, found in these peculiar lesions one cause of diabetes. Yet not all cases of the latter are associated with lesions of the pancreas, and there are still other facts regarding it which remain to be elucidated.

DR. T. B. FUTCHER said that Dr. Opie's discovery was the most important addition made, in recent years, to the pathology of diabetes. From the facts elicited, it would seem probable that the islands of Langerhans elaborate some internal secretion, which is absorbed directly into the blood, and in some way is connected with diabetes.

Carcinoma of the Male Breast.

MR. WARFIELD gave the results of his researches on this subject. There have been, altogether, 307 cases of carcinoma of the breast in the hospital, since its opening in 1889. Of these, 3 only have been in males. He has reports of 2 other male cases, which he has seen, outside the hospital, and 32 cases reported in the literature, making 37 in all. Of the 37, 18 occurred in each breast, and in 1 case the side was not given. The largest number in any decade was 13, between 60 and 70 years. In 28 there was no pain. In only 1 case was there a history of carcinoma in the family, the patient's mother having had this affection of the breast. Trauma bore a conspicuous part in the etiology in many cases. The cases that occurred in the hospital were designated in the records as "carcinoma simplex," a name to which Dr. Halsted objected as being indeterminate.

DENVER AND ARAPAHOE MEDICAL SOCIETY.

Meeting held February 26.

Diphtheria, its Treatment in Different Phases.

DR. W. K. ROBINSON read a paper on the above subject, and related the histories of six cases recently treated by antitoxin. His conclusions are that the mortality is *nil* in all cases treated the first day with antitoxin, and that very large doses of the antitoxin should be used when the case is seen late in the disease.

Case of Double Bladder, Each with Separate Ureter, with a Study of the Urine of Both Kidneys.

DR. E. P. HERSHEY reported the above rare case in a woman 28 years of age, who has been treated all her life for trouble connected with her bladder. When she was very young she had scarlet fever, and soon after that developed bladder symptoms, of which incontinence was the most annoying. Violent exercise would bring on pain. She had severe attacks of pain in the bladder, accompanied with fever and delirium about twice every year. At such times she would pass pus from the bladder. After the pus has been evacuated, which the patient learned to do by either pressing her finger upon the anterior wall of the

vagina or by taking large vaginal douches, the symptoms would abate. Dr. Hershey made a careful study of the case and found that she passes two kinds of fluids from the external orifice of the urethra at different times. She passes either urine or pus. The two are never mixed. She passes urine more frequently. The pus passes only after it accumulates for a few days. The patient knows when the pus begins to accumulate. By introducing a catheter about one inch, he can, by directing it upward, obtain normal urine, and by pointing the curve downward obtain pus. Vaginal examination reveals a vesico-vaginal diverticulum. The left kidney is palpable and tender on pressure. He has examined the patient under various conditions (postures) after having washed the two bladders separately, having previously given her various drugs—methylene blue, etc.—and the results were uniform. His diagnosis is: Left surgical kidney, double bladder, each having a separate ureter.

DR. LEONARD FREEMAN, who examined the case carefully, said that there are not a dozen instances of double bladder mentioned in medical literature. He has seen, however, several of diverticulum of the bladder. He is not sure it is a double bladder; it may be a single one with a transverse partition. He could elicit pain in the kidney by pressing upon the diverticulum in the vagina. He dwelt upon the difficulties with which the surgeon may meet when operating on such cases.

Report of Operations for Radical Cure of Hernia.

DR. C. A. POWERS reported thirty-two cases of radical cure of hernia performed during the last six years, made upon twenty-nine patients, with only one death. The death occurred in a patient 35 years of age, and in the best of health, upon whom he operated for a reducible inguinal hernia. A tumor below Poupart's ligament was found to be a femoral hernia, which was also operated on. Two days after the operation the patient became restless, had a chill, and the wound became puffy. Pus was found at the saphenous opening. Chills continued and the patient died from pyemia and septic pneumonia. Dr. Powers ascribes the fatal issue to the use of kangaroo tendon, which probably was not thoroughly sterile.

DR. LEONARD FREEMAN has seen suppuration following the radical operation for hernia, and believes it is due to infection carried by the fingers of the operator, impossible of prevention by any other method except wearing rubber gloves. It is important to find out that there are no holes in the gloves, a matter hard to ascertain. He purposely punctured gloves, and filled them with water and there was no leakage. To avoid possible injury to the gloves he used instead of needles, a ligature carrier.

DR. I. B. PERKINS reported a case in which he used two kinds of sutures, and all the kangaroo sutures suppurred.

CHICAGO SOCIETY OF INTERNAL MEDICINE.

Meeting held February 26.

The president, Dr. John A. Robison, in the chair.

Municipal Prevention of Disease.

DR. HEMAN SPALDING read a paper on this subject. He stated that every municipal health officer should be invested with great discretionary powers, to be used when the more desirable methods of persuasion and education fail to protect the public against disease. He should have the power to enforce the prompt reporting of all infectious and contagious diseases by physicians and citizens; also the power to remove any person, sick with an infectious or contagious disease, to a place where there will be no danger of communicating it to others; and the power to enforce vaccination at all times. He should have at his command a well-equipped isolation hospital for smallpox, one for diphtheria, one for scarlet fever, one for tuberculosis, and another for measles, and it would be well to have one for whooping-cough. The isolation hospital is necessary for those who have no means at home for the proper care and precautionary measures necessary to prevent the spread of contagion.

Living Rooms Back of Stores.—The building ordinance of a large city should prevent the abominable and criminal practice

of a family living in the rear of a store or shop of any kind. The partition between a store or shop and the living-rooms should be substantially built and air-tight, and no communication with the store or shop should be allowed through this partition. Scores of times the essayist has found children sick with scarlet fever, diphtheria or smallpox in the living-rooms in the rear of a store or shop, where a flimsy board partition half way up to the ceiling concealed the disease that was carried to the front room and conveyed to the patrons of the store, by the mother or father who acted as nurse to the sick and clerk for the store. It often occurs that the fear of injuring business prevents the shopkeeper from employing a physician, knowing that the doctor will report the case to the health department if he is called. The sale of milk should be prohibited from any store or shop that has any direct communication with living apartments.

Education of People Necessary.—We must have proper and efficient laws as a basis for controlling communicable diseases, but the greatest factor in keeping contagious and infectious diseases out of a city is the education of the people as to the danger of contagion, and how to destroy it and avoid communicating it to others. Every large city needs an intelligent, persistent and authoritative distribution of correct information upon the subject of infectious and contagious diseases. If this information is freely and persistently given out, the sum-total of the knowledge on this subject will be greatly enlarged, even among the most ignorant, and it will be a perpetual aid in saving children from sickness and death. The general practitioner will do good every time he informs a family that scarlatina and scarlet fever are different names for the same disease. Hundreds of people believe scarlatina to be a harmless, non-communicable disease. He will do good every time he teaches a family that varioloid is only another name for smallpox. There are many people who believe varioloid is not contagious, although all have a fairly clear idea that smallpox is contagious. He could give instances where smallpox has been transmitted to others because of ignorance of the true nature of the term varioloid. Life can be saved by correcting the erroneous impression, held by the laity, that measles in a child is comparatively harmless. The death-rate from this disease in children under 2 years of age is not less than 20 per cent. of those attacked. The same is true of whooping-cough. The profession should continue to instruct the people in correct methods of caring for those suffering from infectious disease and continue to preach cleanliness everywhere.

DR. WILLIAM A. EVANS followed with a paper on "Individual Prophylaxis," which will appear in THE JOURNAL.

Immunity as a Factor in the Prevention of Disease.

DR. ADOLPH GEHRMANN, who read this paper, briefly presented such facts as have value in an experimental or practical way toward proving the efficiency of certain methods in preventive medicine. Outside of the practical application of vaccination against smallpox, the entire development of preventive inoculation began with Pasteur's studies of chicken cholera, anthrax and hydrophobia. The aim of his research was essentially toward artificial immunization, while the German students evolved true curative methods. Although in some cases there may be doubt, still, apparently every infectious disease develops more or less resistance in the infected individual when he recovers. It would, therefore, appear that the strongest development of acquired immunity would be occasioned by an attack of the disease which is just short of killing the individual. Theoretically, preventive inoculations are most scientific, but they can only become practically permissible when the life of the susceptible one is beyond doubt assured. It is unreasonable to consider that acquired immunity has absolutely defined relations toward possible infection. It is always a matter of degree dependent on some recognized factors, as age of the individual, his general vitality and the severity of the immunizing experiment, as well as upon more remote factors, as chemical constitution of his tissues and the rapidity of metabolic changes. It is, therefore, almost impossible to say, in any individual case, what the results of preventive inoculation

will be as regards thorough protection and duration of the protective influence. A repetition of the experiment in times of exposure should have less danger attached than in the original inoculation. There is only one way in which to positively test immunity, and that is by an exposure to suitable virus. It can be stated that active immunity is only preventive and should never be attempted for curative purposes; while passive immunity is both preventive and curative, with its greatest value as a curative agent.

After summarizing the results of the workers in the various fields, Dr. Gehrman stated that how far preventive inoculation can be carried in protecting an individual against a number of diseases must at present remain an open question. It would seem more rational to limit the immunization of patients against bacterial diseases to such times as they are in danger of exposure or have been exposed.

Diet and Exercise as Preventive Measures.

Dr. N. S. DAVIS, Jr., said that indiscretions in diet, and failure to take exercise, are among the most important causes of ill-health. While the illnesses that result from dietetic indiscretions and from lack of sufficient exercise are, for the most part, of minor importance, in that they do not create much mortality, and therefore do not appear in the death returns, yet they are of the greatest importance. They limit the amount of work individuals can do. The frequency with which maladies occur, due to indiscretions of diet, can not perhaps be more strongly stated than in the words of Sir Henry Thompson, who has said that more than one-half of the diseases which embitter the middle and latter part of life—among, at least, the middle and upper classes of the people—are due to avoidable errors in diet. If this is true, it is perfectly evident that fully one-half of the maladies in middle and later life are affections which can be prevented under careful supervision of physicians, and which should be carefully studied from the standpoint of prevention. It is hardly necessary to more than mention the fact that errors in diet and dietetic management are among the most common causes of ill-health in infancy and in the early years of childhood. Physicians are familiar with the illnesses that arise from indiscretions in diet, and those that lead perhaps to fatal results, and therefore the mortality statistics have been vastly improved by the introduction of measures in large communities for the prevention of many of the illnesses that arise from improper feeding in infancy and childhood.

In order to prevent the dissemination of food which might propagate disease, the universal public inspection of food would help very greatly. Almost all of the parasites that are conveyed by food can be destroyed by heat—by cooking. Therefore, proper cooking is of the utmost importance as a means of preventing the dissemination of illnesses in this way.

Dr. Davis discussed at considerable length the questions of too much exercise and not enough exercise. Finally, he emphasized the importance of food and of exercise as factors in the production of disease, and, when rightly regulated, serving as factors in the promotion of health.

Dr. DANIEL R. BROWER followed with a paper on "Prevention of Insanity," which will be published in THE JOURNAL.

NEW YORK ACADEMY OF MEDICINE.

Meeting of the Section of Medicine, held February 19.

Dr. John H. Huddleston in the chair.

Pleurisy.

Dr. JAMES J. WALSH presented a brief paper, founded on the work of Widal, on "Cyto-diagnosis." This method consists in examining some of the centrifuged pleuritic exudate with the microscope. The earlier the stage at which the examination is made, the more numerous are the polynuclear cells. Mechanical pleurisy, he said, is characterized by the presence of patches of endothelial cells, while pneumococcus pleurisy is characterized by the presence of a few red blood-cells, a few scattered lymphocytes and many mononuclear cells.

Dr. ALEXANDER LAMBERT discussed "The Bacteriology of Acute and Chronic Pleurisy." He said that 30 to 40 per cent.

of all primary pleuritic effusions are known to result from tuberculosis. Syphilis is not a rare cause, and pneumococcus infection is common, the effusion often being purulent.

Dr. C. E. NAMMACK treated "Early and Late Tapping in Pleurisy." He gave the following rules for guidance: 1, when life is directly threatened by asphyxia from compression or from cardiac weakness; 2, when the fluid has risen to the third interspace anteriorly, as such effusions rarely disappear spontaneously; 3, in all lesser effusions where spontaneous absorption is unduly delayed, resort to tapping. In a general way, the rule may be laid down that when an effusion has remained stationary for more than one week, a portion should be removed by aspiration, as this will often in itself be sufficient to cause the entire removal of the fluid.

Dr. C. H. LEWIS read a paper on "The Use of Methylene Blue Injections in Pleurisy with Effusion." He said that he had been led to devise this method of treatment not only because he had learned that spontaneous absorption gave permanent results, but because it had occurred to him that if by the injection of some substance the formation of adhesions could be promoted, subsequent aspiration would effect a prompt cure. Methylene blue accomplishes this, and is an antiseptic, diuretic and anodyne. He withdraws a certain quantity of the serous effusion, mixes it in a graduate with 10 or 15 grains of methylene blue, and returns the mixture to the pleural cavity. In the 23 cases of serofibrinous pleurisy so treated, the average duration of treatment was fourteen days.

Dr. JULIUS A. BECKER described "The Routine Treatment of Pleurisy at the Mount Sinai Hospital." He said that where pleurisy follows an attack of rheumatism, antirheumatic remedies are prescribed. The pain is relieved by the local use of blisters, the Paquelin cautery and strapping, and by the internal administration of morphin, codein or heroin. It is the custom to aspirate a case of serous pleurisy as soon as there is evidently much interference with the action of the lung. The records show that this practice has shortened the duration of the disease, and has reduced to a minimum the thickening of the pleura and the permanent crippling of the lung. The occurrence of pain, or coughing, or the withdrawal of a little blood-stained fluid should be taken as an indication that no more fluid should be aspirated. In no case has there been a severe hemorrhage, or has empyema been traced to infection at aspiration. When there is a large purulent effusion, it is better to remove some of the pus by aspiration before operating, as by this means the danger of shock from the sudden withdrawal of a large quantity of fluid is diminished.

Dr. M. MANGES expressed some doubt as to the practical outcome of Widal's labors. The judicious removal of a portion of the effusion holds out the best chance of recovery, though it should be borne in mind that it is quite possible that the presence of a small quantity of fluid in a case of tuberculous pleurisy may be beneficial. He has seen one death result from simple aspiration.

Dr. H. LILIENTHAL suggested that in performing thoracentesis the danger of skin infection should be avoided by nicking the skin with a knife before introducing the aspirating needle. For cases of empyema he advocates a large opening as preferable to the use of a drainage-tube, and cautions those who prefer to use the tube to be sure that it is no longer than is absolutely necessary. After the operation, it is advisable to make use of Koenig's method of postural drainage.

Dr. S. S. BURR said that while he has been much interested in the methylene blue treatment, he has been backward about giving it a trial because of some experiments published about five years ago, and which seemed to prove that this substance causes acute parenchymatous degeneration of the kidneys and liver and acute catarrh of the bladder.

Dr. ANDREW H. SMITH also emphasized the importance of using a very short drainage-tube in the chest. He advises his patients, on recovering from pleurisy, to make frequent efforts to aid the expansion of the lung by simply closing the nostril and making a gentle expiratory effort.

Dr. HENRY P. LOOMIS said that he had long ago come to look upon the occurrence of pleurisy with effusion in a case of pul-

monary tuberculosis as a conservative effort of Nature, and is accordingly slow to interfere with it under these circumstances. He believes that it acts beneficially by splinting the lung and securing rest for this organ.

DR. EGBERT H. LEFEVRE said that his own studies in cytodiagnosis, following after Widal, ended in discouragement. Long before there is any outpouring of fluid in serous pleurisy there is a restriction of the movements of the affected side. He has a very high opinion of the value of the salicylate of sodium as a remedy for promoting the absorption of the fluid. In his hands, the best local application has been inunction with blue ointment.

DR. WILLIAM H. THOMSON called attention to the need for caution in gymnastic exercises, particularly those requiring motion of the arms over the head, after pleurisy. He always instructs his patients on this point, because he has known hemorrhage to occur even several years after an attack of pleurisy, simply as a result of such exercise causing rupture of adhesions. It is well to have the chest strapped for six months after a pleurisy.

DR. LEWIS, replying to Dr. Burt concerning the possible deleterious action of methylene blue, said that in his cases the urine has been carefully examined daily during the treatment, and there has not been the slightest evidence of any harmful effect on the kidneys.

SAN FRANCISCO COUNTY MEDICAL SOCIETY.

Meeting held in San Francisco, February 12.

President Dr. George H. Evans, in the chair.

Bacteriologic Diagnosis of Diphtheria.

DR. W. H. KELLOGG read a paper on this subject. He said that the fact that the Klebs-Loeffler bacillus is the cause of diphtheria, is demonstrated by: 1, its constant presence; 2, its isolation in pure culture; 3, the reproduction of the disease in animals by inoculation with pure culture; and 4, the finding of identical lesions and distribution of organisms in the experimental as in the original disease. The nature of the pseudomembrane was described, and the author gave a thoughtful description of the morphology and cultural characteristics of the bacillus. He detailed the technic of conducting the bacteriologic examination. Several slides should be prepared from each culture-tube, one from each kind of colony that appears; or, if an even layer is present, material should be taken from different parts of the tube. It frequently happens that the bacteriologist fails to find the organism in cases that are true diphtheria, and this may be due to the fact that an antiseptic spray has been used not long before taking the swab, or the swab may have been faultily infected. Another source of error lies in the fact that in cases of mixed infection with staphylococci, the surface of the culture-tube may be thickly studded with colonies of the latter, between which are minute colonies of the diphtheria bacilli, their growth inhibited by the preponderating growth of staphylococci. One negative examination should not, therefore, be taken as conclusive, especially if the clinical aspect of the case does not coincide; but repeated examinations are positive in their results. He referred to the persistence of the bacilli in the throat after the disappearance of the false membrane, and urged the necessity of making later examinations at least once a week in order to determine when to raise the quarantine.

Specific Treatment of Diphtheria.

DR. GEORGE H. EVANS read a paper calling attention to the unreliability of statistics when compiled from limited sources of information, but such statistical reports as those furnished to the American Pediatric Society at Montreal in 1896, are to be regarded. Antitoxin was distributed to the physicians of San Francisco by the board of health of that city, for use among the destitute poor, from November, 1897, to April, 1900, and from the clinical reports furnished by the attending physicians of the fatal cases, the author drew some illustration of the value of the serum given early and in large doses. The mortality of the patients thus treated was only 13 per cent., but

he believes that this mortality could have been materially reduced had use of the antitoxin been carried out more fearlessly. Thus, of the fatal cases, a very small minority of them received the serum before the fourth day. Such delay is sometimes unavoidable among the poor, where medical aid is not as a rule called early, but large doses should be used, and of these fatal cases, in only six was as large a dose as 4000 units used; 4000 units can be used as the initial dose in a mild case with absolute impunity, and smaller doses than 2000 units should not be used for any purpose other than immunization. In nasal and laryngeal cases, and cases of mixed infection, 3000 or 4000 units should be considered the minimum initial dose. The large doses given by McCollom, of Boston, were referred to, and the reduction in mortality in the apparently moribund cases since its administration in this way was begun. Disagreeable effects following its use were passed over as comparatively unimportant. The increase in the number of cases of paralysis since its introduction was attributed to the fact that more patients survive, and either recover, or live sufficiently long to become paralyzed. That the paralysis is due to the toxins absorbed and not to the antitoxin, has been quite clearly demonstrated, both clinically and experimentally. Ransom's work in Behring's laboratory was particularly referred to. Thirty-four per cent. of the fatal cases in the San Francisco series had paralysis. Almost all of them were treated late in the disease, and small doses were used in every case, 4000 units being the largest. The indications for the use of antitoxin must depend on the clinical diagnosis. To await the bacteriologic confirmation of the diagnosis is a sacrifice of life in many instances, and particularly is this so in some of the laryngeal forms where no membrane is visible, and where repeated efforts fail to produce any growth on culture-media. Antitoxin and an appropriate syringe should be part of every physician's armamentarium, and in the presence of any suspicious exudate, the serum should be used and then a culture made.

Treatment of Diphtheria.

DR. W. B. LEWITT, in a paper on the "General and Local Treatment of Diphtheria," said that while he is an ardent advocate of the early and vigorous use of antitoxin, he has not yet arrived at that frame of mind that would lead him to depend in all, or even in a majority of cases, on the good effects of that agent alone. In regard to the general treatment of the disease, the object to have in view above all others is to maintain the strength of the patient by rest and the administration of food and stimulants. He urged the necessity of keeping the blood well charged with the products of digestion, as a means of inhibiting to a great extent the formation of toxins; and, therefore, food should be given every two or three hours, and in quantities as great as can be assimilated. He considers milk the best article of diet, and in children under 5 years of age, it should be the only one. In cases where there is a refusal to take food, he urges forced feeding, having no confidence in rectal alimentation, as the enemata in children are seldom retained, and it is a question how much is absorbed. Stimulants are called for in the majority of cases, and should be commenced early. Regarding the internal administration of iron, he only uses it during convalescence. Referring to local treatment, he recalled the days when tincture of iron, carbolic acid, nitrate of silver, and such drugs were used so commonly in the throats of these patients, and drew a vivid picture of the piteous results of such treatment. Where the membrane is confined to the tonsils, local treatment is not necessary. Where the area is greater, all that can be accomplished by any drug used locally can be done by warm sterile water. He advocates using a stream of warm water through the nasal cavities with an ordinary syringe, thereby washing out the nares, nasopharynx, and pharynx. There is generally much less difficulty in doing this than in making the ordinary application to the throat, and it has the very great advantage that the patient does not have to be raised from the recumbent position. In considering laryngeal cases he referred to the good results obtained at the Children's Hospital by the use of creosote in vapor, and the sublimation of calomel. By this method he thinks the necessity of intubation or tracheotomy is frequently done away

with, and life prolonged until the good effects of the antitoxin become manifest.

Sequels of Diphtheria.

DR. WM. FITCH CHENEY read a paper on this subject. He drew a distinction between the diseases occurring coincident with diphtheria, which are more properly called complications, and the true sequels which are the diseases that come after it, as a consequence of it. These are: 1, disease of the blood; 2, disease of the heart; and 3, disease of peripheral nerves. Disease of the blood commonly follows diphtheria in the form of a severe grade of anemia, and calls for the usual remedies employed for secondary anemia. Disease of the heart is either the result of a myocarditis occurring as a complication, or is due to changes in the nerves supplying the heart muscle. The heart muscle almost invariably suffers from parenchymatous or fatty degeneration, to a greater or less extent, and under the influence of the diphtheritic toxins circulating in the blood, and the condition of the pulse should be carefully watched even after convalescence is well established. The treatment of this condition consists first of all in rest. Rest in bed should be insisted on for at least one week, and better for two weeks, after the temperature has become normal and the throat is free from membrane. If the pulse, in spite of this rest, develops any variations from the normal, whisky must be used freely and strychnin given regularly in full doses.

Disease of peripheral nerves is the most common sequel of diphtheria, and is a neuritis, caused by the absorption of toxins manufactured by the bacillus in the throat. Autopsies on human beings and experimental evidence prove this. The paralysis resulting from this neuritis is usually not serious, except where it involves the muscles of respiration, and the heart muscle. It is always difficult to say how much of so-called "heart failure" after diphtheria is due to changes in the myocardium and how much to changes in the nerves supplying the heart muscle. Sudden death may occur from either; the premonitory changes in the pulse are practically the same in each; and fortunately the same treatment that is indicated for one is equally indicated for the other. The author thinks there is no relation between the severity of the diphtheria and the occurrence of the paralysis. He considered the question as to whether treatment of the primary disease with antitoxin has power to prevent the occurrence of paralysis as doubtful, but comparing the report presented to the American Pediatric Association in 1896, with other statistics on the incidence of paralytic sequels, the difference is slightly in favor of the antitoxin treatment.

Referring to the treatment of the paralyses involving the palate, the eyes, and limbs, recovery ultimately takes place regardless of interference, but probably more promptly, by the use of strychnin and iron tonics internally, and the application of electricity externally; however, the most valuable element of all in the treatment is time. On the other hand, the forms involving the action of the heart and lungs too often end fatally in spite of every therapeutic effort. The measures to be employed in the treatment of respiratory paralysis are absolute rest, strychnin hypodermically in full doses, and electricity applied to the respiratory muscles by the Faradic current. For threatened cardiac paralysis the treatment is again complete rest, strychnin hypodermically, and alcoholic stimulants by the mouth or under the skin.

Syphilitic Reinfection Simulated.

DR. A. B. GROSSE reported a case simulating syphilitic reinfection—a banker, aged 37, who eleven years ago had a primary lesion, followed in seven weeks by secondary symptoms. He was subjected to an antisymphilitic treatment for three years, after which he was given permission to marry. He has two children, aged 7 and 2½ years respectively, both of whom were born at term and are healthy at present. His wife is healthy and has had no miscarriages.

After a suspicious coitus on Oct. 30, 1900, he was seen by the doctor on November 24, who found an ulceration to the left of the frenum, which looked like confluent ulcerated herpes. The sore was not indurated. One gland in the left groin was enlarged, and others of the groin were palpable; the epitroch-

lear and axillary glands were also palpable, and there was enlargement of several cervical glands. On November 28 he was very much improved, and on December 7 was absolutely well, with no sign of a scar. On Jan. 8, 1901, having taken a dose of antipyrin for headache the day before, a roseola of the trunk and limbs appeared—no itching attending it—and an adenopathy as before. On January 11 small papules were found in the center of several of the roseolar spots, which were slightly squamous. On January 16 the rash had entirely faded.

On January 22 a similar rash came on immediately after taking 20 grains of antipyrin, but had entirely disappeared by February 2, and on February 13 he had another outbreak after taking the same drug.

The case showed the necessity of carefully observing a patient before making a diagnosis of reinfection. While the eruption differed from any antipyrin rash he had previously seen described, the doctor thinks we must consider antipyrin as the only etiologic factor, as the rash was produced three successive times after the ingestion of the drug.

PHYSICIANS' CLUB OF CHICAGO.

Meeting held February 25.

Dr. William E. Quine in the chair.

The Ravages of the Venereal Diseases.

DR. J. CLARENCE WEBSTER discussed "Their Extent: Can they be lessened?" He stated that their extent and ravages might be considered from many points of view. Unfortunately, a great deal of accurate information regarding any of the venereal diseases is not obtainable as applied to many centuries. Although much is known about syphilis at the present time, there is considerable discussion as to how late it appeared among the Caucasians. There is one school that holds that syphilis was only known in Europe after Columbus discovered America, and it is said that his sailors imported the disease from the West Indies to Europe. Another school believes that syphilis was known in China and Japan many centuries before the discovery of America.

With regard to the gonococcus, the speaker quoted a passage from Leviticus, supposed to have been written by Moses, which is taken generally to refer to gonorrhea. In 1872 Noeggerath published a paper in which he drew attention to gonorrhea and placed it in a new light, and it is owing to Noeggerath's work that the profession holds its present views regarding the importance of this disease in the community. This author stated that of every 1000 men in New York City, 800 have this disease; that of every 100 men who have gonorrhea, 90 per cent. are never cured. He also holds that 3 out of every 5 married women in New York suffer from the effects of this disease. There is no more important factor in producing disease, misery and distress in women than gonorrhea. He is perfectly certain that the rank and file of practitioners look on gonorrhea in women as did our forefathers, and that our present knowledge of the gonococcus and its ravages has not permeated the ranks of the profession. If the rank and file of the profession do not understand these things, it is not to be wondered at that the laity do not. Noeggerath's views are not very well known by the laity. A chronic gonorrhea may be apparently cured, but there may remain a condition which might not be called chronic, but rather latent. Latent gonorrhea in the male is not very well understood. It has been quite clearly shown that in females the gonococcus acts only on the urethral mucosa primarily and on the mucosa in the cervix. It does not attack the vagina nor the vulva, because it can not penetrate the stratified epithelium like the vagina or vulva. However, in certain cases it may do so. In young children a typical gonorrheal vaginitis or vulvitis may be observed. In old women, with thin epithelium, typical vaginitis may be noticed, and particularly in connection with women in labor. In pregnancy and labor a large percentage of women are attacked as a result of the softening, the thinning, the bruising of the tissues, so that the gonococcus plays an important rôle at this time. Latent gonorrhea in the female, as in the male, has a tendency to change into an acute virulent condition at these

times. There is no doubt but a man may cohabit with a woman for a long time and never give her any trouble; the gonorrheal virus may never reach the uterus, and the small amount of discharge which comes from the male penis may never affect the urethra or other parts of the woman, but let her become pregnant and the risk is enormously greater. Let her be at the end of pregnancy, and the risk is still greater. If the public were educated to put themselves under the care of the very best physicians and demand the most careful, conscientious and constant treatment for weeks and weeks, the effects of gonorrhea would be enormously reduced, particularly as applied to males. The same thing holds with regard to women. The ordinary routine treatment of women who have gonorrhea by the vaginal douche is of very little avail. The physician should get at the seat of the disease at once, namely, the urethra, the orifices of the ducts of the Bartholinian glands, and the mucosa of the uterus. Not one physician in a hundred treats acute gonorrheal cases in that way. He trusts to luck, and prescribes an ordinary diet and rest. He believes the ordinary treatment of gonorrhea in the female is responsible for the enormous amount of inflammatory mischief which is so commonly found.

DR. HAROLD N. MOYER discussed the subject of "Circumcision in Restricting the Spread of Syphilis." His paper will appear in THE JOURNAL.

DR. EDMUND ANDREWS spoke of the "Diminution of Venereal Diseases by Educating the Public." He said that the periodical press, consisting of the newspapers and the magazines, can, if it will, do a great educational work. There is, however, an obstacle of large dimensions before them. The American people are the most squeamish of all nations as to any public allusion to sexual matters. Any warning and information on the subject of venereal diseases would drive away subscribers and wreck the finances of any periodical venturing on it, unless the ideas were expressed with almost superhuman caution and delicacy. Therefore, at present, the profession can not command efficient help from the press. Yet he thinks the public's squeamishness is slowly abating. If the profession does its duty, the time will come when the periodicals will give some assistance.

Each physician acting in his own individual capacity can do much to educate the public. There are over one hundred thousand medical men in the United States. Each of them on the average has a patronage of about seven hundred persons, and he stands before them as a trained and trusted expert, whose opinion in such matters is valued above every other in the community. Physicians are not hampered like the stockholders of periodicals. They have a thousand opportunities to educate their patrons and others about sexual vices and venereal diseases. Already the public owe to their family physicians nearly all they know on this subject, and if physicians do their duty they can educate the public still more.

Recently, Dr. Frederic Bierhoff, of the Berlin General Polyclinic, made a study of the sources of 381 cases of gonorrhea in males, with the following result: The persons from whom the disease was contracted were as follows: open prostitutes, 12; clandestine prostitutes, 44; kept mistresses and actresses, 138; working women and servant girls, 167, and married women, 20. The chief of police in Berlin informed the speaker that there are grave reasons why it is impossible to completely enforce the law. He judged that he could only keep about one-fourth of the actual prostitutes under his control. He added that for important reasons he could not undertake the regulation of kept mistresses, nor of several other classes of loose women; also, it is to be remembered that a registered woman between examinations may carry infection from one male patron to another without having the disease herself.

In educating the public the medical profession can sometimes work through other professions. For instance, if physicians go at it in the right way they can do a great deal of good through the clergy. The two professions have to some extent weakened their forces by pulling against each other instead of working heartily together in an alliance to promote morality and good sanitation. Both sides have been at fault. The clergy are

very highly educated and honestly devoted to the intellectual and moral advancement of the nation. Being almost as numerous as physicians, they have a powerful influence in every community, so that in planning for the sanitary education of the public, it is important to secure their co-operation. Morality and sanitary science are natural allies and ought to march forward hand in hand. Meanwhile, the clergy, like the press, are a little hampered in public expression by the squeamishness of modern society; yet they contrive to preach sermons without offense on the seventh commandment and to denounce both sexual and all other immorality. If they possessed a little more education on venereal diseases, they could with their constant opportunities for confidential advice do much to make their knowledge of disease a powerful weapon against vice, and thus promote both morality and health. A few sanitary lectures added to the curriculum in theological seminaries would furnish every graduate with the necessary facts.

Another power is the great army of teachers. Even outside of the classrooms, they become by their daily contact with others very influential and well-trusted advisers. In the normal schools and other institutions where they prepare for work, they should have a brief course on the prophylaxis of all infectious diseases. In conclusion, Dr. Andrews confessed that a complete education of the adult public is impossible, but he believes that by slow degrees the profession can diffuse light enough into the darkness to be a valuable guide to those who now wander in the mists of ignorance.

PROF. CHARLES R. HENDERSON, of the University of Chicago, discussed the moral aspects of the subject. He said that every man is a moral leader, and those who possess special knowledge of the venereal diseases are particularly responsible, in his opinion, for the kind of teaching they give, making allowance for human frailties and weaknesses. One of the curses of the present day is the free distribution of quack literature among young people. The distributors of such literature should be flogged.

DR. JOSEPH ZEISLER spoke of the establishment of special hospitals for the treatment of venereal diseases, saying it is to be regretted that there is not a hospital in Chicago for taking care of such cases. Chicago is considerably larger than Vienna, yet Vienna has a hospital in which there are 600 beds for the management and treatment of these diseases. In Paris there are hundreds of beds in hospitals, for the same purpose. The principal reason why we have no hospitals in this community for the treatment of venereal diseases is because our public-spirited citizens have not the courage of their convictions. There is not a single intelligent man among the millionaires of Chicago who does not know that there is need for such a hospital. The educational value of such institutions, aside from the treatment and care of such patients, would be immense to physicians. Students would have the advantage of seeing a large amount of material, and of receiving instruction in regard to the venereal diseases by eminent men. Were such hospitals established in this and other cities, it would not be long before an avalanche of scientific knowledge would come forth which would be of incalculable benefit to the medical profession.

JUDGE LORIN C. COLLINS spoke of the "Control of the Venereal Diseases by Legislative Enactment." He did not think any large number of the physicians present would agree on what would be proper legislative enactment for the purpose of controlling and diminishing venereal diseases in the community. If physicians should substantially agree among themselves, they would run up against a very powerful body, the public, who probably would not agree with physicians. The same is true of legislators. He was a member of the legislature in 1879, when St. Louis licensed the social evil by an ordinance passed by the city council, and he believes there was passed in the legislature an emergency clause bill prohibiting the licensing of prostitution by any city in Illinois. He thinks that if a hospital were established for the cure of venereal diseases, it would meet with very strong and determined opposition, the opposition contending that in establishing hospitals for the cure of venereal diseases it would be encouraging im-

morality and vice. This opposition would come from the best classes in the community, from the members of churches. The constitution of this state says that the right of trial by jury, as heretofore enjoyed, shall remain inviolate, and that no man shall be deprived of his life, liberty or property except by due process of law. A case was cited by the speaker. If a man, in the most virulent and dangerous stage of smallpox, should walk down Clark Street, there is no power in Illinois by which that man can be taken and carried forcibly to a place where he can be isolated. No law will authorize this. Many years ago he examined the public health laws of England, and stated that their method of treating venereal diseases is more by persuasion than by force. A person afflicted with a venereal or contagious disease is persuaded to enter a hospital for treatment, and the British law contains no provision whereby a person suffering from smallpox, for instance, can be taken by force to a hospital for treatment. A person may be fined for spreading contagion; he may be imprisoned if the fine is not paid, but he considers this of no value whatever. The person must be taken at the right time by a summary process. He said that we are more particular in this state in all matters affecting the liberty of the citizen than any state in the Union, and this has been the tendency of the Illinois Supreme Court, therefore, anything physicians might do toward securing legislative enactment for the control of venereal diseases would have to be done very carefully and conservatively. Chicago could not pass an ordinance that would be efficacious. Power has not been granted the city as yet by the state, and it would be necessary to have legislation on this subject by the general assembly. He feels that something should be done toward legislative enactment for the control of venereal diseases, and he believes a move on the legislature of the state, with such a body as the medical profession back of it, would be a great educational force which would lead to the dissemination of information on these subjects and would eventually bring about some good. But any measures for the control of the venereal diseases would have to be handled in a conservative manner, and they would have to be very judicious to meet with the approval of the solons at Springfield.

DR. L. BLAKE BALDWIN said that one public-spirited citizen had already spent more than \$3000 toward a hospital for the treatment of venereal diseases, and that this hospital was established last June, since which time the speaker has filled over 1600 prescriptions for gonorrhea and syphilis. He has at present in the institution forty patients suffering from either gonorrhea or syphilis, or both.

DR. JOHN M. DODSON firmly believes that the time has come when the medical profession should take more active measures to extend the knowledge which it has acquired in recent years in regard to the prevention of diseases, and of public hygiene in a general way. He suggested that the profession, through its organized societies and medical colleges, especially those connected with institutions of general learning, should institute extension courses, so that a series of lectures, carefully prepared and illustrated properly, may be given to the various members of social clubs and other organizations. He believes, through the medium of such organizations and institutions, that lectures on sexual physiology and anatomy, also on the venereal diseases, their dreadful consequences and proper mode of prevention, would do a great deal of good in this city, if wisely conducted.

DR. DENSLOW LEWIS expressed satisfaction that this symposium had been held. He referred to instances where mawkish sentimentality had prevented a free discussion of these important matters even in professional circles. He condemned illiberal criticism of honest efforts to benefit humanity by calling attention to the truth. He favored a thorough investigation of all matters pertaining to sex relationship and venereal diseases, and a diffusion of knowledge of these subjects. He urged the consistent study of infection as occurs when other infectious diseases are considered. The education of the child in sexual matters is of great importance, and can scarcely begin too early. Young boys should appreciate the dignity of virility. They should understand that when they

grow up to be men, under suitable restrictions of civilization, religion and education, they may hope to be privileged to indulge the sexual function as their fathers have done before them for the perpetuation of the species. They should be taught that nothing in their youth should debase them or interfere with the performance of this function at the proper time under suitable conditions. They should be taught also that young women are under their protection; that under proper restrictions these young women will become mothers, and for that reason nothing should be done to them which will debase them or interfere with the proper performance of their functions. They should be taught regarding the venereal diseases in detail; they should know that gonorrhea is not a simple disease, as ordinarily understood, and that syphilis may last for years, affecting the nervous system when all outward manifestations of the disease have disappeared. These matters are of the greatest importance in diminishing the ravages of the venereal diseases. They can only become known by proper instruction by competent medical men. Furthermore, among married people these matters should receive attention. He believes that in many instances venereal diseases are contracted because the sexual relations between husband and wife are unsatisfactory. He thinks it is the duty of physicians to instruct the men and women of their clientele regarding the details of the sexual act. He believes it to be the part of wisdom for physicians to speak out frankly and honestly to patients in that regard, for, oftentimes, even the integrity of the home is threatened when the sexual relations between husband and wife are not mutually agreeable.

The subject was further discussed by Drs. Charles S. Bacon, Hugh T. Patrick and L. Harrison Mettler.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment will be answered in these columns.]

Seasickness.

MEMPHIS, TENN., Feb. 27, 1901.

To the Editor:—Will you give a short statement of the causes, symptoms and best mode of treatment of seasickness? In causes, I mean the pathology, if any is known. And kindly refer me to some text-book where I can find something about seasickness.

SUBSCRIBER.

ANS.—The pathology undoubtedly lies in the disturbances of the cerebral circulation, producing anemia of that organ. The symptoms are nausea and vomiting of the severest type, accompanied by great mental depression.

Dr. Daniel R. Brower recommends for such patients the following outline of treatment: Avoid excessive fatigue and mental worry for several days previous to sailing; proper attention must be given the gastro-intestinal tract by taking a light diet and producing free catharsis by means of a full dose of *massa hydrargyri*, followed at the proper time by a saline purgative. This treatment should be carried out two or three days before going on board ship. As soon as there has been a thorough evacuation one teaspoonful of the following should be taken three times a day until time to go aboard:

R. Potassii bromidi	3v	20
Aq. menthæ piperitæ q. s. ad.....	3ii	64

M. Sig.: One teaspoonful in water three times a day.

As soon as the patient arrives on board ship he should take a dose of chloralamid (gr. x-xv, 0.66-1), lie down and remain in a horizontal position until at sea and when the effects of the medicine have worn off, he should move around on deck to ascertain whether he has obtained his "sea legs," to use the nautical expression. If he finds that he is still inclined to be seasick the dose of chloralamid should be repeated, followed by a light diet consisting of easily-digested food, which should be taken at frequent intervals, even though not inclined to eat. He should remain on deck as much as possible.

Dr. H. Rawlins states that seasickness can be relieved by elevating all the limbs. The object in doing this is to augment the blood-pressure, and thus diminish the anemia of the nerve centers due to the enfeeblement of cardiac action when in the prostrated state.

T. Lauder Brunton recommends wearing a tight bandage around the waist extending from the ensiform cartilage to the umbilicus or lower. Rockwell states that large doses of the bromids must be taken, beginning three days before the voyage. As much as thirty grains three times a day may be sufficient, but in some cases still larger doses are necessary. He prefers the sodium to the potassium salt. The late Dr. Beard, of New York, has written an interesting article on this subject, which has been published in book form.

Treatment of Smokers' Gingivitis.

R. Salolgr. xv 1
Tinet. catechu3i 4
Spts. menthæ pip.....3iv 128
M. Sig.: One teaspoonful in half a glass of water as a mouth wash.
—Indian Med. Jour.

Treatment of Furuncles.

R. Ichthyol
Etheris sulph.
Alcoholis—50 per cent—āā.....3iv 16
M. Sig.: Apply locally after shaving the part, and repeat in order to form layers of ichthyol over the part.

Treatment of La Grippe.

Dr. W. H. Thomson, in *Med. News*, states that for the relief of the general aching and pains in the bones aconite is the best drug. This modifies the state of congestion in the capillaries and quiets the heart. Next to aconite Dover's powder gives most relief. He recommends the following combination:

R. Ext. aconite—solidgr. i-vi 06-36
Pulv. ipecac. et opiigr. i 06
Phenacetinigr. viii 5
Quininæ sulphatisgr. vi 36
M. Ft. pilulæ No. ii. Sig.: Take six such pills the first day and each succeeding day until the fever subsides; then three a day until the catarrhal symptoms have disappeared.

We wish to call the practitioner's attention to the very large dose of aconite in the above pill, ranging as it does from grain one-half to three grains in each pill. The usual dose is from gr. ¼ to ½.

Nasal Obstruction in the Newborn.

Chauveau, in *Gaz. Hebdomadaire de Méd. et de Chir.*, states that eczematous impetigo may, by its secretions, occlude the nares of a newborn infant. An acute coryza may be responsible for the obstruction. For the latter condition he advises three or four drops of the following solution to be introduced into the nose three or four times daily:

R. Resorcingr. xv 1
Ol. vaselini3iiss 48
M. Sig.: Introduce three or four drops into the nares three or four times daily; or
R. Sodii bicarbonatis3iiss 6
Glycerini3i 32
M. Sig.: Drop two or three drops into the nares three times a day.

Vomiting of Pregnancy.

Baer recommends the following combination in vomiting of pregnancy:

R. Bismuthi subnitratiss3ii 8
Pepsini sacchari3i 4
Sodii bicarb.3ss 2
Sacch. lactis3i 4
M. ft. chart. No. xii. Sig.: One powder every three hours.

In addition he advises the following:

R. Acidi nitro-hydrochlor dil.....3iiss 6
Spts. limonis3i 4
Syr. simplicis3ii 64
M. Sig.: One teaspoonful in a wine glass of ice water three times a day.

Removal of Cerumen from the Ear.

Dr. Godart, as published in the *Phil. Med. Jour.*, recommends the following to remove wax from the ear:

R. Sodii carb.—puregr. xv 1
Glycerini
Aq. destil. āā.....3v 20

M. Insert a few drops into the ear several times a day, followed by irrigation with water at proper temperature.

Infection of the Breast During Lactation.

C. S. Bacon, in *N. Y. Med. Jour.*, states that when the nipple wounds become infected, but before there are any symptoms of general infection or involvement of the deeper breast, the local wounds may be treated by the application of cotton saturated with alcohol. Nursing through a shield may be allowed.

When the symptoms of deeper infection appear, nursing from the affected breast should not be allowed and the breast should be supported and put at rest by a bandage. By following this plan of treatment 80 to 90 per cent. of all breast infections will terminate without abscess. If in spite of this treatment some temperature continues or reappears, the presence of pus must be expected and the breast opened.

To Relieve the Itching of Urticaria.

R. Alcoholis
Spts. etheris
Spts. chloroformi, āā3viiss 30
Mentholgr. ii 12
M. Sig.: Use as a local application.

Iodin in Liver Spots.

Dr. M. Porasz, as noted in *Merek's Archives*, states that the best means of removing pityriasis versicolor, or liver spots, is tinctura iodi. In from three to four days after painting the spots with this preparation the skin begins to desquamate, which process is completed in four or five days. The separated epidermis takes along with it the spores and mycelia of the parasitic fungus.

Treatment of Seborrhea with Benzene.

Leftwich, in *Brit. Med. Journal*, states that the treatment of seborrhea sicca with alkalies or with bland oils for the removal of the crusts has not been satisfactory. As the crusts are made up chiefly of fat, he states that benzene makes a good solvent by applying it with a shaving brush over the affected area; the thick crusts soon disappear. The benzene leaves the scalp very dry, and he advises the cleansing to be followed by an inunction. For this he prescribes:

R. Ol. ricini
Spts. myreia, āā3iiss 48
Tinet. cantharidis3ii 8
Eau de Cologne3iv 16

M. Sig.: Apply to the part every morning and repeat the benzene treatment once in five days.

The effect of the benzene on the baldness is also very satisfactory. To conceal the odor the author advises the addition of ten drops of oil of geranium to each ounce of benzene. In mild cases of seborrhea the benzene is mixed with equal parts of alcohol.

Treatment of Tonsillitis.

Dr. Cheveller, in *Klin. Ther. Woeh.*, states that he treats all kinds of tonsillitis with the following gargle:

R. Sodii salicylatis3ii 8
Aq. menth. pip. q. s. ad.....3vi 192

M. Sig.: Use as a gargle several times a day.

Treatment of Acne of the Face.

In mild cases of acne, Dr. A. Phillopson recommends the following:

R. Acidi aetici
Tinet. benzoin
Spts. camphoræ, āā.....m. xlv 3
Alcoholis, q. s. ad.....3iiss 112

M. Sig.: Put on some cotton and rub the face night and morning.

Pertussis.

Dr. Roth has treated a great number of cases of whooping cough, with the following combination containing iodine and carbolic acid, with splendid results:

R. Acidi carbol.	gr. xv	1	
Spts. vini gallici	3ss	2	
Tinct. iodi	m. x		66
Tinct. belladonnæ	3ss	2	
Aq. menth. pip.	3iii	96	
Syrupi opii	3iiss	10	

M. Sig.: A teaspoonful every two hours to a child over two years of age.

—*Med. Summary.*

It will be seen, if Dr. Roth is quoted correctly, that the child would be taking one-half grain of carbolic acid every two hours, or twelve grains in twenty-four hours, which is a poisonous dose.

Treatment of Sore Nipples.

R. Balsami peruviani			
Tinct. arnicæ, āā	3ss	2	
Ol. amygdal. duleis			
Aq. calcis āā	3ss	16	

M. Sig.: Shake well and apply to the nipple with a camel's hair brush.

—*Med. Summary.*

Medicolegal.**Sufficiency of Basis for Non-expert Opinion of Sanity.**

The Supreme Court of Iowa states, in the will case of Betts vs. Betts, that there is some authority for saying that it is not within the province of the court to pass upon the sufficiency of the information upon which a non-expert witness rests his opinion of a person's mental condition; that this is a matter for the jury. But, without indorsing this doctrine, it states that it has to say that no general rule can be laid down as to what opportunity for observation will be sufficient. Courts, it adds, should be slow to make any hard and fast rule, for all the facts out of which the opinion grows are given the jury.

Presumption of Accidental Death.—In the absence of evidence to that effect, the Supreme Court of California holds, in the case of Jenkin vs. the Pacific Mutual Life Insurance Company, that it will not be presumed that an insured person, who died from a gunshot wound, purposely took his own life, nor that he was murdered, but that his death must be attributed to accidental causes. That the courts will presume that the death was the result of an accident, when nothing more is shown than that it was brought about by a violent injury, and the character of such injury is consistent with the theory of accident, it declares, seems to be a rule upheld by the great weight of authority.

"Self-Destruction" Under Life Insurance Policy.—The United States Circuit Court of Appeals, Fifth Circuit, holds, in Union Mutual Life Insurance Company vs. Payne, that "self-destruction," as used in a contract of insurance stating that it, sane or insane, is a risk not assumed by the company, means suicide, and does not include accidental self-killing. In other words, accidental or unintentional self-killing does not forfeit a policy for suicide. Moreover, the court holds that a statement in the proof of death that the insured committed suicide is not conclusive of that fact against the person making it, and does not relieve of the burden of proof the company setting up suicide as a defense, although it is admissible as evidence of suicide, and, in the absence of explanation or contradiction, might be quite sufficient evidence thereof.

Presumption of Miscarriage from Accident.—The Appellate Court of Illinois, first district, holds, in Strehmann vs. the City of Chicago, that the fact of a miscarriage in two months after an accident, coupled with the evidence of the woman's physician that the accident, as described by her, might have caused the miscarriage, and no other cause having been proved, it would be a reasonable inference that the accident caused the miscarriage. Certainly, it says, it would be a ques-

tion for the jury, on all the evidence, whether the accident was the efficient cause of the miscarriage. And it holds that it was calculated to mislead the jury for the trial court by an instruction to single out one fact in evidence, namely, the birth of the still-born child, not stating other facts in evidence, and inform the jury that such fact considered alone did not tend to prove that the accident was the proximate cause of it.

Can Not Dispose of Dead Body by Will.—The Supreme Court of California says, in the case of Enos vs. Snyder, that the general English and American authorities are not very satisfactory bearing on the contest where next of kin, on the one hand, and claimants under a will, on the other hand, demand possession of a body for the purpose of burying it. However, it considers it quite well established by those authorities that, in the absence of statutory provisions, there is no property in a dead body; that it is not part of the estate of the deceased person; and that a man can not by will dispose of that which after his death will be his corpse. Between next of kin and an executor or administrator as such, it holds that the custody of the corpse and the right of burial belong to the former, and says that it has been generally declared in the American cases, that the right of burial of a deceased wife or husband belongs to the surviving spouse, and in other cases to the next of kin, being present and having the ability to perform the service.

City Not Liable for Damages in Enforcing Quarantine.

—The Supreme Court of Texas concurs, in what is now entitled the case of White vs. the City of San Antonio, with the Court of Civil Appeals of Texas, in holding that an action did not lie against the city for the wrongs complained of, as stated on page 1175 of THE JOURNAL of Nov. 3, 1900. This was an action brought to recover of the city for the acts of its mayor and health officer in taking possession of the plaintiff's hotel and placing and detaining therein certain persons suspected of having been exposed to the infection of yellow fever. The supreme court says that the enforcement of quarantine regulations and the establishment and maintenance of pest houses are matters of vital interest to the public in general, and are peculiarly a public function, and therefore, when devolved upon a city, are most generally held to belong to that class of duties for which a city is not answerable, when, through the negligence or misconduct of its officers in their performance, damages are inflicted. The rule, it adds, is recognized by the leading text writers, and is maintained by courts of the highest authority. Moreover, it considers that the provisions of the Texas statutes which make the health officers of a city officers of the state, show that their functions are governmental, and are conferred in the interest of the public at large, so that this rule clearly applies to their acts.

Injuries in Consequence of Effect of Intoxicants.—The Court of Appeals of Kentucky states one of the exceptions from the insurance contracted for in the case of Campbell vs. the Fidelity and Casualty Company of New York to have been of injuries, fatal or otherwise, received in consequence of having been under the influence of or affected by intoxicants. And it says that there seems to be a dearth of direct authority upon the question of what injuries may properly be said to have been received in consequence of having been under the influence of or affected by intoxicants. This clearly, it holds, does not include injuries such as disease resulting from the direct or indirect effect upon the system of the intoxicants. But it thinks that this language applies to injuries received in consequence of the effect of intoxicants upon the nerves, the mind, or the disposition of the insured. For example, it applies where a man's nerves are so unsteady from the use of intoxicants that he loses his balance upon the edge of a precipice, and falls; where his mind is so affected by their use that he does not see a present danger, but deliberately walks into it; or where his passions are so excited, and his temper so warped, that he recklessly does acts in themselves dangerous, or which naturally tend to produce dangerous results from others. Under this view, it follows that it is not necessary, in order to come within this exception of the policy, that the insured should be

so far under the influence of intoxicants as to be in what is ordinarily termed a state of intoxication or drunkenness, but only so far under the influence of or affected by them that incapacity, nervous or mental, or the excitement of passion, should be such that injury results in consequence of it.

Damages for Miscarriage from Assault.—The Supreme Court of Minnesota holds, in the case of *Plonty vs. Murphy*, that, on the trial of a civil action for the recovery of damages for an alleged assault on a woman pregnant with child, an alleged result being a miscarriage, it is not necessary, in order for the plaintiff to recover substantial damages for this particular injury, that she show by testimony that she suffered more pain, or increased illness, or greater impairment of health, than she would if the delivery of the child had been at the proper time and in the natural way. Here the defendant unjustifiably intruded himself upon the plaintiff by entering the kitchen in which she was at work, remained about ten minutes, talking in an excited and angry manner, shook his fist at her when within striking distance, and raised his hand as if he would strike her. This conduct excited her fear, she did not sleep that night, had bearing-down pains next morning, commenced to flow within three days, and eight days afterward was delivered of a six-months' child, which, if living at the time of delivery, expired immediately afterward. The medical testimony adduced at the trial was to the effect that the affair, as related by the plaintiff, could not possibly cause a shock sufficient to produce a miscarriage. But the supreme court says that the jurors were not bound to accept this medical testimony as conclusive, it being wholly based on hypothetical questions, and open to the criticism which can properly be made as to all testimony of this nature. And it holds that not only was the evidence in the case sufficient to support a finding of the jury, in effect, that the defendant committed an assault on the plaintiff, but that, notwithstanding the expert testimony referred to, there was evidence from which the jury could find that the assault was the approximate cause of the miscarriage. It also holds that, in view of this fact, a verdict for \$300 was not excessive.

What May Amount to Administering a Drug.—A section of the Indiana statutes provides that, whoever prescribes or administers to any pregnant woman, or to any woman he supposes to be pregnant, any drug, medicine, or substance whatever, with intent thereby to procure the miscarriage of such woman, shall, if the woman miscarries and dies in consequence thereof, be fined, etc. The word "administer" in said section, the Supreme Court of Indiana holds, in *McCaughy vs. State*, does not signify merely the manual administering of the drug, medicine, or substance, but it has a much wider meaning. Among the definitions of the word are the following: "To furnish; to give; to administer medicine; to direct or cause it to be taken." *Webst., Dict.* "To supply, furnish, or provide with." *Stand. Dict.* As used in said section, the word "administer," the court holds, was clearly intended to cover the whole ground named, making it an offense to give, furnish, supply, provide with, or cause to be given, furnished, supplied or provided with, or taken, any such drug, medicine, or substance, with the intent and either result named in said section. And the word, the court holds, embraces, and was intended to embrace, every mode of giving, furnishing, supplying, providing with, or causing to be taken any such drug, medicine, or substance. This it pronounces both the letter and spirit of the section. Moreover, as the section makes it a crime to either prescribe or administer such drug, medicine, or substance with the intent and result named therein, the court holds it immaterial in this case whether the woman knew of the properties of the drug and the purposes for which it was used, or whether she requested the accused to procure the drug for her, or he furnished it to her without such request, or whether she decided to take it before he procured and gave it to her. If he knew or supposed she was pregnant, and knew the purpose for which she desired the drug, and furnished it to her, and she afterwards, when he was not present, took the same, he administered the drug to her, the court holds, in the meaning of the section.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Philadelphia Medical Journal, March 2.

- 1 *Three Dangerous Operations. John B. Deaver.
- 2 On the Desirability of Combined Operations in Pelvic and Abdominal Surgery. W. P. Manton.
- 3 *Urinary Hyperacidity. Thomas R. Brown.
- 4 *Multiple Brain Abscess Following Empyema. Thomas A. Claytor.
- 5 *The Use of the Aqueous Extract of the Suprarenal Gland in Persistent Epistaxis. Lewis S. Somers.
- 6 *The Bio-chemical Basis of Pathology. Henry A. Bunker.
- 7 Cultivation of the Aspergillus in Urine. L. Napoleon Boston.
- 8 *A New Blood-stain. Randle C. Rosenberger.

Boston Medical and Surgical Journal, February 28.

- 9 *The Use and Abuse of Spectacles. Hasket Derby.
- 10 Avulsion of the Finger, With a Case in Which This Accident Occurred to an Infant Twenty Months Old. George H. Monks.
- 11 Two Cases of Ligature of the Internal Jugular Vein for Infective Thrombosis of the Sigmoid Sinus Due to Purulent Otitis Media; One Recovery and One Death. Frederick L. Jack.

Medical News (N. Y.), March 2.

- 12 *Veratrum Viride; Its Value in Some Conditions of Toxemia. A. B. Isham.
- 13 *The Treatment of Delirium Tremens by the Intravenous Infusion of Saline Solution. James P. Warbasse.
- 14 *Yohimbin and Its Salts; a New Aphrodisiac. Roberts Bartholow.
- 15 *Thymotal; A New Remedy for Ankylostomiasis. J. E. Pool.
- 16 Belladonna vs. Scopolia. Reynold Webb Wilcox.
- 17 Immunization for Typhoid Fever: A Review. H. W. McLaughlin.
- 18 Malarial Fever With Special Reference to the Value of Blood Examinations. Report of Cases. Herbert Old.
- 19 Is Rubella Infection Antagonistic to Pertussis Infection? William Byrd Young.
- 20 Complete Transposition of the Viscera. George W. Webster.

New York Medical Journal, March 2.

- 21 *The Axis-Traction Forceps, With Special Reference to Rotary Axis Traction in the Treatment of Posterior Positions of the Anatomical Head. Simon Marx.
- 22 *Metrorrhagia Due to Inflammatory Processes Within the Pelvis. Edwin B. Cragin.
- 23 The Pathology of Intra-uterine Death. (Continued.) Neil MacPhatter.
- 24 *The Electrochemical Action of the X-rays in Tuberculosis. J. J. Rudis-Jicinsky.
- 25 *The Palliative Operative Treatment of Carcinoma of the Posterior Wall of the Stomach. Albert Vander Veer.
- 26 Hemorrhage from a Circumtonsillar Abscess. Walter F. Chappell.
- 27 The Non-Operative Treatment of Prostatic Hypertrophy, With Special Reference to Catheter Life. Ramon Guiteras.

Medical Record (N. Y.), March 2.

- 28 *The Treatment of Rheumatic and Allied Diseases of Joints Complicated by Deformity. Virgil P. Gibney.
- 29 *An Improved Method of Examining the Female Bladder, Admitting Intravesical Operations, and Treatment of the Ureters. William R. Pryor.
- 30 *Some Facts Regarding "Ureine." A. F. Chace and William J. Gies.
- 31 *A Method of Reducing Dislocations of the Thumb. John F. Erdmann.
- 32 *Tuberculosis in Prisons and Reformatories. S. A. Knopf.

Cincinnati Lancet-Clinic, March 2.

- 33 Appendicitis (Surgical Treatment). B. Merrill Ricketts.
- 34 Surgery of the Pericardium. Hal C. Wyman.
- 35 Looking Forward. Louis A. Molony.

St. Louis Medical Review, March 2.

- 36 A Plea for Early Operation in Ovaritis Followed by Epileptiform Attacks. W. Huston Ford.

Medical Age (Detroit, Mich.), February 25.

- 37 Complications and Sequelæ of Typhoid Fever. J. M. Krim.
- 38 Nasal Syphilis. M. C. Morris.
- 39 *Conservatism in Surgery. (Continued.) Maurice H. Richardson.
- 40 The Use of Cocain in Spinal Puncture. M. Shellenburg.

Pediatrics (N. Y.), February 15.

- 41 *Xeroderma Pigmentosum. Bernard Wolff.
- 42 1. Supraorbital Headache Due to Eye-strain. 2. Nasal Neurosis. Samuel G. Dabney.
- 43 Coxa Vara. Fielding L. Taylor.

The Post-Graduate (N. Y.), February.

- 44 Some Reflections Concerning Primary Sterility. Abram Brothers.
- 45 Successful Treatment of Some Acute and Chronic Joint Affections. William B. Snow.
- 46 Clinical Lecture. A. E. Davis.
- 47 The Treatment of Epilepsy—A Lecture. Joseph Collins.
- 48 Acute Purpura Hemorrhagica With Autopsy. F. W. Gavin.
- 49 Notes from the Clinics. Drs. De Garmo, Brown and Allen.

American Journal of Obstetrics (N. Y.), February.

- 50 *Cocainization of the Spinal Cord by Means of Lumbar Puncture During Labor. William R. Stone.
- 51 Fatal Case of Puerperal Fever Which Led to a Malpractice Suit. C. S. Bacon.
- 52 Cesarean Section on a Girl Thirteen Years Old. J. Clarence Webster.
- 53 Pregnancy and Delivery Complicated With Tumors and Neoplasms of the Genital Organs. Henry J. Kreutzmann.
- 54 *New Formation of the Female Urethra; With Report of a Case. Charles P. Noble.
- 55 A Device for the Relief of Bladder Spasm in the Treatment of Cystitis and Bladder Irritation. George H. Noble.
- 56 Dermoid and Other Cysts of the Ovary: Their Origin from the Wolffian Body. (To be continued.) Samuel W. Bandler.
- 57 Waters of Salsomaggiore and Their Therapeutic Action in the Diseases of Women. G. Emilio Cratulo.

Pennsylvania Medical Journal (Pittsburg), February.

- 58 Surgery of the Gall-Bladder. Otto C. Gaub.
- 59 Recent Advances in the Bacterial Treatment of Sewage. D. H. Bergey.
- 60 The Role of Insects in Transmission of Disease; a Résumé. Emma Osborn Cleaver.
- 61 Humanology or Higher Physiology. E. N. Ritter.
- 62 Sanitary Work for Children. B. H. Detwiler.
- 63 The Use and Abuse of the Forceps. W. Knowles Evans.
- 64 Nephritis Complicating Gynecologic Disease. George Erety Shoemaker.
- 65 Local Destruction and Regional Sterilization of Cancer by the Cataphoric Diffusion of the Electrolytic Salts of Mercury; a Further Report. G. Betton Massey.

Archives of Ophthalmology (New Rochelle, N. Y.), January.

- 66 *A Case of Recovery from an Affection of the Chiasm. With Remarks on the Location of the Optic Nerve Fibers in the Chiasm. Dr. Seggel.
- 67 Case of Interstitial Keratitis Cut Short by Attack of Measles. Herbert Harlan.
- 68 Two Cases of Steel in Eye; the First Removed by Magnet: Eye Saved, With Cataract Formation; the Second Remaining Quiet in the Background of a Healthy Eye. J. H. Delany.
- 69 Congenital Right-sided Anophthalmus With Left-sided Microphthalmus. L. D. Brose.
- 70 Ophthalmic Curiosities. 1. Proptosis by Gently Opening the Eye With the Fingers. 2. Healing of an Extensive Wound Through Cornea and Sclera. George Strawbridge.
- 71 Autopsy Report of a Case of Congenital Unilateral Anophthalmus. C. Zimmermann.
- 72 Two Cases of Ossification of Choroid. David Webster.
- 73 *On the Circulation and Diminution of Tension in Atrophic Eyes. G. Ischreyt.

Annals of Gynecology and Pediatrics (Boston), February.

- 74 *A Consideration of the Different Operative Procedures in the Treatment of Retrodisplacements of the Uterus. O. Beverly Campbell.
- 75 *"Insanity in Women Associated With Pelvic Diseases." W. O. Henry.
- 76 Report of a Case of Acute Fatal Pemphigus. Jay F. Schamberg.
- 77 Fourteen Years' Work in Abdominal Surgery. F. F. Lawrence.
- 78 Gonorrhea in the Female. Alfred Roulet.
- 79 The Nature and Treatment of Neuralgic Dysmenorrhea. Eugene C. Underwood.
- 80 Hernia of the Bladder. Charles C. Allison.

Chicago Medical Recorder, February.

- 81 The Limitations of Clinical and Microscopical Evidence. W. K. Jaques.
- 82 Chronic Myocarditis and Fatty Degeneration of the Heart—Varieties and Etiology. Joseph M. Patton.
- 83 *The Pathology of Chronic Inflammations and Degenerations of the Myocardium. Arthur R. Edwards.
- 84 *Symptoms of Chronic Myocarditis and Fatty Degeneration of the Heart. William E. Quine.
- 85 Symptomatology of Angina Pectoris. Frank Billings.
- 86 Methods of Examination of the Heart. George W. Webster.
- 87 The Diagnosis of Myocarditis and Fatty Degeneration of the Heart. E. Fletcher Ingals.
- 88 Prognosis of Chronic Myocarditis and Fatty Heart. Robert B. Preble.
- 89 Treatment of Chronic Myocarditis. Robert H. Babcock.
- 90 The Symptomatology of Cardiac Neuroses. James B. Herriek.
- 91 The Diagnosis and Prognosis of Cardiac Neuroses. John A. Robison.

- 92 *The Neurology of Angina Pectoris. William T. Eckley.
- 93 *A Plea for Enterostomy in Acute Intestinal Obstruction. Emanuel J. Senn.

- 94 Sarcoma of the Pituitary Body. Carl D. Swenson.

Denver Medical Times, February.

- 95 Typhoid Fever Aborted. R. G. Woodworth.
- 96 The Use and Abuse of Glasses. T. A. Grigg.
- 97 Conservatism in Pelvic Suppuration. John O. Polak.
- 98 Principles of Asepsis Applied to Operative and Other Wounds of the Eye. Edward Jackson.
- 99 Observations on and Deductions and Generalizations from the Administration of About 1000 Anesthetics. A. A. Kerr.

Quarterly Journal of Inebriety (Hartford, Conn.), January.

- 100 Is Alcohol a Food or a Poison? Dr. Kassowitz.
- 101 *The Influence of Alcohol on Muscular Work. E. Destree.
- 102 *On the Action of Alcohol. G. Sims Woodhead.
- 103 "The Influence of Alcoholic Liquors on Mental Work." Dr. De Boeck.

Obstetrics (N. Y.), February.

- 104 Fifty-eight Cases of Puerperal Eclampsia Without Mortality. W. Stroganoff.
- 105 *Irreducible Incarcerated Retroflexed Gravid Uterus. William A. Quinn.
- 106 Case of Puerperal Eclampsia with Kidney Failure and Facial Paralysis. Ewing Marshall.
- 107 Vertex Presentation in the Fourth Position. Thomas S. Bullock.

Journal of Nervous and Mental Diseases (N. Y.), February.

- 108 A Case of Cortical Sclerosis, Hemiplegia and Epilepsy, With Autopsy. Charles L. Dana.
- 109 *Diffuse Degeneration of the Spinal Cord. (Continued.) James J. Putnam and E. W. Taylor.

Woman's Medical Journal (Toledo, Ohio), January.

- 110 The Normal Placenta. Boose Tucker.
- 111 Smallpox. (Continued.) Ellen H. Heise.

New England Medical Monthly (Danbury, Conn.), February.

- 112 General Considerations Relative to the Etiology, Pathology and Treatment of Neurasthenia. A. D. Rockwell.
- 113 Some General Causes of Inebriety. T. D. Crothers.
- 114 The Principles of Diagnosis of Lesions of the Brain. John Pnnton.
- 115 Notes on Fractures of the Major Bone Shafts Contiguous With or Involving the Articulations. Thomas H. Manley.
- 116 Asthma and Its Treatment. A. E. May.
- 117 Rectitis: Operation Advised and Refused: Blood Cured. T. J. Biggs.
- 118 Lyptol in Minor Surgery. L. J. Pritchard.

Medical Times and Register (Philadelphia), February.

- 119 Local Anesthesia in Hemorrhoidal Operations and All Varieties of Minor Surgical Work. O. W. Green.
- 120 Exclusion of the Intestine. E. Terrier and A. Gossel. Management of Cancer of the Large Intestine. R. De Bovis.
- 121 Aspirin. E. W. Bing.

Canadian Journal of Medicine and Surgery (Toronto), March.

- 122 Cerebrospinal Meningitis. Alexander McPhedran.
- 123 Report of a Case of Forceful Reduction of the Deformity of Pott's Disease. H. P. H. Galloway.
- 124 Annual Address of Chairman of Provincial Board of Health. Harry E. Vaux.
- 125 *The Morbid Anatomy and Pathology of Hematemesis and the Surgical Treatment of Hemorrhage from Gastric and Duodenal Ulcers. G. E. Armstrong.

Journal of Medicine and Science (Portland, Me.), February.

- 126 State Laboratories as Aids to Sanitary Work. Samuel W. Abbott.
- 127 The Management of Occiput Posterior Positions. Stanley P. Warren.

Hot Springs Medical Journal, January.

- 128 *What Is Normal Menstruation? George J. Engelmann.
- 129 *An Operation for the Treatment of Marked Rectal Prolapse in Women. J. Wesley Bovee.

Physician and Surgeon (Detroit and Ann Arbor, Mich.), January.

- 130 Tuberculosis of the Knee-Joint and Other Cases in Orthopedic Surgery. Daniel W. Marston.
- 131 Obstruction of the Bowels. Theodore A. McGraw.
- 132 Neuralgia of the Fifth Nerve. Robert McGregor.
- 133 *Pathology and the Antiseptic Treatment of Smallpox. Alonzo Bryan.
- 134 Shortening of the Round Ligaments as a Conservative Element in Pelvic Surgery. Howard W. Longyear.

Kansas City Medical Record, February.

- 135 Discussion of the Treatment of Diphtheria. Charles H. Lester.
- 136 The Treatment of Puerperal Convulsions. J. W. P. Smithwick.
- 137 Brain Diseases. E. E. Gilmore.

Fort Wayne Medical Journal-Magazine, December, 1900.

- 138 *X-Rays. B. W. Rhamy.
- 139 Neuralgia. Frank M. Greenwell.

St. Louis Courier of Medicine, February.

- 40 *Influenza in Infants. John Zahorsky.
41 The Theory and Therapy of Typhoid Fever: With Special Reference to the Modern Antiseptic Treatment. Charles Franklin Hope.
42 Upon Certain Fractures. Norvelle Wallace Sharpe.
Therapeutic Gazette (Detroit, Mich.), February 15.
43 The Treatment of Carcinoma of the Lower Lip. John Chambers Da Costa.
44 The Treatment of Chronic Suppurative Inflammation of the Middle Ear. S. MacCuen Smith.
45 The Value of Continuous Catheterization in Some Genito-Urinary Affections. H. M. Christian.
46 The Management of Nasal Catarrh. Charles Prevost Grayson.
47 Formaldehyde. A. A. Young.
48 A Note on the Treatment of Cirrhosis of the Liver. F. J. Bowles.

Medical Herald (St. Joseph, Mo.), February.

- 49 Report of a Few Surgical Cases. H. Hapeman.
50 Hints on the Treatment of Bronchial and Pulmonary Affections. Henry S. Fendler.

Southern Medical Journal (La Grange, N. C.), February.

- 51 Specific Urethritis. H. I. Bass.
52 Comparative Value of Laboratory and Bedside Diagnosis. (Concluded.) E. C. Levy.
53 Suppression of the Urine as a Complication in Dysentery. Joel Crawford.
54 Clinical Aspect and Treatment of La Grippe. J. W. P. Smithwick.
55 The Comparative Value of External Applications in the Treatment of Acute Pulmonary Disease. J. W. P. Smithwick.

Texas Medical Journal (Austin), February.

- 56 A Report of Four Surgical Cases. Nephrectomy, Hysterectomy, Etc. Henry K. Leake.
57 Indigestion. C. F. Ulrich.

Texas Medical Gazette (Fort Worth), February.

- 58 The Care of the Insane in Our State Institutions. Robert B. Sellers.
59 Foreign Body in the Brain. Frank R. Ross.
60 Early Diagnosis and Treatment of Cancer of the Cervix. F. D. Thompson.
61 A Rare Case of Tubal Pregnancy. U. H. Nixon.
62 The Necessity of Coercive Measures in Suppressing Smallpox Epidemics. H. C. Whitehead.
63 A Case of Orbital Cellulitis. Drs. Gray and Thompson.

Medical Standard (Chicago), February.

- 64 Advantages of Sanitarium Treatment. George F. Butler.
65 European Health Resorts and Sanitariums. David Paulson.
66 Private Institutions for Mental Diseases. Frank Parsons Norbury.
67 The Loomis Sanitarium. J. Edward Stubbett.
68 Sanitarium Treatment of Drug Habits. T. D. Crothers.
69 Craig Colony for Epileptics. Wm. P. Spratling.
70 Hot Springs as a Health Resort. James T. Jelks.
71 A Phase of Hospital Treatment of the Insane. Wm. G. Stearns.
72 The Work of a Health Board. J. N. Hurty.
73 Treatment of Pneumonia. Wm. F. Waugh.
74 Treatment of Syphilis. G. Frank Lydston.
75 Typhoid Fever; Its Complications and Sequelæ. J. T. Moore.
76 Treatment of Syphilis. Wm. S. Gottheil.

AMERICAN.

1. **Dangerous Operations.**—Deaver's paper is a protest against the indiscriminate use and abuse of three operations, excellent procedures in themselves if properly and justly employed. These are repair of the cervix, curettement, and rapid dilatation of the cervix. What he insists upon particularly is antiseptic preparation of the field of operation, including shaving, use of soap and water, permanganate of potash, oxalic acid, bichlorid of mercury and carbolic acid solutions, with iodoform gauze. These rules of antiseptic detail must be followed. He is a firm believer in rubber gloves, which not only protect the patient, but also the surgeon. We can not boil the hands, but we can boil the gloves, and it is easy to change them in changing operations and thus insure asepticity. He also warns against operations on the cervix or its canal in the presence of a latent or active inflammation, or adhesions binding down the uterus.

3. **Urinary Hyperacidity.**—The fact that certain symptoms of bladder irritation are some times observed without any vesical infection, is noticed by Brown, who finds the cause for

some of these rather mysterious cases in an extreme hyperacidity of the urine, which is often itself increased by the increased irritability of the bladder; this hyperacidity being itself attributable to general neurotic, neurasthenic and hysterical conditions or, in other words, it is a vesical neurosis. Nine cases are reported of this condition, relieved by treatment.

4. **Multiple Brain Abscesses.**—Clayton reports a case of multiple brain abscess following empyema, and gives, from the literature, a list of fifty-eight cases of brain abscesses resulting from primary lung disease.

5. **The Suprarenal in Epistaxis.**—Cases of long-continued nasal bleeding obstinate to treatment sometimes occur, and such conditions are the subject of Somers' article. He reports two cases—one of which might be considered extreme in its duration and obstinacy—which were treated by the use of suprarenal extract with great success. The results obtained, he thinks, indicate that it has a further action than that of vascular constriction. It seems to tone up the parts and assist the healing processes like no other remedy. He, therefore, concludes that in addition to its vasomotor effects the drug is of great value for its local nutritive effect and as a pure muscle tonic.

6. **Biochemical Basis of Pathology.**—Bunker's article goes into details of organic chemistry. He comes to the conclusion of Pasteur, that there is some asymmetric force or forces acting in all tissues endowed with life, which is a profound modifier of chemical affinity as manifested in laboratory reactions.

8. **A New Blood-Stain.**—After noticing the stains which have been in favor, such as those of Jenner, Ehrlich, Plehn and Prince, Rosenberger gives the results of his endeavors to find a more durable blood-stain in combination with basic dye. Phloxin showed the granules of the leukocytes beautifully, and methylene blue being one of the best and most uniform stains, he tried these in combination. The formula which worked the best is as follows:

R. Saturated aqueous solution of methylene-blue	50
Saturated aqueous solution of phloxin.....	20
Alcohol—95 per cent.....	30
Water—distilled	60

He remarks that a precipitate generally forms and the stain needs "shaking before using." The blood-films need to be fixed by heat—115 to 120 C. for 20 minutes—or in equal parts of alcohol and ether, or absolute alcohol. The stain works well in either case. If the preparation is dried from alcohol and ether, the stain is applied and allowed to remain from one to three or four minutes, washed freely in water, dried and mounted in balsam. This is also a fairly good stain for malarial parasites of any variety. It has the advantage of greater durability over those previously employed.

9. **The Use and Abuse of Spectacles.**—The great increase in the use of spectacles is first noticed by Derby, who suggests that ophthalmic physicians as well as opticians may make mistakes. He thinks that probably glasses are worn too much in cases of hypermetropia and too little in myopia. A slight degree of astigmatism, he thinks, can be let alone and, as regards the use of prismatic glasses, it is more and more frequently thought to be the fact that apparent muscular anomalies vary directly with conditions of general health. He, therefore, holds that these may be over-used.

12. **Veratrum Viride.**—This drug, according to Isham, has largely gone out of use among city practitioners, though it still holds its own in the country. He believes there are many cases where its value is not appreciated, and reports six, all of peritonitis, having its origin in appendicitis, in which it was employed with advantage. Its first effects are referable to the glandular system, exciting the sudoriferous glands, the salivary and the liver. These have a therapeutic significance not to be lightly passed over. Especially the action of the sweat glands and of the liver is of importance in aiding the system to overcome toxic states. Its action on the heart also is possibly beneficial. It lowers the temperature through its action on the sweat glands, and he suggests that its direct action on the

neuron may better explain its behavior than the simple statement that it is a depressant of the spinal cord. Its action on the heart muscle itself or its ganglia is suggested, by Isham, to be beneficial in squeezing out waste products and bringing the organ down from an overdistended mechanical organ to one working in perfect order. He believes it may also be a most excellent remedy in acute alcoholism, and the possibility of death produced by it is not considered a serious one.

13. Delirium Tremens.—Warbasse reports a case in the practice of Dr. Pilcher, in Brooklyn, where the injection of 40 ounces of saline solution at a temperature of 116 F., into the median cephalic vein in a severe case of delirium tremens, was followed by rapid improvement and recovery. He thinks this method may aid by increasing the amount of circulating medium, diluting the toxins, stimulating excretion, and improving the action of the heart.

14. Yohimbin.—This drug, which has been studied in Germany by Loewy, Mendel and others, appears to be a powerful aphrodisiac. From animal experiments it appears to be a central paralyzer of motility, but not of sensibility. This is not a poisoning of the muscles themselves. Mendel has found the drug useful in sexual neurasthenia, but Bartholow hopes we will find it useful in albuminuria, exerting an action of substitution in diseases of the renal and genito-urinary system. More extended clinical experience, however, is required.

15. Thymotal.—This name is given to a carbonate of thymol prepared by Pool, which he claims has special advantages in ankylostomiasis. It is a neutral substance with a fusing-point of 99 C., a boiling point of more than 400 C. It gives no other reaction, save that it is divided into thymol and carbonic acid by alcoholic solution of potassium. A boiling aqueous solution of potash does not break it up, and neither acids nor the human stomach have any effect on it. It is odorless, is not vomited, does not cause dizziness, and is broken up in the body by the bile and mucus. Ankylostomiasis, for which it was devised, seems more rapidly affected by it than by thymol itself. For adults, the dose is 30 gr.; for children, 15 gr., and for babies, 7½ gr., three or four times daily. The treatment must be continued for four days, and a purgative be taken on the fifth, after which the whole treatment must be repeated until no more ankylostomata are found in the stools.

21. The Axis-Traction Forceps.—Marx reports his experience with the Tarnier axis-forceps and shows their advantages. He also describes a special method which he calls rotary axis-traction, that he has employed and by which rotation can be brought about without the lesions to the soft parts resulting from the use of ordinary forceps in these maneuvers.

22. Metrorrhagia.—The etiology of metrorrhagia due to inflammatory processes in the pelvis is discussed by Cragin, who thinks the usual order of source and sequelæ as regards the endometrium is: 1. Chronic congestion; 2. chronic inflammation; 3. menorrhagia and metrorrhagia. The muscle wall of the uterus itself may take part in the production of the symptom through tumors and chronic interstitial inflammation with atrophy of the muscle tissue and increase in new connective tissue. In some cases, however, the condition seems to be caused by lack of sufficient elasticity in the uterine muscle, interfering with normal muscle contraction. The blood vessels of the uterus, if sclerosed, so as to destroy their elasticity, may naturally produce the morbid conditions. Occasional cases are met with where the endometritis is slight and the hemorrhage seems to be due to lack of contractile power in the arterial wall. The treatment of metrorrhagia depends largely on its etiology; with chronic endometritis, curettage and relief of congestion is best; if acute endometritis exists, cleanliness, drainage and rest. If the symptom is due to interference with the muscular contraction of the walls of the vessels, the treatment depends on the presence or absence of hypertrophied endometrium. The presence of the latter indicates curettage, possibly repeated several times. In the absence of hypertrophied endometrium, or if persistent after repeated curettage, metrorrhagia may justify hysterectomy.

24. X-Rays in Tuberculosis.—Rudis-Jieinsky reports experiments made by putting sputum in cultures of bouillon in boxes and treating them with the x-ray. He found that certain x-rays are similar in their actinic properties to the violet rays of the spectrum, and that various bacteria react differently under such radiation, according to the quality of the plasma and the degree of liquid they contained. Mildly alkaline cultures seem to favor the growth of tubercle bacilli, while in acid media they are rendered inert. Rabbits were inoculated from the cultures mentioned, and their secretions rendered acid or alkaline. In these, where the alkaline treatment was given, fatal tuberculosis ensued. In the other case the animals seemed to do well and lived for two years after exposure to the x-ray, and examinations showed healed tuberculous lesions. From the results of these experiments he was led to try, the last two years, the x-ray in early cases of tuberculosis that came to him for treatment, with the results that from 20 selected cases, in one year there were 2 deaths, 1 of suicide, 4 failures, and the rest are now doing comparatively well. The time of exposure varied from ten to fifteen minutes in each case, the rays exposed at a distance of fifteen to eighteen inches from the body and the fluoroscope applied to the opposite side. He will not say that his cases were cured by the x-ray exposure only, for there may have been a spontaneous cure, but they certainly got well. As regards the danger of dermatitis, etc., he can prove that there is absolutely none if the exposures are not unnecessarily prolonged and certain precautions are observed. Treatment must be stopped at once, on the first trace of any burning, itching or discoloration of the skin. He believes that this method has a future and is worthy of extended trial.

25. Gastric Carcinoma.—After reporting four cases of carcinoma of the posterior wall of the stomach, treated by palliative anastomosis with gastro-enterostomy and the Murphy button, Vanderveer offers the following as practical deductions: 1. In all cases of continued gastric disturbance that do not yield to medical treatment, careful examination and experiments should be made as to the possibility of malignancy being present. 2. Whether positive diagnosis of malignancy is made or not, the patient continuing to emaciate and suffer, exploration should be done and, if there is any malignant growth, gastro-intestinal anastomosis should be made along the lines suggested by Dr. Weir. 3. The malignant growths in the posterior wall of the stomach are certainly more difficult of diagnosis and sometimes escape the notice of the most careful diagnostician. 4. When an exploratory incision shows that malignant growth in the posterior wall is not possible of removal by resection or otherwise, we should not refuse our patient the benefit of gastro-intestinal anastomosis. 5. In all cases the blood should be carefully examined as a part of the history of the patient, in order to learn of the conditions that may have a bearing on the diagnosis.

28. Rheumatic Deformities.—Gibney reports twenty cases of post-rheumatic and arthritic joint deformities, with the results of treatment by various methods. It is difficult to fix upon any one form of treatment, but he can not refrain from commending the forcible breaking of adhesions when inflammatory conditions have subsided or frequent recurrence to these operations and the judicious use of plaster-of-Paris. His faith in absolute immobilization as a promoter of absorption of chronic inflammatory products increases year by year. The protection of joints with limited range of motion by apparatus within the bounds of this motion is also to be commended. There is hardly a joint in the body but will tolerate considerable force at certain times. The treatment which has been most efficient he sums up as a judicious management of the case throughout, correction of deformity, partial restoration of function which renders the patient helpful, and improvement is sure to follow.

29. Inspection of the Female Bladder.—Pryor describes a cystoscope devised by himself, consisting of a main tube for inspection alongside of which is attached a smaller tube for carrying the lamp and a stem which holds it. The tube for

illumination extends beyond the tube for inspection, and consequently the rays of light project beyond and outside the latter, rays entering it. The lamp, lampholder and wires are completely insulated. The advantages of this cystoscope are that the tube for inspection is free from obstruction and free from lamp rays, either direct or indirect, the absence of the necessity of focussing rays of light, the passage of rays of light directly to the part to be inspected, absence of disadvantages inherent in the use of Nitze's cystoscope, the perfect ease with which demonstration can be made, and lastly the absence of heat, and of urine about the trigone and the non-necessity of pumping it out. He lays special stress on the posture which seems, from the illustration, to be a sort of combined Trendelenburg and lithotomy position. He points out its advantages over the knee-chest posture.

30. Ureine.—Chace and Gies criticize Moor's recent paper on this subject, maintaining that his chemical methods are faulty, that his ureine is not a chemical species, but is a mixture containing several of the organic substances and a considerable portion of inorganic salts originally found in the normal urine, and its toxicity can be referred to some of these. Consequently it adds nothing to our knowledge of the cause of uremia, nor can his deductions regarding the biologic significance of this urinary complex be accepted.

31. Dislocation of the Thumb.—After first noticing the different methods devised for reducing thumb dislocation, Erdmann describes his own. In the case of dorsal dislocation, the operator places his thumbs on the base of the proximal phalanx and the cushion of his index fingers on the dorsal extremity of the metacarpal bone. The forces are then applied in the opposite direction; the index finger pulls the metacarpal bone in a condition of extension or abduction while the thumb raises and pushes the phalanx in a position of flexion. Should the rare condition of volar dislocation exist, the procedure in reference to the operator's thumb and index finger is reversed, the thumb lifting and extending the distal phalanges and adduction or flexion of the metacarpal bone made by the index finger. This method has been used by the author since 1887, without any failures.

32. Tuberculosis in Prisons.—Knopf remarks on the prevalence of tuberculous disease and describes the precautions that should be taken; the isolation of tuberculous patients from their fellows, etc., the use of masks to catch the germs when coughing, and the various methods to counteract the prison depression. Aside from any sentimentalism, he thinks we should specially endeavor to combat tuberculosis in this class because they are liable to spread the disease on their discharge.

39.—See abstract in THE JOURNAL, xxxv, p. 52.

41. Xeroderma Pigmentosum.—Wolff reports several cases of this condition occurring in one family in South Carolina. There was no heredity to account for the disorder, so far as known. Of the six children, two boys and a girl were infected. The disease appeared in each instance in the first summer of life after exposure to the sun, as sunburn. The sunburn did not go away until freckles appeared, which spread and deepened; the skin thinned and shrunk in places; then followed ulcerations, outgrowths and ophthalmic complications. The general health, excepting in one patient, remained unaffected.

50.—Spinal Cocainization.—Stone reports his experience with spinal cocainization in obstetric cases, and states that the sudden unpleasant symptom of headache can generally be controlled by glonoin in 1/50 gr. doses, or by hyosein hydrobromate, 1/150 to 1/200 gr. doses, especially if given just before the injection of cocain. It also reduces the frequency of nausea and vomiting. The high temperature which follows he attributes to tampering with the pressure of the cerebrospinal fluid within the canal, as the same symptoms follow the injection of normal saline solution and other internal injections. In one case, where 1/12 of morphin sulphate was added to the cocain injection alarming symptoms of morphin poisoning ensued. He therefore thinks it is unsafe to use it. As regards the dangers, he thinks the only cases of death from lum-

bar puncture were from those of cerebral neoplasms and hydrocephalus, where the too sudden withdrawal of the cerebrospinal fluid has caused death. The advantages of the method are that the patient is absolutely relieved from pain for hours, the accoucheur is relieved from anxiety after a favorable injection, and the presence of the anesthetist and his expense can be dispensed with. Too much stress can not be laid on the importance of absolute asepsis during the injection.

54. New Formation of Urethra.—Noble reports a case in which, after two unsuccessful operations, he performed a third in which he sutured the mucous membrane over the small sigmoid self-retaining catheter, using what was left of the anterior wall of the original urethra and, between the external orifice of the urethra and the clitoris, the mucous membrane of the vestibule was utilized. The left labium minus was selected also as a tissue from which to form a flap. It is easily drawn over the raw surface and well back into the vagina, and attached by interrupted catgut suture to the raw surfaces which had been prepared and sutured with silkworm gut sutures to the right border of the raw surfaces along the urethra and within the vagina. At the anterior end of the new urethra, near the clitoris, the lateral surfaces of the labium majus were sutured together. In this way not only the floor of the urethra was made of the left labium minus, but a flap of considerable thickness was secured over the region of the neck of the bladder. The result was perfect, and he recommends to others who operate in similar conditions, to use the labium minus in this way. So far as he knows, its utilization thus is original with him.

66. Optic-Nerve Fibers.—Seggel reports a case, observed by him, in which there was pronounced hemianopsia, which he accounts for by the aid of accessory symptoms, paralysis of the oculomotor nerve, non-impairment of the sense of smell, as due to infection of the posterior portion of the chiasm. He also quotes another case which had already been reported by Seydel, in which there was a fibroma of the dura mater, clinically located, that had been producing pressure on the left papillomacular bundle, and removed, relieving the condition. These two cases, he thinks, serve to prove that the papillomacular bundles lie in the dorso-medial location.

73. Tension in Atrophic Eyes.—Ischreyt takes up the question of ocular tension, illustrating his views by cases. Since the intraocular tension depends on the influx and outflow of liquids, its disturbance can only arise through disorders in this relation. The condition of increased tension has been shown possible by the interference with the outflow uncomplicated by diminished influx. If the disturbance has once taken place there is added an increased secretion brought about by this cause. Both factors unite in bringing about the condition known as absolute glaucoma. While in many conditions of hypertony the disturbed relation between influx and outflow depends primarily on the interruption of the outflow and rarely upon the primary hypersecretion, it is natural to assume that hypotony is primarily brought about by diminished influx, and an investigation on atrophic eyes reveals, indeed, marked injury of the secreting portion of the eye—the ciliary processes. As long as diminution in secretion is slight it may be compensated by increased activity of other portions of the secretory area, and also the lack of aqueous humor may be compensated for by contraction of the elastic capsule of the eye, but with any considerable diminution of secretion considerable hypotony occurs. A slight cause may be sufficient to destroy the balance. While the normal channel of exit, the plexus venosus ciliaris, is free, and the hypotony at the most has caused only a slowing of filtration, the destruction of the ciliary processes and the iris forces the blood of the anterior and posterior ciliary arteries into new channels and thus gives rise to an increased anterior venous outflow; the diminution in tension and the increasing of the collapse of the ocular capsule, remove pressure from the vessels entering the *venæ vorticosæ* and allow them to dilate; the more the pressure sinks the easier is the venous outflow. Thus a vicious circle develops, and results in a condition known as atrophy of the ball. The rapid outflow of venous blood prevents any general diminution in the arterial current, and thus

no secondary, compensatory endarteritis develops. As regards the compensatory arrangement of the eye it seems probable that the anterior venous channel of outlet acts as a regulator of circulation in the anterior segment of the ball; in case of interference either in the venous or arterial area the excess blood is easily carried off through these channels.

74.—See abstract in *THE JOURNAL* of January 12, p. 127.

75.—*Ibid.*, p. 125.

83. Myocarditis.—The pathology of myocarditis is noticed by Edwards, who remarks that we can not clinically distinguish with absolute certainty the difference between acute and chronic degenerations and inflammations. Much of our present confusion is based upon the fact that the microscope can not gauge the degree of cardiac inco-ordination and often fails to indicate its cause. Chronic myocarditis must be studied in the light of more acute changes in which successive pathologic alterations are most easily observed. It is probably not a disease of itself, but a sequel of previous retrogression. It is a secondary process, it plays no active rôle, but compensates for the destruction of the heart tissue while it is itself a measure of that loss. While valvular disease is not necessarily affiliated with myocarditis, it is indirectly associated with it. The condition may be complicated by partial heart aneurysms and heart ruptures.

84. Chronic Myocarditis.—According to Quine, myocardial diseases are more frequent and important than generally supposed. The false diagnosis of the condition is rarer than the failure to recognize it. Among the earliest symptoms is dyspnea; Cheyne-Stokes respiration commonly occurs during sleep. The patient may not be able to lie down on account of the gravity of the dyspnea. The pulse is ordinarily slow, fever intermittent and irregular. Intermittency is a more common feature than ordinary irregularity. There is often actual pain in the region of the heart, and the irregularity may be felt by the patient himself. The area of cardiac dulness is usually increased, the apex-beat displaced downward. The aortic second sound is accentuated, indicating arteriosclerosis. Increase in the volume of the heart, diminution in the pulse, signs of weakness of the muscles indicate failure. Local and physical debility are common in advanced stages. The pseudo-apoplectic attacks, and occasionally real apoplexy, may be the terminal complications. When the heart muscles begin to yield, dilatation takes place, symptoms of venous congestion appear in all parts of the body—bronchial catarrh, lung edema, liver enlargement, gastro-intestinal catarrh; renal insufficiency is an early and almost constant symptom. Notwithstanding the tendency to somnolency sleep is unrefreshing and disturbed. In the advanced stages the cardiac impulse is feeble, the heart signs weak, tremor cordis, vertigo and other symptoms appear.

88. Prognosis of Chronic Myocarditis.—The following is the summary of Preble's paper: 1. Chronic myocarditis is an incurable, progressive disease, which does not show itself clinically until considerably advanced. 2. While the prognosis is determined by the site and extent of the process, there is no constant relation between the intensity and duration of the clinical manifestations and the pathologic changes. 3. Because of these facts, the process must inevitably cause death, but it is impossible to foretell whether in a short time or after the lapse of years, and whether it will occur suddenly or after a prolonged period of cardiac insufficiency. 4. The more prominently marked the paroxysmal manifestations, the angina, pulmonary edema, and asthma are, the more probable is sudden death. 5. The more marked any renal, pulmonary or arterial changes are, the more unfavorable the prognosis. 6. The better the habits, financial condition and intelligence of the patient, the better the prognosis, other things being equal.

92. Angina Pectoris.—According to Eekley, angina pectoris is a neuralgia of the cardiac plexus from which pain is reflected to all parts of the body. The anatomical order of nerve involvement, both primary and reflex, seems to him as follows: 1. Cardiac plexus. 2. The brachial plexus. 3. The intercostals. 4. The phrenic. 5. The trigeminus.

93. Enterostomy in Obstruction.—Senn reports two cases, and in conclusion emphasizes the following points: 1. The value of temporary enterostomy in acute intestinal obstruction in selected cases, especially where facilities are not favorable for a laparotomy, and where the patient's condition does not warrant such an operation. 2. Enterostomy is a simple operation, requiring ordinary skill, while laparotomy with radical treatment of the obstruction is very critical. 3. The opening in the intestine should not exceed one-half inch in length, parallel with the axis of the bowel, thereby readily closing after its purpose has been fulfilled. 4. If the obstruction persists after enterostomy, a radical operation can be performed at a later date, when the acute symptoms have passed away.

101. Influence of Alcohol on Muscle Work.—The conclusions of Destree's paper are that alcohol has an apparent favorable effect on the work product, whether the muscle is weary or not, which appears almost immediately, but is very transitory; directly afterward it has a very decided paralyzing effect. About one-half hour after taking alcohol the muscle power reaches the maximum; subsequent doses increase with difficulty. The subsequent paralyzing effect of alcohol outweighs the momentary stimulation. The total work product is less than is produced without it. Similar paralyzing effects are not observed to follow the use of tea, coffee, etc.

102. The Action of Alcohol.—The action of alcohol in altering the functions of cells subjected to pathogenic organisms is the subject of Woodhead's article. He calls attention to the experiments and observations of various authorities, especially those of Abbott and Deléarde. These show that attenuated disease-producing organisms, which under ordinary circumstances do not kill, bring about such a result when the animal has been previously treated with alcohol, for example in rabies, tetanus and anthrax, and Deléarde draws the conclusion that patients who have been bitten by a mad dog should abstain from the use of alcohol, not only during the process of treatment, but for a long period afterward, while immunity is being gained. There is no doubt that in addition to its specific action alcohol has a general mal-nutritious effect, in its action on the mucous membranes of the stomach, etc. The susceptibility induced by alcohol to excess is somewhat similar to that induced by starvation, in which we see the resistance of animals to particular forms of infection very markedly diminished.

105. See abstract in *THE JOURNAL*, xxxv, p. 1501.

109. Degeneration of Spinal Cord.—The general conclusions derived by Putnam and Taylor are: 1. That a well-defined lesion of the nervous system particularly localized in the cord exists, which may for the present be termed simply "diffuse degeneration." 2. That no fundamental characteristics of the lesion have been found depending on different causes. 3. That anemic states have been shown at times to be a concomitant condition, but not necessarily a cause. 4. That the actual causes are still wholly obscure.

125. Hematemesis.—The surgical treatment of gastric hemorrhage is noticed by Armstrong, who reports five cases in which he has himself operated. He offers the following suggestions, putting aside the cases of sudden death: 1. If a patient vomits twenty ounces of pure blood and another twenty ounces in four to six hours, operation should be performed if the surroundings are favorable and the condition of the patient is such as to give reasonable hopes. 2. If a smaller hemorrhage of from four to ten ounces continues to occur at intervals, and medicinal and dietetic treatment or rest fails to arrest in thirty-six to forty-eight hours, surgery is applicable. 3. In so-called chronic cases which are not relieved by three months of medical treatment. 4. In any case and at any time, when, in spite of medical treatment, the patient is evidently passing into a condition of anemia where operative measures can not be undertaken with any degree of safety. As regards the operation, he says it is well to examine for external evidence of internal lesion but, failing to find this, it is well to open the anterior wall sufficiently to enable the thorough inspection of the whole of the mucosa. If the bleeding point can not be found, then pyloroplasty or gastro-enterostomy should be performed with a

few to secure such a degree of rest in the stomach walls as will favor clot and subsequent healing. If the bleeding point is found, treatment will depend on its locality and nature, extirpation of ulcer, ligation, thermocauterizing to stop oozing, etc. After operation, rectal feeding and salines are indicated.

128.—See abstract in THE JOURNAL, XXXV, p. 1500.

129.—Ibid.

133. **Smallpox.**—Bryan suggests the following in the treatment of smallpox: Scrub the skin with strong alkaline soap and water in order to remove the oil naturally existing, and then wash with alcohol and then again with 1 to 500 solution of bichlorid of mercury, following with a solution of peroxid of hydrogen, each of these washings being ten to fifteen minutes in duration. Finally, the parts are well wrapped in an envelope of borated cotton. In the case thus experimented on, this treatment was applied to the forearms and hands, where there was a distinct papillomatous eruption, with the result that the papules in this region failed to become purulent, while in other parts of the body they followed their regular course, with the usual results. He suggests this local method of treatment and alludes to Osborne's treatment as reported in THE JOURNAL for April 28, 1900, as supporting his general views.

138. **X-Rays.**—In his discussion of the x-rays and their use in surgery Rhamy says that when the subject and apparatus are so placed that the electric current is felt he fears an x-ray burn. The only one he ever had was produced under these circumstances, on himself, and he can produce a burn at will by simply adjusting the apparatus so that he can feel the current, then exposing long enough.

140. **Influenza in Infants.**—The almost invariable influenza infection of infants during an epidemic is noticed by Zahorsky, who calls attention to the characteristic symptoms: The contagion, typical fever curve, typical appearance of fauces, catarrhal symptoms of upper air-passages, presence of bacilli. The common colds, he thinks, are not due to drafts, etc., but are often the effect of an influenza epidemic. In infants the afebrile form is exceptional. The characteristic fever curve is almost diagnostic. There are certain other signs, however, such as high fever in the morning, great irregularity and frequent relapses. The grippal infection in infants has the following characteristics: The anterior pillars of the fauces and the posterior edge of the soft palate are marked by a congestion, the inflamed margin of the velum palati being sharply defined and usually about one-fourth of an inch wide. The catarrhal symptoms are not so universal, but they are characteristic: The grippal infection of the small bronchial tubes in feeble infants is a very serious matter. The principal symptoms are cyanosis and great dyspnea; the respiratory murmur is feeble; infection of the lungs is not common. The clinical forms of influenza are enumerated as follows: 1. Acute fever with angina. 2. Acute coryza with or without fever. 3. Acute laryngitis with or without spasmodic croup. 4. Acute bronchitis. 5. Acute bronchiolitis. 6. Bronchopneumonia. 7. Lobar pneumonia. 8. Acute gastritis, and gastric duodenitis. 9. Acute myocarditis. Among the rarer lesions he mentions acute leptomeningitis, endocarditis, a peculiar pertussal cough, jaundice, hemorrhagic nephritis, otitis, nervous sequelæ, etc. The treatment is summed up in: 1. Rest and fresh air. 2. Careful attention to the diet. 3. Prevention of secondary infection. 4. Supervision and control of bodily functions.

FOREIGN.

British Medical Journal, February 23.

Remarks on the Conclusions of the Report of the Anesthetics Committee of the British Medical Association. GEORGE EASTES.—This article gives the conclusions of the report of the Committee on Anesthetics for the British Medical Association, with comments thereon. The former can be given only in a somewhat abridged form. The conclusions are deduced from over 13,000 cases of chloroform anesthesia, 4595 of ether, 2071 of gas and ether, 2911 of nitrous oxid, and varying numbers from 155 to over 700 cases of anesthesia from various

mixtures—A. C. E. mixture, chloroform and ether, etc. The cases of danger, including deaths, considered to be due entirely to anesthesia, occurred in a percentage of 0.582 per cent. of chloroform anesthesia, and in ether only 0.065. The highest percentage was under the chloroform group, which includes A. C. E. mixture and chloroform, A. C. E. followed by ether, etc., and the average danger rate was 0.584. Under the ether group, including only ether, gas and ether, ether with other compounds, etc., it was 0.085. Although, excluding nitrous oxid, ether was accepted as the safest routine agent, certain circumstances, the state of the patient, nature of the operation, etc., may make some other anesthetic or combination safer and easier. No method of administration of chloroform is safe from danger, but the danger largely depends on the anesthetist. There is no possible conclusion from the evidence as to the best method of administration of ether or gas and ether. The data warrant the conclusion that A. C. E. mixture should not be given in a closed inhaler, and this applies to all mixtures containing chloroform. The committee was not able to give any conclusions as to the best methods of restoration, but finds that anesthesia is more commonly associated with complications and dangers in males than in females, and that, not including infancy and taking anesthetics collectively, the complications and dangers increase with advancing age and the anesthetics are proportionately more dangerous as the gravity of the patient's state increases. Danger to life is specially likely to be incurred in the earlier stages, while the tendency to less grave complications increases with the duration of the anesthetic, and all complications increase with the gravity of operations. As regards chloroform, the Commission finds that chloroform is about twice as dangerous in males as in females. It is most dangerous during early infancy and after 30 years of age, and is more dangerous than any other anesthetic in cases of good health. In grave conditions it is still less safe, but the disparity between it and others is less marked. In a large proportion of cases the symptoms that are observed are those of primary circulatory failure. Imperfect anesthesia is the cause of a large number of cases of danger from chloroform, and vomiting, which may lead to trouble, seems to be more frequent under this drug than under others. Struggling is much more frequent under chloroform; it must also be regarded as a source of danger, and the tendency to circulatory complications increases directly with the relative amount of chloroform in the anesthetic employed. While vomiting is more common after ether, severe and prolonged vomiting is more frequent when chloroform has been used. Circulatory depression following anesthesia is more common after chloroform than after ether, and while the respiratory complications as a whole are equally frequent under ether and chloroform, those that occur under ether are of a trifling and transitory nature, and those under chloroform more grave and persistent. As regards ether, the complications of anesthesia are more frequent in males than in females, but more dangerous to the latter. Ether, when employed throughout or preceded by nitrous oxid or A. C. E. mixture, is singularly free from danger in healthy persons. The minor troubles due to laryngeal irritation and increased secretion are more common than under chloroform and its mixtures. Struggling occurs more frequently when given alone, but rarely leads to danger. The after-vomiting is more common with ether, but is usually transient, and bronchitis is much more frequent as an after-effect. With gas and ether the dangers are more common in females, but the complications are more frequent in males. Of other mixtures, A. C. E. holds an intermediate position between chloroform and ether, being more dangerous in males than females, but in a less marked degree than chloroform. The administration of ether antecedent to chloroform does not abolish the tendency to chloroform dangers. The other various mixtures and successions of anesthetics were recorded too infrequently to justify definite conclusions. As a general conclusion, the committee is convinced that by far the most important factor in the safe administration of anesthetics is the experience which has been acquired by the anesthetizer. In many cases the anesthetization completely transcends in gravity and importance the operation itself. To insure success

it is absolutely essential that an anesthetist of large experience should conduct the administration.

The Lancet, February 23.

Passive Effusion into the Knee-Joints, Occurring in Women and Young Girls. WILLIAM H. BENNETT.—Attention is called by Bennett to a painless and unnoticed effusion into the knee-joint of girls of 12 or 13 years of age, and in young women: a number of cases are reported. The alleged cause is often injury, but the condition seems to be somewhat dependent on the catamenial periods and uterine functions. It is well to always inquire into these painless swelling of the knee-joint in girls, say from 13 to 14 years, or women at the climacteric. If these functional irregularities exist there will generally be fluid in both knees, probably more on the right side. Though the patient may be convinced that it is due to some recent injury, the other factor is probably primarily responsible. In the treatment, correct interpretation of these cases is of vital importance. If attention be too much concentrated on the knee alone, the management may be misled. Primary treatment should be directed to correction of the faulty functions, while moderate exercise, massage of the knee and outdoor life are collateral indications. In any case splints and confinement should be avoided. The prognosis is always good provided the primary cause of the effusion can be cured.

The Diagnosis and Treatment of Abscess in Connection with the Vermiform Appendix. RUTHERFORD MORISON.—The following are the conclusions of Morison's article: "The early diagnosis of abscess in connection with the vermiform appendix is of great importance. A dangerous abscess may be present without any of the ordinary symptoms or signs of pus formation. The diagnosis is based upon the history of an acute attack of appendicitis and the presence of a definite tender lump. The position of the appendix and the relations of the abscess may be foretold by a careful study of the tumor. The diagnosis of pelvic cases in women is attended by special difficulties. In men and women bimanual examination may clear up an otherwise doubtful case. Spontaneous relief and possible cure may follow the discharge of pus into adjacent bowel. An abscess, though of appendicular origin, may be remote from the appendix and may be residual. Many of such pus collections are due to the localization of a general peritoneal infection which has been recovered from. Early operation is the proper treatment and with few exceptions the vermiform appendix should be removed at the same time as the abscess is drained (pelvic cases form the chief exception to this rule). The abdominal opening should be large enough to permit of perfect inspection of all manipulation and the abscess should be drained from behind."

Annales de la Soc. Med. de Liege, December.

Treatment of Goiter with Large Doses of Iodin. L. BECO.—In the writer's experience in Belgium, persons with goiter are usually anemic. He therefore administers potassium iodid, combined with ferrous iodid. If this treatment prove ineffectual, he orders tincture of iodine internally, which is suspended at the first symptom of gastric intolerance. One patient, with a goiter rebellious to all other measures, was completely cured in a few weeks with tincture of iodine, of which he took from 40 to 120 drops a day without inconvenience. Beco no longer gives it timidly, but increases from 15 to 30 or 40 drops during the first fortnight, and has had only one case resist this treatment. He generally prescribes 25 gm. of fresh tincture of iodine to 5 gm. of potassium iodid: 5 to 40 drops in a glass of water or beer three times a day.

Bull. de l'Acad. de Med. (Paris), February 12.

Appendicitic Black Vomit. DIEULAFOY.—Under the influence of the toxic infection of appendicitis, acute hemorrhagic ulcerations may be produced in the stomach, similar to the gastric hemorrhagic ulcerations of pneumococcus tox-infection, of strangulated hernia, or simple ulceration. The ulcerative process is alike in each; there is an acute hemorrhagic necrosis of some small territory of the mucous lining of the stomach. When an arteriole becomes involved, hemorrhage occurs, which is more or less copious, repeated or fulminating. The alterations in the liver—icterus and mobili-

nuria—are due to the toxins generated in the appendix, as are also the alterations in the kidneys—albuminuria, oliguria, anuria and symptoms of uremia. The stomach lesions and hematemesis also form part of the appendicitic toxic syndrome, isolated or associated with other manifestations. Dieulafoy has observed six cases of this complication during the last nine months, all but two rapidly fatal, the patients being from 10 to 68 years of age. The operation was performed on the third or fourth day after the commencement of the appendicitis in each case, too late to prevent the progress of the toxic processes. The hematemesis appeared soon after, and was fatal at its second recurrence. Lucas-Championnière reports a somewhat similar case cured by alkaline lavage of the stomach.

Gazette Med. Belge (Liege), February 7.

Death from Use of Peroxid of Hydrogen. C. MOREAU.—The peroxid had been applied to an amputation wound. Its action on the catgut used for the ligatures caused them to come untied, and the occluding clots became disorganized, entailing secondary hemorrhage, with a fatal result.

Presse Med. (Paris), January 26 and February 20.

Uremic Icterus. A. DELTEIL.—A case of severe icterus is described which presented all the symptoms of uremic coma in addition to the icteric manifestations, a hepatonephritis, confirmed by the autopsy. The icterus evidently had been grafted on a preceding nephropathy which enhanced the gravity of the prognosis.

Agglutination of the Pneumococcus. V. GRIFFON.—The characteristic sero-reaction of the pneumococcus is most marked with cocci derived from the patient. Tests with 186 subjects revealed the participation of the pneumococcus in a number of cases in which its presence was unsuspected. The cocci agglutinate in lumps, then resemble fragments of pseudo-membrane and, finally, form in the shape of a cup. The test requires 1 to 2 c.c. of serum.

February 20.

Sterilization of Cocain. T. TUFFIER.—There are three methods of sterilizing cocain hydrochlorate, all of which are absolutely reliable and do not alter the essential properties of the drug. Tyndall's is the first, and most convenient for certain conditions. The second method is to heat the cocain in a water-bath or the autoclave to 120 C., in a fused tube or plugged vessel. The solution does not undergo any decomposition, and the variation in the light-rotating power is too insignificant to interfere in the least with its action. The third and usually the most convenient method does not require heat. It was devised by Roux and is merely sterilization by filtration through a Chamberland filter. The Chamberland porcelain hollow candle is supported by cotton in the neck of an ordinary test-tube. The solution of cocain is poured into the candle which is plugged with cotton. As the fluid filters through into the test-tube it is absolutely sterile. The only precaution necessary is to throw away the fluid first filtered—two or three times the contents of the candle—to allow the walls to become saturated. In all these processes a 2 per cent. solution is used and the light-rotating power does not vary from the standard—.72 degrees at 10 C. Extreme precautions are necessary to obtain a pure article.

Semaine Medicale (Paris), January 23 and February 20.

Localized Pain in Thorax a Sign of Perforation of Stomach in Peritonitis. J. L. FAURE.—Two typical cases are related in detail to demonstrate that acute disturbances of the viscera below the diaphragm, particularly perforation of the stomach, are accompanied by a sharp pain in the thorax, in the shoulder, or between or just below the scapulae. In generalized peritonitis the determination of perforation of the stomach is of the greatest importance and, consequently, careful inquiry should be made for this thoracic pain in or between the shoulders, whether it existed at the commencement of the trouble, etc. If noted, it is almost pathognomonic of a perforation of the stomach or adjacent organ, and the abdominal incision should be made in the epigastric region.

Identity of Germ Causing Vaccination and Variola. M. FUNCK.—The author presents arguments to prove that

vaccination is not a microbial disease, but that it is caused by a protozoon which is readily recognized in the vaccination as also in the variolous pustules. Inoculation of this protozoon derived from either source produces all the classic symptoms of vaccination and protects animals against further inoculations. Vaccination is therefore merely an attenuated form of variola, and the immunization conferred by it forms no exception to the general laws of specific immunity. The porozoa were first described by Pfeiffer.

Increase of Hyperchlorhydria by Opium. R. LEPINE.—Recent experimental research, reported by various writers, has shown that opium increases the secretion of hydrochloric acid, probably by central excitation, and consequently that it exaggerates the pains in hyperchlorhydria. This does not preclude the use of opium in case of carcinoma of the stomach, as there is no hypersecretion under these circumstances.

Artificial Burns in Treatment of Erysipelas. S. Z. RABINOVITCH.—During the last thirteen years the author has treated more than 200 patients by this method, with no deaths and no recurrences. He applies a moist gauze compress to the erysipelatous patch. A wad of cotton dipped in alcohol is placed on a metal plate, held with forceps, and the alcohol is ignited. The flame is then passed over the moist compress again and again as long as the patient can bear it. This maneuver is repeated nine to twelve times a day in three or four sittings. The superficial burn that results soon heals; the heat destroys the streptococci and the steam causes intense local leucocytosis.

Mixed Cocain-Ether Anesthesia. JABOULAY.—A subcutaneous injection of 1 c.c. of a 2.5 per cent. solution of cocain, just before general ether anesthesia, enables profound anesthesia to be rapidly produced with a minimum of ether.

Archiv f. Exp. Path. (Leipsic). February.

Compensation of Mitral Defects. D. GERHARDT.—Experiments made on dogs by the author of this communication confirm the significance of hypertrophy of the right ventricle as the essential factor in the compensation of mitral defects. This compensation, however, entails injurious after-effects by the alterations in the walls of the pulmonary arteries and lungs permanently subjected to such high pressure.

Archiv f. Kinderheilkunde (Stuttgart), XXXI, 1 and 2.

The Scientific Principles of Infant Feeding. A. MONTI.—The acidity of cow's milk must be reduced to that of human milk. This can be done with sodium carbonate, which also has the effect of rendering the action of rennet on cow's milk more like that on human milk. The albuminoid elements in the former can be made to approximate those of human milk by diluting with whey instead of water, which also affects the casein and approximates it to human milk. The whey also supplies the fat and the sugar required to render cow's milk more nearly like human milk. In Monti's experience infants have thrived best on milk sterilized by heating to 60 or 70 C., and then cooled to 6 C. and kept at this temperature until used.

Appendicitis in Children. P. SELTER.—Vomiting, obstipation, fever and other symptoms vary with different cases. The pulse sometimes shows no alteration, and no tumor can be discovered. Even the local pain is not always present, but there is one symptom that never fails. This is a palpable resistance of the right wall of the pelvis when palpated through the rectum. In 11 of Selter's 28 cases the little patient recovered spontaneously, including 2 or 3 who had had two or three previous attacks.

Archiv f. Klin. Chir. (Berlin), LXII, 2, 3 and 4.

Surgery of the Stomach. G. KELLING.—Among the points established by Kelling in the course of his experimental research on dogs, is that even a small amount of solid food may be followed by perforation after operation on the stomach, and that liquid food is much safer for a time. The rapid evacuation of the stomach that occurs after a gastro-enterostomy, is due to the lack of the motor inhibition normally exerted by the filling of the duodenum. Conditions are less favorable for intestinal digestion of albumin and fat after gastro-enterostomy, on account of

the absence of the normal excitation of the flow of bile and of bile and pancreatic juice into the stomach, but the neutralization of hydrochloric acid is less perfect than when it has to pass the entire length of the duodenum. Consequently the loop for the anastomosis should be selected as near the stomach as possible. This and the other disadvantages of gastro-enterostomy become compensated in time if the organism has sufficient recuperative power. Hence the operation should not be delayed until the system is exhausted by the lesion.

Statistics of Sacral Extirpation of Carcinoma of the Rectum. W. PRUTZ.—The mortality in 542 cases collected by Prutz has been 115, or 21.2 per cent. He shows that Pichler's reports of a mortality of 14.3 per cent. in 563 operations are erroneous, as he included operations for other lesions than malignant tumors.

No. 3.

New Method of Removing the Seminal Vesicles and Vas Deferens. H. H. YOUNG.—The operation by the method described is very simple and comparatively devoid of danger. Two cases are reported. After catheterization of the ureters, a linear median incision is made, with a short transverse incision at the top just above the umbilicus. A surprisingly good view of the field of operation is afforded by this incision. The bladder is opened in case of suspected disease, the ureters catheterized, and the peritoneum detached from the posterior surface of the bladder wall. The vesicles and vas are isolated in the direction toward the internal ring. The upper portion of the prostate is then incised transversely. The testicle is taken out of the scrotum by an inguinal median incision, the spermatic vein ligated and the vas deferens severed. The rest of the vas can then be drawn into the abdominal cavity, and the testicle, vas and seminal vesicle are then easily removed. This route is much simpler and allows more radical operation than the sacral. The vesicle, and with it a circumscribed portion of the bladder, can be extirpated through a single incision and at one sitting.

Conservative Operations for Renal Retention. C. FENGER.—Kuester, Fenger and Bazy were appointed to present this subject at the recent International Medical Congress, in the section of urinary surgery. The thirty cases on record of conservative operations for renal retention from a stricture, valve-formation or spur in the ureter, are reviewed and tabulated in Fenger's report. They include ten personal cases; no other surgeon had a record of more than three at the time the tables were compiled. The stricture or valve-formation was found at the exit of the ureter in 26 cases, and below the renal pelvis in 3. Israel's was the only case cured by pyeloplasty alone. The three deaths that occurred can not be ascribed to the operation in any case, as these conservative operations are simple and reasonably safe. Good functional results were obtained in 22 cases, that is, in 73 per cent. Recurrence of the obstruction and consequent retention compelled nephrectomy later in 2 of Fenger's cases. An obstruction at the pelvic orifice of the ureter may be treated by a trans-pelvic plastic operation or an extrapelvic incision, plastic operation and pyeloplasty. Fenger prefers the extrapelvic incision for small cystonephrotic sacs, but a trans-pelvic plastic operation is necessary for a large sac, on account of the difficulty of reaching the ureter from outside the pelvis. In 2 of the 9 cases thus operated on, obliteration followed later. Six cases were treated by resection and re-implantation of the ureter. The results were gratifying in the 4 in which the operation was fully completed. The operation was extrapelvic in 11 cases, and proved successful in all but 1; this was a case of remittent, infected cystonephrosis in a small floating kidney. The stricture was below the pelvic orifice of the ureter. Inflammation persisted and the kidney was removed a year later.

No. 4.

Protheses for Gastro-Intestinal Anastomosis. G. KELLING.—The button should be made of absorbable material, but at the same time it must not be digested by the alimentary juices. To meet these contradictory indications, Kelling has devised a button in one piece, made of decalcified bone or ivory. To protect it from the digestive juices it is coated with rubber,

except in the wide groove on the outside, in which the intestine is tied. A ring of rubber fits into a shallow groove at one end of the button. After the intestine has been sutured in place in the wide groove the rubber ring is slipped out of the shallow into the wide groove, where it presses the intestine firmly against the button. As the intestine becomes necrotic the rubber ring takes its place on the button, but does not completely fill the groove and the digestive juices commence to work on the unprotected substance of the button. Tests on large dogs have been eminently satisfactory in regard to the advantages of the new button. The same principle is applied to a wooden button for suturing the colon after resection. The sutured portion of the intestine fits in a groove, folded back on itself as in an invagination, and the ring fits on the fold. Its pressure hastens necrosis of the part. In a cholecysto-enterostomy, for instance, Kelling has derived great benefit from the employment of two small, strong metal plates with rounded edges, $1\frac{1}{2}$ by $\frac{1}{4}$ inches in size, with a hole at each end. A rubber thread is passed through the holes in each plate and one is introduced through a small incision in each end of the loop. By drawing the thread tight the flat surfaces of the two plates are coapted. The plates were released by the necrosis of the tissues between them, and evacuated the fifth to the eleventh day in the tests on dogs.

Means of Occluding the Stomach in Resection. G. KELLING.—Two strips of decalcified bone or ivory, with eight holes in each, are applied on each side of the stomach, above the part to be resected. They should be as long as the stomach is wide at the spot. They are then laced together through the stomach walls with a rubber thread which hermetically closes the organ when it is drawn tight. The strips have been applied in four operations on dogs, with brilliant success. In two dogs not killed until seven and nine days had elapsed, the strips had completely disappeared. [This suggestion recalls the method of hemostasis used on the liver in the operation to separate the Brazilian xiphopagus last year.—ED.]

Retrograde Sounding of Strictures of the Esophagus. H. ALAPY.—All attempts to pass a sound through the double cicatricial stricture proved unavailing in the case reported. Gastrostomy was done five months after the trauma, but efforts to penetrate the stricture from the stomach also failed until an elastic French bougie—No. 15.—olive-tipped, was inserted as far as the stricture in the cardia. A No. 20 silk catheter was then slipped on over the bougie to the stricture and the bougie withdrawn. A fine urethral bougie was then inserted through the catheter and this was finally worked through the stricture into the mouth. By this combination of bougie, catheter and urethral bougie false routes are avoided.

Centralblatt f. Chir. (Leipsic), February 23.

Absence of Sensibility in Abdominal Cavity. K. G. LENXANDER.—Clinical experiences are related in this communication which indicate that the stomach, intestines and mesentery, the gall-bladder, visceral peritoneum, kidneys and liver have no nerves of sensibility to pain, contact, warmth or cold. On the other hand, the parietal peritoneum is richly supplied with pain nerves. The healthy individual has no nerve-knowledge of the processes of digestion transpiring within him, nor of the functional activity of kidneys or liver. Ulcerations of the alimentary canal may exist without causing pain, and likewise calculi in the biliary passages. The only intimation we have of even strong peristaltic movements is the rumbling of gases. The cause of colic pains is the stretching of the parietal peritoneum in consequence of the acute distention of some portion of the intestines. Affections in the alimentary canal are not accompanied with pain until the parietal peritoneum becomes more or less involved, and adhesions form. In all cases of pelvic and generalized peritonitis palpation from the rectum and vagina is of the greatest importance, as the parietal peritoneum in the small pelvis can thus be directly investigated. These facts are important for abdominal surgery. The incision should be longer than usually made at present to avoid painful traction on the parietal peritoneum. By this means it is not necessary to have the anesthesia so profound, and the anesthetic can be suspended when the manipulations are restricted to the insensible viscera.

Centralblatt f. Gyn. (Leipsic), January 19, February 2 and 9.

Treatment of Backward Displacement of the Gravid Uterus. L. SEELIGMANN.—The incarcerated uterus was gradually forced into a slanting position with its longitudinal axis parallel with the second oblique diameter of the pelvis, by traction on the portio and gentle pressure on the fundus in the opposite direction. A colpeurynter was then placed under the fundus and, as it filled, the uterus gradually resumed its normal position, the patient reclining on the side with the pelvis elevated, for two and a half hours. Four cases have been successfully treated in this way by the author.

Protection of the Perineum During Delivery. J. HOFBAUER.—As the head is passing the vulva, when the posterior angle of the anterior fontanelle is just beginning to emerge, Hofbauer gives the head a twist of 40 degrees at most to right or left. This brings the soft fontanelle opposite the perineum, and the danger of laceration is almost sure to be averted.

Healing Processes in Tubercular Affections. A. O. LINDFORS.—Retrogressive atrophy is the essential element in the healing of tubercular lesions, Lindfors is convinced. He has observed a case in which the atrophy due to the menopause arrested the tubercular process in one Fallopian tube, while the tuberculosis continued its progressive course in the other tube, in which the nutrition had been maintained by a growing cyst. He suggests that ligation of the vessels sufficient to cause atrophy, but not necrosis, may prove a valuable aid in the cure of tubercular processes.

Extirpation of Right Ovary Through Left Inguinal Incision. L. REMPRECHT.—Inguinal hernia prevented an incision on the side of the lesion. The removal of the ovary and cyst was comparatively simple, although the success of the operation was jeopardized by the abnormal shortness of the infundibulo-pelvic ligament.

Massage in Gynecology. R. OLSHAUSEN.—The only conditions in which massage has a favorable influence in gynecology are in case of a torpid exudation, all inflammatory symptoms long past, and then only when favorably located, with merely the abdominal wall between it and the fingers. Massage is applicable to tubal tumors only when they are hydrosalpingitic and it is possible to obtain the elimination of the fluid through the uterus. Peritoneal adhesions, hematocele, misplacements of vagina or uterus should not be massaged, although it is possible that they may benefit indirectly from massage of a surrounding exudate.

Deutsche Med. Wochenschrift (Leipsic), February 21.

Combined Chloroform and Oxygen Narcosis. WOHLGEMUTH.—A stream of oxygen into which chloroform is introduced a drop at a time is brought into the mask, excluding ordinary air. Wohlgenuth asserts that the effect is to induce a perfect narcosis "which will banish chloroform death from the world." In 140 cases in which he has applied this improved technique the pulse remained absolutely normal all the time, always full and slow, even in anemic patients in profound narcosis. There were never any disturbances in breathing, nor cyanosis; the color of the face was normal, even the lips were bright red in all cases. The patients awoke rapidly, and with a clear consciousness in five to ten minutes. Other surgeons are testing the method so that a sufficient number of anesthetics will be attained ere long to afford a basis for comparison with other methods of narcosis.

Tuberculosis Hospitals. G. KLUGE.—During the last four years Kluge has seen thirty healthy children become affected with tuberculosis in some form while a consumptive in their homes was disregarding all hygienic regulations to prevent infection of others. He urges legislation to enforce the removal of such inconsiderate sources of infection to some asylum, to protect the children in the home. Wilful disregard of the measures necessary to prevent injury to others should entail removal and isolation as inevitably as in the case of the insane.

Pflueger's Archiv f. Phys. (Bonn), January.

The Iodin in Iodothylin. E. V. CROX.—Thyreoglobulin is evidently the albuminoid substance that contains the

iodothylin complex in its molecule. The antagonism between the physiologic action of iodothylin and of iodine on the vascular system is due to the iodine in some other combination in the thyroid gland. None of the other products of the gland possess the same properties as the iodothylin, even although they may contain iodine.

Wiener Klin. Wochenschrift, February 21.

Cure of Incontinence by Paraffin. KAPSAMMER.—Three cases of incontinence of urine in women, due to laceration of the vagina and urethra or chronic cystitis, or dating from childhood, are reported by Kapsammer as cured by one or two injections of white vaselin—paraffin—6 c.c. at a time. The aim is to produce an artificial dam, similar to the prostate in man, around the urethral orifice. In Pfannenstiel's unfortunate experience the vaselin was injected in a ring, instead of in one spot, and he used a combination with a melting point of 45 C. Gersuny, the originator of the method, warns against using a vaselin with a melting point above 35 to 40 C. He injects it at a temperature such that it emerges from the needle in a worm, not in drops, and he always inserts the needle at the same spot, waiting a week between the injections. One other unpublished instance of embolism of the lungs has occurred in consequence of the injections, in the experience of a Vienna practitioner, but Gersuny states that he has never noted any inconveniences from the paraffin, in a constantly widening experience, even when the injections were made in the periproctal region or the orbit.

Gazzetta Degli Osp. (Milan), February 10 and 17.

Aspiration of Fluid in Acute Articular Rheumatism. F. ZAGATO.—The agonizing pains in the knee, in the course of acute rheumatic polyarthritis, were relieved instantaneously by inserting the small-sized needle of a Pravaz syringe and aspirating the fluid distending the capsule—about 60 c.c. The pains did not reappear, but the other knee required the same intervention in a few days. The operation was concluded by injecting a syringeful of a 2 per cent. solution of carbolic acid.

Electrotherapy in Exophthalmic Goiter. A. LAMARI.—A severe case of exophthalmic goiter is described as clinically cured after forty applications of electricity to the vagus and cervical sympathetic.

St. Petersburg Med. Woch., February 16.

Belladonna in Intestinal Obstruction. E. MORITZ.—For many years Moritz has been proclaiming the advantages to be derived from belladonna in the treatment of intestinal obstruction from any cause, and its superiority to all other medicinal measures. He administers by the mouth a pill of 1.5 mg. of extract of belladonna, every four to six hours, until flatus passes. The first symptoms of transient intoxication appear after six to ten doses; dryness in the throat, agitation, sometimes delirium, but just before this point is reached the intestinal contents are evacuated, with no painful peristalsis nor vomiting. This treatment is applicable to all varieties of intestinal occlusion; can never do harm; sometimes removes the obstruction without further measures; untwists a slight volvulus; almost always relieves, and renders the conditions more favorable for operation if this becomes necessary. If fever persists after flatus passes, operation should not be delayed. He rejects atropin as too dangerous, but six physicians reported, last year in the *Muench. Med. Woch.* extremely favorable results obtained in severe cases of ileus by the subcutaneous injection of 1 to 5 mg. of atropin. In one case the patient was 80 years of age and recovered after injection of 1 and 3 mg. of atropin. Another patient died: the ileus in this case was consecutive to an operation on the fourth day of strangulated femoral hernia, and the physician is inclined to believe that a second injection might have saved the patient. [The last number of the same journal, February 19, describes another case in which the ileus must have been due to volvulus, as there had been no preceding constipation and the localization of the pain was in the left iliac region. The dose of 1 mg. had no effect, nor 1.5 mg. a few hours later. The fecal vomiting continued, but injection of 3 mg. the next day was followed in twenty minutes by flatus and copious evacuations. All traces of the slight intoxication from the atropin had passed away in twenty-four hours.—Ed.]

Change of Address.

- J. D. Alston, 101 Maple St., Nashville, Tenn., to Box 108, Franklin, Tenn.
 F. W. Bird, 2632 Locust St., St. Louis, Mo., to Poteau, I. T.
 Bowman & Grieve, 1000 East Ann St., to 213 North Thayer St., Ann Arbor, Mich.
 E. Burfield, Holyrood, Kan., to Ellendale, Kan.
 J. H. Campbell, 618 Congress St., to 598 Van Buren St., Chicago, Ill.
 D. D. Chapman, 3323 Laclede Ave., St. Louis, Mo., to Spencer, W. Va.
 F. G. Cheek, Main St., Winston, N. C., to Chapel Hill, N. C.
 V. S. Cheney, 2600 State St., flat 503, to 56 25th St., flat 3, Chicago, Ill.
 R. S. Childs, Nashville, Tenn., to Box 79, Marlin, Tex.
 Charles E. Codman, Spruce St., to 328 South 42d St., Philadelphia, Pa.
 A. Cornelius, 130 West Randolph St., to 489 North Clark St., Chicago, Ill.
 A. P. Delcourt, New Orleans, La., to School and Grimage Sts., Houma, La.
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 H. A. Edwards, Sellers, S. C., to Latta, S. C.
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 B. F. Fulton, Nashville, Tenn., to Berryville, Miss.
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 E. A. Hill, Wolf Summit, W. Va., to Salem, W. Va.
 J. A. Hill, Lufkin, Tex., to Groveton, Tex.
 W. T. Howard Jr., 88 Dorchester Ave., to Pathological Laboratory, Lakeside Hospital, Cleveland, Ohio.
 M. C. Hughey, Memphis, Tenn., to Hiram, Mo.
 A. Hymanson, 165 Henry St., to 232 Henry St., New York City.
 F. T. Isbell, Memphis, Tenn., to Chapel Hill, Ark.
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 De Witt Jordan, 319 North Delaware St., Indianapolis, Ind., to 710 Jackson St., Anderson, Ind.
 W. T. Keener, 52 Randolph St., to 90 Wabash Ave., Chicago, Ill.
 E. E. Kolor, 381 West 18th St., to 55 Fisk St., Chicago, Ill.
 A. Leffingwell, Aurora on Cayuga Lake, N. Y., to Watkins, N. Y.
 H. E. Luehrs, 328 South Hoyne Ave., to 623 West Monroe St., Chicago, Ill.
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 E. J. Vogelsang, Windermere Place, to 4605 Delmar Ave., St. Louis, Mo.
 A. T. Waring, Nashville, Tenn., to Cusseta, Tex.
 W. R. Washburn, Hot Springs, Ark., to Sherman, Tex.

Queries and Minor Notes.

RECIPROCITY CONCERNING LICENSE.

FAIRMOUNT, IND., Feb. 18, 1901.

To the Editor:—Can you inform me where I can obtain a copy of Dr. Paul Amberg's article entitled, "Present Status of Interstate Reciprocity Concerning License to Practice Medicine?"

A. H.

Ans.—In the *Medical News*, Nov. 3, 1900, a copy of which can be obtained through Lea Brothers & Co., New York City.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Feb. 21 to 27, 1901, inclusive:
 George E. Bushnell, major and surgeon, U. S. A., sick leave of absence extended.
 Marshall M. Clond, lieutenant and asst.-surgeon, U. S. A., sick leave of absence extended.
 Francis G. Engelhardt, acting asst.-surgeon, from San Francisco, Cal., to Syracuse, N. Y., reporting by letter, on arrival, to the Surgeon-General for annulment of contract.
 Joseph M. Heller, major and surgeon, Vols., to Fort Myer, Va., for duty with the squadron of the 5th Cavalry now under orders for the Philippines.
 Deane C. Howard, captain and asst.-surgeon, U. S. A., leave of absence granted.

George J. Newgarden, captain and asst.-surgeon, U. S. A., sick leave of absence extended.

Joseph C. Reifsnnyder, acting asst.-surgeon, member of a board at West Point, N. Y., to examine candidates for admission to the U. S. Military Academy, vice Lieut. Franklin M. Kemp, asst.-surgeon, U. S. A., relieved.

Frederick P. Reynolds, major and surgeon, Vols., relieved from further duty in the Division of the Philippines and assigned to duty at the U. S. General Hospital, Washington Barracks, D. C.

Ira A. Shimer, lieutenant and asst.-surgeon, Vols., from the Department of Cuba to duty at Fort Mellenry, Md.

Alexander N. Stark, major and surgeon, Vols., from the Department of Cuba to duty at Fort Mellenry, Md.

Roy A. Wilson, acting asst.-surgeon, from Fort Totten, N. Y., to Fort Ethan Allen, Vt., to accompany the squadron of the 5th Cavalry to be sent from that post to Fort Grant, Ariz.; thereafter to return to his proper station.

Robert H. Zauner, acting asst.-surgeon, from Fort Du Pont, Del., to Columbus Barracks, Ohio, for temporary duty.

Navy Changes.

Changes in the Medical Corps of the Navy for week ended March 2, 1901:

Surgeon G. Pickrell, detached from the Cavite Naval Station, and ordered to the Mare Island Navy Yard.

Asst.-Surgeon J. C. Thompson, detached from the *Solace*, and ordered home to wait orders.

Surgeon A. R. Wentworth, detached from the *Independence*, and ordered to the *Solace*.

Surgeon F. J. B. Corderio, detached from the *New Orleans*, and ordered home via the *Buffalo*.

Surgeon C. F. Stokes, detached from the *Buffalo*, and ordered to the *New Orleans*.

Medical Inspector F. Rogers, detached from recruiting duty and ordered to the Asiatic Station, as fleet surgeon.

Medical Inspector R. C. Persons, detached from duty as fleet surgeon of the Asiatic Station, and home to wait orders.

Surgeon W. H. Rush, retired, detached from the Pensacola Navy Yard, and ordered home.

Health Reports.

The following cases of smallpox, yellow fever and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended March 2, 1901:

SMALLPOX—UNITED STATES.

Alabama: Mobile, Feb. 16-23, 1 death.
California: Los Angeles, Feb. 9-16, 1 case.
District of Columbia: Washington, Feb. 2-23, 12 cases.
Florida: Jacksonville, Feb. 16-23, 3 cases.
Illinois: Chicago, Feb. 16-23, 10 cases.
Indiana: Delaware County, Feb. 2, 1 case.
Kansas: Lawrence, Feb. 8-16, 1 case; Wichita, Feb. 16-23, 8 cases.
Kentucky: Lexington, Feb. 8-23, 3 cases.
Louisiana: New Orleans, Feb. 16-23, 14 cases, 3 deaths; Shreveport, Feb. 16-23, 2 cases.
Maryland: Baltimore, Feb. 16-23, 1 case.
Michigan: West Bay City, Feb. 8-23, 2 cases.
Minnesota: Minneapolis, Feb. 8-23, 15 cases; Winona, Feb. 16-23, 13 cases.
Missouri: St. Joseph, Jan. 1-31, 34 cases, 1 death.
Nebraska: Omaha, Feb. 8-23, 12 cases.
New Hampshire: Manchester, Feb. 16-23, 30 cases.
New Jersey: Newark, Feb. 8-26, 3 cases.
New York: New York City, Feb. 16-23, 43 cases, 9 deaths.
Ohio: Ashtabula, Feb. 16-23, 3 cases; Cincinnati, Feb. 15-22, 3 cases; Cleveland, Feb. 16-23, 48 cases.
Pennsylvania: Erie, Feb. 16-23, 1 case; Pittsburgh, Feb. 16-23, 3 cases; Steelton, Feb. 16-23, 1 case.
South Carolina: Greenville, Feb. 16-23, 2 cases.
Tennessee: Memphis, Feb. 16-23, 21 cases; Nashville, Feb. 16-23, 6 cases.
Texas: Galveston, to Feb. 16, 123 cases.
Utah: Salt Lake City, Feb. 8-23, 46 cases, 1 death.
West Virginia: Huntington, Feb. 16-23, 1 case.

SMALLPOX—FOREIGN AND INSULAR.

Austria: Prague, Jan. 26-Feb. 9, 17 cases.
Belgium: Antwerp, Jan. 26-Feb. 2, 1 case; Ghent, Jan. 19-26, 1 death.
Brazil: Bahia, Jan. 19-26, 3 cases; Pernambuco, Dec. 17-Jan. 15, 62 deaths; Rio de Janeiro, Dec. 16-Jan. 15, 39 deaths.
Ceylon: Colombo, Jan. 6-12, 1 case, 1 death.
Ecuador: Guayaquil, Jan. 8-26, 11 deaths.
France: Paris, Jan. 16-Feb. 9, 32 deaths.
England: Bradford, Feb. 2-9, 2 cases; Liverpool, Feb. 2-9, 1 case; London, Jan. 26-Feb. 9, 4 cases; Newcastle on Tyne, Jan. 26-Feb. 2, 7 cases, 1 death.
India: Bombay, Jan. 15-27, 9 deaths; Calcutta, Jan. 12-26, 186 deaths; Karachi, Jan. 13-27, 22 cases, 14 deaths; Madras, Jan. 15, 6 deaths.
Mexico: City of Mexico, Feb. 1-16, 4 deaths.
Netherlands: Rotterdam, Feb. 8-16, 1 case.
Porto Rico: Ponce, Feb. 1-10, 32 cases.
Russia: Moscow, Jan. 19-Feb. 2, 17 cases, 2 deaths; Odessa, Jan. 26-Feb. 9, 35 cases, 13 deaths; St. Petersburg, Jan. 26-Feb. 2, 1 case; Warsaw, Jan. 19-26, 12 deaths.
Scotland: Dundee, Jan. 26-Feb. 9, 17 cases; Glasgow, Feb. 8-15, 10 deaths.
Straits Settlements: Singapore, Dec. 29-Jan. 12, 1 death.

YELLOW FEVER.

Brazil: Rio de Janeiro, Dec. 8-Jan. 15, 10 deaths.
Cuba: Havana, Feb. 8-16, 2 cases, 2 deaths.
Mexico: Vera Cruz, Feb. 8-15, 1 death.

PLAGUE.

Africa: Cape Town, Feb. 8, 2 cases.
India: Bombay, Jan. 16-29, 837 deaths; Calcutta, Jan. 12-26, 89 deaths; Madras, Jan. 19-26, 1 death.

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CHICAGO, ILLINOIS, MARCH 23, 1901.

No. 12.

Original Articles.

ELBOW FRACTURES AND THE X-RAY.*

W. W. GRANT, M.D.

Surgeon, C. R. I. & P. R. R., and Consulting Surgeon, U. P. Ry.
DENVER, COLO.

There are, no doubt, those who think we have reached the highest excellence in the treatment of most fractures, but none who are familiar with the treatment and results of elbow fractures and *x*-ray disclosures will be deluded by the brilliant achievements of this surgical age. There are still more things in surgery and medicine than are dreamt of in our philosophy. My purpose is to present for consideration some mooted questions in the treatment of these elbow injuries and the importance of the facts disclosed by the *x*-ray in the future treatment of fractures.

Allis, years ago, called attention to the importance of maintaining the normal angle of the humerus and ulna in the treatment of fractures of the lower end of the humerus, because of its influence on the carrying function of the arm. He treats the arm in extension because he believes it best maintains the fragments and the normal angle. This angle is greater than many suspect. With the arm extended in supination, a line drawn from the head of the humerus between the tuberosities will meet a transverse line through the epicondylar two inches inside of the styloid process of the ulna, which is the measure of the outward deviation of the forearm. If, in the adjustment of the fragments, the articular surfaces do not conform to this angle, the carrying power will be diminished. In any position with imperfect coaptation of fragments ankylosis is more certain. The assertion of Stimson that upward displacement of the internal condyle one-fourth of an inch will destroy the normal angle of deflection at the elbow is in itself a strong plea for more radical and reliable treatment in many of these cases.

The maintenance of perfect coaptation of the fragments is not only difficult, but almost impossible without cutting down on the fragments and fixing them by wire or screws or clamp. The great majority of surgeons treat fractures of the condyles and supracondyloid with the arm at a right or acute angle. A few, conspicuously Allis and Roberts, prefer the arm in complete extension, believing that ankylosis is not so common. I have not treated these fractures in extension nor by operation, except compound, but I have seen more cases of ankylosis in this than in the flexed position.

Unlike most fractures, a perfectly accurate adjustment and coaptation of the fragments seem necessary to a perfect functional result. This object is so difficult of attainment that if more satisfactory and perfect re-

sults can be safely obtained by operative means the time has come when it should be more generally adopted.

I have two cases, with skiagraphs, which I desire to report as pertinent to the discussion.

Mrs. M., aged 65, fell on the sidewalk in May, 1898, producing a supracondyloid fracture of the humerus. The line of fracture, as shown by the skiagraph, traversed the upper border of the coronoid and olecranon fossa. It did not seem difficult to replace and to maintain the fragments. The two skiagrams taken on the second and seventh day show that the fragments were not retained in as good position as desired. There



Case 1.—Supracondyloid fracture of right humerus.

was splintering of the upper fragment posteriorly. The fragments were adjusted three times and the arm kept at a right angle in long posterior and short anterior splints. While flexion and extension are not perfect, the functional result is good. The fact that she can feed herself and dress her hair with ease is sufficient attestation of the fact. She experiences no discomfort nor inconvenience in its use. It is difficult to prevent rotation of the lower fragment in these cases.

Except with a laboring person, the evil of the gunstock position as to the impairment of the carrying function is much exaggerated.

Union, with as much overlapping as indicated, is a mechanical impediment to perfect flexion. Cheyne and

* Read at the Annual Meeting of the American Academy of Railway Surgeons, held at St. Paul, Minn., Sept. 5 and 6, 1900.

Burghard suggest that this defect may be overcome by treating the arm in acute flexion with a compress over the upper fragment. As most surgeons believe that the action of triceps and brachialis influences the position of the lower fragment, I may suggest that as no position



Case 1.—Mrs. M., October, 1900, three years and three months after injury. Arm looks well. Considerable antero-posterior thickening due to splintering, callus and undue prominence of upper fragment anteriorly with rotation of trochlea.

will relax both, tenotomy is appropriate and sometimes useful.

Case 2.—M. M. Y., aged 40, a brakeman, was, on June 21, 1900, on top of a refrigerator car with his legs in the ice chamber when the car went off the track and, throwing him against the side of the ice chamber, frac-



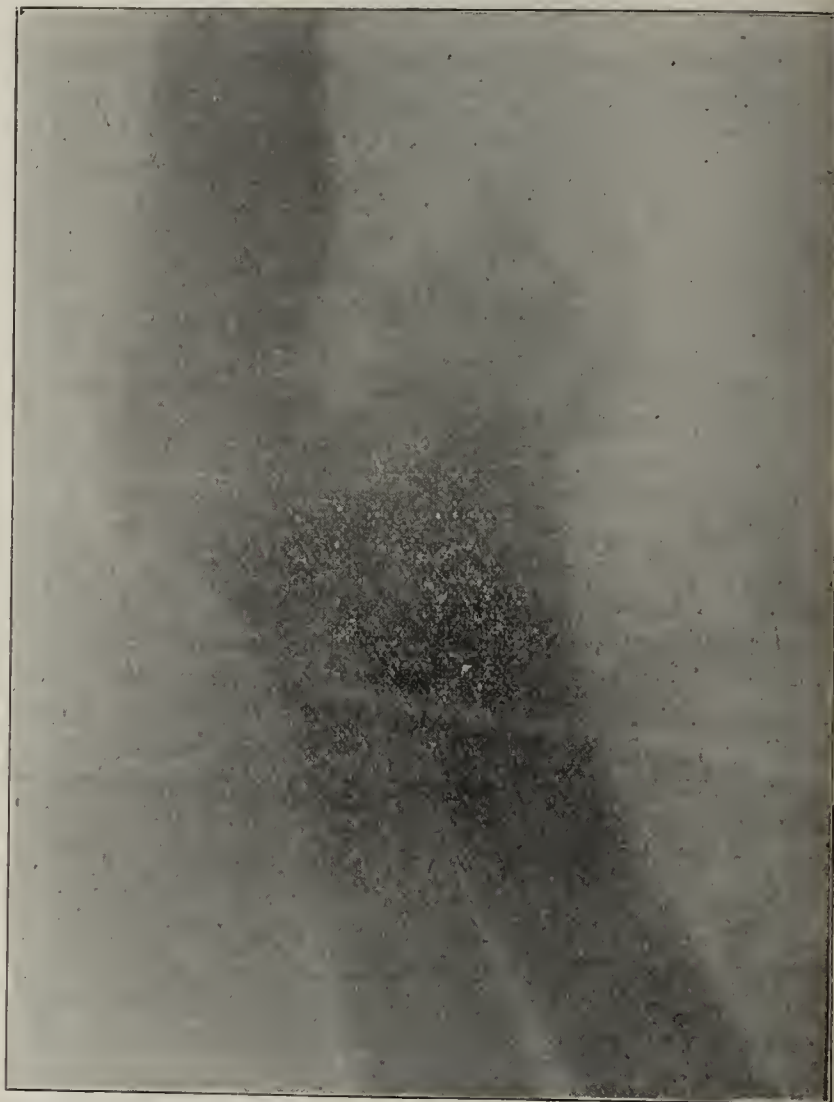
Case 1.—Mrs. M., October, 1900, three years and three months after injury. Longer exposure to x-ray. Callus not so well shown. Solid union; functional result very good.

tured the internal condyle of the left humerus, involving the joint freely. I saw him twelve hours after, when the parts were greatly swollen, making a satisfactory examination difficult even under chloroform. Four days later a skiagraph by Dr. Stover showed the fragments with the condyle displaced upward. The swelling was

now much reduced, and under chloroform the fragment was easily adjusted and the arm treated at a right angle throughout. It was examined two or three times a week, but passive motion was not used until the end of the third week when union was quite good. At the end of two months he was engaged in light work and flexion and extension were very good and steadily improving. A skiagraph three months later, September 19, showed good union and excellent position of the fragments.

Some recent writers maintain that the coaptation of the condyles can only be securely maintained by cutting down on the condyles and wiring or nailing the fragments, and that this is the best method of treatment, while most surgeons would treat them with bandages and splints in flexion, a few in extension.

There are some general considerations of special interest that might with propriety be mentioned in this connection as determining general conclusions:



Case 2.—M. M. Y., posterior view June 23, fourth day. Re-adjusted immediately after.

Anchyllosis is due to misplaced fragments, and when in position should not be endangered by manipulation. Rubbing and gentle massage of the muscles may be used in a week. It is important in feeble subjects, but care should be exercised not to disturb the joint and fragments, as rest is the important principle in the treatment of any fracture and of the greatest value in acute joint troubles.

The real status of the x-ray is yet to be determined, though its use in surgery is one of the distinct scientific advances of our time. I fear we are prone to rely too exclusively on instruments of real or supposed demonstrable scientific precision which do not appeal to the exercise of our own analytic judgment and surgical acumen. There is danger that improvements in specialization may dull our sensibilities and, to an unfortunate extent, limit our accomplishments in methods of investi-

gation and diagnosis. In the location of foreign bodies its value is unquestioned. In the diagnosis of fractures its use is not so important nor its benefits so pronounced. In demonstrating the position of the fragments it is more useful, yet often inaccurate, and therefore unreliable, and dangerous to the surgeon because it exaggerates the malposition of the fragments, the deformity and the impairment of the limb. The functional results are much better than the skiagram would indicate as possible. This is well illustrated in the skiagram presented of an oblique fracture of the femur in a child 9 years old. The accident occurred April 21, 1900, by the child falling down a mine shaft. One month later she was placed in my charge, and at that time the skiagraph was taken. Repeated and careful measurements showed that the shortening did not exceed three-fourths of an inch, and this was partly due to the bend or distorted axis of the limb. I call attention to the apparent extreme overlapping of the fragments. The light shadow represents the temporary callus. The distinction is highly important. Imagine the influence of such a picture on a patient or a jury. As the father in this case



Case 2.—M. M. Y., September 19, three months after injury. Good union and position of fragment.

expressed it in a letter to me: "It was about as bad a jumbled up leg" as he ever saw. It might have been better, but the functional result is good. She was treated by an intelligent young surgeon who noted great difficulty in controlling the child's movements and the position of the limb, though it is quite natural and, to all external appearances, the result is excellent.

The other skiagraph, made by Stover, of Denver, one year ago, represents an oblique fracture of both the tibia and fibula about the middle. It is the case of a Boston woman who was treated by a Boston surgeon. It is a unique and extremely interesting specimen and appropriate to this discussion. It will be observed that while the tibial fragments are not perfectly adjusted, yet union is good; but the chief interest is in the fibula. The upper end of the lower fragment was undoubtedly driven against the tibia when the accident occurred, was never replaced, and is united to the tibial fragments, while the upper fragment is not in contact with any other, and therefore is ununited. The contour of the leg is perfect and the patient uses it even in dancing with comfort and pleasure. The position looks bad, but I

believe it a safe assertion that the fragment could never have been replaced without cutting down on it and adjusting by the application of force.

Such a demonstration is significant. Mr. Lane,¹ of London, maintained, with much plausibility, that muscular action in displacing and preventing the satisfactory adjustment of fractures is greatly overestimated by surgeons: "That spasmodic muscular contraction exerts no appreciable influence on the fragments and may be left out of consideration in the treatment; that at best its opposition to replacement in the early period is only slight and transitory; that the obstacles to perfect adjustment are effusion of blood and inflammatory products about the fragments, and that we are unable to restore the bones to their normal form by means of manipulation and splints." While these remarks are specially applicable to Pott's fracture and to oblique fractures of the long bones, and, I may add, to the lower jaw, it will be a distinct advance when operation



Fracture of both bones of leg. Note symmetry of fleshy outline.

is resorted to when the fragments can not be satisfactorily adjusted and maintained by other means. In compound fractures there should be no ground for controversy. In others the question has only excited serious general consideration in reference to fracture of the patella, and the great majority of surgeons prefer non-operative methods. But if worthy of serious notice concerning a fracture that frequently involves an important joint, what serious objection can be used to its application in fractures which never involve a joint, and where, should infection occur, it is not likely to prove so serious. Infection is the only danger, but with confidence in the established tenets of modern surgery in reference to bacteriology we do not hesitate to expose the abdominal and every other cavity with impunity, and why not broken bones.

With due allowance for its defects and dangers, the x-ray has made new conditions and imposed new demands and responsibilities on the surgeon. Do not the medicolegal aspects of the question, as well as practical results, indicate the necessity or desirability of more

1. Lane Lectures, 1897.

radical methods in the treatment of certain oblique and joint fractures? If both are put on a sounder and safer basis, this must be answered in the affirmative.

The only way to more certainly maintain the accurate coaptation of the fragments is to immobilize them by silver wire, screw, nail or clamp, but only under the most approved aseptic conditions. In the absence of infection the results must be better. This department of surgery has not been met with the courage and skill

The greatest diagnostic difficulties are offered by the joints. With a distinct skiagraphic plate, taken under improved scientific conditions, it should, he avers, with expert clinical and anatomic knowledge, be evidence in court.

The *Annals of Surgery* for August contains an elaborate scientific paper by Cotton, of Boston, on the "Pathology of Fractures of Lower End of Radius." In reference to the Roentgen ray, he says: "It may be said in advance that there seems to be no single form of lesion described from any actual specimen which is susceptible of demonstration in the shadow picture that has not been demonstrated in one or more clinical cases; nor has the *x*-ray discovered any previously undescribed lesion. . . . It needs no argument to show that the *x*-ray plate, valuable as it is, is in many ways rather an imperfect record."

The American Surgical Association, at its last annual meeting, in May, by unanimous vote passed a resolution that the skiagraph is inadmissible as evidence in court, because, being a picture of a shadow and not of the object, it is inaccurate and unreliable.

The only tenable conclusion, it seems to me, is that the skiagraph should never be used as the determining factor in regard to the existence and pathology of fractures, but may be, in honest and capable surgical hands only, used to supplement or confirm opinions reached without it. It must always be a condition that the electrician is equally honest and competent. The illustrations and facts familiar to surgeons show beyond a doubt how unjust and indefensible a conclusion must be, in or out of court, that is based solely or chiefly on the appearances of the skiagraph.

GENERAL BODILY RESISTANCE AS A FACTOR IN NOSE AND THROAT DISEASE.*

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COLUMBUS, OHIO.

Good health is sometimes regained after the organism has been long below par, but in these cases there does not seem to be as much surplus to draw on as in those cases in which there is an exuberant vitality—in which, with a heritage of good health to start with, there has been a continued triumph of health and resistance over the encroachments of disease. It is this tendency of repeated small attacks of sickness acting as a drag upon the natural tendency of the body toward health that should be carefully watched by the physician. For example, a cold in the head is not generally considered a very dangerous thing, but frequently recurring colds in the head will lead to lack of resiliency in the parts affected that may gradually lead to chronicity.

The majority of the cases coming under the care of a throat specialist are chronic, and the treatment generally aims to remove the effects of some long-continued morbid action. It is a fact that most chronic affections of the upper respiratory tract are notoriously difficult to cure by medication, either local or general. The great advances in the specialty came when surgical means were perfected whereby good ventilation and drainage could be secured. These improved methods of treatment, which were forwarded greatly by the discovery of cocaine, almost revolutionized the practice of the art, and now the percentage of cases that can be relieved is high. Still there are certain classes or stages of these

* Presented to the Section on Laryngology and Otology, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.



Fracture of Thigh. Posterior View.

that has been so manifest in other fields, and it is too important not to receive the serious attention it deserves.

Carl Beck² says, in reference to skiagraphs, that there are injuries, the correct interpretation of which presupposes, besides thorough anatomic knowledge, the greatest care and a vast amount of experience as to the different modes of delineation in various projection planes.

2. Med. Record, N. Y., Aug. 25, 1900.

troubles which either are not amenable to surgical treatment or are liable to recurrence—and here is where our wisest forethought has its play.

Chronologically, at least, heredity has more influence upon bodily resistance than anything else. Evolution teaches us that physical types are transmitted. Sometimes particular family stocks seem to have greater immunity to certain diseases than others. In the case of infectious diseases this might be accounted for by saying that the soil had become exhausted and is not suitable for the growth of certain bacteria. It is like the well-observed fact that yeast will not propagate in well-fermented bread or wine. In ordinary cases it is reasonable to believe that if one's ancestors lived in such an environment as to induce good health in themselves, in all probability their descendants would inherit physiques which would make their bodies more likely to withstand morbid influences. On the other hand, "the sins of the fathers will be visited upon the children," and their omissions and commissions will be evidenced in their descendants by that which we call lessened resistance. Because your great grandfather was fond of a certain brand of wine is the cause of your tendency to sore throat. This is a rather devious course of reasoning, but thus Nature does her work.

We would all choose healthy ancestors if we could, but as that is impossible—except when selecting a family coat of arms—we can do the next best thing and select as suitable an environment as possible; and, after all, this is almost as important as a healthy ancestry. I am not prepared to question the fact that in many of the diseases of the upper respiratory tract the most brilliant results are brought to pass through means almost purely surgical; still, of the great mass of these diseases treated, attention to the patient's environment is the most vital point in giving genuine relief. By environment is meant the sum of the surroundings and conditions. Used in this sense it would include the patient's food, habits and hygiene—in fact everything, other than the patient himself, which has an influence upon the local condition. This would include all extraneous matters that tend to promote health. Used in this sense the environment is *facile princeps*, but it should not be forgotten that drugs used for their general and local action are nearly always necessary as adjuvants to other directions and advice.

There are good reasons why repeated acute attacks of coryza, and repeated engorgement of the local lymphatic glandular structures lead to hypertrophic conditions. There are good reasons also why these repetitions occur at short intervals in some individuals and at long intervals in others. Things do not come by chance, and in these patients who are such an easy prey to local disease there must be some type of constitution either hereditary or acquired, or both, to account for their susceptibility.

Because the lessened general resistance which causes this susceptibility acts so often through the nervous system, and because the nervous affections of the nose are intrinsically of such interest when studied from the standpoint of this paper, one or two of them will be used as illustrations. We will speak of the group of reflex nasal diseases in which the irritation seems to be centripetal, and of hyperesthetic rhinitis, in which the irritation manifests itself centrifugally.

In regard to the so-called reflexes which are caused by pressure points within the nose, it has always seemed to me that the general system was more at fault than the nose. The nervous system of the patient had lost

its nice adjustment, so that irritation at the periphery is manifested in some other region as reflex disturbance. It is recognized that the cause in the nose is only slight, but it is just sufficient to disturb the balance in a nervous system which has all but lost its poise. It will most often be found that individuals suffering from these reflexes are manifestly of a neurotic type, and although the existing malady is relieved by removing the peripheral cause, it will be found that the nervous instability still exists, and likely will evidence itself in other directions. In this class of cases it is important not to saw off a spur in the nose and assume that the patient is thereby cured, but by reconstructive treatment build up and regenerate. If this spur was causing asthma, or hay-fever, or *tic douloureux*, there is further work for the physician, even though the symptoms are relieved—for the general resistance of the patient must be improved or he will have headaches from some eye-strain, will have prolonged brachycardia after he has the grip—or some other ailment of like nature.

There is another type of nasal disease, the hyperesthetic, in which it is necessary to increase the tone of the nervous system before much improvement begins. The cases are somewhat similar in their manifestations to hay-fever, but do not seem to be influenced by season. In my experience the disease occurs most often in anemic individuals who have confining occupations and are suffering from some constant worry. These cases, like their near relative, hay-fever, undoubtedly evidence some positive interference with metabolism. Uric acid seems to be retained in most of them, but whether this is a cause or an effect, the lithemia improves as the patient gets better. Tonics, sunlight, less introspection will cure some of these cases, which are very baffling when treated by local medical and surgical means only.

The physician who treats diseases of the nose and throat should not be so narrow as to treat the local trouble by local remedies only. *Æsop* tells a fable of the members trying to boycott the body, but to their surprise they found that they suffered to as great a degree. The withholding of nourishment from the body caused not only emaciation of the body, but also caused other parts to be equal sharers in the calamity. It is a rule that works both ways. If the body had attempted to boycott the members, it would have had meted out to itself the same degree of suffering. I have seen many cases of chronic pharyngitis much benefited by the patient abstaining from alcohol or tobacco, and excessive taking of sweets will often so disturb metabolism as to cause a pharyngitis and tumescence of the turbinated bodies. Change of habits in this regard has led to relief of the local trouble. These are very familiar causes of disturbance here, but frequently other causes may be found, the removal of which will lead to just as satisfactory a result.

I wish to make a plea for a practical application of these facts. Not only should the patient coming to us with these local troubles be given instructions in hygiene, etc., in order to more surely throw off the local ailment, but one should make it a constant study to notice and consider his patient's mode of life and environment, and strive to be ready with advice that will forestall trouble.

In order to intelligently give the patient other than local treatment the specialist should always remember that he is physician first and specialist afterward. He should inquire carefully into the patient's family and personal history, the course of the present disease; and, except in cases which he knows can be permanently cured surgically, he should bring to his aid all the

modern means of questioning the body. To do this methodically he should have minute notes of his cases. The card system is most convenient, and in private practice the financial account of the patient can be kept on the back of the case card appropriately ruled for that purpose. This will make it necessary to use and refer to the card at each visit and thus keep in touch with every phase of the local and general condition.

It sometimes requires close questioning of a patient to find just how he is transgressing the laws of health. The young lady eats "only a little candy now and then," but if you should happen to have her sweetheart as a patient during the same period, a little sympathetic questioning may bring out the fact that he is furnishing her 5-pound boxes of bonbons at more or less frequent intervals. Then your "moderate drinker" and your "moderate smoker" and your "slow and small eater" sometimes evidence an astonishing atrophy of their sense of perspective, and you may find upon going somewhat into statistical detail that they surely look at the things they consume and the faults which they have through the large end of a telescope. It is often a good deal of bother when we are busy to go into these minute and harassing details, but by so doing we put the practice of medicine and its legitimate branches upon a higher plane.

When the body at large requires treatment it is preferably administered by the laryngologist, especially when it can be done concurrently with the local treatment, but in some cases it is well to put the treatment into other hands. When so much depends upon relieving disturbances of metabolism and in keeping the whole body in a healthy condition, we surely are not doing the best for our patient if he is not given the benefit of modern appliances to secure these ends. While the specialist can not, and may not, limit himself to local work only, it is incumbent upon him to realize that some general treatments can be carried out better in other hands. He can not be expected to have the armamentaria needed for some cases; time does not permit him to become thoroughly conversant with all the kaleidoscopic changes in the whole field of medicine, and if he believes that some one else is better fitted to cure the general disturbance, the patient should be referred.

Prevention of chronicity, prevention of formation of hyperplasia, will save a train of complications which may mar the patient's future life. After many of the glands of the mucous membrane have been almost destroyed by chronic inflammation, after the function of an ear has been almost destroyed by chronic purulent otitis media, some relief can be given by modern treatment, but it is a make-shift after all. The glands can be stimulated to do twice the work they were intended to do and thus help out their shriveled companions, and the carious bone can be scooped out of the ear, but probably there was a time in the history of each of these cases when enlightened and conscientious oversight might have abolished the causes that led to these sequelæ. If we believe that heredity has something to do with these cases it is all the more important to prevent chronicity and recurrences; for then we are doing what we can to improve the type, and are building for the welfare of this patient's prospective descendants. Any good accomplished in any line of work is never in vain.

Ocular Disturbances from Thyroid Treatment.—The *Semaine Med.* mentions that two Belgian physicians have recently reported a few cases of optic neuritis or asthenopia as the only indication of intolerance of thyroid treatment. The ocular troubles subsided on suspension of the treatment.

SYSTEMIC FACTORS IN CATARRHAL DEAFNESS.*

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Chronic nonsuppurative inflammation of the middle ear by its very location is a most difficult disease to treat; and when we add to this the fact that it is rare for any of these patients to come to us until the disease is of several years' standing, we do not wonder that a doubtful prognosis has been the rule in the past, but if we are to call ourselves specialists, is it to our credit that we should sit calmly down and accept defeat, with our present facilities for reaching the deeper parts of the head?

Without frequent exacerbations an inflamed mucous membrane, even in the most advanced chronic form, is not beyond relief and practical cure. The number of our cases of catarrhal deafness where more than this simple inflammation obtains and the deeper labyrinthine structures are involved, is very small indeed; so what is our proposition but a simple one if gauged by some of the complex and serious problems that confront men in other specialties?

If the middle-ear trouble be in the earlier stages, what will do it more good than free and normal ventilation? Close the vestibule of one nostril and see how soon you will have a congested state of the membranes; open the vestibule and see how soon normal ventilation will restore health to the parts.

If the middle-ear affection has gone further and the ossicular chain is hampered by products of inflammation, what will assist their absorption quicker than that the parts be again bathed with a normal supply of air? What will limber up its stiffened joints better than the mild stimulation and passive motion produced by the well-known application of camphor and iodine vapor¹ puffed into the tympanic cavity? Stimulative treatment of this kind, by reason of its effect on products of inflammation and ossicular mobility, acts with practical certainty in benefiting the hearing. All this can be attained and maintained if the little Eustachian tube, not more than two inches long, be kept normally patent. The degree of improvement will be according to the completeness with which we have removed prime and contributing factors; this is no mean task, but, as a rule, possible, if we grasp the situation and apply ourselves. Hence I can not feel that we are justified in discouraging that multitude of cases under 60 years of age who still retain the ability to understand clearly spoken words, and who are quite ready to have treatment when medical minds will agree on its utility.

Nonsuppurative inflammations of the middle ear, regardless of form, depend upon similar conditions for their origin; the principles of treatment involved in their relief are the same. However, necessity does not demand a dissertation on varied abnormal conditions within the tympanic cavity, neither will I assume to cover in this paper all the factors that may act as causative elements, but rather will devote myself to those most likely to impede recovery of the hearing power.

In looking over recent progress it must be admitted that what ability we now possess to successfully cope with catarrhal deafness is in a great measure due to the advance in rhinology, for this work as a preliminary step to future efforts appears peremptorily demanded. The improved state that has followed correction of

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nasal abnormalities could not help but give happy results in the more simple cases, but it is likely that others have been balked as I have been by a goodly number who have failed to improve from those surgical methods as we hoped, and it is through a study of the causes of these failures that I chose the subject of this paper.

The nasal, postnasal and tubal membranes are capable of, and susceptible to, engorgements from various causes; hence if we are dealing with a disease so obstinate as chronic catarrhal deafness, each possible source of a recurrence of those engorgements must be eliminated, or they will prevent a good result following the best nasal surgery, and the most careful after-course of ear treatments.

Among these systemic factors upon which it seems particular stress should be laid, are: 1, a sluggish skin reaction; 2, low vital forces; 3, torpid liver; and 4, a lack of proper exercise.

I have mentioned sluggish skin reaction first because nothing is more common in creating pernicious head colds to which, as a rule, our cases are subject; and when we attempt to correct this tendency to head colds, at least two interesting problems are before us: The solution of the first calls for a more prompt skin reaction, and I know of nothing better for this than cold baths and friction. The plunge, shower, douche, or even putting on water from the ordinary bowl by the hands, acts with much facility and benefit. In patients of low vitality this application of cold water may not be followed by the warm glow that indicates a good reaction unless preceded by some light exercise, or brisk rubbing, but in any and all events some course must be persisted in to get and keep the surface circulation up to a normal standard, the acquirement of which, though slow but sure, is best shown by its degree of reaction to cold.

In my own practice I find that patients, as a rule, take warm baths, and these only for cleanliness' sake; in fact we seem to be living in an era of carelessness as regards personal hygiene. The busy American jumps out of bed in the morning, washes his face and hands, hustles into his clothes, rushes down to breakfast and away to business, works until Saturday night, takes his weekly clean up, and so on year in, year out, giving himself less care than he does his horse.

Another problem in the avoidance of frequent colds is protection from exposure; which as experience ripens appears of less and less importance. While in a weakened individual, this is for a time unequivocally necessary and is always a point to be observed, still I believe with A. Chelmoski³ that "the proper method of protecting against cold is not to wear an excessive amount of clothing, but to stimulate the skin to rapid reaction." This is a rational idea and appeals to us when we consider the importance of its glandular and circulatory functions. The only thing necessary is that we give this matter the thought and attention that we do other vital subjects. The skin reaction should be so prompt that it will be a shield rather than a menace to health.

The next systemic factor that our failures have shown to be a great hindrance, if we let it pass unnoticed, is a lowered vitality. Without a good general tone, the system is slow to throw off any disease, and particularly one so deep-seated as chronic catarrhal deafness.

A torpid liver or a lack of exercise, with attending digestive disorders, may also create and make obstinate an inflammation in the Eustachian tube, effectually blocking anything like a regular course of vapors to the middle ear: even gastric, uterine and renal troubles

have their bad influence on the thickness of the membranes, but with many other constitutional causes, these latter require attention better, and beyond that which the aurist is expected or justified in giving. In other words, catarrhal deafness is often dependent upon so many possible causes or combinations of causes, that it calls into play not only the qualification of a nose, throat and ear specialist, but makes it necessary that he should have had the training of a general practitioner.

In cases of chronic type, correction of nasal and postnasal morbid states is but a small preliminary step. If patients be of low vitality, anemic and very sensitive, they must be built up. If they be full-blooded, their diet must be restricted, their exercise increased, and their hepatic function kept regulated until such sources of recurring attacks of tubal inflammation are obliterated. Of what use is it to treat inflammations that recur without we first remove their sources? We may benefit them for a few hours, but we lose the confidence of our patient, because we fail to get results on chronic states; he stops treatment and our efforts are discredited.

A limited number of persons become afflicted with deafness in early life, because of disease or environment, who at the time of our examinations are in good general health, with nothing in the way to prevent ear treatment except perhaps a tubal inflammation induced by some intranasal pressure. These patients are just so much nearer the period in which vapors can be satisfactorily applied to the middle ear.

A knowledge of hygienic care and how to increase bodily resistance to disease is a distinct obligation upon the otological specialist, but I hope I will not be construed as meaning that we should take it upon ourselves to correct complicated systemic disorders, though we should be able to relieve a congested liver, direct in matters of personal hygiene and insist upon their observance. The physician's duty is to correct causes and apply treatment—the patient's, to follow directions.

As mentioned earlier in this paper, catarrhal deafness is worthy our best efforts. As a disease *per se*, within reasonable limits it is comparatively a simple proposition if we eliminate all causes of recurring inflammations of the Eustachian tube. To be more explicit, I feel that its greatest problem is the removal of these causes; after-treatment consists simply in maintaining the improved condition and applying, daily if indicated, mild intratympanic ventilation, stimulation and massage. Persistent effort can be looked upon with favor; even the quite advanced sclerotic forms are not so formidable if pernicious influences are out of the way. Nature then takes hold with a ready hand and gives us, if not a cure, marked improvement.

Personal experience has taught that failure to improve the hearing power means either a fault in the patient or in the physician, not in the local ear condition.

There must still remain some uncorrected extraneous cause that is keeping the Eustachian tube swollen. It is not the duration of the disease nor the degree of deafness that should govern our prognosis, but rather a good physical condition and the financial ability to have skilled attention.

The surgical aspect of cases as a preliminary step is important, but no more so than a functional equilibrium, for there is usually a stage following operative work in which but little if any effective treatment can be carried through to the middle ear, because of some attending systemic disorder, and those systemic disorders are determining factors in the majority of chronic cases.

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DISCUSSION ON PAPERS OF DRs. STILLMAN AND SNOW.

DR. C. M. COBB, Lynn, Mass.—I would like to know whether Dr. Snow includes in his statement that these cases should be benefited in the presence of an adhesive catarrh?

DR. HALSTED, Brooklyn, N. Y.—I thoroughly agree with the Doctor in drawing attention to the systemic factors. Most of us spend too little time in the consideration of these facts. By paying attention to the systemic factors, we are often able to obtain results that otherwise would be impossible. But I disagree with the Doctor as to the frequent use of vapors and drug treatment of the middle ear, as he advocates. It has been my misfortune to see many cases become worse after a temporary improvement, simply because of too much local treatment. There comes a point when we can advance no further by local treatment in these cases. Because the patient is able to respond progressively better to a certain few frequently repeated tests is not necessarily evidence that the case is improving. A set of tests may give us a false impression of the progress of the case. If we use the various vowels, for instance, we find a certain improvement, but beyond this we can not go by the treatment with catheterization and the use of vapors. Often the catheterization and the vapors do harm. The catheterization may set up and keep up an inflammation in the Eustachian-tube, if used every day as the Doctor recommends, that simply makes the condition worse. I am not an advocate of the use of Politzer's douche alone.

DR. J. O. ROE, Rochester, N. Y.—I am in thorough accord with the sentiments expressed by Dr. Snow. A great many cases of local engorgements about the upper air-passages are due to general systemic disturbances. In fact, the great majority of colds, to which people are so frequently subject, are due more to internal derangement than to external atmospheric influences. In the great majority of cases in persons who have taken a severe cold, in the head, for instance, by examining into the condition of the system we will find that it is induced or very much aggravated by a general sluggish or depressed condition of the system. During the past winter I myself had two severe colds in the head, starting in the nose. In both cases I could trace it directly to general disturbance, overwork and lack of exercise, and the condition we commonly term biliousness, which is often the foundation of colds. The colds in the head—which so often cause ear complication—are therefore due to two conditions; first, to ptomain poisoning, the poisoning of the blood from improper elimination of the skin, bowels, liver, etc., and second, to reflex disturbance, from the abdominal organs to the nose.

In regard to the treatment of the chronic ear affections, it is necessary, in the first place, to put the nasal passages in order. If we have an obstructed nose, a badly diseased condition of the nasal cavity, it is much more important to put the nose in order than to begin treatment of the ear, because if you could do but one you would benefit the patient more by putting the nose in order than by treating the ear for an indefinite length of time. After first paying attention to the nose, then, by proper treatment of the ear, we will often obtain most excellent results, in cases of chronic catarrhal deafness, that are considered incurable. There is a point in regard to the Eustachian catheter, to which reference has been made: The use of the catheter is exceedingly important for two reasons: 1, in medicating the ear through the catheter, and 2, in the mechanical effect of the catheter in overcoming a stenosis of the Eustachian-tube, which has resulted from interstitial thickening of the tissues around the tube, particularly at its lower end.

QUESTION—I would like to ask Dr. Roe how he overcomes obstruction high in the tube?

DR. ROE—In the majority of cases you can pass the catheter up through the membranous portion of the tube for quite a distance, and by having a proper catheter you can accomplish much in many cases. In some of these cases the use of galvanism produces most excellent results.

DR. G. L. RICHARDS, Fall River, Mass.—I can appreciate what has been said about elimination, as I have long been contending that the bowels should move at least three times a day, inasmuch as we eat three times a day. It has been observed, among animals, that they ordinarily empty the bowels much more often than we do. The removal of waste products of digestion has been so much influenced by the matter of convenience that we have lost sight of the normal physiology of defecation in its relation to the ingestion of food. The question of ptomaines as produced in our own bodies, from faulty elimination of waste products of digestion, has not received sufficient attention at our hands.

DR. E. PYNCHON, Chicago—Both papers are very commendable, inasmuch as they are conservative and call attention to systemic treatment, which is too often neglected. As regards the systemic factor in catarrhal deafness, one of the features to bear in mind is the disadvantage all of us derive from our modern system of living in overheated buildings that are too often poorly ventilated. We go in and out of these houses, stores, hotels, etc., several times a day, without any hesitation at the doorway, and without removing our overwraps. My own custom, during real cold weather, is, if possible, always to remove my overcoat when going in a warm place, and to stop for a time in the passage-way when coming out. Instead of wearing a heavy undershirt during very cold weather, I advise putting on two light-weight undervests, which give the warmth that is desired and do not overheat the body. Attention should be paid to the matter of food and exercise. There is no doubt that we eat too much, and that insufficient attention is paid to diet and excretion. One thing I would urge is the value of regular and frequent drinking of water. The same conditions which the Doctor has referred to as tending to produce catarrhal deafness also assist in the production of the so-called rheumatic diathesis. As regards treatment, while the Doctor has touched very little upon it, I can not refrain from calling attention to a new method of treatment recently introduced by Dr. Weaver, of Chicago, to which he has given the name "intratympanic massage." In the treatment recommended by Politzer there is massage at each inflation, but the inflations are not often enough repeated. The device recommended by Dr. Weaver consists of a small wind-mill, if you please, which is caused to revolve by a shunt of the air current while the bulk of the air passes through a hole in the shaft of the wind-mill, and is thus rapidly interrupted. I have been using this device with a Buttlers' inhaler, while inflating by Politzer's method. Of course it will be understood that compressed air of proper pressure must be employed.

DR. C. M. COBB, Lynn, Mass.—We are a little inclined to the use of loose terms. Oliver Wendell Holmes said in one of his papers that our forefathers were very wealthy in expressions. He declared that he knew of nothing that sounds so well and means so little and is so satisfying to the patient "as congestion of the portal circulation." We have passed beyond that stage, and now we have lithemia and uric acid, which are terms referring to probably the same condition. The subject of an acute cold is interesting. The systemic condition has probably something to do with it, and the cold probably has something to do also with the systemic condition. When a man contracts a cold, whether he has lithemia or a local abstraction of heat from some part of his body, in a very large percentage of cases the cold will be found to commence in one of the chambers of the nose and pass then to another. Can anyone tell how any systemic condition or abstraction of heat from the body may cause the symptoms we call a cold? A man gets a cold in his head, and not much anywhere else in comparison with the amount in his head. These cases of catarrhal deafness are all prone to have colds, and this is largely due to nasal empyema. These patients are prone to have colds from over-indulgence and exposure, and the colds they get do not run the course of an ordinary coryza. Those cases deserve

a great deal more attention; they should be sorted out and sifted out from other cases. When you eliminate all the cases that can be classed as influenza, or that depend upon an exanthem or pneumonia, the remainder of cases of acute rhinitis are probably of infectious origin. All those things have a direct influence on the ear. If that part of the naso-pharynx to which the Eustachian-tube leads is involved, and the lumen of the tube is partially or entirely closed the ears suffer, or the secretion from the nose or naso-pharynx may be carried to the middle ear by forcible blowing, or the ears may be infected by the extension of the inflammation by continuity of tissue. These patients would probably get well if it were not for more or less constant reinfection.

DR. F. J. QUINLAN, New York City.—The question of prophylaxis of disease is one we should always consider. Many colds depend upon bodily fatigue and faulty assimilation. A man is exposed to some influence of cold and receives the germs of disease. The phagocytic action of the leucocytes is insufficient and the germs enter into the system rapidly. There is lymphatic stasis and there is no better or more accessible vestibule for the invasion of germs than the nose, which is constantly connected with the outside atmosphere. Therefore, if a man's system is lowered, the turbinates at once become congested and unable to empty themselves. The question of prophylaxis is largely in the individual. A celebrated pediatrician a few years ago tried to eliminate postnasal growths by dropping salt water through the nares, and someone told him that he would do much more good if he gave the child full length baths of salt water. Often the system is loaded down with non-assimilated products. The subjects of the papers are not properly emphasized. Water applied to the skin causes the greatest tonic effect in its vivifying influence. The rich can use it, but the poor are deprived of its use and hence we see the greatest number of these cases among the poor. We should let the people know of the good effects of water used both inside and out. The Doctor has spoken of clothing, but I think the question of beef is most important. These colds and conditions of congestion weaken the individual and start a train of ills that involves the nose and throat and every part of the mucous membrane.

DR. S. F. SNOW, Syracuse, N. Y.—I will answer Dr. Cobb's question as to whether I include the cases with fixation of the stapes. I do not. But how many do we have come to us that are or really get in that condition later on? Cases of fixation of the stapes do occur, but I doubt whether they occur often enough to warrant us in giving an unfavorable prognosis by the wholesale. One of the gentlemen has disagreed with me as to the advisability of such frequent local treatments. I wish to place myself before this Section, and the world if necessary, as willing to stand by the position I have taken. There are cases in which daily application might be harmful, for they are not yet in that improved physical state where local ear treatments can be effectively employed. But if we get other things out of the way, and secure a functional equilibrium so that the skin reaction is good, the liver normal, and if they are careful of their habits, we will find a time when they will tolerate the vapors and improve very markedly under their use. The more chronic the case the more often we have to treat them. I do not advocate treating these cases daily year after year, but very often I do for three consecutive months, the treatment to be repeated when unfavorable symptoms appear. As regards tests, my patients are rarely tested, except at the end of a course of treatments. I assure them first that we must clear out the nasal passage, and I accomplish that whether it takes one month or two or three. I do not encourage them to have the vapor used until they have had bad constitutional states corrected. I will not let them have treatment until they are ready for it. When the constitution is fit and they are willing to follow my directions, I am ready to treat them, and successfully. I am glad the paper has been so thoroughly discussed, and I can not convey the depth of my feeling regarding the importance of these cases. We must, as aurists, do something for them.

DIAGNOSIS AND PROGNOSIS OF EAR DISEASE.*

B. ALEX. RANDALL, M.A., M.D.,
PHILADELPHIA.

It is probable that most medical men, if asked as to the instrumental aids to the diagnosis of ear diseases, would think first and perhaps only of a speculum. Too many would try to excuse their failure to study a case by their lack of such an instrument; and yet many would undertake its treatment upon some fancied basis without knowing anything as to what was really before them or having the means and skill to treat it if they knew. The foundation of such foolhardiness is a total ignorance of the methods of aural diagnosis and skepticism as to the ability of any one to do more than guess in the matter. Yet it is axiomatic that diagnosis is essential to prognosis and both of these are requisites for any rational treatment. Even among men practiced in otological matters there is a woful failure to understand and employ diagnostic measures, with many consequent mistakes and much futile if not harmful work. Hence the need of discussing so trite and elementary a phase of our specialty as that which I have chosen.

To the patient, if not to the surgeon, prognosis is of vital importance. Upon the etiology and pathology of the various affections must depend the questions as to the urgency and the promise of treatment; and of these we can speak only from the standpoint of correct recognition of the nature, phase and complications presented in the case before us. So the life-history of disease, general and special, must be known to the specialist, as well as the details of the clinical picture met, and he must figuratively see through the ear if he is to make a good application of his special knowledge and skill.

Almost every diagnosis is based, here as elsewhere, upon the anatomy and physiology of the parts. Leaving aside the former subject, I will ask you to consider here only some of the physiological aspects which we ought to study as to the normal and diseased ear. We may premise that for the external ear sight and touch are principally available; for the middle ear with its air cavities, pneumatic measures; and for the internal ear, acoustic means.

It seems superfluous to insist upon the importance of unaided as well as aided sight and touch in our study, yet the numberless instances where their use has been neglected and gross blunders of diagnosis made because the practitioner refused to use his senses and yet undertook treatment on the strength of his imagination, compels reiteration of this trite matter. Many cases can be studied by the natural light falling past the examiner's head into the straightened ear-canal, to the recognition of furuncles, foreign bodies or the presence of a normal drumhead. Remember that Wilde did most of his work with nothing but a speculum, and often did not need that; yet many a modern aurist with a full armamentarium could learn much from Wilde's writings. Specula can be improvised of letter-paper or other material; any piece of mirror can be brought into use, especially with sunlight or other strong illumination. and a hair-pin or other bit of wire can be made into an admirable probe; but it is the eye and hand behind these or other instrumental aids which are the real means of diagnosis, and "special" training is by no means essential if a true physician, with gentle hand

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and observing eye, undertakes these studies. Even in palpation there are many ways of failing to learn. A swollen mastoid may seem tender and fluctuating to a careless hand, and a trephining be advised when carefully placed index fingers would prove the swelling a mere edema and the pain not due to deep bone-lesion, but to the motion imparted to an inflamed canal. One may recognize blindfolded the indurated rigidity of an eezematous canal in which a keen eye may discern no surface signs of the affection, and by proper prognosis avoid imminent distress for the patient and humiliation of himself. Touch must aid sight in many tympanic conditions before we can know what are the real features of the picture presented, by sweeping away the seeming landmarks and proving them to be but pus, epithelium or other foreign matters lying in front of the real structures.

Yet even when the diagnosis thus made is clear and positive it may be only superficial and partial. The manifest lesion may conceal something beneath which is far more important. A trivial furuncle of the canal may mask a serious tympanic inflammation and we must often remain in doubt as to the conditions beyond. Here the pneumatic methods of tympanic study may aid us greatly, but still oftener the acoustic measures which investigate the percipient apparatus and its adnexa.

Of inflation measures and pneumatic massage much might here be said, for more can be done with these and more mistakes avoided than is at all sufficiently realized. I feel need of calling attention to Löwenberg's simple test of inflating chloroform vapor, which by feeling cold to a sclerotic ear, instead of hot as to all others, may give us early a very important prognostic sign. Yet the acoustic tests are still less fairly understood and practiced, and it is upon these I would prefer to lay my main stress.

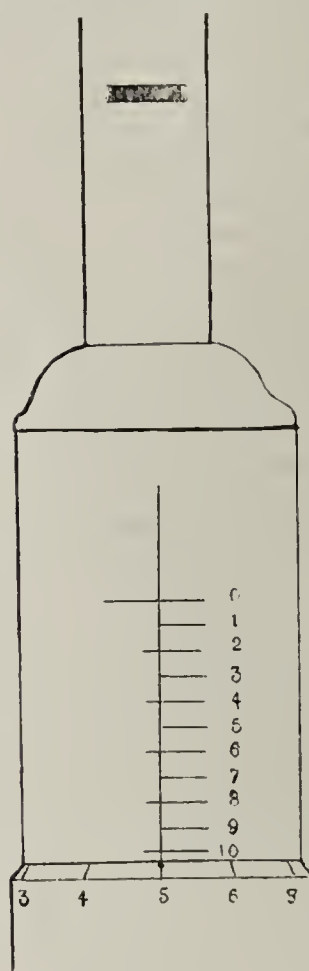
Almost every expert is on record as to the small value of the watch as a test, and Politzer's acoumeter, although well conceived, has not much better met the requirements. Still less have some of the haphazard substitutes which have been put forward for railway and school tests any claim to be accepted as having standard or comparable value.

The voice-tests in faint and loud whisper, spoken with the "reserve air" which can be forced out after ordinary tidal respiration and calling for repetition by the patient of the well-chosen test-words, are far more precise as well as practical. But all these are quantitative rather than qualitative measurements of loss, not helps to recovery. We must have a "tone series," in form permitting comparison of conduction by bone and by air, before we can learn some of the most elementary and fundamental data.

It may be too much to expect that the general practitioner should in preparation for his few ear-cases equip himself with a series of tuning-forks, and even the specialist must draw the line at some of the numberless implements urged by enthusiast or instrument-maker upon his attention, yet lack of a well-selected complement must seriously impede if it does not vitiate his diagnostic work.

When we hear a man say that he puts little confidence in the results of the tuning-fork, we may be fairly sure that he has but a single fork and makes poor use of that. One fork is competent to give us but a part of the information needed in many cases, although it can be very valuable within its field, and I would place a fork of some 200 double vibrations per second as the first

choice in the series (A-213). It should be of a good size, so as to have 80 to 100 seconds' duration of sounding after a moderate blow, such as that of falling its own height upon the knee or a rubber block, but some of those offered are far too heavy and, with their clamps, needlessly expensive. Some means of suppressing the over-tones is requisite, but a bit of rubber-tubing drawn over the ends is at times better than the clamps. A fork of some 500 vibrations (c-512) is more generally recommended and can be purchased for 25 cents, in small size, at most music stores. Another of two or three octaves higher pitch, 2-4000, has occasional usefulness, but one two octaves lower than our first choice is much more valuable (A-53). The octave below this is of doubtful audibility, while this tone ought to be heard by any normal ear, and it is so early lost in cases of obstructive lesion that it forms almost a premonitory indication of commencing catarrhal deafness. The higher tones already mentioned better serve to test the percipient apparatus, but are surpassed in this by the



THE GALTON WHISTLE.
APPROXIMATE PITCH IN DOUBLE
VIBRATIONS PER SECOND.

5=	52,000
10=	40,000
12=	35,000
18=	30,000
21=	25,000
24=	20,000
28=	15,000
35=	12,000
48=	10,000
60=	7,000
70=	6,000
84=	5,000
105=	4,000

Galton whistle or the König rods with their far higher range. A cheap and handy substitute, of real though of limited value, is furnished by the little bent-wire "serpentine screwdriver" sold in most of the bicycle stores, all of those tested having had tone of fair purity of about 35,000 double vibrations per second.

The Galton whistle, however, is of wider value as originally made, and may be more precise yet in König's and Edelmann's improved forms. I must warn, however, against most of those offered for sale, since they are generally travesties upon Galton's instrument, and of no more value than a boy's willow whistle. Even some coming from Meyer & Meltzer, in London, have not conformed to the original apparatus, and I know of but one maker in Philadelphia and perhaps one in Boston from whom standard whistles have been obtained. The square-cut opening, the proper caliber of the tube, correct pitch of the screw, and accurate zero-point are one or all absent in many of the alleged Galton whistles offered; yet all of these characteristics must be demanded if any standard is to be maintained. Some of the published results from tests are to me inexplicable, if genu-

ine Galton whistles were employed, so utterly discrepant are they with my findings. A tube length of 10 mm. ought to give a note of about 21,000 double vibrations per second, and one of 1 mm., corresponding to one full turn of my instrument, a tone of 42,000. A higher note than this is audible to most of my patients as well as to myself, and I would set the normal limit for young ears above 50,000, as I have no difficulty in hearing Appun's 49,000 fork or the Galton whistle at less than one turn.

Qualitatively, then, we ought to determine for all our cases whether they hear tones as low as 50 and as high as 40,000, and between these moderate limits make fuller test with two or more forks, while in those giving evidence of nerve lesion a wide range should be tested by the whole scale of the Galton (4000 to 40,000) and a number of lower tones.

In addition to these studies of the hearing by air-conduction, we need direct and comparative tests of the bone-conduction, remembering that there is a senile loss of the conducting power of the cranial bones aside wholly from faulty perceptions, and that the palpable vibrations which are as notable on the patella as on the mastoid, must not be confounded with the audible. Weber's test of the lateralization of the vibration to one ear from the middle line of the head had better be preceded by Rinne's test, since it is hard for many patients to believe their own senses when the tone seems louder in the worse ear, which they have perhaps long regarded as totally deaf. While the Schwabach method of timing the duration of the tone by air and by bone is eminently valuable, the simplification made by Roosa and Emerson is even more practical, consuming less time and securing better responses from most patients. If the fork, not too strongly vibrating, is held close before the ear and then its handle rested upon the mastoid, with the question, "Is it better front or back—back or front?" suiting the action to the word, few have difficulty in answering correctly; and as the loudness and the duration are comparable, we learn whether the normal preponderance of air-conduction exists or not, and can easily move the fork to our own ears for quantitative comparison. As the ordinary A fork (213) should be heard on moderate stroke only about 45 seconds by bone, as against 100 by air, the preponderance, as often found in tympanic cases, marks a decided impediment to the due penetration of the aural sound-waves through the affected conducting apparatus. It is easily demonstrated that this same obstacle shuts in, so that the fork vibrating upon the head is heard louder and longer than normal—perhaps for 50 or 55 seconds. This is best shown by the simple test of Gardiner Brown, which consists in holding the handle of the slightly vibrating fork upon the bridge of the nose and noting how much greater or less time the patient can hear it than the examiner's fingers can feel the vibrations. Cessation should seem simultaneous to each, and in spite of personal equations one second of discrepancy can generally be noted by this means, and secondary involvement of the percipient apparatus thus detected. The Weber test then used, by resting the vibrating tuning-fork, not on one, but a series of points in the middle line of the head, will generally obtain a correct answer and be lateralized to the worse ear in obstructive, to the better ear in perceptive, lesions. Results which are doubtful with a fork of 200 or of 500 vibrations per second, will often be unmistakable if those of higher or lower tones are employed, and due care be exercised to set aside any preconceptions

of the patient and to elicit answers not as to what they *think* but as to what they *hear*.

Far too little employed is the valuable test of Politzer as to the permeability of the Eustachian tubes in the act of swallowing, for the tuning-fork vibrating before the nostrils should be heard much louder at the moment that the tube opens in deglutition. This tells of its physiological action as contrasted with its more passive distensibility on inflation, gives clear contrast as to the two ears and often tells more as to the stage and prognosis than any other test at our command. Bing's test also proves at times valuable, in that the tuning-fork vibrating on the mastoid can be made again audible after it had ceased to be heard, by stopping the canal with a finger; and as this secondary perception should have a measurable length in cases of nerve-lesion we may recognize the coexistence of slight conduction impediment by its subnormal duration.

While the complaint of the patient and some of the details of his history should always form a part of our record, more valuable facts of the history will often be gained by our objective study and due correction made in his statements.

The objective findings should then be noted as to hearing for conversational or whispered speech; for the 50, the 200, the 500 and the 2000 v. s. tuning-forks and the Galton whistle by air, and for the 200 fork by bone-conduction from the mastoid and from the nose; for the Politzer's test of Eustachian patency and for the lateralization from the middle line. Add the findings of the otoscopic examination, of anterior and posterior rhinoscopy and the response to inflation and pneumatic massage. These, added to the name, age and occupation, form a record concise, quickly obtained and pregnant with meaning for correct diagnosis and prognosis.

DISCUSSION.

DR. J. HOLINGER, Chicago—The Doctor showed us his series of tuning screw-drivers. They are undoubtedly irregular in their intervals and the time they keep on ringing is too short. To overcome these two cardinal points was the effort of Bezold and Edelmann for over ten years. Why did he not use those beautiful sets of tuning-forks of Bezold-Edelmann? They contain from sixteen vibrations up to the highest, without interruption. The number of vibrations is given on each tuning-fork. They are mathematically correct. It would be impossible to compare the Doctor's records of cases with the sounding screw-drivers with the records obtained by anyone else. Then as to the square opening in the Galton whistle, it has long been proven irrational and the oval opening has been found much more sharp in its results. Edelmann had to provide for an opening that could be made smaller or larger. If the opening is unchangeable the oval opening is preferable, and its results are not worse, as I can prove with Koenig-Schwendt's dust-figures.

DR. EDWIN PYNCHON, Chicago—The paper has been very instructive. Two months ago I heard a similar one read before the Western Otolaryngologic Society, at St. Louis, and I then called attention to a little procedure which has been of assistance to me when the patient is in doubt about the Weber test. Supposing the left ear is affected and the patient claims to hear the test best with the right ear. I then stop up first the right ear and then the left, repeating the test. Afterwards, without stopping either ear, I again place the tuning-fork upon the top of the head, when the patient correctly tells in which ear the test is best heard.

DR. E. AMBERG, Detroit, Mich.—We know that Politzer's instruments are in general use, but I have heard on good authority that they do not compare accurately one with another. I thought I could overcome this difficulty by having an apparatus constructed on a different principle. There came to my mind the apparatus which is used for the measurement of the depth of sleep in the psychophysical laboratory. I had such an apparatus constructed in Berlin, and I think that these instruments may compare more favorably one with another. However, I do not know whether those fine points are of such

great value in our daily work. At any rate, we should make it a matter of principle to try to be as exact and correct as we can. Therefore, I would take exception, at least for the use of the specialist, to this little instrument which is intended to replace a tuning-fork, shown to-day. Professor Loeb, in a conversation, if my memory serves me right, told me that experiments had been carried out under his direction, years ago, with the aid of an instrument similar to the one I have mentioned. If I am not mistaken, the experiments to which Professor Loeb referred were intended to establish facts as to the acuteness of hearing under various conditions. It is important, I think, to consider conditions under which hearing tests are made. I remember that one time when I had overworked myself I thought I heard the clock at 11 p.m. strike twenty-seven times. It was, if I remember correctly, after I was fatigued through study. The time of the day and the other conditions of the patient, I think, should be taken into consideration when a hearing test is made.

DR. B. A. RANDALL, Philadelphia—I have the Edelmann tuning-forks and they are very nice, very useful and pretty, and as specious as any that are made, for, like the Politzer acoumeter, they are apt to differ in tone and loudness and other essentials, so that in a dozen you could hardly find two that do not differ. I have not tried to split hairs, but only to get at the diagnostic points that are of value in treatment. So I have not tried to lay down just what should be the precise limits as to time and distance that the fork should be heard. As to the Galton whistle, I have brought that forward because the prime essential lies in the fact that we are dealing with a closed pipe and must have a definite length and that length can not be defined if the opening is not rectilinear. Edelmann's new whistle may be as specious in many respects as the set of rods I have, which he said he had made for Koenig's rods; but they were inaccurate, arbitrarily numbered and what they stood for he could not tell. I have much respect for the good work done on the other side of the water, but the very bad work I have seen emanating from Edelmann and other men has made me favor the work done on this side of the Atlantic.

EFFECT OF ALCOHOL ON THE NERVOUS SYSTEM, THE MIND AND HEREDITY.*

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INDIANAPOLIS, IND.

Alcohol has a twofold effect on the nervous system, a direct or primary, and an indirect or secondary. Either of these may act physiologically, i. e., functionally, or pathologically, i. e., structurally. Either may and does unfold its force upon every part of the nervous system, brain, cord, and peripheral nerves; in fact on every organ and tissue of the body, notably upon the blood-vessels, particularly of the brain, the kidneys and the liver. The subject is too large to render justice to it within the limits of a paper like this, and I shall, therefore, be forced to confine my remarks to a narrow domain.

Upon the nerve tissues alcohol has an acute influence. This can best be studied by experiments on animals, and by the effects shown in fatal poisoning with large amounts of alcohol in persons unused to its influence. Of the ordinary state of acute intoxication, I need not speak. That picture is familiar to all of us.

In a very able paper, Dehio,¹ some years ago, demonstrated changes in the ganglion cells of the cerebellum produced by acute alcohol poisoning. A year later, Stewart² confirmed and extended the observations of Dehio, which consisted in the diminution of the chromo-

phile granules of the nerve cells of the cerebral cortex, the Purkinje cells of the cerebellum, and the large multipolar cells of the spinal gray matter. The importance of these changes is vastly increased in the light of the theory that the ganglionic cells possess certain powers of mobility of an ameboid nature, which permits them to extend and to retract their cell-prolongation to a slight degree, producing normally a contiguity of structure *without* continuity. I believe in this theory, for it is the only one which explains to me the phenomena of life, both in rest and in activity. Into that, however, I can not enter further at present.

I have in mind a unique, unpublished case which may bear a close relation to the observations of Dehio and Stewart. It is that of a young man who, about one year ago, was referred to me. The patient presented a most curious complex of symptoms, which I have nowhere found described, and which I herewith take the opportunity to record.

F. W., white, a farmer, aged 19 years, had up to about seven months previous to my seeing him been quite well, and constantly engaged at work on his father's farm. During a period of perhaps a year before any symptoms had become manifest he had been drinking somewhat, but had never indulged to intoxication. Gradually a general lack of nutrition set in, he began to lose weight and strength, and almost imperceptibly, at first, peculiar spasmodic seizures supervened. These attacks were wholly motor in character, occurring, as the malady developed, more and more frequently until, when he came to my sanatorium, they were almost constant, recurring at the actual rate of about once every two minutes, day and night. During the entire period of the affection the appetite was excellent, no symptoms were shown by any of the internal organs, no sensory changes were manifest, nor were the secretions altered, save that the urine was somewhat scant and perspiration slight. In fact, all symptoms related to the motor nerve sphere, though at no time was there the slightest degree of paralysis noted. The seizures were characterized as follows:

Every few moments the muscles became tense and rigid, apparently all over the body—trunk and limbs—face, neck, eyes, tongue, larynx, esophagus, etc. During the attack, he could usually make voluntary movements, but he could walk, talk, breathe and swallow with difficulty. The facial muscles and masticatory muscles became "set" and the neck stiff. There never was any inclination to opisthotonus, nor the slightest loss of consciousness. No vasomotor signs were present, the cutaneous and pupillary reflexes were normal, but the deep tendon reflexes were somewhat increased. He suffered no pain whatever, but some muscular soreness existed, doubtless due to the muscular contractions.

At the first examination, I declined to give a positive opinion of his case, but expressed the conviction that the malady would not remain stationary, that it would either prove rapidly fatal, or he would recover under proper treatment within a few weeks, advising careful observation and treatment at the sanatorium. At that time I felt sure I could bar out an hysterical affection of which no symptom was shown. My advice was followed, and the patient remained under my immediate care for nine weeks. During this period he steadily improved under static electricity, massage and the use of tincture of gelsemium, ten drops thrice daily, until complete recovery occurred. The seizures gradually decreased in frequency and intensity until they ceased altogether. I would perhaps not have mentioned this

* Presented to the Section on Nervous and Mental Diseases, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

1. Heinrich Dehio: Experimentelle Untersuchungen über die Veränderungen der Ganglienzellen bei der acuten Alkoholvergiftung; Centrabl. f. Nervenheilkunde und Psychiatrie, 1895, N. F. 6-113.

2. Colin C. Stewart: Influence of Acute Alcohol Poisoning on Nerve Cells; Jour. of Experimental Medicine, vol. i, 1896, p. 623.

case in this connection except for two facts. 1. The only etiologic factor to be elicited was that he had used alcoholic drinks before the affection obtained. 2. On three separate occasions, when he had almost recovered, friends came to visit him and he indulged in a glass of wine with the result that, each time, the attacks recurred with their former force and frequency, proving to me conclusively that there existed the most direct relation between the seizures and the use of alcohol which produced this peculiar multiple paramyotonic condition. I have never heard of a similar case.

Undoubtedly, many other examples of the toxic character of alcohol and its influence on the nervous system could be cited. I need merely make mention of the analogous states known as delirium tremens, due to the excessive use of spirits containing large amounts of fusel oil; of the ordinary phenomena of acute intoxications in which the loss of inhibitory power in all spheres is of such common occurrence that it is usual to accept the opinion of the stimulating effect of alcohol on mental activity. This opinion I regard as decidedly erroneous. There is a vast difference between increased functional brain power and diminished inhibitory power, but momentarily the apparent effect may be similar.

When we come to speak of the more chronic condition called "alcoholism" we meet with a very different entity. Here can best be seen the effect of the poison on the nervous system, owing to the fact that widespread changes have taken place in the central nervous organs.

Of these changes those of the vascular system of the brain are by far the most common. It would appear, therefore, that the effect on the nerve tissue itself is purely secondary, due, in other words, largely to malnutrition of the nerve elements. The alterations in the structure of the artery walls are widespread and frequently reach a high degree, even to obliteration of the lumen of the blood-vessel and consequent softening of the brain tissue. Even a slight degree of textural change in the arterial structure is apt to be followed by an array of symptoms, made up chiefly of those in the motor field, such as tremors, weakness, etc., and those appertaining to the highest functions of judgment, memory and other intellectual faculties.

Of the many pathologic conditions supervening on the use and abuse of alcohol through a long period of time, it is surely unnecessary to speak at length. I need merely mention the frequent inflammatory processes of the peripheral nerves termed "alcohol neuritis," and reiterate the importance of the structural alterations of the blood-vessel walls with increased arterial tension, loss of vascular elasticity, consequent infiltration with calcium salts producing arteriosclerosis and endarteritis, which makes the danger of apoplexy lie close at hand. It must be recollected that *no healthy blood-vessel ever bursts save and alone as the result of traumatism. Whenever and wherever an artery breaks, except it be due to injury, the vessel must be diseased.* Moreover, no single factor contributes so largely to disease of the blood-vessels as much as the chronic use of alcohol poison. I have already alluded to the psychic changes of such individuals, to the loss of judgment, memory, and the other intellectual faculties, inducing changes in the products of the brain—the mind and morals. It is this which brings this question into close relation to civic life, which makes it the greatest civic psychosis.

Before speaking of the influence of alcohol on the mind, let me preface by saying that there exists in almost every case of insanity a well-marked predisposition of the individual to the development of mental

disease. It would follow, therefore, that few persons of actually sound condition, anatomically and physiologically, ever fall victims to these affections. Again, it naturally follows that the weaker the inducing cause, the more pronounced should be the tendency toward deterioration. Conversely, it may be said, the more marked the atavistic tendency is, the less will be required to assist in the transition from the realms of sanity to those of mental disease.

Of the minor, practically merely contributing factors may be mentioned overwork, overstudy, emotional effects of an occasional character, the strain of acute diseases, and religious influences. You will understand that I nowise underrate the dignity of these elements, whose import is disproportionately increased if they become coincident with the physiologic periods of life.

Among civilized peoples, it has for generations been rightly deemed necessary to segregate the mental sewage of humanity. It should, therefore, be recognized as equally incumbent to thoroughly inquire into the chiefest causes through whose malignant influence these channels are kept full to overflowing. By such investigation, and by the lesson it teaches, can we hope to stem the steadily—if slowly—increasing tide of human forces whose awful effect is best seen in our insane asylums and in their close relations, the penitentiaries.

I have long held to the view that every disease has a basis to start on, and that no so-called "drug habit" forms an exception to this rule. Chronic alcoholism and its sister maladies, like morphinism, develop on a pronouncedly neurotic basis, and it seems to me the lack of success in the treatment of these affections is largely due to the fact that this neurotic element has been neglected. Allow that foundation to remain and the malady recurs. Alcoholism and similar vices belong to the realm of borderland, that great expanse abutting on insanity, and it takes but some slight contributing cause to pass over into the latter.

It has already been intimated that every individual case shows more or less predisposition to deviation from normal mental and moral standards. While the fact is true, the import of this is almost lost in comparison with noxious social and civil influences which are unfolding widespread effects. I fully realize the importance of this assertion, when I say that society and its social laws, civil life and its license are almost wholly responsible for the overcrowded condition of the insane hospitals and prisons, homes of the mental and moral degenerates. A charge so serious should be well founded. I shall seek to justify it.

The evolution of the human race is but the evolution of the individuals composing it. To evolve a perfect race, perfect individuals must be evolved. No nation passes into decadence and degeneracy save through the decay and degeneration of its components. Such truths must be quite apparent. Let us ask ourselves, then, what elements are mainly at work in the production of individual mental and moral deterioration, for the time being leaving entirely unheeded the many minor incidental factors.

The main causes I have already stigmatized as social and civic evils. To these I count habits of all kinds, yet most of all the use of alcoholic drinks; to these I count lack of hygienic principles which permits the gross spreading of diseases; to these I count, most important of all, the total disregard shown throughout the world to the bringing into it of human beings unfit to live. Daily, thousands of poor bundles of humanity are born into life with infinitely less concern

for their future welfare and perfection than is exercised in the breeding of our most common cattle.

Alcoholism is a disease, an enormously frequent one, whose ravages are tenfold worse than any other known to me, for unlike them its effects are not arrested by death. It is neither my purpose nor my desire to inveigh against the use of alcohol, but to bring to your notice the malignant effect of its abuse. You must recognize alcoholism in its chronic form as a disease. It is attended by a huge array of symptoms. Suffice it to say that chief among them is the material change in the structure of the blood-vessels, notably in the brain and kidneys, and that secondarily, and sometimes primarily, minute alterations in the intrinsic nature of the brain cells occur, which ultimately bring about total wreckage, physical, mental and moral. Unfortunately, there is nearly always a marked tendency of neurotic character present which permits the development of any vicious habit, and this tendency is decidedly transmissible and augments by transmission. The appalling truth of the latter statement is amply verified by experience with the innocent offspring of alcoholists. Go into our homes for feeble-minded, enter the reformatories for boys and girls. There, surely, personal histories repeat themselves. There, surely, the traits and tendencies of ancestry can best be studied and the secrets of hereditary burdening and bondage be learned.

The influence of heredity has never been questioned in the domain of psychology, normal and perverted. Yet it must be plain that to speak of heredity means simply to accentuate certain phases of transmission, good and bad. With a few specific exceptions, disease is never handed down to progeny from the ascendants. As we inherit peculiar quantitative traits, so we assume peculiar qualitative elements from those to whom we owe existence. As children inherit looks and features so, too, they show certain characteristics of disposition, which, when they become predominant, form a predisposition or tendency in the one or other direction. That this predisposition can be checked or fostered is a well-known fact to every student of evolution; it is even known to every breeder of livestock who studiously seeks to eliminate the bad and foster only the good qualities of sire and dam. Shall we, human beings, gifted beyond all other forms of animal life, be less faithful in the pursuit of developing ideal offspring? Yet, as a rule, that is exactly what is being done. Mental cripples crowd our asylums for the insane, moral ones constitute our criminal classes, and these crowd our prisons and reformatories. The two are closely related and both are manifestly the results of existing social and civil principles. I most earnestly believe that the factors I have spoken of are the main causes—aided, it is true, by many of the lesser degree—which make it necessary to maintain the many institutions for the care of the insane and the imprisonment of the criminal, all for the sake of protection to the welfare of the general public.

In conclusion, let me emphasize by repetition the import of the foregoing. As I frequently tell my students, "it is not the man who occasionally becomes intoxicated who gets into trouble, but the man who drinks much and never gets drunk, or he who is nearly always drunk, that becomes a candidate for disease." His are the blood-vessels that early grow less elastic and more brittle, his are the chances for apoplexy and consequent infirmity, his are the weakened will-power and moral force, his are the nerve tissues that show slight vitality. His, again, are the offspring of stunted

intellectual mold, who lack the ennobling qualities of men and women, but show to a marked degree the signs of mental and moral and physical degeneracy, which make them easy victims of epilepsy, imbecility and idiocy on the one hand, and, on the other, gives them the inherited and acquired right to a berth in the insane hospitals, the jails and the penitentiaries.

If but the true import of the alcohol question were understood and a proper conception of the effect of alcohol on the physical and mental qualities were gained, I believe few generations would pass before we would find in place of our institutions for restraint and punishment, hospitals for the care and cure of a class of patients more ill often than those whom we generally regard as sick or diseased.

DISCUSSION.

DR. A. J. PRESSEY, Cleveland, Ohio.—The Doctor has covered the ground very completely, and I would say "amen" to what he has said.

DR. G. W. DRAKE, Hollins, Va.—I would like to ask the speaker to tell us the difference between the effects of pure alcohol diluted, and the various preparations of alcohol in the form of whisky, brandy, etc. I have never had any experience, but I always had a desire to know whether it is more injurious or dangerous to use pure alcohol diluted or whisky or brandy. I notice he spoke of fusel-oil. Alcohol has the advantage of not containing it. I am only entering a protest against the idea that the mind is capable of becoming insane, drunk, intoxicated or affected by any material disease. The brain may become diseased, but the mind is not subject to any effect from material objects.

DR. ALBERT E. STERNE, Indianapolis, Ind.—I only wish to apologize to the Section for cutting up my paper the way I did. I have taken the standpoint that nobody ever forms a habit except from a neurotic predisposition. It always has a basis to develop on, like any other disease, and the use of morphin and alcohol must be looked upon in its chronic form as a disease. Whether mind or matter is diseased is immaterial, it does not make much difference, and so far as the mind being capable of disease, that is something which I do not feel able to speak upon. My conception of mind differs from that of my colleague.

As regards the use of small doses of alcohol and alcohol in any form, I may simply reply that a poison is a poison no matter how it is taken. Mercury is mercury, no matter in what form we give it. The more refined the spirits, the less side issue will prevail, but the intrinsic effects of alcohol are never altered. There is a vast difference in the use of alcohol, say in the form of whisky, and beer as used in Germany. In the use of beer there is a mechanical effect observed. The large quantity of fluid dilates the blood vessels, and this insult to them renders them less elastic and, in addition to that, there is a large nutritive element which, if it is taken up as nutrition, means more work for the heart, because the new tissue must be nourished. You are overburdening the organ and, therefore, the effect on the ventricle is weakening; this is seen in beer drinkers, where it is not seen in alcohol drinkers or morphin habitues.

The question is entirely too large for me to cover in such a manner as this. I took it for granted that the alterations were all well known to members of this section. I have spoken to several neurologists about the peculiar case reported, and they have not been able to throw any light on it, or add to my conception of it.

Accidental Vaccination.—Apropos of a case of accidental vaccination reported in *THE JOURNAL* of March 2 (p. 584), another reported in *The Lancet* of February 23 is of interest. It was that of a man of 45, who, on Sept. 14, 1900, received a slight scratch on the outer angle of the right eye. A week previously his child had been vaccinated, and, in caring for the child at night, during the mother's illness, the scratch became inoculated from the child's arm. The man's eye became very painful and irritable, with symptoms of septic poisoning.

A CASE OF COMBINED GASTRIC AND AURAL VERTIGO, WITH A DISCUSSION OF THE PATHOLOGY OF SUCH CASES.*

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The pathology of the symptom known as vertigo is obscure in a great many cases. It seems quite clear that in some, and that a rather large number, it is the direct or indirect result of general causes acting on the nervous or vascular mechanism. As a temporary phenomenon it is often present in states of general debility, from whatever causes arising, especially on assuming, or suddenly relaxing from, constrained positions, or making sudden movements of the head. To a variable extent it forms a feature of the various acute and chronic intoxications both heterogenetic and autogenetic. It is a very frequent symptom of organic brain disease. Mendel says that every focus of organic brain disease will necessarily influence the cerebral circulation, and may consequently be associated with vertigo. This is especially true where the lesion is situated in a posterior fossa.

The present tendency on the part of some writers, Gowers among them, is to assume, where it can not be demonstrated, the existence of labyrinthine disease in practically all cases of so-called definite vertigo. While the relation of the labyrinth to the sense of equilibration, as well as to the equilibration itself, is clearly proven, yet it seems to me that the clinical evidence in favor of morbid conditions elsewhere being the efficient cause of definite vertigo is entirely conclusive. For instance, Osler has recently reported a case of vertigo of eighteen months standing entirely cured by properly-adjusted glasses. That such cases are necessarily due to co-existing latent labyrinthine disease is an assumption which lacks adequate support; and rests mainly on the clinical fact that an ever-increasing number of cases of vertigo, formerly attributed to various causes, have been shown to be connected with labyrinthine disease, which is the admitted cause of a very large majority of all cases of paroxysmal vertigo; and in part to the assignment of a too exclusive rôle to the labyrinth in the function of equilibration. It seems more probable that the superior olivary body, with which both the third and eighth nerves are intimately associated, and which, it appears probable, plays an important part in equilibration, has much to do with both labyrinthine and ocular vertigo. Ewald's experiments in which dogs slowly recovered the power of equilibration, after the extirpation of the labyrinth on both sides, seems to indicate that the essential mechanism resides in a ganglionic center. But in any event, whether the hypothetical labyrinthine disease is always present or not, it is obviously true that without the ocular strain or other condition so often occupying the relation of an obvious immediate cause, the vertigo would not exist. With reference to vertigo from oculomotor disturbances, Mendel has called attention to what he believes to be an important anatomic fact in relation to vertigo of ocular origin. He finds that the nuclei which preside over the movements of the ocular muscles are supplied by fine terminal branches of the posterior cerebral arteries, which do not anastomose, and that the vascular supply of these nuclei is therefore easily interfered with. It would seem as

though involvement of these vessels might possibly be one reason why vertigo is so constant and early a symptom of arteriosclerosis—especially in those cases of comparatively rapid type, and especially if, as Mendel believes, true vertigo is always associated with disturbances of the eye muscles.

The nature of gastric vertigo, to which attention was long ago called by Trousseau, has given rise to considerable controversy. No one denies the frequent clinical combination of gastric disease and vertigo, and in apparently close relationship. Gowers, however, while admitting that paroxysms of severe vertigo are caused by gastric disturbances, doubts its purely gastric origin.

It is probably true that in some cases of undoubted labyrinthine vertigo the paroxysms are precipitated by gastric disturbances, and that many of the cases formerly regarded as gastric are really aural. But I do not at all believe that the assumption of labyrinthine disease in every case of apparently gastric vertigo is sustained by the facts.

In the first place it appears to me that a sharper distinction should be drawn between the balancing power and the balancing sense, and that it is the former rather than the latter with which the labyrinth is essentially concerned, although both functionally and anatomically the two must be closely correlated. Whether the cortical center of this balancing sense is in the temporal lobe or elsewhere, it is perfectly natural that it should or might be disturbed by any perturbation of the cerebral circulation—an inference which is fully borne out by clinical and pathologic evidence. That such disturbances do arise from oculomotor mechanism appears perfectly plain, and that they may arise from disturbances of more distant organs through more circuitous nervous channels is not in itself improbable. With reference to the relation of the stomach to vertigo it has been suggested that the latter may be caused by a morbid stimulation of the terminal filaments of the vagus in the gastric mucosa, reflexly exciting the motor nerves of the labyrinth and thus affecting the pressure of the endolymph in the semicircular canals. It is worth while bearing in mind that there appears to be a close relationship between the vomiting center and the sensorimotor mechanism concerned in equilibration. In most forms of severe vertigo nausea and vomiting sooner or later supervene. Whether we are able, therefore, to demonstrate the *modus operandi* of gastric disturbance in the production of vertigo, their clinical relationship rests on evidence which is apparently conclusive.

In this connection I desire to present the following case: Mr. S., a farmer, aged 55, was referred to me by Dr. H. A. Deumling, Jan. 22, 1900, complaining of vertigo and stomach trouble, the latter of 1½ years duration. Prior to that time his health had always been good. Shortly after the beginning of the stomach trouble he began to have left-sided tinnitus aurium, which has been a constant feature ever since. A few months later there appeared paroxysms of severe nausea and vomiting, which would begin with intense vertigo and severe aggravation of the tinnitus mostly limited to the left side. These attacks would last several hours, and some of the more severe ones for nearly a day.

In the intervals between these attacks his condition was fairly satisfactory, there being only slight evidence of gastric disturbance with an intensification of the tinnitus occurring invariably within an hour after every full meal. If he ate an unusually large meal the exacerbation of the tinnitus would continue, and in a short time vertigo would supervene, and, finally, vomiting with complete relief of all symptoms, with the single exception of the slight persistent tinnitus. There had been no headache at any time.

* Presented to the Section on Nervous and Mental Diseases, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

He had frequently found that a fairly full meal, which he would regard as about what he ought to eat, might not cause any immediate exacerbation of symptoms, but in the course of twenty-four hours the tinnitus would become exaggerated. This had proved to be the case so constantly that taken in connection with the frequently immediate exacerbation of symptoms he had restricted his diet to such an extent that great emaciation had occurred and was constantly progressing. In ten days preceding my first examination he had lost six pounds in weight.

The bowels were somewhat constipated. The dejections contained no pigment whatever visible to the naked eye and were of the type usually, but absurdly, designated acholic. At the time of the paroxysms of vertigo he had to keep absolutely still, in a recumbent position. If he raised or turned his head quickly, or even looked up suddenly, it would produce severe vertigo followed by vomiting. The hearing was greatly impaired, especially in the left ear. The hearing distance of my watch, which should be heard at sixty inches, was twenty inches in the right ear and four in the left. During a few months the tinnitus became less in the left ear, and at this time he could hear much better. Otoscopic examination showed marked thickening and fibroid change in the left tympanic membrane. Tests with the tuning-fork showed that he could hear all the tones from C to C4 with both aerial and bone conduction. The vibrating tuning-fork was correctly located at the vertex or on either side.

Vision was 20/20 in both eyes, without any correction. Ophthalmoscopic examination was negative, excepting that the right field seemed rather congested; but both discs were clear and well defined. The pupillary reactions were normal and symmetrical.

The knee-jerk was very active on both sides; perhaps slightly exaggerated, and there were no Romberg symptoms, and no paresthesia or other sensory disturbances. The sexual, bladder and rectal functions were normal.

Urinalysis: Total quantity in twenty-four hours, 400 c.c.; sp. g., 1020; total solids, 18.64; reaction, acid, the acidity 60 degrees; color and odor normal; somewhat cloudy, considerable quantities of light reddish-yellow sediment; no albumin nor sugar; urea, 12 grams; uric acid, .6 grams; ratio of uric acid to urea, 1 to 18; total chlorids, 1.68 grams; total phosphoric acid, .92 grams. bile pigment present and from .02 to .04 per cent. of indoxyl potassium sulphate; no phenol nor acetone reaction.

The fecal matter, although, as already noted, presenting no color indicating urobilin or other pigments, was found by spectroscopic examination to contain unaltered bile in small quantities.

Blood examination: The centrifuge showed 39 per cent. of red cells, indicating a little less than 4,000,000 to the cubic millimeter; leucocyte count, 6000; hemoglobin, 75 per cent., rouleaux formation good.

Ewald test breakfast: The total quantity obtained was 30 c.c., the Gunsberg reaction positive; dimethyl titration showed 15 degrees of free acid indicating .05 per cent. of free hydrochloric acid, the total acidity 30 degrees; the biuret reaction was positive and strong, and the starch reaction also present and strong, indicating defective starch transformation.

The fasting stomach was found to contain considerable quantities of mucus and food debris, the former containing a fungus morphologically identical with actinomyces. The fungi assumed the radiating form, with club-shaped bodies, numerous granules and, macroscopically, the whitish-yellow spherical bodies characteristic of this growth.

The liver was somewhat tender and slightly enlarged, with irregularities in the contour of its lower border, which, taken together with the putty-colored stools, led me to fear that I might have to deal with a case of actinomyces involving the liver.

The patient was placed on gastric lavage, colon flushing and general hydrotherapeutic procedures consisting chiefly of hot and cold douches. The improvement began at once, and complete recovery ensued within two

months. The only symptom remaining was very slight tinnitus in the left ear, which is sometimes absent for several days. No vertigo or gastric disturbance has been present for several months.

The relationship existing between digestion and the paroxysms of vertigo was so constant as to leave no reasonable doubt as to the causal relationship of the former. Added to this we have the complete disappearance of the vertigo consecutive to stomach treatment. So far as the aural findings are concerned, the case corresponds to a group described by Dr. C. H. Burnett, in which he says the vertigo is the result of chronic catarrhal otitis media. These cases he describes as paroxysmal in character, always associated with tinnitus and a certain grade of deafness, and followed sooner or later by nausea, vomiting, reeling, and falling. It is quite possible, in this case, that without the middle ear disease the vertigo might not have occurred. It seems equally certain, however, and indeed much more certain, that without the gastric disturbance the vertigo also would not have occurred.

From a clinical point of view, therefore, the stomach must be regarded as a necessary, and possibly an efficient, cause of the severe paroxysmal vertigo present in this case. It is reported because of the combinations of gastric and middle ear disease, the probable absence of labyrinthine disease, and the obvious relief of the vertigo as a result of intragastric treatment. In dealing with several hundred cases of chronic gastric disease I have found a considerable number in which vertigo was a more or less conspicuous symptom, developing *pari passu* with the gastric symptom and disappearing as they did. As a general rule, however, the vertiginous attacks have not the fulminating character shown by the group of cases commonly designated Ménière's disease, in which group some writers, L. C. Gray among them, include the vertiges of external and middle ear as well as those of internal ear disease. In some of these cases of gastric vertigo, however, the attacks are distinctly cyclic in type. In one recent case the patient fell to the ground on several different occasions, and yet the most critical examinations failed to reveal any cerebral or ear disease.

NOTE—The patient above recorded called at my office about December 15, 1900, and reported that he had been entirely well during the interval since he quit treatment, with the exception of one or two attacks of vertigo of the same type, both preceded by obvious gastric disturbances.

DISCUSSION.

DR. D. I. WOLFSTEIN, Cincinnati, Ohio—I wish to report in connection with this paper a case which presents almost identical symptoms. The case was referred to me by an ear specialist, after having been treated by physicians, and he had not been able to find anything abnormal in the ear after careful examinations. The symptoms were almost constant, tinnitus aurium with such attacks of vertigo as the essayist describes, except that the attacks were as many as thirty or forty a day. The patient was a city salesman, and his business necessitated driving around through the city. He successfully treated himself after adopting the ordinary methods for mild stomach disorder, lavage, and the giving of an antacid. He recovered completely and remained so until two months afterward, when he again presented himself with the identical symptoms he had had before. In the interim of recovery, the tinnitus was not relieved. He was given an aloin, belladonna and strychnin pill, and now presents himself for treatment, but he is not in a condition of recovery. These conditions of vertigo and tinnitus aurium make me think that they are probably to be compared with some other conditions we group under the idea of perverted ideas or symptoms that have become cerebral and not attached in any organic way.

DR. H. H. LEVY, Richmond, Va.—I offer my unqualified commendation of the Doctor's exhaustive research in this case; it commends itself to us for the method pursued in regard to the elucidation of the etiology. One thing that he stated was

suggestive. From the examination of the urine he determined the proportion of uric acid to urea to have been 1 to 16. Uric-acidemia is productive of varied nervous symptoms, and it may not be unlikely that that was a provoking cause of the nervous symptoms in this particular case. It is very common, as all of us know, to see cases of vertigo that we attribute to the stomach and liver. I should say in these cases that there is some defect in the working of the liver. We may have failure of performance of some action of the liver, even if we do not have jaundice. The liver is intimately concerned in the formation of uric acid and urea, and where we find cases of excessive uric acid, the proper process of digestion of the intestines is not taking place, and also excretion is probably imperfect. It is very common to see persons affected with vertigo, who are quite comfortable in the supine position. They are not at all anemic; the blood examination shows that, and the pulse indicates that there is no lack of blood, but they become very dizzy upon rising. Treatment directed to the proper action of the liver, as for instance the administration of hydrochloric acid and strychnin, has afforded complete alleviation of this condition. Another question is whether vertigo may not be due to real ptomain poisoning. I think it sometimes is, but that hinges on one point, namely, imperfect disposition of the food in the alimentary canal. Unless we can limit the patient to one meal a day, we can not tell whether a certain meal is productive of certain symptoms. If we can give the patient one meal, and in six, ten, twelve, fourteen or twenty-four hours, regularly and uniformly, certain effects are produced, then we have a right to say that there are certain ill effects produced by that particular meal. A great many cases of vertigo are simply due to improper digestion.

DR. HUGH T. PATRICK, Chicago—I should like to ask Dr. McCaskey to state a little more carefully the character of the vertigo in this case. Probably I did not get it fully as he read it. It is exceedingly important, in writing of the nature, cause or origin of any case of vertigo, to very definitely define the vertigo itself. I should like to say, for myself, that I have come more and more to look with great skepticism on vertigo of gastric origin and on liver or intestinal vertigo, and symptoms coming under that general head. Where there has been a real turning or rotary sensation, with inability to stand steadily or at all, the cause has ordinarily been found in the ear or somewhere in the cranial cavity, or it has been a case of heart disease, or a bad case of anemia—in other words, something strictly and determinably of organic origin. I do not remember seeing a case of well-defined, unmistakable vertigo of gastric or abdominal origin. A general feeling of lightness in the head, a general feeling of uncertainty and discomfort, which patients describe as dizziness or as vertigo, as well as the cases spoken of by Dr. Wolfstein, approximating agoraphobia, in which the patient is terror-stricken or panic-stricken and can not find himself, are exceedingly frequent, but they are separate and distinct from real vertigo.

DR. G. W. McCASKEY, Ft. Wayne, Ind.—Referring to Dr. Patrick's expression of his own skepticism as to the existence of vertigo of gastric or intestinal origin, I would say that the gentleman simply voices the sentiments of the average neurologist of to-day. This is undoubtedly the trend of neurologic thought, and in reaching a different conclusion I have done so on the basis of a rather large experience with gastric disease. A case which I have not quoted is one among a great many others I have seen—a case in which there was no suspicion whatever, of either cerebral or aural disease; one of the worst cases of gastro-intestinal disease I have ever seen. There was very intense gastric-motor insufficiency. That patient was taken into one of my rooms and placed on a table for examination, and it would take him two or three minutes to get up or lie down, the vertigo was so intense. So far as the adequacy of the gastric or gastro-intestinal causes is concerned, the patients have recovered without exception, and in this one the vertigo remained permanently cured upon curing the gastric disease. We must take into account the conditions to which Dr. Patrick has referred, as associated anemia, etc.—but why do they recover without recovery from the anemia? And why does the vertigo take place in the absence of anemia? I do not think it is fair on the part of physicians or neurologists to assume the existence of cerebral or aural disease, unless they can be positively demonstrated by examination. This case has been observed over a period of three years, and is absolutely well; no return of the vertigo or any development of what might have been at that time latent cerebral or aural disease. It is fair to assume that it does not exist in that case.

As to the character of vertigo, in this case it was a very sudden loss of balancing power. The patient would have fallen

if he had not been supported, and when he had once lain down, he could not move his head from one side to the other. He could not look up suddenly without severe aggravation of the vertigo. Here is a case in which this symptom develops with the ingestion of a large quantity of food, and disappears with its rejection. I assume that we can attribute such a series of events one to another. I think the *post hoc* in this instance is fairly demonstrable to be a *proctor hoc*.

There was hepatic disease in this instance. There was bile pigment in the urine and feces, as demonstrated by the spectroscope. The presence of bile in feces is pathologic, not physiologic. The normal coloring matter present in the feces is not bile. There was no jaundice whatever. The only evidence of hepatic disease was enlargement and tenderness of the liver, with bile-pigment in the urine and fecal matter. I did not attach much importance to the large quantity of uric acid. The proportion of uric acid—the ratio—to urea was too large; it was 1 to 18. The absolute quantity was small, only 0.6 gram, which is less than 10 grains and is below the average. Even if it were 20 or 30 grains, I would regard it as a relatively unimportant phase of the case.

Dr. Wolfstein spoke of recurrence. I recognize the pertinence of that point, and I told this patient that, in my opinion, he was not well. He will return to me with this vertigo, because the gastric disease will recur. I confess that it is very difficult to determine the essential pathology of such a case, and yet, at the same time, I am forced by the honest study of the facts in these cases, to the conclusions that gastric disease is an efficient cause of vertigo, and while in this case there was associated aural disease, in many it does not exist, as far as examination will enable us to determine.

HEART TONICS.*

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In discussing the subject of this paper I must at the outset claim the license to consider it in its broadest sense, studying it from the standpoint of the clinician and therapist rather than from the technical ground of the physiologic action of drugs.

The term "tonic" should mean, when discussed in this way, the broad principle evolved by the therapy of any remedy, which shall have the power of regulating heart action, whether its irregularity be functional or organic or that modification of its conditions which renders the heart action a source of discomfort or danger to the patient. In dealing with functional disturbances which are the result of impaired reflexes, coming as they most commonly do, from disturbance of digestion or some uterine derangement, the indications for relief are plainly the removal of the gastric or uterine disorder back of the perturbation or irregularity, not forgetting that prolonged and persistent functional disturbance may result in organic change of the walls or valves of the heart.

Again, intelligent consideration of these agents and skilful exhibition must be absolutely based on an accurate knowledge of the pathology of the affection in which a heart tonic is indicated. A conviction that many times an improper drug for the fulfillment of the indications is selected and given, either with no benefit or with directly harmful results, has been the inspiration of this paper.

Selecting those drugs most popular as heart tonics, and most frequently exhibited, I shall consider their physiologic action and then the indications for their therapeutic application, reserving to myself, as I have already indicated, the right to discuss agents which, under a strict classification, are to be considered as cardiac depressants, but yet are, in the broadest sense, indirect heart tonics, because they regulate heart action.

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Why not if it be excessive and too strong. I emphasize this point, because it is not a new thing to see digitalis given to relieve a patient suffering from disturbed heart action, excessive in tension, because of hypertrophy—the result of valvular or renal lesion or of long-continued and excessive stimulation of the vagus due to excessive use of tobacco—when really it is emphatically contraindicated, and the truest tonic, calmative and comforting to the patient, is an agent like aconite, nitroglycerin or veratrum viride belonging to the class of pronounced motor depressants.

On the other hand, agents like these, nitroglycerin especially, are frequently exhibited to sustain heart action when strychnin or digitalis may be imperatively demanded to prevent sudden and absolute heart failure.

Digitalis.—Physiologic action is most pronounced in the beginning by slowing of the heart's action, increased arterial tension and lengthening of the diastole. These are due to the stimulation of the vagus, cardiac motor ganglia and inhibitory centers, though some authorities claim its action is directly on the muscular walls of the heart which act with increased power, filling the blood-vessels more perfectly and fulfilling the conditions of a perfectly normal circulation. But continued administration results in greater frequency and diminished arterial tension, due to exhaustion from over-stimulation of the vagus, etc. In the first stage of its action there is a contraction of the arterioles of the kidneys, diminished elimination, consequent on over-stimulation of the vagus, and secondary cardiac depression. As a result of these conditions, digitalis is a remedy of uncertain value, because a secondary condition of depression may result from its exhibition, and at a time when it would jeopardize the welfare of the patient.

To be more explicit, in mitral regurgitation, the lesion in which it is conceded to be most useful, in the earlier stage when we wish to sustain heart action until compensation is established by a physiologic hypertrophy, I question whether the drug can be limited to its first effect until compensation is established; and in the later stage, when compensation fails and the heart is already depressed and exhausted, digitalis is evidently contraindicated. Digitalis is, to say the least, a remedy of transient benefit in mitral regurgitation and may be positively harmful in its ultimate results. But this is the most favorable standpoint from which to consider the drug. In fatty change in the heart walls, the stronger contraction of the heart in systole on the contained blood results in a muscular strain, thus increasing the dangers of rupture of the cardiac wall.

In the threatened heart failure of typhoid fever, benefit must accrue from the exhibition of such an agent as can be continued long enough to tide the patient over the critical period. The heart muscle, as the result of long-continued high temperature and impaired nutrition, is in a condition of granular, degenerative myocarditis. Any agent which stimulates the cardiac ganglia, inhibitory center or vagus under such conditions must be harmful to the patient in the highest degree; and when the exhaustive stage is reached, serious danger of fatal syncope may be expected as a legitimate consequence. Hence in fevers, septicemia and like affections, digitalis and all agents of similar physiologic action are positively contraindicated. Nor is this all: Careful observation has demonstrated that digitalis does not increase

pulse tension in pneumonia. It is suggested because of the febrile condition. But another patent fact must be considered, namely, that with the lesion in the lung—hepatization, most probably—the threatened heart failure is the result of exhaustion. The heart tires from an ineffectual effort to keep up the circulation through solidified lung, and the compensatory respiration carried on by the remaining or partially congested tissue does not aerate the blood rapidly enough to save the strain on the tired heart muscle. It is like lashing a foundered horse to force him to renewed exertion of which he is incapable.

Again, in mitral stenosis, benefit is to be expected from the exhibition of digitalis because prolonged diastole allows the ventricle to receive a larger quantity of blood. Its greatest field of usefulness is in lesions of the mitral and tricuspid valves, with their resulting secondary lesions. But in aortic stenosis, the forcible contraction of the ventricle during systole, with obstruction ahead of the column of blood, is risky, because rupture of the heart wall may result. Nor is the danger less in aortic insufficiency. Lengthened diastole permits overloading of the ventricle, and again danger from heart rupture is at the maximum. I believe that it is commonly routine practice to prescribe digitalis or kindred remedies when valvular lesions are detected, without making a discriminating diagnosis, and this ought not to be.

Convallaria.—In its action this drug is similar to digitalis and it is used under similar therapeutic indications. A fact of some importance is that it may be used as supplemental to digitalis. Its advantages over the latter are: 1. It is more strictly limited to the heart. 2. It does not prolong the diastole to the same extent, but slows cardiac action while augmenting the force of ventricular contraction. 3. It is probably free from the danger of cumulative action, and therefore may be given for a longer period. 4. It is probably better borne by the stomach, though the experience of observers differs in this respect. 5. Its diuretic action is not so distinct as digitalis. 6. It is of value in correcting cardiac rhythm. It must, however, be acknowledged that it is not so strong or reliable as digitalis.¹

Sparteïn.—This is a true stimulant to the muscular substance of the heart, acting through the cardiac ganglia, and in my hands has been valuable, when the heart walls were flabby and weak. It has been recommended as a heart stimulant in anesthesia.² Sparteïn, too, has the advantage of being slowly eliminated.

Strophanthus.—There is diversity of opinion among observers as to the true physiologic action of strophanthus; some claiming that its effect is less permanent than that of digitalis. If it be given in combination with strychnin, this objection is obviated, and it possesses the advantage of acting on the heart muscle and muscular coat of the blood-vessels, thus avoiding the reaction which comes from exhaustion of the vagus when digitalis is used. I am not, however, prepared to admit, as the result of my observation, that its action is less permanent than digitalis. After compensation has failed, stimulation of the tired heart muscle by strophanthus, while the vagus is still active, is of considerable value. In the threatened heart failure of typhoid fever and the

1. Westbrook: Foster's Practical Therapeutics.

2. Cotton, G. C.: N. Y. Med. Jour., Nov. 26, 1896. Foster's Practical Therapeutics.

septicemias, given with strychnia, it will be found a very useful agent.

Atropin.—Its physiologic action is to stimulate the cardiac sympathetic, the accelerator apparatus of the heart, producing increased frequency and increased tension and at the same time to lessen the inhibitory apparatus. It must not be pushed to the point of exhaustion. Its greatest usefulness is in tiding the patient over an emergency, in cases of sudden collapse and threatened heart failure. Some of the cases of flabby, fatty heart, especially those in which we have bronchorrhea as a sequence of the impaired action of the heart, and in which also there is risk to the patient from threatened stoppage of the heart, and from interference with respiration by the flooding of the bronchial tubes with mucus, are peculiarly benefited by atropin because it deals with both these conditions. A respiratory stimulant as well as a cardiac, it strengthens respiration and stops the effusion of mucus by its drying effect on the bronchial mucous membrane. I think, however, it is always important that it should be combined with strychnin. Potter recommends its use hypodermically in threatened heart failure from chloroform narcosis.³

Caffein.—Caffein stimulates and then depresses the cardiac ganglia as well as the cardiac muscle. Its chief field of usefulness is in functional heart affections, or as an adjuvant in those cases of organic heart trouble in which the function of the kidneys needs to be stimulated, to get rid of dropsical effusion. It is not curative in this instance but adds much to the comfort of the patient and aids in prolonging life. I have found caffein, when given in combination with benzoate of lithium and sulphate of spartein, especially useful in the dropsical conditions of parenchymatous nephritis, associated with secondary heart involvement.

Strychnia.—Close clinical observation has constantly increased my confidence in this agent, and demonstrated its reliability for definite results. Not the least part of its adaptability as a heart tonic is that, like other bitters, it is a stomachic tonic also, strengthening digestion and improving assimilation and nutrition. "It stimulates the motor nerve cells of the spinal cord, the cardiac motor ganglia, the respiratory and vasomotor centers in the medulla, and the sensory nerves and their terminal elements. The result is that respiration is deepened and quickened, the action of the heart is increased and the blood-pressure raised."⁴ In the enfeebled heart action from chloroform narcosis, it is a valuable remedy; and it has become almost routine practice with me to precede the administration of chloroform by giving, hypodermically, 1/30 to 1/20 gr. of nitrate of strychnia. Its value, administered as a safeguard, will be appreciated, when we remember that death from chloroform is due to paralysis of respiration, or paralysis of the heart, or to the two combined plus the shock of operation. Strychnia directly antagonizes these conditions. In the enfeebled heart of typhoid fever, the septicemias and pneumonia, or in the syncope due to heart failure I know no remedy so potent and prompt to sustain heart action. In functional reflex cardiac disturbance, weakened irregular heart action, the cardiac disturbances of the climacteric complicated by exhausting hemorrhage; in the weakened heart action in the later stage of Bright's disease, after compensation has

failed and arterial tension has given way, resulting in an ischemic condition of the blood-vessels; strychnin in all these conditions fortifies heart action. The superiority it has over digitalis and other heart tonics of its class is demonstrated by the fact that there is no cumulative depressant second or third stage. Nor will its ability be disappointing in organic valvular lesions of the heart when the heart muscle needs support in the performance of its function. The fact that it may be pushed for a longer time and gives satisfactory and definite results places it at the head of heart tonics.

Nitroglycerin.—We hear this agent spoken of, and see it mentioned in many articles of current medical literature, as a heart tonic. Experiment has demonstrated that it produces death by general paralysis, especially of the muscular system; and autopsy shows the ventricles of the heart unequally dilated, the right more so, and the venous system engorged with blood. It lowers arterial tension, and in an engorged right heart is useful, combined with strychnia. Physiologically we have languor, nausea, rapid, weak, dicrotic pulse. It also impairs muscular contractility. Its most beneficial action is found in angina pectoris, both true and pseudo. I am persuaded that its use is contraindicated in the weak and impaired heart of typhoid fever, septicemia, and surgical shock. No agent can be safely administered to sustain heart action, and avert death from heart failure whose physiologic action is known to be first, depression of the medullary center, consequent threatened paralysis of respiration and marked paralysis of the muscular system.

Opium.—In conclusion, I would say a word on opium as a reliable heart tonic. The clinical significance of its beneficial action on the weak heart I have seen repeatedly exemplified. When, after a long continuance of typhoid fever, the stage of coma vigil, vasomotor paresis, general, but especially marked in the accumulation of gas in the intestines; feeble, dicrotic pulse; dusky hue of the cutaneous surface, especially the face; in fine, that clinical picture so familiar to us all, and indicative of the great jeopardy of the patient, opium in a commanding dose, repeated in a few hours if necessary, has changed the whole aspect of the case, and proved the pivot on which the case has turned to a prompt and sure convalescence.

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DISCUSSION.

DR. W. D. GARLOCK, New York City, said that there is one point which is frequently overlooked in the treatment of weak heart, i. e., the state of the blood. We have a mechanical problem of an engine—the heart—driving a weight of blood through the blood-vessels. If the blood is poor, the required quantity of the blood is increased, and the weight being thus increased, more work is thrown on the heart. If we, by appropriate treatment, improve the quality of the blood, we to that extent reduce the labor of the heart, for the tissues will not demand so much blood for their nutrition.

DR. REILLY, New York City, asked if the reader had an opinion to communicate as to the value of *cactus grandiflora* as a heart tonic?

DR. J. N. UPSHUR said that his experience with *cactus grandiflora* had been very slight. He had used it, especially in one condition in which there was a condition of debility, a depressed condition of the heart, the result of excessive use of tobacco. In his part of the country he often sees cases of tobacco heart. He likened it to the fiddler who keeps constantly tightening up the string, until the string snaps. In the same way, the persistent overstimulation of the heart by the tobacco finally leads to heart failure. In the case of a prominent clergyman in Richmond, who did not respond well to strychnin, he had given *cactus*, but it did not give him as

3. Potter: Practical Therapeutics, p. 131.

4. Potter: Foster's Practical Therapeutics, p. 26.

much relief as it should and he finally got relief from strychnin in large doses. We see so many patients who are stimulated too much with tobacco, but none of them will admit that they are slaves to the habit. He has one challenge by which he can prove to them that they are taking too much and are under its stimulating effects. He challenges them to stop using tobacco, for a time, to see what an outcry there will be of the system against the stoppage, and the consequent gain in the pulse-beat after using the tobacco. If you take any machine and constantly drive it from one-third to one-half above its capacity it will break down. In the heart we have the same thing. There is a certain influence of the living tissue against the tobacco, but it will finally break down. The consequence is depressed action of the heart, and especially in young men, and particularly from excessive cigarette smoking. When such a person is taken sick with some serious illness, like pneumonia, then the heart tonics fail us, and they die of heart failure, when they should get well.

DR. J. T. MELVIN, Saguache, Colo., said that he had used cactus as supplementary to strychnin, but not as a substitute for it. His own experience is that the best results from cactus are obtained when the disturbance of the heart is functional. In all cases in which the disturbance is unconnected with organic disease, we have in cactus a useful agent. In digestive and genital disorders we often have reflex disturbance of the heart, also in tobacco and coffee habits. He gives, in such cases, the fluid extract in five-drop doses several times a day.

DR. LEONARD CORNING, New York City, said that he had used strychnin and found it beneficial on a smoker. The only objection is that when using strychnin he smokes twice as much.

DR. HEINRICH STERN, New York City, said that the author of the paper under discussion had omitted any reference to adonidin. In his investigations adonidin proved the very best and the most efficient of the so-called heart tonics we possess. Adonidin is not a mere succedaneum of digitalis. It is true, the physiologic action of both agents is identical to a certain degree. However—and this part he wished particularly to emphasize—adonidin, in spite of its more prompt and energetic action, may be safely administered in such cases where digitalis and the so-called other heart tonics can not be employed at all or only with the greatest caution; such, for example, as fatty degeneration of the heart, pericarditis, atheroma and heart lesions accompanying chronic cases of nephritis. He said he had never noticed a cumulative action of the drug, and in all instances in which he employed it, whether it was administered in the form of powders, tablets, pills or solution by the mouth, or in that of suppositories by the rectum, or by hypodermic injection, it was always well borne. The dose of the drug varies, according to the object desired, from .002 gm. to .01 gm. Those who are interested in the subject were referred to his original article, in *Merck's Archives*, April and May, 1900. He said, too, that adonidin deserves a place right on top of our list of heart remedies.

THE THERAPEUTIC APPLICATION OF THE ORGANIC EXTRACTS.*

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A few years ago we listened with interest, wonder, and often incredulity to a paper on organic extracts, but since that time we have heard so many papers and read so much on the use and abuse of these extracts, that one feels like apologizing for talking on this subject.

We can no longer treat of these internal secretions together, but each one now claims a separate discussion, and if you will bear with me I will try to present a few facts and thoughts concerning the thyroid, thymus, pituitary and suprarenal glands.

Though Schiff had experimented in 1859,¹ he did not impress upon the profession, the scientific value of his experiments on thyroidectomized dogs until 1884.² Horsley and other observers³ have confirmed Schiff's

work, and Halsted⁴ has shown the interesting fact that removal or injury of a portion of the thyroid can stimulate the rest of the gland to furnish secretion enough for the whole body. In 1878, Ord⁵ showed the relationship between the thyroid gland and myxedema. Horsley, in monkeys, and Reverdin,⁶ in man, described the symptoms of operative myxedema, while Koehler⁷ noted these symptoms of operative myxedema did not occur when the thyroid was removed in old age; a very interesting fact.

Schäfer⁸ describes the symptoms of operative myxedema as tremor, mental apathy, unsteadiness of gait, diminution of the cutaneous sensibility, lowering of the temperature, drying of the skin, falling out of the hair, and an increase of mucin in the connective tissue, especially of the skin. These symptoms known to be caused by the removal of the thyroid, are all exceedingly interesting when we realize that a diminished secretion of the thyroid in man can be the cause of similar symptoms and yet the diminution of secretion perhaps not be sufficient to cause an actual myxedema. It is also therapeutically noteworthy that all of these symptoms can be prevented in thyroidectomized animals and men by feeding thyroid extracts.

In 1895 Baumann discovered iodine in the thyroid, which has since been proved to be the only part of the human body in which the iodine is normally contained, and Weiss⁹ estimates that the adult thyroid contains .004 of this element, the amount varying at different times and in different localities and at different ages, the greatest amount being found between the ages of 25 and 55.¹⁰

The feeding of thyroid extract or Baumann's iodothyryn causes loss of weight and an increased nitrogen, sodium chlorid and phosphorus— P_2O_5 —excretion and marked diuresis.—Ross.¹¹ It is very probable that this diuretic action is due to the increased amount of urea excreted, although all of the nitrogen increase is not in urea formation.

Cyon,¹² finding vasodilator fibers in the thyroid nerves and that their stimulation lowers the pressure in the carotid arteries, infers that a function of the thyroid is to regulate the circulation and prevent hyperemia of the brain.

Oliver and Schäfer¹³ have shown that the thyroid contains a substance which will cause marked fall of the blood-pressure, and J. L. Smith¹⁴ says that thyroidectomized animals show abnormally rapid reaction to changes of temperature, in other words, show a disturbance of the heat-regulating mechanism. This latter is to me a very important fact when we consider the lack of development of the thyroid in the young child and the child's susceptibility to every change in the atmospheric temperature.

The thyroid also seems to be a regulator of connective-tissue formation, and the less the thyroid secretion in the adult, the greater the connective-tissue growth.

In partial support of the theory that it is the purpose of the thyroid gland to render innocuous certain toxic substances circulating in the blood, is the fact that the urine of animals after removal of the thyroid becomes more toxic than that of normal animals.

So much for thyroidal experiments, but unlike other drug investigations we have the pathology of the thyroid to aid us in formulating the therapeutic indications. In cretins this gland is either absent, very small, or cystic, and the colloid material, the representative of thyroid activity, is absent from most of the alveoli—de Coulon.¹⁵

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In myxedema the thyroid is found atrophied and the glandular parenchyma replaced by more or less connective-tissue formation, the colloid material diminished, and the iodine content decreased or nearly absent.

In the beginning and during the activity of Graves' thyroid disease—exophthalmic goiter—there is a hyperplasia of the thyroid parenchyma, and therefore an increased glandular output.¹⁶ Later, which is probably the normal cure of the condition, we may find a fibroid or connective-tissue degeneration, and the gland ceases to excrete in excess.

If any one doubts that Graves' disease is a hypersecretion of the thyroid, he has only to consider that in at least 90 per cent. of all cases this disease occurs between the ages of 20 and 40, or the most active period of the thyroid-gland secretion. Also that this increased secretion, like thyroid feeding, causes loss of weight and that there is lowered blood-pressure, cardiac palpitation, hot flashes, profuse sweating, great mental activity, insomnia, diminished peripheral electrical resistance, which symptoms are the exact antithesis of those of myxedema. Also in explaining many of our neurotic conditions and so-called neuroses, we can but presume that there can be all ranges of thyroid secretion, from sufficient diminution to cause myxedema to the excessive amount which causes Graves' thyroid disease, and hence we may have the thyroid as a cause of many of our cerebral, vasomotor and cardiac functional disturbances.

To sum up the physiological action of the thyroid: It seems necessary for the proper equilibrium of the central nervous system, and perhaps nutrition and development of it; to the proper quantity of mucin that shall appear in the tissues, principally the connective tissues; to regulate the proper amount of connective tissue, especially of the skin; to the proper organization of P_2O_5 for the assimilation into bone salts; and by its vasodilator power, to the proper regulation of the peripheral circulation, thus regulating the heat loss at least and the normal insensible perspiration which, if disturbed, shows, on the one hand in the drying of the skin in myxedema, and on the other hand in the increased sweating in Graves' thyroid disease. Also this gland seems to have some power of regulating the rapidity of the cardiac contractions.

This gland is easily excited to hyper-secretion temporarily by emotion, and normally by menstruation and pregnancy, this probably being the cause of the more or less persistent increased secretion and consequently more frequent hypertrophy in women than in men, and 80 per cent. of all cases of Graves' thyroid disease occur in women. It is also interesting here to note that this gland normally seems to be a cause, if not the cause, of the dilated condition of the blood-vessels of the uterus, periodically allowing the leakage from the blood-vessels, or menstruation.

Also between the ages of 40 and 50 this gland shows signs of overwork, and atrophies more frequently in women than in men, as shown by 80 per cent. of all cases of myxedema occurring in women.

In the normal individual a small dose of thyroid would be little noticed, at least not for a long period. but when large doses of either thyroid extracts, thyroid glands, or iodothylin are given for some time, there will be nausea and vertigo with increased cardiac action and tendency to increased sweating and diuresis, with possibly faintness, cerebral irritation and tremor, and according to Betmann,¹⁷ an alimentary glycosuria may be produced.

As to the therapeutic uses of thyroid substance, its value in cretinism, myxedema, and operative myxedema requires no discussion, as all of the symptoms are kept in abeyance by thyroid feeding.

The use of thyroid extract in simple goiter is still subject to investigation. Theoretically, we could only expect that thyroid feeding would act in this condition as when fed to any normal individual, and I can not but doubt the special value of thyroid treatment in simple goiter, and think if the treatment was pushed it would do considerable harm, and if any good was done such a case by thyroid extract, it might be just as much benefited by small doses of other forms of iodine. As the size of the goiter will so frequently diminish under varied treatments, especially the iodine treatment, and then relapse and perhaps again diminish, it makes the statistics of any one treatment very doubtful and the subsequent watching of the case very important.

Believing as I do that Graves' thyroid disease is due to a hyper-secretion, the thyroid extract would be contraindicated during the continuance of the active symptoms. Clinically, I believe this to be well borne out, as all of the symptoms, such as nervous excitability, headache, sweating, flushing, sleeplessness, and loss of weight are increased by thyroid treatment during the activity of the disease. On the other hand, we know that this disease tends to recovery, that this hyper-secretion reduces to normal secretion sooner or later in most cases. Also it is barely possible that a hyperplastic gland may take on the next stage, as is so perfectly typical of other organs of the body, and perhaps have connective-tissue formation, and if not actually diminished in size, may have its glandular elements lessened so that we get a condition of under-secretion with the putting on of weight, muscular weakness, and mental sluggishness, in other words, possibly the first stage of myxedema, which goes no farther. These cases will be benefited by thyroid extract.

The rule I wish to suggest in regard to thyroid treatment in Graves' disease, is: If there is cerebral excitement, palpitation and progressive loss of weight, thyroid treatment is contraindicated; if the patient is sleepy, apathetic, palpitation is not bad, has no headache, and is putting on weight, thyroid treatment will probably benefit the case.

Leichtenstern and Wendelstadt¹⁸ were the first to use thyroid in the treatment of obesity, and there seems to be no question that in favorable cases the fat diminishes, but at the same time there is a large increase in nitrogenous elimination. It is probable that every case of over-weight especially after 40 years of age can be reduced by larger or smaller doses of thyroid extract, daily, provided that there are no ill effects from the treatment; but unfortunately there is considerable risk of causing more or less persistent and troublesome debility. The patient may not begin to lose weight for the first two weeks, and then he loses more or less rapidly, from two to five pounds a week, or even more, and it must be remembered that he will continue to lose weight for some weeks after the treatment has ceased. The starting dose should be about 3 grains and perhaps run up as high as 10 grains two or three times a day to get the best results.

The unpleasant symptoms are nausea, loss of appetite, and easily excited heart, with short attacks of palpitation, troublesome weakening perspiration, at times cold hands and feet, and a general muscular relaxation and debility, possibly with attacks of syncope, and in one case the writer has seen an epileptic form of convulsive

attack which he could attribute to no other cause. These symptoms are very similar to the early symptoms of Graves' thyroid disease, in other words a hyper-secretion of the thyroid.

The loss of weight, as above stated, will continue for some time after the thyroid feeding has ceased, unless the feeding has been given too long. In either case there comes a time when there seems to be no more loss of weight. With the diet the same and the feeding the same, there are weeks during the treatment in which there is no loss at all, but the next week may bring the loss of weight up to the average. For the treatment to be successful, a modification of the diet does not seem necessary. Whether the improvement in weight becomes permanent or not can not be foretold, but the majority of patients who continue their habits of over-eating, or in whose families obesity is hereditary, will quickly again put on weight.

If, as I think possible, one of the factors in causing the over-weight in adults after 40 or 50 is the diminished secretion of the thyroid, especially in women, it would seem physiologically correct that after this weight had been reduced by thyroid feeding, a small daily dose would prevent the recurrence of the fat. In other words, treat the case as we do a cured case of myxedema, only the dose of the thyroid required will probably be less. Thyroid extract has been satisfactorily used in juvenile obesity.¹⁹

As to the use of the thyroid in skin diseases, we could expect it to cause a better nutrition of the skin and more active superficial circulation and stimulation of the sweat glands, and possibly sebaceous glands, and a consequent increase of the activity of the corium and throwing off of the epithelium, thus getting rid of an old epidermis. This action of the thyroid has been demonstrated to be of practical value clinically in such conditions as dry scaly eczema and in psoriasis.

Although this treatment has come somewhat into disrepute with dermatologists owing to its debilitating properties, I believe that too large doses have been used, and that smaller doses would answer the same purpose and cause no debility. In fact when we consider the amount of secretion which a ductless gland gives to the circulation daily, we can not but see that the use of large doses, except in certain conditions, is entirely unjustifiable.

Thyroid will probably be found to be especially good treatment in the dry eczemas of old age, possibly in the itching due to the drying of the skin at this time of life, and the writer has found it of value in the so-called strumous conditions of young children.

I think very probably that young children with dull heavy features, fat, with flabby condition of the flesh, tendency to mucous discharge from the nose, with persistent cracks and fissures either at the openings of the nares, at the corners of the mouth, or back of the ears, and with recurrent irritation of the skin on the nates, may have diminished thyroid secretion, but not sufficiently diminished to cause a cretin. Such cases I have found to improve under the treatment of thyroid. I have also found enlarged glands in the neck to become normal in size under this treatment.

The fact that the hyper-secretion of the thyroid, as in Graves' thyroid disease, increases the cerebral irritability, causes excitation and even in some few instances mania, and on the other hand the mental hebetude which occurs in cretins and in myxedema, has caused this substance to be used by alienists²⁰ in cases of insanity.

It is easily supposable that a secretion which has a vasodilator substance and therefore, perhaps, power to regulate the circulation of the brain, might cure functional mental derangements, but we do not believe that it could cure actual cerebral degeneration. In line with this suggestion, alienists have found that a prognosis can often be made in cases of insanity by the results of trial with this treatment. Certainly in cases of melancholia where the brain needs to be excited and stimulated, or in cases of hypochondriasis, thyroid treatment would seem to be indicated, and Starr²¹ believes in the use of this drug in the mental disturbances occurring at the time of the climacteric. I have recently had a patient with melancholic hysteria who had not spoken for five or six weeks, who, under the treatment of small doses of thyroid, began to act more like herself and answered questions put to her after five days of the treatment. During these five days absolutely no other treatment, method or suggestion was used.

The thyroid function being so closely allied to the menstrual function, it can not but show disturbance at the cessation of the latter, i. e., at the menopause. If the thyroid should rapidly diminish its secretion at this time, we have the condition of myxedema which occurs, as above stated, in 80 per cent. of all cases in women. If the thyroid at this time gradually diminishes its secretion, we probably have a most comfortable establishment of the menopause. If, on the other hand, as is fairly supposable, it does not diminish its secretion synchronously with the stoppage of the menstruation and therefore relatively hyper-secretes, we have all of the disturbances of hot flashes, nervousness, palpitation, etc., which are so characteristic of many women during the climacteric, which condition I believe should not be treated with thyroid. If, on the other hand, there is a marked putting on of weight at this period, we probably have too rapid diminution of thyroid secretion and small doses of thyroid extract would probably be good treatment.

As the thyroid atrophies in old age, the question occurs: Is it one of the factors in producing the conditions present in old age?²² It is not supposable that increased blood-pressure might be due to diminished thyroid secretion and therefore diminished dilator power, and that the suprarenal with its blood-pressure raising power has now full sway, and as a consequence we get the diseases and conditions due to increased blood-pressure, such as endarteritis and all of its manifold consequences. Also the diminished secretion of the thyroid can increase connective-tissue formation and therefore sclerosis in various parts of the body, as we see no exaggerated myxedema. Also is not the drying and wrinkling of the skin in old age due to this same diminished secretion? Certainly it would be worthy of trial to see if with small doses of thyroid we could keep the blood-pressure down and render the dangers of atheroma more remote.

Bell's²³ suggestion that carcinoma of the uterus developing at the time of the menopause, as it most frequently does, is due to diminished thyroid secretion and that the growth is retarded by thyroid feeding, is certainly very interesting. As carcinoma, and especially the epitheliomatous variety, is largely a condition of middle and later life, and as we know that a wart or irritated spot, either fissure or cicatrix, becomes liable to carcinomatous growth most frequently after 40, the possibilities of thyroid treatment perhaps tending to prevent recurrence after extirpation of the local lesion, I believe should certainly be considered.

Thymus.—As this gland atrophies in childhood and disappears after puberty, it is probable that it performs some important function in the development and growth of the young child. If it performs any other function, some other gland or glands evidently assume such work after the age of puberty.

We know little of the physiological action of the thymus gland preparations, although Svehla²⁴ found that venous injections of extracts from this gland caused acceleration of the pulse by direct action on the heart, and the lowering of the blood-pressure by paralysis of the vasoconstrictors.

Good clinical results from thymus feeding in Graves' thyroid disease in cases where the thyroid treatment caused an increase of the symptoms, would seem to show that any vasodilator substance contained in the thymus was not absorbed from the stomach, but Cunningham²⁵ has demonstrated that thymus tissue can modify the acute cachexia in thyroidectomized dogs as well as the thyroid treatment.

Mendel²⁶ has lately proved that thymus gland both in man and animals contains no iodine, and traces found in any given specimen are as accidental as are traces found in any other part of the body outside of the thyroid. The thymus gland contains a large quantity of nuclein, and hence a large amount of phosphorus.

The pathology of this gland is but little known, neither do we know what relationship some of the earlier functional diseases of the infant may bear to it, such as rickets. So-called strumous conditions of young children are perhaps related to malfunction of the thyroid more than to the thymus.

The use of thymus extract therapeutically as yet is empirical. The writer has given the thymus treatment of Graves' thyroid disease a careful trial, and feels convinced that it is often of decided value, but that it is not curative.

Kinnicutt's²⁷ report of a trial of thymus in pulmonary tuberculosis is certainly suggestive. If the thymus has something to do with the formation or the preparation of the salts for bone growth, it may furnish earthy salts in an assimilable form for the natural cure of tuberculous deposits, at least it may work similarly and perhaps better than hypophosphite treatment. I believe that the subsequent loss of weight after the primary gain in Kinnicutt's cases may have been due to too large doses having been given. As the thymus is so rich in nucleins and phosphorus, it could be used as a substitute for any nuclein treatment.

Pituitary Body.—Not only anatomically and histologically, but also physiologically, this gland is divided into two parts. The anterior part or hypophysis is decidedly glandular, and resembles thyroid tissue. The posterior lobe or infundibulum is largely composed of nervous elements, and Howell²⁸ has found that it is this part that furnishes an extract which when injected into a vein will raise the blood-pressure and increase the heart's action. This constrictor action of the blood-vessels is a peripheral one.²⁹ The hypophysis has been found not to furnish any such secretion.

Pathologically we have not yet separated the consequences of the disease of one part of the gland from the symptoms due to disease of the other part. Physiologists³⁰ have simply shown that when this gland is removed from cats and dogs, death occurs with symptoms not unlike those of thyroid extirpation, which symptoms are ameliorated by injections of pituitary extract.³¹

The pituitary body is, I believe, always diseased in acromegaly. I believe that acromegaly is probably in the beginning always a condition of giantism; in other words, sooner or later in every case of giantism the condition of acromegaly or asymmetrical growth will more or less markedly develop. I believe that the pituitary furnishes a secretion which has something to do with the normal growth of the body, and that giantism is due to a hyper-secretion of the pituitary, and that acromegaly is due to a disordered secretion of this gland.

In well-marked cases of acromegaly, the pituitary is generally found in an adenomatous or sarcomatous condition or in cystic degeneration. Reported cases of tumor growths in the sella turcica without symptoms of acromegaly probably had normal secretion furnished by some portion of this gland, as has been so many times instanced in tumors of the thyroid, pancreas and suprarenals.

The relationship of the hypophysis to the thyroid gland we do not know, but it is interesting to note that in many cases of thyroid disease the hypophysis is hypertrophied, and also in most cases of acromegaly, I think always, the thyroid is found enlarged.

I have tried pituitary feeding in three cases of acromegaly. In the first case the disease was in the very last stage, and as I treated him at a distance, and as he died in three or four months after I first saw him, I was unable to note the results of the treatment. In the second case the persistent headache and a considerable amount of the hypertrophy of the lips, hands and feet disappears under the pituitary treatment. If the pituitary is stopped, these symptoms again return to again disappear on return to the treatment. This case has also been greatly improved in muscular power since beginning the pituitary tablets. The third case, which is in the beginning of the condition, although the symptoms are well marked, is in the case of a boy 15 years old, who has been a semi-idiot all his life, and has lately grown enormously, and gives all of the external marks of acromegaly. About a month ago he developed intense and persistent earache, but examination of the ear could give no cause for such pain. I then began pituitary treatment and the pain has entirely disappeared, whatever this may mean.

It is fairly supposable that with this treatment in acromegaly we can prevent the continued growth of the body and the subjective symptoms of headache, neuralgia, muscular weakness, etc.

Suprarenal.—In 1856 Brown-Séquard³² showed that removal of the suprarenal bodies from animals caused them to die with symptoms of shock, but that feeding of suprarenal tissue to such animals prolonged their lives, but did not prevent death, this being a different result from that obtained in operative myxedema, where thyroid feeding will prevent death. This is in perfect harmony with the later experiments which show that all of the active principles of suprarenal are not absorbed from the stomach and intestines. Later experimentation showed that if the suprarenals were injured by crushing³³ symptoms similar to Addison's disease will develop.³⁴ Addison, as early as 1855, pointed out the relationship between pathological conditions of the suprarenals and profound anemia with brown pigmentation of the skin and mucous membranes.

Schäfer and Oliver³⁵ were the first to show that the medullary part of the suprarenals contained an element which, when injected intravenously, would raise the blood-pressure higher than could be accomplished by any other known substance. Moore and Purinton³⁶

seem to have proved that this crude medullary extract is many times more powerful than any so-called pure product yet obtained.³⁷ They also showed that no blood-raising effects could be obtained from suprarenal administration by the mouth, although this is denied by other observers.

It is interesting to note that this active blood-raising principle is absent from the suprarenals of the human fetus,³⁸ although we do not yet know the exact age at which this gland furnishes such a secretion.

Boruttau³⁹ says that when dilatation of the arterioles has been caused in the muscles by their activity, the suprarenal secretion causes vasoconstriction, especially of the splanchnic system, which gives compensation and protects the brain and spinal cord from anemia, as the thyroid gland protects the brain from hyperemia. This may be an explanation of the sudden stupefying hyperemia which occurs when severe and violent muscular exercise is suddenly stopped, as is seen so many times in the crew of the racing boat after the finishing point has been passed.

The literature on the subject of the relationship of Addison's disease to the suprarenals is vast,⁴⁰ but we have Addison's disease with degenerated suprarenals and with intact suprarenals, and extensive degeneration of the suprarenals without Addison's disease, showing, like the relationship of diabetes to the pancreas, that there may be several functional or pathological causes for the condition, one of which seems to be unquestionably the disease of the adrenals. This has been well pointed out by Adami.⁴¹ It is interesting to note that in Addison's disease with degeneration of the suprarenals an extract of this gland is devoid of any blood-pressure raising element.

Through Dr. Bates'⁴² and Dr. Swain's³³ efforts, the action of suprarenal extract in the eye and nose, respectively, is pretty generally understood.

The writer has had repeated success in aborting follicular tonsillitis by cleansing the tonsils with a saline solution, swabbing with peroxid of hydrogen, and then spraying with suprarenal, and repeating this treatment in twelve hours. The congestive stage of acute urethritis will also be benefited by injections of suprarenal solution. The strength of this solution for local application on the mucous membranes varies from 5 to 10 grains of the desiccated suprarenal to a fluid dram of water.

While the local use of suprarenal is positive, the results of internal administration of this gland are still, in my opinion, problematical, except for the possible absorption of other constituents of this gland than the blood-raising principle. Certainly in Addison's disease suprarenal extract should always be administered for the possible good from the elements of the gland which may be absorbed.

Reasoning by analogy from what we know of the action of the thyroid, we can believe that the secretion from the suprarenals could be so decreased as to give typical Addison's disease, or any degree between the normal and that degree of diminution, and give symptoms accordingly. Also it is reasonably supposable that these glands could furnish a hyper-secretion similar to a Graves' thyroid disease when the symptoms, instead of being those of vasodilatation as in the latter disease, would be of persistent high blood-pressure. It is barely possible that a hyper-secretion of this gland is one of the causes of general arterio-sclerosis and gout.

Moderate feeding of thyroid extract in these conditions, as stated under thyroid, not sufficient to produce

much loss of weight; in other words, in very small doses, might be a physiological antagonist of no mean value in preventing trouble from high blood-pressure.

Unfortunately I do not find that we can raise the vascular tone or combat cardiac weakness with suprarenal extract given by the stomach or hypodermically. On the other hand, strong solutions of it should be used for any capillary bleeding surface that can be reached, such as the stomach, large intestine, rectum, bladder, vagina, and perhaps uterus, for mucous membrane congestion, cancer, etc. From the uterus or bladder I should advise its being washed out in a short time on account of the decomposition of the suprarenal extract which soon takes place.

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Tetanus Infection Through the Nose.—Experiments have been reported by Thalmann, from the Leipsic Institute of Hygiene, in which it was found impossible to induce tetanus infection through the sound or even the diseased alimentary canal or urinary passages, but that nasal lesions afforded favorable conditions, also catarrh. Tetanus germs or toxins can be inhaled without infection if the air-passages are sound. In idiopathic tetanus in man, therefore, he suggests (*Berliner klin. Woch.*, January 28) that the entering point of the infection should be sought for in the nose.

TREATMENT OF ADDISON'S DISEASE.

WITH CASE.*

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On Nov. 11, 1898, a lad, 19 years of age, came under my care in the out-patient department of the Medico-Chirurgical Hospital of Philadelphia. The history which he gave was rather indefinite and incomplete. He seemed to be an unobservant youth and was probably rather below the average in intelligence, although this slight deficiency may have really been due to the disease with which he was afflicted. He was a mill operative by occupation. His weight at that time was 122 pounds, and he was about 5 feet 5 inches in height. He stated that within no long period he had lost about 5 pounds. The lad belonged to a tuberculous family and his mother had died of pulmonary involvement when he was about one year old. The patient gave a vague account of having had chills about a year previously and at the same time he suffered from pain in the back and limbs. He had not received any injury. About ten days before he presented himself for treatment he had experienced an attack of nausea and vomiting. There was also some cough. Nevertheless, he did not realize that he was seriously ill, thought himself as strong, or nearly as strong, as ever and went to work every day. His pulse was 102 and rather weak, but not extremely so. At this time he complained of lumbar and abdominal pains. He was decidedly nervous. The apex of the heart beat tumultuously against the chest. The face of the patient was of a very pronounced dark reddish-brown, or bronzed, hue. Even the hair was dry and of a similar tint. Discoloration of the skin had existed for a year. It first appeared as dark blotches upon the forehead, whence it spread to the cheeks and other parts of the face. The blotches gradually extended and became confluent, until finally the bronzing was entirely symmetrical. No other portions of the body were thus affected, except the forearms and hands. With the exception of the discoloration there were no other alterations of the surface. The trunk and lower limbs were of a peculiar deep-yellow color. Upon the mucous membrane of the mouth were some small purplish spots. In other respects the mucous membrane was pale and indicative of anemia.

Examination of the sputum and urine threw no light upon the case. The former contained no tubercle bacilli. In the urine were found some pus-cells—leucocytes; numerous crystals of calcium oxalate; some epithelium, probably from the pelvis of the kidney, though possibly from the bladder; a few shreds of mucus; one or two spermatozoa; bacteria, and a few yeast plants.

Diagnosis.—The conspicuous and very peculiar discoloration of this lad's skin furnished a clue to the diagnosis. It was of that distinctive hue which, when once seen, can never be forgotten. The color was that of bronze, that is a deep brown with a tinge of red. It resembled that which may be seen in a machinist's face after a day of toil by the furnace, discolored under the influence of heat, soot and metallic particles. The patient's employment, however, was of a very different kind and did not expose him to such sources of temporary discoloration. The pigmentation, moreover, was indelible and located in the organic substance of the integument.

A disease which produces an excessive deposit of pigment in the rete mucosum is chloasma. This affection of the skin may be due to local or constitutional causes. The latter variety, known as symptomatic chloasma, may depend upon anemia, chronic malaria, tuberculosis, cancer, or chronic disease of some important viscus. Such cases, consequently, present signs and symptoms pointing to impairment of general health and stamping the malady as much more serious than a mere disease of the skin. Symptomatic chloasma is, however, much more common in women than in men. It is associated particularly with altered conditions of the sexual apparatus. It is witnessed in pregnancy and utero-ovarian disease. Our patient was too young to be the victim of carcinoma. It is true that malignant disease attacks the youthful in rare instances, but no form of abdominal growth could be detected and no sharp pain existed. The characteristic hue of cancerous cachexia is a shade of yellow. Chronic malaria likewise imparts a sallow tinge to the skin. Although country people, originally sunburned, acquire a singular hue after having long been sufferers from malaria, yet the surface never assumes that bronzed aspect so noticeable in the patient whose case I describe. Patches of chloasma are generally of an irregular outline; the color may exhibit all shades from light-yellow to nearly black. In fact, the pigmentation may be variously colored on different parts of the same person. Idiopathic chloasma may affect robust individuals and simply present itself as an abnormal distribution of pigment in the Malpighian layer of the skin. Symptomatic chloasma is preceded or accompanied by symptoms denoting serious constitutional impairment.

A bronzed discoloration of the skin is occasionally encountered in exophthalmic goiter, abdominal tuberculosis, diabetes, cirrhosis of the liver and abdominal tumors. These various affections, however, could all be eliminated. There is a condition known as "vagabond's disease," in which the skin assumes a dark-brown shade. The increased deposit of pigment simply occurs in consequence of long-continued irritation by pediculi and scratching of the skin. This discoloration of the surface is not infrequent among tramps.

The prolonged administration of arsenic may produce a diffuse pigmentation varying in hue from brownish-yellow to deep brown. In such instances we should either perceive, or should obtain a history of, other evidences of arsenical intoxication and the patient should have been a victim of some chronic affection, such as malaria or a disease of the skin for which arsenic had been prescribed. This history does not correspond to that of the present case. The indelible stain of the skin and mucous membrane caused by silver when given for too long a period need only be mentioned. The discoloration of argyria is a bluish-gray and bears no likeness to the dusky hue observable at a glance in the subject of this paper. A bluish line due to deposit of silver is also seen upon the gums and mucous membrane of the mouth.

Chloasma generally occurs in patches, although these may extend and coalesce until large tracts are involved. As a rule, however, the discoloration is not as diffuse as in the case of which I speak. After having excluded other sources of discoloration, the diagnosis of Addison's disease was made. I have, indeed, witnessed some cases of chloasma in which the pigmentation was so diffuse that they had been mistaken for Addison's disease by experienced observers. Even in such extreme instances, however, minute inspection will reveal traces of de-

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marcation which originally separated patches of disease from the healthy skin. When the bronzing is decided it is not, in fact, usually difficult to recognize Addison's disease. The task of identification is not so easy, however, when this distinctive discoloration is absent. There are some clinical features which justify us in suspecting the existence of Addison's disease prior to the appearance of the pigmentation. One of these is marked and progressive anemia in the absence of the usual causes of that condition of the blood. The conjunctivæ and other mucous membranes are decidedly pale. There is, furthermore, a debility so extreme as to cause syncope upon the slightest exertion or even when the patient is at rest in bed. The power of resisting fatigue is almost absolutely lost. The tracings of Mosso's ergograph show the curve falling away suddenly, differing altogether in this respect from other wasting diseases, even from pulmonary tuberculosis. From leukemia and pseudoleukemia the early stage of Addison's disease may be distinguished by the absence of enlargement of the spleen and lymphatic glands. Other symptoms suggestive of Addison's disease are palpitation of the heart, dyspnea, loss of appetite, nausea, vomiting, epigastric pain and other evidences of gastrointestinal disturbance.

Etiology, Pathology and Pathogenesis.—Addison's disease results from lesions which interfere with the functional activity of the suprarenal glands. These ductless bodies doubtless perform a function important to the nutritive processes. When both are removed from frogs the animals perish, although if one is left in place the subject of experiment survives without hypertrophy of the gland which is spared. The removal of one gland from guinea-pigs is often fatal and ablation of both always causes death, according to Brown-Séquard. The adrenals are highly organized structures, abundantly supplied with blood-vessels, lymphatics and nerves. Swale Vincent¹ writes that the adrenals are regarded by the best authorities as double glands, the medullary portion being derived in some way from the sympathetic system and the cortical substance being related to the reproductive system. Both the cortex and medulla are composed of glandular tissue. The organs are supplied by the solar and renal plexuses. In the majority of autopsies of patients who died of Addison's disease fibro-caseous lesions due to tuberculosis have been found in the suprarenal bodies. In other cases the glands have undergone simple atrophy. In a third class there was interstitial inflammation, leading to atrophy. In some instances malignant disease had invaded the capsules; in others they contained extravasated blood. Finally, in a certain number there was no lesion of the suprarenal bodies themselves, but the semilunar ganglion was compressed or inflamed. This disease of the sympathetic may have led to atrophy of the adrenals. M. Raymond, in March, 1892, reported to the Medical Society of the Hospitals, the case of a woman, 27 years of age, who died from Addison's disease. In front of the spinal column was a hard, bosselated ganglionic mass, which extended from the diaphragm to the promontory of the sacrum. The right semilunar ganglion was adherent to the ganglionic mass; on the left side the structures were fused. The right semilunar ganglion was sclerotic; the nerve cells were pigmented and vacuolated; some were atrophic. The spinal cord and suprarenal capsules of both sides were intact. The relationship between the sympathetic system and the suprarenal glands is also shown by the fact that stimulation of the splanchnic nerve stimulates the activity of the glands under consideration. Tumors in this situation, however,

do not always give rise to the symptoms of Addison's disease. Vincent concludes that the medullary substance of the suprarenal glands contains an active toxic principle specific to themselves and found in no other tissue. Concerning the physiological function of the adrenals two theories have been advanced. A French school of observers argues that the office of these organs is to destroy the toxic substances which accumulate in the blood as a result of the tissue changes which go on in the body. On the other hand, Oliver and Schaefer, as a consequence of their experiments and studies, believe that these organs elaborate a secretion which is taken up by the blood and is of importance to the nutritive processes of the body. They conceive that the internal secretion has a direct influence upon the muscular tissue, both of the striped and unstriped variety. Professor Howell, of Johns Hopkins University, indeed, accepts the hypothesis fully, and in a paper read before the New York Academy of Medicine, in April of this year, states that it has been demonstrated conclusively that the adrenal vein contains more of the secretion than the other veins of the body. Swale Vincent suggests that the two theories are not so antagonistic as has been usually believed, and that the secretion of the capsules may destroy waste products of muscular metabolism and may also form an active material by means of which an increased muscular tone is produced.

It has been found experimentally that the intravenous injection of suprarenal extract causes a very remarkable constriction of blood-vessels by its direct influence on muscular fiber. This action occurs even when all the nerves leading to a part are cut. Contraction of the caliber of the arterioles causes an enormous rise of blood-pressure. The muscular substance of the heart is also directly stimulated. The decided rise of arterial tension was confirmed by Prof. Isaac Ott, in his valuable experiments relative to the animal extracts, performed in the physiological laboratory of the Medico-Chirurgical College, his subjects being rabbits. Large doses of the extract excite the pneumogastric center, the consequence of which is that while the auricles continue to beat, the contractions of the ventricles are arrested. Other effects of these injections are paresis, paralysis, hematuria, hemoglobinuria, convulsions and low temperature, the paralysis being of central origin. It is thought that the vasoconstrictor action is probably due to the substance lately isolated from the medullary glandular substance by Abel, and termed epinephrin. Whether the central effects are caused by the same principle is as yet unknown. The experimental evidence appears to indicate that a healthy condition of the suprarenal glands is essential to the nutrition of muscular tissue and serves to explain the extraordinary debility characteristic of Addison's disease, in which the functions of those glands are inhibited.

A second point of clinical and pathological interest relates to the source of the coloring matter deposited in the skin and mucous membranes of patients suffering from Addison's disease. Pfoerringer² has recently reported a case in which he particularly studied the abnormal pigmentation. Nothnagel, Riehl and von Kahlen had already referred the origin of the pigment to the blood. Pfoerringer found in the capillaries supplying the papillary layer of the derma collections of pigment granules, some of which were free and others were situated in the interior of leucocytes. This author hesitates to draw any conclusions in reference to the manner in which pigment is produced. In this connection MacMunn's experiments and conclusions are in-

interesting and suggestive. This author believes that the function of the adrenals is to select from the blood effete pigments with their accompanying proteids, viz., hemoglobins and the histohematin. This points us to their origin in the iron-bearing and oxygen-bearing erythrocytes, or red corpuscles of the blood. Consequently, disease of the adrenals themselves or, possibly in some cases, suppression of their function by disease of the great abdominal plexuses of the sympathetic, allows these pigments to remain in the blood unaltered, from which they are deposited in the skin and mucous membranes. It assists us also to comprehend the anemia which accompanies the disease.

In view of all such facts and investigations how are we to explain the case reported in 1896 to the French Congress of Medicine, by Dr. A. Rispal, of Toulouse? The patient was a man, 24 years of age, healthy until ten months previous to death, during which period he became afflicted with pigmentation of the skin and mucous membrane, progressive asthenia, and gastrointestinal difficulties. At the autopsy there was no visceral tuberculous lesion; there was said to be congenital absence of both suprarenal capsules; the branches and ganglia of the abdominal sympathetic nervous system were entirely unaffected. Dr. Rispal stated that he had found a record of two similar cases. Is it possible that in these cases there were accessory glands which had escaped notice at the autopsy?

Treatment.—Until a few years ago the treatment of Addison's disease was most unpromising. We stood in its presence almost utterly devoid of hope. It was formerly the custom to administer iron, arsenic, strychnin and other reconstituent remedies with the view of making a favorable impression on the blood and nervous system, but it seldom exhibited any efficacy. Agents for the relief of vomiting, diarrhea, pain and other symptoms were given according to indication. Now and then a case may have been benefited. A few are said to have recovered. I find the record of a case presented by Dr. Nenmann³ to the Berlin Society of Internal Medicine. The patient was a man, 57 years of age, who had been suddenly attacked, fourteen days before he was brought to the Moabit Hospital, by somnolence and weakness, with bronzing of different parts of the skin and mucous membrane. The patient was treated by means of the continued current and iron. The man gradually, though slowly, improved and it was not until two years from the beginning of the attack that he was able to remain out of bed all day. He then began to recover rapidly and during the following year he was able to resume his occupation. The skin gradually grew paler, the spots disappeared and at the date of the report, six years after his return to work, the color was normal. This fortunate result, however, can only be looked upon as very exceptional. Guided by the analogy between ductless glands and the brilliant effects of organotherapy in myxedema and cretinism, it was proposed that an analogous method should be attempted in the treatment of Addison's disease. The idea was advanced that the use of suprarenal extract might be found to have a beneficial influence in the last-named malady. Accordingly, it was determined to make use of the extract of the adrenals in the case of which I now write.

In view of the marked asthenia, with the tendency to dangerous syncope, which are such prominent features of Addison's disease, this patient should, either at his own home or the hospital, have been confined to his bed. In this respect, however, we could not control our patient. He was a poor, working lad and felt himself

obliged to remain at his employment as long as his strength permitted. Moreover, he did not realize the gravity of his condition. To him it seemed rather a matter of curiosity that his skin should be turning so dark. As the most promising means at our command, he was immediately placed upon the suprarenals in the form of an extract. Each tablet contained 5 grains. Of these two were given each day, and the number was gradually increased. Under this treatment he began to improve. On Jan. 6, 1899, he was again brought before the class and it was noted that the nausea, vomiting and cough had disappeared, while the discoloration of the skin seemed less decided. On January 20 the report was still favorable. The bronzing was thought to be a shade lighter and the general condition was fairly good. This encouraging progress, apparently in response to the treatment, continued until the beginning of March, 1899, that is, for about three and a half months. During the first five weeks of this period the patient gained 6 pounds in weight and improved a little in strength. There was considerable amendment in the state of his digestive apparatus. Unfortunately, this amelioration was not destined to a long duration. The youth was suddenly attacked by severe pain in the left part of the epigastric region, extending into the left hypochondrium and around into the back. At the same time there was almost incessant vomiting, which was much aggravated when either solid or liquid food was taken. The patient lost flesh rapidly, medicine was without avail and at the end of the third day his sufferings were ended by death.

Post-mortem Examination.—The body was very much emaciated. The areas of discoloration were of a pronounced bronze hue, as has been described in the foregoing history. The right and left pleuræ and the pericardium were normal. The heart was slightly smaller than normal. There was no disease of the valves, but the myocardium was somewhat soft and flabby, showing marked fatty degeneration. The left lung was crepitant, with some hypostatic congestion at the base. The apex showed a few small encapsulated tubercular areas. These did not appear to be active, while in close proximity were evidences of a previous inflammation, possibly also tubercular in character. In the apex of the right lung were several sclerotic areas which had formerly been of the active tubercular type. The liver was fatty and of about normal size. The spleen was unaffected.

The suprarenal glands were only slightly enlarged. On section it was found that they had undergone more or less change throughout; some portions were hard while in others caseous degeneration was quite marked.

The stomach and intestines were normal. The right kidney was slightly enlarged and congested. The left kidney was about two-thirds the normal size; its pelvis was large; the left ureter was much thickened and of double the normal caliber. The opening of the ureter into the bladder was also very large, being at least thrice the natural size. No obstruction was observed in the ureter to account for this peculiar condition. The glands of the mesentery were likewise enlarged and showed caseous degeneration on section.

Remarks.—From the findings of the autopsy it would appear probable that there had originally been a primary tubercular process in the apex of the right lung and that this had healed. The suprarenals were subsequently involved and implication of the left lung followed, although it is possible that the condition in the suprarenals might have been secondary to the disease in the right lung and have remained latent for a time. The lesions of the right lung were certainly old.

This case agreed with the majority in being of tubercular origin and nature. The suprarenal capsules were not enlarged so decidedly as in most instances. The semilunar ganglia were removed for microscopical examination. The small size of the heart was also observed in a case under the care of Dr. F. Buzzard⁴ at the Northampton General Infirmary. The patient was a man of 40 years and the suprarenals were extensively destroyed by tubercular disease. The heart was so small that it was rather to be compared to that of a child of 14 than of an adult.

The result of the treatment of Addison's disease by ingestion of glandular extract is by no means so uniform and satisfactory as that of myxedema. The evidence is, indeed, of rather a conflicting character. In some cases improvement has taken place; in other instances the method has failed. In a series of cases treated in this manner Oliver reported 6 cured and 22 improved. Professor Osler⁵ has described the case of a man who had exhibited symptoms of Addison's disease for two years and whose sputum contained tubercle bacilli. Notable improvement occurred from the use of suprarenal extract. At the end of five months he had gained 19 pounds, was active and vigorous. The pigmentation, however, was unaffected. Three months later he remained well and was free from cough. I am not informed as regards the subsequent history.

Dr. L. W. Schwab⁶ observed the extremely rare occurrence of two cases in the same family, which was free from tubercular tendency. The patients were brothers and resembled each other closely in habits and temperament. One of these was treated by extract of the gland for two weeks, but the agent had to be suspended on account of other symptoms. In a case described by Dr. C. W. Suckling⁷ the same plan of treatment was followed by a very satisfactory improvement. The patient was a man, 40 years of age, who for three months had frequently fainted, and for seventeen nights consecutively had even fainted while in bed. The man suffered from nausea, great prostration, pigmentation and leucoderma. He was given tabloids containing 5 grains each of suprarenal gland substance, beginning with two and gradually increasing as long as they caused no ill effects. After taking them for a month the patient was no better and still fainted. The quantity was again raised until he was taking 35 capsules daily when he complained that they caused pain in the back and made his tongue sore. He had, however, gained strength. The remedy was continued, but in smaller doses. At the end of the eighth month of treatment he reported that he had not fainted for six months. Thirteen months after he first came under observation the man was perfectly well. The pigmentation and bleaching were almost gone. The pulse was normal and he could do a heavy day's work.

No conclusion could be drawn from the interesting case published by Dr. Gilbert Tyson Smith,⁸ as the patient was already in a desperate condition when first seen. A woman, 46 years of age, but looking much older, had been ill for two weeks prior to coming under Dr. Smith's observation. Pigmentation was not present until the sixth day of attendance and she died on the eighth. The woman was doomed and nothing could have saved her life. The case was remarkable by reason of its rapid course. At a meeting of the Medical Society of the Hospitals, M. Bécclere⁹ exhibited a patient, 28 years of age, who, in addition to pulmonary tuberculosis, had for three years presented signs of Addison's disease. The patient had been treated by means of suprarenal glands by the mouth and subcutaneous injections of a

glycerin extract of the glands. The woman was benefited and at the end of three years the discoloration had almost entirely disappeared. The general condition was very good. At the same meeting M. Widal spoke of a case in which decided, though temporary, amelioration resulted from the same mode of treatment. The patient gained strength but the pigmentation was unaltered. M. Haymen also referred to a case in which there was temporary improvement without any change of color. Grainger Stewart encountered a case in which suprarenal extract was ineffectual. Dr. Middletown, of Glasgow, writes of one case in which there was some diminution of pigmentation from the use of the extract of the gland.

My own patient, whose case forms the foundation for this communication, was rather younger than the average sufferer from Addison's disease. This malady occurs most frequently in men and generally between the 20th and 40th year of life. Addison's youngest patient was 24 years of age. The affection is rare, but not altogether unknown among children. In an inaugural thesis on this disease among children Dr. H. Dezirot states that one case has been observed in a babe of seven days, and one in a child of 3 years. Osler mentions one in which the disease was congenital and the child lived eight weeks; the adrenals were large and cystic. The disease does not commonly develop among children until about the age of puberty. As among adults, most juvenile patients are male. The affection generally begins with ambiguous and insidious symptoms, but without pigmentation. Darier witnessed pigmentation as the first symptom in a child of 10. Addison's disease sometimes begins in young subjects with convulsions, chorea, chlorosis and heart trouble, and is often preceded by tuberculosis of the lungs, kidneys, glands or joints. Pigmentation usually occurs at the end of several months. In six of Darier's cases among children ingestion of suprarenal glands produced temporary improvement in two, but both patients eventually died of the disease. In three cases there seemed to be slight amelioration. The results of organotherapy would, therefore, appear to be as doubtful among children as in adults. Dr. Bury¹⁰ has described a case of Addison's disease which had existed for a year in a child of 13. The surface was deeply and universally discolored. This patient was given a glycerin extract of the gland, but with no effect, as she died nine days after coming under Dr. Bury's care.

In contrast to the marked bronzing which occurred in my patient there was but slight discoloration of the mucous membrane. It is noteworthy that other anomalies of pigmentation sometimes accompany the distinctive discoloration. Thus, in Dr. Buzzard's case, "in contrast to the general darkening of the skin there were patches of pure white. . . . The margins of the various patches were even more deeply pigmented than the surrounding skin, the appearance suggesting that the pigment had been carried out and heaped up peripherally." Dr. Suckling's patient exhibited both pigmentation and leucoderma. Moles sometimes occur. Renner draws attention to numerous wart-like eminences which he has perceived scattered over the surface. He also states that some cases are attended by atrocious itching. In a contribution to the study of Addison's disease, Dr. Raffaele Caporali¹¹ mentions, among other points of special interest, in a case under his care, the variable intensity of the bronzing according to the patient's general condition, the pigmentation of the finger nails, and that the regions usually bronzed were but little affected. Dr.

Tyson Smith's case was notable for the abruptness and rapidity with which the "bronzing broke out"—an eruption, indeed,

Though there was pain in the back there was no history of a blow or other injury in the case which I now report.

Addison's disease is not infrequently preceded by a traumatism of the back or abdomen. This may perhaps act as an etiological factor, for the experiments of Schneller have demonstrated that tuberculous disease will locate itself on a site, the vitality of which has been depressed by an injury.

In concluding this study, although I would advise that in all cases of Addison's disease it is proper to make trial of this suprarenal extract, yet as most cases depend upon tuberculosis of the adrenals we can scarcely expect that the extract can cure cases in which the tuberculous process is advanced or active. In earlier stages it may be beneficial by supplying necessary elements to the blood. It has undoubtedly in certain cases achieved very excellent results. The cases in which organo-therapy are useful are probably those in which there is a certain amount of atrophy, sclerosis or inflammatory alterations, but in which a portion of the gland or glands are still functionally potent and in which the ingested extract may come to the assistance of disabled but not totally destroyed organs.

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DISCUSSION ON PAPERS OF DRS. OSBORNE AND SHOEMAKER.

DR. A. BERNHEIM, Philadelphia, mentioned a case he had had under treatment since last February—one of an acute vasomotor ataxia in which he had used suprarenal extract up to 60 grains a day with very good temporary results. The heart sometimes got up to 130, 140, 150, and one time to 160 in one minute, but while taking the extract it came down to below 100, and the tremor subsided, though there was excessive perspiration. He was a young man, 24 years of age, who had to change his shirt twenty to thirty times in the twenty-four hours. He weighed the shirt one day, and found that the difference between the dry and the wet shirts was up to 260 grams respectively. In connection with other treatment the patient has entirely recovered.

DR. J. C. MELVILLE, Grand Rapids, Mich., said that in his section of the country there are few cases of exophthalmic goiter and but few of cretinism. In a case of cretinism treated by thyroid extract, he observed the most marvelous effect from any therapeutic agent that he has ever seen; there was loss of weight, with clearing of the mental faculties, and return of ordinary intelligence; the progress was gradual but decided and uniform. In exophthalmic goiter, he has used the suprarenal extract with good results, in only one case. In a case of profuse menstruation, with very rapid pulse, the disease had existed for about a year, and many other lines of treatment had been followed without benefit. In regard to dosage, he said that he used 5-gr. doses of the suprarenal extract several times a day, for twenty-one days.

DR. E. W. MITCHELL, Cincinnati, Ohio, said that he had had experience in the treatment of two cases of exophthalmic goiter in which he used the thymus extract with apparently good results. One of these cases was that of a seamstress in whom the exophthalmus was marked. Having tried other remedies without any result, he put her on thymus extract with almost immediate improvement. The tumor, which had been very large, became smaller, the appetite improved, but the tremor was not improved and the pulse-rate was not much changed. He then put her on 25 to 30 grains of hydrobromate of quinin daily, and she made a very good recovery; the exoph-

thalmus, however, is still considerable, but is subsiding under the administration of galvanism. In another woman, in whom quinin was inadmissible on account of ear trouble, marked improvement followed administration of thymus extract.

QUANTITATIVE TESTS FOR PROTEOLYSIS.*

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It is a remarkable fact that, after ten years' scientific—or, at least, experimental—study of the stomach, none of the methods of chemical examination of gastric contents in common use deals directly with the prime function of this organ. We draw inferences from the rapidity with which the stomach passes its contents into the intestine, often relying on fallacious tests, such as that with salol. We measure as carefully as possible the hydrochloric acid that is present in excess of that functionally active, and assure ourselves that more ferment has been secreted than has been utilized. We note how much or how little the gastric secretion has interfered with the digestion of starches by ptyalin. We quantitate and qualitate abnormal accompaniments of digestion. In short, we tax our ingenuity to investigate all the circumstances and accessories of gastric digestion and ignore the direct question as to how well or how poorly the stomach has discharged its prime function of converting albumins into peptone.

The text-book methods of distinguishing one form of proteid from another are not adapted to clinical use. So far as the proteids which may be differentiated in the course of gastric digestion are concerned, no authority—so far as the writer has been able to learn—has attempted a quantitative analysis in the strict sense of the term, although many works on organic chemistry describe the reactions of acid albumin or syntonin, and the subsequent forms which proteid matter assumes during peptic digestion. In these manipulations, however, it is assumed that a comparative abundance of raw material is at hand, a condition which does not exist for the analyst of stomach contents and, explicitly or implicitly, the aim of such manipulations is merely the preparation of a bulk of more or less pure organic substances. The analytic chemist or the clinician, on the other hand, rarely desires a commercial product; he does not insist that analysis shall literally break up a mixed mass into its components, but only that the kind and proportions of these components shall be indicated. It is interesting to note how completely this practical object has been ignored by various writers who have considered the chemistry of gastric digestion, and how utterly lacking are the warnings that would have been indelibly stamped on the memory of any one who had attempted to estimate the proteids of digestion, with the object of obtaining clinical information.

Dr. Arthur Gamgee, in his most interesting and valuable work on "Physiological Chemistry," devotes pages 114-144 of Book II to the consideration of the nature, constitution and reactions of the products of digestion of proteids. In this discussion, he quotes from a considerable number of authorities, yet not a single quantitative statement as to proteid digestion is made, except as to the total dissolving power of pepsin under artificial circumstances. Pages 178-187 (including other pages by reference) are devoted to "Laboratory Work Connected with Gastric Digestion," and nine dis-

* Awarded First Gold Medal in Medicine, by the Prize Committee of the AMERICAN MEDICAL ASSOCIATION, at the Fifty-first Annual Meeting, held at Atlantic City, N. J., June 5-8, 1900.

inct methods of research are described in detail, but there is not a hint that any one might wish to know what the stomach had actually accomplished in the digestion of proteids.

Ewald's "Diseases of the Stomach," first American edition, 1892, contains an elaborate table of reagents precipitating syntonin, albumose and peptone, but no warning is given of the quantitative difference in "propeptone" (albumoses) according as various reagents are used, nor to the obstacles to the use of mercuric salts and tannic acid, as will be explained later. On page 44, the absence of "propeptone" during the digestion of meat is noted and, on page 45, the subject is brought to a climax as follows: "According to our present knowledge, it is of considerable value to determine and estimate quantitatively, not alone the final but also the intermediate products at any given stage of digestion of albumin." Here the subject is dropped, except for an allusion to the possibility of drawing deductions from various qualitative tests. Nowhere in the clinical chapters is reference made to this matter, in spite of its "considerable value." The writer confesses that for some years he conscientiously tried to estimate by the bulk of albumin precipitated by boiling, by the ring of albumose above nitric acid and by the amount of peptone and albumose precipitated by a final reagent, how well or how poorly the stomach was performing its function and that he occasionally referred with judicious vagueness to the importance of thus estimating proteid digestion. This period of self-deception passed and the method described in the present paper is due to an effort to obtain, at least, results that are objectively correct though not necessarily so important as to solve all the mysteries of the physiology of the stomach. In the second American translation of Ewald's work, prepared by Manges in 1896, Boas' statement as to the absence of propeptone in the digestion of meat is modified to apply to "that portion of propeptone which is precipitated by rock salt and acetic acid." The importance of noting the amounts of the various products of proteolysis is less emphasized, probably because the impossibility of drawing deductions from qualitative tests had become apparent. In accord with most modern authorities, this second edition mentions ammonium sulphate as the most complete precipitant of albumoses (propeptone) and the opinion is also expressed that very little genuine peptone is formed during gastric digestion. Hemmeter and other authors who have written on the stomach practically ignore the possibilities of quantitative analysis of the proteids of gastric digestion and the few allusions to the subject that may be found in medical periodicals are lacking even in the claim of practical experience in this direction.

Before proceeding to a description of an approximately accurate clinical method of estimating the amounts of proteid present in the stomach contents, in the three easily recognizable stages of digestion, a brief review of the physiologic function of the stomach may not be out of place. Gastric digestion is largely mechanical and, in this respect, deals with all kinds of foods, without reference to chemic classification, but according to their histologic structure, cohesion, solubility, etc., to the end that the entire mass of food may be reduced to a fairly homogeneous pulp. In regard to secretion, the stomach is passive as regards fats, to some degree inhibitive of carbohydrate digestion, active only for proteids and certain closely allied nitrogenous substances, such as hemoglobin, collagen, etc. While fats are essentially foreign bodies in the stomach, starch

digestion may, under certain circumstances, be even more complete than proteolysis, though the small reliance placed on either salivary or peptic digestion is evidenced by the fact that the pancreas normally completes the unfinished part of both starch and proteid digestion. According as the meal is small, easily digested and liquid, rather than hearty, mixed and solid, gastric digestion becomes important as compared with pancreatic. Thus, after a meal consisting of a cracker and a cupful of beef-juice, probably nine-tenths of the proteid is peptonized in the stomach; after an ordinary dinner, probably nine-tenths of the work falls to the pancreas. Salivary digestion may be very important if mastication is deliberate and if food is not taken too hot. Under ordinary circumstances it is of very little practical importance. As the stomach empties into the intestine little by little, the first chyme to pass the pylorus is relatively undigested, then the successive outputs become more and more thoroughly freed from proteid by digestion, until, finally, the pylorus relaxes to allow the passage of the practically indigestible residue. This last may be decomposed by bacteria; cellulose giving rise to methane, and tough fibrous animal tissue to ammonia, hydrogen sulphid, etc. Most of the proteid taken by civilized man is coagulated by previous cooking. The only considerable exception arises from eggs—mayonnaise, egg-nog, etc.—and the albumin and caseinogen of milk. For the last, a special ferment exists, secreted both by the stomach and the pancreas, though what functional activity is left for the pancreatic rennet after milk has passed through the stomach, is not apparent. Reasoning on general grounds, one might suppose that the function of rennet was to insure the coagulation of all albumin ingested in the raw state, but simple experiment suffices to disprove this tempting theory. It is questionable just how far raw albumin follows the typical course of proteolysis. Dr. L. Duncan Bulkley's hypothesis that raw milk may be absorbed undigested is not proved, while it has been proved that this is not the usual occurrence. Raw egg-albumin, however, if administered in large amounts, is eliminated as such in the urine, indicating that at least some of it has been absorbed without digestion. Such facts as this—and saccharosuria is an analogous phenomenon on the carbohydrate side—must be borne in mind as qualifications of the general conception that the function of all digestion is to render insoluble substances soluble, so that they may be absorbed.

Peptic digestion requires an acid medium, free acid acting more energetically than acid salts, mineral acid better than organic, hydrochloric acid best of all. This fact should be considered therapeutically as well as physiologically. Under the joint action of pepsin and hydrochloric acid, the changes occurring in coagulated albumin may be divided clinically into three stages: 1, the production of soluble acid albumin or syntonin; 2, the formation of albumoses or propeptone; 3, the formation of peptone. The exact transformations during proteolysis are so differently stated by different chemists—or by the same chemist in different editions—that no attempt will be made to bring them into harmony with the three demonstrable stages, nor can the moiety theory be applied clinically with our present knowledge.

The method of proteolysis here proposed, depends upon the separation of proteids into the three groups mentioned and on the estimation of the bulk of moist precipitate by the centrifuge. The method is comparatively inexpensive, easy and expeditious and it seems to be sufficiently accurate for clinical purposes. It

must not be forgotten that a moist precipitate is very different from an anhydrous product. For example, the most compact moist precipitate of albumin which the writer could obtain by prolonged centrifugalization, contained 75 per cent. of evaporable water. As chemicals are necessary for precipitating albumose and peptone, foreign substances are introduced and, as will be shown later, the bulk of precipitate varies enormously according to the reagent used. Thus, the same technique must be used in successive experiments to allow comparison and, as in most other clinical methods of quantitation, a certain degree of empiricism is unavoidable.

The stomach contents, obtained in the usual way, are cooled under the faucet to prevent further digestion. The most tedious part of all investigations on stomach contents is the primary filtration. After trying various funnels, filter papers, cotton plugs and a small porcelain colander, it was found that there were, for practical purposes, only two alternatives: Either there must be a delay of an hour or several hours while filtration in the ordinary manner was going on, or the chyme could be prepared for rapid filtration by centrifugalization. After twenty to forty turns of the crank the chyme would be reduced to three layers. The uppermost, consisting mainly of esophageal mucus and butter, is removed with a swab of cotton. The middle layer is comparatively clear and readily passes through an ordinary filter. The lowest layer consists of the usual gastric detritus, starch cells, bits of muscle, other food remnants, bacteria, cellular elements, etc. Except as a matter of preliminary study, it is not worth while to investigate the sediment. If a search is to be made for organic proof of cancer, gastritis, ulcer, etc., the sediment from the jejune stomach must be used.

With a few exceptions made necessary by the small amount of stomach contents, all investigations by centrifuge were made on an original volume of ten cubic centimeters of clear filtrate. As will be seen by consulting the various tables, there can usually be obtained enough stomach contents at the height of digestion so that 10 c.c. may be used for the estimation of HCl, 10 c.c. for estimating total acidity (both these amounts are of unfiltered chyme), while there will remain just about enough to afford 10 c.c. of clear filtrate and a few cubic centimeters more for qualitative examination for sugar, lactic acid, starch, etc. The chromometric tests for combined HCl and other kinds of acidity are not very reliable. Gastric contents being almost always acid—always in the cases investigated in this connection—it was necessary only to boil in order to precipitate the syntonin. Control experiments with acetic acid showed that there was no appreciable amount of mucin present to swell the result, provided the process of centrifugalization and filtration was carried out as described. In slow filtration, without previous centrifugalization, a small amount of mucin might filter through, but it would not interfere materially with the tests for proteids. Boiling was done in an ordinary test-tube, on account of the thickness of the centrifuge tube. After cooling, shaking and pouring back into the latter, the albumin was separated by revolving 4000 times—corresponding to 200 turns of the crank of the Bausch & Lomb instrument—as rapidly as possible. Further revolving produced no diminution in the volume of the precipitate. As a matter of safety, the centrifuge was placed on a shelf so that the revolving parts were above the head of the operator. The liquid above the precipitate of impacted proteid could be decanted perfectly clear, filtration being unnecessary.

Ammonium sulphate, 1 gram to the 10 c.c., was added to the decantate from the precipitate of albumin, in order to produce saturation and carry down albumoses. To expedite solution, heat was employed and when the last crystal was dissolved, the tube was cooled by immersion in water. Albumose remains in solution so long as the ammonium sulphate solution is warm, but forms a turbidity when the temperature is reduced. While 4000 revolutions suffice to throw down all syntonin, 8000 were necessary in dealing with albumose. In fact, it was never possible, even by prolonged centrifugalization, to produce an absolutely clear supernatant liquid. However, all but the merest trace of albumose could be precipitated by 8000 revolutions. Nitric acid was used as a control test for albumose, after first removing albumin by boiling and filtering. Even when the white ring of the qualitative test was sharp, no appreciable precipitate could be obtained by centrifugalizing the mixture of chyme and nitric acid, the precipitate appearing to dissolve rapidly in an excess of acid. It is well known that the ring of albumin and albumose produced in Heller's test, dissolves gradually. Other reagents for albumose were not employed in this series of investigations, as none of them precipitates so completely the intermediate products of digestion before true peptone is reached, as does ammonium sulphate.

For peptone, a number of reagents have been proposed and, as usual in successive analysis, they also precipitate albumose and syntonin if the latter have not been previously removed. Tannic acid, the writer found to be objectionable while making some qualitative tests, several years ago. A solution rapidly changes to gallic acid, whose therapeutic value, it will be remembered, is due to its failure to produce precipitates with proteids. The preparation of a fresh solution is somewhat tedious and an attempt to save time by adding the powder to the chyme will only result in further delay. Most important of all, tannin precipitates starch, so that it is unavailable in many cases in which the stomach contents are being examined. While tannin does not precipitate erythrodextrin, small amounts of starch may be concealed by the latter so that it is not safe to use tannin as a reagent for peptone unless the iodine test applied to filtered chyme is free from blue, violet or red coloration. Mercuric chlorid and iodid were found to be extremely unsatisfactory as reagents, dissolving with difficulty and producing insignificant precipitates. On account of the tendency of mercuric salts to form compounds or to become reduced in the presence of all sorts of substances, organic and inorganic, one could not be sure that the small precipitate obtainable was really peptone or a peptonate, unmixed with other substances. Tanret's solution of mercuric iodid is stable and convenient, but of doubtful reliability for the purpose under discussion. On the whole, phosphomolybdic acid has proved the most satisfactory precipitant of peptone that the writer has employed, producing a very bulky precipitate, usually between a tenth and a fifth of the total contents of the tube. To avoid adding too much reagent, it is best to begin with about .5 c.c.—Merck's guaranteed solution was employed—and revolve 500 times. On adding another drop, it can be seen whether further precipitation occurs or whether there is already present sufficient of the reagent. Four thousand revolutions suffice to form a firm precipitate, not diminished by further centrifugalization, though it is probable that a more powerful instrument would have reduced the bulk still further.

In some instances, the decantate, after throwing down albumose, was divided into two equal parts, one being tested with phosphomolybdic acid, the other with Tanret's solution or tannin. No concordance could be established between the result by phosphomolybdic acid and that by Tanret's reagent. The precipitate of all forms of proteid by tannin was never equal in bulk to that of peptone alone, by phosphomolybdic acid. This fact aroused the suspicion that the precipitate by the latter might include something else than peptone, for instance the result of a reaction with ammonium sulphate or with some of the numerous inorganic or organic substances contained in chyme. Control tests, however, showed that no precipitate occurred with ammonium sulphate nor with substances present in the stomach contents after precipitation of all proteids by tannin. With normal urine, which contains most of the inorganic radicles and examples of the extractives that might be present in stomach contents, only a blue color was produced, never a precipitate. In several cases of albumosuria—formerly called peptonuria—phosphomolybdic acid precipitated nothing after the albumoses had been removed with ammonium sulphate, though, as was to be expected, heat and nitric acid still left proteids precipitable with phosphomolybdic acid. Entirely aside from these crude experiments, there is good chemic authority that the only substances liable to cause a confusion in using phosphomolybdic acid as a test for peptone in chyme, are alkaloids. It is impossible that alkaloids could be present in the stomach in sufficient quantity during life to interfere with the test for peptone.

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(To be continued.)

Experimental Spinal Cocainization.—The *Cbl. f. Chir.* of February 9, mentions the experimental work of a Russian confrère Golebski, who experimented on forty-six dogs and numbers of frogs, inducing analgesia by spinal cocainization. The results coincide in the main with those observed on man. Frogs first lost their sensibility to the effect of acids on the skin, and retained longest the sensation of simple contact. Electric excitability survived sensibility to pain in dogs. Ataxia of the hind legs always accompanied the analgesia. The temperature rose with large doses of cocain, but this could be prevented by injecting antipyrin with the cocain. He was able to ward off strychnin, pierotoxin and aconitin convulsions by means of this spinal cocainization, and even succeeded in making a stomach fistula on dogs that were not fastened in any way. The *Sem. Méd.* of February 20 states that Carini's experiments on dogs injected with as much as 20 cg. to 1 gm. of cocain, demonstrated changes in the nerve cells afterward, similar to those observed in the spinal cord after temporary compression of the abdominal aorta. These changes are merely brief, transient processes of reaction on the part of the cells, with complete restitution.

ANASTOMOSIS OF THE URETERS WITH THE INTESTINE.

A HISTORICAL AND EXPERIMENTAL RESEARCH.*

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CHICAGO.

(Concluded from p. 738.)

3. URETERO-TRIGONO-INTESTINAL ANASTOMOSIS.

Of the twenty-one dogs operated on, twelve died from peritonitis due to sloughing of the bladder-flap. Four died of peritonitis from other causes, and there were five operative recoveries.

This series of experiments was undertaken for the purpose of studying the changes resulting from the union of the intact vesical ureteral orifices with the intestinal tract. A supplementary object was to simplify Maydl's operation, which seemed unnecessarily complicated. In this series also the operative results were bad, but an entirely new field was being approached, and one slip in technique was responsible for the loss of twelve dogs. I have been unable to find in literature a record of a single dog saved after transplantation into the bowel of the trigonum with its ureteral orifices. Kalabin attempted the operation on five dogs, and Matas two, but they all died of peritonitis. In the first experiments care was taken to preserve the ureteral arteries, which could be seen running close to the ureter and approaching the bladder-wall close to the ureteral orifices. It was assumed that the trigonum, as well as the ureters, was supplied by these arteries. Accordingly, in the first twelve experiments the vesical arteries were tied before cutting out a rectangular flap containing the ureteral orifices. This was done in order to control hemorrhage, which was quite profuse when the bladder was cut across without previous ligation of the artery.

The dogs lived for a number of days, finally succumbing to peritonitis with sloughing of the transplanted flap. The specimen from the twelfth dog was subjected to microscopic examination and the flap demonstrated to be necrotic, although macroscopically it appeared in good condition, and there was no leakage of urine into the abdominal cavity.

The blood supply of the trigonum in the dog was then studied by plaster injections and dissection. It was found that the main blood supply to the trigonum was from the vesical arteries, each of which is given off from the internal iliac artery. These arteries anastomosed with the ureteral arteries, but not freely. This explained why, in the previous experiments, the color of the flap was markedly changed only in those dogs that lived quite a number of days. There was some blood going to the flap from the ureteral arteries, but not enough to nourish it. In the next nine experiments the vesical arteries were preserved, with five recoveries from the operation. Two of these dogs died respectively in eight and twelve days, from abscesses in the abdominal wound, but they proved to be just as valuable for studying the changes following the rectal implantation of the trigonum.

The four deaths were from peritonitis resulting from attempts to unite the vesical flap to the bowel by a simple continuous suture. The result was leakage, peritonitis and death. The operation is difficult to perform on the dog, because of the absence of a sigmoid flexure and the

* Read before the American Gynecological Society, Washington, D. C., May 1, 1900.

difficulty encountered in pulling down the gut to meet the flap. The flap cannot be drawn up beyond a certain point on account of the necessity of preserving the ves-

and the urine evacuated by careful pressure. The urethra is ligated low down; in the male as near the prostate as possible, by passing the ligature inside the

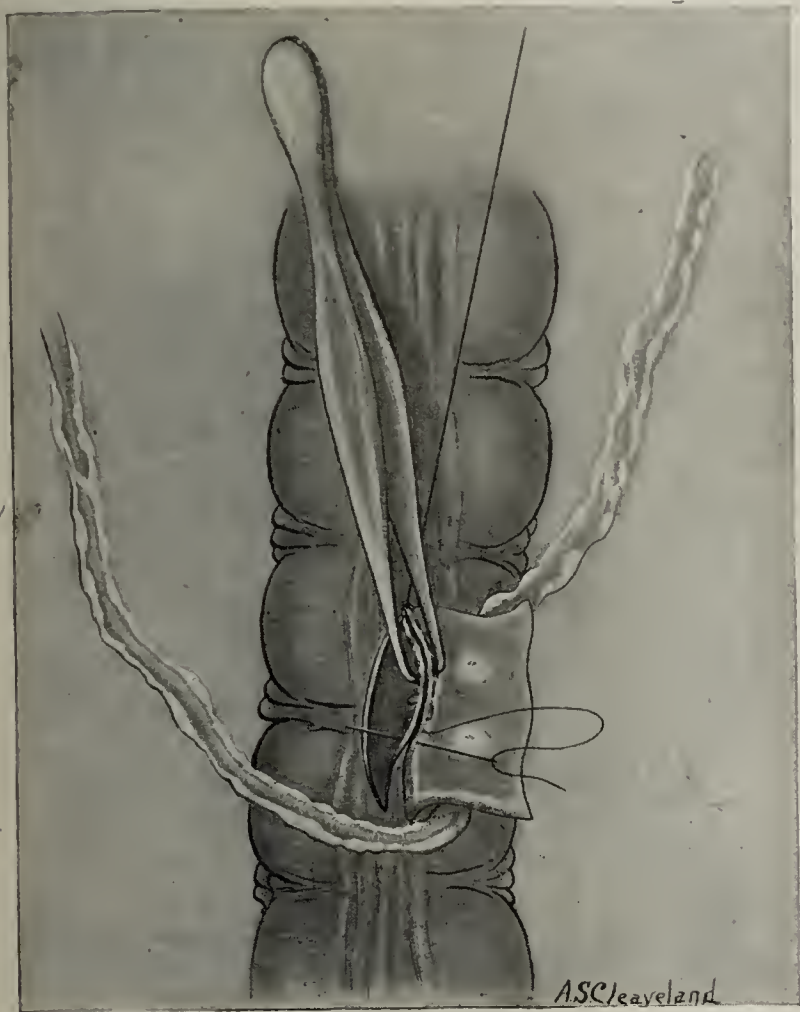


Fig. 16.—Showing incision through intestinal serosa and muscularis. Long margin of vesical flap united to one side of bowel incision by right-angled through-and-through continuous suture.

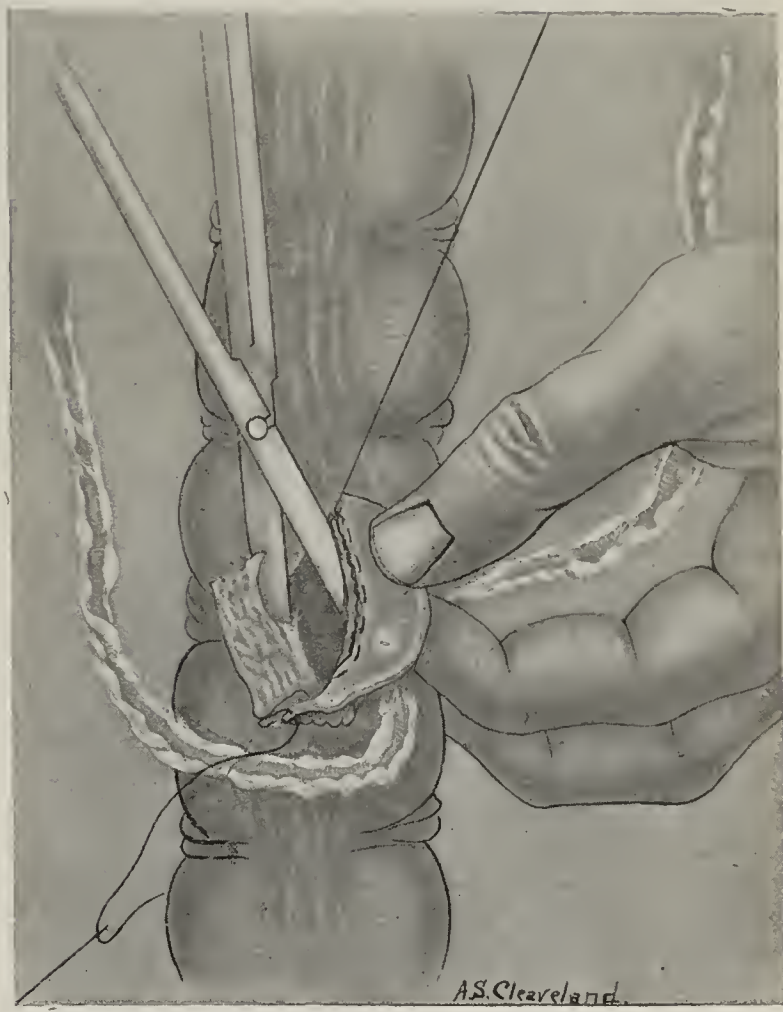


Fig. 18.—Showing the removal of the mucosa by the scissors. Up to this time the bowel has remained closed.

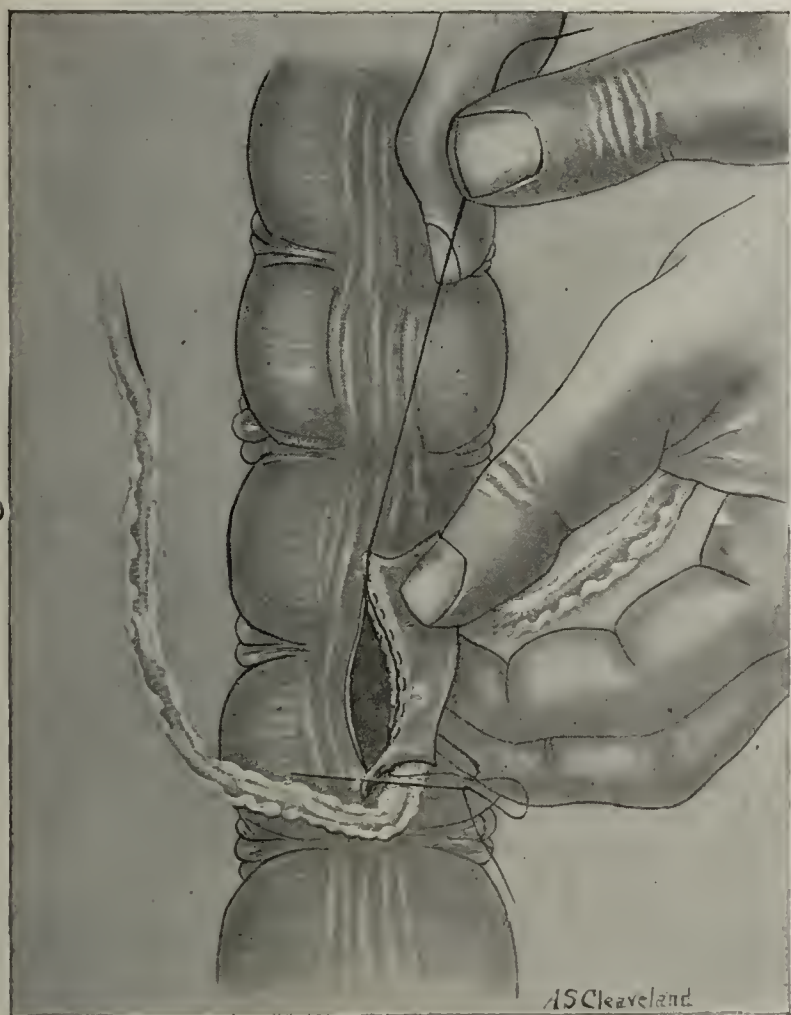


Fig. 17.—Showing method of turning angle and the inversion of the peritoneal surface of flap.

ical arteries which are given off from the internal iliac low down.

Operative Technique Finally Adopted. After opening the abdomen the bladder is brought into the incision

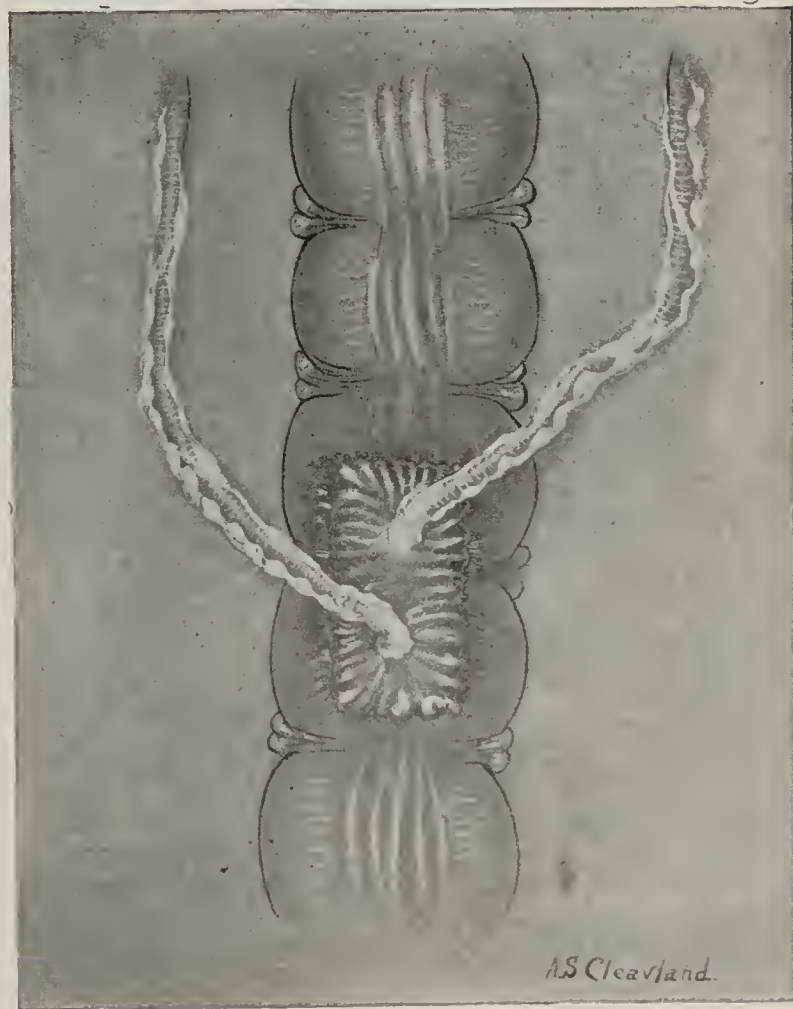


Fig. 19.—Suture of flap completed. Peritoneal edges still further rolled in by a series of Lembert sutures.

vesical arteries. The urethra is clamped just above the ligature and severed. The abdomen is protected by sponges and the clamp removed, the residual urine being expressed in a sponge. The urethra and bladder are now

split with the scissors between the vesical arteries to the fundus of the bladder. A rectangular flap is now formed by cutting the bladder across, care being taken to leave a half-inch border around the ureteral orifices. (Fig. 15.) The ureters are not loosened from their peritoneal coats, as shown in the illustration. In fact, they are hardly to be seen, and are only avoided in the subsequent stitching by placing bougies in the ureteral orifices. A fold of the descending colon is now seized and drawn down and incised longitudinally at such a point as will be most convenient for meeting the bladder-flap. The incision should be just a trifle less in length than that of the flap, and should be made down to the mucosa. The flap should now be placed against one side of the incision with serosa against serosa and the two borders united with a through-and-through right-angled stitch. (Fig. 16.) This stitch includes on the

the trigonum, with left ureteral orifice, was anastomosed with bowel according to method described above, except the bowel mucosa was simply incised, and no portion removed. The bladder was sewed up with two rows of silk sutures. The dog made an uninterrupted recovery, and was killed March 24, 1900, sixty-five days after the operation.

Pathologist's Report. Atrophied kidney, due to occluded ureter. Capsule adherent, thickened, and opaque; kidney anemic, grayish-brown surface, slightly nodular. Left ureter twice the size the right and non-patent.

Bacteriology. Smears from liver, kidney, spleen, and heart negative.

In this case the incised mucosa had united, and after occluding the ureteral orifice had produced an atrophic kidney. This fault in technique was remedied after this case.

Experiment 66. Dog X. (Dog VI., Pathological Reports.) Small, yellow dog. Operation January 18, 1900. Right ureter, rectal anastomosis by old method. Left trigonum with its ureteral orifice anastomosed with rectum. Died from sloughing

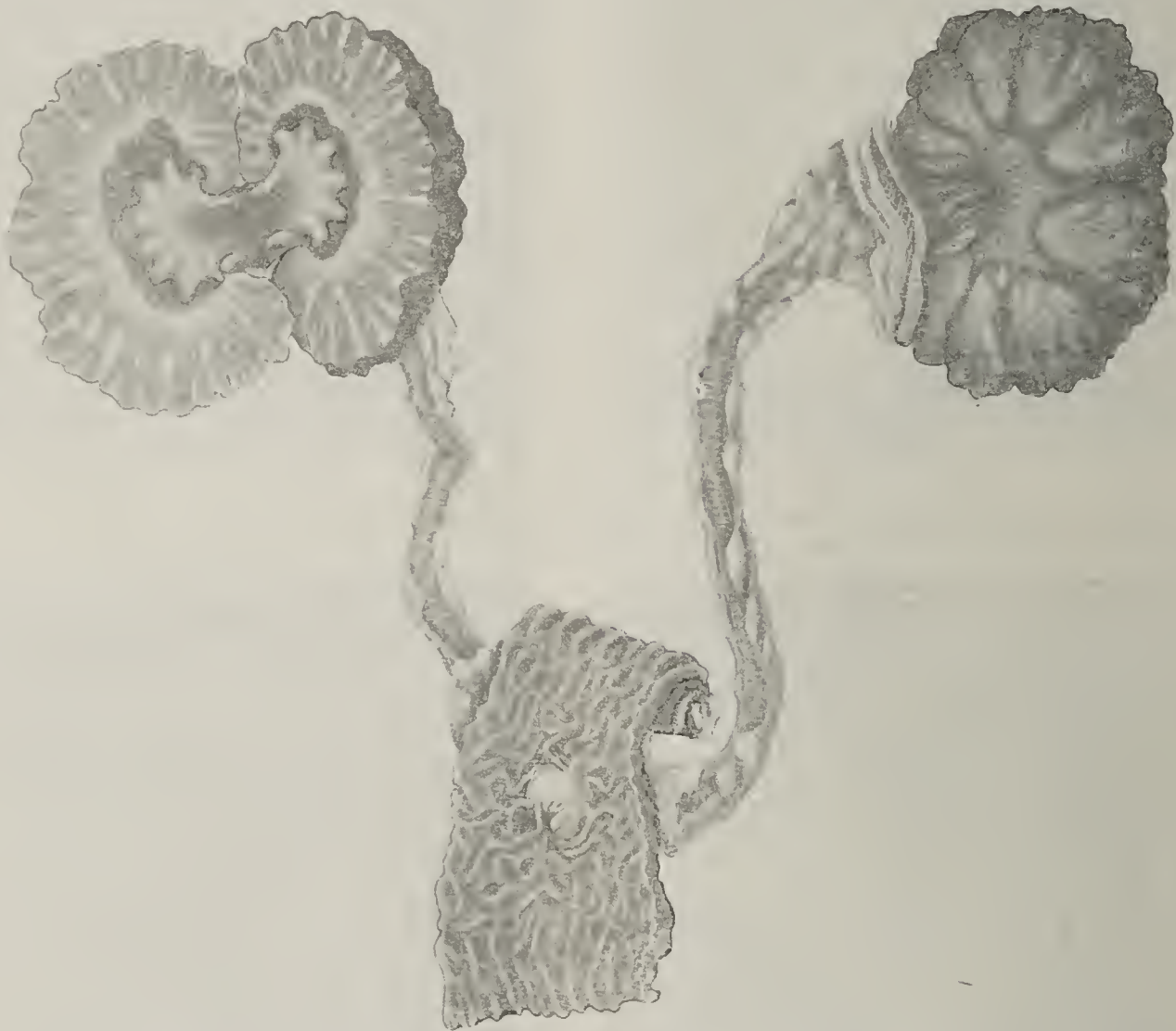


Fig. 20.—Kidneys, ureters and section of rectum of a dog killed thirteen months after bilateral rectal anastomosis.

bowel side only serosa and muscularis, but all the layers on the flap side. When the lower end of the incision is reached the same stitch is employed, only, to save time, a single bite is made on the bowel side. The mucosa is pushed toward the center of the vesical flap, so that part muscularis and part serosa are brought in contact with the bowel serosa. A perfect inversion of the edge is accomplished by means of the suture. (Fig. 17.) When one-third of the distance has been closed on the opposite side from which the stitch was started, as much of the bowel mucosa is removed by the scissors as may be deemed necessary to allow the ureteral orifices to fall within the incision. (Fig. 18.) After the low ends of the suture have been tied, another continuous suture, or a series of Lembert's sutures is applied in order to guard against any possible leakage. (Fig. 19.)

Experiment 67. Dog IX. (Dog XI. Pathological Reports.) Large yellow male. Operated on January 18, 1900. One-half

of abdominal wound, giving rise to general peritonitis thirteen days after the operation.

Pathologist's Report. Left kidney: Capsule adherent; cortex and medullary portion equally thick; pelvis smooth. Right kidney: Opaque; capsule adherent; cortex shows hyperemia and yellow millet-seed sized areas—former surrounding latter. Swollen and congested cortex and purulent rays from pelvis to cortex; pelvis dilated; papillæ necrotic, pyelonephritis.

Bacteriology. Left kidney negative; right kidney contains colon bacilli.

Histopathology. Left kidney fairly normal, shows only some hyperemia, and slight cloudy swelling of lining epithelium of convoluted tubules: no bacilli found. Right kidney shows acute suppurative interstitial nephritis, with colon bacilli present.

Experiment 68. Dog XI. (Dog XII., Pathological Reports.) Small, yellow dog. Operation January 24, 1900; killed March 24, 1900. Same technique as above, except mucosa was denuded slightly about edge of the flap; good recovery.

Pathologist's Report. Very ill with mange when killed, two months after operation. Right and left kidney capsules non-

adherent; normal; no pyelonephritis. Ureters normal; spleen large and soft; liver fatty. Fibrinous thrombi in left ventricle.

Bacteriology. All smears and cultures from the above organs were negative.

Histopathology. Kidneys show slight parenchymatous changes, due probably to mange. Thrombus in left heart; infected spleen and fatty liver. No pyelonephritis nor the sequelæ of a possible preceding pyelonephritis were found.

PLATE I.

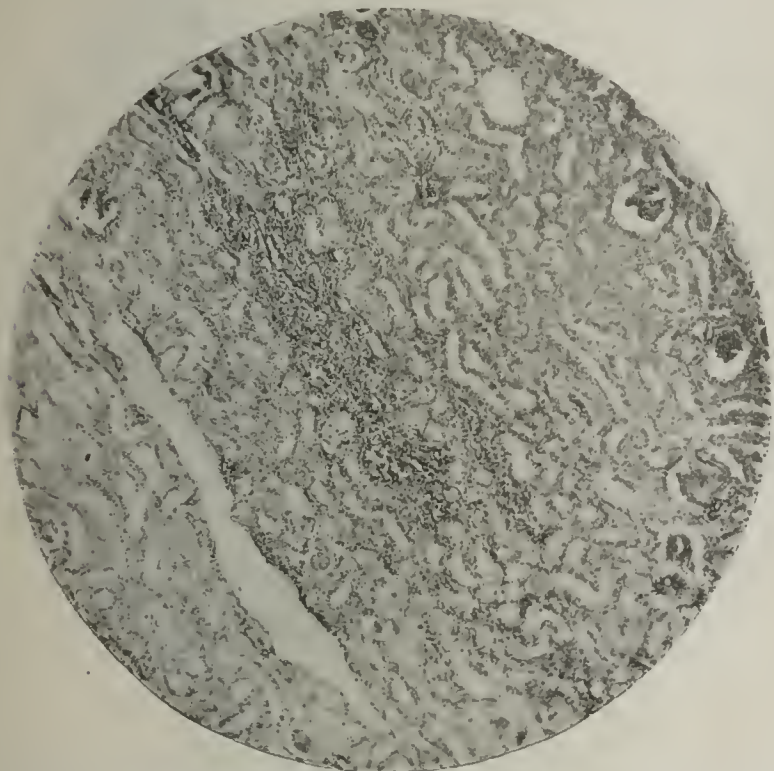


Fig. 1.—Beginning ascending infection after implantation of ureters in rectum. Leucocytic interstitial infiltration, surrounded by convoluted tubules, with beginning cloudy swelling.

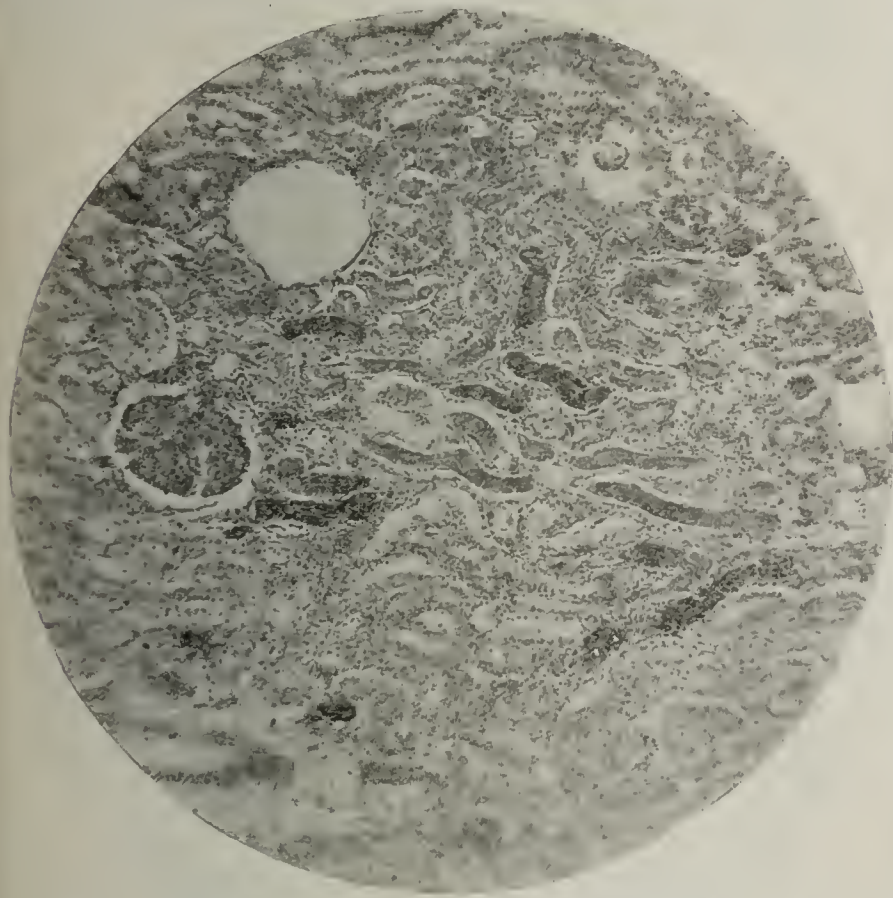


Fig. 2.—Kidney (ureters in rectum) showing invasion by the bacilli coli at an early stage of ascending infection. The dark masses in uriniferous tubules consist entirely of coli bacilli. Some contain casts which are sown with coli bacilli.

Experiment 69. Dog XII., (Dog VII., Pathological Reports.) Brown spaniel bitch. Operation January 25, 1900; died March 10th, forty-four days after operation. Ordinary technique was employed, except in trimming the vesical flap too much was removed and ureteral orifices were laid bare. Flap was sewed transversely across the bowel.

Pathologist's Report. Both kidneys show opaque adherent capsules and pyelonephritis. Both ureters patent; hydro-ureter right side; liver and spleen normal. Both kidneys show coli.

Histopathology. Necrotic papillæ. Polymorphonuclear leuco-

cytes in tubules in great numbers, with small-cell infiltration in ureteral tissue. Some necrosis and much cloudy swelling and fatty degeneration of epithelial cells of convoluted tubules.

Experiment 74. Dog XIII. Brown female dog. Operation March 30, 1900. Left half of trigonum with mucosa removed, and right half with mucosa intact, anastomosed with rectum. Dog died in eight days from abscess of abdominal wall.

Pathologist's Report. Left kidney shows pyelonephritis; ureter normal, pyelitis, with slightly adherent capsule. Right kidney has a very adherent capsule. Organ slightly hyperemic; no pyelonephritis. Heart: yellow fibrinous thrombi in both ventricles.

Bacteriology. Smears of left kidney, cortex, and pelvis show pure coli. In the pelvis also a few tetanus bacilli. Left kidney: Cortex coli. Right kidney: Cortex contains a few very small, thin diplococci.

PLATE II.



Fig. 3.—Kidney (ureters in rectum) showing invasion by the bacilli coli at an early stage of ascending infection. The dark masses in uriniferous tubules consist entirely of coli bacilli. Some contain casts which are sown with coli bacilli.

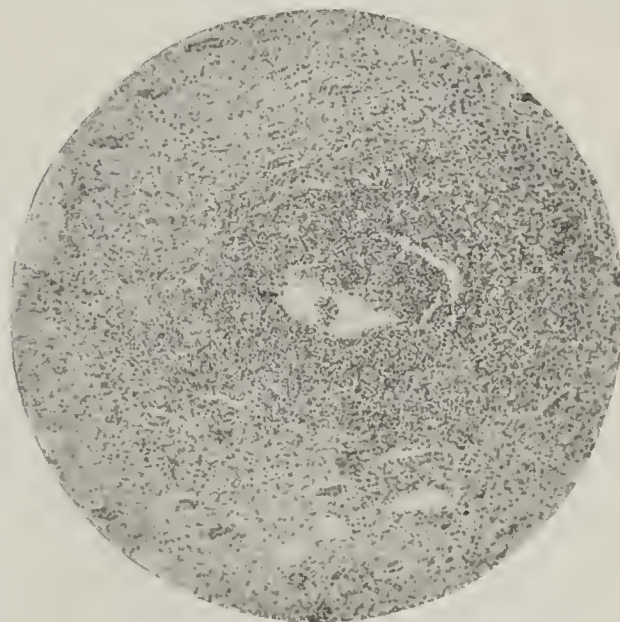


Fig. 4.—Small abscess in medullary pyramid due to ascending coli bacilli infection twelve days (ureters in rectum).

Summarizing the results of these five experiments, we find that in one case the ureter was occluded from faulty technique, with formation of an atrophic kidney. Of the four remaining cases, one had a non-infected kidney, where the trigonum was implanted intact; pyelonephritis on the other side, where a uretero-rectal anastomosis had been made. One died in forty-four days from active pyelonephritis, where the mucosa over the ureteral orifices had been accidentally removed. One lived two months without signs of infection in the kidneys. One had pyelonephritis after eight days, where the mucosa was removed from the ureteral orifice, and no signs of infection in the other kidney, where the trigonum was implanted intact.

The experiments fully confirmed the observations of others, that in the dog the rectum serves as an admirable substitute for the bladder. In most instances, directly after the operation, some rectal tenesmus existed, but this soon passed away, and the animal had perfect sphincteric control, and passed urine mixed with feces at regular intervals.

It seems questionable whether uretero-intestinal implantation without a vesical flap will ever be accomplished without a certain amount of resulting stenosis of the ureteral orifice. This stenosis may not be suf-

that ascending renal infection is not prevented by an unobstructed flow of urine, since the case of lateral anastomosis without stricture was quickly followed by a violent infection.

PLATE IV.



Fig. 7.—Thirteen-months dog. Granular kidneys. The dog had a pyelonephritis, became immune to coli bacilli, and the many small abscesses spread over the cortex of both kidneys resulted in retracting maturing scar tissue. The elevated portions surrounding these show fairly normal parenchyma. The retracted portions consist of matured new connective tissue with atrophic glomeruli, thickened capsules, dilated and desquamated tubules.

PLATE V.

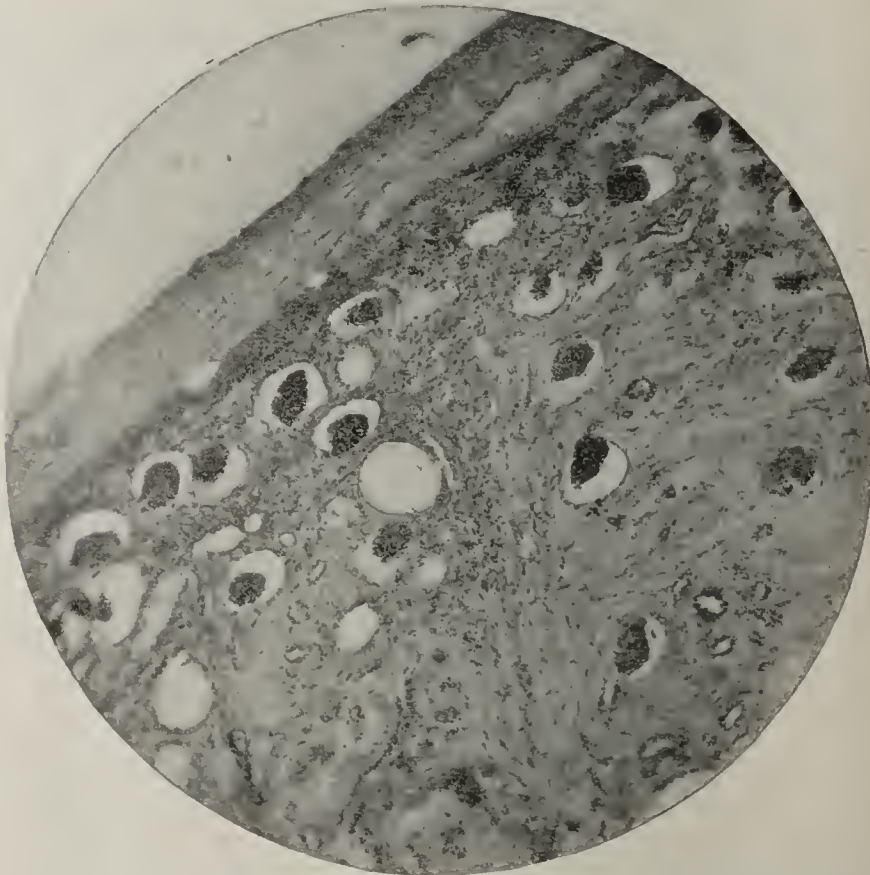


Fig. 8.—Results of healed pyelonephritis ten months after implantation of ureters into rectum. A cirrhotic contracted kidney. Only scar tissue with atrophic glomeruli, dilated desquamated tubules.

PLATE III.

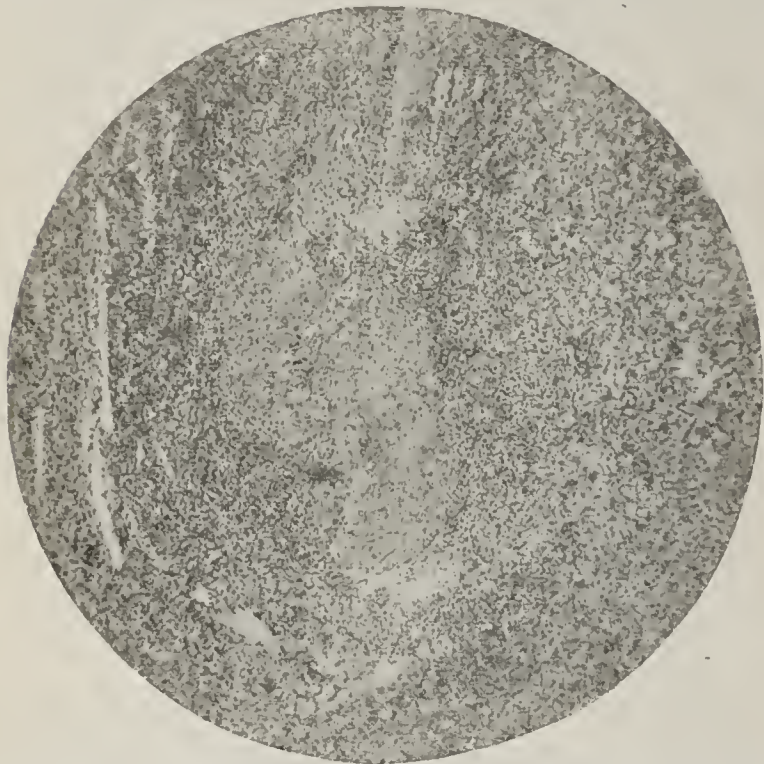


Fig. 5.—A later stage of ascending coli infection. Specimen from medullary pyramid. A central necrotic area with few bacilli, surrounded by a dense zone of leucocytic infiltration.

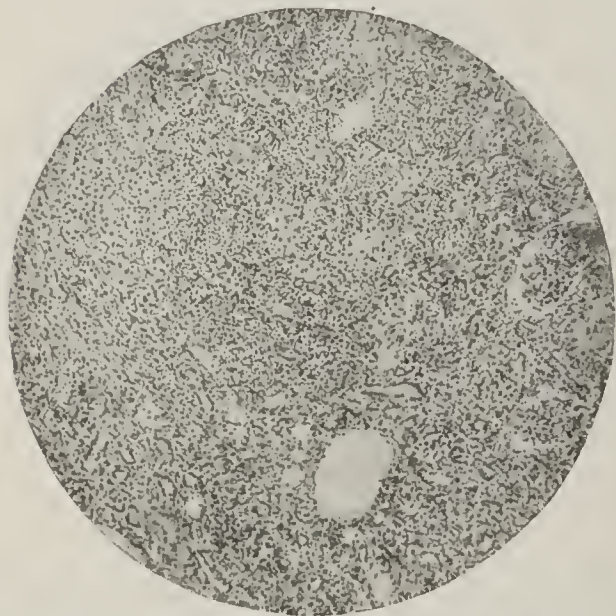


Fig. 6.—Ureter in rectum. Interstitial suppurative nephritis due to ascending coli infection. The leucocytic infiltration is so extensive that only little of the kidney structure can be seen. (Cortical portion.)

ficient to entirely obstruct the urinary stream, but it will be enough to impede it somewhat and give rise to the dilatation of the ureter in varying degrees. Without having actually accomplished an anastomosis with the Boari or Chalot button, it would seem to me that the uretero-rectal union by these means would be open to the same dangers of stenosis as a union secured by the method detailed above. Boari, in the article describing his button, does not appear very sure that stenosis will not result from its use, for he speaks of a modification of the instrument whereby stenosis will be rendered impossible. The second series of experiments has proved

Tuffier claimed that if the ureter were cut off close to the bladder and implanted into the rectum, its musculature by forcing along the urine would keep the ureter clean and free from infection. In order to test the truth of this statement I intentionally severed the

ureter as near the bladder as possible in Experiment 66, Dog X., yet pyelonephritis resulted thirteen days after the operation.

My experiments show beyond question that renal infection is not so rapid nor so severe when the vesico-ureteral orifice is preserved. It is not claimed that infection will not occur after the operation, but that at least one case of uretero-rectal anastomosis where the orifices were retained intact did not show infection after

ing by the sphincteric or valve-like apparatus about the ureteral orifice.

That the oblique course of the ureter through the bladder-wall does not prevent an ascending renal infection has been proved conclusively by certain of my experiments. Whenever the mucosa was removed from

PLATE VI.

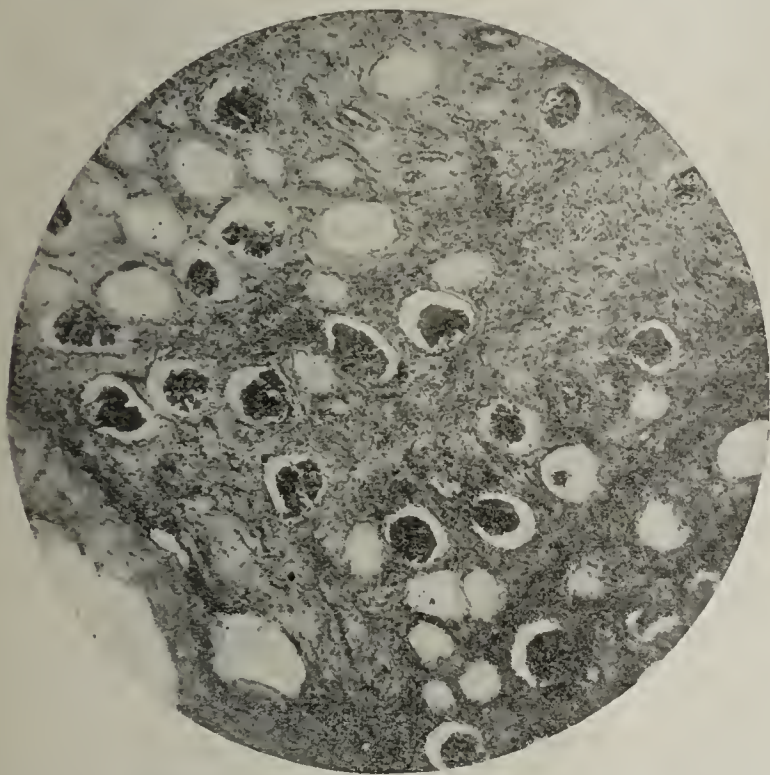


Fig. 9.—Results of healed pyelonephritis ten months after implantation of ureters into rectum. A cirrhotic contracted kidney. Only scar tissue with atrophic glomeruli, dilated desquamated tubules.

PLATE VII.



Fig. 11.—Bladder of dog with both ureters implanted in rectum. Ascending infection from urethra, causing cystitis. Much small cell infiltration of mucosa with desquamation of covering epithelium.

PLATE VIII.



Fig. 10.—Thrombosis of portal vein. Liver. (Passive hyperemia. Atrophic areas.)

two months. The animal surviving this length of time had to be killed for the purpose of this article. No amount of speculation will settle the question of infection later than two months after the operation. This must be determined by further experimental work.

Why does not infection occur as readily when the ureteral orifice is implanted intact? Theoretically, it has been argued that infection has been prevented by the oblique course of the ureter through the implanted vesical flap, or that germs were prevented from ascend-

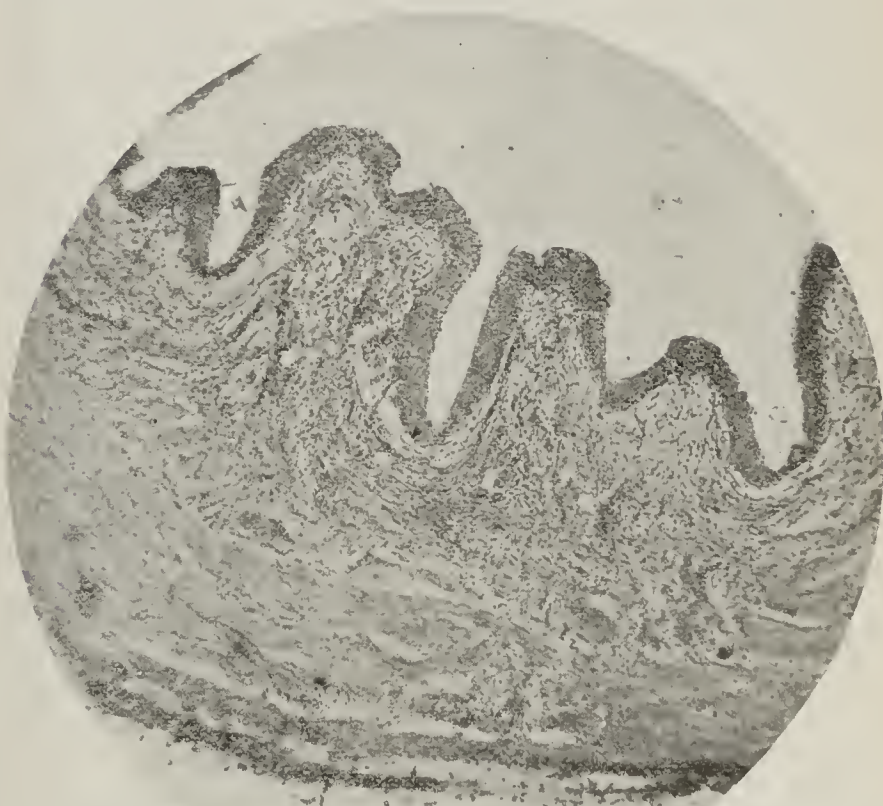


Fig. 12.—Ureter (implanted in rectum). The kidney showed pyelonephritis. The ureter looks comparatively healthy in strong contrast to the necrotic papillae of same kidney.

the ureteral orifice infection resulted, although the obliquity was unchanged by this procedure. The oblique course of the ureter in the bladder-wall serves to effectually close the ureter when the bladder is distended and prevents any ureteral reflux. So perfect is this closure that a bladder can be distended with air or

water through the urethral orifice without any escaping through the ureters. This mechanical closure of the ureteral orifices does not take place after the transplantation of the vesical flap, since the rectum is not a closed cavity and the same forces are not called into play.

In order to determine definitely the relations of the ureter to the different vesical muscle layers and to ascertain the existence or non-existence of a sphincter or valve at the ureteral orifice, I caused to be made a set of serial sections through that part of the dog's bladder-wall through which the ureter passes.

The results of these microscopic examinations may be stated as follows:

1. The sections do not show a mucosal valve guarding the entrance to the ureter.

2. The circular muscle layer of the ureter is not especially prominent.

3. The bladder muscle fibers in themselves do not act as a sphincter, nor is there any sphincteric arrangement about the vesical ureteral orifice.

4. Sections of the ureter within the bladder-wall show a flat slit-like opening.

Thus it will be seen that all theories based upon the supposed action of a valve or sphincter apparatus guarding the ureteral orifice, whereby ascending infection is prevented, must be set aside from the lack of anatomical evidence. From this it will naturally follow that all attempts to prevent infection by imitating in the bowel-wall the normal course of the ureter will prove futile, as the post-mortem findings of Martin's cases have clearly shown. Beck's theory that in his case infection was prevented by inserting a portion of the ureter within the bowel has been shown to be incorrect by numerous experiments. The portion of the ureter lying within the bowel soon completely sloughs away, and, far from preventing infection, is one of the chief factors in its production.

What can be said of Fowler's mucous valve formation for preventing infection? As far as the case is concerned the patient is still living and apparently well after three and a half years, yet experimental work would lead us to conclude that the kidneys have been infected, but that the infection has been overcome with resulting contracted kidneys. In order to ascertain the value of such valve formation as Fowler recommends, I performed the operation upon a dog, March 31, 1900, carrying out his technique strictly, except that only one ureter was implanted. The dog recovered and was killed at the end of twenty-seven days. The kidney corresponding to the implanted ureter was decidedly smaller than the other and showed evidence of ascending infection. No bacteriologic or microscopic report on the specimen has yet been made. The ureter was slightly dilated. There was not only no vestige of the ureter which had projected into the bowel cavity, but the mucous flap itself had disappeared, and the ureter, fairly patent, opened through a small slit in the mucosa.

The most plausible theory regarding infection or non-infection would seem to be that any traumatism to the ureter, whether in the form of its complete section or injury to its orifice by removal of the vesical mucosa, sets up an inflammatory action about the ureteral orifice which diminishes its power of resistance and allows of ascending infection. Whatever method of intestinal anastomosis of the severed ureter be employed, inflammatory changes are bound to be present, and infection will follow. Whereas, when the ureteral orifices are implanted together with the bladder flap, any operative traumatism is exerted upon the latter and the unaffected

ureteral orifices are able to prevent the entrance of bacteria.

GENERAL CONCLUSIONS.

1. The primary mortality of uretero-intestinal anastomosis, both in experimental work on animals and in man, is exceedingly high.

2. The best technique is that requiring the least amount of suturing of the ureters themselves.

3. All efforts to prevent ascending renal infection in animals or in man where the ureter has been implanted without its vesical orifice have proved futile.

4. It is impossible to determine in advance the extent of the infection which will result from uretero-intestinal anastomosis. The patient may die in a few days of a pyemia or in a short time of pyelonephritis, or in rare cases may recover from the infection, with resulting contracted kidneys.

5. Hence the operation is unjustifiable, either for the purpose of making the patient more comfortable, as in exstrophy of the bladder, vesico-vaginal or uretero-vaginal fistula, or for malignant disease of the bladder.

6. The results of uretero-intestinal anastomosis through the formation of vesico-rectal fistulæ have not been favorable up to the present time.

7. The success of Frank's experimental work in vesico-rectal anastomosis justifies the expectation that the future results of this operation will be more satisfactory.

8. The primary mortality of utero-trigono-intestinal anastomosis is low for an operation of this magnitude.

9. While it can not be denied that ascending renal infection may occur after this operation, the infection, as a rule, is of such a type that the chances of the individual's overcoming it are good.

10. Hence the operation of implanting the vesical flap with its ureteral orifices into the intestine is a justifiable surgical procedure.

11. There is no valve guarding the vesico-ureteral orifice; nor does the circular muscle layer of the ureter nor do the bladder muscles themselves act as a sphincter.

12. It has been abundantly demonstrated by experimental and clinical work, that the rectum tolerates the presence of urine and acts as a good substitute for the bladder, and that good control over the anal sphincter will be maintained.

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Quinin as an Oxytoxic.—McGee (*Bul. of Cleveland General Hospital*, ii, No. 4) believes quinin possesses evident power as an oxytoxic. He has "given it in almost a routine manner for years, in cases of uterine inertia." He finds that while it will not initiate labor pains in pregnancy, in the second stage of labor, when there is an obstacle to delivery or contractions are deficient in force, it frequently increases their power and so hastens delivery. He ascribes its effects to a general tonic action and increase of nervous energy, rather than to any specific power, such as ergot has, and he says it is devoid of the dangers of the latter. He gives 5 grs. every twenty minutes or so till about 20 grs. are taken; it is best prescribed in solution; added to a small quantity of brandy or whisky diluted with hot water and well sweetened, he finds it is rarely refused.

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DIPHTHERIA.

There are few chapters in the history of medicine more interesting and more complete than that of the evolution of our knowledge of diphtheria; and the stages by which this advance has been made have been the result not of accident nor of chance, but of systematic and industrious investigation of the best scientific character, interpreted by a high order of intelligence. Ulcerous and membranous anginas have long been recognized and described, but the first severe and widespread epidemics of recent times are recorded as having occurred in the seventeenth and eighteenth centuries. During the early part of the nineteenth century France was assailed by numerous disastrous epidemics, which played sad havoc, even among the royalty, so that Napoleon I., in 1807, offered a prize for the best essay on croup. Great confusion regarding this disease existed until Bretonneau published his famous work in 1826.

Escherich,¹ in an interesting communication, discusses the changes that have taken place in the clinical conception of the term diphtheria in the course of the past century, especially as a result of bacteriologic investigation, as well as certain related topics. Bretonneau not only verified previous descriptions of the disease, its dissemination by contagion, the appearance of the deposit, the stenotic and toxie characteristics of its course, and the varying localizations and sequels; but he further established the pathologic-anatomic basis of these manifestations. From epidemiologic and post-mortem considerations, he divined the specificity of the disease, and suggested the existence of a living contagium. Clinically he recognized the identity of croup and diphtheria, attaching the greater importance, however, to the effects of laryngeal obstruction, to the neglect of the symptoms of intoxication. He appreciated the utility of tracheotomy and practiced it successfully. Trousseau, a friend and pupil of Bretonneau, laid great stress on the toxie manifestations, and considered the disease a general one with local lesions.

Confusion arose from the application of the terms croupous and diphtheritic to fibrinous or membranous deposits upon mucous membranes in general, and the inclusion of all superficial necrotic lesions of wounds and the various mucous membranes, especially the tonsils in cases of scarlet fever, under true diphtheria. The final and decisive discrimination was, however, not

reached until the discovery by Klebs, in 1883, and the cultivation by Loeffler, in 1884, of the diphtheria bacillus. This was followed by the isolation of the toxin generated by the bacillus, and this, in turn, by the development of immunizing methods in animals, and finally, in 1894, by the preparation of the antitoxin—the entire series of events constituting one of the most brilliant and most beneficent discoveries in the history of medicine. The severity and the course of the disease were at first attributed directly to the virulence and the number of the active bacilli, but evidence was soon discovered showing that those conditions are due in no small measure to the state of the body, and that this is probably dependent on the presence or absence of protective substances. An additional factor is to be found in the existence of mixed infection, in part with streptococci.

The most important feature of the advance in our knowledge of diphtheria consists in the treatment and its results. Debilitating and antiphlogistic means were superseded by general supporting and vigorous local treatment with astringents, caustics and antiseptics, while tracheotomy and later intubation came into practice for the relief of laryngeal stenosis. The use of steam for inhalation proved a useful adjunct. The results of treatment were, however, unreliable and unsatisfactory until the discovery of the antitoxin in 1894. Since then the mortality has been cut in half, the gain being most marked the earlier the specific remedy is employed and the dose chosen sufficiently large. The necessity for surgical intervention has also become less, and, when it has been required, the results have been better than heretofore, while complications and sequelæ are more uncommon. The prophylactic value of the antitoxin is somewhat impaired by the circumstance that the immunity conferred is of brief and uncertain duration, but evidence exists showing that it may nevertheless be successfully directed to the breaking up of epidemics in hospitals and other institutions, and in private dwellings. In the treatment, it can not be too forcibly emphasized that the dose to be employed is the largest that the severity of the case indicates, and its repetition will be influenced by the same criterion. An important point to be appreciated is the necessity for employing as concentrated solutions as possible, as such secondary effects as have been observed after injection of the antitoxin are due not to the active principles but to the serum in which they are dissolved. The two possible contraindications to the use of the antitoxin consist in the presence of nephritis and the so-called lymphatic constitution.

THE STEREOGNOSTIC SENSE.

In 1883 Charles Bell originated the term "muscular sense," and attributed the conception of place and position to a particular form of sensation located in the muscles. This sense was thought to be a primitive one, due directly to the "organic activity of the muscular

1. Berliner klin. Woch., 1900, No. 2, p. 33.

contractions." According to Puchelt, it was assigned the rôle in the perception of form and was called, at the time, the stereognostic sense.

It is to-day generally believed that the stereognostic sense is dependent on the use of the tactile and muscular senses. To examine the stereognostic sense of a patient methodically, one has only to use geometrical bodies, such as balls, half-spheres, octahedrons, etc., preferably made of wood, measuring from 3 to 6 cm. in diameter, and ask the patient to describe them, as they are placed in his hands.

As the result of a somewhat exhaustive study, Sailer¹ has concluded that the stereognostic sense is due to a complex sensory perception, the impulses of which are probably received in the parietal lobe of the brain and then recognized in consciousness by some higher center or group of centers; that it is lost if tactile sense is lost, is greatly impaired or lost if localization-sense is lost, and is usually, but not always, disturbed if the muscular sense is lost.

The nature of the stereognostic sense, upon which the faculty of orientation is in all probability based, is still thrown open to question by the doubt cast at the present day upon the existence and nature of the muscular sense. This latter sense receives much attention in neurologic literature, though physiology has not yet fully recognized the existence of such a special form of sensation. Since Bell's first mention of it, there have been promulgated many views to explain the perception of active and passive motion, resistance, weight, solidity, volume and position. Some are inclined to regard it as an elementary sense inherent in the muscular fibers, or at least dependent on special nerves going to those fibers. Lewinski argued that the muscular sense was merely the sense of motion perceived by the tactile organs found in and around the articular surfaces of the joints. Schiff taught that the tactile organs in the skin overlying the contracting muscles, gave rise to the sense of active and passive movement. Others demonstrated that the muscular sense depended on a multiplicity of indistinct sensations, localized in the body segments, articulations, muscles and skin, the skin being by far the most prominent. It was taught by the psychic school that the sense of muscular activity is really due to a central perception of the effort exercised at the periphery; that there is a conscious perception of the muscular conditions in general; and that of course any change in those conditions will immediately be recognized and correlated in the sphere of consciousness. In 1893 Wundt declared that the muscular sense was in no way to be attributed to the exercise of the muscles, but rather to the "cellular function of the motor zones" in the cortex. Oppenheim recommends that the term "muscular sense" be dropped entirely; for, according to the definition by Goldscheider, it includes the sensation of passive movement, the sensation of active movement, the sensation of heaviness and resistance, and the sensation of position.

In a recent and noteworthy monograph Bonnier² frankly declares that there is no special muscular sense, but that the so-called muscular sense and all it includes is nothing more nor less than a modified form of ordinary tactile sense. We have a sensation of attitude or variation of attitude, due to a sensation of segmental or peripheral activity, and a sensation of central activity or innervation. This segmental sensation is an internal tactile sense—articular, aponeurotic, ligamentous, muscular, etc.—and is merely an adaptation and transformation of the external tactile sense. It is comparable to the involution of the tegumentary structures recognized in the evolution of the eye, ear and other special senses. The stereognostic sense, therefore, as well as the sense of orientation in its large acceptance, and even the abstract notions of time and space are, according to these views, to be attributed, in their last analysis, to the fundamental, universal, simple sense of touch.

BACTERIOLOGY OF INFECTIONS OF THE URINARY TRACT.

The bacteriology of infections of the urinary tract is a rather new subject. Thomas R. Brown³ makes a report of an investigation of this subject in women, which was made under exceptionally favorable conditions. Most of the acute cases were post-operative and the conditions surrounding the infection were carefully studied; careful cystoscopic examinations were made in all the chronic and most of the acute cases; and thirdly in all suspected renal infections the urine was obtained directly from the kidneys by ureteral catheterization. A brief summary is given of the more important findings as the complete paper will be published later. The cases of cystitis are divided into acute, chronic and tuberculous. The cases of acute cystitis are of great interest because in twenty-four of twenty-six the infection was post-operative, the urine having been examined bacteriologically immediately preceding the operation. These cases, therefore, throw needed light on the question which micro-organisms bring on infection. *B. coli communis* was found fifteen times, the white pus coccus five times, the yellow twice, the bacillus pyocyaneus, typhosus, and proteus vulgaris once each. In all these cases the urine was acid except the one due to *B. proteus vulgaris*. Catheterization is held responsible for the infection, although the procedure was carried out with great care. The usually low pathogenic power of these organisms emphasize the importance of other and accessory etiology factors, the most important, according to Brown, being anemia, pressure on the bladder, sagging of the bladder, trauma and catheterization with poor technique.

Thirty-one cases of chronic cystitis were studied with approximately the same general results as in the series of acute cases. In 7 a pyelitis coexisted. There were 6 cases of tuberculous cystitis, the majority being asso-

1. Jour. of Nerv. and Ment. Dis., March, 1899.

2. L'Orientation, par le Dr. Pierre Bonnier. Scientia: Biologie, No. 9, Paris, April, 1900.

3. Johns Hopkins Hospital Bulletin, 1901, xii, 4.

ciated with tuberculous pyelitis or pyelonephritis. The urine was acid, usually rich in pus and red blood-cells.

The cases of pyelitis and pyelonephritis are of exceptional interest because the urine was obtained directly from the kidney, and usually from both kidneys, so that the two sides could be compared. The only two acute cases were secondary to vesical infection with *B. coli*. Twelve chronic cases were studied and 5 of these were evidently ascending ureteral infections. *B. coli* was present in 6 cases, *B. proteus vulgaris* in 3, and a white staphylococcus in 2, one case showing sterile urine. In the cases not due to *B. coli*, the urine was alkaline and in all a renal calculus of calcium and magnesium phosphates and carbonates was present. This shows in a striking manner the relation between infection and calculus formation. Six cases of tuberculous pyelitis and pyelonephritis were met with, all associated with the tubercle bacillus in pure culture.

These details are given to show the general trend of the results obtained by this interesting work. In the discussion, Dr. Young refers to dissimilarity of the results obtained by him in a similar study in the male. Young has found a much greater number of different bacteria and among them the gonococcus several times. Gonococcus infections of the bladder are more frequent in men than women, owing to the greater severity of gonococcal urethritis in the former. The ease with which the male bladder may be aspirated for cultures offers good opportunities for studying gonococcal and other vesical infections.

As pointed out by Welch, it would be a one-sided view which failed to take into consideration in the etiology of cystitis and pyelitis the non-bacterial factors, because the bacteria found in the urinary infections have ordinarily very limited pathogenic activity. Finally, it may be mentioned that Hunner refers to 3 cases of pelvic stone associated with streptococci.

Enough has been mentioned to indicate that observations are accumulating which will do much to clear up the various unsettled contentions in regard to infections of the urinary tract and to place our therapy on a safe basis.

THE BACHELOR'S DEGREE AND THE MEDICAL COLLEGE.

The question whether the bachelor's degree should be required for admission to professional schools was considered at a conference of educators recently held in Chicago, and was the special topic of an after-dinner speech by Prof. Ira Remsen of Johns Hopkins University. This problem, while seemingly simple, is in reality quite complex. As Professor Remsen said, there is a great difference between B. A. degrees, the difference depending largely on the college from which the degrees are obtained. A bachelor of arts from a really first-class institution has had, it may safely be asserted, a broader and a more complete training than has one who has obtained a similar degree from some ill-

equipped school unfortunately dubbed a college and authorized to grant degrees, but which is little more than a high school or seminary.

If a bachelor's degree could have some definite meaning attached to it, by an agreement among the colleges and universities, as to requirements, it could be unhesitatingly accepted as proof of qualification for admission to the medical or other professional school.

There is, however, another point to be considered. With the liberty allowed a student in our first-class institutions, it is possible for a man to graduate without having taken those studies best fitted to enable him to pursue most advantageously his subsequent medical course. A student may have taken, as his elective studies, only French or mathematics, or astronomy, or geology, and yet be graduated *magna cum laude* with the bachelor's degree, and claim a right to enter the medical college. It is clear that he would be better fitted had he devoted some of his time to certain other branches, as biology, chemistry, botany, physics, etc. It follows that the faculty of the medical college has a right to ask those who apply for admission on the B. A. degree not only from what college they come, but what studies have been taken in order to secure the degree.

This leads to a consideration of the important topic of premedical courses in our literary colleges. Should not students who contemplate the study of medicine be early guided into courses especially adapted to prepare them for the medical college, into physics, chemistry, biology, with histologic technique, German and French studies that can be made to have a cultural influence as well as philosophy, Greek, or higher mathematics? And should not the student in a university in which the medical school is a part of that university receive credit in both the literary and the medical departments for certain work? This is already done to a certain extent at not a few universities, so that when a man takes his bachelor's degree in art or science, he has also credits in his medical course for one or even two years' work.

LEGISLATION ON HYPNOTISM.

A bill has been introduced in the New York legislature for regulating the practice of hypnotism, mesmerism, suggestive therapeutics, and allied phenomena. License is required from the Board of Regents of the University, and to obtain it a good general education and at least two years in a medical school are required. Any unauthorized practice or advertising of ability for such is to be made a misdemeanor, and penalties of fine and imprisonment are provided for by the act. In regulating the therapeutic and otherwise employment of hypnotism, New York State will have a precedent in the legislation or local ordinances of several European countries which have prohibited the unauthorized practice of inducing the hypnotic condition. Its possible dangers are sufficiently well known, moreover, to fully justify the proposed measure.

ONTARIO'S VITAL STATISTICS.

The Registrar-General of the Province of Ontario recently published the complete returns of births, marriages and deaths, which are considered encouraging by the *Toronto Globe*, inasmuch as an increase of births is reported over the preceding year. The increase, however, is not great and still leaves the ratio lower than that of almost any other region of equal extent, viz., 19.9 per 1000, and less than that of 1898. It is to be presumed that vital statistics are kept more carefully in Canada than in some portions of the United States, but some of the small increase is attributed by the *Globe* to prosecutions of parents for neglecting to register the birth of offspring. Admitting a certain proportion of births not registered, the ratio is not encouraging, and the steady decrease of late years, only interrupted by the slight rise, is still less so. Even in the worst parts of the United States in this respect the birth-rate has not fallen so low as in Ontario. Though there, as elsewhere with a low birth-rate, the death-rate is still lower, the population would seem to be very nearly in a static condition, which from a political point of view is hardly a desirable one. The cause suggested by the Registrar, viz., the preponderance of the rural population, farm life not being conducive to early marriages, does not strike at the root of the matter. It would be better to assume an ideal of living generally above the universal possibilities, and this would apply as well to the town as to the rural population. The absence of a proletariat, while it indicates thrift and comfort, destroys the aggressiveness of a people and is a symptom to a certain extent of national decadence. Ontario seems, as far as this sign is indicative, to be approaching that condition.

OSTEOPLASTIC CARCINOMA.

In 1891 von Recklinghausen directed attention to the development of osseous metastases in primary carcinoma of the prostate gland. He showed that the metastases were associated with the new formation of bone. Since then several additional cases have been reported, and recently Erbslöh described five cases of osteoplastic carcinoma from von Recklinghausen's laboratory. Three cases occurred in men, the primary tumors being prostatic, and two in women, the carcinoma in one being primary in the stomach, in the other in the bile-ducts. In all these cases the carcinoma had a marked tendency to infiltration. The metastatic nodules in the bones contained newly-formed osseous substance. The microscopic appearances indicated that the metastatic growths began in the form of an intracapillary infiltration which resulted in closure of the capillaries and passive congestion, the latter being regarded as the determining cause of the new formation of bone. Side by side with the osteoplastic process may be resorptive processes, which render the bone soft and porous. As far as can be told at the present time, the spinal column is the most frequent seat of this interesting metastasis, then come the ribs, the proximal end of the femur, the pelvis, the skull, the sternum, the humerus, and the radius, in the order named. It seems as if the

cells circulating in the blood were arrested in the wide and sluggish capillaries of the bones. The only other metastases in these cases—except in one—were situated in the regional lymph glands. This remarkable peculiarity of certain carcinomas, especially those developing in the prostate gland, should be borne in mind in the clinical study of prostatic tumors.

A TREATY OF SANITARY PROTECTION.

Two South American States, Argentina and Uruguay, have made, what is perhaps a novelty in diplomacy, a treaty of sanitary alliance and protection as regards infectious diseases, especially bubonic plague. It provides for mutual provisions for inspection and quarantine arrangements sufficient to protect either country from invasion of disease from the other without any undue interference with communications or commerce, such as might easily occur were the efforts made independently by either without regard to the actions of the other. Each country is to be in its way the guardian of the other's health as well as of its own, and to cordially co-operate in all necessary measures. The advantages of such a mutual arrangement carried out in good faith are obvious; it would be well could treaties in regard to sanitation become universal. A uniform system of notification and in and out inspection throughout the world, though like every other good thing it might find its opposers, would be a step toward the millenium. At present each leading government keeps its sanitary spies on the others in the way of consuls, etc., and our own government has a corps of medical officers stationed in various parts of the world to supplement its regular consular officials in their lookout for disease that might be transmitted to us. Probably this will always be more or less of a necessity, but such treaties as the one referred to are steps in advance that give encouragement of better things in the future. That it is between two Spanish-American countries is evidence that in medical matters, however it may be in general political management, they are progressive and enlightened. What they do for and between themselves in this direction will undoubtedly aid in the protection of other countries, which in fairness should reciprocate and co-operate in the good work. Sanitary alliances are apparently a new thing in international law; they are unmentioned in most if not all text-books on the subject, but they are an innovation that is to be commended and it is to be hoped has come to stay.

PRACTICE ACTS AND RELIGIOUS LIBERTY.

The argument that medical practice acts interfere with religious liberty guaranteed by the constitution is an old one, but it still seems to be in use. The spiritualists and "Christian Science" people always make the most of it, and it does not appear to relieve the case much for them when, as in the Missouri law just passed by the legislature, they are allowed to practice provided they make no charges for their services. The remuneration is the important feature of the religious liberty of which the law deprives them; their religion, in its essentials, is like that of the sailor who, when in extremity, not knowing how to pray, preach or sing, passed the hat for a collection. The opposition to the

Missouri bill, however, as well as to a similar act just passed by the Indiana legislature, appears from an unexpected source; it is said that Catholic influence has been exerted against the medical practice act in those states. We have too good an opinion of the general good sense of the higher authorities and leaders in the Catholic or any of the Protestant churches to believe that they are at all responsible for such an action; it must be, if the reports are true, only a misled zeal of some of their more poorly informed adherents. "Christian Science," so far as its misty theology can be interpreted, involves the nullification of human responsibility and thus strikes at the basis of all religion. It is, as has often been said, neither Christian nor scientific, and is therefore without any claims for consideration on either side. Religious rites for the sick, as they are practiced in the Catholic church, are, as is generally understood, for the good of the soul, and therefore do not come properly under the prohibitions of the legal regulation of medical practice. The Catholic church does not teach dependence upon them to the exclusion of other measures, or that they are alone directly efficacious for bodily ills. That Catholics, therefore, should oppose medical laws, is not to be expected, and if they do so it must be attributed to individual ignorance, not to the church as a whole.

HAYCRAFT'S REACTION FOR BILE.

When sublimed sulphur—"flour, or flowers, of sulphur"—is added to urine containing bile, the sulphur immediately falls to the bottom of the tube. In the absence of bile the sulphur remains on the surface of the urine, sinking but partially or very slowly, if at all. This is Haycraft's reaction for biliary acids. This simple method, known to Eichhorst in 1887 and mentioned in the *Physiology of Langlois and de Varigny* in 1893, seems to have fallen into complete oblivion. The original publication of Haycraft, an English chemist, has been searched for in vain by Frenkel and Cluzet who, attracted by the interesting physical problems involved in the reaction and by its practical value, have studied the phenomenon both clinically and experimentally.¹ They find that Haycraft's reaction for biliary acids is an extremely simple method for determining the presence of bile in the urine and in certain other organic liquids. Its sensitiveness compares favorably with that of Pettenkofer's method and of Strassburg's modification of the latter, but it is not absolutely pathognomonic; for there are a number of other substances which also cause the sulphur to precipitate, such as acetic acid, alcohol, ether, chloroform, essence of turpentine, benzoin and its derivatives, phenol and its derivatives, anilin, and the soaps. In the case of urine, however, Haycraft's method is of great usefulness for the very reason that the substances just enumerated occur but exceptionally in the urine, and hence only rarely will they simulate the presence of the biliary acids. Frenkel and Cluzet state that Gmelin's test and Pettenkofer's and Strassburg's reactions may fail to indicate bile where sulphur gives a positive result. In the case of the contents of the stomach or of the intestines, the reaction with sulphur has not so much value because of the

frequent presence of acetic acid, alcohol, and phenol and its derivatives, all of which throw down the sulphur.

Haycraft's reaction is explained by differences in surface tension. The authors have determined that all fluids with a surface tension greater than 50 dynes per centimeter do not allow sulphur to fall, and that in all fluids with a tension less than 50 dynes the sulphur rapidly settles. When the tension is about 50 dynes, the reaction is doubtful. Incidentally they observed that lycopodium bears the same relations to fluids with a tension of 30 dynes, as flowers of sulphur to fluids with a tension of 50.

A THEORY OF RELAPSES IN FEVERS.

In certain disease, such as typhoid fever, antibacterial substances, often in considerable quantity, appear in the blood toward the end of the fever and in convalescence. It is not unlikely that these substances begin to be formed soon after infection. The appearances of other substances, such as agglutinins, indicate that specific changes are taking place in the tissues and fluids of the affected organism. That relapses should occur, as they frequently do, in individuals whose blood contains substances inimical to the specific bacterium of the disease in question is certainly at first sight not clear. This question is discussed by Herbert E. Durham.¹ He bases his theory of relapse in fevers upon the consideration that a given infection is not to be regarded as the result of the action of a number of actually identical organisms, but rather as the result of the combined action of closely similar though not absolutely identical agents. Now, if the infecting agents consist of varieties and subvarieties, then the resulting antibodies in the serum may vary more or less in their general constitution corresponding to the varieties and subvarieties of the micro-organisms at work. The individual may become highly protected against a particular variety of pathogenic agent, whereas other varieties may multiply quite unchecked and thus cause a relapse. Is this refinement of bacterial variability a mere creation of fancy or does it rest upon actual observations? Durham thinks that such varieties as here supposed have been shown to exist. Pfeiffer and Kolle have found that the protective power of typhoid serum varies with different test cultures, and not only quantitatively but also qualitatively. There are also marked differences in the reaction of agglutination in different races of bacilli and different samples of serum. In studying different colonies of *B. enteritidis* (Gärtner) obtained from a fatal case of meat poisoning, Durham found that the bacilli in one colony were peculiarly aberrant in their behavior toward the serum from some of the individuals who had suffered from the poisoning. And two of the serum samples, which agglutinated the atypical bacillus, had comparatively less effect upon the other cultures. This points to a "varietally different" infection to that of the other patients. The aberrant culture was not more virulent than the other cultures. The problem ought to be studied by means of tests of the actual conditions in relapses in such disease as typhoid fever. Serum should be tested, as suggested by Durham, before, dur-

1. Jour. de Phys. et Path. gén., 1901, iii, 99-111.

1. Jour. of Path. and Bact., 1901, vii, 241-249.

ing and after relapses, upon a varied selection of cultures, both for agglutinating and protective powers. The literature of antistreptococcic serum contains much evidence confirmatory of the view advanced by Durham. Van der Velde has shown that the serum of a streptococcus-treated animal contains pronounced protective powers against a particular race of streptococci, but not against other races. Clinical experience shows that erysipelas is very likely to recur, and perhaps the renewed outbreaks are caused by streptococci that differ somewhat in character from the streptococci of the original attack. There is consequently considerable evidence to indicate that relapses may depend upon the varying preponderance of varietal forms, each capable by virtue of its complex structure to cause more or less specific antibodies. There are so many factors in the pathology of an infective disease that it is exceedingly difficult to determine the part of each in the final result. Bacterial variability seems to be competent to clear up some of the difficulties in the way of a clear understanding of relapses in fever.

Medical News.

ALABAMA.

West Huntsville has closed its smallpox hospital, as no new cases have developed in the last three weeks.

Dr. Thomas W. Ayers, wife and family left Anniston, March 9, and sailed from San Francisco, March 15, for China, where Dr. Ayers is to be stationed as a medical missionary.

Two Birmingham physicians have been fined \$1 each for violating the city ordinance by failing to notify the city physician and county health officer, at once, on finding a case of contagious disease.

Hillman Hospital, Birmingham, received an addition of more than \$6000 to its building fund in response to appeals made at a recent mass meeting. The assets of the hospital now exceed \$31,000, not including a maintenance fund of \$20,000, presented by Mr. Hillman.

CALIFORNIA.

A **detention hospital** for contagious diseases is said to be the most pressing need of Los Angeles, and the board of health has been petitioned to take steps to establish such an institution.

A "**nervopathist**," of Los Angeles, who was fined \$100 a short time ago for practicing medicine without a license, and who appealed, has had the judgment of the lower court affirmed by the supreme court.

A **leper**, who had been selling candy in San Francisco since November, was taken from his place of business March 12 and admitted to the Harbor Hospital, whence he will be taken to the hospital for lepers.

The **German Hospital**, San Francisco, has invited architects to present competitive designs for the new hospital building, on which \$250,000 is to be expended. Prizes of \$2000, \$1000, \$750 and \$500, respectively, are offered for the four best designs.

Seven graduates of the Pacific Coast Regular College of Medicine, comprising the first graduating class of that institution, which began its work only about nine months ago, have been refused licenses to practice by the board of medical examiners of the Medical Society of the State of California, on the ground that their Alma Mater does not meet with the minimum requirements for medical colleges, as adopted by the board Dec. 4, 1900.

COLORADO.

Dr. Uhler D. McDowell, Longmont, has been appointed medical inspector to the State Board of Health.

Lake City is to have a hospital, through the generosity of Col. C. F. Meek, who has purchased a suitable building and turned it over to the people of Hinsdale County for hospital purposes.

A **compromise** has been effected regarding the Denver & Rio Grande Railroad Hospital at Salida which is satisfactory alike to the officials and the employees of the railroad. By its provisions Dr. Frank N. Cochems is made surgeon-in-charge, with authority only limited by the trustees of the employees relief association.

An **antivaccination circular** is being distributed by the Colorado Medical Liberty League, signed by two "doctors," one of whom is a magnetic healer and the other is not known to the medical directory. Unfortunately, however, this propaganda makes the enforcement of the orders of the health commissioner regarding vaccination more difficult.

ILLINOIS.

St. Anthony's Hospital, Rock Island, held the annual meeting of its surgical staff, March 8, and re-elected Dr. George L. Eyster, president; Dr. Joseph R. Hollowbush, vice-president, and Dr. St. Elmo M. Sala, secretary and treasurer.

Chicago.

Dr. E. C. Dudley is taking a vacation tour on the Pacific coast.

Dr. Frank Billings has returned from a yachting trip of a month in the tropics.

"**Dr.**" **Gee Wo Chan**, a Chinaman, has been prosecuted by the State Board of Health for omitting to comply with the formalities required by law before practicing medicine.

Dr. Gerry S. Driver, acting asst.-surgeon, U. S. Army, who has been stationed at Chicago for some time, has been made captain and asst.-surgeon of Volunteers, and ordered to the Philippine Islands.

Pneumonia Mortality.—The enormous increase of pneumonia mortality within the past decade is due to the fatal complications of influenza, the germ of which disease has been present in this city to a greater or lesser extent ever since 1890. The sufferer from pneumonia now has a much poorer chance of recovery than he would have had a dozen years ago, when there was no influenza infection in the air.

Chicago's Mortality.—The mortality last week was lower than for the week previous, and restores the average of eight weeks of unprecedentedly low winter mortality. There were 443 deaths from all causes, 35 fewer than the previous week and 104 less than the corresponding week of 1900. The death-rate was 13.14 per 1000 per annum for the week ended March 16. Of the 443 deaths, 104 were of infants under 1 year old and 88 of individuals over 60. Respiratory diseases caused 167 deaths and violence 24. On the basis of the first sixteen days of the month, the total March mortality will be only 1910, as against 2547 in 1900, 2343 in 1899, and 2316 in 1898. Taking the increase of population into consideration, this will make a remarkable showing for March, 1901. The most satisfactory and the most unlooked-for decrease is in the deaths from pneumonia, which were 13 less than the previous week and 48 fewer than in the corresponding week one year ago. The total pneumonia deaths for the month, up to the close of last week, number 161, on which basis the total for the month would be 328, as against 564 in 1900, 468 in 1899, and 378 in 1898.

INDIANA.

Riley has an epidemic of measles. One physician in the town reported 83 cases to the County Board of Health in February.

Dr. John A. Martin, for several years asst.-surgeon at the State Soldiers' Home, Lafayette, has been made surgeon-in-charge, vice Dr. Theodore Sargent, who resigned on account of ill health, but who will remain at the home as assistant-surgeon.

IOWA.

Cedar Rapids is to have a public hospital. Abraham Slimmer, of Waverly, has agreed to duplicate, up to \$50,000, any amount the city may raise for this purpose. About \$25,000 has been secured up to this time.

LOUISIANA.

Dr. Joseph A. O'Hara, New Orleans, has been appointed medical inspector of public school children by the local board of health.

Dr. D. U. Maes has been appointed assistant-demonstrator of anatomy, New Orleans College of Dentistry, vice Dr. Emil Regard, resigned.

The **annex** to the State Insane Hospital, for colored patients, has been constructed at a cost of \$18,000, and on the day it was opened fifteen patients were received.

The State Board of Health has appointed Drs. David P. Albers, William H. Carson, W. S. Cushman, J. E. Heidingsfelder, G. King Logan, and W. J. Rhymes medical inspectors on the fruit vessels plying between New Orleans and Central American ports.

Appointments as Internes.—On competitive examination, the following undergraduates of the medical department of Tulane University have been chosen to serve as internes in the Charity Hospital for two years from April 1: W. R. Callen, P. C. De Verges, A. C. Eustis, E. M. Hummel, A. C. Jacoby, R. C. Lynch, J. F. Points, and S. K. Simon.

Tuberculosis Camps.—There is a movement on foot to establish hospital camps for the tuberculous in the pine woods near Covington, St. Tammany Parish. Already a fifty-acre tract of land and \$800 have been donated for the purpose. \$300 of the latter having been given by members of the State Board of Health.

MARYLAND.

Smallpox.—Early in March a report came to the State Board of Health of the prevalence of an outbreak of supposed chicken-pox in Sussex County, Delaware, which borders on Maryland. A case was found on board a vessel in the harbor of Cambridge, Md., which was diagnosed by Drs. Mace and Goldsborough, of that place, as smallpox. Dr. John S. Fulton at once warned all county health officers of the Eastern shore, and also notified the Delaware officials of the discovery. It was then found that there were fifty or sixty cases, chiefly among negroes, at Seaford, Del. The disease is said to be of a mild type.

Baltimore.

Dr. Bosley, health commissioner, has had introduced into the city council an ordinance appropriating \$25,000 for an infectious diseases hospital.

MICHIGAN.

Smallpox in Flint has assumed alarming proportions. Many cases have been reported, more than 100 are in quarantine, and this within ten days. All business is at a standstill.

Dr. Henry D. Thomason, Albion, who served during the Spanish-American War as major and surgeon of Volunteers in the South, Cuba and the Philippines, and returned to the United States a few months ago, has been re-appointed major and surgeon, U. S. V., and is on his way to his post of duty in Manila.

The State Mortality.—For February this was at the rate of 17.1 per 1000 per annum. There were 472 more deaths than in the corresponding month of 1900. There were 536 deaths of infants under 1 year of age, 185 of children 1 to 4 years old, and 1029 of persons 65 years and over. Important causes of death were as follows: Tuberculosis, 184; typhoid fever, 43; diphtheria and croup, 47; scarlet fever, 34; pneumonia, 474; influenza, 378; cancer, 121; violence, 100.

Hospital for Consumptives.—A bill has been introduced in the legislature, by Dr. Ames, to establish and maintain a state hospital for consumptives. It provides that the objects of the hospital shall be the proper care and treatment of consumptives; the training and education of those who leave the hospital in the restriction of the spread of the disease; the training of medical students in the methods of restricting tuberculous disease, and that physicians and others may be enabled to study the disease with a view to its restriction or extinction in Michigan.

MINNESOTA.

Bethesda Hospital, St. Paul, has paid off \$20,000 of its indebtedness, leaving only \$5000 outstanding.

Both medical bills, previously noticed in these columns, were defeated in the legislature, after long and fruitless debate, by a vote striking out the enacting clause of each.

A bill has been introduced by which the state hospitals for the insane are to be designated, not as "first" and "second," but by the name of the city in which they are located. The bill also provides for \$200,000 to be used for the construction of two cottages at Anoka and two at Hastings.

NEW JERSEY.

Many physicians from various parts of the state gathered at Trenton to urge the appropriation of funds for the construction of a sanatorium for consumptives.

The State Hospital at Morristown is at last completed, at a cost of \$500,000, or more than \$5000 per bed. The formal opening will be deferred until later in the spring.

Smallpox has appeared in Hudson County, and at Mount Laurel. General vaccination has been recommended in the latter place, and in Paterson. The quarantine has been raised against certain districts of Woodbury, where smallpox has prevailed.

Regulation of Anatomy Courses.—A bill has been introduced in the house prohibiting any institution that gives instruction in human anatomy from graduating pupils in less than two years. It was referred to a committee and promptly reported with a favorable recommendation for its passage. The bill is aimed at a school in Trenton which advertises to teach its system of curing without drugs in ten months. Because it does not prescribe drugs in any way the school is exempt from examination by the State Board of Medical Examiners.

NEW YORK.

Dr. Ethan A. Nevin, Ogdensburg, has been appointed junior physician at the Long Island State Hospital.

The Amsterdam City Hospital staff met March 5 and elected Dr. Charles Storer consulting physician. Dr. James B. Conant was nominated on the staff, and Dr. Edward J. Collier appointed pathologist.

The bill giving the State Board of Health power to regulate the type and leading of books, newspapers and serial literature, to protect the public eyesight, has been reported favorably by the public health committee of the assembly.

Medical Examiners.—The following were appointed by the board of regents, at its meeting in Albany, March 14: Drs. Joseph P. Creveling, Auburn, and Eugene Beach, Gloversville; Drs. W. Gilman Thompson, Cornell Medical School, and Willis G. Tucker, Albany Medical School, were appointed members of the medical council for three and five years, respectively.

Buffalo.

Dr. Charles M. Burdick has been appointed medical interne in the St. Lawrence State Hospital.

The monthly report of the department of health for February shows a death-rate of 13.43 per 1000 per annum.

New York City.

A New Hospital.—The Hebrew Benevolent and Orphan Asylum Society will build a five-story hospital at the north-east corner of Amsterdam avenue and 136th street. It will adjoin the present building and will cost \$70,000.

A Brooklyn policeman, exposed as a guard in a tenement district where quite a number of smallpox cases had appeared, has been sent to North Brother Island suffering from the disease. Other cases have appeared in Brooklyn.

A Projected Nurses' Home.—On March 11 plans were filed for the new nurses' home for the Presbyterian Hospital, to occupy a plot 124 by 102 feet on a site opposite the hospital. The structure is to be eight stories, paid for from a fund of \$300,000 provided by the munificence of John Stewart Kennedy, president of the board of managers.

OHIO.

Dr. Homer C. Bennett, Lima, suffered a loss of about \$1000 by fire, March 12.

Township physicians have been appointed as follows: Drs. Edward A. Flinn, Madisonville, and Ulysses G. Senour, Pleasant Ridge.

Dr. James F. Edwards, formerly of Portsmouth, but now an acting assistant-surgeon on duty with the 32d Regiment, U. S. V., in the Philippines, has been commended for conspicuous gallantry on the field of battle and recommended for promotion.

Lakeside Hospital, Cleveland, has selected the following house staff from the graduating class of Western Reserve Medical College: A. H. Bill and C. B. Wean, medical service; P. P. Carlisle, C. H. Hay, A. C. Ludlow and L. B. Zintsmaster, surgical; C. S. Hoover and D. W. Pepper, gynecology, and E. M. Iekles, private ward.

Meat Regulation.—Health Officer C. W. Davis, Cincinnati, has transmitted to the board of public service an ordinance providing that no person shall expose for sale any sheep, goat, lamb or kid that has been slaughtered, until the head, feet, etc., have been removed. The statement is made that meat from which the head, feet, etc., are not removed is liable to contain "germs and vermin."

St. Joseph's Hospital, Lorain, has organized its medical staff as follows: Dr. Abraham N. Garver, president; Dr. Olney B. Monosmith, secretary; Drs. William E. Wheatley,

Samuel S. Cox, John F. McGarvey and Abraham N. Garver, on the surgical staff; Drs. Edward V. Hug, Charles H. Frederick, Frank Young, John R. Gilbert and H. P. Robinson, on the medical staff, and Drs. Olney B. Monosmith, Lorain, and H. Wooster Patrick, Elyria, in the eye, ear, nose and throat department.

PENNSYLVANIA.

Dr. J. Ralph Shook, Greencastle, has received an appointment as acting assistant-surgeon in the army.

Dr. Andrew Strang, for many years resident physician at Hillside Home, Scranton, has resigned and will spend several months abroad.

The State Hospital for the Insane at Norristown is so overcrowded, despite the two new buildings, that on March 1 260 patients were sleeping in corridors, 150 of whom had only mattresses on the floor.

The legislature has been asked for an appropriation of \$60,000 for the establishment of free homes for consumptives in the mountains near White Haven. The idea at present is to erect about ten cottages where these patients may be treated.

The will of Christopher L. Magee, of Pittsburg, provides for the founding of a general hospital, to be known as the Steel-Magee Hospital, in honor of the testator's mother. The interest on \$10,000 was also given to Mercy Hospital, of Pittsburg.

Fire in Hospital.—On March 11 a fire occurred in the Beaver County Hospital, at Rochester, and destroyed the first floor of the building. The hospital was completed last July, at a cost of \$4000. The total loss will aggregate \$3000. The patients were transferred to the Beaver Valley Hospital at New Brighton.

Warrants have been issued by Coroner Roberts, of Scranton, for the arrest of four "Christian Scientists" for alleged criminal negligence in the case of a man who recently died there while under their treatment. One of the accused is said to have received \$1 a day for his services, and as he has no license to practice medicine, may be prosecuted.

Philadelphia.

Gifts.—By the will of George M. Troutman, \$5000 has been given the Presbyterian Hospital for the endowment of a free bed; \$1000 to the Maternity Hospital of Philadelphia, \$1000 to the Northern Dispensary of Philadelphia, and \$5000 to the Philadelphia Home for Incurables.

Hospital Funds.—The recent charity ball realized \$11,200, which was equally divided between the University of Pennsylvania Hospital, the Maternity Hospital of the Jefferson Medical College, the Orthopedic Hospital and Infirmary for Nervous Diseases, and the Samaritan Hospital.

Free Hospital for Poor Consumptives.—This institution has announced that the total receipts for the year were \$10,237.65, and the expenditures \$10,048.27. The sum of \$3327.14 was received through small contribution boxes placed in different portions of the city. The board of managers has purchased 215 acres of land in the Pocono Mountains, on which to erect a sanitarium. At the present time the patients are being treated in the University, German, St. Agnes', Rush and St. Mary's hospitals. It is hoped that the management will soon be able to erect a building of its own in the city. Dr. Lawrence F. Flick was re-elected president.

Tuberculosis Contagious.—The board of health has placed tuberculosis on the list of contagious diseases, and decreed that physicians treating such cases must report them. It is not the intention to isolate cases of tuberculosis, or to placard their houses. The work of the board will be educational, and will consist in sending to these patients instructions regarding certain precautionary measures to be instituted in order to prevent others from contracting the disease, and in other instances to supply patients dependent on charity with the required medicines. This work, for the most part, has resulted from the efforts of members of the Pennsylvania Society for the Prevention of Tuberculosis and the Philadelphia County Medical Society.

SOUTH DAKOTA.

Dr. Frederick W. Cox, Vermillion, has been appointed acting assistant-surgeon in the army.

The plans and specifications for St. Luke's Hospital building, Aberdeen, have been received and the construction of the hospital will be started in a few weeks.

The bill introduced by Dr. Charles W. Locke, of Minnehaha County, provides that no license shall be issued to any person

who has not taken a full four-year course in a recognized medical college.

UTAH.

Smallpox is reported as follows: Salt Lake City, 112 cases, including 56 new cases; Sterling, 1; Enreka and Letitia, each 2 cases.

Dr. Joseph M. Heller, Winchester, late acting assistant surgeon in the army, has been appointed major and surgeon of volunteers, on the recommendation of General Otis.

Gunnison children were admitted to school unvaccinated in violation of orders of the State Board of Health, and the health officer, Dr. Hubert F. Andrews, has been instructed to prosecute the persons on whom the responsibility can be fixed.

CANADA.

Montreal's mortality record for the nine weeks following January 5 shows 129 deaths from scarlet fever. During the same time diphtheria only claimed 13.

Smallpox cases now number 136 in the province of Ontario. On March 1 there were 87. The number of cases at Sudbury has increased from 17 to 30.

Dr. Walter Wilkins, one of the resident staff of the Montreal General Hospital, has left for British Columbia, to accept an appointment as surgeon of the Cariboo mines.

An epidemic of scarlet fever is raging in the Baptist college at Woodstock, Ont. There are several hundred students at this institution, and the college is under strict quarantine.

Prof. J. George Adami, of McGill University, Montreal, has been appointed vice-president of the section of pathology and bacteriology of the International Congress on Tuberculosis, to be held in London, England, in July, under the patronage of His Majesty, King Edward VII.

Sanitary Legislation.—A deputation from the National Sanitarium Association waited on the local government recently, seeking an amendment to the sanitarium act, which will allow municipalities to contribute to the support of sanatoria outside the municipalities. If the act were so amended the association would immediately commence the erection of a sanitarium outside of Toronto.

Registration of Births and Deaths Opposed.—The Doukhobors and Gallicians, settled in the Northwest Territories, are commencing to make trouble in the community. They first objected to Canadian marriage laws, and now they are opposing the law in regard to the registration of births and deaths. They have issued "An Address to All Nations," seeking an asylum in a country where these "oppressive laws" do not obtain.

Victorian Order of Nurses.—The annual meeting of the Victorian Order of Nurses was held at Ottawa on March 15. The total receipts for the year amounted to \$7638.53, and the expenditure was \$5668.76. The Ontario government grants amounted to \$2500. Six new branches were supplied with nurses during the year. Since the inauguration of the order, five cottage hospitals have been established in British Columbia and the Northwest Territories. A fund will be established for creating such hospitals, and it is proposed to invite the dominion and provincial governments for contributions for this purpose.

Dominion Medical Council.—On the 13th inst., Dr. T. G. Roddick, M.P., introduced his bill for a dominion medical council into the dominion parliament. In his address to the house, he explained the provisions of the bill, the details of which have already been published in THE JOURNAL. In going over the constitution of the board, Dr. Roddick gave a concise history of the repeated attempts to form this council. Each province will be given three members and the homeopaths will also have three representatives. Dr. Roddick gives the medical population of the provinces as follows: Prince Edward Island, 90 practitioners; Nova Scotia, 476; New Brunswick, 243; Quebec, 1400; Ontario, 2500; Manitoba, 344; British Columbia, 314; Northwest Territories, 95. The bill received its first reading.

Scientific Evenings.—Toronto University has inaugurated an annual series of scientific evenings, to afford the public an opportunity to become acquainted with the scientific resources of the university. In the physiological department, Prof. A. B. MacCallum and Dr. F. H. Scott exhibited the tracings from the external pulsations of the heart and blood-vessels of the human subject at the session held March 13. Dr. Miller and Dr. Kendrick, of the chemical department, showed experiments illustrating Goldschmidt's method of producing intense heat

by the action of aluminum on oxid of iron. Prof. A. Primrose and Dr. Coutts gave a demonstration of the filaria parasite. One was exhibited in the living state, the filaria sanguinis hominis nocturna. Demonstrations were also given in the laboratories on radiographic experiments, microtomy and bacteriology.

Healthy Baking-Powder.—A deputation of the baking-powder men waited on the central government last week. They were accompanied by Dr. Peter T. Austin, a New York chemist, while the Inland Revenue Department was advised by its analysts, Messrs. T. MacFarlane and A. McGill. In a bulletin issued some months ago, noted in THE JOURNAL at the time, the employment of alum in baking-powders was condemned as being injurious to health. The contentions of the deputation were that whenever alum is used in making baking-powder it is mixed with bicarbonate of soda and, during the process of baking, goes off in the form of carbonic acid gas, and the residue left is not injurious to health. While a prohibitory law might be justified in England, where they employ a crude alum, it does not maintain in Canada, where the product goes into the manufacture. The deputation was promised a consideration of the question.

FOREIGN.

Dr. Henry Jellett, ex-assistant master of Retunda Hospital, Dublin, has been appointed editor of the *Medical Press and Circular*, to succeed the late Dr. Archibald Hamilton Jacob.

Snake-bites, according to the last annual report of the Indian Government, caused 24,621 deaths in India last year. The mortality from this cause does not seem to diminish in spite of all efforts of the government.

Deaths Abroad.—The death of G. A. Nordlund, professor of anatomy at Upsala, is announced, and that of C. J. Rosander, professor of surgery at Stockholm; of O. von Heusinger, professor of legal medicine and pediatrics at Marburg, and of J. Homan, assistant superintendent of the Kiel Institute of Hygiene.

Death of the Editor of "Vratch."—Prof. V. Manassein, who founded the leading Russian medical weekly, *Vratch*, twenty-one years ago, and has been its editor since, died at St. Petersburg, February 26, of apoplexy. He was in his sixty-first year. He served as professor of therapeutics and internal medicine for twenty-five years, and has published a number of important works.

Progress of the Plague.—According to the *British Medical Journal* of March 9, deaths from plague, for all India, for the week preceding February 9 numbered 4377, as compared with 3415 the previous week. For the week ending February 12, 923 died of plague in the City of Bombay, or 137 more than the preceding week. Since January 4, 5 Europeans have been attacked by the disease in Bombay. The deaths from this cause in Bengal for the week ending February 9, numbered 2491, the greatest mortality being at Patna, i. e., 1408. In Calcutta there were 129 deaths during this period, and on February 10, 11, 12, 13 and 14, they numbered respectively 17, 16, 30, 35 and 30. The deaths in Mysore, which is the only province in India in which the plague is not increasing, numbered 226 for the week ending February 9. In Mauritius 16 new cases occurred during the week ending February 21, with 13 deaths. Cablegrams announce that 3 cases were reported in Singapore on February 22 and 24, and 1 case at Port Adelaide, Australia, on a transport which arrived from Cape Town, March 2. Reports also indicate 2 cases near Brisbane, Australia. Cablegrams of March 14 announce that 4 cases of the disease among Europeans have been officially reported in Cape Town, S. A., and 8 more among colored people, with 37 deaths to that date. The outbreak of plague at Cape Town threatens to become serious. The government is taking from the corporation full control of the measures for combating the disease and is engaging a large number of inspectors and scavengers to cleanse every quarter of the city and destroy rats and vermin. Professor Simpson, the plague expert; Dr. Gregory, the government health officer, and Dr. Fuller, the city health officer, will act as joint advisers in the treatment of the outbreak. Systematic cleansing of all houses has been begun. The city has been divided into districts, each in charge of a doctor assisted by a sanitary staff. For the natives, a location is being prepared, to which they will be removed from their hovels, the latter being cleansed or destroyed.

LONDON.

The Royal Commission on Arsenical Poisoning.

Under the presidency of Lord Kelvin, the royal commission appointed to investigate the amount of recent exceptional sickness and death due to arsenical poisoning, the extent to which this was due to the presence of arsenic in beer or other articles of food or drinks, and how such poisoning can be prevented in the future, has commenced its sittings in London. Most of the evidence given up to the present has been previously reported in THE JOURNAL. Dr. Tattersall, medical officer of health of Salford, an important town with a population of 222,000, near Manchester, described the outbreak there. The facts are exactly parallel to those of the Manchester outbreak. In June, 1900, a great increase was observed in the number of cases of peripheral neuritis, and in November a still further increase. All the sufferers were beer drinkers and took from 1 to 16 pints of beer daily. Lead poisoning was suspected, but analysis of samples of beer taken from fourteen breweries were negative. Dr. Reynolds' discovery of arsenic in the beer of Manchester revealed the cause of the peripheral neuritis; 996 cases were reported, and there were 107 deaths, probably due to arsenical poisoning. The outbreak lasted from June to the end of November. Moderate drinkers took about half a grain of arsenic weekly; in some cases as much as 4 grains was taken.

Intestinal Sand.

At the Royal Medical and Chirurgical Society, Sir Dyce Duckworth and Dr. A. Garrod related a case of this condition, which has been rarely recorded in England as compared with the Continent. A married woman, aged 33, lived in healthy surroundings, save for the supply of water, which was hard and contained organic impurities. The family history showed a gouty stock. In January, 1900, the illness commenced with intractable diarrhea, accompanied by internal rumbling and purring noises, there being six or eight loose motions in each twenty-four hours. In February the patient took to her bed and was ordered an exclusively milk diet and lime-water. This lessened the diarrhea to three or four motions daily, sometimes attended with the passage of mucus. In March sand was discovered in the motions and it was found subsequently in all in which it was looked for. Early in May she was pallid and sparsely nourished. On examining the abdomen the colon and sigmoid flexure were found empty, too readily palpable and apparently thickened. The right kidney was movable. The temperature occasionally rose to 100 F. The sand was reddish-brown, finely gritty, and much resembled a deposit of uric acid. The patient was confined to bed and kept on a milk diet. Salicylate of bismuth and bicarbonate were given and the diarrhea was checked and health improved. All vegetable food was withheld and digestion found to be much more comfortable without it, as it caused immediate distension. In November the patient was rather pallid, but had regained her weight and the bowel no longer appeared thickened, but the splenic flexure was tender. There was still looseness of the bowel, from two to four actions occurring daily, but no sand was passed.

This case presents some of the characteristics which have been described in the few instances of the disorder on record. But it is remarkable in the slowness of the pain. In most cases paroxysmal pains lasting several hours were a characteristic feature. When washed and dried in the air the gritty material passed with the motions had the appearance of fine sand. It was deep brown, with an admixture of pale particles. Under a low power of the microscope the granules were seen to be of a great variety of shapes; some were roughly oval, some oblong or rod-like, others irregular. Their color varied from yellow to brown. The air-dried sand was composed of water, 12.4; organic matter, 26.2, and inorganic, 61.3 per cent. Analysis showed that the inorganic matter was composed of CaO 54.9, P₂O₅ 42.5, CO₂ 2.2, and traces of Mg. and Fe.

Extensive Enterectomy.

Mr. A. E. Barker described the case of a feeble old woman, aged 76, admitted to the hospital. In 1870 she had undergone ovariectomy. For two years she had a large ventral hernia in the scar. On January 8 and 9 she had not felt well, and complained of some pain in the abdomen, but was not sick. On January 10 she was seized with severe pain in the abdomen and vomited. The hernial tumor was tender and more swollen than usual. No motion or flatus was passed. Mr. Barker opened the abdomen through the old scar, and about a pint of dirty, blood-stained fluid, with a fishy odor, gushed out. A loop of blackened small

intestine, about three feet long, was found strangulated through the omentum. The gut had not entirely lost its luster, but was very foul and distended tightly with dark blood-stained fluid. Subperitoneal hemorrhages existed in several places and a few of the subperitoneal venules were thrombosed. The extremely foul and fishy odor of the gut determined Mr. Barker to remove it, as its recovery seemed hopeless. He therefore cut away $5\frac{1}{2}$ feet of the bowel and anastomosed end-to-end as rapidly as possible. This part of the operation occupied forty-four minutes, the whole of the operation sixty-three. During this twelve ounces of normal saline solution were injected subcutaneously. Recovery was uninterrupted.

Painless Pyonephrosis Without Fever.

At the Medical Society of London, Mr. Alban Doran brought forward this case because, though painless calculous pyonephrosis is not unknown, surgeons are often induced, in a case of enlarged kidney, to exclude calculous pyonephrosis on the ground that the disease must always be painful. A woman, aged 38, had borne eight children, the youngest of whom was $5\frac{1}{2}$ years. Her husband had been subject to stricture and cystitis. For a few months she had a purulent vaginal discharge. For a year she had noticed a swelling in the left side; it ached when she put on her stays, but when undressed she was always comfortable. There was no history of rigors, fever, hematuria or renal colic. A large movable kidney lay in the right groin; it was not tender. The urine occasionally contained albumin. The kidney was exposed by Langenbeck's incision and easily extracted. It had become a cyst containing about a pint of "laudable pus," without a trace of tubercle. The lower calyces were blocked by a small rough calculus. The infection was probably gonococcal. The absence of fever was remarkable. The kidney was converted into a bag of pus and yet the patient appeared in excellent health.

Correspondence.

The Physician and Commercialism.

CHICAGO, March 1, 1901.

To the Editor:—The recent commendable action of the Chicago Medical Society (THE JOURNAL, February 2, p. 331) in so emphatically taking a stand against the much discussed division of specialist's fees, is to be, the writer trusts, only the first move toward a more thorough and rigid ethical introspection. For it is only by such decisive action that every member of the profession can be made to appreciate how insidious and dangerous has been the progress of commercialism in medicine.

Recent stock in a mineral springs company has been offered to—and, indeed, purchased by—some of our leading physicians at a very advantageous price. It being explained to the physician visited, by the solicitor for the company, that the water is practically pure—there is no doubt the spring furnishes good water—that he can without hesitation recommend it to his patients, that the sale of the water is to depend upon physicians' and druggists' recommendations entirely, there being a definite profit on every gallon sold, he (the physician) can by each and every prescription increase the earnings on the stock he holds; indeed, from a businessman's standpoint the proposition is a very attractive one, and it is being conducted upon such conservative lines that very few physicians who have subscribed for stock realize how questionable is the transaction from the ethical standpoint. To all questions there are two sides, and this is not an exception. Wherever pure water is difficult to obtain it can be seen that the patient would be better served by physicians combining, and, if necessary, purchasing a pure spring and recommending its waters, but in such a case it would be a satisfaction to the physician to explain to his patients his connection with the company and his reasons for such connection; the patient's confidence in the physician would thus be strengthened and not weakened, and the medical adviser would thus guard his patient from possible water-supply impositions and be in no danger of embarrassments consequent upon an unexpected disclosure to the patient of his (the physician's) connection with a water company whose products he had been so earnest in recommending. Should physicians then, as household consultants, take a financial interest in any drug, mineral spring, instrument, appliance, or institution,

when such an interest might in any way prostitute our best judgment? Why not remember our patient's rights? He looks to us for untrammelled judgment; has he not then a right to expect that we receive no further financial return than what we charge him for our services? If it becomes necessary for physicians to take a financial interest in a water or in any other supply company, to insure better service, let them combine and control such supply, that they may be able to dictate absolutely the policy of such a company, and not be, as in the cases cited, merely nominal stockholders. The public and clientele would thus, through the printed matter of such an organization, be informed as to who are actual owners, and participants in the profits of such a company.

* * *

Diabetes Mellitus in Hebrews.

PHILADELPHIA, March 3, 1901.

To the Editor:—In your editorial¹ on "Diabetes Mellitus" you mention Dr. von Noorden's communication on this subject, and with regard to etiology, special emphasis is given to the predisposition of the Jews to diabetes. I certainly can not agree with this view, at least not to the full extent of the general opinion. It is true, Jews are proportionately more disposed to diabetes than other people, but this fact has nothing to do with the race of Jews, and by the suggestion of the widespread prevalence of diabetes their dissemination and admixture with Indo-Germanic blood is placed on a wrong premise.

It is a well-known fact that nervousness, overstrain, overwork and cares are factors in the etiology of diabetes. If we look on the statistics of diabetes, we find that merchants, bankers, etc., furnish the greater number of diabetics. If we consider this fact, we need not wonder that the Jewish race furnishes a relatively larger proportion of sufferers from this affection. Several years ago Dr. Krämer, of Frankfort-on-the-Main, published statistics of the City of Frankfort in regard to diabetes, and he came to the same conclusion to which Dr. von Noorden, of the same city, comes. No one conversant with the conditions of Frankfort can help knowing that this city quite particularly has a large population of Jewish merchants, bankers and businessmen in general, perhaps in a much greater proportion than any other city. At that time Dr. Ruff, of Carlsbad, Bohemia, the Mecca of diabetics, rejected the statistics of Dr. Krämer and on the basis of the number and occupation of the visitors to Carlsbad. Dr. Ruff states that the lists of the Carlsbad visitors are not in agreement with Dr. Krämer, and no doubt neither with Dr. von Noorden. Dr. Ruff mentions that even most of the women diabetics who come to Carlsbad are business women, who are burdened with the occupations which as a rule are rather consigned to men.

I do not know whether this discussion between Dr. Krämer and Dr. Ruff ever appeared in a medical journal, as at that time it appeared in the *Allgemeine Zeitung des Judenthums* (1895 or 1896). Yours respectfully,

ALBERT BERNHEIM, M.D.

"The Technique of Bloodless Work."

NEW YORK CITY, March 16, 1901.

To the Editor:—My attention has been called to a letter from Dr. J. N. McCormack, in THE JOURNAL for March 2, commenting on my article on bloodless work, in THE JOURNAL for February 9.

Dr. McCormack boils over with righteous wrath, and so far forgets the amenities of warfare—which prohibit cruel or unusual punishments—as to call me, by implication, a "Christian Scientist." The connection seems a trifle obscure. But I suppose he cast about in his mind for the worst name he could think of, and just naturally hit on that one.

As a matter of fact, there was no personal animus whatever back of my article, in which the treatment of Governor Goebel was mentioned. The journals, medical and lay, which touched

1. JOURNAL A. M. A., March 2.

upon the matter in a paragraph or so, stated that he had been bled to control inward bleeding; but the physician's name did not appear. Consequently I had no means of inquiring directly. I presume that there are many other doctors besides myself who supposed the statements true, as they went uncontradicted.

So much in explanation, and I am taking the first occasion after seeing Dr. McCormack's letter to withdraw my statement which, though not wilfully, has done him such injustice. Indeed, the actual treatment as he explains it could not be improved upon. It was wise and followed the most modern surgical standards. The use of hot, intravenous saline infusion so promptly was exactly the right thing done at the right time. I can but express surprise at a report becoming spread abroad, therefore, so at absolute variance with the facts as that which reached physicians here.

Dr. McCormack may rest assured that when I reprint my article for distribution, the Goebel reference will be wholly omitted; and I beg once more to assure him of my regrets.

Respectfully, ROBERT H. M. DAWBARN, M.D.

Arsenic in Pernicious Anemia and Leucoeythemia.

BALTIMORE, MD., March 18, 1901.

To the Editor:—In THE JOURNAL of March 16, page 756, the following words appear—a part of a summary of some remarks by me before the Johns Hopkins Hospital Medical Society: "He has been astonished to hear the value of arsenic in pernicious anemia and leucoeythemia questioned recently by a distinguished Boston clinician. There is positive evidence of its usefulness in these conditions."

I regret to say that this report of my remarks is somewhat erroneous. I referred, in an informal discussion, to Dr. Cabot's interesting remarks before the Association of American Physicians, last summer (Pernicious Anemia: A Study of 110 Cases. Transactions of the Association of American Physicians, 1900, xv, 334), and did express surprise that the author should regard arsenic of so little value in these cases, stating that it was my impression that in some instances it was of material benefit. I was far from stating, nor do I believe that the value of arsenic is by any means *positively proven*. And I am not aware that Dr. Cabot has questioned the value of arsenic in leukemia. Yours sincerely, W. S. THAYER, M. D.

The Determination of Sex.

CANTON, OHIO, March, 9, 1901.

To the Editor:—Since you have considered it of sufficient importance to give editorial space to an article on the above subject, it may be of interest to know of a case where, for extra-uterine pregnancy, it was necessary, in the laparotomy done for relief, to remove the left Fallopian tube and ovary. This woman, with a right ovary intact and a left ovary removed, has since given birth to two children, with an interval of several years between births. The first child was a female, the second a male. One would think that in this day there would be a sufficient number of mono-ovarian women giving birth to children, for one wishing to lay down a scientific theory, based on the hypothesis of ovarian determination of sex, to have led to an investigation of that phase of the subject for facts. Very truly, EDWARD P. MORROW, M.D.

Medico-Sociologic Data Wanted.

ATLANTA, GA., March 1.

To the Editor:—The sociological committee of the Tri-State Medical Society of Alabama, Georgia, and Tennessee desires information relative to any and all states that have enacted laws regulating marriage of criminals, insane, epileptics, tuberculous or those suffering with venereal disease. It also desires information of any legal enactments or literature on the subject of rendering habitual criminals sterile. Any information along this line, from any of your readers, will be greatly appreciated and gladly received. R. R. KIME, Chairman.

308 and 310 Eng.-Amer. Building.

Book Notices.

THE MEDICAL EXAMINATION FOR LIFE INSURANCE, and its Associated Clinical Methods, with Chapters on the Insurance of Substandard Lives and Accident Insurance. By Charles Lyman Greene, M.D., St. Paul, Minn., Clinical Professor of Medicine and Physical Diagnosis in the University of Minnesota. With 99 Illustrations. Cloth. Pp. 426. Price \$4.00. Philadelphia: P. Blakiston's Son & Co. 1900.

Dr. Greene's treatise on medical examinations for life insurance is by far the most complete work on the subject extant. He states that the reason for the existence of this book is the introduction into medical schools of courses of lectures dealing especially with the medical aspect of life insurance. The work is, however, of equal if not greater value to the medical examiner, who has heretofore had relatively little to guide him, with the exception of the somewhat antiquated treatises up to this time obtainable and the exceedingly brief instructions issued to medical examiners by the respective insurance companies. The most valuable section is that which deals with the conventional questions found on examination blanks, their proper analysis and answers. It is gratifying to note that the author has obtained permission to use and insert the Nylie standard table of heights and weights. The influence of family history in modifying the value of risks is fully considered, as is also the effect of occupation on longevity and the incidence of disease. The section on examination of the chest is very well presented and excellently illustrated. One of the vexed questions that confront the examiner is that of the significance of a pulse which does not vary whether the applicant is sitting or standing, and this question does not seem to be considered by the author. The discussion of the examination of the urine is concise and excellent, but nothing authoritative is stated regarding the important points of the bearing of occasional albuminuria, the so-called physiologic albuminuria, occasional glycosuria, and digestive glycosuria on the value of risks. The author merely quotes, without especial comment, the already-published dicta of certain medical directors regarding these matters. A unique chapter is that on the insurance of substandard lives—a class of risks which nowadays is attracting a great deal of attention among the so-called "old-line" companies. The last two chapters of the volume are devoted to fraud and to accident insurance. The book, taken as a whole, is commendable and marks a great advance in the literature of this important subject.

THE CARE OF THE CONSUMPTIVE. A Consideration of the Scientific Use of Natural Therapeutic Agencies in the Prevention and Cure of Consumption; Together with a Chapter on Colorado as a Resort for Invalids. By Charles Fox Gardiner, M.D., Non-resident Fellow of the New York Academy of Medicine. Cloth. Pp. 182. Price, \$1.25. New York and London: G. P. Putnam's Sons. 1900.

The author states that his object is to give in a clear and practical way the rules which should govern the consumptive in the use of fresh air, sunlight, food, rest and exercise, so that these natural beneficial agencies shall be applied to the best advantage. These are, as he maintains, still the best, most convenient and durable of any curative methods applied in the disease. The book is brief in its treatment of the subject, but seems to be amply full for its purpose, while the advice on the whole is excellent. The latter third of the work is given to a description of the climate of Colorado and its advantages, in which it is shown how many consumptives can make their residence there and obtain perfect health. The author believes that the nervous system does not suffer from high altitudes and the typical nervous invalid is not necessarily a contraindication to resort to that section. It is interesting to note how writers of elaborate works on consumption are more conservative than many who merely repeat the prevalent views. This one apparently does not favor the extreme theories of contagion that are held. An impaired vital activity, giving the germs, so universally diffused, a chance is, he holds, the more important factor, and he uses as his argument the experience of Colorado Springs, where the danger from contagion should be the greatest, if the views held by many were correct.

THE HISTORY OF MEDICINE IN THE UNITED STATES. A Collection of Facts and Documents Relating to the History of Medical Science in This Country, from the Earliest English Colonization to the Year 1800. With a Supplemental Chapter on the Discovery of Anesthesia. By Francis Randolph Packard, M.D. Illustrated. Cloth. Pp. 542. Price, \$4.00 net. Philadelphia and London: J. B. Lippincott Company. 1901.

While there have been many "bits" of medical history published heretofore, some complete as they affected one colony, or one phase, this we believe is the first to appear thoroughly covering all the colonies and all that relates to the subject. The first chapter is general in its character, giving an insight into the conditions existing in the early days when the physician was a combination of preacher and doctor, if not a combination of half a dozen callings. This is the most interesting part of the book, at least to those who love the curious. The author has evidently ransacked every library and searched every book that could possibly throw light on those who founded the profession of medicine in the United States.

Much that is curious, as well as instructive in many ways, is recorded in this part. The following quaint ending to a manuscript on "Receipts to Cure Various Disorders," sent over from London in 1643, by a Dr. Ed. Stafford, is worth quoting: "*Nota bene.* No man can with a good conscience take a fee or a reward before ye partie receive benefit apparent; and then he is not to demand anything but what God shall putt into the head of the partie to give him. And he is not to refuse anything that shall be so given him, for it comes from God. A man is not to neglect that partie, to whom he hath once administered, but to visit him at least once a day, and to meddle with no more than he can well attend. In so doing he shall discharge a good conscience before God and man." Certainly this is good advice. But the following notice, which appeared in the *Boston Evening Post and the General Advertiser*, November, 1781, would be more approved to-day: "The physicians of the town of Boston hereby inform the public, that, in consideration of the great fatigue and inevitable injury to their constitution, in the practice of midwifery, as well as the necessary interruption of the other branches of their profession, they shall, for the future, expect that in calls of this kind, the fee be immediately discharged."

Two chapters are taken up with a description of the epidemics which occurred previous to 1800. The sufferings of those early pioneers are graphically described and the sacrifices made by the physicians of that time, as told here, should make the commercially-inclined modern physician blush. Epidemics were common in those days, smallpox especially being often prevalent and generally terribly fatal. The account of the inoculation against this disease, and of the application of vaccination and the excellent results obtained, should be read by those who think they think that vaccination is not one of the greatest discoveries of the ages, and that it has not proved one of the greatest blessings that medical men have given to humanity.

An account of medical education before the formation of medical schools occupies one chapter, and in another is given a history of the early medical colleges. The medical profession in the War for Independence, the earliest hospitals, medical societies and medical legislation in the colonies are among the subjects thoroughly treated. A chapter is devoted to anesthesia, but why we can not imagine. The author has otherwise confined himself to events preceeding the opening of the nineteenth century.

Too much praise can not be bestowed on this history of early medical history in this country. The author has not only given us a most complete account of all that pertains to medicine and medical men, but he has put it before the reader in such a manner as to make the reading of it a pleasure. The subjects are so classified and arranged that little is duplicated, something hard to avoid when it is considered that each colony, to a certain extent at least, has to be treated as an entirety. The whole subject is so exhaustively, logically and scientifically treated by Packard that his book will immediately become a standard work on the subject.

A MANUAL OF MEDICINE. Edited by W. H. Allehin, M.D. (LOND.), F.R.C.P., F.R.S.E., Senior Physician and Lecturer on Clinical Medicine, Westminster Hospital. Vol. I. General Diseases: Diseases Excited by Atmospheric Influences; the Infections. Vol. II. General Diseases continued: Diseases Caused by Parasites; Diseases Determined by Poisons Introduced into the Body; Primary Perversions of General Nutrition; Diseases of the Blood. Cloth. Pp. 441 and 380 respectively. Price, \$2.00 per volume. New York: Mac-Millan Co. 1901.

This work, two volumes of which have already appeared, is a brief but in many respects satisfactory compendium of medical practice. It is more of a compendium in that it is a composite work, the subjects being treated by different authors, the names of many of whom carry weight in this country as well as in Great Britain. The general articles are largely by the editor, Dr. Allehin, but the special ones on different diseases are by many different writers. This volume satisfactorily covers the subject of general diseases in the main, though the articles are necessarily brief, in one or two cases unduly so. For example, pneumonia is a general infection, but is here treated only in its aspects as an epidemic disease, leaving out the general description and what the practitioner most desires to know. The second volume also deals with general diseases and is of the same general character.

THERAPEUTICS: ITS PRINCIPLES AND PRACTICE. By Horatio C. Wood, M.D., LL.D. (Lafayette-Yale), Professor of Materia Medica and Therapeutics, and Clinical Professor of Diseases of the Nervous System, in the University of Pennsylvania. Eleventh Edition. Remodelled and in Greater Part Rewritten. By Horatio C. Wood and Horatio C. Wood, Jr., M.D., Demonstrator of Pharmacodynamics in the University of Pennsylvania. Cloth. Pp. 850. Price \$5.00. Philadelphia and London: J. B. Lippincott Co. 1900.

Wood's Therapeutics has been so long before the medical public that its eleventh issue hardly requires an introduction. The author, however, states that while other editions have been chiefly improved by incorporation of new matter, in the present edition an effort has been made throughout to get a new view of the whole subject of therapeutics, presented in the most attractive form. The use of small type for minor descriptions and discussions, etc., is an advantage. Taking the references out of the body of the text and putting them in nonpareil at the end of the chapter is perhaps more satisfactory to many, but this is not as well as having them directly before the eye on the page in which they are made; this, however, is a minor matter. All new drugs of any value, according to medical experience, are included, though no work can keep up with the flood of products which are constantly being put out and recommended to the medical profession. The present edition will undoubtedly still hold its place among the standard textbooks on therapeutics.

THE YEAR BOOK OF THE NOSE, THROAT, AND EAR. The Nose and Throat, edited by G. P. Head, M.D., Professor of Laryngology and Rhinology in the Post-Graduate Medical School of Chicago. The Ear, edited by Albert H. Andrews, M.D., Professor of Otology in the Post-Graduate Medical School of Chicago. Cloth. Pp. 416. Price \$2.00. Chicago: The Year-Book Publishers. 1901.

The previous volume of this year-book was so well received that the editors continued their work and give us this year a somewhat larger compilation of the literature on nose, throat and ear diseases than was given last year. The abstracts are well selected and cover the whole range of the ordinarily accessible literature. They notice the difficulties which every one must experience who is engaged in the work of culling out the essence of what has been written, and remark in their preface that many articles have been omitted on account of their being simply statements of accepted opinions written for the general practitioner, or in some cases that they touch upon so many points of such importance that abstracting is not possible. They are mentioned under proper headings so that those interested may readily refer to them. The two volumes that have appeared of this year-book make one hope that it will receive sufficient support to justify its continuance for years to come.

A TEXT-BOOK OF PHARMACOLOGY AND THERAPEUTICS, or the action of Drugs in Health and Disease. By Arthur R. Cushny, M.A., M.D., Aberd., Professor of Materia Medica and Therapeutics in the University of Michigan. Second Edition, Revised and Enlarged. Illustrated with 47 Engravings. Cloth. Pp. 732. Price \$3.75. Philadelphia and New York: Lea Brothers & Co. 1901.

The first edition of this work was exhausted in a little over a year and the present volume has been brought up to the latest advances in the subject, though not many changes, as the author remarks, have been found necessary. The work holds a position of its own among handbooks on therapeutics and its apparent success is well deserved.

Association News.

The Doctors' Special to St. Paul.

LOUISVILLE, KY., March 15, 1901.

To the Editor:—The nearness of the next meeting of the ASSOCIATION in St. Paul suggests the necessity of plans being laid for attendance by the profession of the country, and consequently the selection of a route. The many advantages of traveling in large numbers to these meetings can be vouched for by those who have been fortunate enough to so travel to several meetings in the past.

As Louisville is one of the gateways for Chicago and St. Paul, arrangements have been made for special accommodations from this point, with special doctors' sleepers attached to the regular service of the Monon Route to Chicago and from that point by the Chicago & Northwestern Railroad to St. Paul. Close connections will be made at Louisville with the Southern and the Louisville & Nashville railways from points in the South, Atlanta, Birmingham, Nashville, Asheville, and Memphis. A day trip will be made between Louisville and Chicago, June 3, and a night trip from Chicago to St. Paul, arriving there in time for breakfast the first day of the meeting, June 4.

At this writing the rates for the St. Paul meeting have not been announced, but the undersigned will be pleased to answer queries as to the connections, time of arrival and departure of connecting lines, etc., and make sleeping-car reservations for those who wish to join the "Doctors' Special to the AMERICAN MEDICAL ASSOCIATION." Very truly yours,

111 West Kentucky Street. HENRY E. TULEY, M.D.

Deaths and Obituaries.

John R. Page, M.D., University of Virginia, Charlottesville, 1850, died at that institution March 11, from acute Bright's disease, aged 71. He was chief surgeon in the confederate service, and was afterward a professor in the Louisiana Military Academy, and in the Washington Medical College of Baltimore. In 1873 he became a professor of agricultural chemistry and scientific farming in the University of Virginia. In 1887 he resigned the latter position and resumed the practice of his profession.

John A. Goldsberry, M.D., Rush Medical College, Chicago, 1857, who was struck by a train at West Union, Ind., February 25, died at Kingman, March 7, from his injuries. He was 65 years old. He served through the Civil War at Baton Rouge, La., and then practiced in Annapolis, later in Bloomingdale, Ind. He was a member of the Park County and Indiana State Medical societies, and of the AMERICAN MEDICAL ASSOCIATION.

Jason Walker, M.D., Medical School of Maine, Brunswick, 1865, a member of the Androscoggin County and Maine State Medical societies, and of the AMERICAN MEDICAL ASSOCIATION, and for more than thirty years a practitioner in Minot, Maine, died at his home in that place, from chronic bronchitis, March 7, aged 66.

Edward Bradley, M.D., University of Vermont, 1859, at which institution he was for a time demonstrator of anatomy, died at his home in New York City, aged 65 years. During

the Civil War he was an acting assistant-surgeon. He was an active dispensary surgeon and in repute as a neurologist.

James Johnston, M.D., Starling Medical College, Columbus, Ohio, 1857, died suddenly from nephritic colic March 9, at his home in Gallipolis, Ohio, aged 67. He was assistant-surgeon, O. V. I., during the Civil War, and a prominent physician of southern Ohio.

John T. Black, M.D., College of Physicians and Surgeons, Baltimore, 1883, for several years physician at the steel works of the Carnegie company, Duquesne, Pa., died at his home in that place, March 10, from pneumonia, after an illness of three weeks, aged 53.

Thomas A. Fairbairn, M.D., Bellevue Hospital Medical College, New York, 1867, formerly of Detroit, Mich., but for the last thirteen years a resident of California, died in San Diego, Cal., from pneumonia following influenza, March 6, aged 71.

Ferdinand Bazan, M.D., Faculty of Medicine, Paris, France, 1873, formerly a well-known practitioner of San Francisco, and for fourteen years surgeon-in-chief of the French Hospital, died at Glion sur Montreux, Switzerland, March 6.

Henry C. McCoy, M.D., Northwestern University Medical School, Chicago, 1865, a pioneer physician of Algona, Iowa, where he had practiced for more than thirty years, died at his home in that place, from pneumonia, March 10, aged 62.

Caleb E. Martin, M.D., University of the Victoria College, Cobourg, Ont., 1856, of Toronto, died March 11, at Whatcom, Wash., where he had gone on account of ill health. He served as a surgeon under General Sheridan in the Civil War.

John B. McDonald, M.D., Harvard University Medical School, Boston, 1865, an early settler and practitioner of Dickinson, N. D., who moved, in 1896, to Spokane, Wash., died at his home in that city, March 3, aged 63.

Thomas Riley, M.D., University of Michigan, Ann Arbor, 1874, who practiced for many years at Adams, Mass., died from general paresis, after an illness of two years, at the Northampton Hospital, March 4, aged 58.

Robert H. Dodge, M.D., University of Georgetown, Washington, D. C., 1893, physician-in-charge of the Conrad Sanatorium, Relay Station, Md., died at his home in Bethesda, Md., after a short illness, March 11, aged 29.

Ashley N. Denton, M.D., Texas Medical College and Hospital, Galveston, 1866, died at his home in Austin, Texas, March 4. He was for several years superintendent of the state insane asylum at Austin.

Allan S. MacDonell, M.D., College of Physicians and Surgeons of Ontario, Toronto, 1882, died at Rat Portage, Ont., where he had practiced for several years, March 6, from pneumonia, aged 47.

Emory Hawkins Davis, M.D., University of Vermont, Burlington, 1872, died at his home in Plainfield, Conn., aged 56. He was a member of the State and Windham County medical societies.

Hiram Crounse, M.D., Castleton Medical College, Castleton, Vt., 1847, one of the oldest physicians of Albany County, New York, died at his home in Clarksville, March 1, aged 80.

Philip Du Bois Hoornbeek, M.D., Geneva Medical College, Geneva, N. Y., 1846, died recently at his home in Wawarsing, N. Y., where he had practiced for more than half a century.

Caleb Hale, M.D., University of Louisville, Ky., 1859, for more than forty years a practitioner in Daviess County, died at his home near Whitesville, Ky., March 7.

R. L. Mayfield, M.D., Barnes Medical College, St. Louis, died at Mayfield Sanatorium, Marble Hill, Mo., of which he was assistant superintendent, March 5.

Frederick M. Johnston, M.D., Detroit Medical College, 1897, a practitioner of Three Oaks, Mich., died from appendicitis, in a Detroit hospital, March 1.

John Sims, M.D., Medical College of Georgia, Augusta, 1855, prominent as a citizen, physician and legislator, died at his home in Leverett, Ga., March 4.

Jesse A. Hartson, M.D., College of Physicians and Surgeons, Baltimore, 1894, died at his home in Ava, N. Y., March 7, from pneumonia, aged 33.

John Syleurk, M.D., University of Maryland, Baltimore, died from consumption, March 5, at the home of his parents in Frederick, Md., aged 25.

David S. Cook, M.D., College of Physicians and Surgeons, Keokuk, Iowa, 1855, died at his home in Wheatland, Iowa, suddenly, March 7, aged 76.

Thomas J. Patterson, M.D., University of Louisville, 1851, died at his home near Caney Spring, Tenn., March 3, after a lingering illness.

W. Eugene Martin, M.D., University of Louisville, 1894, died at McColl, Marlboro County, South Carolina, March 8, aged 25.

Martin J. Hutehens, M.D., University of Vermont, Burlington, 1862, died at his home in Redwood, N. Y., March 1, aged 75.

James H. Rogers, M.D., Jefferson, 1855, once a practitioner of Sag Harbor, N. Y., died in New York City, March 12, aged 71.

Sullivan B. Dorn, M.D., University of Buffalo, died in a hospital at Bradford, Pa., from pneumonia, March 6, aged 59.

Alonzo T. Smith, M.D., Geneva Medical College, died at his home in Syracuse, N. Y., March 8, from pneumonia, aged 80.

Sanford H. Sloan, M.D., Missouri Medical College, St. Louis, 1881, died from cerebral hemorrhage, March 10.

Paul von Seydewitz, M.D., University of Heidelberg, Germany, 1869, died in New Orleans, March 15, aged 74.

David O. Moore, M.D., health officer of Bloomington, Ill., died from chronic kidney disease, March 15, aged 68.

Miscellany.

The Vitality of the Bubonic Bacillus.—Professor Koch, of Berlin, reports upon 1400 cases of the bubonic plague, as seen in Bombay and other parts of India. He avers that the bacillus has but little vitality outside the bodies of animals, and adds that Haffkine's serum is endowed with undoubted protective qualities.

Cataract and Tetany.—Similarly to diabetic cataract, the lens may become clouded during the course of tetany. The cataract in this case is regular and does not resemble the ordinary variety. The *St. Petersburg Med. Woch.*, No. 4, mentions two cases, one a woman of 22, the other a man of 35. The tetany in the latter case had persisted eleven years; all the hair had fallen out, and there were frequent attacks of headache and diarrhea. The cataract ripened in each eye with a year's interval. Both were successfully removed.

Medical Advertising and the Lay Press.—Whenever we find a lay journal that governs itself by high ethical principles as regards certain medical questions in respect to which members of the lay press are generally and collectively sinners, it is a pleasure to note the fact. The following editorial extracts, therefore, from the *Cedar Rapids (Iowa) Gazette* are offered with commendation:

It is possible that *The Gazette* has no business to refer to what other papers do in business matters, and yet it may be true that there are some questions, the calling attention to which might result in good. No reference is made or intended for any publication in particular, the simple idea being that newspapers in general should refuse to contaminate their columns with a lot of vile advertisements, some of them being filthy. It looks as if papers devoting so much space to such advertising are either hard up for clean advertising or else have no care as to how much filth they place before their readers. * * * There are the villainous references to female troubles, which no honorable or decent paper would print. Publications that name diseases and display them in great black type insult the sacredness of womanhood. There are a number of such advertisements and the more of them the greater the shame.

Among the vile advertisements also are remedies for all sorts of private and venereal diseases, and it is only reasonable

to suppose that it must "pay" the advertiser, and consequently it follows that some readers of such papers need the stuff.

Certain kinds of pills are advertised that are intended for criminal purposes, and they lead to added crimes by making those immorally inclined believe that it will save them from trouble, when it gets them into it instead.

No parent should permit papers containing such advertisements to be found in their homes.

Bishops, clergymen, editors and others are either induced to permit the use of their names for notoriety, are paid for so doing, or their names are forged to all sorts of rotten advertisements.

Reading notices concerning various nauseating matters are placed right between clean news items in order to be sure and attract attention. How do clean advertisers of clean goods like to see it? How much is their advertising worth in such papers? * * *

Antimosquito Experiences With Malaria.—Professor Fermi, of Sassari, Sardinia, states (*Gazz. degli. Osp.*, March 3) that 27 soldiers were placed in a dormitory in which 17 out of the 18 previous inmates had been taken with malarial fever. The room had been whitewashed and screened, and the new occupants were protected with gloves and hoods, but none took any quinin. None showed any trace of malarial infection during the month of the test, while 23 of the occupants of the next dormitory became affected with malaria. Another building had the reputation of being extremely malarial, but after the windows were screened none of the new inmates became affected. The third experiment was with a party of 25, and another of 32 soldiers who marched and camped out along the most malarial portion of the shore. The only protections in this case were gloves and hoods worn by the members of the expeditions. None showed any signs of infection, but a mocking spectator who accompanied them on horseback, unprotected from mosquitoes, exhibited symptoms of the quotidian type in less than a week. Another party of 27 members slept in the open air for ten nights, with no symptoms of infection except in the case of one youth who was incommoded by the hood and occasionally pulled it off.

Does Vaccination Prevent Smallpox?—The *Cincinnati Lancet-Clinic* of March 16 prints a letter recently sent to Dr. E. Stuver, in which the writer says: "The only objection I can possibly put forth against your deductions is that you believe that *vaccination prevents smallpox*. On this rock *you have foundered*, as no such fact can be sustained by science, experience or common sense. Take away sanitary science and all infectious diseases will be rampant in the land." In Dr. Stuver's comprehensive answer he defines "sanitary science" as "the science and art of promoting healthy development, maintaining the mature organism in a healthy condition of normal functional activity, preventing the invasion of diseases and stamping them out as soon as possible when they have arisen," and says: "1. No historical fact is better established than that, before the discovery of vaccination, smallpox was one of the most fatal and dreaded scourges which afflicted humanity. It swept over Europe, leaving death, devastation and terror in its path; indeed, so widespread was the disease that, as the historian Macaulay informs us, it was a rare thing at one time to find a person in London not disfigured or marked by that dread disease. To-day smallpox is one of the rarest diseases, and scarcely figures in mortality statistics. You say this reduction has been brought about by 'sanitary science,' whatever you may mean by that, because if vaccination is *not* one of the most effective sanitary measures the world has ever seen, I do not know what you would designate it. 2. The English, German, French or American soldiers who have been properly vaccinated can be brought face to face with smallpox in the unhealthy tropics, in places reeking with filth, and all sanitary conditions much worse than the London described by Macaulay, and these soldiers are almost absolutely immune against the disease. Why is this? Does the sanitation of the countries from which they come, thousands of miles away, protect these men, in the midst of unnatural and health-destroying environments, against a disease which is destroying thousands of *acclimated natives*? 3. Why is it, if vaccination does not prevent smallpox, that epidemics of the disease can be brought under control by this means, and *by this means*

alone? Else why should the bitter opponents of the measure resort to it for safety in the face of danger, as they did in the epidemic in England a few years ago? 4. I have often thought that through generations of vaccination a vital resistance has been created, and a partial immunity established, so that when smallpox attacks even those who have not been personally vaccinated, owing to the mitigating influence of vaccination in their ancestors, the disease assumes a milder form. 5. As every observer knows, smallpox epidemics nearly always follow comparatively long periods of immunity from the disease, when the people have become careless, neglected to be vaccinated, and there are large numbers susceptible to the disease. 6. But the antivaccinationist holds up his hands in horror, and with a seared look and bated breath calls our attention to the horrible diseases and occasional deaths caused by vaccination. Admitted that syphilis and other diseases have been conveyed, and blood-poisoning caused in rare instances (and they are exceedingly rare, compared with the whole number of vaccinations), still the evil is but a tiny trickling rill alongside the great river of beneficence which this grand discovery has brought to soothe and save suffering humanity. With approved modern methods for the production and marketing of bovine vaccinia virus, and proper antiseptic or aseptic precautions in making the vaccinations, even these infrequent accidents ought to be almost entirely prevented. It would be just as fair to formulate an opinion as to the propriety and justifiability of abdominal operations and major surgical operations from their pre-antiseptic and pre-aseptic mortalities as it is to condemn vaccination for accidents and dangers that attended the use of infected virus and careless methods of performing the operation years ago, rather than to judge it by the results following the use of pure bovine virus and aseptic operating of the present time. 7. Then, too, a method which has passed through the ordeal of more than a hundred years of the closest investigation and most searching criticism, which has received the unqualified approval and support of nearly all scientific physicians in the whole civilized world, which has lifted the dark cloud of terror which paralyzed humanity so that the great majority of people have come to regard the once dread disease as an insignificant danger; when, I say, any preventive measure has accomplished such results as these, he is, indeed, a bold man who will advocate its discontinuance, unless he has something better to offer in its place. 8. I have often thought that, with the great benefits and small dangers of vaccination so generally recognized, and its benefits established on such a firm foundation, it was largely a matter of supererogation to resort to such severe measures in warding off smallpox. The persons who will not protect themselves against the disease do not have 'common sense' enough to enjoy good health, and should be left to their fate."

Societies.

COMING MEETINGS.

- Tri-State Medical Society of Iowa, Illinois and Missouri, Keokuk, Ia., April 2-3, 1901.
- Medical Association of the District of Columbia, Washington, D. C., April 2, 1901.
- Tennessee State Medical Society, Nashville, April 9-11, 1901.
- Florida Medical Association, Jacksonville, April 10, 1901.
- Western Ophthalmological and Otolaryngological Association, Cincinnati, Ohio, April 11-12, 1901.
- Medical Association of the State of Alabama, Selma, April 16, 1901.
- Medical Society of the State of California, Sacramento, April 16-18, 1901.
- South Carolina Medical Association, Florence, April 17, 1901.
- Medical Association of Georgia, Augusta, April 17, 1901.
- Louisiana State Medical Society, New Orleans, April 18-20, 1901.
- Medical and Chirurgical Faculty of Maryland, Baltimore, April 23-26, 1901.
- Texas State Medical Association, Galveston, April 23, 1901.
- American Association of Genito-Urinary Surgeons, Old Point Comfort, April 30, 1901.
- Association of American Physicians, Washington, D. C., April 30, 1901.

French Congress of Ophthalmology.—This congress is to convene at Paris, May 6. The subject announced for discussion is "The Value of Iridectomy in Glaucoma."

Carbondale (Pa.) Medical Society.—At the annual meeting of this society, held March 4, Dr. William W. Fletcher was elected president, and Dr. Sumner T. Davis, Jermyn, vice-president.

Union Medical Society of Northern Michigan.—This society announces its first quarterly meeting of the twentieth century, to be held at Greenville, April 9. Dr. Horace L. Bower, Greenville, is secretary.

Medical Society of the State of Tennessee.—The sixty-eighth annual session of this society will be held at Nashville April 9, 10 and 11. Dr. William D. Haggard, Jr., is secretary, and Dr. Deering J. Roberts, chairman of the committee on arrangements.

Henderson County (Ill.) Medical Society.—This society was reorganized early this month, at Oquawka, and Dr. Isaac F. Harter, Longhurst, elected president; Dr. Coleman J. Eads, Oquawka, vice-president, and Dr. William D. Henderson, Biggs-ville, secretary and treasurer.

Lamar County (Ala.) Medical Society.—The annual meeting of this society was held at Vernon, March 4, and the following officers elected: Dr. Berry E. Turner, Richards, president; Dr. William L. Morton, Vernon, vice-president, and Dr. Judge C. Buckelow, Sulligent, secretary.

St. Clair County (Ill.) Medical Society.—The annual meeting of this society was held in Belleville, March 8, and the following officers elected: Dr. Julius Kohl, Belleville, president; Dr. James O. DeCourey, East St. Louis, vice-president; Dr. Buenavandura H. Portuondo, Belleville, recording secretary; Dr. Adolph E. Hansing, East St. Louis, corresponding secretary, and Dr. Adolph Schlernitzauer, Millstadt, treasurer.

Rhode Island Medical Society.—A meeting of this society was held at Providence, March 7, at which the election of officers for the year following the next annual meeting took place: Dr. George F. Keene, Howard, president; Drs. William R. White, Providence, and Christopher F. Barker, Newport, vice-presidents; Dr. Frank L. Day, Providence, recording secretary; Dr. Herbert Terry, Providence, corresponding secretary and Dr. Frederick T. Rogers, Providence, treasurer.

Berlin Society of Internal Medicine.—This society celebrated its twentieth anniversary February 18, with much ceremony and a banquet. Von Leyden was made honorary president, as the society in a large measure owed its inception to his efforts. Honorary membership was also conferred on Baccelli, Nothnagel and von Behring. E. Roux, of Paris, Erb, Ehrlich, Weigert, Babes of Bucharest, and Hassimoto of Tokio, were appointed to be corresponding members.

ST. LOUIS MEDICAL SOCIETY OF MISSOURI.

Meeting held February 16.

Dr. L. E. Newman, president.

Carcinoma of the Prostate.

DR. L. E. NEWMAN submitted a specimen of this. The patient, a man of 49, was operated on May 12, 1900, a suprapubic cystotomy being done to relieve an intense cystitis and for diagnosing the prostatic trouble, which was believed to be carcinoma. It was impossible to remove the prostate, so the bladder was simply drained. The patient did well for seven months, but died in coma recently, having had cerebral symptoms for the last three weeks. Death was probably due to metastatic carcinoma of the brain, but this was not verified. The kidney contained three or four concretions and its artery was unusually large. The bladder at the time of operation was greatly thickened and roughened, so much so that it resembled the interior of a heart. After the seven months' drainage, it looked fairly healthy. When the patient was placed on the table he was deeply septic, the temperature being 103 F. His weight at the time of his death had fallen from 230 to 150 pounds. There were no kidney symptoms, unless the coma was one. The pain in the rectum was frightful and interfered with sleep. The prostatic growth he believed to be cancerous, because of its consistency and the involvement of surrounding structures.

Veratrum Viride: Its Undeserved Neglect.

DR. E. W. SAUNDERS read a paper on this topic. He considered its historical side, then its physiologic action. He finds it by far the safest motor depressant, as it has no detri-

mental effect on the blood and no effect on the ameboid movements of the white blood-corpuscles. Neither has it any harmful effect on those processes which ultimately destroy the invading micro-organisms in acute infectious diseases. Its depressant activity on the motor cells in the anterior cornua of the spinal cord indicates its use in puerperal eclampsia, in which he considers it the safest drug we can employ. During the eclamptic seizure he administers chloroform and then at once gives veratrum in large doses, maintaining the pulse at the normal rate. The lessening of the blood-pressure quiets the excitement of the cortex, perspiration follows, and elimination of the toxic substances by the kidneys is increased. He also prefers veratrum to the coal-tar products in the onset of infectious diseases, as scarlet fever, pneumonia, influenza, meningitis, etc. He spoke of its use in the treatment of pneumonia at length, and believes that the objection which has been raised against its use, i. e., that it depresses and weakens the heart, has little weight when compared with its favorable effects.

DR. W. G. MOORE said that when he entered the profession, twenty-five years ago, veratrum was a settled remedy, and he intends to go back to veratrum because of old associations, and because of the failure of other remedies in pneumonia.

DR. ROBERT BARCLAY has recommended veratrum in middle ear disease. In "Hare's System of Therapeutics" he contributed an essay on its use in the early congestive stage of middle ear disease. He considers it is fever of the sthenic type and a bounding pulse.

DR. W. HUTTON FORD wondered that any one dared mention veratrum viride, for it has been systematically decried by all the dullards of the profession. He has been a ceaseless student of the drug, beginning its use in 1857, four years after Norwood first brought it prominently into notice. He used Norwood's tincture only, as none other approached it in uniformity or certainty. While a young practitioner, in 1857, he had twenty-four cases of typhoid in one epidemic. The first two were treated in consultation with an older physician in the old way, and both died. Being at that time especially engaged with a study of the production of animal heat in the economy, and its effects in disease, in wasting the muscular and nervous tissue, and predisposing to all forms of local congestion and parenchymatous inflammation, he determined to use veratrum and so limit the intensity of all the features of the disease. His success was complete, and the severity of the cases was at once abated. Upon this basis he used it in conjunction with mercurial evacuates, in the rest of the 24 cases of typhoid fever, and all got well, as everybody else's cases do, however, for that matter. In 1849 he gave veratrum in the treatment of 183 cases of yellow fever, with a death-rate of 8 per cent.

DR. R. M. FUNKHOUSER was surprised that Dr. Saunders had not mentioned Fordyce Barker, who did much to popularize this drug. If we could educate our nurses to watch its effects we would better know how to give it. Veratrum is a drug to be studied, and is more difficult to understand than digitalis. Another difficulty is the absence of a standard in drugs—a uniformity of strength—so that doses can not be relied on.

DR. A. R. KIEFFER said that he had had no personal experience with veratrum, but had come to rely more on his *vis medicatrix naturæ*. Purgation, if too active, he believes, would defer solidification and prolong the attack in pneumonia.

DR. T. M. HOPKINS recalled a late case in which the patient, after going skating, developed the classic symptoms: pulse 134, respiration 40, temperature 104.6 F. He recovered speedily under veratrum. He pushes the drug until the patient vomits, then reduces the dose to one-fourth, until the patient perspires freely, perhaps twelve to fourteen hours. At the same time he uses calomel, ipecac, etc., or an injection. Veratrum also does well in appendicitis, together with early and frequent injections.

DR. H. JACOBSON said that he was called in consultation to a case of puerperal eclampsia, the second attack in two years. The urine was loaded with albumin casts and blood-corpuscles. Veratrum, saline injections, hot packs and chloroform inhalations were given for five hours and the patient recovered from

the convulsions, although the nephritis was still present, and had been for several years before confinement.

DR. JOHN ZAHORSKY said that veratrum viride seemed to work favorably in influenzal pneumonia and in the pneumococcal infections also. Its use, however, must be studied well and long, and the point of change from veratrum to stimulants carefully watched for. For the first three years of his practice he was utterly discouraged in pneumonia, but he now uses veratrum and feels that he can accomplish a little.

DR. A. RAVOLD said that he tried veratrum in pneumonia at the City Hospital, and came near having disastrous results in the first case. There were pallor, exhaustion and sweating. High fever indicates the use of remedies that diminish heat production or cause heat dissipation or combinations of the two effects, and he asked the essayist to elucidate this point.

DR. J. H. TANQUARY felt that the toxic effects of veratrum viride had been magnified. It does produce nausea, vomiting, etc., but there are few deaths on record from its use. From experience he felt that veratrum was the best remedy in the acute stage of pneumonia. Purgation and blood-letting were also useful.

DR. SAUNDERS, in closing, said Norwood's tincture is most reliable. We can speculate on the manner in which it reduces temperature, but with little use. It is not a powerful antipyretic, but acts slowly and never excessively if used carefully. Some years ago an Italian exploited digitalis as a germicide in pneumonia. Another said he could make a diagnosis by its effect on the temperature. He tried it faithfully and found the claim to be a humbug. Digitalis is not an antipyretic. In angina of "grip" origin, highly painful, with symmetrical, deep redness of the fauces and edema, he obtains quick relief from veratrum, giving a drop on the tongue every fifteen minutes. In five cases thus treated, deglutition was almost impossible in two. In articular rheumatism he uses it in combination with salicylates, also with excellent effect in beginning appendicitis and pelvic peritonitis.

CHICAGO MEDICAL SOCIETY.

Meeting held March 6.

The president, Dr. J. H. Stowell, in the chair.

The evening was devoted to a "Symposium on Sanitation."

Demands of Sanitary Science.

DR. H. M. BRACKEN, St. Paul, Minn., secretary of the Minnesota State Board of Health, read a paper on this subject. He said that one of the first things that comes under the control of the sanitarian is the suppression of a nuisance, which may be defined as some feature objectionable to the sense of sight, smell or hearing, or a menace to health. It does not require very close observation to note a nuisance, be it in the form of filth in streets or alleys, or about private residences or public buildings, or in public conveyances. The ease with which a nuisance is suppressed depends decidedly upon the conditions which surround it. A nuisance of marked quality or quantity in the better districts of a city would not be tolerated for a single day, while a similar condition might be continued indefinitely in the slums, either because of the indifference of the people to its existence, or the negligence of sanitary officials or landlords. The bearing of sanitation upon a nuisance is so generally recognized that in dealing with one the almost universal question is: What effect has it upon the health of those annoyed? If it can be proven to have a deleterious effect, half the battle for its suppression is won. Many of the apparently pronounced nuisances are decidedly injurious to health. Here it is that the demands upon sanitary science begin. The bacteriologist and the chemist determine the degree of danger; while the sanitarian determines the means of its abatement or removal.

The disposal of refuse taxes the ability of the sanitarian according to the varying conditions present in large and small cities. Refuse includes street sweepings, various cast-off articles of clothing, or factory, kitchen garbage, manure, dead animals, ashes, etc. Kitchen garbage has a food value in the feeding of hogs, and any city with a population not exceeding

300,000, and surrounded by an open country, should find but little if any trouble in disposing of such material at comparatively little expense. It may be necessary to dispose of it by cremation, but this, as a rule, is a wasteful method and expensive, and is to be avoided when possible. The proper disposal of garbage without cremation calls into play the proper construction and use of collecting vans; the proper construction and care of feeding pens; the proper organization and control of a sanitary system of inspection, and the proper care of the animals to be utilized as scavengers.

Closely related to garbage and waste disposal is the disposal of sewage. The problem is largely one of engineering. It is quite generally the custom to conduct sewage to the nearest stream into which it can be discharged, thus converting a natural water-course into an open sewer. By this method the safe supplies of drinking water are cut off. It therefore becomes a commercial as well as a sanitary proposition to determine which is the wiser course: to turn sewage directly into streams, thus destroying natural water-supplies, or to filter the sewage before it enters the streams, thus leaving the natural water-courses unpolluted. The essayist believes that the latter is the correct course.

As to the control of the spread of infectious diseases, probably there is nothing that will accomplish more than a thorough system of school inspection. School inspection does not cover the entire problem of proper sanitation for schools, for the proper ventilation, heating and lighting of school buildings, together with an insistence upon the individual cleanliness of pupils, places a great responsibility upon architects, which too often is not recognized.

In dealing with diseases that are highly infectious the proper isolation of patients is important. The ordinary methods of quarantine now practiced are barbarous, for with the appearance of certain infectious diseases in a family the entire household is tied up; the well with the sick. This may be quite satisfactory for the community at large, but he believes it is unfair to those not ill to be put in quarantine, for it subjects them to the maximum danger of infection. Patients ill with an infectious disease that is readily communicated to others should be promptly removed to an isolation hospital, unless there is ample opportunity for isolation in the residence.

Of all infectious diseases demanding attention pulmonary tuberculosis probably holds first place. He thinks it is criminal negligence not to provide special hospitals or homes for the tuberculous. The state can well afford to spend many thousands of dollars for the construction and care of sanatoria for these unfortunates, even should such action be looked upon as a protection for the well rather than as a means for caring for the sick.

It rests upon physicians in this country, through their various medical organizations, to transform the great body of medical sanitarians into medical specialists beyond and above the influence or control of politics.

State Aid in Prevention of Tuberculosis.

DR. CHARLES O. PROBST, Columbus, Ohio, secretary of the Ohio State Board of Health, followed with a paper on this subject. He presented a brief argument in favor of the following propositions: 1. The state should provide hospitals for the reception of persons suffering from tuberculosis, and should assist municipalities or counties to construct similar institutions. 2. Physical education, conducted by trained medical men, should be made a part of the common school course; and students in normal schools, colleges and universities should be instructed in hygiene, including a proper knowledge of the causes and prevention of tuberculosis. 3. The state should exercise a much closer supervision over the construction, ventilation and care of workshops and factories, (specially where the occupation is conducive to tuberculosis. 4. The state should prohibit the sale of milk from tuberculous animals, and should provide for the inspection of dairy cattle. It should enforce the proper stabling and care of such animals.

In 1890 the census returns gave a mortality from consumption alone, in Illinois, of 5698, or 149 deaths per 100,000. The victims are mostly young adults—the bread-winning men and

child-bearing women; hence the loss to the state is much greater than the mere number of deaths would indicate.

The individual, even if properly instructed, is, in a large measure, unable to protect himself against this widely prevalent disease. The state should therefore assist him, not only because it is its duty to protect its citizens against dangers of a general character, but also to protect itself against the unnecessary loss of its working capital—healthy men and women. Admitting these premises, the essayist then proceeded to discuss the ways and means.

The first thing proposed is state hospitals, and municipal and county hospitals, erected with the assistance of the state for the reception of consumptives. The state hospital may be for the reception of selected, recent cases, with the expectation of curing and returning to society many of its useful members who must otherwise perish, or it may receive patients who, on account of surroundings, are especially liable to give rise to other cases of the disease. The latter plan is more directly in line with preventive measures. The former is the one usually adopted by the state, as giving, under present conditions at least, greater returns. State hospitals for the cure of consumption favor its prevention. Not only are patients isolated who may spread the disease, but they receive there a training which, on being returned to their homes, makes them an important aid in disseminating among the people correct ideas of measures for the prevention of consumption—measures which should be practiced in the homes of all consumptives.

The essayist urged the erection of a hospital for consumptives, by the state, for the treatment of carefully selected cases. It would seem to be wise, at least in the beginning, that patients should pay the greater part of the operating expenses. The charge of \$5 a week, established for the new Massachusetts Hospital, appears to be a reasonable one. Hospitals more strictly for the prevention of tuberculosis should be established by municipalities, or possibly by counties. The aim here should be to select and isolate those cases which are the greatest danger to the public. Such cases are usually found among the unfortunate, poorest classes. Many of these find their way into general hospitals or have to be treated in their homes at public expense.

He urged the physical education of school children, with the teaching of hygiene and the cause and prevention of consumption to students in advanced institutions of learning. Practically no attention is given to the physical education of school children. Where school gymnastics are practiced, they are not conducted or supervised by persons having the necessary knowledge of the subject. There is no individualism in such work. All are treated alike. School children, in his opinion, should be under the constant supervision of a specially trained medical inspector. They should be measured and weighed periodically. Special exercises, as, for example, singing or other lung exercises, should be prescribed and enforced when needed. Parents should be notified of marked physical defect, and urged, in proper cases, to consult the family physician where medication or special diet seemed to be indicated. He would urge that hygiene be taught in high schools, normal schools and universities. A proper understanding of the causes and means of prevention of tuberculosis would form but a part of the great benefits to be derived from such teaching.

The essayist then discussed at length the direct and indirect causes of consumption, and stated that it is uncertain to what extent tuberculosis is due to the ingestion of milk, butter and meat from tuberculous animals.

Miscarriage of Municipal Sanitation.

DR. ERNEST WENDE, health commissioner of Buffalo, N. Y., read a paper of which the following is a summary. There should be: 1. Unity of law, procedure and action throughout the state in regard to contagious diseases; even further in this relation, throughout the states, interstate contagious disease laws. 2. Interstate law covering contagious diseases in animals, particularly tuberculosis. There seems every reason for believing that the pathology of the superior animal—man—would be benefited by such legislation. 3. The vesting of city health officials with certain state board of health inspection

powers to permit them, under certain circumstances, to extend their action beyond the municipal confines. 4. Municipal sanitation and state medicine to be made a more important feature in education, particularly in universities. It should be made contingent that health officers qualify by such a course of study before being eligible. 5. Requirements of sanitary education everywhere; in the public schools, in the high schools, colleges and universities, so that by the time the younger generations mature enlightenment will have reached our various legislative bodies. 6. Selection of municipal health officers for their fitness, with secure tenure of office and proper compensation. The municipality should not be exposed to an unnecessary risk by politics.

DR. ARTHUR R. REYNOLDS, health commissioner of Chicago, reviewed, by the aid of lantern slides, the work of the Department of Health of Chicago from 1851 to the present time.

DR. JOHN A. ROBISON, in the discussion, emphasized the fact that the state is in duty bound to enact such laws as will prevent the spread of tuberculosis. If there were 800,000 cases of smallpox in Illinois, the inhabitants would be panic-stricken and legislators would not hesitate to appropriate any amount of money to stamp out the epidemic; and yet tuberculosis is present with us all the time. It is not so virulent as smallpox, but it is ever-present and more insidious in its contagiousity and infectiousness. He mentioned two methods for stamping out this disease: 1, by educating the inhabitants, by teaching hygiene and the causes and nature of the spread of the disease in high schools, colleges and universities; 2, by the state educating the people that the disease is preventable and curable.

DR. WILLIAM A. EVANS stated that the United States government at the present time is inspecting meat very thoroughly, for the protection of its foreign trade. The governments of foreign countries demand the inspection of meat, and commercial considerations require that the demands be complied with. The city has a legal right to control all of the cows that are to supply it with milk, and while the people who supply this milk are not inhabitants of the city, are not directly amenable to the city laws, their products are amenable to the laws of the city, and therefore the suppliers of milk are indirectly amenable to the laws themselves.

One of the most urgent necessities confronting the people of Illinois is a law requiring a certificate of death before a burial can be made. He has talked this matter over with some of the police and cemetery authorities and has been assured that they would give such a law their hearty endorsement.

DR. GEORGE W. WEBSTER stated that such a burial law has been framed by the State Board of Health, and will be introduced at the present session of the legislature.

DR. DENSLOW LEWIS stated that when he acted as a health officer in Hyde Park, Chicago, he met with violent opposition, not only from the public, but the medical profession, in his endeavor to enforce the requirements of the State Board of Health, which had just then enacted certain regulations, as well as in endeavoring to enforce municipal ordinances. He spoke of the British laws and the manner in which they are enforced, and of a plan adopted by the Indiana State Board of Health by which orders can be properly executed.

PHILADELPHIA PATHOLOGICAL SOCIETY.

Meeting held February 28.

President Dr. Frederick A. Packard in the chair.

Carcinoma of Appendix.

DRS. RICHARD H. HARTE and ROBERT N. WILSON, JR., exhibited specimens of a primary carcinoma limited to the vermiform appendix, from a woman 24 years of age, whose family history was negative. She had been well until 16 years of age, when she may have had chlorosis. When 19 she suffered from a severe pain in the right iliac region, and it was supposed she had an attack of appendicitis. Several months later she passed blood in the feces. When seen she had a persistent sharp pain over the region of the vermiform appendix, and also complained of a dull pain in the lumbar region. The

blood-count was practically normal. The spleen was tender, but not enlarged. On December 2 a mass was found in the region of the appendix, which could be rolled around under the fingers. At this time the leucocytes were increased.

An operation was done at the Pennsylvania Hospital. In the appendix some fecal concretions were found, but for the most part the lumen was closed. The appendix was ligated and removed, and sections showed undoubted carcinomatous growth which had not begun to involve the neighboring structures.

DR. A. O. J. KELLY said he had seen several cases of carcinoma of the appendix. In these cases the lumen had mostly been patulous. In his opinion carcinomas of this organ may be more common than supposed.

Melanosis of Cerebrospinal Membranes in Rabies.

DRS. D. J. MCCARTHY and M. P. RAVENEL exhibited specimens of melanosis of the cerebrospinal membranes in a case of rabies. The specimens were obtained from a cow dead of rabies. The cerebrospinal membranes were deeply pigmented, but he did not know how far down the cord the area extended. The pigmentation affected the pia, arachnoid and dura. Tests for iron gave negative results. Distinct endarteritis was also present.

DR. DAVID RIESMAN had seen similar black pigment in cerebrospinal membranes in the human subject, for the most part limited to the region of the medulla.

Injuries to the Brain.

DR. WM. S. WADSWORTH read a paper on this subject, based on about sixty observations during the past two years. He pointed out the nature of the injuries resulting from direct and indirect violence, and said that in studying these cases one must consider the vital condition of the parts, e. g., of the nerve tissue, the membranes and the bones. The condition of the blood before and after the injury is also important. The character of the wound in some respects depends on the nature of the weapon, as for instance the wound resulting from an iron rod would be different from that of wood of the same weight and form. One must also study the condition of the blood-vessels, since in alcoholism there is less resistance of the blood-vessels and nerve tissue. This should be remembered, since, during the normal condition, there is a sort of physiologic massage kept up by the circulating blood. If the carotids are atheromatous a compensatory condition of the coronaries will also occur. In some cases the skull may be abnormally brittle, or abnormally thin, and hence injuries may more easily occur. He has found that by compressing the skull with the hands, from before backward, the foramen ovale can be made to change its shape quite readily in some cases. Should this occur suddenly during life the vital structures in the region will be compressed. In some instances hemorrhages may result from the blood-vessels somewhat removed from the seat of compression. Compression of this kind may follow blows on the chin. In the chronic insane, the bones of the skull are at times abnormally brittle, and in the intellectual the bones of the skull are frequently abnormally thin.

DR. WM. G. SPILLER referred to a case of brain tumor in which the bone over the seat of the growth was considerably thickened.

Lenticular Carcinoma of the Skin.

DR. M. B. HARTZELL exhibited specimens of this affection on the right lower extremity. Its occurrence had been in the form of discrete nodules, for the most part distributed to the upper and inner surfaces of the thigh. They were usually about the size of a pea and slightly pinkish in color. Most of the growths were covered with a crust which, on being removed, left a small ulcer. One of the nodules appeared on the foot and sections seemed to prove that it was of a malignant character. The cells were for the most part large and oval, with large, deeply-staining nuclei. The protoplasm was poorly stained.

DR. DAVID RIESMAN thought the tumor rather peculiar, and in some respects resembling a sarcomatous structure. It did not appear to be made up of squamous epithelium, and may have originated in the hair follicles.

DR. JAY F. SCHAMBERG stated that usually lenticular carcinomas are secondary to carcinomas of the breast.

Tumors of Sciatic Nerve.

DR. JOHN B. ROBERTS presented specimens of multiple tumors of the sciatic nerve. The man from whom the growths were removed had for many years noticed them, some located in the popliteal space. He complained of excessive heat, and some sweating on the affected side. An operation was performed and some of the growths removed showed that they were of a myxomatous character.

CINCINNATI ACADEMY OF MEDICINE.

Meeting held February 25.

The president, Dr. Charles L. Bonfield, in the chair.

Multiple Symmetrical Lipomata.

DR. HORACE J. WHITACRE presented a male patient, aged 37, whose present trouble was first noticed about six years ago as swellings in the parotid region, appearing simultaneously; both sides of the neck and the groins were affected similarly, and at approximately the same time. Since this time these enlargements have appeared and disappeared about twice a year, and the patient himself ascribes the cure to large doses of whisky. The present tumors appeared a few months ago, and did not respond to the usual treatment. These swellings have never become inflamed and have never been painful. Location: parotid regions, over the mastoids, doubling the chin, in the mammary glands, on each side of the median line of the abdomen, in the inguinal regions, and in each popliteal space. Some of them are as large as a man's fist. The skin over the tumors below the neck is imperfectly movable and suggests the pig-skin dimpling of a lipoma. The nutrition of the man is excellent. Blood examination: reds and hemoglobin, normal; whites show a slight leucocytosis. On removing a piece of the tumor from one of the enlargements of the neck, and also from the groin, they were found to be composed of fatty tissue. The reporter seemed to think that the occurrence of these tumors symmetrically gave weight to the theory that they depend on some derangement of the trophic nervous system. As regards their appearance and disappearance, he stated that possibly, under the influence of the enormous doses of alcohol the patient ingested the trophic centers might have been stimulated to normal activity.

Glycosuria Due to Congenital Phimosis.

DR. R. C. JONES considered this subject in a clerk aged 21. In the fall of 1899 he had a severe attack of scarlet fever, from which he did not convalesce very readily. He steadily lost flesh and strength, and on consulting a physician a few months later was informed that he had diabetes. Becoming no better at the end of three months, he consulted another, who confirmed the diagnosis, but was unable to help him in four months' treatment. During this period his weight fell from 143 to 124 pounds, his appetite became poor, he drank large quantities of water, and passed from five to seven pints of urine a day. Insomnia and despondency became marked. Urinalysis, as made by Dr. Jones, showed sugar, the passage of an average of six pints of urine a day, and a specific gravity of 1030. At the end of two weeks' treatment he was no better. At about that time the patient called his attention to a feeling of irritation and discomfort at the end of the penis, and on examination there was found a congenital phimosis, a soft tight prepuce, and a slight balanoposthitis. Circumcision was advised and performed, and within two weeks a marked improvement was noticed. All medication and dieting were stopped, and within four weeks the sugar had disappeared, specific gravity was 1017, the amount lowered to three pints a day, appetite improved, and his nervous symptoms had completely disappeared. Repeated examinations have failed to reveal the presence of sugar at any time, and in the interim he has gained eighteen pounds in weight.

Case of Appendicitis.

DR. GEORGE B. ORR reported cases, one of which presented features of unusual interest, as follows: For three months

before first seen the patient had complained of frequent attacks of nausea, irregular chills, followed by fever and sweats, loss of appetite and constipation, and constant severe pain internal to the iliac crest, which pain often extended to the knee. On physical examination he found marked tenderness over the entire right side of the abdomen, with swelling and fluctuation extending from Poupart's ligament upward and backward over the crest of the ilium to within three inches of the spinal column. He advised immediate operation, which was accepted. A posterior opening was first made and then an anterior one; through the latter was found an abscess cavity that reached from Poupart's ligament backward to very near the spinal column. The appendix could not be found, and no very lengthy search was made for it. About twenty ounces of pus were removed, and through-and-through drainage made. Healing occurred rapidly, with the exception of a small fecal fistula, which was lightly curetted on several occasions without success. He then had the patient put to bed, at complete rest, and had the bowels thoroughly moved. He was given nothing to eat but a teaspoonful of Wyeth's beef juice every two hours, and water in abundance. At the end of ten days the fistula healed entirely and has remained closed ever since.

Membranous Enteritis.

DR. MARK A. BROWN reported the case of Mrs. W., aged 28, married, well-developed and apparently well nourished. The duration of her present trouble is about nine months, her chief complaint: attacks of severe abdominal pain, colicky in character, followed by the appearance of mucus in the stools. Previous to an attack, usually the bowels were constipated, while immediately following, diarrhea supervened for several days, often followed by tenesmus. Gastric symptoms, such as nausea, anorexia, eructations and a sense of burning pain in the stomach always accompanied these attacks. Vomiting, too, was almost always present, and often fever of a mild grade. The duration of each attack was from four to five days, followed by a period of two weeks, during which she felt quite comfortable. In all she had lost between forty and fifty pounds in weight. Physical examination of the heart, lungs and abdomen was entirely negative, aside from slight tenderness in the epigastric region; there was no abdominal distension. Digital examination of the rectum was negative. The uterus was slightly prolapsed. The stools, during the time that she was at the hospital, were not more than one or two a day, usually coming with enemata, and consisting of fecal matter and mucus, the latter appearing in the form of strings (casts) a foot or more in length, or in smaller masses or clumps—the latter condition particularly after the use of nitrate of silver injections. These masses were shown to be of mucus, by means of the Ehrlich triacid stain. Under the microscope, the fibrillary nature of the deposits, together with the nucleated cells with tail-like extremity, resembling spermatozoa, could be readily distinguished. She was sent to the Presbyterian Hospital, put at complete rest in bed, and upon a light (almost a milk) diet. Nitrate of silver injections, then boric acid injections were used without the slightest avail: the two were used alternately, but the patient was, if anything, worse. These medications were always used in the form of high enemata, the lower bowel having been previously evacuated by means of a simple enema. This plan of astringent injections was finally abandoned and daily high injections of olive-oil substituted. She was given these late in the morning or early in the afternoon and was able to retain them without discomfort for from twelve to twenty-four hours. Improvement was immediate under this plan; in three days no mucus could be detected in the stools, and in a week she was discharged from the hospital practically well. The olive-oil enemata were discontinued gradually. When next seen by the essayist, about three months later, she was entirely well, and had had not the slightest sign of recurrence. She had steadily increased in weight.

Leucoplakia Linguae.

DR. M. L. HEIDINGSFELD demonstrated, from lantern slides, a case of leucoplakia linguae of ten years duration, in an in-

dividual infected with syphilis, the latter of twenty years' duration. Some of the leucoplakia areas were the size and thickness of a split butter-bean, and a radical surgical extirpation was made of these in November, 1900. Pathologic examination revealed the condition to be distinctly pre-epitheliomatous in character—marked proliferation and down-growth of the epidermis and areas of degeneration with a nest-like arrangement of the epithelium. A good wall of connective tissue separated it from underlying structures. A cellular infiltration was nowhere evident, and the only pathologic evidence of syphilis was an endarteritis obliterans.

Venereal Warts of Tongue.

DR. HEIDINGSFELD also showed, by means of lantern slides, specimens of extragenital venereal warts of the tongue, taken from a case shown at the Academy Nov. 28, 1900. Some exception was taken to the diagnosis at that time, but the pathologic examination has revealed the lesions to be typical venereal warts corresponding in appearance and structure to the same lesions on the genitals of the case in question. He also reported another case with the same distribution, showing the same pathologic structure, which case had recently come under his notice.

Accident Attending the Adenoid Operation.

DR. C. R. HOLMES reported a case in which the sharp blade of the Gottstein curette became broken off at the beginning of an operation for adenoids. The blade was abstracted from the pharynx with the greatest difficulty. Since that time he has had an instrument made, after a design of his own, by which the cutting blade is greatly reinforced, and can consequently bear a greatly increased pressure.

DR. STOWE GARLICH reported a similar accident, but the broken piece was swallowed. Fortunately it was passed in the stools a few days later, without apparently causing any damage.

Adenomatous Hyperplasia of the Rectal Mucosa.

DR. A. J. WHITACRE presented a case of adenomatous hyperplasia of the rectum in a woman aged 63, which tumor had existed for about four years. He also described a new operation for removal of growths in this region with but a minimum blood loss.

Multiple Abscesses of the Liver Following Latent Appendicitis.

DR. GEORGE P. DALE gave the history of this case. Throughout the patient's two months in the hospital it was one of sepsis with no localizing symptoms, so that he came to the post-mortem without a positive diagnosis having been made. At autopsy the chest showed nothing abnormal. The cecum was bound down by adhesions and imbedded in a mass of greenish, foul-smelling pus. The abscess was well walled off from the general peritoneal cavity. The stump of the appendix was all remaining of that organ. The liver was about $2\frac{1}{2}$ times as large as normal, and the seat of multiple abscesses of various sizes, the largest being about $1\frac{1}{2}$ inches in diameter. The kidneys were much reduced in size, with granular surfaces and adherent capsules. Scattered throughout the cortices were numerous small embolic abscesses, not yet broken down. The cortex was about one-third its normal width.

Aneurysm of the Abdominal Aorta.

DR. GEORGE P. DALE said that a diagnosis was not made in this case as there were no localizing symptoms. Indeed, the man was thought to be suffering from phthisis, and numerous examinations of his sputum were made with negative results as far as the finding of tubercle bacilli were concerned. Death was sudden. Autopsy showed the right ventricle dilated and empty, the left much contracted. In the diaphragm, two inches from the median line to the left, was a perforation easily admitting a finger, the edges ragged. The left pleura contained a large amount of clotted blood and about a pint of semifluid blood. The abdominal aorta, beginning just below the diaphragm, was transformed into a sac, adherent to the vertebræ, diaphragm, liver and stomach; the tenth, eleventh and twelfth dorsal and first and second lumbar vertebræ were eroded, both

the bone and cartilage. The aneurysmal sac was covered anteriorly by the liver. The latter was much deformed and covered with puckered scars, in all probability due to syphilis. Rupture had occurred into the left pleura through the opening mentioned.

Aneurysm of the Innominate; Ligation of Common Carotid and Subclavian; Disappearance of Tumor for Sixteen Months; Return.

DR. JOSEPH RANSOFF presented a patient on whom he had operated about sixteen months previously, for the relief of this condition. The returning tumor has not yet grown to any great size.

PHILADELPHIA ACADEMY OF SURGERY.

Meeting held March 7.

President Dr. DeForest Willard in the chair.

Compound Fractures of the Skull.

DR. RICHARD H. HARTE read a paper entitled "Some Observations on Compound Fractures of the Skull." He considers the diagnosis of fracture of the vault as sometimes easy if the wound extends down to the bone, though in some cases a roughness of the bone simulates a fracture, after an incision becomes necessary to clear up the diagnosis, and in such cases he believes it always justifiable. Children frequently suffer from fracture of the bones of the skull, which are never recognized. Simple incised wounds are sometimes mistaken for fractures. As to fractures of the base, an accident of this kind may be caused by a fall on the back of the head, in such cases involving the posterior fossa. Fractures of the anterior fossa may involve the cribriform plate, or petrous portion of the temporal bone. The prognosis of fractures at the base of the skull depends on the nature of the injury. If the brain substance has been injured the prognosis is more unfavorable. The diagnosis of fracture of the base of the skull may be made by the escape of blood from the eyes, or ears, and by the impairment of nerves of special sense. The speaker recalled an instance in which a small amount of brain tissue had been lost in such an injury. When a mixture of blood and cerebrospinal fluid occurs, it may be ascertained by rubbing a small amount of the fluid between the fingers. If any cerebrospinal fluid is present its character will be noticed, while if it is only blood, it will become sticky. The nerves of special sense may be injured at their origin, or along their course and may be from compression. The presence of coma is not always diagnostic of fracture of the base of the skull. Coma should not be ascribed to alcoholism. In alcoholism the temperature is normal. Of the speaker's series of fractures of the base of the skull, about 30 per cent. had recovered.

As to the treatment, rest in bed, with ice to the head and an antiseptic dressing, together with the internal administration of calomel and Dover's powders, seemed to give the best results. When depression is present the case becomes at once an operable one. Even in doubtful cases an exploratory incision should be done. If the wound becomes infected, a drainage-tube should be inserted to a point just below the depth of the bone. Of the twenty-three operable cases of fracture of the skull seen by the speaker, 11.5 per cent. died.

DR. JOHN B. DEEVER expressed belief that the results obtained by Dr. Harte in the treatment of this series of cases had been good.

Neuropathic Affections of Bones.

DR. C. H. FRAZIER presented a patient showing a peculiar neuropathic affection of the bones, with skiagraphs. The patient was a man 60 years of age. Three years ago he had complained of pain in the right knee, accompanied by swelling. Skiagraphs show osteophytes growing from the articular cartilages. The process has also involved the left knee. The special features of the case are that it is a bilateral affection having lasted for years, and with no tendency to involve other bones. The case resembles osteosclerosis, rather than osteoporosis, or it might properly be classified as one of osteitis deformans.

Left Cecal Hernia.

DR. JOHN H. GIBBON read a paper entitled "Left Cecal Hernia, with Report of Two Cases." He believes that this condition occurs more frequently than has been supposed, since it has not been the practice to open the sac. More recently certain operators have met with the condition repeatedly. In the first case, the man suffered with hernia for years, and later strangulation occurred. On opening the sac both the cecum and ilium could be easily seen. The patient recovered from the operation, but later died, probably of heart disease.

The second patient was a laborer, 55 years of age, who had suffered from a hernia extending almost to the knee. Dr. W. W. Keen operated, by aid of spinal anesthesia. Two days afterward the man developed stricture of the urethra, and later died of symptoms of sepsis, probably of kidney origin. The speaker considers cecal hernia very rare in women, and the most frequent cause of the condition an abnormally long mesocolon.

Obstructive Jaundice.

DR. JOHN B. DEEVER read a paper on "Mortality in Operations for Obstructive Jaundice." He enumerated the causes of the condition as outlined by Murchison and Osler. Peritonitis is not a common cause of death in obstructive jaundice. The effects of the bile salts on the blood seem to increase the tendency to excessive bleeding, and to secondary hemorrhage. He lost a case from secondary hemorrhage following an operation for this condition. To lessen the tendency toward this condition he gave calcium chlorid, but could not speak definitely as to its effects. Suprarenal extract in one case did good. Hemorrhage and shock are common causes of death. These facts seem to indicate that the sooner an operation is done the better will be the prognosis. It is better to open the abdomen and find nothing wrong than to wait until later and then find an irremediable condition.

DR. J. H. GIBBON asked the speaker whether he had ever met with a case of acute dilatation of the stomach in these operations.

DR. R. G. LE CONTE asked whether he had ever tried gelatin to lessen the tendency to hemorrhage.

DR. DEEVER stated that when there is dilatation of the stomach it is the result of the general septic condition. He has not tried gelatin.

Enterectomy in Strangulated Hernia.

DR. T. S. K. MORTON reported "A Case of Strangulated Femoral Hernia; Herniotomy; Acute Obstruction Three Weeks Later; Enterectomy; Recovery." In this case taxis had been tried before the patient was seen by the speaker, but without result. He did herniotomy, and replaced the bowel. A few days later abdominal colic occurred, and three weeks later there were symptoms of obstruction. He opened the abdomen and found an obstruction. Enterectomy was done by means of the Downes forceps. About eight inches of the bowel was removed and the patient made a good recovery.

DR. JOHN B. DEEVER stated that he had often thought that the white line, as found at the time of herniotomy, might be the subsequent seat of obstruction of the bowel, owing probably to cicatricial tissue formation at that spot.

Suppurating Hematocele.

DR. GEORGE ERETY SHOEMAKER read a paper entitled "Treatment of Suppurating Hematocele Following Extra-uterine Pregnancy." In doing this operation he prefers the abdominal route. Pelvic hematocele can, however, be best drained through the vagina.

CALIFORNIA ACADEMY OF MEDICINE.

Meeting held February 26.

Appendicitis During Typhoid.

DR. BEVERLY MACMONAGLE reported two cases of appendicitis operated on during the course of typhoid fever. The first was in a young man of 18, who, at the end of the second week of a typical attack of typhoid, suddenly complained of a severe pain in the right iliac region, and the temperature rose to 105. The Doctor was called in consultation the same

day, and found considerable general tenderness, decidedly increased in the right iliac region, with muscles tense to the point of spasm on slight pressure, and apparent increased dullness in the groin. Rectal examination showed decided tenderness in the rectovesical cul-de-sac, particularly on the right side. The spleen was enlarged, the liver dullness normal. A blood count showed a leucocytosis of 17,000. Abdominal section was determined on, the only question being between perforation and appendicitis. The appendix was removed. The temperature came down to 103 and the pulse to 110 the following day. The patient went through the usual course of typhoid to recovery. The anesthetic and operation did not seem to add any additional trials to his case.

The second case occurred in a man 27 years of age. Nineteen days from the commencement of his typhoid he had a chill, and began to vomit and suffer severe pain in the abdomen. Temperature went up to 105, pulse 156, respiration 38. The abdomen was tense and tender, with rigid muscles over the right iliac region. While he could not detect dullness, he thought he could feel some thickening over the appendix. Incision was made and the appendix removed. Temperature in twelve hours was 102, the bowels moved and the stools had the appearance of containing blood. The patient vomited a good deal and the pulse was not satisfactory. On the second day after operation vomiting ceased and the patient was more comfortable, the pulse and temperature much the same. The third day a blood count showed leucocytosis of 19,000, pulse and temperature were the same, and the bowels moved freely. On the fourth day the temperature was 104, pulse 142, respiration 34, with a slight chilly feeling, and some pain in the seat of operation. Examination showed pus in the abdominal wound, which was evacuated, when the temperature and pulse fell. After this the patient progressed very well, the abdominal incision discharging pus for twenty-two days, when it closed and convalescence was established.

DR. W. W. KERR said that the combination of the two diseases was by no means uncommon. He had had two such cases, one a perforation close to the end of the appendix, with ulceration extending down into the appendix itself. He thought it a question whether we should recommend operation as promptly as in cases where typhoid did not exist. The presence of typhoid should make us more cautious.

DR. J. HENRY BARBAT said he was particularly interested in these reports because a man on whom he recently operated had typhoid fever nine months before. His attack then looked like appendicitis, but a diagnosis of typhoid was made. He never got entirely well, but had pain in the right side at times. Recently he had an attack of gall-stone colic, for which he operated, removing a small stone, and found the appendix very firmly bound down by adhesions, which made it very difficult of removal. It is reasonable to suppose that he had an appendicitis along with his typhoid.

DR. T. W. HUNTINGTON said that the coexistence of the two diseases has long been recognized. There can be no question regarding the propriety of operating in these, for the patients stand operation very well. He considers the blood count of special value in determining the existence of appendicitis.

DR. GEORGE M. HUGHES said that patients having typhoid react well from operation. He has seen several operated on for perforation, and, where ether was used, the patients came off the table with better pulses than before. He thinks we should operate in all cases of appendicitis complicating typhoid. We may be in doubt as to whether pain is due to appendicitis or typhoid ulcer, but operation will add no danger for the patient, and it would be better to err on the safe side and operate.

DR. MACMONAGLE said that this was the extent of his experience in such cases. The question was whether one should operate in cases in which the pain became very severe, with poor pulse, shallow respiration and vomiting. The question of perforation was left out, because the temperature went so high.

Carcinoma of the Pylorus and Stomach.

DR. T. W. HUNTINGTON exhibited a specimen showing the result of an operation for carcinoma of the pylorus and of the

stomach. On Aug. 5, 1900, pylorotomy and partial gastrectomy was performed upon a man 67 years old. At the time of operation the pylorus was almost entirely obstructed by the growth. After removal of the pylorus and a considerable portion of the stomach, the divided end of the duodenum was attached to the posterior wall of the stomach by a Murphy button. There was rapid recovery from the operation. For three months the patient gained perceptibly; his weight increased 35 pounds; he ate a promiscuous diet with relish. He then began to fail, with a recurrence of former symptoms, and died Dec. 24, 1900, nearly five months after the operation. At autopsy, there was extensive carcinomatous involvement of the stomach along the lesser curvature, and at the point of anastomosis, also of the liver and pancreas.

DR. MACMONAGLE said that it was a question whether or not the doctor should have taken out more of the stomach. He has had one successful and one unsuccessful case. In his fatal one he had not taken out a sufficient number of glands. He thinks statistics show that the result is as good in gastroenterostomy as in total removal of the stomach. In this specimen of Dr. Huntington's the union showed that the stomach had attained its original condition of strength. Recurrence was beyond prevention.

DR. BARRAT said that in the majority of successful cases the anastomosis is made with the Murphy button; it saves time if properly applied, prevents leakage, and in general gives a better and safer result, and had the doctor cut wider the patient might have lived longer.

DR. W. I. TERRY said that the autopsy demonstrated the fact that the liver was full of carcinomatous masses, and he can not believe that any further operation or wider cut could have been of any avail. Regarding the anastomosis, he thinks the button was a success in this case.

DR. CARPENTER called attention to a point in the technic, which was to remove as much of the lesser omentum as possible, because the circulation is up and through the lesser omentum.

DR. HUNTINGTON said he was rather pessimistic regarding the possibility of a radical cure in these cases, because it is very seldom that the disease has not involved other organs. He recognizes the superior ability of one man over another in using the button, and thinks that when the reports are all in, an appalling list of tragedies will be found to be due to the button. Richardson prefers the suture, and has never used the button successfully. The matter must rest for a considerable time. The button can certainly be adjusted more rapidly, and will be used where haste is necessary.

Carcinoma of Breast.

DR. T. W. HUNTINGTON also exhibited a breast removed recently. It showed a discrete carcinomatous map occupying nearly the center of the breast. This tumor was about the size of a lemon. It was quite movable and, externally, no axillary glands could be detected. A full Halsted operation was done. Upon entering the axilla a large number of infiltrated glands were uncovered.

Case of Leprosy.

DR. JOS. G. MORRISSEY exhibited a boy 11 years of age who had leprosy. He was born in the Tahiti Islands. His father was French and his mother a native woman of French descent. There was no history of leprosy in the family. He came to San Francisco three months ago with his father. He was first seen by Dr. C. F. Griffin, who reported the case to the health officer. He had several patches, on various parts of the body, of well-marked anesthesia, one spot alongside of the left eye, through which a pin could be passed without his feeling it. Both ears were involved, also the fingers; and the large toe of the left foot was half gone. The disease was of the nodular type. *Lepra bacilli* had been found, both in the blood and in the sections of tissue taken from the lesions. The diagnosis had been confirmed by Drs. Montgomery, Ophuls and Morrow. The boy's general health did not seem to be impaired, as he was quite active. The disease began about three years ago.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment will be answered in these columns.]

Treatment of Prostatic Hypertrophy.

Dr. R. Guit  ras, in his article on treatment of prostatic hypertrophy, in the *New York Medical Journal*, states that belladonna is the best antispasmodic, although codein and hyoscyamus are preferred by many. He recommends the following:

R. Tinct. belladonn  3ii 8
Potassii acetatis3iv 16
Aq. menth  e pip. q. s. ad.....3ii 64
M. Sig.: One teaspoonful three times a day between meals.

Another prescription for the same purpose he advises as follows:

R. Codein  gr. viii 5
Tinct. belladonn  3iiss 10
Potassii acetatis3iv 16
Aq. menth. pip. q. s. ad.....3ii 64
M. Sig.: One teaspoonful three times a day in a glass of water.

In some cases, he states, it will be necessary to resort to a suppository at night in order to give the patients the desired relief. Under such circumstances the following is recommended:

R. Ext. belladonn  
Morphin  e sulphatis,    .....gr. 1/4 015
Cacao butter q. s.

Hot rectal douches of saline solution before going to bed and the administration of some of the bladder antiseptics are also of benefit.

Acute Laryngitis in Children.

R. Apomorphin  e hydrochlor.....gr. 1/3 02
Acidi hydrochlor. dil.....gtt. iii 19
Syrupi seneg  3v 20
M. Sig.: One teaspoonful every hour.

Treatment of Subacute Laryngitis of Vocalists.

Faulkner, in *Clinical Ther.*, outlines the following treatment:

1. An aperient.
2. Laryngeal spray of 1 per cent. solution of cocaine.
3. The following lozenges may be of use:
R. Morphin  e bimeconatisgr. 1/100 0006
Cocain  e hydrochloratisgr. 1/125 0005
Tinct. aconitim. 1/6 01
Pulv. alth  e rad.....gr. ss 03

M. Ft. lozenge No. i. Sig.: One to be taken in the mouth frequently.

4. As a preparation for a vocal effort, after acute symptoms have subsided, strychnia—gr. 1/60 three times a day—is of service.

Pleurisy with Effusion in Children.

Widerhofer, in *Yeo's Man. of Ther.*, recommends the following:

R. Potassii acetatisgr. xx-xl 133-2.66
Syrupi simplicis3iii 12
Infusi digitalis q. s. ad.....3iii 96

M. Sig.: One teaspoonful every two hours.

Or,

R. Potassii acetatisgr. xx-lx 133-4
Syr. aurantii3iii 12
Decoct. cinchon  e q. s. ad.....3iii 96

M. Sig.: One teaspoonful every two hours.

As external application he recommends the following:

R. Iodigr. iss 09
Potassii iodidi3iiss 10
Glycerini3iiss 48

M. Ft. linimentum. Sig.: For external application once or twice daily.

Treatment of Hemoptysis.

Dr. W. George Smith, as noted in *Ther. Gazette*, states that in an urgent case of hemoptysis, 1, the patient should be kept calm and the excitement of his friends quieted with a few judicious words by emphasizing the fact that hemorrhage per se is not a serious matter; 2, avoid irritation of the gastric ends of the vagus nerve. Therefore do not administer pieces of ice or cold drinks, as they irritate the gastric branches of the vagus, give rise to cough and thus aggravate the bleeding, as well as cause contractions of the stomach. On the other hand, give warm, mucilaginous drinks and place ice on the chest; 3, keep the patient quiet in mind and body; 4, give morphin hypodermically. The latter is the best thing of all; 5, relieve the bowels by magnesium sulphate or by calomel; 6, let diet be simple and nutritious, reduce the amount of liquid and give no alcohol.

For Cold in the Head.

The following powder will relieve the congestion and act as a palliative to the mucous membrane of the nose:

R. Menthol	gr. iii	20
Acidi borici	ʒi	4
Bismuthi subcarb.....	ʒiss	6
Benzoin	ʒiss	6
Sodii bicarb.....	gr. x	66
Magnesii carb.....	gr. xv	1
Sacchari lactis	ʒi	32

M. Sig.: Use as an insufflation into the nose four or five times a day.

For the Cough in Phthisis.

According to the *St. Louis Med. Jour.*, Weisenburg employs with success the following combination in cough due to tubercular ulceration of the epiglottis:

R. Dionin hydrochlor.		
Codeinæ hydrochlor., āā.....	gr. iss	10
Cocainæ hydrochlor.....	gr. iv	25
Ammon. valer.		
Aquæ amygdalæ amaræ. āā.....	ʒii	8

M. Sig.: Fifteen drops on a lump of sugar three or four times a day. Allow the sugar to dissolve slowly in the back part of the pharynx.

Ichthyol in Treatment of Deep-Seated Inflammations.

W. T. Slevin, in *N. Y. Med. Jour.*, emphasizes the value of the following ointment in deep-seated, as well as superficial, inflammations:

R. Ichthyol		
Plumbi iodidi, āā.....	gr. xlv	3
Ammonii chloridi	gr. x	66
Petrolati q. s. ad.....	ʒi	32

M. Sig.: To be rubbed thoroughly upon the inflamed parts.

The Use of Normal Saline Solution.

The *Ther. Gazette* states that some of the conditions in which the normal saline solution is of value are: Hemorrhage, surgical shock, toxemia from sepsis or any of the infectious diseases, puerperal eclampsia, renal disease, diabetic coma, poisoning by the various alkaloids, snake poisoning, etc. In children so small a quantity as one or two ounces is sufficient, and four ounces will often be of value in adults. It is a noteworthy fact that the urinary flow may be three or four times as great as the quantity actually injected. The best place for the injection is in the lateral lumbar region. A very common fault is the employment of water not hot enough. The water may be kept at the proper temperature by coiling a section of the tube several times in a basin of very hot water, which may be renewed at times. The water as it is delivered to the patient should be from 105 to 106 F.

Parotitis (Mumps).

In children, the following combination renders good service in treatment of the febrile stage:

R. Liq. ammonii acetatis.....	ʒss	16
Spts. etheris nitrosi.....	ʒii	8
Aq. menthæ pip. q. s. ad.....	ʒiii	96

M. Sig: One teaspoonful every two or three hours for a child over five years of age.

Treatment of Epilepsy.

Collins, in the "System of Pract. Ther.," states that in some cases of epilepsy the bromids. if given in combination with an acid, are not so apt to derange digestion. He recommends the following combination:

R. Acidi hydrobrom. dil.....	an. x	66
Ferri bromidi	gr. i	66
Potassii bromidi	gr. x	66
Sodii salicylatis	gr. ii	12
Spts. rectificat.		
Glycerol pepsini, āā.....	m. x	66
Ol. gaultheriæ	m. ss	03
Liq. ammon. cit. (B. P.).....	ʒss	2

M. Sig.: At one dose. This may be doubled or tripled.

Peruol in Treatment of Scabies.

Richards Sachs, in *Deutsche Med. Woch.*, states that the best treatment consists in employing a preparation that will produce no bad effects upon the skin or other organs, that does not discolor the skin or clothes and one that has no odor. He claims that peruol has none of these disadvantages, which can not be claimed for many of the other preparations commonly used. Peruol, he states, will kill the acarus in thirty minutes. This preparation is composed of peruscabin (the principal active constituent of Peru balsam) one part, and oleum ricini three parts. Three applications should be given within thirty-six hours, and well rubbed in, when a cure is usually effected. Any eczema or dermatitis present is not rendered worse by the application of this preparation.

Treatment of Hemoglobinuria.

Dr. N. S. Davis, Jr., states that, when there is an excessive elimination of mineral salts by the urine and consequently a diminished amount in the blood, Robin advises a diet rich in such mineral matter and the administration of the following powder twice daily:

R. Sodii chloridi	gr. v	3
Potassii chloridi	gr. ivss	26
Sodii phosphatis	gr. i	66
Potassii phosphatis	gr. iiss	15
Calcii glycerophosphatis	gr. ss	03
Magnesii glycerophosphatis	gr. 1/6	01
Potassii sulphatis	gr. ss	03
Ferri glycerophosphatis	gr. i	66
Pulv. hemoglobin	gr. i	66

M. Ft. chartula No. i. Sig.: One such powder twice a day.

Treatment of Tinea Tonsurans.

Dr. Brown, in *The Post-Graduate*, recommends:

R. Acidi salicyl.....	gr. xx	1
Chrysarobin	gr. xx	1
Ichthyol	ʒi	4
Lanolin		
Vaselini, āā	ʒss	16

M. Sig.: Shave the parts and rub it over the whole surface. At the end of three days the head should be washed and some emollient salve applied to check the dermatitis. In a few days the former salve may be re-applied. The treatment should be kept up for a month or six weeks.

Seborrheic Eczema.

Dr. Brown also states that resorein and sulphur are the most valuable agents in treatment of seborrheic eczema. He recommends the following:

R. Hydrarg. chloridi corros.....	gr. i	06
Resorein	ʒi	4
Chloralis hydratis	ʒi	4
Ol. ricini	gr. x	66
Spts. vini	ʒiv	128

M. Ft. lotio. Sig.: Apply to the scalp once or twice daily.

In more severe grades, with redness and infiltration of the scalp, a pomade such as the following serves the purpose better:

R. Acidi salicyl.....	gr. xv	1
Resorein	gr. xxv	1
Sulphuris sublim.....	ʒi	4
Ung. aquæ rosæ	ʒi	32

M. Sig.: Apply locally.

Scrofulosis.

Chrystie, in "System of Pract. Ther.," places cod-liver oil first in the list of medicinal agents in treatment of scrofulosis. He recommends the following excellent emulsions:

R. Olei morrhue	.....	℥vi	192
Olei gaultherie	.....	℥i	4
Mucilag. tragacanthæ	.....	℥ii	64
Aq. aurantii flor. q. s. ad	.....	℥xii	384

M. Sig.: From a dessertspoonful to a tablespoonful three times a day.

Or,

R. Ol. morrhue	.....	℥vi	192
Ol. gaultherie	.....	℥i	4
Spts. chloroformi	.....	℥ii	8
Glycerini			
Yolk of egg, āā	.....	℥v	20
Aq. aurantii flor. q. s. ad	.....	℥xii	384

M. Sig.: One dessertspoonful to a tablespoonful three times a day. The second mixture is not so thick as the first and is, for that reason, preferred.

Administration of Iodoform.

According to *Presse Med.*, Thibaut combines iodoform with equal parts of pulverized Ceylon cinnamon for external use or pills. As a salve he uses the following:

R. Iodoformi	.....	gr. xv	1
Essentie cinnamomi Zeylanici	.....	m. v	30
Vasellini	.....	℥v	20

M. Sig.: For local application.

Medicolegal.

Experiments in Nature of Hearsay Evidence.—The Supreme Court of Louisiana holds, in the case of Seibert vs. McMannus, that experiments made in the absence of parties interested in the results thereof are, as evidence, in the nature of hearsay, and, if received, the facts and conditions under which they were made should be shown to have been identical with those of the case before the court.

Failure to Call Physicians as Witnesses.—It appeared from the testimony in the personal injury case of Vergin vs. the City of Saginaw, that two physicians made examinations of the plaintiff a short time after she claimed to have been injured. One of the physicians made two examinations, and the other made one. They were for the purpose of ascertaining her physical condition. She did not call these witnesses. The Supreme Court of Michigan holds that it was error to refuse to give the jury an instruction stating these facts, and the plaintiff's failure to produce these witnesses might be given such weight by the jury as the latter saw fit.

Can Not Examine Persons to Settle Disputes of Doctors.—The plaintiff in the case of French vs. the Brooklyn Heights Railroad Company, a man 70 years of age, was thrown down, and sustained a painful injury to his side, by the sudden starting of one of the defendant's street cars, while he was attempting to board it. There was a conflict of evidence upon the question of whether at the time of the trial his side showed a depression at the point of contact, indicating a continuation of the difficulty. The trial court apparently found in his favor upon this point. It gave him a judgment for \$400, and, taking this view of the case, the second appellate division of the Supreme Court of New York declares that it is unprepared to pronounce it excessive. Moreover, it holds that there was no error on the trial court in refusing to make examination of the plaintiff's person. Indeed, it holds that the defendant had no right to demand that the court examine the plaintiff to determine a dispute between opposing doctors. If there are any authorities in support of the contention that the trial court erred in refusing to inspect the plaintiff physically, it says that the defendant's counsel did not call the attention of the court to them, and, in the absence of such authorities, the judgment of the court below should be affirmed.

Liability for Delay in Delivery of Medicine.—On the appeal of the Pacific and Wells-Fargo Express Companies vs. Redman, the Court of Civil Appeals of Texas has reversed a judgment for \$380.30 recovered by the latter party for damages for physical and mental pain suffered and for the retarding of her recovery by an unwarranted delay in the delivery of a package of medicine. This had been prescribed by her physician, and could not be procured at a nearer point than a town 23 miles or so distant, from whence it was ordered by telephone. But the order was sent by, and the medicine shipped to, a relative, without the agent of the express companies being notified for whom intended, although the agent knew of the relationship and had heard of the plaintiff's sickness. Now, such being the case, the court applies the rule that, in the absence of notice of the principal's connection with the contract, she can recover only such damages as her agent could have recovered in a suit brought in his own name. But such damages it holds she was entitled to, though not special damages, for a delay in the delivery of three days beyond the time the medicine should have been delivered. Nor, under the rule adopted in that state, does it consider that notice after the date of the contract of shipment would render the companies liable for special damages. Then, too, it suggests that on another trial, due consideration be given to the fact that the medicine could have been procured in a few hours, at small expense, by the use of a private conveyance, pointing out that a well-settled rule of law imposes upon persons injured the duty to exercise reasonable care to minimize the damages likely to result from the fault of another.

Proof of Account in Action Against Administrator.—In the case of Garwood vs. Schliehemaier, administrator, the Court of Civil appeals of Texas has reversed a judgment for \$150 for medical services. The plaintiff physician had testified, among other things, that he had treated the patient for epilepsy during a certain period of about two months, nearly every day, or sometimes every two or three days; that he wrote prescriptions for him frequently, and gave him medicine in his office. The court holds that this was inadmissible on account of being testimony with reference to a transaction with the intestate, within the meaning of the state statute providing that in an action against an administrator neither party shall testify as to any transaction with the deceased, unless called as a witness by the opposite party. In other words, it would seem that under such a statute a physician is incompetent to prove his own services as such to the deceased, against the representative. If, however, the performance of the services has been proved otherwise, when so proved, the plaintiff, the court says, it would seem, may testify as to the value. Nor does it consider that an account by a physician for his services is such a one as can be proved under the provisions of a statute making a verified open account prima facie evidence of the debt. The word "account" in that connection, it holds, applies to transactions between persons in which, by sale upon the one side and purchase upon the other, the title to personal property is passed from one to the other, and the relation of debtor and creditor is thereby created by general course of dealing. So, it holds that the only purpose for which a physician's account is admissible in evidence in such a case as this is to show that it has been properly verified as a claim against the estate of the deceased, and that it has been rejected by the administrator, and that it is error to admit it in evidence for any other purpose.

Medical Examiners by Courtesy—Use of Narcotics.—The Court of Civil Appeals of Texas says, in *National Fraternity vs. Karnes*, that the medical examiner is regarded as the agent of the insurer, save where it appears that he colludes with the insured to defraud the company. But in this case it was the medical examiner of the insurer who wanted to be insured, and in company with the organizer of the local lodge went to the office of another physician, taking with him his answers already written out and signed. As to what then occurred the testimony of that other physician was such as to

give the impression that there was really no medical examination, and that he treated the matter and signed the certificate as a mere act of accommodation for a brother physician, relying on the latter's being a physician himself, and understanding all the facts. In other words, that he in fact, and as an act of courtesy to his brother physician, gave him the benefit of his signature, for the purposes of the insurance, without any examination. Now, the court holds that the fraternity became bound, under the circumstances, by the information which the second physician possessed at the time he recommended the other as by information possessed by an agent. But, inasmuch as it is the established rule in that state that the agent's knowledge must have been obtained in the transaction of the principal's business to be imputed to the principal, it holds that the fraternity would not be charged with facts in the knowledge of the second physician or temporary medical examiner unless they were disclosed to him by the examination. Another point of interest in this case is with reference to the construction to be put upon the question: "Do you now, or have you ever used opium or other narcotics?" The answer was "No," and the court holds that the term "use" in this contract was correctly construed to have reference to a use which amounted to a custom or habit. Then, keeping this definition in mind, the court holds that, the answers having been warranted to be true, if this one was false it would invalidate the insurance, even if made in good faith, or through mistake, or by inadvertence, as well as if made intentionally.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Medical Record (N. Y.), March 9.

- 1 *The Period of Incubation of Yellow Fever: A Study from Unpublished Observations. Henry R. Carter.
- 2 *A Contribution to the Bottini Operation for the Radical Relief of Prostatic Obstruction. L. Bolton Bangs.
- 3 *Acute Gastric Ulceration. H. Newton Heineman.
- 4 *Treatment of Acute Serofibrinous Pleurisy. Charles E. Nam-mack.

New York Medical Journal, March 9.

- 5 *Blood in the Urine as a Symptom and the Diagnosis of Its Source. Joseph Wiener, Jr.
- 6 The Specific Treatment of Acute Dysentery. (To be concluded.) William J. Cruikshank.
- 7 The Pathology of Intrauterine Death. (Continued.) Nell MacPhatter.
- 8 *Ichthyol in the Treatment of Deep-seated Inflammations. Walter T. Slevin.
- 9 *Resorcin as a Preservative for Suprarenal Extract Solution. Seymour Oppenheimer.
- 10 *The Radical Treatment of Malignant Diseases of the Larynx. Ernest Waggett.
- 11 *The Surgery of the Turbinal Bodies, with a New Method of Operating. J. E. Boylan.

Philadelphia Medical Journal, March 9.

- 12 *False Pregnancy (Pseudocyesis) and Myxedema. Edward P. Davls.
- 13 *The Actions of Morphin Upon Metabolism, with Especial Reference to "Internal Secretion" and Its Bearing Upon Toxicology. Edward T. Reichert.
- 14 *Paresis Simulating Brain Tumor. Wharton Sinkler.
- 15 Operative Treatment of Tubercular Lymphomata of the Neck. Prescott Le Breton.
- 16 A Skiagraph of Bennett's Fracture of the Metacarpal Bone of the Thumb or "Stave of the Thumb." John B. Roberts.
- 17 A Cast and Skiagraph of the So-called Smith's Fracture of the Lower End of the Radius. John B. Roberts.
- 18 On the Necessity for the Organization of Bacteriological Commissions for the Study and Investigation of Quarantinable Diseases Under the Formation and Control of the Governing Authorities of the Countries Interested—An Absolute Necessity for the Scientific Management and Betterment of Maritime Hygiene and Quarantine. Henry B. Horlbeck.
- 19 *Albuminous Nutrition and Nutritious Albumen. Albert Bernhelm.
- 20 The Function and Distribution of Combined Hydrochloric Acid in Proteolytic Digestion. A. E. Austin.

Medical News (N. Y.), March 9.

- 21 *Our Duties Toward the Consumptive Poor. S. A. Knopf.
- 22 *The Intravesical Evidences of Perivesical Inflammatory Processes in the Female. Frederic Bierhoff.
- 23 *The Prevention of Insanity. Henry Waldo Coe.

- 24 *The Tonometer and Its Value in Determining Arterial Tension. Henry L. K. Shaw.
- 25 The Present Status of the Subarachnoidean Injection of Cocain for Anesthesia (Corning-Bier Method). John S. Miller.
- 26 A Case of Peroneal Nerve-palsy from Muscular Effort. Charles J. Aldrich.

Boston Medical and Surgical Journal, March 7.

- 27 *Clinical Notes and Comments; Cancer of the Extremity of the Common Bile Duct. Robert T. Edes.
- 28 *The Interpretation of Bacteriological Findings in Diphtheria Diagnosis. Hibbert W. Hill.
- 29 Destruction of Left Eye and Frontal Lobe of Brain from a Shotgun Explosion. Edward Swasey.
- 30 *Convulsions in Children. William N. Bullard and Charles W. Townsend.
- 31 Acute Pancreatitis. M. H. Richardson.
- 32 Case of Recovery After Operation for Acute Pancreatitis. J. C. Munro.

Cincinnati Lancet-Clinic, March 9.

- 33 Is Ethical Medicine Mythical? Charles D. O'Hara.
- 34 A Mistake in Diagnosis in a Case of Pulmonary Tuberculosis. J. C. McMechan.

St. Louis Medical Review, March 9.

- 35 *Middle Ear Disease in Its Relationship to the Cranial Cavity. Otto Stein. With Abstracts of Five Cases, Explanatory of Illustrations. (To be continued.) Carl Barck.

Medical Fortnightly (St. Louis, Mo.), February 25.

- 36 Diseases of the Stomach. (Continued.) J. M. G. Carter.
- 37 Chronic Bronchitis and Its Treatment. Henry J. Ostrander.

Pediatrics (N. Y.), March 1.

- 38 *Persistence of Symptoms After Removal of Adenoids and Tonsils—Causes of. F. Huber.
- 39 Circumcision for Phimosis and Venereal Warts. William R. Blue.
- 40 Adenoids. Robert M. Lapsley.

American Practitioner and News (Louisville, Ky.), February 1.

- 41 Surgical Technic in Country Practice. E. J. Kempf.
- 42 Three Cases of Disease of Unusual Character (Aberrant Remittent Fever, etc.) T. B. Greenley.
- 43 Suggestive Therapeutics. L. L. Cole.

Journal of Nervous and Mental Diseases (N. Y.), March.

- 44 *The Amelioration of Paralysis Agitans and Other Forms of Tremor by Systematic Exercises. John Madison Taylor.
- 45 A Case with Symptoms of Cerebrospinal Meningitis, with Intense and General Alteration of the Nerve Cell-Bodies, but with Little Evidence of Inflammation. William G. Spiller.
- 46 A Case of Muscular Dystrophy. Charles G. Chaddock.

Journal of Cutaneous and Genito-Urinary Diseases (N.Y.), March.

- 47 A Critical Review of the Literature of Gumma of the Sper-matic Cord, with the Report of a Case. Herman Goldenberg.
- 48 A Case of Malignant Syphilis Cured by Zittmann's Decoction. Granville MacGowan.
- 49 New Intravesical Cystoscopic Instruments. 1. Modified Litho-trite and Foreign-body Forceps. 2. Foreign-body Forceps. Frederic Bierhoff.
- 50 A Case of Multiple Angiosarcoma of the Skin. James C. Johnston.

Journal of Eye, Ear and Throat Diseases (Baltimore, Md.), January and February.

- 51 *Some Observations Upon the Diagnosis and Treatment of Chronic Maxillary Empyema. John R. Winslow.
- 52 The Nasal Septum; Its Diseases. J. William Watson.

Cleveland Medical Gazette, March.

- 53 Sick-room Disinfection. Robert G. Schnee.
- 54 Etiology of Chronic Exudative Nephritis. D. S. Hanson.
- 55 Prognosis of Chronic Exudative Nephritis. O. B. Campbell.
- 56 Treatment of Chronic Exudative Nephritis. F. J. Morton.
- 57 Amyloid Kidney. A. S. Maschke.
- 58 Facial Erysipelas. C. W. Race.
- 59 Tobacco. C. E. Ford.

Fort Wayne Journal-Magazine, January.

- 60 *The Early Diagnosis of Gastric Cancer with a View to Its Radical Cure. G. W. McCaskey.
- 61 Some Uses of Local Anesthesia in Genito-urinary Surgery. Wm. N. Wishard.

New York State Journal of Medicine (N. Y.), February.

- 62 *Aseptic Minor Surgery. Douglas Ayres.
- 63 *An Epidemic of Diphtheria Traced to a Milk Supply. Chauncey P. Biggs.
- 64 *The Control of Diphtheria in Small Cities and Country Districts from the Bacteriological Standpoint. Veranus A. Moore.

Buffalo Medical Journal, March.

- 65 Remarks on the Work of the Buffalo Laboratory on the Investigation of Cancer. Harvey R. Gaylord.
- 66 Formaldehyde. A. A. Young.
- 67 Senility, Senile Dementia and Their Medical Aspects. F. H. Stephenson.
- 68 *Some Mistaken Impressions Regarding Troubles of the Genito-urinary Organs. J. Henry Dowd.
- 69 Empyema with Recovery in a Boy Two and One-half Years. M. L. Beunett.
- 70 The Surgical Diagnosis of Right-side Abdominal Diseases. A. L. Beahan.
- 71 Case of Extrauterine Pregnancy. L. G. Hanley.

Brooklyn Medical Journal, March.

- 72 The Biochemical Pathology of the Liver. Henry A. Bunker.
- 73 The Differential Diagnosis of the More Common Diseases of the Liver. Glentworth R. Butler.
- 74 An Address Before the Alumni Association of the Long Island College Hospital. Victor C. Vaughan.
- 75 Acute Myelitis. Edward D. Fisher.

Annals of Ophthalmology (St. Louis, Mo.), January.

- 76 *Notes on the Bacteriology of the Conjunctival Sac and Its Bearing Upon Surgical Procedure. P. Chalmers Jameson.
- 77 *Alveolar Sarcoma of the Choroid. William Posey and Edward A. Shumway.
- 78 *Experiences in the Use of Homatropin as a Cycloplegic. Edward Jackson.
- 79 *Vernal Conjunctivitis. L. Webster Fox.
- 80 *Concerning the Development of Asthenopia and Errors of Refraction. Carl Schulin.
- 81 *Contusions of the Eye Producing Obliterating Hyphema. M. F. Weymann.

Medical Herald (St. Joseph, Mo.), March.

- 82 A Case of Nephritic Calculus with Symptoms of Thirty-three Years' Duration—Operation—Recovery. Herman E. Pearse.
- 83 Drainage. Fred G. Thompson.
- 84 Gastro-enteritis of Childhood. F. E. Coulter.
- 85 Hiram Christopher: Physician and Scholar. W. J. Bell.

Medical Dial (Minneapolis, Minn.), March.

- 86 Heredity from a Medical Standpoint and the Necessity of Its Recognition by the Public. Chester M. Carlaw.
- 87 Early American Medicine. James Moore Ball.

Medicine (Detroit, Mich.), March.

- 88 *Pseudo-phosphaturia as the Cause of a Persistent Urethritis. Alfred Schalek.
- 89 *The Choice of Operation for Stone in the Bladder. Byron B. Davis.
- 90 *Treatment of Septic Infections of the Kidneys, and Cystonephroses. L. L. McArthur.
- 91 Tuberculous Perimyocarditis with Tuberculous Aortic Aneurysm in a Dog. Ludvig Hektoen.

Louisville Monthly Journal of Medicine and Surgery, March.

- 92 Traumatism and Appendicitis. James S. Chenoweth.
- 93 Sanitation and Water-supply. H. Preston Sights.

Medical and Surgical Monitor (Indianapolis, Ind.), February 15.

- 94 Treatment of Chancroidal Adenitis. W. A. Hackett.
- 95 Perforating Ulcer of the Posterior Wall of the Stomach—Report of Case and Autopsy. A. T. Stewart.
- 96 Eye-strain as an Etiologic Factor in Nervous Headache. Frank M. Pray.

Maryland Medical Journal (Baltimore), March.

- 97 Eight Cases of Goiter in One Family. Samuel Amberg.
- 98 Four Cases of Sporadic Cretinism. Henry Barton Jacobs.
- 99 *Curetting the Urethra in the Treatment of Chronic Posterior Urethritis. George Walker.
- 100 A Review of Some of the Recent Work on the Physiology and Pathology of Blood. (Continued.) Thomas R. Brown.

Austin Flint Medical Journal (Mason City, Iowa), February.

- 101 What Should the General Practitioner Know About Diseases of the Eye? F. L. Rogers.
- 102 Variola. C. M. Swale.
- 103 Our Confrères. Shorland Harris.
- 104 Dr. Bowen for Governor. J. W. Kime.
- 105 Atropin in Inflammation of the Eye. Frank G. Murphy.

American Journal of Medical Sciences (Philadelphia), March.

- 106 *The Surgical Treatment of Ascites Due to Cirrhosis of the Liver, with Report of Two Cases. Frederick A. Packard and Robert G. Le Conte.
- 107 Splenic-myelogenous Leukemia with Pulmonary Tuberculosis. Report of Case. Henry L. Elsner and William A. Groat.
- 108 Hemorrhagic Typhoid Fever. Augustus A. Eshner and T. H. Welsenberg.
- 109 A Study of Congenital Sarcoma of the Liver and Suprarenal. William Pepper.
- 110 A Case of Sarcoma of the Thigh, for Which Disarticulation Was Performed Through the Hip Joint, with the Formation of a Posterior Flap. John Chalmers Da Costa.
- 111 *Stereognosis and Allied Conditions. Charles W. Burr.
- 112 Clinical Study of Acute Myocarditis. Beverly Robinson.

Medical Examiner and Practitioner (N. Y.), February.

- 113 Race in Relation to Life Assurance. C. Theodore Williams.
- 114 Locality and Occupation in Relation to Life Assurance. G. V. Poore.
- 115 The Relation of Deformities to Life Expectancy. John L. Porter.
- 116 Case of Splenic-myelogenous Leukemia. Talbot Jones.

International Journal of Surgery (N. Y.), March.

- 117 *The Fate of Sponges, Ligatures and Other Foreign Bodies in the Peritoneum. Carl Beck.
- 118 The Porro-Cesarean Operation—Report of Two Cases. A. L. Beahan.
- 119 Nose and Throat Work for the General Practitioner. (Continued.) George L. Richards.
- 120 *Pryor's Vaginal Versus Abdominal Hysterectomy. Hugh W. Crouse.
- 121 The Technique of Surgical Gynecology. (Continued.) Augustin H. Goelet.
- 122 Practical Suggestions Upon the Treatment of Rectal Diseases. (Continued.) James P. Tuttle.
- 123 Regional Minor Surgery. (Continued.) George G. Van Schalk.
- 124 Strangulated Inguinal Hernia, with a Congenital and an Acquired Sac, and Acute Hydrocele of the Tunica Vaginalis Testis, and a Congenital Hypertrophy of the Spermatheca, But Absence of the Epididymis—Operation. J. Coplin Stinson.
- 125 Clinical Report of Four Cases of Lupus Vulgaris. J. W. P. Smithwick.
- 126 The Abuse of the Poultice. Thomas M. Paul.

Southern California Practitioner (Los Angeles), February.

- 127 A Phenomenal Century of Surgery. F. C. Shurtleff.
- 128 The American Cigarette. William S. Fowler.
- 129 Where Do We Stand? W. W. Apple.
- 130 The Fear of Insanity as a Cause of Insanity. Henry W. Coe.
- 131 Inflation in Acute Diseases of the Ear. William T. Bolton.
- 132 Is Retinoscopy a Practical Method of Correctly Measuring Errors of Refraction? W. H. Roberts.

Charlotte Medical Journal, February.

- 133 Valvular Lesions of the Heart. L. B. McBrayer.
- 134 The Prevention of Recurring Hay Fever Attacks. Edward W. Wright.
- 135 Concerning Smallpox and Vaccination. E. D. Payne.
- 136 Evolution and Life. Joseph Clements.
- 137 Cystitis Accompanied by Malarial Hematuria. L. H. Warner.
- 138 The Comedy of Ethics. Paul Paquin.
- 139 Does Aseptic Vaccine Afford Absolute Protection Against Variola? A Test Case. T. J. Lawson.
- 140 Protonuclein as a Remedy for Tuberculosis, with Tabulated Report of Cases. C. W. Cauau.
- 141 Extracts from Report of Research Experiments on the Physiological Action of Petroleum. G. Burbridge White.

Texas Courier-Record of Medicine (Fort Worth), February.

- 142 Is It Smallpox? J. W. Carhart.
- 143 Typhoid Fever. A. H. Lindsay.
- 144 Spectacles—Their Use and Abuse. Joseph A. White.
- 145 Transperitoneal Ureterolithotomy. Report of a Case in Which the Stone Was Located by the X-ray. George N. J. Sommers.
- 146 Bullet in Hip Joint Located by X-ray. C. D. Harrington.
- 147 Enuresis in Children. G. W. B. Swain.

Southern Practitioner (Nashville, Tenn.), March.

- 148 The Cystoscope in the Diagnosis of Diseases of the Genito-urinary Tract. J. W. Handly.
- 149 Quick Removal of Tape-worm—"Tenia Solium." A. J. Weldon.
- 150 A Case of Chronic Rheumatism. L. B. Smith.
- 151 Report of a Case of Typhoid Fever with Complications. J. T. Abston.

Carolina Medical Journal (Charlotte, N. C.), February.

- 152 Movable Kidney. R. L. Payne.
- 153 Movable Liver and Its Clinical Significance. W. O. Nisbet.
- 154 Purulent Otitis Media—Its Causes, Complications and Treatment. B. R. Kennon.
- 155 Report of a Case of Pylorotomy for Carcinoma. Stuart McGuire.

Alabama Medical Journal (Birmingham), February.

- 156 Lacerations of the Perineum. R. P. Huger.
- 157 Suppurative Pleurisy Splenic Myelogenous Leukemia. B. L. Wyman.
- 158 Movable Kidney. U. J. W. Peters.

AMERICAN.

1. **Yellow Fever.**—Carter thinks that the incubation period of yellow fever may be ranged between three and nine days, the shortest recorded in his notes being three days and the longest eight and one-fourth. He does not claim that cases of longer or shorter incubation may not occur, but the above limitations apparently include the average.

2. Bottini's Operation.—Bangs gives his experience with the Bottini operation, claiming that it cures or improves a large proportion of cases without serious risk and with the minimum of detention. The patient should be prepared for this operation as carefully and thoroughly as for any other, and the anesthetic should be chosen with judgment. Local anesthesia is usually accompanied with more or less pain during the operation. One symptom that follows the operation is frequent urination, and fever is a condition also to be expected. The post-operative period is more nearly three weeks than two. Some patients may be allowed to sit up at the end of a week, but should not resume their ordinary mode of life for at least two weeks. The after-treatment is as important as any part of the operation. Incontinence of urine has followed two of his cases. He reports a case and calls attention to the following points of technique which it has taught him: "1. That the flow of electricity must be maintained to a degree which will keep the blade at white heat. 2. That in measuring a given case for the length of the incisions, allowance must be made for the action of the galvanic cautery beyond the distance at which the knife shall actually penetrate. 3. That the operation must be done with great slowness, in order to prevent hemorrhage and to get the best results."

3. Gastric Ulceration.—After a review of the history of the operation for gastric ulceration. Heineman discusses the pathology, and the etiology, in regard to which point he discredits the hyperacidity theory, the clinical history, differential diagnosis, and prognosis. He believes that medical treatment should be tried unless the hemorrhages are repeated and a count of red blood globules shows a serious diminution in their number. It should include absolute physical rest of body and stomach, alimentation being exclusively rectal for three or four weeks. The surgical treatment, however, should be thought of and preparations made for it if necessary. The method of procedure of Cazin promises the best results; inversion of the gastric mucous membrane, careful absorption of the mucous by means of sterilized gauze and minute search for the seat of ulceration should be made.

4. Acute Serofibrinous Pleurisy.—Nammaek thinks that perhaps we have gone too far in our fearlessness of tapping for pleurisy. He has been in the habit of teaching, in his clinics, that chest-tapping should be performed for serofibrinous pleurisy for three indications: 1. When life is directly threatened or endangered by asphyxia from compression, or by cardiac weakness. 2. When fluid has arisen to the third interspace in front, since we find that effusions of this size rarely disappear spontaneously. 3. In all lesser effusions when spontaneous absorption is unduly delayed. When these are not present we should think more of medical treatment, including local applications of guaiacol, or iodine when guaiacol has a too pronounced effect on the heat-regulating and vasomotor centers; mild cathartics, limitation of ingested liquids, and the consumption of as much table salt as the patient can be induced to take. While there are other conditions than the effusion in connection with pleurisy, this is the special point referred to here.

5. Urinary Hemorrhage.—Wiener discusses the subject of blood in the urine, with special reference to the diagnosis of its source, and gives a tabulated statement of the symptoms of hematuria from its pathologic conditions. In case of urethral hemorrhage it will continue without regard to the act of urination. If the hemorrhage is from the prostate, it usually occurs in middle to old age. The symptoms are absent in the early stages, the frequency of urination is increased both day and night, pain is usually absent, the clot usually precedes a free flow of blood, the condition is somewhat relieved by rest and there is usually cystitis with later pyelonephritis. If due to stone in the bladder, it occurs usually in childhood or adult life. The urination is involuntarily arrested; the symptoms are those of cystitis. The urination is markedly increased during the day, and there is pain in the glans, even after urination. The bleeding is most profuse at night and is much relieved by rest. The other organs are usually normal. If from vesical tuberculosis, it generally occurs in early life. The urination is voluntarily arrested, pain in the glans ceases after

urination, the frequency is increased both day and night and not relieved by rest. The blood is bright, and is sudden in its appearance. The bleeding is transitory; usually a few drops at night. The prostate, seminal vesicle and epididymis are often involved in the general disease. If from tumor of the bladder, it occurs usually at an advanced age, symptoms are often absent, frequency of urination may not be increased, pain is unusual, bleeding is intermittent, often nocturnal and profuse. It is not influenced by rest and occurs mostly at the end of urination. The other organs are usually normal. Stone in the kidney usually occurs in adults about 40 years of age. Pyelitis is a late complication. Urination is relieved by rest, and is increased by exercise. Severe repeated colics occur. The bleeding is rarely profuse, may appear and disappear suddenly and is almost completely precipitated on standing. In the case of tuberculosis of the kidney, the patient is usually a young adult in poor general condition. The frequency of urination is marked both day and night; severe pain is felt, bleeding may be absent for long periods, and is usually of slight amount. It is not influenced by rest. The blood is intimately mixed in the urine and not completely precipitated. Pyelitis exists, spreading to the ureter and bladder. In case of tumor of the kidney, carcinoma is the type in advanced age; sarcoma may occur early. The symptoms are those of abdominal tumor. The frequency of urination is not markedly increased. Renal colic due to clot in the ureter is a symptom. The bleeding is profuse, often most at night and is not relieved by rest. The blood is very intimately mixed in the urine and not completely precipitated. The other organs are generally normal. The conditions that may lead to error in diagnosis are hemoglobinuria, drug intoxication from turpentine, carbolic acid, sulphonal, etc.; certain kinds of foods may cause hematuria, such as rhubarb, strawberries, and gooseberries, and the menstrual blood may some times get into the urine and cause errors of diagnosis. Hemoglobinuria may be readily recognized by the color, or absence of blood cells. The spectroscope may be of use, showing the characteristic dark bands between the Fraunhofer lines D and E. Wiener thinks that perhaps we are too prone in this age to lay aside old methods for new ones, and the object of his paper is to show how, in many cases, the diagnosis may be made out without the use of complicated apparatus.

8. Ichthyol.—Slevin recommends the following formula to be applied by rubbing upon the inflamed parts:

R. Ichthyolgr. 45
Lead Iodidgr. 45
Ammonium chloridgr. 10
Petrolatum, enough to make.....1 ounce

He reports three cases of inflammatory diseases in which it was applied with benefit.

9. Resorcin as Preservative for Suprarenal Extract.—Resorcin has been found by Oppenheimer to prevent the putrefactive changes which take place in suprarenal extract on account of the large amount of animal matter present and at the same time does not impair its efficiency. It has been his habit to add 60 gr. of good desiccated extract to one ounce of a 1 per cent. resorcin solution. The quantity for daily use is filtered, and he finds that as a hemostatic and vasomotor constrictor this combination is of great service.

10. Malignant Disease of the Larynx.—Thyreotomy, by Prof. J. N. Mackenzie's new operation, is questioned by Waggett as not yet having been sufficiently tried to justify all the claims that are made in its favor. The methods at present employed by Semon, Butlin, and others have yielded such brilliant results that he thinks it is absurd to sweep it aside as discredited.

11. Turbinotomy.—Boylan has operated in sixty-four cases for removal of the lower portion of the turbinated body with the cold snare. He thinks this method preferable to the use of the saw and scissors, excepting where excessive indurations indicate thickened bone. In order to meet the objection of the slipping forward of the loop over the medial surface and lower margin of the body, he fixes the end of the loop by burying the

point of a fine tenaculum, the hook of which forms a right angle, into the lower margin of the turbinated body at the point of operation, carrying the loop over its handle into the meatus, adjusting it so that it passes behind and is held in place at the back of the hook. In this way it is possible to entirely control the removal of the amount of tissue required. Amputation can be done with accuracy. Finding that the point of the hook was at times caught in the loops, he afterward had this bent to an angle somewhat more acute than a right angle, to avoid this. During the manipulation the snare should be pressed firmly backward and upward, so that the loop is drawn from above rather than from in front.

12. Pseudocyesis and Myxedema.—Noticing first the occasional difficulty of recognizing the genuine condition and the medicolegal importance of spurious pregnancy, Davis reports several cases of the latter condition, one of them a neurotic patient apparently recovered from myxedema.

13. Morphin.—Reichert reports experiments on the action of morphin on heat production, heat dissipation and body temperature, with special reference to the effect of the depression produced by the drug upon the internal secretions. He claims that the profound depression of general metabolism thus produced by even non-fatal doses, together with the probable involvement of the processes concerned in the internal secretions and in repair and their consequent affection, may be considered among the important factors in the question of the treatment of morphin poisoning, and that probably future research will show that we have in this depression an agent in explaining a part at least of the play of certain physiologic antidotes, as well as the non-effectiveness of others, such as atropin, which on theoretical ground would be supposed to be effective. Also, if a means be found to restore the normal processes of secretion and repair, the counteraction of the direct action of morphin upon the metabolic process as well as the respiration will probably be accomplished with less difficulty than heretofore.

14. Paresis Simulating Brain Tumor.—Sinkler reports a couple of cases in which the symptoms strongly indicated brain tumors in the earlier phases of the disease, the patient later becoming clearly a paretic. He calls attention to these facts as indicating possible errors of diagnosis in early paresis.

19. Albuminous Nutrition.—Bernheim's article is largely the notice of an article by Finkler, who describes a form of albumin food which can be given in many conditions where a special food is required. He gives its advantages as follows: This food is an almost chemically pure albumin of animal and vegetable origin in the average proportion of normal daily diet. It is a slightly brownish powder, odorless and tasteless. It is sterile and can be kept for any length of time, with no deterioration. The plain preparation is not soluble in water, but is readily accessible to the secretory juices of the alimentary apparatus. The iron mixture is soluble. It is resorbable to an extent of more than 90 per cent. of its weight when taken into the body. It can be eaten with food, by itself, or added and mixed with any other food, without changing the taste or flavor. On account of its high degree of resorbability, it is an exceedingly cheap proteid food for the sick as well as the healthy, and must become an ideal albuminous nourishment for the soldier and travellers on account of its small bulk and absolute digestibility. It gives excellent results in all cases of mal-nutrition from insanity, anemia, consumption, gastric and intestinal diseases, acute infection, in convalescence and in all cases of disturbed metabolism. Though insoluble in water, it does not lose any of its good qualities and is preferable to soluble and predigested foods in most cases. He thinks that it is the food of the future, like other artificially manufactured foods, when the population has increased to such a degree that the necessities of life will have to be manufactured. He gives his experience with this albuminous food in cases of healthy persons, and also in invalids.

21. The Consumptive Poor.—Knopf's paper is a plea for the sanitarium treatment of the consumptive poor.

22. Pericystitic Strands.—While examining patients with the cystoscope, Bierhoff's attention was called to a change simi-

lar to columnated structure of the bladder, but differing from it in that it occurred in limited portions of the bladder wall and in female patients who had not suffered from any obstruction to urination, but had in most cases at some previous period suffered from parametritis or allied conditions. Following the suggestion of Dr. Knorr, he examined all cases with previous history of such uterine conditions, as to their vesical symptoms. Of 443 cases, histories of parametritis, etc., were obtainable in 214; symptoms referable to urinary organs in 264; pericystitic strands present in 136; no other discoverable cause of symptoms than perivesical changes in 8; perivesical changes, as accessory cause in 67. These pericystitic strands, imitating in some respects the columnated structure of the bladder, are, according to the author, due to uterine inflammations, which extend and involve the walls of the bladder, and the fibrinous strands resulting from the organization and contraction of the inflammatory exudate, pull upon parts of the bladder wall. The characteristic appearance is the presence, over parts of these walls, of sharp, scar-like formations which rise, to a greater or less extent, above the surrounding surface, having a yellowish-white color, and tend to fimbriate at the end. Besides the columnar bladder structures, the contractions of the bladder muscle might be confused with these, but when these occur they appear and then disappear over the entire field of vision and are thus differentiated from the condition described. The recent cases can be treated by measures to promote resorption of the exudate. The later changes are of interest chiefly because they may exert an influence as complicating factors or disturbances of urination or produce vesical hyperesthesia.

23. The Prevention of Insanity.—The principal points in Coe's article are the regulation, under medical advice, of marriage and reproduction by persons who have strong family taints of insanity, and the proper education and regulation of life in such cases.

24. The Tonometer.—Shaw considers Gaertner's tonometer as a valuable method of ascertaining the degree of blood pressure. The description of the instrument and its use was given in an earlier paper by the author abstracted in *THE JOURNAL* vol. xxxiv p. 415 from the *Medical Record* Feb. 3, 1900.

27. Carcinoma of the Extremity of the Common Bile Duct.—After reporting a case of carcinoma involving the end of the common duct, with autopsy, Edes discusses the frequency of these conditions. He thinks that undoubtedly they are more common than often supposed, and quotes the references in the Index Catalogue in support of this view. He thinks that while probably gall-stones play an important part in the etiology of carcinoma of the gall-bladder, we must look elsewhere for the local irritation necessary to set up the same growth in the ducts. The diagnosis is not entirely certain or satisfactory, but is not absolutely impossible. The important point is to determine the exact location of the growth and this can not be done without operation. The possibility of relief by operation is noticed, but the prospects are apparently not usually encouraging by the time the diagnosis is established.

28. Diphtheria Diagnosis.—Methods in the Boston Board of Health's pathologic laboratory are described by Hill. A summary of the examinations is given in a tabulated form, and the interpretation of results detailed. The presence of diphtheria bacilli is used as a sort of toxin indicator and the positive diagnosis based upon it. The meaning of the negative report, however, was not considered absolute, and a "no growth" report was used when for any technical reason the examination of the cultures was a failure. He found diphtheria bacilli in about 60 to 70 per cent. of cases clinically designated as diphtheria, and in about 10 or 11 per cent. of those diagnosed as non-diphtheria. The positive report from swab examinations was of the same significance as the positive one from cultures, while the negative report is absolutely meaningless. Since, however, the positive swab results save from fifteen to twenty-four hours of waiting for the results of cultures, it was worth while to employ it even if positive results could only be obtained in 50 per cent. of the cases. The release from isola-

tion in diphtheria is a matter not so easy of decision. It was found that release on one negative culture allowed 30 per cent. of the patients to go out of isolation, while the bacteria are still present, while with two or more consecutive negative cultures only about 1 to 3 per cent. of those released will be still infected. To make sure of absolute non-infection by requiring three consecutive cultures involved so much additional trouble that it was found impracticable.

30. Infantile Convulsions.—From the records of the Boston Children's Hospital, Bullard and Townsend find that 1 per cent. of the children applying for treatment came for convulsions; 10 per cent. between 5 and 12 years of age gave a history of convulsions. Cases that appear to be due to some manifest reflex cause may turn out to be true epilepsy. Other cases, where the attacks occur frequently and without apparent cause, may suddenly recover, at least for a considerable period. Children who have had convulsions may be strong and free from nervous tendencies, though the proportion of those who have such nervous tendencies seems to be greater than in those who have not had convulsions.

35.—See abstract in *THE JOURNAL* xxxv, p. 1048.

38. Adenoids.—The occasional failure of the disappearance of unpleasant symptoms due to adenoids after their removal, is remarked upon by Huber, who enumerates the possible causes of mouth breathing, such as diphtheria, nasal catarrh, foreign bodies, inflammatory conditions in the nose, traumas, neoplasms, etc. The methods he suggests in these cases are examination for nasal obstruction, the use of boric acid, operation for deflected septum, curetting, and teaching the children to breathe through their noses.

44. Paralysis Agitans.—In the conclusion of his paper Taylor says: "I feel myself warranted in expressing the conviction that in most forms of tremor, whatever their cause, we may hope to obtain fair amelioration of symptoms, and it may be in some instances, a cure, by carefully regulated and systematized movements. These should be such as shall re-establish the largest degree of elasticity in the tissues which have suffered contractures. They should always include passive extensions and flexions, followed by active repetitions of these acts. The most important movements to overcome the milder forms of tremor, as the senile form, are slow, full forcible extensions. An important part of the treatment is the attainment of normal attitudes. Along with this should be continued conscientious efforts on the part of the patient to acquire full thoracic capacity, and as much elasticity of the lungs as possible. To regain and maintain health and activity in chronic conditions of almost any sort, is conditional upon a fair respiratory capacity constantly exercised."

51. Chronic Maxillary Empyema.—Winslow reviews the opinions of authorities, reports cases of antral empyema, and emphasizes the following points: 1. That antral empyema is not only not always, but is not generally, due to dental disease, the contrary view being based upon clinical rather than anatomical observation. 2. Its frequency and the necessity for systematic examination by multiple proof-puncture in suspected cases; latent empyema would thus not be allowed to exist until it makes itself manifest by caries and the apparent causal relation between the two would become much less notable. 3. Unless evidently of dental origin, antral empyema should be treated through the nose until it is certain that complications exist, and we then should investigate through a large opening in the facial wall. 4. The alveolar opening should be reserved for those cases of undoubted dental origin, and for those who refuse the radical operation. Even then the cases should not be referred entirely to the dentist, for they usually take no account of nasal conditions.

60. Gastric Carcinoma.—McCaskey reviews the methods of diagnosis of gastric carcinoma with a view to its early operation. The chief symptoms are anorexia, vomiting, pain, hemorrhage and obstinate constipation. However, these are not all constant. The condition of the blood is not different from that of any other serious nutritional disease. Peptonuria, if suppurative processes are to be excluded, is of decided value as

indicating the absorption of peptones from an ulcerated surface in the gastro-intestinal tract. He mentions his cardiometer, described before, by which he can determine the presence or absence of ptosis or ectasia. Of the chemical and microscopic signs, the absence of HCl has been proven to be a non-characteristic symptom. Lactic acid has also no pathognomonic significance. Microscopic evidences, however, are of great value, and may be obtained from washings of the fasting stomach or by using the stomach-tube as a sort of curette. Atypical mitosis at present is not regarded as absolutely significant, though especially frequent. Motor insufficiency of the stomach is finally mentioned as evidence of the continued presence of partially digested foods, is pretty constantly present in the early stages of the disease and has been called by Einhorn isochymia, which is a convenient designation. After the increase of isochymia, with malnutrition, progressive diminution of free HCl and of peptic digestion, with perhaps the addition of pain, the presence of lactic acid and the Oppler-Boas bacillus with atypical mitosis appear to be the most reliable signs at present available. The early diagnosis of gastric carcinoma is one of the most difficult problems to the clinician.

62.—See abstract in *THE JOURNAL*, xxxv, p. 1171.

63.—Ibid.

64.—Ibid.

68. Some Mistaken Impressions in Regard to Genito-Urinary Troubles.—The special mistakes noticed by Dowd are: the belief in the frequency of cystitis due to gonorrhea, the frequency of vaginitis, the recognition of albuminuria and casts as always indicating nephritis, while they occur frequently during urethral inflammation with no other disease, and the common notion of the greater seriousness of syphilis as compared with gonorrhea; he also mentions the common belief that twisting or screw-like formation of urination as it emerges is indicative of stricture, which is not the case.

76. Bacteriology of the Conjunctival Sac.—From a review of the principal points of his paper, Jameson sums up: 1. Pyogenic organisms are found in the normal conjunctival secretion, but probably in an attenuated form. 2. Under normal conditions these do not propagate. 3. The normal eye is abundantly supplied with means of antagonizing bacterial growth. 4. Diminished resistance from inflammations and operative interference alter the secretion and probably convert it into a better media for germ life. 5. The secretion of the eye is not in itself antiseptic. 6. Strong antiseptics in the conjunctival sac lower the resistance to germ in vision. 7. Much attention should be given to washing out the residual bacteria prior to operation. 8. As much care should be taken concerning antisepsis and cleanliness in the external preparation of both patient and operator as is adopted in general surgery, as, while the danger of suppuration is more remote, its results would be more disastrous.

77. Choroidal Sarcomas.—Posey and Shumway report a case in which they call attention to the following points as of interest: 1. The form of growth—intravascular angiosarcoma—developing from the lining endothelial cells of the choroidal vessels. 2. The early appearance of the glaucomatous phenomena. 3. The marked inflammatory changes and hyaline degeneration of the iris and ciliary body. 4. Acute degeneration of the optic nerve. 5. The advanced age of the patient—70 years.

78. Homatropin.—From his experience Jackson concludes that homatropin properly used is a reliable and satisfactory cycloplegic, as effective in children as in adults. The preferred method of applying it is in 2.5 or 3 per cent. solution, a small drop on the upper corneal margin every five minutes until five or six drops have been instilled. Care should be taken to avoid irritation. It rarely produces any symptoms of mydriatic intoxication. The bitter taste is the most notable extraocular symptom.

79. Vernal Conjunctivitis.—Fox reports a case of this type of conjunctival inflammation which he treated by grattage with success.

80. Asthenopia.—The causes of asthenopia are noticed by Schulin, and among the first he mentions auto-intoxication from the bowels, etc., and after that common rheumatic gouty diathesis. Another cause is sexual disorders, and he mentions cases due to gonorrhea and undescended testicles. One of the most frequent causes is a poorly-darkened sleeping room, especially if the sleeping, from any cause, is not profound. The surroundings of the eye in sleep, especially in young children, deserve great attention. He does not put much faith in the poorly-lighted schoolroom as a cause of asthenopia. What trouble comes from this cause is due to twisting of the vision due to narrow, bright windows. He believes that astigmatism and myopia are not as a rule congenital, but originate in early youth, are binocular in origin, being caused by abnormalities of muscles of both eyes, and that these originate mostly in the night time, during sleep.

81. Obliterating Hyphema.—Four cases are reported by Weymann, from which he concludes that contusions of the eyeball, resulting in obliterating hyphema, may or may not be complicated with deeper mischief, but the uncomplicated cases are in the minority. They are apt to be followed by acute glaucoma, the chief cause of the suffering. In the absence of sepsis iritis seldom develops. When the contusing force secures non-infected drainage from the anterior chamber, the reaction subsides in six to twelve hours. The stippling of the anterior epithelium and parenchymatous haze are due chiefly to profound shock to the local lymph-system and clouding does not disappear with the irritation of the intraocular pressure; it often lasts a week or longer. Drawing the contused blood is neither practicable nor desirable, for it clots a few minutes after leaving the vessels, and it shuts off the light and serves as a quasi iris splint. Atropia should always be instilled, not only for dilatation, but for its analgesic effect. Glaucomatous tension should be at once relieved by a cataract knife into the anterior chamber parallel to the plane of the iris. This makes a valvular wound which can be opened at will by compression of the posterior wound lip. For the inflammation he orders 6 gr. of calomel, which has an excellent revulsive effect, and compresses, as hot as can be borne, for thirty minutes out of every hour. These are usually not needed after twenty-four to forty-eight hours, at least not so often. No prognostic promises should be made until the clot absorption is complete. The commonest deeper complications are partial or thorough luxations of the lens, consecutive cataract, iridodialysis, synsechiæ, fundus hemorrhage and detachment of the retina.

88. Pseudo-phosphaturia as the Cause of Persistent Urethritis.—Schalek reports a case in which a non-specific urethritis, persisting for years in spite of all local treatment, was relieved when the condition of the urine was detected and proper treatment instituted. The nearest resemblance which he finds to the present case was in one reported by Klotz, where, after the cure of gonorrhea, in which repeated examinations failed to find the germs, phosphaturia brought on anew an inflammation of the bladder and urethra. The condition in Schalek's patient is called pseudo-phosphaturia, as no excess of phosphates was present, but it still had the general symptoms of phosphaturia.

89.—See abstract in *THE JOURNAL* of January 12, p. 126.

90.—Septic Affections of the Kidneys.—The methods of treating over-alkaline acidity of the urine are first noticed by McArthur, who calls attention to the importance of using benzoic acid, free from an alkaline base, in the treatment of ammoniacal urine. Other remedies useful in acidulating urine and exceeding in value dilute mineral acids are salol and similar derivatives of the benzol group. To check bacterial growth, the most trustworthy urinary antiseptic is urotropin. To render the urine alkaline in reaction, as when the gonococci or bacilli coli invades the kidney, the bicarbonates should not be used. Of the neutral salts the vegetable acids are the best. He classifies the specific affections of the kidney into acute and chronic, and those again into ascending and hematogenous, or descending. The acute ascending infections of the

kidney are septic and gonorrheal, and for treatment the better antiseptics mentioned should be used. If these fail, the use of ureteral lavage, and if this also fails there remains nephrostomy as a final resource. The descending infection of the kidney is occasional and may be from pyemic infarcts, but is more frequently due to infection from typhoid and tuberculosis. As a positive causative factor in chronic ascending infection, we have the same micro-organisms as in the acute, but their invasion is generally due to some mechanical obstruction to the free escape of urine, and attention should be given to its removal. With the restoration of free exit, many a case of renal infection has become quiescent. Relief of prostatic hypertrophy or stricture may cause the kidney trouble to disappear. If the renal obstruction has become so great that the removal of the kidney is required, the functional activity of the other kidney and its freedom from disease should be assured, as well as the worthless character of the kidney to be removed. Among the chronic descending, i. e., the hematogenous, varieties we have chiefly the caseous nodules of chronic tuberculous processes.

99. Urethral Curettage.—Walker favors the use of a special eurette, which is very long and slender, with a rather cup-shaped end 2 mm. in diameter and very sharp, in curetting for posterior urethritis; he has had good success in long-standing cases. Preparatory to the operation he irrigates thoroughly with a 1 to 40,000 bichlorid solution, and then a 4 per cent. cocain solution, which is instilled and held five minutes. The endoscope is introduced and the diseased spot localized. The curette is next applied with the complete removal of diseased tissue, including the epithelial layer and submucous tissue, if necessary. After this is done a 10 per cent. solution of nitrate of silver is applied to the spot by means of a cotton pledget. Following the treatment there is usually profuse purulent discharge, for which he has used, twice daily, an irrigation of 1 to 50,000 bichlorid solution.

106.—This paper was considered editorially in last week's *JOURNAL*.

111. Stereoagnosis.—Two cases are reported by Burr, whose conclusions are as follows: The ability to recognize objects by handling them depends upon the integrity of the afferent nerves, the cortical sensory area, and the cortical perceptive area. Diseases of either of these will affect the function. We may dismiss from consideration the inability to recognize objects because of disease of the sensory nerves or tracts in the cord, medulla and pons. Such inability is due to anesthetics of one or more types. There is a distinct area in which the sensations of handling objects are grouped, which form tactile memory impressions. This, the tactile perceptive area, is in the parietal lobe. This is not the same thing as the sensory area, though it may be located within the boundaries of the latter. It would probably be well to limit the term stereoagnosis to cases where the inability to recognize objects by contact is due to some failure of sensation caused by brain disease either in the cortical sensory area itself or in the fibers going to it. Tactile amnesia includes cases in which, on account of disease in the tactile perceptive area, the tactile memory images are destroyed. It is not infrequently associated with mind blindness, and it is probable that in recognizing objects by handling we recall, from memory, a more or less faint recollection of its visual appearance. Auditory memories are less frequently recalled because less frequently needed. What form of sensation is the most necessary for the recognition of any given object depends on its qualities. Tactile anesthesia, if sensibility to stronger pressure is preserved, causes little or no difficulty. The space sense, the localizing sense, and the sense of position are probably the most important, for by them we learn the form of objects. When, in the cerebral palsies of children, there is an inability to recognize objects in the paralyzed hand, it is often due, as Oppenheim states, to the fact that tactile memory images were never acquired. Granting that the tactile perceptive area is not the same as the cortical sensory area, such cases as the second reported can be explained upon the hypothesis of a lesion cutting off the fibers joining the two areas.

117. **Foreign Bodies in the Peritoneum.**—Beck reports cases in which non-absorptive silk ligature was sloughed through into the bowel or bladder or other hollow organ of the body, and he concludes that silk ligatures and sutures are not as harmless as usually regarded, and that more absorptive material should be preferred. If non-absorptive silk material is used, the thread should be small in size, and interrupted suture should be preferred to the continuous one, as the latter takes a longer time to slough off. Symptoms arising from a buried suture must always be borne in mind, and if sloughing is suspected a way should be opened for the thread so that it may not take a dangerous route. Some of the cases show that even the absorptive sutures are liable to this accident.

120. **Pryor's Vaginal Hysterectomy.**—Crouse reviews the indications for the operation and describes the technique. Pryor's operation, he says, has been evolved from Doyen's anterior hemisection, Muller-Quenu's total hemisection, Segond-Pean's preliminary liberation of the uterus, thus guarding the ureter, Czerny's twisting of the pedicle to 180 degrees, with the placing of the forceps from above downward. It embodies careful covering of the stump, thus securing the extraperitoneal retention of the pedicles; it is the Pean morcellating method in fibroids and large uteri. But after all, it is Pryor's, and an American operation by an American operator. The mortality in Pryor's hands has been *nil*. Its advantages over the other vaginal procedures are: 1. No stitches nor ligatures, and increased speed and ease. 2. The use of clamps which can be applied to dense, short ligaments where ligatures are not applicable, as in cases in which the parametria are very much thickened. Clamps can be placed closer to the outer part of the broad ligament if this is at all infiltrated, than it is possible to place ligatures. 3. It has all of their good and none of their bad features.

140. **Protonuclein.**—Canan has attempted to classify his cases of tuberculosis, keeping a record of all that were treated with protonuclein. The classification adopted was that of circumscribed apyrexia, circumscribed febrile tuberculosis, tubercular laryngitis, tubercular broncho-pulmonitis, and tubercular broncho-pulmonitis with cavities. In each case the bacilli were found. The patients were from all walks of life, between the ages of 60 and 70 years, and of both sexes. Of the apyrexia cases, 39 were treated, and 5 were cured, 18 improved, 9 remained about the same, and 7 grew worse and died. Of the tubercular laryngitis cases, 27 were treated, 3 cured, 12 improved, 6 stationary, and 6 died. Of the circumscribed febrile, 32 were treated, 8 cured, 16 improved, 5 stationary, and 3 died. Twenty-one cases of tubercular broncho-pneumonia with cavities were treated, 4 cured, 10 improved, 3 remained stationary, and 4 died. He claims that this treatment, while not a specific for tuberculosis, can do very much good and save many lives. There is no danger of its dealing the last blow to an already tottering structure, as is so often the case with tuberculin. While the treatment was in progress, he noticed: 1. That pyogenic associations are not acted upon by protonuclein. 2. That negative results are manifested when administered to patients with disease so far advanced that the cells are unable to respond to the stimulus of the drug. 3. That when improvement once begins under this treatment it generally continues. He reports one case in which cavitation had occurred, and improvement was very striking.

Combined Gynecologic Operations.—Owing to a combination of errors in typewriting and proofreading, the notice of Sutton's article, "Combined Gynecologic Operations" (page 599, THE JOURNAL, March 2), contained two absurd errors: For "tracheotomy," read trachelorrhaphy, and for "craniotomy," laparotomy.

FOREIGN.

British Medical Journal, March 2.

Some Points Relating to Varicocele. WILLIAM H. BENNETT.—The writer notices the hypochondriasis and mental symptoms generally as occurring with varicocele, and describes its varieties. About 7 per cent. of men will be found to suffer from this condition, and 80 per cent. of that percentage will be

affected on the left side only, about 15 per cent. on both sides, while occasionally the right side only is affected. The percentage of cases in which it gives trouble, excepting from mental causes, is small, and quack literature is responsible for many of these latter. He recognizes two forms, in one of which the condition appears like a bag of worms, and this is the commonest type. Excepting in cases of injury, it is perfectly harmless. There is another kind, however, where the veins are very small and massed together, and very numerous around the testicle, the upper part of the cord being normal. This kind may produce trouble in the way of atrophy of the testicle, influencing of nutrition, the result of abnormal growth of the veins. For the relief of the condition radical operation is advisable, and the method that he follows is a complete division of the whole of the spermatic cord, with the exception of the vas deferens. He has performed this operation more than two hundred times. It is the best method for preventing recurrence of the condition. He makes an incision of one-half to three-quarters of an inch, severs the cord on a level with the upper border of the root of the penis, i. e., over the external abdominal ring, and pulls out the whole of the spermatic cord excepting the vas deferens, by means of an aneurysm needle or hook, which is passed between the vas deferens and the rest of the cord. The veins here are not dilated—an essential point—and are only seen through the translucent fascia; inside the fascia, with the veins, is generally the spermatic artery. He pulls the loop out through the wound, the next step being to tie a stout ligature of carbolized catgut around it in two places. A considerable piece is excised and the two stumps are united by a kangaroo or catgut suture, considerable structure having been removed. He intentionally includes a segment of the spermatic artery in the removed section, and claims that the vessels which accompany the vas deferens, together with a few small vessels derived from the subvaginal cellular tissue, are sufficient to nourish the testicle. When he first began to perform the operation, he feared wasting of the organ, but this has not followed. The spermatic artery is a large vessel for the work it performs, and is enlarged still more in varicocele. If it is left there would be engorgement of the organ for the time being, which might lead to fatty degeneration. On the other hand, if the main artery is obliterated, the blood carried by the artery of the vas deferens and other small arteries is sufficient to nourish the testicle without producing engorgement.

Influence of the Dwelling upon Health. JOHN F. J. SYKES.—The question of the influence of the dwelling upon health is discussed by Sykes, who finds the increased density to the square space causes an increased general and special mortality in unsanitary areas. The general mortality is increased at all ages, but particularly under one year. The special mortality shows the greatest increase in infectious diseases, the next greatest in tuberculous diseases, the next in respiratory disorders. If all infectious cases be promptly removed to hospitals, and disinfection and cleanliness enforced, the increase will take place in the reverse order, the respiratory diseases first, the tuberculous next, and the infectious third. In a series of industries arranged in order of the purity of the air considered apart from dusty occupations, the order would be that of the mortality of diseases of the respiratory organs together with phthisis. The greater proportion of the diminution in phthisis mortality among females, the more indoor of the two sexes, is significant of improvement of dwellings, and it is more notable since the greater diminution has taken place between the ages of 15 and 45 years, the child-bearing period, when women are most sedentary. The size of the dwelling has an influence on the mortality. The mortality in dwellings of one room may be nearly double that of larger dwellings, and this is especially noticeable in tuberculous disease. The most important factor in the spread of pulmonary tuberculosis is the predisposition to this condition, acquired as well as innate. Moreover, the acquired or innate predisposition can be controlled to a large extent by the hygienic conditions. The phthisis death-rate shows a close relationship to the density of persons in cubic space, and the disease seems to stand in the same relationship to respiratory pollution as typhoid does to

filth pollution. The effects of back-to-back houses, as constructed in the north of England, are also stated, and in such the death-rates from all causes are greatly increased. The death-rate in dwellings over stables is also specially noticed, and the conclusions are that occupants of these have a high birth-rate and high mortality under 1 year and at all ages; high death-rates from pulmonary disease, both in infants and adults, and high in zymotic diseases, especially diarrhea and diphtheria. Much of this is attributable to drafty conditions of stables affecting the dwellings over them.

The Lancet, March 2.

Influence of Ozone on the Vitality of Some Pathogenic and Other Bacteria. ARTHUR RANSOME AND ALEXANDER G. R. FOULERTON.—These authors have experimented on the action of ozone: 1. On the vitality of certain pathogenic and saprophytic bacteria. 2. On the virulence of bacilli of tuberculosis. They detail their experiments, referring to former workers, especially Downs, Blunt and Ohlmüller, and conclude that ozone in the dried state, and in such strength as used, has no appreciable action on the vitality of the various bacilli experimented with, their results being in accordance with those of Sonntag and Ohlmüller, nor did prolonged exposure to the action of ozone diminish in any way the pathogenic virulence of the bacilli of tuberculosis in the sputum. Single experiments appear to show that it has little if any effect on the pathogenic virulence of the bacillus mallei and the bacillus anthracis. On the other hand, one experiment appears to confirm the conclusion arrived at by Ohlmüller, as to the bactericidal properties of ozone when passed through a fluid medium containing bacilli in suspension. The non-activity of ozone as a disinfectant in the dried state, compared with its action in the presence of water, suggests a superficial resemblance to other gases, such as chlorin and sulphur dioxide. The authors, therefore, consider that in the dry state and under natural conditions ozone has no effect on the bacteria, and any purifying action which it may have in the economy of Nature is due to chemical oxidation of putrescible organic material, and it does not hinder the action of bacteria which are working toward the same thing in their own way.

Quantitative Estimation of Bactericidal Power of Blood.

A. E. WRIGHT.—In a previous communication dealing with the quantitative diminution of the bactericidal power of the blood, Wright described the technique of the method, by using a series of graduated dilutions of serum mixed in capillary culture-tubes, with equal volumes of liquefied gelatin and cultures containing in suspension the proportionate number of species of micro-organisms to be tested. The questions considered in the present communication are whether, where no colonies are developed in these cultures, it may be inferred that the bactericidal effect has been complete and the question of the influence exerted on the results of the quantitative estimation of the bactericidal power by the greater or smaller number of bacilli in the volume of culture brought in contact with the serum. The experiments undertaken to answer these questions are detailed and methods described. The conclusions the author reaches is that what was measured by the method described in his former article is rather the total antibacterial power of the blood than the bactericidal power proper. Where it is desired separately to estimate the bactericidal power, this can be done by making a series of graduated dilutions of bacterial cultures and growths, and by mixing, in the manner described in the present communication, one volume of each of these with one volume of undiluted, or, if necessary, diluted serum. When this last method is employed, and the bacteria in the cultures have been enumerated in the manner indicated, a convenient arithmetical expression for the bactericidal power is obtained by the specific number of micro-organisms, which 1 c. mm. of serum is capable of killing. Where—as in the case of the staphylococcus and apparently also in the case of the streptococcus and bacillus of plague—we have to deal with bacteria which are not killed off, or are killed off only in small numbers, by the normal human blood, or, again, where we are dealing with conditions (such as those frequently met with in convalescents from typhoid) when the blood has lost much of its normal bactericidal power, the

gelatin method, measuring as it does the combined inhibitory and bactericidal power, may appropriately come into application.

Method of Distinguishing Bacillus Coli Communis from Bacillus Typhosus by the Use of Neutral Red. WILLIAM HUNTER.—The author finds, from his studies of the subject, that: 1. The bacillus coli communis possesses to a marked degree the power of reducing neutral red, producing a superb canary-yellow, fluorescent color of the medium. 2. The so-called bacillus enteritidis of Gaertner also produces this reaction, and is probably only a variety of bacillus coli communis. 3. The bacillus typhosus never possesses this power of reduction. 4. The common pathogenic micro-organisms do not give this reaction. 5. By means of neutral red it is possible, within from twelve to twenty-four hours, to diagnose the presence of bacillus coli communis with absolute accuracy. Finally, as far as his experience goes, it is possible to diagnose, by means of neutral red, the true coli group from the typhoid group of micro-organisms.

Archives Gen. de Med. (Paris), February.

Subacute Adenitis of the Groin. MANON AND GANDY.—An adenitis in the inguinal region, remarkable for the multiplicity of the foci and the protracted course, has been described by various authors. The pus shows no micro-organisms on direct examination and no cultures can be derived from it, consequently the affection has been assumed to be a simple adenitis with intraganglionic purulent foci. The authors of this communication state, however, that it is exclusively and probably invariably tubercular and promptly heals after extirpation, curetting and packing with iodoform gauze. Animals inoculated with the pus exhibited local and general manifestations of an attenuated tuberculosis in every case. Four out of a number of clinical cases are described in detail.

Two Cases of Primary Carcinoma of Biliary Passages. LECÈNE AND PAGNIEZ.—Two new cases of primary juxta-hepatic carcinoma of the biliary passages are described, and the ten cases already in the literature. They were all circumscribed but inoperable, obstructing the large biliary passages at their emergence from the liver. The symptoms were those of chronic icterus from retention.

Bulletin Medical (Paris), February 13.

Influence of Spinal Cocainization in Hastening Delivery. DOLÉRIIS.—Fifty obstetric cases in which spinal cocainization was employed have convinced Doléris that cocain has a directly aggressive action in stimulating the uterine muscle to contraction. He affirms that we have in spinal cocainization a new means of inducing premature delivery, on account of this oxytocic action on the motor nerves of the uterus. It is, therefore, contra-indicated for operations during pregnancy on account of the danger of inducing abortion. He found it invaluable in two cases of uterine inertia, and suggests that it may be useful in eclampsia, in which rapid delivery is often desirable.

Gaz. Hebdom. de M. et Ch. (Paris), February 17.

Mercurialized Artificial Serum in Syphilis. BAILEY.—Experiences with 70 syphilitics treated with mercurialized serum are described. The action was as energetic as that of calomel, and it was tolerated by the patients as well as grey oil, while the administration is simpler, easier and much less painful for the patient. Clinical recovery followed an average of 3½ injections. The formula is: mercuric bichlorid, 5 gm.; sodium chlorid, 2 gm.; boiling distilled water, 200 gm., and, when cooled, carbolic acid, 2 gm. Only thirteen of the 250 injections were painful. The amount injected averaged 20 c.c. during the week. Slight stomatitis was noticed in four cases.

Journ. de Physiologie (Paris), January.

Pathogenesis of Acute Edema of the Lung. J. TEISSIER.—Nervous influences favor the production of acute edema of the lung in animals by dilating the capillaries of the parenchyma. This influence is more pronounced in cases of preceding intoxication entailing a tendency to serous suffusion. The edema may occur without increased pressure in the left ventri-

cle, but never without a simultaneous increase in the pulmonary pressure.

Protecting Power of the Skin. J. LEFÈVRE.—The experiments reported seem to demonstrate that the protection afforded by the skin is the same as from a covering of wood or cork about 2 mm. thick. It protects against cold 750 times less effectively than a layer of still air 2 mm. thick, but it protects 2280 times better than a silver envelope and 1750 times better than copper. The conductivity is less by one-half at 5 than at 30 C.

Thyroid Grafts. H. CRISTIANI.—The thyroid gland transplanted whole or in portions in the peritoneum, or under the skin of an animal of the same species, lived and developed histologically, apparently the same as if it had remained in its original environment.

L' Obstetrique (Paris), January.

Vomiting of Pregnancy with Ovarian Cyst. L. LAPEYRE.—Uncontrollable vomiting does not occur in pregnancy complicated with an ovarian cyst, with any more proportionate frequency than in simple pregnancy. When it occurs it is due to the pregnancy and not to disturbance from the cyst. A case is described in which the cyst was removed in the hope of arresting the vomiting, but no relief was experienced until labor was induced. In urgent cases the patient can be delivered at once and the ablation of the cyst postponed. Certain ovarian cysts, Lapeyre adds, are better removed through the vagina, especially during the course of a pregnancy.

Revue Mens. Mal. Enf. (Paris), January and February.

Abscess of Liver from Contusion in Children. C. ODDO.—Four of the nine cases of traumatic abscess of the liver in children, collected by Oddo, terminated fatally. The symptoms sometimes appear at once after the contusion, or a period of latency may intervene. If the traumatism directly affected the liver the abscess is primary, but occasionally it occurs consecutive to injury of some other region of the abdomen. Fever may be remittent or continuous. The cachexia is rapid and pronounced. The abscess tends to perforate through the skin or into the respiratory apparatus, possibly directly into the bronchi. It may entail a purulent pleurisy and produce a sub-diaphragmatic pyo-pneumothorax. Surgical or spontaneous evacuation is followed by rapid improvement.

Alterations in the Bones in Rhachitis. L. SPILLMANN.—Histologic study of the bones of forty-four children of various ages indicates that rhachitis passes through three stages in its course; latent, deformity and convalescent. In the second stage vascular neoformation is the chief lesion. The proliferation of cartilage cells and disturbances in ossification are secondary. The rhachitic process is essentially an osteitis, both juxta-epiphysial and subperiosteal.

February.

Purulent Rhinitis in Scarlet Fever. C. LAPRÉE.—A purulent coryza entailed complications which proved fatal in eighteen out of thirty-nine cases in Laprée's experience. The statistics of others also indicate that purulent coryza is the most frequent cause of death in scarlet fever. It may be preceded by a simple coryza, or may appear suddenly without warning, the second or third day, or as late as the tenth day. It usually coincides with severe sore throat and general symptoms. It aggravates the disease, keeps the temperature above 38.5 C. for several days and debilitates the patient. Treatment should be prompt and energetic, destroying the germ in the local infection before it infects the entire organism. The nasal fossæ and throat should be copiously rinsed with an antiseptic, preferably peroxid of hydrogen mixed with an equal volume of a 4 per 1000 solution of sodium bicarbonate. This irrigation should be repeated three or four times a day and at least twice at night. Afterward the nostrils are plugged with cotton impregnated with a mentholized or resorcin salve. This treatment may arrest the rhinitis in thirty-six hours, but it usually continues for three days. If the discharge persists after the fifth or sixth day, an irrigation morning and night is usually sufficient. Laprée recommends irrigation through a Nélaton sound in which three holes have been cut about the

center with the scissors. The sound is inserted through the nose and passes out at the mouth.

Revue Scientifique (Paris), February 23.

Pain from the Surgical Point of View. J. LUCAS-CHAMPIONNIÈRE.—Pain causes reflexes of all kinds and may survive the cause that produced it. Pain begets pain. The longer it lasts the more obstinate it becomes. In examining a patient these facts should be borne in mind and every effort made to refrain from causing pain, as it is liable to induce reflex action which will mask the symptoms that are being investigated. "By mobilization and massage, pain is abolished in 80 per cent. of all cases of fractures managed according to this method."

Berliner Klin. Wochenschrift, February 4.

Oxygen in Exhaustion of the Neurons. MAX VERWORN.—In a study of fatigue and exhaustion Verworn shows that the neurons become fatigued and exhausted just like the muscles, and, like them, throw off waste matters, the products of their metabolism, which, if not removed, paralyze their further action. He relates experiments with frogs under the influence of strychnin. When so exhausted that no further convulsions were possible, he was able to restore the original energy to the convulsions by the establishment of an artificial circulation with salt solution mixed with pure oxygen. The former alone had no effect. He therefore concludes that exhaustion is due to the using up of the oxygen in the neurons and cells. He believes that conditions of fatigue and exhaustion are the chief factors in neurasthenia, or they may be the actual cause of the entire symptom-picture. His synthetic production of the conditions that create fatigue generated a symptom-complex closely resembling neurasthenia, and in all his experiments it was cured by the direct application of the oxygen in salt solution in artificial circulation.

Centralbl. f. Chir. (Leipsic), March 2.

Improved Spinal Cocainization. K. SCHWÄRZ.—Instead of cocain, Schwarz uses tropacocain, and reports that in sixteen serious operations performed with the subarachnoid injection of tropacocain, the analgesia was perfect and there was not a trace of the inconveniences observed after the use of cocain for the purpose, no pallor, vomiting, headache, vertigo nor rise in temperature. The general health was not affected in the slightest in any way, either during or after the operation. Analgesia to the knees was obtained with 3 eg. With 4 eg. he curetted an osteomyelitic hip-joint and removed sequestra in a very sensitive patient, without causing the least pain. The analgesia was complete for radical hernia and hemorrhoid operations, with 5 eg. This amount also proved sufficient in a uroseptic patient, 66 years of age, much debilitated, with complete retention of urine for two days in consequence of a traumatic stricture. The operation lasted two hours and the analgesia was complete to the end.

Restoration of Co-ordinated Movements After Nerve Crossing. R. KENNEDY.—Experiments on five dogs showed that the nerves supplying the flexor muscles in a foreleg could be severed and sutured to those supplying the extensors, with the result that in spite of this changed innervation, the animal gradually recovered the normal use of its limb and was able to make voluntary co-ordinated movements with it as before. The interval before function was re-established was the same as in case of simple section and immediate suture of the nerve. The nerve-centers which formerly innervated an antagonistic group of muscles now serve for the other group and the change extends even to the nerve centers, which change their task while retaining their excitability: the cortical centers duly impart impulses to the muscles that result in co-ordinated movements in their new peripheral domain. Applying these facts to human pathology, a woman was cured of facial spasms by uniting the peripheral stump of the severed facial nerve with the trunk of the spinal accessory, at the point where the latter emerges beneath the posterior belly of the digastric muscle. The interposing digastric prevented reunion of the severed ends of the facial nerve. Paralysis of the right side was the immediate result, but this gradually subsided. By the

forty-ninth day there was reaction to faradic stimulation and partial closing of the lids. Fifteen months after the operation the face feels normal; there has been no recurrence of the spasm; the conjunctiva, muscles and lacrimal secretion are normal, and the movements of cheek and mouth muscles are satisfactory although not perfectly co-ordinated. There is no atrophy of the face; the tonicity of the muscles and their outlines are normal. There is muscular insufficiency in whistling, blowing and raising the eyebrows, but the labials are distinctly pronounced and the buccinator prevents accumulation of food between the jaw and cheek. When the arm is suddenly raised the face contracts on that side for a moment. The impulse for the trapezius is dispatched first to the face. The article concludes with the suggestion that section of a nerve supplying a paralyzed muscle, and union of this nerve with a neighboring nerve, even of an antagonistic group, may restore function to the paralyzed muscle.

Deu. Archiv f. Klin. Med. (Leipsic), December.

Experimental Study of Gout. M. FREUDWEILER.—Subcutaneous injection of sodium biurate produced lesions in animals, in Freudweiler's previous experiments, which corresponded anatomically in every particular to typical arthritic lesions in gout. The necrosis of the tissues was not a foreign-body necrosis but a secondary process, the result of the specific, toxic action of the urate. Under the administration of large amounts of acids or alkalies, the gout nodules rapidly disappear, and phagocytic processes are probably the chief factors in this retrogression of the nodules. His latest research tends to establish that in gout there is a permanent saturation of the organic juices with uric acid, entailing a constant tendency to local inflammation. If an inflammatory process culminates at a time when the organic juices happen to be supersaturated with uric acid—owing to improper diet or other causes—then the uric acid is deposited in crystals in the exudate of the inflammatory process. This is the origin of the typical gouty nodule with consecutive necrosis of the tissues involved. The precipitation of the uric acid relieves the organism from the superfluity, and no further trouble is experienced until again an acute local inflammatory process coincides with a maximal saturation with uric acid. The latter may also be deposited at points free from inflammation, where conditions are unfavorable for its retention in solution. The essence of gout, however, as a typical constitutional disease, is not the accumulation of uric acid in the fluids, but is to be sought at the points where uric acid is elaborated.

Deutsche Med. Wochenschrift, February 28.

Transmission of Tuberculosis by the Semen. F. F. FRIEDMANN.—The experimental research described has been aided by funds from the Bose endowment for scientific research. Friedmann has succeeded in transmitting tuberculous infection directly with the semen, and when the animals were killed six days later, the tubercle bacilli were found enseeded in the embryo, with none loose in the uterus or vagina. One or two drops of a very weak suspension of tubercle bacilli were injected into the vagina of female rabbits directly after coitus, following soon after a litter had been thrown. More than 500 longitudinal sections were made of the embryo and uterus of the animal killed the sixth day, before the embryo had become attached to the uterine wall in any way. The bacilli were found inside the cell of the embryo in every instance, and in one case a nest of them was discovered. The remainder of the bacilli had evidently been eliminated by the vaginal secretions, only two were found outside of the embryo and these were close to it. The question whether the non-motile bacteria were carried by the spermatozoa into the ovum is still undecided, but the experiments demonstrate beyond all doubt the possibility of the transmission of bacteria with the semen directly into the embryo, without the participation of the maternal organism in any way.

Suppuration in Typhoid Fever. A. PROCHASKA.—During the last three years this author has seen twenty-two cases of abscess formation in typhoid fever, mostly deep lesions, with multiple foci in several cases. One patient died. It is possible that pyogenic germs present in the body may acquire unwonted

virulence under the influence of the typhoid infection. As such micro-organisms are swept away in the circulation, the abscesses may develop at points remote from their primary localization.

Spontaneous Gangrene in Young Men. WULFF.—Two cases are described in detail, but Wulff has observed five in all. Israel has also seen a number in the last few years. The patients were all Jews from Russian Poland, between 20 and 35 years of age, free from hereditary or syphilitic predisposition. All smoked cigarettes to excess, thirty or more a day for years. The gangrene first appeared in the toes in all but one case, and was preceded by years of rheumatic pains in the leg with chilliness, tingling and sluggish circulation when the leg was dependent. Wulff is inclined to attribute the etiology to abnormal vasomotor constriction, inducing secondarily the endarteritis and thrombosis which are the essential factors in senile gangrene.

Deu. Zft. f. Ch. (Leipsic), January.

Rydygier's Experience with Operations on Stomach.—Since 1880 Rydygier has performed 100 operations on the stomach. The fatalities have been 17 in 25 cases of pylorotomy for cancer, and 4 in 7 non-cancerous affections; 16 in 38 gastro-enterostomies for cancerous and 5 in 26 for non-cancerous affections; 1 in 3 gastrostomies for cancer and 1 successful case of non-cancerous dilatation of the pylorus. The majority of the deaths were due to weakness and shock; 11 to pneumonia; 7 to peritonitis; 2 to hemorrhage and 7 to unknown causes.

Peptic Ulcer After Gastro-enterostomy. A. NEUMANN.—Seven cases have been recorded during the past eighteen months, in which a peptic ulcer has developed in the jejunum consecutive to gastro-enterostomy. Neumann has recently observed another case. The patient had suffered from chronic gastritis, dilatation and hyperchlorhydria, with stenosis of the pylorus. Gastro-enterostomy was done, and later an entero-anastomosis. He returned after a year with symptoms of a gastric ulcer adherent to the anterior wall of the abdomen. The tumor was excised. Six months later the cicatrix became perforated. The defect was closed with a pedunculated flap, the skin side toward the stomach. In a few days this flap was digested and the gap opened directly into the stomach and into the lumen of the intestine on each side. As the stomach and pylorus were now of normal shape and size—the stenosis having probably been spasmodic—the gastro-enterostomy was undone, the stomach closed, a portion of the jejunum resected and the abdominal defect closed with a piece of omentum inside and a skin flap outside. Neumann points out that the jejunum is not made to resist the action of acids and that, consequently, when brought directly in contact with them, as in a gastro-enterostomy, favorable conditions for a peptic ulcer are produced. If the stenosis of the pylorus is not organic, jejunostomy should be preferred to gastro-enterostomy. Four of the seven cases mentioned above succumbed to the results of the perforation into the abdominal cavity.

Monatss. f. Prakt. Derm. (Hamburg), November.

Alcohol Pencils in Dermatology. P. G. UNNA.—These pencils are recommended by Unna as a very convenient method of applying alcohol in skin affections. He is convinced that we have in alcohol a harmless, mild and actively efficient disinfectant when used intermittently, not continuously. To prevent too rapid evaporation he applies it in the form of a thin, invisible varnish. This is accomplished by casting it in moulds with 5 or 6 per cent. of sodium stearate, in the shape of a pencil, and rubbing this pencil over the surface to be treated. The pencil is wrapped in tin-foil when not in use.

Muenchener Med. Wochenschrift, February 26.

Hereditary Transmission of Tuberculosis. J. GOLDSCHMIDT.—The English colony in Madeira was composed almost exclusively of persons with tuberculosis seeking a temperate climate. It has numbered about 600 souls, and yet, during the entire 19th century, only one of the descendants died of pulmonary tuberculosis, possibly acquired in a residence of several years abroad. The community now consists of about

150 persons. In contrast to this experience of the non-transmissibility of tuberculosis from the progenitors, Goldschmidt cites twenty-eight families of various nationalities in which both parents were free from the slightest trace of tuberculosis. In 21 of the families, all the children died of tuberculosis between 15 and 35 years of age; in 5 others most of the children died, and in 2 others two children in each were affected with a tubercular affection of the bones. He points out that in 21 of these families the fathers were syphilitic. There were only 8 abortions in the record of all the families. He suggests that the paternal syphilis might have induced a predisposition to tuberculosis. He also is inclined to believe that the parental tuberculosis in the Madeira colony conferred a sort of immunity on the children.

Jolles' Improved Ferrometer.—Comparison of the readings of the hemometer and of the ferrometer affords valuable information in many cases, not to be derived from either alone. The hemometer shows higher and lower amounts of hemoglobin in icterus, corresponding to the progress and subsidence of the affection. The more intense the icterus the greater the difference between the readings of the hemometer and of the ferrometer. In hemorrhagic diseases the hemometer indicates a high figure, while the blood-iron is diminished both comparatively and absolutely. Two periods in childhood seem to be distinguished by a special abundance of iron in the blood, the period of transition from nursing to a mixed diet and puberty. It is important in treating various affections to determine the amount of blood-iron as well as the hemoglobin and the number of red corpuscles. For these and other reasons Jolles considers his improved ferrometer a valuable contribution to scientific methods of investigation. He has simplified and adapted it to Fleischl's hemometer, so that the latter instrument with a slight addition, can be made to serve two purposes. The blood is evaporated, incinerated and treated with potassium sulphate as by the original method. One of the cylinders is placed in front of the glass wedge of the hemometer and the other over it. The wedge is then moved along until the fluid in both tubes is of the same color. The illumination must be from a candle or lamp, not an electric light. It should shine on the reflector only, and he recommends a covered box for the lamp, open at the back, with one small square aperture opposite the reflector. This improved ferrometer is so simple and so easily managed that he trusts it will be found of general clinical utility. He has already come to the conclusion that the amount of blood-iron in normal conditions averages higher than the figures he has previously announced—.0413 to .0559 in 100 c.c. of blood.

Therapeutische Mon. (Berlin), January and February.

Treatment of Peritonitis with Alcohol Compresses. MEYER.—The advantages of local application of alcohol have been proclaimed by Buchner and others from time to time. By the influence of the alcohol on the nerves of the affected region, strong hyperemia is induced and leucocytes charged with bactericidal enzymes are attracted to the spot and, by their proteolytic action, may destroy the elements of the cutis and lead to the perforation of the purulent collection. Meyer describes a severe case of tubercular peritonitis in which circumstances rendered surgical intervention impracticable. He applied compresses of alcohol, and in two weeks fluctuation was evident and a week later pus perforated through the umbilicus. The child recovered and has gained remarkably in weight.

Salol in Diabetes. TESCHEMAYER.—In accordance with Ebstein's advice, 1 gm. of salol was administered four times a day, to eight diabetics. In three severe cases no effect was perceptible, but in the others the sugar vanished completely from the urine during the treatment and for the several days afterward before the patients were lost to view. While the urine was under the influence of the salol, the plane of polarization was deflected to the left.

February.

Igazol in Treatment of Tuberculosis. HOFFNER AND BEERWALD.—The communication of the first writer reports negative results in ten cases from the action of Cervello's method of treating pulmonary tuberculosis with iodoform-

formaldehyde, but Beerwald, on the other hand, asserts, from an experience with twelve patients, that it is the best of all methods known to date for treating bronchitis with secretion, whether tubercular or not. Ten of his patients were very much improved by the treatment.

[According to Ehrenfeld, in the *Wien. Med. Woch.* (January 26 and February 2), thirty-four patients with pulmonary tuberculosis—all severe cases—were treated according to Cervello's method inhalations of iodoform-formaldehyde-igazol. Improvement was evident in 53 per cent., including 4 clinical recoveries, 8 marked improvements, and 6 patients somewhat benefited; 8 patients died.—Ed.]

Therapie Der Gegenwart (Berlin), February.

Quinin in Typhoid Fever. C. BINZ.—To supplement Erb's communication on this subject, abstracted in THE JOURNAL of February 9, p. 412, Binz recalls his experience during the Franco-German War, when he treated some of his soldier-patients with quinin and others without. Of the latter, 11 out of 46 died, a mortality of 23.81 per cent., while only 6 of the 97 to whom he administered 1 gm. of quinin every evening died. He always prefers the hydrochlorate to the sulphate, as it is more easily dissolved and absorbed in the stomach.

The "Klopfen" Method of Treatment of Pulmonary Tuberculosis. J. FRIEDLAENDER.—An unscientific work has recently been published proclaiming the advantages to be derived from slapping the thorax all over with a silver paper-cutter. Friedlaender has been making a scientific study of the method as practised empirically for years by the author, Erni, and finds that it is actually a powerful means of mechanically stimulating, shaking up the stagnant conditions, and thus promoting spontaneous healing of tubercular processes. The thorax is bared and greased. The silver knife is 1.5 cm. wide, and weighs 100 gm. It is held with the wrist loose and allowed to fall at rhythmic intervals on the surface of the thorax, going systematically over the entire expanse, front and rear, avoiding the sensitive points, the mamma, sternum, clavicles and spine. The sitting lasts ten to fifteen minutes with a respite of two or three, repeated every second day for ten to fifteen times and resumed after a pause of a few weeks. The skin smarts during the slapping, but it is followed by an agreeable glow. The respiratory symptoms are improved at once, expectoration promoted and suggestion shares in the general benefit that follows. A local reaction on the part of the lung tissues is evident in many cases, manifested by symptoms that suggest "a fresh cold," a foreign-body irritation from the increased throwing-off of the waste products. When this passes away, in a few days, it leaves the patient unmistakably improved in every respect. He observed that in 39 out of 46 patients with hemoptysis the hemorrhages did not recur afterward, but in the 7 others the tendency to hemorrhage was not affected. In patients with hemoptysis, Friedlaender would avoid the vicinity of the lesion and, in fact, he regards the procedure as a general rather than a local measure.

Applications of Cold as a Cure for Pruritus. G. KLEMPERER.—The genital pruritus of diabetes, icterus, neurasthenia or senility is frequently arrested by applying an ice-bag to the abdomen or chest, or by spraying with ethyl chlorid. The local anesthesia of the spot thus treated induces reflex inhibition which may check or relieve the general pruritus for several hours.

Wiener Med. Blaetter January 24.

New Method of Reducing Obesity. W. MLADEJOVSKY.—Very small doses of thyroid extract were combined with quinin, theobromin and a course of Marienbad water. The results were surprisingly satisfactory. The patients lost one to three kilos. a week. Many of them had tried numerous other methods of treatment in vain. The thyroid tablets were taken on an empty stomach, never more than two tablets of 30 cg. a day, followed by the water. No inconveniences were observed in any case, and all the patients have continued in good health.

Lo Sperimentale (Florence), LIV, 5.

Vitality of Isolated Skin Flaps. P. PEZZOLINO.—Krause-flaps from dogs, kept in salt solution from twenty-four hours

to six days, retained their vitality and healed in place on aseptic granulating surfaces. Even after ten days some of the cells were still viable and mitosis promptly commenced. Flaps kept at the freezing-point retained their vitality twenty-four hours longer than those kept at room temperature. Dry flaps were much less satisfactory. The maximum of preservation of vitality was 264 hours.

Revista de Medicina Tropical (Havana), 1, 6.

Inguinal Adenopathy. R. MENOCAL.—Attention is called to the frequency of ganglionic adenopathy in the tropics, aside from that of venereal or established tubercular origin. They have no significance for the diagnosis of deep-seated malignant disease. Menocal has operated on 59 patients. In 30 the adenopathy was preceded by attacks of lymphangitis, ecchyma of the ankles or interdigital eczema; in ten, by traumatism of the feet or ankles. The hypertrophy was considerable, and in a third of the cases was accompanied by acute or chronic adenophlegmons. Unless the hypertrophied ganglia are excised, ulceration or an interminable fistula is liable to persist.

Negative Diazo-Reaction in Yellow Fever. A. D. ALBERTINI.—The diazo-reaction does not occur in typical cases of yellow fever without complications. It was observed in only ten out of 142 cases of the disease, and they were all complicated by pneumonia, typhoid or some other affection.

Queries and Minor Notes.

"IF I SHOULD DIE TO-NIGHT."

CEDAR FALLS, IOWA, March 2, 1901.

To the Editor:—Will you please tell me where I can get the article referring to a doctor and his creditor, which runs something like the following: "If I should die to-night and you should come to pay that ten dollars that you owe," etc. I think it is a parody on the poem, "If I Should Die To-night" F. N. M.

Ans.—The reference is probably to Ben King's poem, "If I Should Die To-night":

"If you should come with deepest grief and woe,
And say here's that ten dollars that I owe,
I might rise up in my great white cravat
And say, What's that?"

We believe that this poem itself was a parody on some former one of the same title. It has been parodied also so as to refer to doctor's bills, but we can not put our hand on the reference. Possibly some of our readers can assist us and our correspondent. The parody was published in a medical journal quite recently.

PRACTICE IN CALIFORNIA AND WASHINGTON.

UBLY, MICH., March 11, 1901.

To the Editor:—Will you advise me as to the requirements for registration for the practice of medicine in California and Washington? To whom can I write for full particulars? J. S. C.

Ans.—The requirements were published in THE JOURNAL of February 23. There is a law now pending before the California legislature requiring examination, similar to that of Washington. The new law in Washington, just passed over the governor's veto, does not materially alter the situation so far as physicians coming into the state are concerned. For further information address the secretaries of the state boards, Dr. C. C. Wadsworth, 1104 Van Ness Ave., San Francisco, Cal., or Dr. W. G. Tucker, Port Townsend, Wash.

PRACTICE IN ALABAMA.

BUNCETON, MO., March 9, 1901.

To the Editor:—Please give me the laws regulating the practice of medicine in Alabama. C. P.

Ans.—An examination before the State Board of Examiners or before the county boards. A diploma is necessary if the examination is passed under a county board, but is not absolutely so before the state board.

PRACTICE IN IDAHO AND SOUTH DAKOTA.

SUGAR GROVE, VA., March 4, 1901.

To the Editor:—What are the medical practice laws of Idaho, Washington and South Dakota? H. C. C.

Ans.—In Idaho make application to the State Medical Examining Board, upon blanks which will be furnished, transmitting the diploma with an affidavit as to its ownership and identity, and that the applicant is a citizen of the United States. If the diploma is found satisfactory, the license will be given after examination, for which the fee is \$25. For Washington see above. In South Dakota, graduation from a lawful medical college, after three full courses of six months each, no two in the same year, a certificate

of good moral character and of not being a habitual drunkard, and a fee of \$5 are required. If the graduation was prior to 1893, the requirement of a three-year-course is not insisted on.

HOUSEHOLD MEDICINE.

LEE CENTER, ILL., March 7, 1901.

To the Editor:—Will you give me the name, publisher and price of a household medical book suitable to place in the hands of a young woman, and which is in harmony with modern medicine and medical ethics. C. M. C.

Ans.—We do not know of any work on household medicine altogether suitable for endorsement.

PRACTICE IN INDIANA.

CHICAGO, ILL., March 10, 1901.

To the Editor:—Will you kindly give the requirements for the practice of medicine and surgery in Indiana? A. T.

Ans.—Applicants for licenses to practice medicine in Indiana must be bona fide residents of the county and state; must possess the necessary application blank from the county clerk, which, properly filled, with diploma and fee of \$10, must be sent to the State Board of Medical Registration, Room 120, State House, Indianapolis, Ind. If satisfactory, the board will issue its certificate, and on presentation of this to the county clerk a license will be granted. If not satisfactory, an examination must be passed, for which the fee is \$25. For further information as to rulings of the board, etc., address Dr. W. T. Curryer, secretary of the State Board of Registration, Indianapolis, Ind. A law requiring examination in all cases is now pending in the legislature.

PRACTICE IN WISCONSIN.

PHILADELPHIA, PA., March 12, 1901.

To the Editor:—Will you give me information as to the laws governing the practice of medicine in Wisconsin, also the name of the secretary, if there is a state board of medical examiners? E. A. R.

Ans.—In Wisconsin all persons commencing the practice of medicine and surgery must submit to examination or present a diploma from a medical college that requires at least three courses of not less than six months each before graduation, no two of the said courses to be taken within any twelve months. The fee for examination is \$10, but if a satisfactory diploma is presented the fee will not exceed \$5. The license must be recorded in the county where the practice is intended. A certificate from another state with equal qualifications may be accepted if the Board of Registration chooses. The Board of Medical Examiners holds regular meetings on the second Tuesdays in July, at the Park Hotel, in Madison; in October, at the Athearn Hotel, in Oshkosh, and in January and April, at the Hotel Pfister, in Milwaukee. All applicants for licenses should apply to the secretary, Dr. H. M. Ludwig, Richland Center, Wis., or at the addresses given, prior to meetings.

DRAINAGE OF LACRIMAL CANAL.

BOSTON, MASS., March 12, 1901.

To the Editor:—Please let me know the name of the doctor who first advised draining the lacrimal canal by means of a silk thread knotted together to a loop, which should be drawn, with the knot, through the canal once or twice a day. I have recently read about it, intended to relate it in a foreign journal, but can not find the doctor's name and residence. R. H.

Ans.—The article referred to was written by Erasmus A. Pond, and published in the *Medical Record* of February 2. It was noticed in THE JOURNAL of February 9, p. 469.

THE INDIVIDUAL COMMUNION CUP.

FORT WAYNE, IND., March 12, 1901.

To the Editor:—I am desirous of obtaining the name and address of the original experimenter in the individual communion cup agitation. He read a paper before the Section on State Medicine, at Philadelphia, in 1897, but I am unable to find the article. Would you kindly give me this address, or tell me where I can get it? L. P. D.

Ans.—The paper is probably that of Dr. Howard S. Anders, published in THE JOURNAL of Oct. 16, 1897. In it he gives the history of the original agitation and does not credit himself with the first publication in regard to it, though his own paper appeared in the same year—1894—as that of Dr. C. H. Forbes, to whom he refers. The address of Dr. Anders is 1836 Wallace St., Philadelphia, Pa.

PHYSICIANS AND THE AUTOMOBILE.

CHATTANOOGA, TENN., March 11, 1901.

To the Editor:—I notice an inquiry in the issue of THE JOURNAL dated March 9, from Dr. H. S. J., Lead, S. D., relative to the best automobile to be used in the physician's practice, and in answer I wish to say that I have tried the three different kinds of motive power and find that the steam vehicle is by all means the nicest and most practicable for use under all circumstances, because it can be depended on at all times. It is freer from noise than the electric or gasoline-propelled machine, will climb any grade and never balks, can be repaired by any mechanic, is easily and quickly

gotten ready and not easy to get out of order. I have a steam vehicle with which I have climbed Lookout Mountain, Missionary Ridge, Walden's Ridge, been all over Chicamauga Park a number of times, been over all kinds of country roads, and fifty-six miles into the country on one charge. All of these trips were made without a single mishap. There is not the vibration or jolting peculiar to the gasoline-propelled machine, and it glides along as easily as could be desired. The electric vehicle can only be used successfully in cities, and then where stations for recharging are convenient. Gasoline can be gotten at any country store; that and water is all you need for a steam vehicle. I have made over thirty miles an hour with mine, have had it for nine months in constant use, while it is as good as new now and has cost me nothing for repairs.

D. E. N.

New Patents.

- Patents of interest to physicians, etc., February 19 and 26:
- 668,164. Making ammonia derivatives of saccharin. Leon Cerf, Lyons, France.
 - 668,488. Amalgam squeezing machine. James V. Coleman, San Francisco, Cal.
 - 668,466. Nurses' Companion Case. Margaret A. Taylor, New London, Conn., and P. A. Murphy, Lynn, Mass.
 - 34,116. Design: Water-bag. Christian W. Meinecke, Jersey City, N. J.
 - 668,671. Obtaining sodium sulphate from brines. Harry Baker and E. Haworth, Runcorn, England.
 - 669,020. Spray tube for nebulizers. William and J. Boekel, Philadelphia, Pa.
 - 668,911. Surgical instrument. George Ermold, Elizabeth, N. J.
 - 668,636. Douche bench. William T. Gregg, Yonkers, N. Y.
 - 668,647. Ecraseur. Max Jaenicke, Gorlitz, Germany.
 - 669,034. Surgical instrument. James S. Manly, Cripple Creek, Colo.
 - 668,823. Folding tongue depressor. Charles J. Pilling, Philadelphia, Pa.
 - 668,929. Device for treating diseases of the ear. Mike Polich, Riverside, Cal.
 - 668,661. Electric bathing apparatus. Oscar Schneider, New York City.
 - 668,762. Disinfecting apparatus. Thomas N. Thompson, Scranton, Pa.
- Copies of above patents may be obtained for 10 cents each by addressing John A. Saul, Solicitor for Patents, Fendall Building, Washington, D. C.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., Feb. 28 to March 6, 1901, inclusive:

George W. Adair, major and surgeon, U. S. A., leave of absence granted.

Charles H. Andrews, captain and asst.-surgeon, Vols., recently appointed, and now in San Francisco, Cal., to report for transportation to Manila, P. I., and for subsequent assignment in the Division of the Philippines.

J. Newton Boyce, acting asst.-surgeon, from duty on the transport *McClellan*, to San Francisco, Cal., to accompany troops to Manila, P. I., and for subsequent assignment in the Division of the Philippines.

Louis Brechemin, major and surgeon, U. S. A., from Fort Logan, Colo., to San Francisco, Cal., en route to Manila for duty in the Division of the Philippines.

George E. Bushnell, major and surgeon, U. S. A., on expiration of his present sick leave, is assigned to duty at Fort Logan, Colo.

Jerome S. Chaffee, lieutenant and asst.-surgeon, U. S. A., recently appointed, is assigned to duty at Columbus Barracks, Ohio.

Harold W. Cowper, captain and asst.-surgeon, Vols., recently appointed, and now at San Francisco, Cal., to report for transportation to Manila, P. I., and for subsequent assignment in the Division of the Philippines.

G. S. Driver, acting asst.-surgeon, leave of absence granted.

Matthew Leeper, captain and asst.-surgeon, Vols., recently appointed, and now at Fort Crook, Neb., to proceed to San Francisco, Cal., en route for assignment in the Division of the Philippines.

Benjamin F. Pope, lieutenant-colonel, deputy surgeon-general, U. S. A., from duty at the Presidio of San Francisco, Cal., to proceed on or about May 1, 1901, to Manila, P. I., for assignment as chief surgeon of the Division of the Philippines.

Paul F. Straub, major and surgeon, Vols., now at San Francisco, Cal., is relieved from further duty in the Division of the Philippines and assigned to duty at Fort Crook, Neb.

Henry D. Thomason, major and surgeon, Vols., recently appointed, to proceed from Albion, Mich., to San Francisco, Cal., reporting to the commanding general, Department of California, for temporary duty, at the completion of which he will proceed to Manila, P. I., for duty in the Division of the Philippines.

Charles F. Williams, acting asst.-surgeon, from Yorkville, S. C., to temporary duty at Fort Screven, Ga.

Robert H. Zanner, major and surgeon, Vols., from temporary duty at Columbus Barracks, Ohio, to rejoin his station, Fort Du Pont, Del.

Navy Changes.

Changes in the Medical Corps of the Navy for week ending March 9, 1901:

Asst.-Surgeon O. M. Eakins, detached from the *Ajax*, when put out of commission, and ordered home to wait orders.

Surgeon F. J. B. Corderio, detached from the *New Orleans* and ordered to the *Buffalo*.

P. A. Surgeon R. Spear, detached from the *Buffalo* and ordered to the *Isla de Luzon*.

P. A. Surgeon R. M. Kennedy, detached from the *Newark* and ordered to the *Bennington*.

Asst.-Surgeon J. J. Snyder, detached from the *Isla de Cuba* and ordered to duty with a detachment of marines at Pollock, P. I.

Asst.-Surgeon M. V. Stone, detached from the *Isla de Luzon* and ordered to the *Buffalo*.

Asst.-Surgeon J. H. Payue, Jr., detached from duty at Pollock, P. I., and ordered to the *Isla de Cuba*.

Asst.-Surgeon E. O. Huntington, detached from the *Bennington* and ordered to the *Newark*.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the twenty-one days ended March 7, 1901:

Surgeon George Purviance granted leave of absence for one day.

Surgeon C. T. Peckham, granted leave of absence for twenty days on account of sickness.

P. A. Surgeon J. A. Nydegger, upon expiration of present leave of absence, to report at Washington, D. C., for orders.

P. A. Surgeon J. A. Nydegger to proceed to Cape Charles Quarantine as inspector.

P. A. Surgeon H. W. Wickes, granted leave of absence for thirty days from March 11.

Asst.-Surgeon F. E. Trotter, upon being relieved by Asst.-Surgeon T. D. Berry, to proceed to Havana, Cuba, and report to the chief quarantine officer for duty.

Asst.-Surgeon T. D. Berry, relieved from duty at Havana, Cuba, and directed to proceed to Cienfuegos, Cuba, relieving Asst.-Surgeon F. E. Trotter.

Acting Asst.-Surgeon B. Y. Harris, granted leave of absence for ten days.

Acting Asst.-Surgeon W. H. Marsh, granted leave of absence for four days from February 27.

P. A. Surgeon T. B. Perry, granted leave of absence for thirty days from March 12.

P. A. Surgeon B. W. Brown, directed to report at Washington, D. C., for special temporary duty.

P. A. Surgeon J. A. Nydegger, to assume temporary command of the Cape Charles Quarantine station during the absence of Asst.-Surgeon C. W. Wille.

Asst.-Surgeon Taliaferro Clark, granted seven days' extension of sick leave, from March 8.

Asst.-Surgeon F. E. Trotter, relieved from duty as quarantine officer at the port of Cienfuegos, Cuba.

Asst.-Surgeon C. W. Wille, granted leave of absence for seven days from March 4.

Asst.-Surgeon T. D. Berry, detailed as quarantine officer at the port of Cienfuegos, Cuba.

Asst.-Surgeon J. D. Long, relieved from duty in the Hygienic Laboratory, Washington, D. C., and directed to proceed to New York City and report to Surgeon L. L. Williams, Immigration Depot, for duty.

Hospital Steward W. F. Macdowell, granted leave of absence for thirty days from March 20.

Hospital Steward F. S. Goodman, relieved from duty at Havana, Cuba, and directed to proceed to Washington, D. C., and await orders.

Hospital Steward Walter Newbern, granted leave of absence for thirty days from March 5.

Health Reports.

The following cases of smallpox and yellow fever were reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended March 9, 1901:

SMALLPOX—UNITED STATES.

- Alabama: Mobile, Feb. 23-March 2, 1 death.
- California: San Francisco, Feb. 18, 8 cases.
- District of Columbia: Washington, Feb. 23-March 2, 7 cases.
- Florida: Jacksonville, Feb. 23-March 2, 3 cases.
- Illinois: Cairo, Feb. 16-23, 6 cases.
- Iowa: Ottumwa, Feb. 2-9, 1 case.
- Kansas: Lawrence, Feb. 23-March 2, 2 cases; Wichita, Feb. 23-March 2, 12 cases.
- Kentucky: Lexington, Feb. 23-March 2, 2 cases.
- Louisiana: New Orleans, Feb. 23-March 2, 7 cases, 2 deaths.
- Michigan: West Bay City, Feb. 22-March 2, 5 cases.
- Minnesota: Winona, Feb. 23-March 2, 12 cases.
- Nebraska: Omaha, Feb. 22-March 1, 5 cases.
- New Hampshire: Manchester, Feb. 23-March 2, 27 cases.
- New York: Elmira, Feb. 23-March 2, 1 case; New York City, Feb. 23-March 2, 64 cases, 11 deaths; Yonkers, Feb. 22-March 1, 1 case.
- North Carolina: Charlotte, Feb. 1-28, 16 cases.
- Ohio: Ashtabula, Feb. 23-March 2, 2 cases; Cincinnati, Feb. 22-March 1, 2 cases; Toledo, Feb. 23-March 2, 8 cases; Youngstown, Feb. 23-March 2, 2 cases.
- Pennsylvania: Allegheny, Feb. 23-March 2, 2 deaths; Philadelphia, Feb. 23-March 2, 1 case; Pittsburgh, Feb. 23-March 2, 4 cases.
- Tennessee: Memphis, Feb. 23-March 2, 16 cases; Nashville, Feb. 23-March 2, 17 cases.
- Utah: Salt Lake City, Feb. 23-March 2, 31 cases.
- West Virginia: Huntington, Feb. 23-March 3, 1 case.

SMALLPOX—FOREIGN.

- China: Hongkong, Jan. 15-22, 1 case.
- England: Liverpool, Feb. 8-16, 2 cases; London, Feb. 8-16, 1 case.
- Scotland: Dundee, Feb. 8-16, 6 cases; Glasgow, Feb. 15-22, 20 deaths.
- Mexico: Vera Cruz, Feb. 19, 300 cases; Yucatan, Feb. 20, epidemic.
- Russia: St. Petersburg, Feb. 2-9, 4 cases, 1 death; Warsaw, Jan. 26-Feb. 2, 8 deaths.
- Turkey in Asia: Jaffa, Jan. 1-15, epidemic.

YELLOW FEVER.

- Cuba: Havana, Feb. 17-24, 3 deaths.

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No. 13.

Address.

RECENT ADVANCES IN DERMATOLOGY WHICH ARE OF SERVICE TO THE GENERAL PRACTITIONER.*

L. DUNCAN BULKLEY, A.M., M.D.

Physician to the New York Skin and Cancer Hospital; Consulting
Physician to the New York Hospital, etc.
NEW YORK CITY.

Four years ago,¹ when I last had the honor of presiding over this Section, my address was entitled "Notes on Some of the Newer Remedies Used in Diseases of the Skin." At that time I called attention to the very large number of new remedies which were continually presented to the profession, remarking that it was well "now and again to stop and weigh and try to estimate the value or worthlessness of the new and to see what of it should be added to our stock of old, and thus to recognize where true advance had been made." It is in this spirit that I again take up the matter, and I wish to present some of the more recent advances in dermatology, which are of service to the general practitioner.

In my former address I called attention to the fact, however, that it was not so much new remedies which are needed as it was better acquaintance with the diseases to be treated, and a more perfect knowledge of the means we already had; and also that in connection with newer remedies it is most desirable that very definite statements should be made, by reliable observers, of the exact conditions of use, and also the adverse results, as well as those which are favorable. I also remarked that as a rule general practitioners, I believe, were far more apt to try the newer remedies proposed than were those engaged in special practice. The specialist naturally weighs the true value of this or that new suggestion, and being fairly well satisfied with his present equipment, is less prone to rush into the new, except on very good evidence of its worth; and it may be added, much that is brought forward is often found to rest on very slender experience.

It would be quite beyond the possibilities of this address to attempt to cover the whole ground of recent advances in dermatology, and attention will be called only to such items as are likely to be of service to the general practitioner. We may, for the convenience of study, consider one subject under the three divisions of diagnosis, prognosis and treatment.

DIAGNOSIS.

Dermatitis.—Considerable progress has been made of late years in the way of recognizing various inflam-

matory conditions of the skin, under the general name dermatitis, and much that was formerly classed as eczema is now thus designated. All are now quite familiar with the dermatitis herpetiformis of Duhring, characterized by a variety of lesions, erythematous, papular, vesicular and bullous, which often very closely resemble eczema. The characteristic feature, however, is a grouping of the lesions and a recurrence of the attacks without any recognized cause. A recognition of the true nature of this often intractable disorder will often prevent much disappointment in the way of prognosis.

Dermatitis Medicamentosa.—Recent years have added very largely to the list of medicinal rashes or forms of dermatitis medicamentosa, and the number of drugs which have been observed to cause an eruption, in rare cases, is now very large. Time and space forbid dwelling on the features of the different appearances presented, but it may be interesting simply to mention the drugs which have been observed to produce skin lesions. These are aconite, antipyrin, arsenic, belladonna, boric acid, bromin, cannabis indica, carbolic acid, chloral, condurango, copaiba, cubebs, digitalis, iodine, jaborandi, mercury, opium, phosphorus, podophyllin, quinin, salicylic acid, santalin, sodium benzoate, strychnia, tar, turpentine, and perhaps some others. It is to be noted that the production of such effects is due to some idiosyncrasy on the part of the patient, for their occurrence is rare. It is well, however, for the general practitioner to bear the possibility in mind when eruptions of the erythematous type occur suddenly which do not quite correspond with well recognized affections.

Another form of dermatitis which recent advances have added is that due to the injury sometimes inflicted by the *x*-rays. This need not detain us here except to give the caution against a hasty favorable prognosis, for in many instances on record it has proved most rebellious, and in some cases has been attended with serious consequences.

Blastomycetic Dermatitis.—Still another addition has been made to the lesions classed under the same general name in the dermatitis blastomycetica, or yeast mycosis. This curious and rather rare affection resembles most the verrucose types of tuberculosis of the skin, but it is desirable to correctly diagnose it from these forms of lupus, as thorough and radical treatment offers very satisfactory prospects of cure.

La Grippe Rashes.—Very interesting additions to the list of acute erythematous skin lesions are those which have of late years been described in connection with la grippe; and often these will prove very puzzling to those not very well acquainted with diseases of the skin. In some instances the eruption is hardly distinguishable from measles, and in others it will be so confluent that scarlatina is closely simulated; sometimes it is impossible to determine the true nature of the eruption at once, and it is only by the concomitant symptoms that

* Delivered before the Section on Cutaneous Medicine and Surgery at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

1. Jour. A. M. A., Nov. 28, 1896.

a probable diagnosis can be made. These la grippe eruptions are generally very short-lived, although sometimes they may persist and even recur, and from the catarrhal symptoms often present are not infrequently reckoned as second or repeated attacks of measles.

Erythromelalgia, which was described by Weir Mitchell in 1872, has attracted some attention of late years, and is shown to be sufficiently frequent to merit attention. It is characterized by a flushing of the skin, mainly of the extremities and ears, with at times considerable burning pain. Often a single toe may be affected in such a manner that walking is difficult or impossible. It is particularly interesting, as the condition may be strongly suggestive of gout, or even of erysipelas. The attacks may be of brief duration, or the redness may persist for a considerable time, with no appreciable alteration of tissue. It is due to a nerve disturbance, either paralysis of the vasoconstrictors or an excitation of the vasodilators, and may be regarded as exactly the opposite condition to that which obtains in Raynaud's disease.

The pre-mycotic stage of mycosis is an interesting phase of skin lesion, happily very rare, which has been clearly established of late years. Long before the tumors appear, which were formerly supposed to constitute the affection, there may be a period of erythematous eruption in patches and circles which ultimately lead up to the fully developed malady. These erythematous lesions may often resemble erythema multiforme or erythematous eczema and may be very puzzling. There is generally not very much itching or subjective symptoms, and only the brownish-red circles or patches of varying size, generally first on the body and limbs, which either may slowly subside or remain and develop into the slightly protuberant, and later ulcerating, granulomatous masses which lead up to the distressing and sooner or later fatal disease.

Tuberculosis cutis has also obtained a full recognition of late years, and though comparatively rare, it may at times be of considerable interest to the general physician. While lupus vulgaris is also recognized as due to, or at least associated with, the presence of tubercle bacilli, the name, "tuberculosis cutis," is most commonly given to the warty masses seen from time to time, principally about the hands and face. While lupus probably comes from the infection of the bacilli through the medium of the lymphatics and blood-vessels, the tuberculous cutis verrucosus has to do with primary local infection, and the disease tends to remain more or less local, or increases very gradually. When removed effectively the disease generally remains absent, a healthy cicatrix taking its place. It is most commonly seen in butchers, and also in anatomists, and in those having much to do with tuberculous patients, as in laundresses who have cared for their clothes.

Ringworm.—The advances in the study and knowledge of ringworm, while not yet resulting in any very startling improvement in therapeutics, should still be of interest to practitioners. It has been found that what has hitherto passed as a single disease probably represents a number of distinct affections due to parasites which may be quite different in their microscopic appearance, behavior under cultivation, and also in their clinical effects on the skin. A large share of the eruption on the heads of children is due to the small-spored fungus, which rarely attacks adults; while the forms of ringworm found on the other portions of the body are due to one or two different varieties of trichophyton,

which also readily affect adults. It is claimed that the varieties causing suppuration, as seen mainly on the bearded face, are derived from animals. It is interesting to determine, microscopically, whether the scalp disease is caused by the microsporon or the megalosporon, as the former is much more obstinate to treatment and a more unfavorable prognosis as to duration is necessary.

PATHOLOGY.

In the pathology of skin diseases there has still been considerable activity of research, and clearer views are obtained each year in regard to many affections.

Eczema has been the object of much consideration, and there have been several notable studies and discussions in regard to its true nature, while the old question as to its local or constitutional origin has been repeatedly considered. One writer (Larrede) has been very strenuous for a parasite origin of much that is called eczema, while another careful thinker (Leslie Roberts) argues strongly and rightly, as we believe, in the direction of the very great importance of the resistive power of the skin in the direction of nervous control.

Seborrheic Eczema.—Very great advance has been made in the full recognition of seborrheic eczema, with which the name of Dr. Unna will always be associated. While it is not definitely proven that it is due to a micro-organism, this is about accepted by most dermatologists, and the almost specific control of it by resorcin and sulphur is one of the most satisfactory advances in dermatology, which every practitioner may share.

Alopecia Areata.—Interesting and elaborate studies have been made by Sabouraud and others in regard to the pathology of alopecia areata and much evidence has been brought forward, both in writing and discussions in regard to its parasitic and its nervous origin, and the true nature of all cases of this interesting disease is not yet established. The opinion is prevailing more and more, however, that both views are correct, and that there are probably two affections, closely resembling each other, one caused by a micro-organism and the other of nervous origin. This is not at all surprising when we consider how closely many other skin lesions of quite different characters resemble each other, as lupus and tubercular syphilis, psoriasis and ringworm, etc.

Role of Pus Organisms.—Many studies have been made of late years in regard to the rôle of pus organisms in the production of skin diseases, and many have been very strenuous in regard to their pathologic influence. Elliot² has made a careful review of the literature, and his conclusions must be somewhat disappointing to the ardent supporters of micro-organisms as a sole cause of disease—for he finds that while the pyogenic organisms, the staphylococci and streptococci are in general the cause of suppuration, they are not the only cause. In a large proportion of cutaneous diseases, primarily or secondarily suppurative, no constant pyogenic serum organisms have been found and inoculation experiments have usually been negative or have failed. This coincides with what had been expected by those who take the broadest view of dermatologic medicine, and who realize that vitality and innervation play an important part in the production and cure of skin affections as well as those of other organs.

Dr. White, Jr., of Boston, has made some very interesting studies in regard to the rôle of staphylococcus in skin diseases, and while he demonstrates that the pus

2. Elliot: Jour. of Cutan. and Genito-Urin. Dis., February, 1900.

cocci were found in a variety of pustular lesions, he acknowledges that the form and variety of the lesions depend upon other elements. No one can rightly deny the power of micro-organisms to produce disease, for the results of aseptic surgery are incontrovertible, but there is great danger in connection with diseases of the skin lest local pathology lead to a neglect of the more important consideration of the soil on which the germs flourish; a striking illustration of the bearing of this remark is found in the change of opinion which has come over the medical world in regard to the relative importance of attention to the microbe in tuberculosis, as compared with the more important elements of the nutrition and hygienic condition of the patient. Pus organisms, as also an infinite variety of bacteria, are almost omnipresent, and when opportunity offers, pathogenic organisms do germinate and their toxin causes disease. But, on the other hand, the very omnipresence of these germs and the relative infrequency of their action certainly shows us that the truly wise physician should look to more than the local cause and seek to discover and remedy the underlying cause in each case. This points once more to the wisdom of the precept that it is often the patient who is to be treated rather than the disease by a specific name.

THERAPEUTICS.

Very much has been reported of late years in the line of therapeutics of diseases of the skin, and if one should adopt the various suggestions appearing in literature there would be a never-ceasing change of methods, which certainly would not be of service in the practical management of cases. It sometimes requires not a little determination to resist the apparently plausible assertions of writers in regard to the value of this or that new remedy or procedure. It must ever be remembered that cases of the same disease often differ very greatly in their behavior under treatment, and also that remedies or measures often succeed much better in the hands of the one who proposes and uses them than they may do when employed by another. Every workman knows his own tools, and better work can often be done by a skilled workman with poor tools than by a poorer artificer equipped in the best manner. From a very considerable experience with new remedies and old, I would therefore utter a word of caution against the too ready acceptance of "therapeutic hints" which are so overabundant in this day of intense restlessness in every field of human activity.

Newer Remedies.—In looking over my address of four years ago I find a number of the newer remedies there mentioned which have well stood the test of time since that date, and some which are there mentioned more or less favorably which I do not now advocate. I will not consume time in going over all these again, but may make a few remarks about some which seem appropriate.

Resorcin and ichthyol have more than held their own, and all that was said of them still holds good, and more could be added if desirable. I do not know whether much can be said in favor of thiol and tumenol, then mentioned; I seldom employ them or hear of their use, as I have never felt satisfied that they were better than ichthyol—if this can be obtained pure, which is often difficult. Alumnol, betanaphthol, aristol and eucrophen hold their own, and menthol is often of great value in controlling itching. Peroxid of hydrogen is used with increasing confidence in connection with many ulcerative conditions of the skin, and is also of value in chloasma,

and to bleach superfluous hair on the face or elsewhere, and appears to have a measure of effect in destroying the life of the latter. Camphor-chloral and camphophenique are still regarded as valuable antipruritics, and lanolin, vaselin, cosmolin, albolene, etc., are in constant use. The various dusting powders made from stearates, as also the dolomol preparations have their uses under certain conditions and are still regarded as valuable. The effort to produce adherent dressings to the skin, alluded to in my former address, has not been as successful as was hoped, and the results from plasters, gelatin dressings, etc., are not always as satisfactory as could be desired, although some of the prepared and medicated plasters serve an excellent purpose in certain chronic and hard conditions of the skin. Finally, medicated soaps, which were there alluded to, are slowly assuming their proper place in dermatology, which will never be a very large one; under suitable conditions they are of service, but in inexperienced hands there is more danger from their injudicious use than is commonly appreciated.

Phototherapy and X-Rays.—Among the newer therapeutic agents from which much has been expected perhaps the first which should be mentioned is that of light, as found in the x-rays and the so-called Finsen phototherapy. It is perhaps too soon to form a correct opinion of the real value of this means of treatment, and some of the earlier reports have been so extravagantly favorable that very strong hopes were raised that in this we had at last a successful means of combating that rebellious disease, lupus. But when we recall the enthusiastic reports attending the earlier use of Koch's tuberculin in lupus, and consider that now that method of treatment is practically discarded, there is reason to fear that the hopes now held out by this new method may also prove illusory.

It is hardly necessary here to describe the apparatus or the exact method of treatment, suffice it to say that it consists in means whereby the direct rays of the sun somewhat concentrated and deprived of its red or heat rays are made to impinge upon the affected area. Both the direct rays of the sun and those obtained from an electric arc-light have been used, and many reports have been given in which the disease has gradually shrunk away and disappeared. Whether the claimed cures will be permanent time alone will show, and as far as I can learn, there are not many dermatologists who are enthusiastic over the procedure. In the cases treated the patient has been subjected to the altered rays of light for several hours at a time, and daily sittings are generally required, while the treatment lasts over some weeks. The treatment has been especially developed by Finsen, of Copenhagen, and Dr. Hopkins, of Brooklyn, has installed an apparatus for this phototherapy, but I have not yet learned of any results obtained there.

Therapy of Lupus.—The x-rays have also been used for lupus, and a number of writers have reported cases of apparent cure, but it is yet too soon to be certain as to ultimate results.

In connection with this treatment of lupus should be mentioned the excellent results which have been reported by Lang, of Vienna, and many others, from the complete excision of the disease under perfect aseptic conditions, with subsequent treatment by plastic surgery or skin-grafting. The reported results are so satisfactory that there should be no hesitancy in accepting this as the quickest, and in many respects the most satis-

factory, method of dealing with certain cases of this most rebellious disease.

Treatment of Lupus Erythematosus.—The treatment of lupus erythematosus has also received considerable attention of late years, but unfortunately no very great advances have been made; although phototherapy has been reported to have yielded good results in this disease. Whitehouse has recently reported the cure of lupus erythematosus with the internal use of iodoform, one grain three times daily, and I have seen great apparent benefit from its use in this disease. The number and variety of local measures which have been recommended during the past few years show that we are yet far from having a certain remedy for the disease; all of them have the object of altering the vital relations of the tissues. One which is well worth trying, and which I have seen of service, is the local use of arsenic, either in the form of diluted Fowler's solution, or a solution of arsenious acid, beginning with two grains to the ounce in water and increasing the strength, so as to produce some moderate cutaneous excitation. After its use a mild, soothing lotion, such as that of calamin and zinc, is applied.

The current literature of the past few years is very full of suggestions of various kinds in regard to the treatment of very many of the common diseases of the skin, but unfortunately there are but few of them which are of such special and certain value as to warrant much detail here. We may mention a few of the most valuable.

Arsenic in Eczema.—Some writers have again brought up the almost specific control which arsenic will have over eczema in small children, when given freely and for a prolonged time, as the present writer showed some time ago; it seems to have less effect on the disease after the age of 5 years. The present writer would call especial attention to the value of milk in connection with the treatment of eczema if used in exactly the right manner, as detailed before the ASSOCIATION two years ago. In cases of neurotic eczema the results will often be very striking, if the method is accurately followed. This consists in taking a tumblerful of milk, slightly warmed, one hour before each meal, followed, if possible, by a rest of half an hour in a darkened room. The milk should be taken pure and alone, no atom of other food being taken with or soon after it, and care being exercised that the stomach is entirely free from food or medicines previously taken. When used in this way the milk acts as a powerful nerve tonic, and neurotic eczema will often yield much more rapidly and satisfactorily than without it.

Local Therapy in Eczema.—Very much has been written of late years in regard to the local treatment of eczema, and to even briefly enumerate the various remedies and measures which have been proposed would more than consume the time allotted to this address. Undoubtedly for the different stages and phases of this protean eruption very varied treatment may at times be required, but it seems suitable to utter a word of caution against the too ready acceptance of much that is prescribed.

Lassar's paste (zinc oxid, 3ii; pulv. amyli, 3ii; vaselin, 3i; m.), to which may be added camphor, salicylic acid or resorcin, 2 to 4 per cent., or even more, is certainly a very valuable addition to our means of combatting subacute eczema.

The various gelatin-glycerin preparations, applied so as to form a firm, adherent coating on the part, are still

extolled by many, but the present writer has not of late made great use of them. The following is one of the latest formulæ, which should be of service in certain conditions:

R. Gum tragacanth 3iiss
Gelatin optim. 3ii
Glycerin 3vi
Thymol gr. ¼
Aquaæ destil. q. s.

Soak the tragacanth and the gelatin each in ten ounces of water over a steam bath for twenty-four hours, strain through muslin and make the final quantity up to twelve ounces with water.

Ichthyol, resorcin, salicylic acid and nearly every remedy used in dermatologic practice can be incorporated with this. It is applied like an ointment, or spread on with a brush lightly, and on drying gives a plastic, protective film.

Picric acid has been much praised of late, used in a saturated solution, pure or somewhat diluted, painted over acute and subacute eczema. It causes great smarting at first, which ceases, however, in ten or fifteen minutes, giving place to a sense of relief.

Permanganate of potassium, in a 2 or 3 per cent. watery solution, painted over the parts and allowed to dry on, is also a valuable antipruritic, as pointed out by the present writer some years ago.

Treatment of Syphilis.—This has been the subject of much consideration of late years, and really very diverse views may be found given by reliable observers, but mercury is still the acknowledged remedy, with iodine as an adjuvant. The question is repeatedly discussed as to the date of beginning mercurial treatment, and the duration and regularity of medication, and while some argue for only symptomatic treatment, on the recurrence of specific lesions, the weight of judgment seems still to be in favor of early measures as soon as the diagnosis is definitely established, and prolonged treatment, even to three to five years, with occasional breaks.

The hypodermic injection of various preparations of mercury has had very strong advocates during the past few years, and thousands of injections in hundreds of patients are reported with favorable results, and this both in the early and late stages of the disease. Its advantages are that: 1, it is an active remedy which can be regulated perfectly; 2, it avoids disturbing the digestive tract; 3, it avoids publicity in using remedies; 4, it is sometimes surprisingly curative when other measures have seemed ineffective. Its disadvantages are mainly the pain and occasional inflammation and abscess. Each of the different preparations of mercury for hypodermic medication has its advocates, and the bichlorid, calomel, "grey oil," and salicylate of mercury are about equally supported by testimony.

A somewhat new method of applying mercury through the skin has been introduced by Weland, and is worth mentioning. Acting on the idea that a certain amount of the good effect in mercurial inunction arises from the inhalation of vaporized mercury, he has devised a method by which it is worn next the skin on the chest. This is in the form of a bag fifteen by twenty inches in size, which is worn like a chest protector. On the inner side about a dram of mercurial ointment is applied every day. A fresh bag is used every week or so, and the patient may bathe daily. It is said that absorption of mercury takes place very quickly in this way, with great benefit to syphilitic lesions, which might in-

deed be expected, as it corresponds closely to the method of treating infantile syphilis with mercury on the inner surface of the abdominal band.

A new preparation of iodine, iodalbumin, has been introduced which, given in doses of from 3 to 5 grains daily in capsules, is said to have been very effective in cases of syphilis where iodide of potassium was badly borne.

It would be interesting to continue a consideration of the therapeutic advances in dermatology which are of value to the general physician, but already the proper limits of this address have been overstepped and I must stop. But the subject is not all exhausted and there are many items which properly should be mentioned; and my only hope is that something which has been said may be the means of exciting a more lively interest in the subject of diseases of the skin, and may lead some one to more seriously seek to know and recognize this class of affections and their proper and best therapeutic measures. Dermatology is an inviting, though difficult, field, and there is certainly no short cut to its thorough mastery, but although all can not hope to compass it entirely, a reasonable amount of study and observation, with judgment, will enable the general practitioner to utilize many of the advances which are continually being made in this branch.

In conclusion allow me to say a few words in regard to the Section on Cutaneous Medicine and Surgery, which is a part of this great national organization of medical men. Since the beginning of this Section the effort has been, on the part of the officers, as far at least as I have had anything to do with it, to make it such as would be of value to the general practitioner and to enlist his co-operation, both in the matter of the preparation of papers and attendance. This is not a gathering of specialists in dermatology; indeed, relatively few of the dermatologists of the country have ever attended any of its meetings. The American Dermatological Association is for such, as are also certain local societies. It is true that all the papers presented have not always been such as would greatly interest the general practitioner, nor is this the case in any other of the Sections. And yet, during all these years the skin section has been very poorly attended, and it has been hard to interest the profession in it. I speak of these things both for those now present and for those who may perchance read this later. Those of us who are well versed in the subject should, I think, not introduce too much of the rare and difficult, but rather topics which may be of general interest, and the same in the discussions. I would also have general practitioners present such matters as are of interest or difficult to them that they may be here discussed, and I would also have general practitioners take part in the discussions, even though they may not be able to vie with the specialist in accuracy or freedom of expression. I repeat it, that this Section should be the field where the profession can bring the difficult and knotty problems in dermatology and receive the aid of those perhaps more familiar with the branch.

DISCUSSION.

DR. H. C. YARROW, Washington, D. C.—I was particularly impressed with the remarks concerning the use of medicines by hypodermic injection instead of by the mouth. I have been using, for the last four or five years, in cases of constitutional syphilis, hypodermic injections, and have found sozo-iodol of mercury to answer best. I have used other preparations, but none which gave so little pain. If the part is rendered anesthetic, and care is taken to drive the needle deeply into the

tissue, the insertion may be accomplished without pain. Out of hundreds of cases in which I have used this treatment, to the exclusion of materials by the mouth, I have never had a bad symptom or abscess and very few cases in which I have failed to cure the patient. I am very glad to hear this matter mentioned, because if the members of the profession at large knew what great value there is in the hypodermic injection of mercury, according to my experience, they would largely abandon the use of remedies by the mouth. The proper mode is to commence with $\frac{1}{4}$ gr. and run the amount up according to the idiosyncrasy of the patient. I have given as much as 1.5 gr. at a dose without trouble.

A MEMBER—How often?

DR. YARROW—At the commencement of treatment in the way I have mentioned, it may be given twice or three times a week for several weeks. After perhaps four or five weeks, if the patient is doing well, it may be given only twice, until finally you give one hypodermic injection weekly, then one in two weeks, and so on. I never cease this treatment under two years. Certainly, in my hands, the results have been more gratifying than anything I have ever used.

DR. M. B. HARTZELL, Philadelphia—I wish to refer to the use of quinine in large doses in the treatment of lupus erythematosus. I do not recall who proposed it, but I have used it in a number of cases with good results. I have not cured any patient with it, but I have seen such marked improvement follow promptly on its use that I can not but believe it exercises a beneficial influence on the disease. I do not know any remedy given internally which produces such a beneficial and prompt effect. I have given 25 to 30 grains a day. There has been marked improvement up to a certain point, but later the improvement ceases. One patient told me that while she was taking the quinine, the eruption was held in check, but as soon as she stopped it, it spread.

DR. S. SHERWELL, Brooklyn, N. Y.—There is one point familiar to those reading dermatologic literature, and that is the result of Finsen's method of applying sun-rays, particularly in lupus vulgaris. One who studied the method under Finsen, was a member of his clinic and received unusual privileges, did not report favorably on it, but did on a mode of treating lupus by saturating pointed sticks in the acid nitrate of mercury and carbolic acid and then introducing them, thrusting them into the lupus patches and making a person look a little bit like a hedgehog. They are cut off at or about the surface of the skin, and then a plaster put on to hold them in position. I reach the same favorable results in my experience by curetting the lesions, and then applying still more lightly the nitrate of mercury and carbolic acid. I do not look upon lupus as an incurable disease.

DR. W. R. INGE DALTON, New York City—I desire to add my testimony to what the Chairman has said in reference to the treatment of eczema. I took note of his suggestion four years ago, and he mentioned at that time beta-naphthol, also jaborandi in combination with calomel. I combined all three, but used pilocarpin, the active principle of jaborandi, instead of jaborandi, and found it to be of vast benefit. Two years ago I heard Dr. Bulkley allude to this milk theory of his—one glass before each meal, and, I believe he stated at that time, a glass at bedtime. That mode of diet is simplicity itself, and very commendable, and when the patient follows the directions faithfully, as I have tried it in many cases, the result is very satisfactory.

DR. WILLIAM L. BAUM, Chicago—In the treatment of erythematosus I use applications of arsenic solutions, one-half of 1 per cent. solution of sodium arsenate. With this method, three cases which I have treated in the last five years not only have shown marked improvement, but in two the disease has not shown in the last year and a half. Regarding hypodermic injections in syphilis, I doubt whether anybody has used it more consistently and in a larger number of cases than I have in the last ten years. This treatment is certainly of great value in certain conditions where it is necessary to produce a profound result in a short time. I quite agree that the injections should be intramuscular. As to the necessity for rendering the point of injection anesthetic, with injection of bichlorid, it is not painful; the trouble comes after the patient has had his injection a short time. And there is no necessity for the appearance of abscesses after this injection. It is probably the most satisfactory and most successful in most patients.

DR. M. T. CORLETT, Cleveland, Ohio—I wish to corroborate what was said relative to lupus erythematosus. Last year, in the treatment of this obstinate disease, I followed out that treatment of large doses of quinine. The disease responded

readily to this drug, but to be successful it must be given in large doses. So I have found 30 grains a day necessary to produce marked effects. I have found also that it produces its effects only up to a certain point; I have yet to see a patient entirely cured. I have also found the local application of alcohol, which I have used for the last year or two, gives good results. With these applications I have accomplished better results than before in the treatment of lupus erythematosus. With regard to the treatment of syphilis by hypodermic injection of mercury, I agree with Dr. Baum, using it deeply injected, and I do not think it is applicable to all cases. I do not use it as a routine. The old methods by the mouth or inunctions—which in private practice is objected to by many—are better measures. But there are some cases which require quick treatment, and muscular injection is the best because in a few days one can get a decided effect. In many cases inunctions are not objectionable, and where the patient can be induced to follow out that treatment, it is also of value.

Original Articles.

HYPERACIDITY A CAUSE OF SKIN DISEASES.*

W. R. INGE DALTON, M.D.

NEW YORK CITY.

A year ago I wrote: "I have demonstrated to my own satisfaction that some skin affections are due to a nutritive disturbance, a defective degenerative metabolism, owing to which there ensues deficient utilization of nutritive substances conveyed to the tissues; producing a lethargic condition of the skin, an inefficient stimulation of the nerve twigs supplying the sudoriferous glands; that bacterial agencies cause septic and putrefactive changes in the alimentary canal and that inanimate toxins maintain selective affinities for the tissues, exerting their action upon the primordial protoplasmic groups of cells. I am inclined more and more to think that the bond which connects the diatheses of the dermatoses with gout, rheumatism, arthritis, diabetes, and asthma, is generated by indiscretion of diet—and *hic est mucro thesis meæ*": *that the chyme passing in a hyperacid condition from the stomach, through the pylorus, into the second stomach, entails such increased labor upon the duodenum that its contents can not be rendered sufficiently alkaline for physiologic metabolism.*

Here is the starting-point—this acid dyscrasia, as I believe, the inevitable *fons et origo* of the pathologic lesions, which lead certainly to nearly all diseases of the skin, save the contagious exanthemata. The nidus is here furnished for the elaboration of the pabulum upon which the micro-organisms feed and propagate, thereby favoring organic fermentative changes throughout the ileum and large intestine, culminating in stasis of cellular action, cutaneous obstruction, and peripheral atrophy; visceral, cerebral, pulmonary, or cardiac lesions. The hyperacidity also inhibits the functional action of the glands of Lieberkühn and Brunner. The duodenum is the paramount reflex center for the entire intestinal tract; the pancreatic and biliary fluids pour into it; the par vagum connects it closely with the central nervous system; the solar plexus associates it with the sympathetic; the splanchnic, with the filaments of the spinal cord, as well as the thoracic center, and with the plexuses of Auerbach and Meissner—the one of the muscular coat, the other with the mucosa. It is here that iron is absorbed and taken up by the transport

cells, combined with albuminous bodies, to be carried into the circulation, and it is the receptacle for an immense amount of blood. These physiologic and anatomic endowments all demonstrate the supreme importance of keeping a watchful supervision, so that the functional action of the duodenum may not be impaired. It is rather coincidental that whenever there are extensive excoriations or lacerations, or burns, involving a large amount of space, there follows ulceration of this organ.

It is contended that the infection caused by bacilli goes from the tonsillar crypts directly into the circulation, but I hold to my theory as being more tenable—it is that the chyle is emulsified while undergoing pancreatic digestion in the alimentary tract, and these minutely-divided products transport the pathogenic germs immediately through the lacteals, without causing infection locally into the vena cava; the lymph of the lymphatic system, with the micro-organism enveloped in the chyle, goes directly through the thoracic duct into the left innominate vein, and from the innominate into the venous circulation, through the right heart to the lungs, setting up infection there, by retarding oxidation, or they pass on with the blood, to find access to the cutaneous system, where, if they find suitable culture-media (the nidus upon which they feed) their deleterious action commences; leading to an aberrant cellular activity, caused by changes in contiguous surrounding fluids, unless the phagocytes succeed in devouring them.

We meet with brilliant clinical results in the treatment of summer diarrhea in children—those cases where the stools emit a characteristic odor, showing albuminoid decomposition or acid fermentation, when we feed them upon a low percentage, pasteurized, highly alkaline fresh milk, *without exhibiting even one grain of medicine.*

There are other etiologic factors, such as the physiological process of reflex irritation, of dentition, hard fecal accumulations, pregnancy, epileptiform convulsions, shock, worms, phimosis, adenoids, etc., causing, temporarily, tendencies to morbid conditions of the skin, but the *causa causam*—the main etiologic element—I proclaim it boldly, is hyperacidity of the chyle in the duodenum; to this is due many ills to which the skin is heir. I have based my treatment upon this etiologic theory and have met with phenomenal confirmation of its efficacy, in my service at the Metropolitan Hospital, and in private practice, in the various forms of eczema, pemphigus, etc. I prescribe:

R. Naphthalin gr. i
Ipecac gr. i
Charcoal gr. iss
Calomel
Strychnia
Pilocarpin
Arsenious acid, 5ā gr. 1/100

The naphthalin causes antisepsis and inhibits the action of micro-organisms through the ileum and large intestine, thereby arresting organic fermentative changes. The charcoal, besides being a splendid antiseptic, converts the anaerobic condition of putrefaction into compounds which are not destructive to the tissues; the mercury, whether it acts upon the liver or not, destroys the bacterial forms in the duodenum and jejunum and lowers the blood pressure, thereby accelerating capillary circulation, thus favoring digestion and obviating putrefaction; the pilocarpin and ipecac exerting, at the same time, their influences upon the sweat

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glands and lymphatics; and finally the strychnin toning up the vasomotors and the whole cutaneous nervous system. I do not claim that my remedy will kill the pathogenic microbes in every instance, but it *does* limit their morbid energies, and by so doing gains time for the conservative remedial agencies of the organism to perform their normal function. Some pathogenic bacteria, which elaborate toxins, or ptomains in septic or putrefactive conditions, are otherwise entirely innocuous. We can unquestionably lessen their virulent activities by altering the environments of the pathogenic organisms. The stomach must be in proper condition, suitable diet enjoined, otherwise, no matter how specific the remedy may be, if the sympathetic nerve-centers, governing metabolic processes, standing for assimilation, are held in check from ptomain intoxication, no good effects can follow. Obstipation of bowels must in every case be combated, and as uric acid accumulates in the blood, as proved by Horbaczewski and Weintraud—that it is formed wherever living matter exists by the dissimulation of albuminoids—and as Kossel demonstrated, passing through the intermediate stages, nuclein, xanthin to uric acid. I generally follow my tablets by giving sulphate of magnesium, carbonate of lithium, and phosphate of soda in an effervescent form, the next morning.

It is only recently that the term eczema parasiticum has been tentatively admitted to the nomenclature, but not yet added to the classification of dermatology—*causa latet: vis est notissima*.

101 Convent Avenue.

DISCUSSION.

DR. W. S. GOTTHEIL, New York City—I am sorry that I did not have a chance to hear the first part of Dr. Dalton's paper. There is a marked tendency now on the part of dermatologists to pay more attention than formerly to the influence of general systemic conditions on their etiology, and it is a tendency in the right direction. The paramount influence of the Vienna school led to the very general acceptance of their ideas of the exclusively local nature and origin of most dermatoses; but that influence seems to be declining, and we are turning more and more to the opinions which have always maintained their ground among the French dermatologists, and are paying more attention to the general systemic condition or diatheses which, in some instances, at least, are the basic facts of their etiologies.

DR. S. SHERWELL, Brooklyn, N. Y.—I am in perfect accord with the general sentiment of the paper, while perhaps not entirely so with the theory of the Doctor, as to the way it is involved. I do most thoroughly believe, however, that the hyperacidity of the blood, caused in my mind by defective assimilation and equally defective metabolism, is at the root, and acts as *fons et origo* of many cutaneous diseases, as notably in eczema and psoriasis, etc. I am glad that there seems to be—the Doctor's paper being one evidence—a reaction against the dogma of a certain school that everything pertaining to skin diseases should be almost entirely regarded as local manifestations and be so treated. I am glad to see that there is more common sense and a larger degree of attention paid to systematic alterations and visceral complications today in general dermatology, diagnostic as well as therapeutic.

DR. L. DUNCAN BULKLEY, New York City—I have long maintained that we are wrong in looking so wholly, as has been done in time past by many, for purely local causes for skin diseases. Perhaps some will remember that in my paper yesterday I quoted Dr. George Elliot, who, five or ten years ago, was almost a pure localist, very full of foreign views, and very strong in his advocacy of purely local causes, and last year he expressed the opinion that the causes of pustular lesions were more sympathetic than local. The Doctor is getting nearer the truth when he calls attention to hyperacidity—another name for the "gouty state," etc.—and we will have greater success if we take into consideration internal conditions. Each one of these remedies named by Dr. Dalton has certain qualities, which combined will accomplish what he claims. The prescription offered is a valuable suggestion.

DR. W. R. INGE DALTON, New York City—Each and every

article in that prescription has been thought out from what has been said by eminent dermatologists. I have been giving that remedy for the last three years, and in 162 tabulated cases of eczema, acne, pruritus and pemphigus, taking together all the cases I have had in my own practice, and in my service in the Metropolitan Hospital and Dispensary, in all these cases I have not had one single failure. Dr. Sherwell has asked me if I employ topical applications. I use them in every case, such as zinc stearates, with carbolic acid or salicylic acid or menthol, to allay itching, in eczemas, with appropriate dressings; also in all forms of dermatitis, but I do not rely upon them as formerly, only as a palliative to relieve distressing symptoms.

ACUTE SUPPURATIVE FOLLICULITIS OF THE SCALP.*

WM. S. GOTTHEIL, M.D.

NEW YORK CITY.

The inflammatory affections of the hair follicles are still, it must be admitted, an unsatisfactory chapter in our dermatologic text-books. Some hardly mention them at all; and those who do practically admit, with James Nevins Hyde, that "there exists a whole series of interesting and important inflammatory affections of the hairy parts which have not as yet been distinctly differentiated from each other, or the whole series from all others."

Periodical literature, on the other hand, contains the records of many cases of follicular inflammation of the scalp; and the great variety in their terminology is a good index of the confusion that still prevails upon the subject. Quinquaud has described a "Folliculite Destructive"; Brocq a "Folliculite et Perifolliculite Décalvante"; Besnier an "Alopécie Cicatrisante Innommée"; Lailier an "Acne Décalvante"; Leloir an "Conglomerate Pustular Perifolliculitis"; Unna an "Ulerytnema Sycosiforme"; Sack a "Dermatitis Perifollicularis Atrophicans"; Lukasiewicz a "Folliculitis Exulcerans"; and Tommasoli a "Bacillogenous Sycosis." And this by no means exhausts the list. The American cases of follicular inflammation have been recorded by Fox, Holsten, Jackson and others.

There can be no doubt that several distinct affections characterized by follicular or perifollicular inflammation of the glandular structures of the scalp, and leading, with or without suppuration, to loss of hair and atrophic changes, are included in this list. The analysis and classification of these cases is a task that must await a wider experience and more exact records. Certain prominent characteristics are, however, noticeable in almost all of them. They are chronic, with a duration extending over months and years; they affect localized or isolated areas of the hairy skin; and they are rarely frankly suppurative, the inflammatory process being subacute, and the resultant atrophy interstitial in character.

If I now venture to add another to the recorded cases it is because it presents a clinical picture of a folliculitis of extreme acuity, pyogenic in character, universal in distribution, causing complete loss of hair, and not resulting in atrophy of the pilous structures. In the literature accessible to me I find mention in but two instances of a similar affection. R. Sabouraud,¹ under the designation of "Impetigo Pustulosa Peripilaris," describes an affection which he believes to be identical with the "Impetigo Pustulosa" which Boeckhart first recorded in 1887. It occurs usually upon the head, and always in connection with the hair. It begins

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1. Annales de Dermatologie et de Syphilographie for 1899.

with peripilar abscesses, of which there may be hundreds, which never get bigger than a pea, and never become confluent. They form rapidly, many appearing in a single night. The only premonitory symptom is a painful swelling of the cervical glands. Sabouraud believes the affection to be intimately related to aene suppurativa and neerotica, folliculitis, furunculosis, etc.

At the London Dermatological Society, June 9, 1899, J. J. Pringle showed a case in a 16-year-old boy having an eruption of the scalp beginning as red macules. In six weeks, in spite of treatment, the scalp was covered with crusts and scabs, removal of which showed every follicle to be the seat of an acute suppurative process, and the process resulted in the formation of deep scars. Each hair sat in the center of a yellow pustule. It looked like favus, said Pringle, yet examination revealed only the presence of numerous heaps of staphylococci. Crocker was of the opinion that the affection was a form of the dermatitis papillaris capillitii of Kaposi.

Of the two cases on which this paper is based, one only could be observed with sufficient care and for the requisite length of time. The first one was in a child of 2 years, and was apparently similar in all respects to the case recorded below. But the patient disappeared after a few visits to the clinic, and the history is too incomplete for recitation here. The second case was under observation for nearly a year, until long after all traces of the malady had disappeared and the parts had returned to a normal condition.

Lena G., a Russian, aged 16, came to the clinic on Feb. 18, 1899. She was apparently in good health, and had menstruated regularly for two years, up to three months from this date: after which time, without evident cause, she had been amenorrhoea. She was a well-developed brunette with an abundant growth of thick black hair upon her scalp. Her past history was almost negative. So far as the surface of her body, other than the scalp was concerned, the only abnormality was the presence of a scar upon the left loin, the result of a burn received in childhood. This lesion was in perfectly normal condition; but the patient claimed that it was occasionally irritated and made sore by the pressure of the corsets that she wore.

Some three weeks before her appearance at the clinic the first lesion upon the scalp appeared, in the form of a painful little blister in the hair, near the forehead. At first pinhead sized, it gradually got larger and purulent. It finally ruptured and, when the crust that ensued came away, it carried off the hair shafts with it. So entirely painless were the later stages of the process that the patient did not know that the hair had fallen out until she accidentally discovered the red bald spot in the looking-glass. Immediately thereafter a few other small blisters appeared on the back of the scalp. They were hard and painful at first, like the primary one, so that the patient could not lay with the back of her head upon the pillow at night.

Dr. George Lesser, who referred the patient to me, first saw her at that time. There was then a red, depressed, bean-sized and tender cicatricial area near the frontal margin of the hair, and a number of very tender and indurated lesions on the back of the head, over which the hair was matted together with secretion. Treatment with various applications did not stop the progress of the affection. New nodules appeared, especially upon the vertex, all of which became suppurative, until they numbered several dozen. As it was impossible to treat the scalp effectively in the condition in which it was in, and the patient refused to have her hair cut off, she was sent to a well-known dermatologist for diagnosis and treatment. The diagnosis made was evidently pediculosis, for she was given an application to use for twenty-four hours, with the warning not to go near the fire or a light while employing it; and inquiry elicited the fact that it was the ordinary kerosene, vaselin

and olive-oil application, with a little balsam of Peru, commonly employed in that affection.

This application the patient used for one day, and she claims that it burned her so terribly that she lay awake screaming with pain the whole night. Emollient applications were then ordered by the attending physician, and continued for some days with a certain amount of relief. But few nodules appeared continually upon the scalp; and as the older crusts became detached they carried away the hair entangled in them without pain. The patient began to feel very badly; she was feverish, her sleep was disturbed, and she lost her appetite. The only way in which she could rest in bed was laying prone upon her face.

On February 21 I carefully examined her. She looked pale, depressed, and anxious. Her head was covered with an abundant growth of long, bushy, coarse black hair. Near the scalp the hair was matted firmly together and attached by dried secretion, ointment, etc. There were no traces of pediculi or

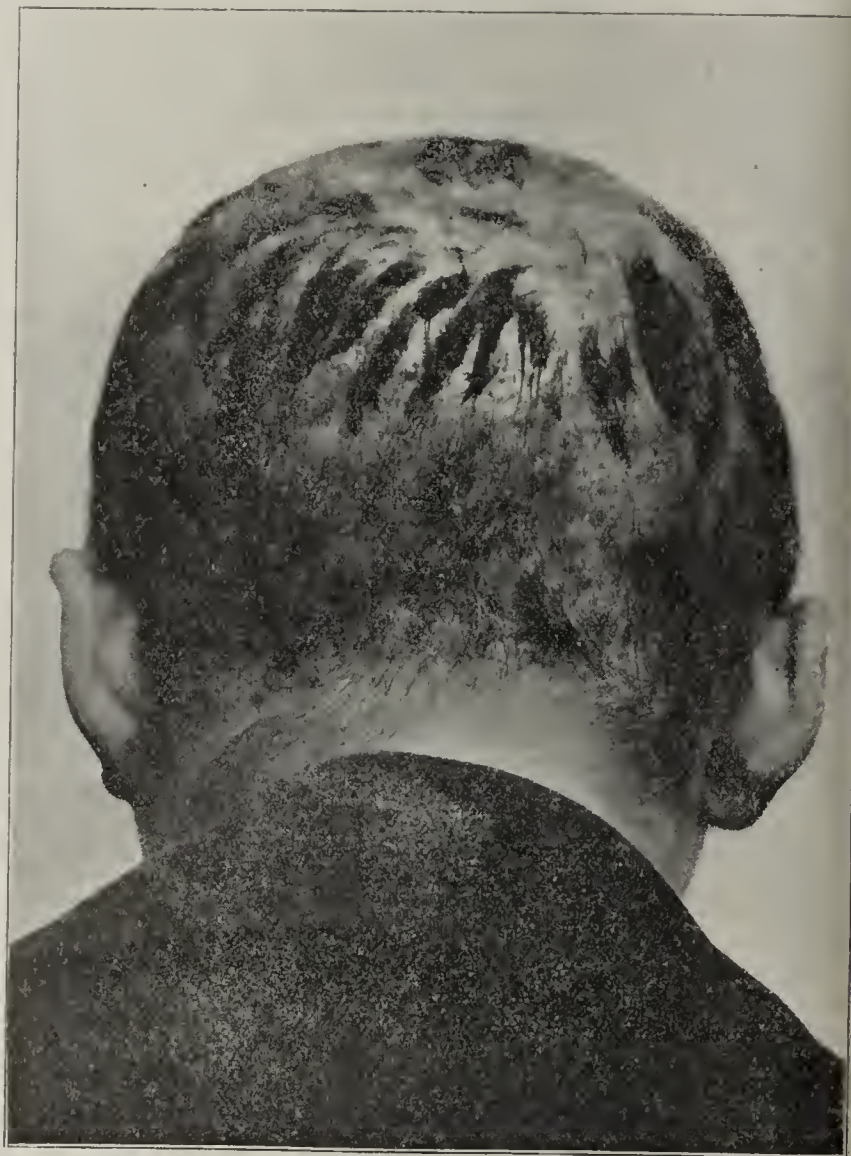


Fig. 1.—Folliculitis of scalp.

their ova. Scattered all over the scalp were numerous pea to quarter-dollar-sized, reddened, slightly depressed bald spots, very tender to the touch. Between these atrophic areas the scalp was mostly hidden by the crusts; but in the few places where it was still visible it was covered with isolated minute red papules, papulo-pustules, and pustules, each of which was pierced in its center by a hair. Removal of the crusts was excessively painful; all the hair of the affected area came away with them when it was done, and a vividly red, moist depression remained behind. The entire scalp was edematous, and excessively tender to the touch. The cervical lymphatic glands were moderately swollen. She was ordered to thoroughly soak the head with a 2 per cent. solution of salicylic acid in olive-oil, and then to attempt, with soap and warm water and careful combing, to remove the crusts.

On February 23 I noted that there was but slight improvement. The patient claimed that it was impossible to remove the crusts on account of the pain. Several of the larger areas from which the crusts had fallen were swollen and edematous,

and in two or three of them fairly large subcutaneous pus accumulations were found and opened.

On February 26 suppuration was progressing actively under the crusts, and a number of new and larger pus collections had to be opened. She was directed to cut off her hair close to the scalp.

On March 1 I noted that thick masses of crusts containing short hair still covered most of the scalp, the entire area of which had been or was then affected. Removal of these was still excessively painful; the surface of the scalp thereafter being as above described. Even in masses that were perfectly soft every hair came out bodily with the crusts; apparently these latter were entirely detached from the papillæ over the scalp, and it was only the removal of the crusts that caused pain. The scalp was now studded with bald areas, some of them quite large from the coalescence of smaller ones. Few new



Fig. 2.—Folliculitis of scalp.

pustules had appeared recently, probably because every hair follicle had been or was affected. At this time the accompanying photograph (Fig. 1) was taken.

Several careful microscopic examinations of the hairs and crusts had been made during the two weeks preceding. The hair shafts were normal, not frayed, and contained no fungus. The crusts and scales consisted of masses of epithelium and fat, with detritus and bacteria, but neither mycelium nor spores. The patient refused the proposition to have the crusts removed and the scalp thoroughly cleansed under anesthesia. She was directed to continue the daily washings with soap and warm water, and to keep cloths thoroughly soaked with caron-oil continuously on the scalp.

On March 18 I noted that I had seen the patient a number of times since the last preceding record, and her condition had not improved. She looked badly, her appetite was greatly impaired, sleep was disturbed, and she was losing flesh rapidly. New pustules had occasionally appeared, pus infiltrations had to be opened and many of the older crusts had fallen off.

Her scalp was apparently two-thirds denuded of hair; the bald areas were still reddened, swollen and tender, but a little less so than formerly. What hair still remained was matted down in smaller isolated bundles. Removal of crusts was a little easier, and the skin below less reddened and moist. In some of the older denuded areas a few new minute pustules were visible, not demonstrably connected with the hairs. They were beginning to whiten, and minute examination showed that fine lanugo hair was springing up over them. A few abscesses were opened, and a 3 per cent. xeroform oil applied to the scalp.

March 31 a new crop of pustules had developed over the entire occipito-cervical region, where the process had run its course, and lanugo hair was reappearing. Each papule was discrete, and pierced in its center by a hair. This gave me an excellent opportunity to study the process from the beginning. The pustules grew to small, French-pea size, and finally ruptured, extruding the hair. There was no crusting or pus collection on account of the smallness of the pilous structures and the absence of matting. The process in each case lasted about a week.

On April 14 I noted that most of the crusts were gone. No new lesions had appeared, and the older denuded areas were whitening, and covered with pale, fluffy lanugo hair. The patient claims that the xeroform oil had given her more relief than any of the other applications. For the first time in many weeks she was able to sleep in the ordinary position. She rested better, and her appetite was improving.

I saw the patient from time to time for three months thereafter. No new lesions developed. Every single one of her original hairs came out as the crusts were finally removed. The lanugo hair had increased in amount and strength, and was beginning to assume the appearance of ordinary hair.

In December, 1899, this last photograph was taken. As can be seen, there has been complete recovery. The only difference is that the new hair is a little finer and lighter than the old.

I can find no better designation for the affection than that of acute suppurative folliculitis of the scalp. I am not ready to propose an explanation of its cause. It is possible that the kerosene application had some effects upon its spread; but the folliculitis began and was quite extensive before it was employed, and the subsequent recrudescence of the disease upon the back of the head occurred entirely independently. The acuity and generalization of the process, and its superficiality, as shown by the fact that, though all the follicles were affected and all the hair detached, the papillæ were not destroyed, presents a picture differing essentially from the ordinary forms of folliculitis, and resembling only the two cases of which I have made brief mention in the early part of this paper.

GLASGOW'S SMALLPOX.—*The Lancet* of March 9 editorially considers Glasgow's smallpox predicament, for in no month has she been entirely free from the disease since its introduction there by a sailor about a year ago. Primary vaccination is well attended to, but there is absence of all official supervision and "grave reason to fear that one mark and two mark vaccination is much commoner than it ought to be." Therefore, re-vaccination is being advocated by the corporation and every medical man is being remunerated for all vaccinations performed on behalf of the sanitary authority. Before this was done the people did not realize the dangers and few took precautions to protect themselves. The consequent increase of smallpox was followed by an increase of vaccinations, so that now, in a population of about 700,000, about 300,000 have been recently re-vaccinated.

OPERATIONS FOR INJURIES TO THE MEDIAN AND ULNAR NERVES.*

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CHICAGO.

It is my intention to discuss the subject entirely from its practical standpoint and to relate my personal experiences in dealing with the injuries of the median and ulnar nerves. These nerve trunks are most liable to be injured because of their exposed anatomic position on the arm; the most frequent result of violence applied directly to the nerve is complete division.

Functional disturbances following incised or lacerated wounds are too often overlooked and the symptoms attributed to shock. The degree of shock in such cases is not proportionate to the size of the wound or to the degree of nerve injury. The pain following the most trifling cut will often cause extreme depression. The injured person, who already is suffering pain and is in a state of nervous expectation and dread of more pain to be caused by the stitching, is thereby frequently placed in a condition of greater shock, which renders his statements relative to sensory and motor disturbances unreliable. Therefore, after direct examination of the open wound, if the least doubt exists, the necessity for a thorough operative exploration can not be overestimated.

The surgeon's duty begins with the thorough examination of every divided structure, especial attention being paid to nerves, and his duty ends only when he has proved his skill by his success, or has shown his failure to be due neither to ignorance nor negligence. The ape-hand deformity which follows wounds of the median nerve and the claw-hand deformity which follows wounds of the ulnar nerve, impress upon the surgeon his responsibility and the necessity for the most painstaking care and deliberation.

CASE 1.—The patient was a girl 9 years of age, who was brought to me in Paris, Ky., on June 15, 1891. Her general health was poor and the presence of a number of unsightly scars on the neck, with a bad family history, showed that she was a tuberculous subject. For about a month she had complained of an aching pain in the left forearm, so was disinclined to use it.

I found an enlargement the size and shape of a small hen's egg at the junction of the lower and middle thirds of the ulna. With the assistance of Dr. T. A. Roby, I made an incision at this point, evacuated a quantity of pus and, on probing, found the ulna denuded of its periosteum and roughened. I chiseled away the sclerosed shell of bone, cleaned out the entire tuberculous deposit, swabbed the cavity with Churchill's tincture of iodine, and packed the wound with iodoform gauze, that it might heal by granulation from the bottom. The wound was dressed every other day for two weeks, when I was obliged to leave Paris and, after that time, my father, Dr. D. D. Eads, dressed the wound regularly until it had entirely healed.

In January, 1892, I revisited Paris and, to my surprise, was informed that, at the time of the operation, I had divided the ulnar nerve. I found the muscles markedly degenerated and complete abolition of sensation in the territory supplied by the ulnar nerve. As I believed that the nerve had been divided, I decided to make a new operation to reunite it if possible. I accordingly made an incision three inches in length di-

rectly over the ulnar nerve and found it embedded in a mass of cicatricial tissue. The incision was now extended upward and downward for five inches and the ulnar nerve dissected from its position. As I found it had not been severed I made a new bed for it by stitching a layer of loose fascia over it.

The patient noticed improvement as soon as she awakened from the anesthesia and stated that she could now feel her little finger. She rapidly improved without any further treatment and recovered with complete restoration of function.

This case is of marked interest, because: 1. The child was too young to give an accurate account of the loss of sensation and power, which was accidentally detected by the difference in size of her hands and forearms. 2. The loss of both sensation and motion was evidently gradual and not sudden. 3. The presence of cicatricial tissue in the region of the affected nerve, whether of accidental or operative origin, is suspicious and should be considered a probable cause of loss of function in the territory supplied by that nerve. 4. Exploratory operation should be made without delay when doubt exists.

CASE 2.—During my service as resident surgeon in Jefferson Medical College Hospital, in Philadelphia, in 1892, I operated on the following case of injury to the median nerve: A young man about 26 years of age had been wounded by a circular saw. He entered the accident department of the hospital, accompanied by his foreman, whose description of the accident and the amount of hemorrhage which followed caused me to order him taken to the private operating-room, where he was immediately anesthetized. On loosening the provisional tourniquet, copious arterial bleeding ensued, which was promptly arrested by digital compression of the brachial artery. After protecting the wound by several thicknesses of gauze, an Esmarch bandage was applied to the arm from the wrist well above the wound, and examination showed a lacerated wound about two inches in length extending obliquely across the inner antero-lateral aspect of the right arm about an inch and a half above the elbow. I enlarged the wound upward and downward along the course of the brachial artery, which I secured and ligated. The biceps and brachialis anticus muscles were partially divided. The divided median nerve was in plain view with the ends rather ragged. I trimmed off the ragged ends with sharp scissors, the net loss on both ends of the nerve not amounting to more than one-quarter of an inch, and placed the nerve in its natural position in the wound with the ends almost meeting. Accurate approximation was made easily and without tension.

A single transfixion stitch of fine silk was first introduced by means of a fine Hagedorn needle and tied, bringing the nerve ends together. This was reinforced by two silk sutures, one on either side, which were passed only through the sheath of the nerve.

The external wound was closed with catgut, the arm flexed and a large dressing applied. The arm was maintained in a flexed position for eight days, when it was found that the wound had united by first intention.

Paralysis resulted from the accident, with the following symptoms: Loss of pronation; impaired wrist flexion and hand-grasp with thumb extended, and anesthesia over the area supplied by the median nerve.

The first evidence of restoration of function was a return of sensation about three weeks later. Return of mobility was distinctly noticeable two months later, and when I saw the patient six months after the acci-

* Presented to the Section on Surgery and Anatomy, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

dent, he had acquired a fair use of the arm and expected to return to work the following week.

I regard the early and favorable result of this case to be due to the clean wound, and simple division of the nerve with slight destruction of nerve tissue, which permitted accurate approximation within an hour after the accident.

CASE 3.—G. H., 50 years of age, of Philadelphia, while in Atlantic City, N. J., sustained an incised wound of the anterior aspect of the right forearm close to the wrist-joint. The radial and ulnar arteries, the flexor carpi radialis, flexor sublimis digitorum and palmaris longus tendons were divided. There was complete division of the median and almost complete division of the ulnar nerve. The accident was caused by the sharp blade of a knife which lay in the sand where he was sitting. On attempting to rise he pressed his wrist upon this knife blade and thus sustained the injury.

After temporary arrest of the hemorrhage, he hastened to the office of Dr. Boardman Reed. The patient was anesthetized and with the assistance of Drs. Boardman Reed and Ella Reed, I proceeded to tie the radial and ulnar arteries. I enlarged the wound upward and downward and found the divided median nerve with the ends almost approximated. I united the ends with one direct catgut suture passed through the body of the nerve. A second fine catgut suture was passed through the divided portion of the ulnar nerve. The divided tendons were found without difficulty and united with catgut.

The forearm and hand were supported in a flexed position by a suitable splint and so maintained for a period of three weeks. Wound healed by first intention.

Total paralysis and complete anesthesia resulted from the accident in the area supplied by the median nerve, but no appreciable change could be noticed in the area supplied by the partially divided ulnar nerve.

The forearm and hand were well massaged and passive motion of the fingers made to prevent them from becoming stiff.

Three weeks later the patient announced the return of sensibility in the previously insensitive area, but was much troubled because of his inability to approximate the thumb and index finger and thus hold a pen. Evidences of increasing motility rapidly followed. Ten weeks after the accident he was able to write at his desk, using his thumb and fingers with ease. He still complained of some stiffness about the wrist-joint, but expressed confidence that this would soon pass away, as it had greatly improved up to that time.

In this case there was every reason to expect speedy and complete restoration of function, as the nerve ends lay in their normal position in the wound, almost touching, thus permitting accurate approximation. In this instance I used catgut, as silk could not be obtained.

I prefer silk to any other suture material because: 1. Its permanency does not delay the union nor interfere with complete recovery. 2. Better approximation is obtained by silk. This is a most essential feature to early success, and, when tension is great, we can not dispense with it.

Relaxation by position, rest and protection by a suitable splint are conducive to successful union.

The patient was in excellent health at the time of the accident and thereafter. Massage was commenced early to overcome the likelihood of impaired mobility due to inflammatory adhesions of the joint and synovial sheaths. The arm was rubbed daily with alcohol and electricity applied.

CASE 4.—J. H., a male, 34 years of age, consulted me Dec. 4, 1894, and gave the following history: On Feb. 11, 1893, while he was helping to unload a large sheet of plate glass, one of his helpers slipped on the icy pavement and, in the patient's effort to save the glass, he sustained a lacerated wound extending obliquely from before backward along the inner side of the right arm two inches above the elbow-joint. Profuse hemorrhage followed. He was taken to the nearest surgeon—a man of good reputation—who ligated the bleeding vessel, and closed the wound, which healed promptly. At his next visit to the surgeon he complained that his hand felt numb, that he could not close it and thought that some of the "cords" had been cut.

When he consulted me, the appearance of the arm and forearm was characteristic of complete paralysis of the ulnar nerve. The muscles of the forearm supplied by the ulnar nerve were atrophied, there was marked wasting of the hypothenar eminence and hollowing of the thenar eminence. Partial flexion of the last two phalanges of the ring and little finger and extension of the first phalanges of the same fingers completed the deformity. I instructed him to grasp my index finger, which he accomplished with difficulty by first flexing the last two phalanges of all the fingers. This forced attempt caused flexion of the wrist-joint, which brought the finger more into his grasp. In the act of flexion the last two fingers did not participate as promptly as the fore and middle, and separation and approximation of the fingers could not be accomplished.

Partial anesthesia followed the division of the nerve, but sensation had returned to an appreciable extent two months after the accident, so that at the time of my examination the only area which appeared partially anesthetic was that along the ulnar side of the hypothenar eminence, and little finger.

Arrangements were made for operation at the patient's house, and, assisted by his family physician, the late Dr. Hunt, I made an incision three inches in length directly over the ulnar nerve and at right angles to the old scar, which marked the center of my incision. Upon reaching the deep fascia, I incised it on a grooved director as a guide and thus exposed the internal intermuscular septum, which was in turn divided in a similar manner bringing into view the severed interior profunda artery which, together with the triceps muscle, served as my guide in locating the ulnar nerve. I lengthened the incision in an upward direction for about two inches, found the ulnar nerve, traced it downward and found the upper bulbous end embedded in a mass of scar tissue which I carefully dissected away, exposing the nerve for nearly three inches. The distal end was also dissected from its bed of scar tissue.

Repeated sections were made of the proximal portion, with sharp scissors, before I reached healthy nerve fibrillæ, the loss amounting in all to about three-quarters of an inch. One-quarter of an inch was removed from the distal end in a similar manner. This left a decided gap from loss of substance. An attempt was then made to approximate the ends by stretching and by position of the arm, but this was unsuccessful. A flap three-quarters of an inch in length was taken from the proximal portion to bridge the gap, and was united to the distal portion by one transfixion stitch of silk reinforced by one anterior and one posterior stitch. The arm was dressed in extension and healed primarily.

A month after the operation the patient went to

Denver to live with a sister on account of his disability, and consequent inability to work, but on April 17, 1895, four months after the operation, he wrote me that he was driving a milk wagon, was able to take entire charge of a milk route, that he could close his fingers against one another, and also bring them down to the palm of his hand with considerable force. Although I have not heard from him since, I judge from this statement that in this case the operation is rapidly proving successful.

CASE 5.—T. D., a boy 12 years of age, was brought to me on Sept. 18, 1897, with a lacerated wound of the right elbow-joint, caused by falling on a broken bottle. The wound extended from the outer border of the shaft of the ulna obliquely upward and inward over the posterior surface of the joint to the internal condyloid ridge one inch above the condyle.

During the delay entailed in finding the boy's father to inform him of the gravity of the accident, I obtained a clear account of the division of the ulnar nerve as manifested by its immediate effects. I asked the boy if his arm pained him, and his reply was: "No, but there is such a funny feeling all along here"—referring to the inner side of the forearm and fingers—"it feels like it's dead." Extending my index finger, I directed him to grasp it. He was unable to do so and cried out that he could never play ball again.

The patient was anesthetized and, with the assistance of Dr. J. H. Walsh, I made an examination and found the olecranon process separated from the ulna and the internal condyle from the humerus. In order to obtain a better view of the joint and its surroundings, I enlarged the wound by incisions upward and downward and dissected the superficial fascia from its deeper attachments, retracted the flap and by flexion exposed the entire elbow-joint. In order to facilitate adjustment and prevent lateral displacement, I united the olecranon process to the ulna by two silver-wire sutures and the internal condyle to the humerus by one suture of the same material. The proximal extremity of the divided nerve was found one inch above the inner condyle and the distal portion retracted for more than an inch. The ends were easily brought in good apposition by a single chromicized catgut suture passed directly through the body of the nerve, reinforced by a fine silk suture passed through the sheath on either side.

With scissors and tissue forceps I now went repeatedly over every portion of the wound most carefully, clipping the ragged tissue with its adherent foreign bodies. Sterile water was used exclusively, with the exception of hot saline solution which was employed to remove the blood clots. The complete cleanliness, perfect hemostasis and avoidance of antiseptics made me decide to close the wound with catgut sutures and without drainage. A large dressing was applied and the arm rendered immobile by a suitable splint.

With the exception of a post-operative rise to 101 degrees on the evening of the second day, the temperature remained normal throughout. The wound was exposed on the seventh day and found to be entirely healed by first intention. The arm was retained in position for one month when, much to my surprise, the patient exhibited a fair degree of movement of the elbow-joint and of the ring and little fingers. In closing the hand he could not bring any of the finger tips in contact with the palm, but a few days later he accomplished this with ease with the exception of the little finger, which required an effort to bend to this extent. Separation and approximation of the fingers

were unimpaired. More than a month after the accident a point of tenderness developed over the internal condyle and this went on to suppuration, which ceased, however, shortly after the removal of the silver wire suture.

Massage and active and passive movements were patiently continued for two months. At this time there was but slight difference in the strength of the grip in favor of the right hand.

This case teaches: 1. That next in importance to accurate apposition in case of divided nerves is the avoidance of inflammation or suppuration by cleanliness, hemostasis and irrigation with sterilized water. 2. Antisepsis must yield to asepsis when a joint is opened. 3. Buried silver-wire sutures will cause irritation even in an aseptic wound, and since this experience the writer has substituted chromicized catgut, which he considers preferable and has found sufficiently durable. 4. Immobilization in extended position lessens tension.

TECHNIQUE OF THE OPERATION.

Antisepsis can be secured only by the use of the brush, soap and water, permanganate of potash, oxalic acid and sterilized water. My unpublished experiments in the laboratory of Dr. W. M. L. Coplin, of Philadelphia, in December, 1891, proved conclusively the uselessness—from a practical standpoint—as antiseptics, of bichlorid of mercury, boric acid, carbolic acid, creolin, etc. Permanganate of potash stands alone as the ideal destroyer of germs. The skin of both operator and patient marks the line between antisepsis and asepsis.



The first and leading requisite in nerve suture is an accurate knowledge of the regional anatomy of the part. The surgeon needs every guide to render the finding of the divided nerve ends more easy. The ends may be displaced, retracted, adherent to fascia or tendons, etc., or embedded in scar tissue. When difficulty is experienced in finding the nerve at the seat of the original wound, it should be found in its known position and traced to the point of division. This procedure materially simplifies the operation and involves only a lengthening of the incision. The upper central portion of a divided nerve is enlarged, bulbous and easily found, while the lower or peripheral portion is filamentous and more difficult to discover.

A second requisite is the provision of ample operating space, and a long incision does not add appreciably to the gravity of the operation.

The Esmarch bandage should be dispensed with wherever possible, as its removal is followed by oozing which necessitates drainage, and as it prevents stretching of the nerve, thus rendering the nerve ends more liable to injury by the forceps in the hand of the operator. Slowly and precisely we proceed to find the nerve ends and free them from their imprisonment in scar tissue or their attachments to tendons and fascia.

The dissector—a cut of which is here given—has been invaluable to the writer in his operative work and doubtless will prove serviceable to the general surgeon. This instrument combines the advantages of a director, dissector and scalpel handle. It is made from a single piece of metal, 6½ inches in length, consisting of a central portion, the handle and two extremities, one of which is hook-shaped and fenestrated near the end, and the other, slightly curved and blade-shaped, has

Date.	Operator.	Nerve.	Nature and Location of Lesion.	Time of Suture.	Suture Material.	Result.
1863	Nélaton...	Median...	Extirpation, neuroma	Immediate	Silk	Motion normal after 2 years.
1864	Langier...	"	Injury, forearm.	"	"	Restoration of sensation after 17 months.
1870	Hunter...	Ulnar...	Resection, elbow...	"	"	Has no use of hand, but after 10 years has slight sensation at wrist.
1871	Jessup...	"	Injury, wrist...	9 years	"	Hand useful after 8 months; some atrophy of muscles.
1875	Notta...	Median	Extirpation, neuroma	Immediate	Silver	Sensation and motion restored after 8 mos.
1875	Simon...	" and ulnar	Stab wound, arm	10 months	Silk and catgut	Arm useful after 18 months.
1875	Vogt...	"	Injury, wrist	Immediate	Catgut	Restoration of motion after 8 months.
1879	Koenig...	"	"	"	"	Partial restoration; atrophy after 15 mos.
1879	Koenig...	"	"	"	"	Atrophy after 2 mo.; some mobility of thumb.
1879	Page...	"	"	"	"	Complete restoration of motion after 10 months; slight restoration of sensation.
1879	Wilms...	Ulnar...	Injury, resect. elbow.	"	"	Marked improvement after 10 months.
1879	Tillmanns...	"	Incised w'nd, forearm	"	Catgut	Useful hand after 19 months.
1879	Thiersch...	Median and ulnar	Glass wound, forearm	"	"	Normal hand; slight atrophy after 2 years.
1880	v. Esmarch...	Median, ulnar and musculocutaneous	Stab wound, arm	"	"	No result after 13 years.
1880	Kraussold...	Median, ulnar and radial.	Incised wound, wrist	"	"	Free use of hand after 3.5 months.
1880	Kraussold...	Median.	Inc'd w'd, above wrist	2 months	Silk and catgut	Mobility normal after 3 weeks.
1881	Bernhardt and Friebe...	Ulnar.	"	6 months	Catgut	Complete restoration of function after 8 mos.
1881	Page...	"	"	6 months	"	Normal after 18 months except atrophy of little finger.
1882	Koenig...	Ulnar.	Injury, arm.	1 year	"	Arm fit for any work after 1 year; disturbance of sensibility of little finger.
1882	Zesas...	"	Glass wound, wrist...	5.5 months	Catgut	Sensibility almost and motion quite restored after 2 mos.; complete recovery later.
1883	Chrétien...	Median...	Injury, wrist	Immediate	"	After 18 mos., contraction of abd. flex. brevis pollic. and opponens, equal on both sides.
1884	Tillaux...	"	Glass wound, wrist.	4 months	Catgut	Complete restoration of sensation and motion after 6 weeks.
1884	Tillaux...	"	"	14 years.	"	Complete restoration of function after 6 wks.
1884	Banks...	"	Injury, wrist	6 months	"	Complete restoration of function; some atrophy of first 3 fingers.
1884	v. Wahl...	Median, ulnar and radial.	Injury, axilla...	Immediate	Silk	Partial restoration of function after 4 years.
1885	Shepherd...	Ulnar...	Axe wound, elbow	3 months	Catgut	Sensation good after 2 weeks.
1885	Gunn...	"	Extirpation, neuroma	Immediate	To med. with catgut.	Complete restoration of function after 6 mos.
1885	v. Wahl...	Median...	Injury, axilla.	"	Silk	Sensibility on ulnar side of ring finger, but after 8 m. not on little finger or end phal.
1885	Jones...	Ulnar...	Fracture, int. condyle	Secondary	"	Contraction of muscles of forearm normal after 3.25 years; hand useful as other.
1885	Schüller...	Median...	Glass wound	18 months	"	Rapid restoration of sensory functions.
1885	Richardson...	"	"	1 month	Catgut	Partial restoration of motor functions after 6 weeks; complete restoration.
1885	Richardson...	"	Stab wound.	80 days	"	Restoration of sensory and motor functions after 1 year.
1885	Pollaillon...	Median and ulnar	Glass wound, forearm	Immediate	"	Restoration of sensory and motor functions after 4 months.
1886	Tillmanns...	"	Wound, forearm	Secondary	"	Partial restoration sensory of palm, flexion and extension only of the finger, atrophy of small muscles of thumb 2 years after.
1885	Pye...	Ulnar...	Glass wound of wrist.	Several weeks.	"	Restoration of normal function after 1 year.
1886	Tillaux...	Median...	Injury of wrist.	3 5 years	"	No improvement after 15 months. Relief of nerve from constricting cicatrix after one-fourth year. Complete recovery.
1888	v. Wahl...	"	Injury, arm.	Immediate	Silk	Complete restoration after several months.
1888	v. Wahl...	Median, ulnar, radial, etc.	Injury, axilla.	"	"	No improvement of motor function and atrophy after 7 months.
1888	Rayner...	Median...	"	4 months	"	Restoration of sensibility of forearm; no result in territory supplied by median and ulnar after 9 months.
1891	v. Esmarch...	"	Incised wound, wrist.	Immediate	Catgut	Restoration of sensibility in short time; complete motor restoration after 1 year.
1886	Jencken...	Ulnar...	Incised w'nd, forearm	6 months	Horsehair	Restoration of motor function after 2 years; atrophy of palmar muscles.
1884	Harrison...	Median and ulnar	Glass wound, wrist.	18 months	Catgut	Complete recovery after 18 months.
1886	Scott...	Ulnar...	"	4 5 months	"	Useful hand; limited flexion of 1st, 2d and 3d fingers; sensibility restored except to little finger after 18 months.
1886	Scott...	Median...	"	10 months	"	Marked improvement after 4 months.
1880	Hulke...	"	forearm	5 weeks	"	Restoration of sensory function after 3 wks.
1880	Ogston...	Ulnar...	Slate wound, elbow	15 months	Silk	Restoration of function after 4 weeks.
1879	Hulke...	"	"	"	"	Restoration of sens., not of mot'n, after 2 mos.
1884	Surmay...	Median...	Glass wound, r. wrist	5 months	Silver and catgut	Restoration of function after 6 wks.; returned to work on leaving hospital.
1887	Tillaux...	"	" r. hand.	3.5 years	Horsehair	Rapid restoration of function after 11 days; complete after 4 months
1887	Bland-Sutton...	"	" r. wrist.	10 weeks	"	Rapid restoration of sensation after operation; complete in 6 weeks.
1886	Bouisson...	"	Wound forearm.	Immediate	"	Beginning sensation after 5 days.
1886	Schwartz...	"	Incised wound, wrist.	6 hours	Catgut	Par. restor'n. of sens. and motion after 3 wks.
1881	Page, H. W...	Ulnar.	Glass wound, l. wrist.	6 months	"	No restoration of sensation after 4 weeks.
	MacCormac...	"	Glass wound, forearm	6 years.	"	Anesthesia less marked after 9 days.; complete restoration after 6 months.
1885	MacCormac...	"	Gunshot w'd, forearm	1 month	Silk	Increased sensation in fingers after 1 day; can use hand quite well after 2 weeks.
1886	MacCormac...	Median...	Neuroma...	5 years.	"	Partial restoration of sensation after 2 wks.
1881	Langton...	Ulnar	Incised w'nd, forearm	Immediate	atgut	Perfect sensation and motion after 1 mo.
	Langton...	"	Release from cicatrix	"	Horsehair and catgut	No return of sensation after 3 weeks.
	Halsted...	Median and ulnar	Glass wound, arm	8 months	"	Function restored after 6 months
1883	Bull...	Ulnar...	Glass wound, forearm	7 weeks	Catgut	No benefit after 6 months.
1897	Rafin...	Ulnar.	Glass wound, forearm	1 day	Chromicized catgut	Returning sensation and motion after 5 wks.
1897	Curtis...	Median...	Punctured w'd, wrist.	7 months	atgut	No improvement after 2 weeks; perfect restoration of function after 5 mos.
1893	Ochsner...	" and ulnar	Glass wound, wrist.	3 months	"	Sensation began to return after 10 dy; per-
1893	Ochsner...	Ulnar.	Gunshot wound, arm.	10 days	"	restoration of function after 3 years.
1895	Ochsner...	"	Stab wound, arm.	4 months	"	Slight sens. in 3 wk; par. restoration in 3 yr.
1895	Ochsner...	"	Stab wound, forearm.	6 weeks	"	Almost complete sensation after 21 hours;
	Bowlby...	"	"	7 months	"	complete restoration of function after 1 yr.
	Bowlby...	Median...	Wound, forearm	9 months	"	Immediate return of sensation; still slight
1884	Menzies...	"	Glass wound, wrist.	Immediate	Catgut	atrophy, but improving, after 1 year.
1893	Berger...	Ulnar.	" forearm	4 months	Silk	Return of sensation after 1 day; perfect re-
1888	Ashhurst...	Median...	Knife wound, wrist.	11 months	Catgut	covery after 7 months.
1887	Reclus-Segond	" and ulnar	Glass wound, wrist	2 hours	"	Almost immediate return of sensation.

a single longitudinal groove in the center. The latter is used for the isolation of structures located in tissue which can be pushed aside, thus avoiding hemorrhage and keeping the field of operation dry. This is especially valuable in breaking down adhesions and in the exposure of important vessels and nerves. The single groove serves as a guide for the back of the knife in making the incision, and takes the place of the grooved director. Therefore this extremity may be regarded as a combined grooved director and separator of tissues. When greater force is required in dissection, the hook-shaped extremity is brought into use. The eye acts as a ligature carrier; the blunt extremity of the hook, which can not be forced through the wall of the blood-vessel, makes it a convenient aneurysm needle.

The nerve ends are freshened ready for accurate approximation, which is assisted by position and, if necessary, by stretching of the nerve trunk. An ordinary cambric needle carrying a single, direct suture of chromicized catgut is passed through the nerve on

splendid results in recent years have aroused medical men and dispelled all doubt as to the necessity of the measure. I have obtained from the literature reports of 294 cases, with the following results:

	Successful.	Improved.	Failure.	Total.
Primary suture	40.52% 62	40.52% 62	18.95% 29	153
Secondary suture	43.26% 61	43.26% 61	13.38% 19	141
Total	41.83% 123	41.83% 123	16.33% 48	294

From my own experience, therefore, fortified by the observations of others, I believe we are justified in saying to our patients that, while positive results can not be promised, the great majority of operations are followed by cure, and that in the majority of the remainder improvement takes place after operation. Without operation the tendency is always to grow worse. This is an assurance of hope to the sufferer, and yet its correctness is borne out by our experience.

SUMMARY.

Date.	Name.	Nerve.	Primary.							Secondary.						
			Successful		Partial.		Failure.		Total.	Successful		Partial.		Failure.		Total.
			No.	Per cent.	No.	Per cent.	No.	Per cent.		No.	Per cent.	No.	Per cent.			
1887	Bowlby	Median	6	31.6	11	57.9	2	10.5	19	1	16.67	5	83.33			6
		Ulnar	4	26.70	7	46.70	4	26.70	15	2	20	5	50	3	30	10
	Literature to 1885.	Median and ulnar	2	18.18	6	54.54	3	27.27	11							
		Median								3	27.27	5	45.45	3	27.27	1
		Ulnar								5	55.56	1	11.11	3	33.33	11
		Median and ulnar.														
1896	Huber.	Median and radial.								1	16.67	2	33.33	3	50	9
		Median	15	57.69	7	26.92	4	15.38	26			1				6
		Ulnar	12	38.71	13	41.94	6	19.35	31	8	42.10	9	47.37	2	10.53	1
		Median and ulnar	3	23.07	7	53.85	3	23.07	13	7	29.17	15	62.50	2	8.33	19
		Median and radial	2						2	2	20	6	60	2	20	24
		Median, ulnar and radial	1						1			1				10
		Ulnar and int. cutaneous.							1							1
	Literature by writer.	Median	7	46.67	4	26.67	4	26.67	15							
		Ulnar	4	50	2	25	2	25	9	14	87.50	2	12.50			16
		Median and ulnar.	1	50	1	50			2	13	65	7	35			20
		Median, ulnar and radial	1	33.33	2	66.67			3	4	66.67	1	16.67	1	16.67	6
		Median, ulnar and musculo-cut.	1	33.33	2	66.67			3							
	Writer	Median	1						1							
		Ulnar	1						1							
		Median and ulnar.	1						1	1						1
		Total	62	40.52	62	40.52	29	18.95	153	61	43.26	61	43.26	19	13.48	141

each side, from one-eighth to one-quarter of an inch from its extremities, and tied, but not too tightly, as accurate approximation is easily defeated by displacement due to overlapping. Two or more fine silk sutures are now passed through the sheath of the nerve, to more accurately complete the approximation and to increase the strength of the union. In tying these sutures, great care must be taken to prevent the sheath from being folded in between the nerve ends. If, after approximation, there is too great tension and consequent liability of the sutures to cut out, I would recommend that a relaxation suture of chromicized catgut be passed in an antero-posterior direction through the substance of the nerve above the first suture.

Restoration of function is often delayed and this delay is proportionate to the degree of degeneration of the peripheral end, the consequent atrophy of muscle and fixity of joints. These very symptoms, however, may result from a widespread septic inflammation complicating the original wound and causing inflammatory adhesions of joints and tendons with resulting impairment of mobility. (Rose.)

In the hands of the most careful operator some cases will result in total failure. Fortunately, however, the

CONCLUSIONS.

1. Provision of ample operating space is the first requisite to success.
2. Suppuration is inimical to success and can be prevented by cleanliness, hemostasis and avoidance of chemical irritants and drainage-tubes.
3. Chromicized catgut and fine silk furnish the best suture material. The single transfixion stitch should be of catgut and the two or more perineurotic stitches, of fine silk.
4. Tension may be overcome by position and loss of substance by nerve stretching and bridging by the flap method.
5. Immediate suture of clean nerve ends accurately approximated is conducive to early functional restoration.
6. Relaxation by position, rest and protection by suitable splint are conducive to successful union.
7. Cicatricial compression may be anticipated and the nerve placed out of harm's way.
8. Asepsis in primary, and antiseptic and asepsis in secondary nerve suture should be the practice of to-day. Antiseptics have an irritative and destructive effect

beneath the integument, cause inflammation and render drainage necessary.

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PATHOLOGICAL CONDITIONS FOUND IN MEAT INSPECTION.*

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The more common and important pathological conditions found in meat inspection are no doubt subjects of considerable interest to the members of this Association. These conditions may affect the public health to a certain extent, and they are unquestionably worthy of careful study by the sanitarian as well as the pathologist.

The federal meat-inspection service having been in operation about nine years, has now reached a stage of development and an approach to uniformity of procedure which justifies the expectation that some thought may hereafter be given to the utilization for scientific purposes of its records and of some of the material which is found. While we have not in the past entirely neglected the collection and study of the pathological material, the imperative necessity of organization and of the investigation and control of the more

destructive animal plagues has prevented us from using this material to any great extent either for illustrative purposes or for scientific study.

The specimens which are exhibited here are nearly all in a fresh condition and have been preserved by freezing. They are only such as could be collected in a comparatively short time, but they are of special value as showing the natural appearance of the affected meat. To give some idea of the frequency or infrequency of disease in our meat-producing animals, I have taken from our reports some statistics covering the two fiscal years beginning July 1, 1897, and ending June 30, 1899. These statistics are especially valuable on account of the large number of carcasses inspected during that period, and refer entirely to the post-mortem examination.

During the two years mentioned, the number of cattle examined reached a total of 8,831,927. Of these cattle 19,454 entire carcasses and parts of 23,106 additional carcasses were condemned. This means that 22 carcasses in 10,000 were entirely condemned, and that 26 carcasses in 10,000 were partly condemned, making a total of 48 carcasses in 10,000 condemned in whole or in part. Of the 23,106 carcasses parts of which were condemned, 12,641 were affected by bruises or injuries; 7,120 by abscesses; 3,025 by localized actinomycosis; 268 by localized tuberculosis; 11 by tumors; 6 by hydatids and the remainder by circumscribed inflammation of various organs. Of the 19,454 carcasses which were wholly condemned 7015 were affected with tuberculosis; 5172 by actinomycosis; 2530 by anemia, emaciation, etc.; 2227 by bruises and injuries; 598 by septicemia; 384 by pneumonia; 268 by peritonitis; 222 by pyemia; 212 by icterus; 205 by abscesses; 166 by Texas fever; 95 by advanced pregnancy; 90 by enteritis; 44 by cancer; 42 by gangrene; 24 by metritis; 15 by recent parturition; 1 by anthrax, and the remainder—144—mostly by tumors and inflammations of the various organs.

The number of sheep inspected during this period reached 11,110,776. Of these sheep, 8394 carcasses, or 7.5 per 10,000 were wholly condemned and 650 carcasses, or 0.6 per 10,000, were condemned in part. Taking the carcasses of which only parts were condemned and 379, or more than one-half, were affected by bruises and injuries; 132 by abscesses; 91 by hydatids, 41 by the esophagostoma columbianum, the parasite causing the nodular disease of the intestines, 4 by scabies and 3 by tuberculosis. Of the 8394 entire carcasses of mutton condemned, 2345 were affected with anemia and emaciation; 1696 by bruises and injuries; 667 by tuberculosis and pseudo-tuberculosis; 550 by abscesses; 464 by pneumonia; 422 by uremia; 371 by septicemia; 370 by icterus; 256 by pyemia; 204 by pleurisy; 171 by ascites; 154 by scabies; 131 by advanced pregnancy; 118 by hydatids—echinococcus—and the remainder—375—mostly by inflammation of various organs, fever, recent parturition, parasites, tumors and cancer.

The number of hogs slaughtered under inspection during the same period was 44,841,779. Of these hogs 106,555 carcasses were wholly condemned, being about 24 per 10,000, and 58,491, or 13 per 10,000, were condemned in part. Of the carcasses only partially condemned 37,167 were affected by bruises or injuries; 7853 by tumors; 7338 by abscesses; 1971 by hydatids; 1683 by tuberculosis; 1313 by mammitis; 1119 by pleurisy and 47 by actinomycosis. Of the carcasses wholly condemned 85,904 were affected by hog cholera

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and swine plague; 4021 by tuberculosis; 2298 by icterus; 2065 by pyemia; 1847 by abscesses; 1709 by pneumonia; 1570 by advanced pregnancy; 1463 by septicemia; 1294 by bruises and injuries; 1099 by tumors; 1500 by inflammation of organs in the abdominal cavity; 536 by anemia and emaciation; 321 by recent parturition; 267 by fever; 113 by scabies; 43 by actinomycosis; 60 by cysticercus cellulosæ or measles of swine; 23 by hydatids; 9 by cancer. The remaining 313 were for the most part affected by skin diseases, gangrene and inflammation of various organs. There has not been included in this statement the condemnations for trichinæ infestation, since pork for the domestic markets is not examined microscopically.

The proportion of condemnations for the different varieties of animals per 10,000 slaughtered is shown by the following table:

	Cattle.	Sheep.	Swine.
Whole carcasses, per 10,000.....	22	7.5	24
Parts of carcasses, per 10,000.....	26	0.6	13
Total	48	8.1	37

In general terms it may be said that the proportion of condemnations with cattle and swine correspond quite closely, while with sheep it drops almost to one-fifth of the figures for swine and one-sixth of those for cattle. The relatively large number of condemnations with cattle is somewhat surprising since they are generally considered the most hardy and healthy of our domesticated animals. An examination of the causes of condemnation shows, however, that more than half of the parts of carcasses rejected were affected by injuries received in shipment, while almost one-third were condemned for abscesses, many of which no doubt were also due to mechanical injuries. That is, cattle, on account of their size, weight and combative disposition are particularly liable to injuries which may require the removal of a part of the carcass. Making allowance for such injuries, the condemnations with cattle will be no greater than with swine. The small proportion of condemnations with sheep is remarkable, particularly when we consider the delicacy of their constitution and their feeble powers of resistance to unfavorable conditions:

When we examine into the causes of condemnations with cattle we are impressed by the relative number due to actinomycosis and tuberculosis. Of the whole carcasses condemned, 26 per cent. were affected with actinomycosis and 36 per cent. with tuberculosis. Of the parts of carcasses condemned, 13 per cent. were affected with actinomycosis and 1 per cent. with tuberculosis. Nevertheless, there is a surprisingly small proportion of the beef-producing cattle, as they come to our large abattoirs, which are affected with these diseases. Taking the total condemnations of whole carcasses and parts of carcasses for tuberculosis, we find but 8.1 per 10,000 animals; and in the same manner, with actinomycosis we find 9.2 per 10,000 animals. Actinomycosis, also, affects hogs and sheep, but much more rarely than cattle. Thus with hogs, 43 whole carcasses and 47 parts of carcasses were condemned for this disease out of 44,841,779 carcasses inspected; that is something over two affected carcasses to a million. This does not give an accurate idea of the frequency of actinomycosis with hogs, however, as many of the tumors for which condemnations were made were undoubtedly actinomycotic growths. In sheep two whole carcasses were condemned for actinomycosis out of 11,110,776. Tuberculosis is one of the principal dis-

eases found in swine, though it is far less common than with cattle. Adding together the number of whole carcasses and parts of carcasses condemned we find that approximately 1.3 hogs per 10,000 are affected. Tuberculosis in sheep is a very rare disease. Our reports give tuberculosis and pseudo-tuberculosis together, the latter being much the more common. Including both, however, there are specified but 6 per 100,000 sheep inspected. It is quite probable that some of the abscesses reported were due to pseudo-tuberculosis.

Tuberculosis in cattle is generally a localized disease. It affects most frequently the bronchial and mediastinal lymph-glands and lungs, but very often the abdominal lymph-glands, liver or spleen are invaded. Sometimes it is generalized and tubercles are found widely distributed, affecting even the muscles and bones. Some statistics show the uterus involved in about 10 per cent. of the tuberculous cows and the udder in 1 or 2 per cent.

Our inspectors are instructed to condemn: 1, all carcasses affected with generalized tuberculosis; 2, all carcasses with extensive localized tuberculosis, and 3, all carcasses with localized tuberculosis that show signs of emaciation. This ruling is considerably more stringent than the European practice, which allows carcasses affected with localized tuberculosis to go on the market without regard to the extent of the lesions, except in case of marked emaciation. Even generalized tuberculosis is not always considered, in other countries, a sufficient cause for condemnation, and those carcasses in which the lesions are apparently confined to the organs of the body cavities, especially if the process of generalization has not been recent, are passed as fit for food.

The beef cattle which come to our large abattoirs are singularly free from tuberculosis, since only one animal in 1500 or 2000 is affected to an extent which causes the condemnation of any part of the carcass. Dairy cattle, however, are much more seriously affected, and from 5 to 10 per cent. may be found tuberculous. In European countries the tuberculosis of cattle is much more frequent than in the United States, the slaughterhouse statistics showing from 20 to 50 per cent. of all such animals to be affected.

There is a possibility of fetal infection in bovine tuberculosis, but such cases are quite rare. The congenital form of tuberculosis exists in probably less than 1 per cent. of the calves born of tuberculous mothers. The tuberculosis of calves arises from virulent milk used as food rather than from infection in utero. The specimens of tuberculous udders illustrate the appearance of the affected gland, and also the possibility of large quantities of virulent material finding its way into the milk. The milk should be considered dangerous in all cases in which the disease has invaded the udder, and it may also be infectious in advanced cases of tuberculosis although no lesions can be discovered in the udder.

There is not time on this occasion to discuss the transmission of bovine tuberculosis to man. I believe that such transmission occurs and that precautions should be taken to guard against it. The frequency with which tuberculosis is communicated from animals to man can only be determined by the long-continued, careful and concerted observation of physicians. The data which we now have is meager and much of it is unsatisfactory. It consists of accidental inoculations and of primary tuberculosis of the intestines or mesenteric glands. In the former case the origin of the lesion

is generally very clear; in the latter we can only infer that the bacilli were introduced with the food. When the death of a number of persons in the same institution—school, asylum—occurs from abdominal tuberculosis and the cows furnishing the milk are found to have their udders affected with the disease, and to be producing virulent milk, the evidence of transmission is about as strong as we can expect to obtain. Unfortunately, sufficient attention has not been given to such observations in this or in other countries, so far as I am aware. Careful post-mortem examinations of children which die in asylums and hospitals should in time furnish most valuable evidence.

As an example of what the speaker has in mind, he would refer to an article by Dr. George F. Still, M.A., M.D., M.R.C.P.¹ This communication gives the results of 769 consecutive autopsies on children, all being hospital patients. Of these, 269 presented lesions of tuberculosis. As far as could be ascertained, 53 were infected by way of the intestine, and 10 others were probably infected through this channel. That is, 63 out of 269, or 23.4 per cent., probably contracted the disease by infection taken with the food. There were 43 cases in which death occurred from some other cause than tuberculosis; and these cases were noted as furnishing almost indisputable evidence of the method of infection in each individual case, since the tuberculous disease had either been arrested in its early stages or had not yet progressed beyond the initial stage. With these cases the evidence as to primary focus of infection was as follows: Lung, 26; intestine, 16; ear, 1. That is, where the evidence was most clear, the infection was by the digestive tract in 37.2 per cent. of the cases. It is a pity that we have not enough evidence of this character from the principal countries to enable us to form an intelligent opinion as to the relation, if any, which exists between the frequency of tuberculosis in the food-producing animals, and that of abdominal tuberculosis in mankind.

Although tuberculosis is less common in swine than in cattle it has a greater tendency to generalization and affected carcasses need to be very carefully scrutinized before they are passed as fit for food.

The specimens showing the tuberculous lesions in cattle and hogs will be found most interesting, particularly those from the udder of the cow and those illustrating the generalized form of the disease in swine.

The pseudo-tuberculosis of sheep is a very interesting disease, generally found among animals which have originated in the southwestern section of the United States, from Texas to California inclusive. It is generally observed in mature animals, though it is occasionally found in lambs. The lymphatic glands, lungs and liver are the parts oftenest affected. One or more of the prescapular, inguinal, sublumbar, mediastinal or bronchial glands may be found enlarged and on pressure gives a sensation such as would be expected from a thick-walled sac containing semi-fluid material. On section the contents are found to be yellowish green and caseous, while the capsule is grayish-white, fibrous and firm. Sometimes the caseous substance closely resembles the contents of softened tubercles, but in older lesions it has a greater consistency, finally becoming dry and mealy. As a rule, these lesions do not present evidence of calcification. The lesions in the lungs, liver and other organs have a similar appearance. They are well defined and surrounded by a wall of fibrous tissue.

Microscopic examination of cover-glass preparations made from the caseous material and stained by Gram's method demonstrates the presence of a small, ovoid bacillus. It develops on agar in the course of forty-eight hours as an irregular, whitish colony, with crenated border and papillated center. In bouillon turbidity occurs in thirty-six hours and in forty-eight hours a heavy, white granular precipitate forms at the bottom of the tube.

Intravenous inoculations of rabbits and guinea-pigs cause death in six to ten days with cheesy foci of varying size in the lungs, liver and spleen. Subcutaneous inoculations cause death in these animals in twenty-five to thirty days, with caseous degeneration of the tissues near the point of inoculation and lesions of the neighboring lymphatics. Feeding experiments with these small animals produce fatal results in eight to ten weeks, the lesions being identical with those caused by intravenous inoculation, except that the lymphatic glands of the head and throat are more frequently involved. Feeding experiments with sheep have given negative results. Intravenous inoculation of sheep with material from the caseous lymphatic glands of diseased animals have produced in the course of eight weeks only small caseous foci, the size of a hazelnut, in the lungs.

Another interesting disease, of which specimens are shown, is the nodular disease of the sheep's intestine. These nodules, which have often been regarded as of tubercular nature, are really due to the irritation caused by the immature form of an intestinal worm—the *esophagostoma columbianum*. This is a very common disease and apparently only affects the sheep's health when the nodules are so numerous as to interfere with the assimilation of the food. In some parts of the country the *esophagostoma* is a great pest and multiplies so rapidly that it is practically impossible to keep sheep successfully in large flocks.

The frequency with which hogs are found affected with cholera and swine plague is indicated by the fact that of 106,555 carcasses condemned, 85,904, or 80.7 per cent., were rejected for this cause. It is therefore important that inspectors should be familiar with the appearances of meat affected with this disease.

Your attention is invited to the lesions of actinomycosis in the jaw, tongue, liver, lungs and udder. The actinomycotic process is most frequently seen in this country affecting the maxillary bones, where it causes a large, hard suppurating tumor which disfigures the animal and gives it a very unprepossessing appearance. The tongue is often affected, becoming enlarged, hard and filled with nodules containing caseous material. Actinomycotic tumors may be found in the pharynx, larynx and esophagus. Lesions resembling those of tuberculosis are found in the lungs, liver and peritoneum. In general, it may be said that the actinomycotic lesion develops either with a tubercular appearance, or as a soft, moist, reddish tumor, or, finally, as a hard fibrous tumor. There is a tendency to disintegration and suppuration and sometimes the lesion consists simply of an abscess. The presence of the actinomyces tufts constitutes a reliable means of diagnosis.

The repulsive appearance of animals affected with actinomycosis of the head has inclined some sanitarians to give undue attention to this disease to the neglect of others having a greater effect on the flesh and that are more dangerous to the consumer. As this disease is probably not transmitted from animals to man the car-

¹ British Med. Jour., Aug. 19, 1899, p. 455.

cases are only condemned when there is emaciation or when the lesions are so large, active or disseminated as to affect the system at large.

Perhaps I should explain, that while in some countries, possibly in most countries, the meat inspectors condemn only such meat as they believe to be clearly injurious to consumers, we go somewhat farther in this country and condemn much meat which is not actually injurious, but which for various reasons is repugnant. In this class may be placed the carcasses of animals advanced in pregnancy, or those which have recently given birth to their young; the unborn fetus and the very young calf or lamb; the carcasses of animals suffering from pneumonia, pleurisy or some other non-infectious disease; the greater part of the actinomyotic carcasses and of those affected with extensive though localized tuberculosis. On the same principle we destroyed the carcasses of all cattle affected with contagious pleuropneumonia when we were engaged in the work of eradicating that disease, although it had been proved by European experience that the flesh of these animals might be consumed with impunity.

Turning now to the animal parasites which are encountered on the slaughtering floor, it may be observed that the subject of meat inspection for these organisms bears both a direct and an indirect relation to public health, for we find parasites, some of which are transmissible directly to man through the meat eaten as food, while others are transmissible indirectly, first passing a stage of their life in some other host. Among those which are transmissible directly to man, your attention is especially invited to the larval stages of tape-worms. *Cysticercus bovis* occurs in cattle and when eaten by man gives rise to the common tape-worm found in this country, *tænia saginata* by name. The specimen exhibited is a cross-section through the tongue of a calf, and these bladder-like structures more or less resembling particles of fat represent the larval worm. This particular tape-worm is not an especially dangerous parasite. It may bring about digestive troubles, and it is occasionally very difficult to expel it, but, as a rule, we may say that the parasite is only of temporary importance, its effects passing off when the worm is expelled. With this specimen, the matter is entirely different. This is the so-called "measle tape-worm," *tænia solium*, and is contracted by swallowing the larval bladder worm, *cysticercus cellulosæ* by name, which occurs in pork. Owing to the fact that Americans are in the habit of cooking or curing pork quite thoroughly before consuming it, the larval stage is usually killed, hence the adult parasite *tænia solium* in man is rather infrequent in this country. It will, however, be found among Germans and others who are in the habit of eating raw or rare pork. Sometimes, perhaps, physicians do not attempt to distinguish between cases of infection among their patients by the two worms just mentioned. The fact should not be lost sight of, however, that the *tænia solium* is a very much more dangerous parasite than *tænia saginata*, for if a patient soils his hands with the microscopic eggs during defecation or if he has reverse peristalsis of the intestine strong enough to carry one or more segments of the tape-worm into the stomach, he infects himself with the larval stage. In this case the embryos escape from the segments into the stomach and wander to various parts of the body, more especially to the muscles, the eyes and the brain. If one of the larvæ develops in the eye, more or less serious con-

ditions may result, while if they develop in the brain, they may lead to serious complications, according to the part of the brain in which they grow, and may finally result in death. Again, it may not be amiss to remind physicians that, in treating for tape-worms, they constantly stand in danger of infecting themselves with the larval stage, if they handle the *tænia solium*, a danger which does not exist in connection with *tænia saginata*. The existence of these two parasites in our American cattle and hogs, leads me to suggest that the practicing physician has a duty to perform in seeing that all tape-worms passed by his patients, are totally destroyed, unless preserved for scientific work. It too often happens that the patient is not properly instructed in this matter and passes the worm in some place where the eggs are scattered so that they afterward infect cattle and hogs.

The meat inspection in Germany has resulted in decreasing the frequency of tape-worm disease in man, as well as the infection with the larval stage of *cysticercus cellulosæ*. We have no exact statistics on this subject for the United States, but it would appear that the federal meat inspection system must necessarily contribute its share to the decrease of tape-worm disease. If physicians will do their part in burning the tape-worms passed by their patients, there is no reason why we should not gradually eradicate these two parasites from the country.

Another parasite transmissible directly to man by means of the meat, is the well-known *trichina spiralis*, the cause of the disease trichinosis. Fortunately, our curing and culinary methods are a great protection against infection with this worm. We do not make an inspection with a view of excluding this parasite from the pork which is consumed in this country. It would cost us nearly three million dollars per annum to accomplish this, and the statistics of Germany show beyond a question that a microscopic examination is not of such great value as is generally supposed. The Bureau of Animal Industry has recently compiled over fourteen thousand cases of trichinosis in Germany from 1860 till 1898, inclusive, and from our compilation it results that the general mortality of the disease is 5.6 per cent. Of over six thousand cases which occurred during the years 1881 till 1898, inclusive, about 51 per cent. of all the cases were due to faults in the microscopic inspection, the vast majority of these occurring from meat which had been inspected and passed as free from *trichinæ*. One is scarcely warranted in recommending that this Government expend three million dollars per annum for the general introduction of a sanitary inspection which the German statistics prove to be so uncertain, an inspection which is calculated to raise a false sense of security among our people, and which might tend to increase the dangerous custom of eating raw or rare pork. Trichinosis may be prevented much more effectually by educating the public to the use of thoroughly cured pork and to the idea that when it is not thoroughly cured, it should, at least, be thoroughly cooked.

Finally, I invite your special attention to an animal parasite which is apparently on the increase in this country. I refer to the *echinococcus*, the cause of the hydatid disease. This bladder-worm may be found in almost any part of the body of the meat-producing animals, and especially in the lungs and liver of cattle, sheep and swine. You will pardon me, I trust, for recalling some points in its life history which are no doubt familiar to you. If a man were to eat an affected organ,

it would do him no harm, for the parasite is not directly transmissible from these animals to man. If, however, the hydatid worm is fed to a dog, each separate head of the cyst, and there may be thousands in a single cyst, develops into a tape-worm. It is probably the smallest tape-worm known, having very few segments, and only the last segment is gravid with eggs. The dog scatters the eggs of this tape-worm broadcast and the domesticated animals become infected with it. Mankind may also become infected with this parasite by a too close intimacy with dogs. In Iceland where men and dogs live during the long months of winter in the same huts and without any idea of sanitary precautions, it is said that one person out of 43 is affected with the echinococcus disease. In some parts of Germany the disease is also very frequent. Ostertag gives a table from which it appears that at Rostock out of 1026 post-mortems on man 25 cases were found, or 2.43 per cent.; at Breslau out of 1360 post-mortems there were 20 cases, or 1.47 per cent.; at Berlin out of 4770 post-mortems there were 33 cases or 0.76 per cent. It is also alleged to be common in Siberia, India and Australia. The disease can only be controlled by careful meat inspection and the destruction of all hydatids that are found. Unfortunately the local slaughter-houses of this country are not looked after so closely as they should be. It is often an easy matter for dogs to gain access to such premises and to become infected with this parasite and thus propagate the infection. To prevent this and other diseases there should be expert supervision over all slaughter-houses. Places for slaughtering should be reduced in number so that all the butchers of a town or village would slaughter at the same place and the premises where slaughtering is done should be under the surveillance of the local board of health. Offal feeding should be done away with in order to prevent the propagation of this class of parasites, and under no circumstances should a dog ever be allowed on the premises.

I trust this brief and somewhat superficial review of the subject of meat inspection, and the exhibition of specimens, may serve to increase the interest of physicians in this branch of sanitary work. It is only through the examination of the pathological specimens actually found by the meat inspectors that we are able to appreciate the importance of having experienced and educated men on guard to withdraw carcasses so affected from the meat-supply of the country. The great mass of our citizens have no conception either of the diseases found among animals at the abattoirs, or of the enormous amount of work which our government is doing to protect them from diseased animal products.

No public work, however, can long be sustained or carried to the highest degree of efficiency unless the people of the country understand its objects and value and become interested in it. This being true as a general proposition, we can hardly expect the meat-inspection service, interfering as it must more or less with some of the wealthiest and most powerful industrial organizations in the world, to be conducted with vigor and a rigid adherence to correct principles, unless there is a popular appreciation of the value of the work to every consumer of meats. This service must appeal first of all to the physician, who, being familiar with pathological appearances, can by inspecting these specimens judge of their seriousness and their influence on the public health.

NON-ALCOHOLIC INSANITY is decreasing in Scotland, while alcoholic insanity is increasing, according to the past year's records of the Edinburgh Asylum for the Insane.

THE TREATMENT OF PROLAPSE OF THE RECTUM.*

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There is perhaps no pathologic condition which affects the rectum, that gives so much concern to the surgeon, as a serious prolapse. It is not to be understood that reference is had to the prolapse that occurs in infancy or to the milder forms met with in adult life. I have yet to see a prolapse of the rectum, incident to young life, that has not readily yielded to the following simple plan of treatment, viz.: Administration of a gentle purgative and, when it acts, the protruded gut is washed with cold water and returned. Then the physician in attendance straps together the two buttocks, bringing them in close apposition by means of adhesive plaster. This is allowed to remain on for four or five days, and the little patient is kept in bed and permitted to have only liquid nourishment. At the end of this time the adhesive strips are removed and the bowels allowed to move in response to a dose of castor-oil and an enema of cold water. The child should be allowed to have its action from the bowels while lying on the back. The adhesive plaster strips are then reapplied and the child put to bed for another five days—the purgative is again given, when it will be observed that the gut will no longer protrude if the proper attention is given the position of the patient during the action of defecation, which should be either in the erect one or reclining upon its back. The application of fuming nitric acid or other caustics should be deprecated in all such cases.

LINEAR CAUTERIZATION.

Linear cauterization is recommended by some, notably Van Buren, in his most excellent work on "Diseases of the Rectum." It was advised by him to use the actual cautery-iron in most all cases of prolapse of the rectum. The truth is that the remedy is too severe to use in simple cases, and is of no benefit in the graver ones. Its application would often result in hemorrhage if the iron is applied sufficiently hot to cause a slough, and unless a slough does occur, no benefit is derived from this mode of treatment.

AMPUTATION.

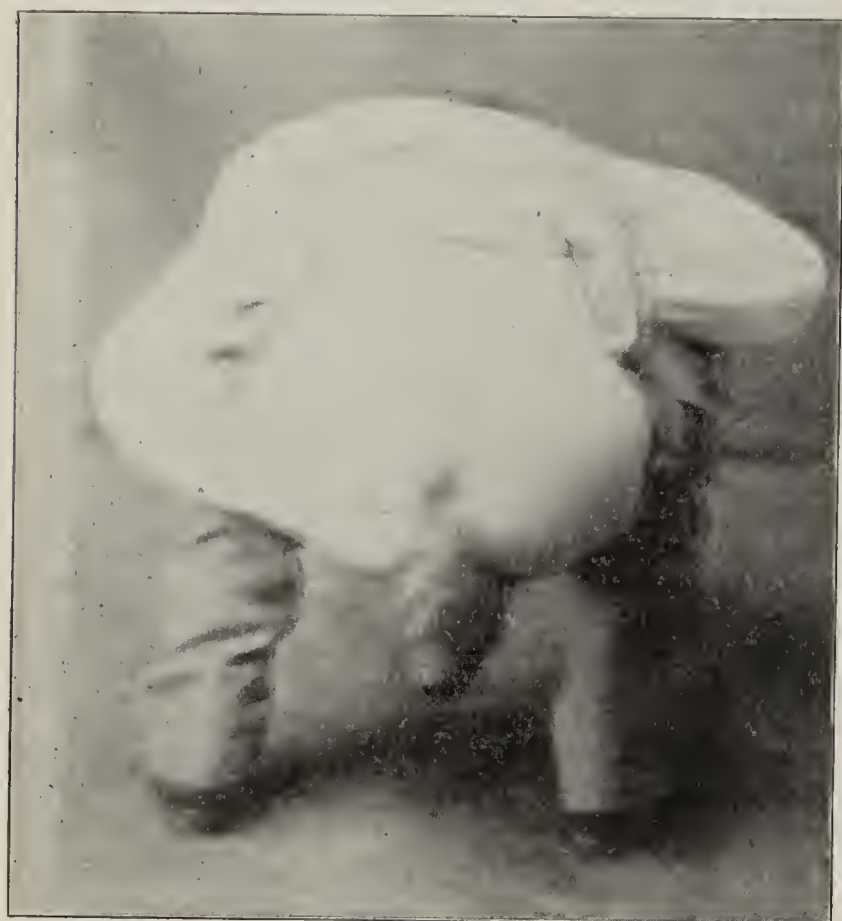
The former custom of cutting out an elliptical piece of the gut and drawing it together by sutures is so unsatisfactory in its results that it will not be discussed here. Amputation of the "prolapse" is, however, an operation advocated by a good many and should receive careful consideration. We must remember that it is often a difficult matter to tell just what kind of a prolapse is being dealt with. A prolapse of mucons membrane alone can be amputated and tied off, just as hemorrhoids are treated. But to cut off a more serious prolapse, means the opening of or the wounding of the peritoneum with perhaps dangerous complications, not to speak of subsequent contraction as the result of the amputation. This phase of the subject has been carefully considered by modern operators, and I beg to call attention to a recent report of such a case by Dr. George Ryerson Fowler¹ of New York. He says:

In a case of large rectal prolapse recently under my care at the Brooklyn Hospital, the following method of carrying out the procedure of amputation of the prolapse proved to be comparatively easy of performance, and was followed by a most excellent result. The patient was a male in whom the

* Read before the Chicago Medical Society by invitation.
1. Med. News, Dec. 8, 1900.

mass protruded about five inches, and had been in existence for five years.

Analgesia was effected by means of spinal cocainization. The patient was placed in the combined lithotomy and Trendelenburg position. Being fully conscious, he was able to bear down forcibly and extrude the prolapse fully, thus doing away with the necessity for traction upon the latter. A row of fenestrated or ring-headed forceps (common artery clamps will answer, but do not hold so well) was placed just in front of the junction of the mucous membrane with the skin of the anus in such a manner as to pinch up a circular fold of the mucous membrane of the outer cylinder for the entire circumference of the gut. About half an inch in front of this again an incision was made, likewise for the entire circumference of the outer cylinder of the gut, this incision extending through the mucous membrane only. Its proximal edge was dissected back for a half-inch. Two clamps were now placed, one upon either side, at the point of the prolapse, or the place where the outer cylinder of the gut returns to form the inner cylinder. With the mass thus steadied and the two cylinders identified, the index finger of the left hand was passed up the inner cylinder, and with this as a guide the cylinder incision already made in the circumference of the outer cylinder was deepened to the extent of a half inch so as to include the remainder of the thickness of the latter and the inner cylinder



through its entire thickness to the finger inside the latter. A suture of catgut was now placed so as to include the entire thickness of the two cylinders where the half-inch opening was made, with the exception of the turned-back mucous membrane cuff at the anal mucocutaneous margin grasped at first by the fenestrated forceps. This step of the operation was repeated until the entire circumference of the cylinders was transversed, save that each subsequent suture was first applied and the incision extended afterward. Care was taken that each extension of the incision was carried no farther than the area previously secured by the suture. Throughout this portion of the operation a stream of warm borosalicylic (Thiersch) solution was kept playing upon the parts. When the posterior portion of the circumference was reached the mesenteric attachment of the gut was encountered. This was treated precisely as the anterior portion, no difficulty being encountered in securing the vessels of the mesentery in the suture. As the last suture was applied the final cut was made in front of it, completing the amputation of the prolapse. The dissected-back mucous membrane at the mucocutaneous margin, which up to this time had been held in the grasp of the forceps first applied, was now replaced and sutured in position over the first rows of sutures. Alcohol-boiled catgut was used as suture material throughout the entire operation. The patient suffered not the slightest pain during the entire operation, nor inconvenience either then or thereafter from the spinal cocainization, save slight nausea and mild headache.

An opium suppository was placed high up in the bowel, and the parts replaced. A light tampon of zinc oxid gauze was placed in position for forty-eight hours, after which it was removed and a castor-oil cathartic given, followed in three hours by a sweet-oil enema.

The advantage of this method consists: 1, in the use of the combined lithotomy and Trendelenburg position, in order to prevent the descent of the small intestines during the operation, and thus providing against injury to these during the suturing; 2, in turning back a cuff at the mucocutaneous margin for the purpose of preserving the normal conditions at the rectal outlet, and at the same time permitting the removal of all the relaxed and overstretched mucous and submucous structures at this point. This cuff also provides a covering for the sutured edges of the stump of the prolapse and diminishes opportunities for subsequent infection; 3, in the step-by-step application of, first, a suture and then an extension of the incision through both cylinders to correspond with the sutured area, in this manner avoiding exposure of the peritoneal cavity to infection.

It is not claimed that this operation possesses all of these advantages exclusively. Several of them are features of one or another operation. I do not remember, however, to have seen them all combined in one procedure before.



Whereas Dr. Fowler does not claim that the operation is an original one in all its details, it does possess unique features and was attended by a brilliant result. However, there are some formidable objections that could be urged against it, but the scope of this paper will not permit. I have for many years been interested in the study of this affection, and have tried many if not all the plans of treatment for its cure, and must confess to disappointment in them all as a rule. The matter of curing a formidable prolapse of the rectum in the adult is no simple matter, and simple means will not avail. It was after several complete failures that I determined to try an original plan—at least so far as it was known to me—viz., to open the abdomen and anchor the colon or flexure for the cure of a long-standing prolapse of the rectum. Before reporting this case I desire to mention one reported by Dr. Chas. P. Noble,² of Philadelphia, who says:

Marked prolapse and inversion of the rectum in adults is a condition which is well known for its intractable nature and for the difficulty of effecting a cure. It is not my purpose

2. Am. Gyn. and Obstet. Jour., December, 1900.

to discuss the etiology of the condition nor the treatment of the recent and more simple cases, which can often be cured by the removal of the cause, and careful attention to the regulation of the bowel movements. I desire to advocate a simple method of operation which promises well in the treatment of intractable cases, and to report two cases in which this operation has been performed. The operation which I would propose is to open the peritoneal cavity by an incision made through the left rectus muscle slightly below the promontory of the sacrum, to search for the sigmoid or for the rectum and to make traction upon it until it is inverted and until "the slack" has been taken up. The point at which the lower portion of the rectum will come in contact with the abdominal wall on slight tension should be determined, and this point attached to the abdominal wall by three or more fine silk sutures. The sutures should be passed so as to include a portion of the rectus muscle, and should pass under the anterior longitudinal band of the rectum. In this way the bowel can be firmly attached to the abdominal wall with the least danger of penetrating its lumen and with the greatest prospect of permanent attachment. The abdominal wall should then be closed by the tier method.

The history of the two cases is as follows:

Mrs. L., aged 35, primipara, consulted me March 21, 1899. She complained of backache and a feeling of discomfort about the rectum, which she attributed to piles. She stated that she had had piles for about five years and that these came down and gave her a great deal of annoyance. The general examination threw no light upon the local trouble. Her health was otherwise good. Her bowels were obstinately constipated. Upon examination the supposed piles proved to be inverted rectum. Because of the unsatisfactory results which are usually obtained from the various direct operations upon the protruded bowel, I determined to perform a proctorrhaphy, which was done two days later. She made a prompt recovery, and was discharged from the hospital March 25. Her physician has told me within a month that the operation has effected a permanent cure. She is perfectly well, with the exception that there is some tendency to constipation, for which it is necessary to administer a laxative.

Miss D., aged 19, consulted me March 13, 1900, complaining of a sense of weight or bearing down about the rectum and intense backache. During each bowel movement there is an inversion of the rectum. For some time she has had but little control over her sphincter muscle. The present trouble began three years ago, after an attack of constipation, for which she took a powerful cathartic. Her bowels are constipated, but otherwise there is nothing in the history bearing upon the local trouble. Upon examination the sphincter was found in a parietic condition. In the Sims' position or in the knee-elbow position it dilated under atmospheric pressure, so that the rectum filled with air. Examination with the proctoscope showed a relaxed rectum, which was otherwise normal. On April 16 proctorrhaphy was performed. The patient made a good recovery and was discharged about five weeks after the operation. She consulted me in November, seven months after the operation, and reported that she had no trouble with her rectum until within a few weeks, since which time there has been some tendency to eversion of the bowel at stool. She is still constipated and has not taken her laxatives regularly. Upon examination, the anus was found in normal condition, the bowel in situ and, so far as an examination could show, the operation was entirely successful. As against this we have the statement of the patient that there is a tendency to recurrence of the old trouble. It is my judgment that reasonable care in the administration of laxatives and the use of enemata, so as to avoid constipation and straining, will be sufficient to effect a permanent cure.

When I operated on the first case, March 23, 1899, I was under the impression that the operation was original with myself. I have since learned that it has been done by Dr. W. Jos. Hearn, of Philadelphia, in one case with good result. Probably the first surgeon to perform this operation was McLeod, of Calcutta (B. K. McLeod, F.R.C.S.E.: "A New Operation for Prolapse of the Rectum," *Lancet*, vol. ii, p. 117, 1890). The technique which he employed, however, would not be likely to appeal to most surgeons. He introduced his hand into the rectum, reduced the inversion, put the rectum on the stretch from below upward, and pressed the rectum against the abdominal wall, endeavoring to press the small bowels to one side so that the rectal wall would come in contact with the abdominal wall. Two acu-pressure pins were introduced through the abdominal wall and through the rectum, penetrating its lumen, so as to fasten the rectum to the abdominal wall. These pins were separated by an interval of three

inches, and they were so introduced that the rectum was made to take the course of running from below upward and from within outward. Having fixed the rectum to the abdominal wall, an incision was made between the pins down to, but not through, the parietal peritoneum. The hand was again introduced into the bowel as a guide, and fine sutures were introduced through the abdominal wall, and through the wall of the bowel, avoiding its mucous membrane, and then out through the opposite side of the wound. In this way the rectal wall was attached to the abdominal wall. The acu-pressure pins were removed after twenty-four hours. The patient made a fairly good recovery, the wound healing by first intention. The result was a cure.

It will be noticed that the cases reported by Dr. Noble were not types of prolapse even of the second degree, and in no way compare with the report of my case in severity of symptoms or extent of the affection.

On April 17, 1899, Mr. G. N. McL. was referred for operation, by his family physician. He gave the following statement of his case by request.

In February, 1865, while in camp and on line of duty at Fort Fisher, N. C., and on the marches through the state, I contracted a chronic diarrhea, which, with short intermissions, continued for many years, often confining me to bed. The prolapse commenced shortly after taking diarrhea and I was never entirely well of it afterward, but continued to get worse until, in 1875, when I quit all kinds of manual labor. From 1875 to 1885 I grew much worse, being much weaker and miserable. Diarrhea was bad by spells. From 1885 to 1895 diarrhea almost ceased, but the prolapse was much worse. From 1895 to 1899, diarrhea was less, prolapse much worse, though I was not confined to bed, but required a nurse most of the time. I was operated on April 17, 1899.

On examination it was found that the patient was suffering from an immense prolapse, in size about the measurement in circumference of a No. 7 Derby hat. (See photos.) It contained all the coats of the rectum, peritoneum, and in addition the bladder. In determining the method of operation, the fact of the presence of the bladder dissipated any idea of amputating the mass. When I made a statement of the formidable operation that might be required to effect a cure, he replied that life was a burden to him and that he would take any kind of a risk. After thorough preparation, he was placed under chloroform, and the bowel made to protrude to its fullest extent in order to examine it more fully. The thickness of its walls was truly amazing, and had the effect of making me doubt whether so heavy a mass could ever be held in place. An incision was made in the left inguinal region, extending upward about six inches. The hand of a competent assistant reduced the mass and was pushed with it up the rectum until the fingers could be felt in the sigmoid flexure by the operator. This procedure was found to be of wonderful assistance during the operation. The gut was now drawn taut and anchored to the abdominal muscular wall by a running suture of chromotized catgut for fully three inches. Simple anchoring by the interrupted suture would not have availed anything I am sure, in this case. The abdominal wound was closed. the patient put to bed, position on the back, with the foot of the bed elevated. He was kept in this position for two weeks, with watchful care. The bowels were moved on the fifth day by an aperient assisted by an enema. This was repeated in another five days. At the end of two weeks he was allowed to change position and recline on his side. The rectum was irrigated with a simple antiseptic solution every day. In the act of defecation, he was directed to always use the bed-pan during this time. At the expiration of a month his bowels moved on the commode without protrusion. I should state that after all the mass was pushed back, there was found to still protrude, mucous membrane about the

size of a case of well-formed internal hemorrhoids. This proved fortunate, for by its simple ligation, a strictured condition resulted which was of great service at the anal orifice. It can be quite understood that the sphincter muscles were so distended by this great mass as to be nearly unrecognizable and without power of control.

The question naturally suggested was whether the muscle would ever regain its power and, if so, to what extent? Also, would this wonderfully thickened gut ever be thinned to assume or approximate the normal. I am glad to report that both conditions were eventually brought about. About one year after the operation was done I examined him, in company with Dr. Geo. J. Cook of Indianapolis, and found good contractile power in the sphincter, and the gut thinned to nearly a normal condition. On June 25, about two months after the operation, the patient wrote: "I have been using the water-closet, and there is no indication of the bowel coming down." He has continued to improve ever since and gained much in flesh. This case has never been reported.

I conclude: 1. That in all cases of prolapse of the rectum of the second or third degree, colopexia is to be preferred to all other procedures. 2. That it is the least dangerous of any surgical procedure advised for prolapse. 3. That the uninterrupted suture should be used in preference to the interrupted, especially in cases when the mass is large or the walls of the gut much thickened.

Mr Carlyon,³ of London, says that he has only been able to find three cases of colopexia operations. He does not intimate for what degree of prolapse these were done. The operation referred to by me was done in April, 1899, and at that time I had never heard of its being done. Though, therefore, not original with me, I thought at the time that it was. No case that I have yet heard of compares in magnitude to this one, and I trust that by now reporting it, two years after the operation, the said report may prove of some benefit to those desiring to operate for so formidable a malady. In 1889, Jaennel fixed the colon to an artificial anus wound in the iliac region. Bryant found records of twenty-nine cases done by this method. In my opinion this procedure is not only unnecessary, but unjustifiable. Dr. Bovée, of Washington, reports an interesting case of colopexia done on a woman during an abdominal section after the ovaries and appendages had been removed.

In reporting this case I desire to thank my friend, Dr. Ap Morgan Vance for valuable assistance and suggestions.

SANITARY CONDITIONS OF PEKING.

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PEKING, CHINA.

The Chinese army has been driven from Peking, the Empress and her co-conspirators have fled, the order is cut for the punishment of the most guilty and the sacred city, we are told, is well patrolled by the foreign soldiers. All true, but those who have lived in Peking know that within a year, unless certain measures are taken, officers and men will discover a deadlier foe than the Empress Dowager's imperial troops, and the death-roll will be longer than it was after the taking of Fort Taku and Tien-Tsin.

Population.—The population of Peking is unknown, perhaps not being so great now as before the recent uprising, but still close to the one million mark. Some writers have greatly overestimated the number of inhabitants in this famous old city. Peking lies near the fortieth degree north latitude.

3. The Lancet, December 1899.

ninety miles from the sea and one hundred and twenty feet above sea-level. It is surrounded to the north and west with mountainous hills, to the south lies the great plain of central China; the latter is sandy but well watered.

Climate.—The climate is similar to that of New York, but much more trying, especially during the spring and summer. From November until March the weather is cold, but March is windy there as elsewhere, and sand storms blow over the city; these are not only disagreeable, but dangerous. In April the temperature rises and in May reaches 90 to 95 degrees F. During May and June thunderstorms and rains are to be expected, and these are frequently the forerunners of an almost continual downpour which lasts from July to the



Street Sprinkler.

early part of September. The annual rainfall¹ varies from 46 to 76 inches, but after the rainy season is over, with the exception of some very dusty days, the fall weather is delightful.

Water Supply.—A study of the sanitary conditions of Peking reveals much of a threatening nature and, if it teaches nothing new, throws indisputable proof in favor of our present ideas concerning the causation of disease. The city is without water-works, and has no sewerage system worthy of the name. The Chinaman believes in open sewers, claiming that it is better to leave the foul gases free than to pen them beneath the ground. But whether this is based on some scien-



A Cesspool on one of the Main Streets.

tific theory not yet explained, or ignorance of refuse disposal, I can not say, but am inclined to attribute it to ignorance. The water-supply is from wells dug along the sides of the streets; a heavy stone covers the well's mouth and the water is drawn in wooden buckets by rope and pulley; the presence of an open sewer ten feet away, or even running by the mouth of the well, in no way seems to militate against the site on which to sink a well. How often these wells are cleaned out it is impossible to learn, but it may be safely affirmed that they are cleaned only when enough dirt gathers in the bottom to interfere with the filling of the well. The water itself is

1. There is no official record. This is the average for a number of years past, taken by different observers.

clear and of two varieties, known as "sweet" and "bitter" water. The latter is due to an excess of alkali containing 22 per cent. of hardness, as shown by examination. The use of this water means a great deal of kidney trouble. In one year, in a Peking hospital, I have seen more Bright's disease and stone in the bladder than in almost three years spent in connection with much larger hospitals in the United States. Fortunately the Chinese have learned by experience that "raw" water is not good for them, and consequently drink it boiled and colored with a very weak tea.

Street Sprinkling.—The street, or traffic way, which is simply an unpaved mud road, is the common receptacle for rubbish, offal and excrement. It is sprinkled—when sprinkled at all—by hand. For this purpose no water can be too filthy. In fact, the cesspool by the roadside is the common source of sprinkling water.

House Sanitation.—Here we find no alleys as in American cities; each residence is surrounded by a wall, and one compound may contain numerous houses. All the refuse of bed-chamber and kitchen finds its disposal upon the street or into an open sewer, where it decays immediately below the surface of the ground. It must be said, however, that the Chinese kitchen has practically no waste compared with the American. A potato paring is too valuable an article of food to be lightly thrown away.

Every day the manure gatherer may be seen, with a large keg suspended from his shoulders, trudging along the street gathering up the deposit. Here is to be found one of the most disgusting and unsanitary systems in the world; this excrement from man as well as beast is carried to different quarters of the city and prepared for agricultural purposes. From



A Street Well.

the sanitarian's point of view this does not need to be dwelt upon; such places are the charnal houses of disease, seething cauldrons disseminating poisonous vapors to be wafted over the city.

Abattoirs.—In front of meat shops the animals are killed upon the earth thresholds. In fact, on almost any walk along the street the whole process of the abattoir may be seen.

Former Sanitary Efforts.—Here we have an open violation of the tripod of modern sanitary science, sewerage, water-supply and the disposal of refuse. At one time in the history of the city an effort was made to build large sewers, and the masonry of those they built is creditable; but the system was not general, and that which they did build has fallen into decay, there being little or no effort to keep it in repair. Here and there these old sewers serve a good purpose, but for the most part the refuse and waste water stand reeking in them and in the cess-pools until the stagnant matter is again thrown upon the street by the street sprinkler, to again disseminate its poison into the air.

Peking's Scavengers.—Peking is pre-eminently a city of dogs—large, savage-looking mongrels, but of cowardly spirit. These animals, while the vilest creatures ever seen, eat anything short of mortar and brick, and contribute greatly to the disposal of refuse; while their presence is a menace to public health, they are of positive usefulness in a city such as the Chinese capital. With these must be mentioned the black hogs of China, which run the city streets unmolested; they are the city scavengers, but add a great element of danger to the health of such a densely populated district.

The Houses.—The dwelling-houses are devoid of anything like a cellar, the floor being laid upon the ground and made

of porous brick. Among the poorer classes, the floor is the ground itself. These permit of no circulating medium beneath their apartments, and the gases arising from the earth find ready access to the dwellings. Second story residences are unknown, except those built by foreigners. The windows of the Chinese house are made of lattice-work covered with thin sheets of paper. The rooms are heated, when heated at all, by very small earthenware stoves, in which they burn coal balls made from anthracite coal dust and mud. The rooms are often filled to a dangerous degree with coal gas; thousands of the Chinese die every year from asphyxiation, and it is in these houses with these accommodations that our troops have spent the long cold winter months in China.

Peking's Beggars.—Apart from all sanitary measures as a means of health preservation, nothing can take the place of bodily cleanliness. Beggars, ill-clad and filthy beyond description, cluster around the city gates and sit on every corner. A few years ago, a Chinese official states, in one night four hundred of them froze to death. This number has been greatly exaggerated, but the best Chinese authorities place it at the above figure. These beggars sleep in gateways, or wherever they find it convenient. Whatever may be said of them from the philanthropic point of view, where their number is legion, they are disseminators of disease, and must be placed among the evils to be removed in placing the city on a sanitary basis.

Disposal of Dead.—In the disposition of the dead Peking has reached the limit of human abominations. If the deceased be wealthy the corpse is kept in the courtyard for weeks. When the day comes for interment the only bearers who can be found to carry the coffin are the beggars, and the wealthier the family the more beggars they add to the procession. The most gruesome sight in connection with this subject is the method in vogue among the poor of disposing of their dead children. Too poverty stricken to provide a funeral, and holding the superstition that a child who dies before the age of 10 must have been inhabited by a demon, the parents or guardians wrap the body in a coarse straw mat and throw it into the street during the night. At daybreak the dead-cart, drawn by an ox, passes along and the driver gathers up these little cast-out infants and children. It not infrequently happens that an unwanted new-born baby still living is found, and it is taken with the rest and all are buried in a heap outside the city. The disease of which the child dies is a matter of no consequence, the manner of burial being the same. The ox cart is sometimes assisted by barrow men. A wheel-barrow with double baskets full of little dead smallpox patients was seen one day two years ago down near Legation street. The baskets were full to overflowing, with no covering over the dead, on whose disfigured faces the hot sun was shining.

Means of Conveyance.—The common mode of conveyance in Peking is a mule cart large enough for one passenger to get into and sit upon a padded cotton seat or a fur rug on the cart floor. In them is often to be seen an individual broken out with the smallpox, and the next occupant may have something little better. Cart stands are numerous, and it is safe to say that no carter ever refuses a passenger because of any known disease. No sanitary view of this capital would be complete if it did not consider the influence of these conveyances on the public health.

The itinerant barber is another prolific spreader of diseases peculiar to his trade. The terrific dust storms no doubt carry with them much infection from point to point. A physician who has practiced here for many years has said that the inhabitants of Peking who survive live only by the incessant warfare that goes on between the bacteria themselves, and the ever-faithful phagocyte endeavoring to save us from the disease germs. But here the former is waging a war against terrible odds.

An Object-lesson.—An American bishop who visited Peking recently stated that, on entering the city, he distinguished seventy-two distinct odors. Peking is an appalling object-lesson to those who think too much money is expended in the support of our American boards of health. Any physician who reads this paper can tell, given such conditions, what will be the diseases prevalent. They are such as are to be expected from these surroundings. Cholera is a frequent visitor, cholerae lives there, smallpox is not epidemic but resident, diphtheria is a dreaded foe, typhoid and typhus fevers with malignant malaria and dysentery are always present, and consumption slays its victims by thousands every year. There is also a multitude of skin diseases. In short, every germ-produced disease, and the non-microbie as well, capable of flourishing in this latitude, find their home in this Chinese metropolis. The infant mortality is enormous.

If the powers intend to hold Peking for any length of time it would be wise to add to that misty antiquity and ancient culture which the present Chinese minister, Mr. Wu Ting Fang, dwells upon so persistently, a chapter on sanitation and approximate cleanliness of people and city; at the same time insure to a greater degree the health of our troops stationed there in the interest of a better civilization.

One of the conditions that ought to be required of China before admitting her to the society of enlightened nations is that she shall make her capital less dangerous as a place of residence by ridding it of the insanitary conditions that give rise to the enormous prevalence of those diseases that are the product of filth—a remnant of unenlightened ages. Sanitary science applied to Peking would make it as healthy a city as New York or Chicago.

THYROID TISSUE IN THE LARYNX AND TRACHEA.*

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Up to the present time nine cases of thyroid tissue growing within the larynx and trachea have been reported. The histories of these have been collected by Baurowicz, who reports one of his own together with these, in Fränkel's Archives of Laryngology and Rhinology, volume viii, 1898. I have been unable to find a description of the affection since the publication of Baurowicz's article, so think that I can claim that the case of my own that I shall describe is the tenth recorded of this rare affection. Up to the present time the cases reported are 3 by Paul Bruns, 2 by Heise from Bruns' clinic, and 1 each by Ziemssen, Paltauf, Baurowicz and Roth. The principal symptom caused by thyroid tissue in the larynx and trachea is dyspnea. This may have lasted for years, months or weeks before the patient is seen, and generally there is a history of rapidly increasing difficulty of breathing for the last weeks before aid is sought. In a large proportion of the patients tracheotomy is needed to save life. The voice generally does not become hoarse or lose its clearness, as the growth does not ordinarily extend above the lower larynx high enough to interfere with the vibrations and mobility of the vocal cords. An exception to this was in the case of Baurowicz, where one cord was found immobile. Enlargement of the thyroid gland is not a necessary accompaniment of the disorder, but a goiter is quite often present. The thyroid tissue in the larynx and trachea does not cause catarrhal symptoms or irritation, and the dyspnea alone makes us aware of its presence. Where the narrowing of the lumen of the larynx or trachea is sufficient, stenotic breathing becomes noticeable. The ages of the patients vary between 15 and 30 years. The thyroid tissue forms a swelling of variable extent, at times a single tumor being found the size of a pea or bean, other cases presenting diffuse outgrowths occupying a great part of the lower larynx and extending into the trachea.

The most constant situation of the neoplastic swelling is the interior of the cricoid ring. From here the growth is found prolonged into the trachea to a variable distance, the extreme so far found being the fourth tracheal ring. The mucous membrane over the outgrowth is normal in appearance and usually smooth, but in some parts it may present an irregular surface. The tumor has a broad base which merges insensibly into its surroundings. No case is recorded where it was pedunculated. In some cases the thyroid tissue takes the

form of a diffused swelling rather than of a definite tumor. This was notably the condition in my own case. As an exceptional site, the location of the growth in the trachea only, without involvement of the larynx, may be mentioned. In all but two cases the tumor was seated on the posterior and lateral wall of the lower larynx and trachea. In one it occupied the anterior wall of the trachea just under the thyroid isthmus. The new-formed tissue is nearly always extensive enough to cause serious dyspnea, great enough at times to necessitate immediate tracheotomy.

The laryngoscopic appearances of the growth usually show a smooth prominence below the vocal cords, over which they move freely and to which they do not seem to be attached. The swelling occupies the hypoglottic space on one or both sides or posteriorly, and in some instances may be seen extending down the trachea in a shadowy way, as the growth in the larynx permits but little light to pass below it. The swelling has a normal color and shows no evidence of inflammatory conditions.

ENTRANCE OF THYROID TISSUE INTO LARYNX AND TRACHEA.

How does the thyroid tissue enter the larynx and trachea? Up to the time of the report of Paltauf's case the accepted theory was that this thyroid tissue was due to aberration of the embryonic rudiments of the thyroid gland producing an accessory thyroid gland in the larynx, such as is rather often found at the base of the tongue. The postmortem examination of Paltauf's patient, however, showed that this theory was untenable. The moderately enlarged thyroid gland in his case was found firmly grown onto the cricoid cartilage and the first three tracheal rings so that dissection was needed to separate it. This differed from the normal conditions where the larynx and trachea are separated from the thyroid gland by a layer of areolar tissue. Microscopic examination showed that the deeper connective tissue of the submucosa, and the inner perichondrium clear to the cartilage, were infiltrated with the follicles of the thyroid gland. The space between the cricoid and first ring of the trachea, with a piece of the attached thyroid gland, showed direct connection between the inner and outer tumor. The thyroid tissue could be seen to grow into the external perichondrium of the trachea and through the interstitial spaces between the tracheal rings and in this way reach and intimately join the tumor in the larynx and trachea. The peripheral layer of follicles of the thyroid gland shows the most energetic proliferation normally, especially at puberty, and if the normal layer of fascia separating the thyroid gland from the larynx and trachea has been omitted in the development of the individual, the thyroid follicles are liable to invade the interstitial spaces between the cartilaginous rings and, by their infiltration, enter the lumen of the larynx and trachea. An actual perforation of the walls of these air-passages is not necessary and has so far not been found. This mode of direct invasion of the tracheal and laryngeal lumen is the one advanced by Paltauf and Baurowicz, and as it has also been accepted by Paul Bruns it seems the correct explanation of the morbid process. Bruns' latest case, in fact, was a strong confirmation of this view, as the thyroid isthmus was found firmly attached to the anterior wall of the trachea directly over the site of the tumor removed by laryngo-tracheotomy.

Prognosis.—The prognosis of the affection is good if the growth is removed by operation, as the new tissue shows no tendency to reform afterward and, as the

* Read before the Chicago Laryngological and Climatological Association, Nov. 15, 1900.

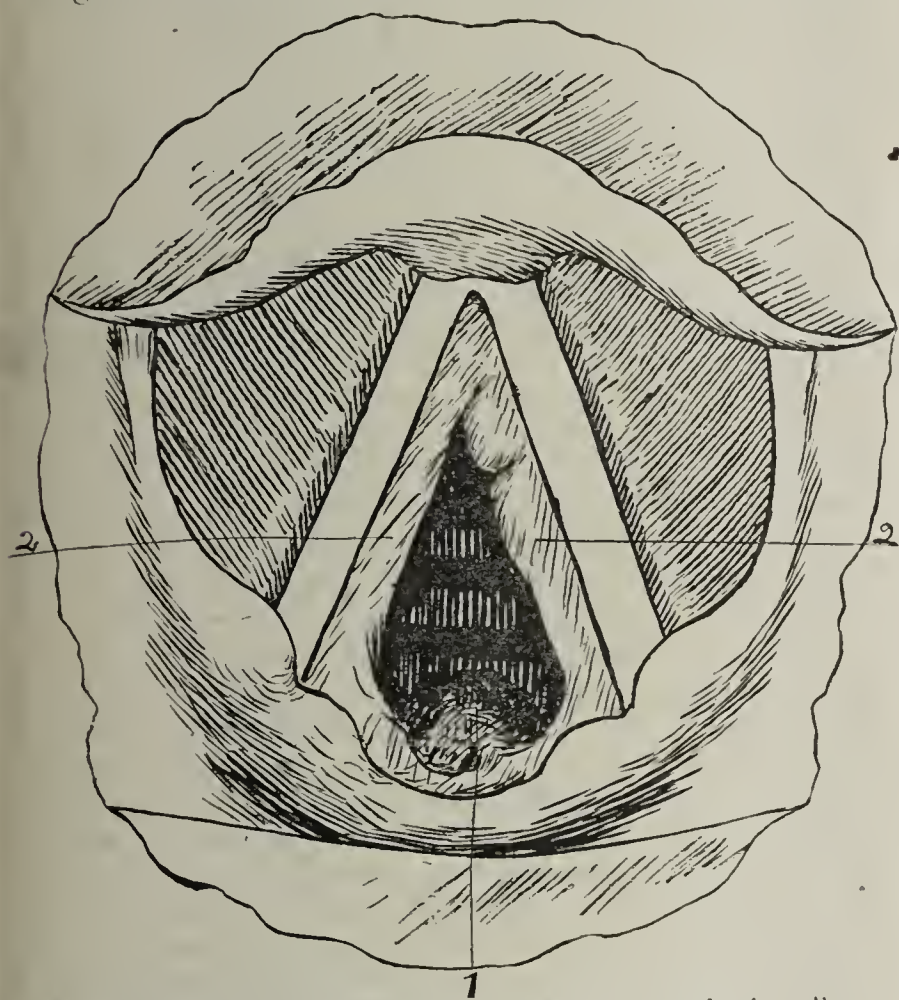
wound is a clean one and not one in inflamed tissue, there is little danger of complications following the operation.

Diagnosis.—The diagnosis presents great difficulties. Baurowicz thinks that fibroma, if of broad base, ecchondroma or adenoma might come into question. Though rare enough in the upper larynx, fibroma and adenoma scarcely occur in the subglottic space. One in this location, however, could only be diagnosed from thyroid tissue by the microscope. If it could be touched with a probe the hardness of ecchondroma would differentiate it, though portions of a thyroid tumor may be exceedingly firm. Cricoid perichondritis secondary to syphilitic, tubercular or typhoid ulceration presents an entirely different picture and can not come into question. Metastatic or primary idiopathic perichondritis of the cricoid cartilage might resemble thyroid tumor in appearance; the inflammatory symptoms and local tenderness accompanying these affections and the septic etiology in metastatic perichondritis ought to suffice to distinguish them. In my opinion the condition most likely

surface of the cords is also apt to show swelling and congestion, while the cords in thyroid growth are normal in appearance, almost always freely movable and not connected to the growth. Hoarseness is usually not present, while it is a not uncommon symptom in subglottic laryngitis. As a general rule the local appearances in subglottic laryngitis are those of a diffuse swelling in the hypoglottic space, while the appearance of intralaryngeal thyroid tissue is that of a broadly attached tumor in most cases. It can be seen, therefore, that the points of dissimilarity are not striking enough to permit a diagnosis in all cases without a microscopic examination.

Treatment.—The treatment of thyroid growth in the larynx or trachea usually requires laryngo-tracheotomy. The inaccessibility and firmness of the growth, together with its broad base, make endolaryngeal methods impracticable. If, as in my case, the patient refuses a cutting operation, relief may be afforded by removal of pieces of the tissue through the tracheotomy opening, or through the glottis if possible. After the cricoid cartilage and tracheal rings have been split as far down as the tracheotomy wound, the growth can be cut off from its base with the knife or scissors. Bleeding is not great, and after three weeks, as a rule, the wound will be found healed, without trouble. The growth can not be enucleated, as it really forms part of the tracheal or laryngeal wall, but has to be shaved off from its base.

Case.—The history of my case is as follows: The patient, a woman of 32, was first seen in December, 1897. She had had attacks of hoarseness every second or third winter since her childhood. Her voice was always a little hoarse. In the winter of 1897 she was very hoarse for some weeks, and for the first time noticed that this was accompanied by a sense of suffocation and wheezing in the windpipe. All of these symptoms left her during the summer. In December, 1897, the wheezing and feeling of choking returned, and it was so bad as to alarm her and make her fear to go to sleep. Two months later this sense of suffocation had lessened, but the stridor of laryngeal stenosis could be heard when the patient breathed a little harder than usual. Laryngoscopy showed the larynx normal above the subglottic region. The vocal cords looked natural and were freely movable. Just below the true cords one could see a thickening of mucous membrane forming a ledge which projected into the lumen of the larynx around its whole circumference, forming an irregular ring with a narrow central opening. Just below the vocal cords this ledge was most prominent, looking like a second pair of vocal cords below the true ones. The thickening, as could be seen, extended down the trachea for three or four rings, forming a prominent tumor projecting from the posterior wall and preventing vision farther down. Palpation showed almost complete absence of the thyroid gland in spite of the fact that the patient was very thin, had a long neck and palpation of its structures was therefore very distinct. The subsequent history of the patient was interesting and contained some exciting events. An attack of laryngo-tracheitis caused her so much distress on account of the accompanying swelling narrowing still more the small opening in the trachea she ordinarily had at her disposal for breathing, that she decided something must be done for her, but refused any cutting operation, so the measures taken had of necessity to be endolaryngeal ones. As I had used electrolysis in the larynx for the removal of papillomata, with success and no appreciable reaction or swelling, it seemed to me that it would offer a safe means for the removal of a portion of the obstructing swelling below the glottis. With the help of cocaine, the introduction of the negative pole in needle form into the prominence was quite easy. A current of 15 milliamperes was used for four minutes, with scarcely any pain. The next day there was no noticeable reaction, but on the second, subglottic swelling developed to such an extent that it became necessary to perform immediate tracheotomy. The



1. Prominence of thyroid tissue on posterior tracheal wall.
2. 2. Thyroid tissue in subglottic region.

to be confounded with subglottic thyroid growth is chronic subglottic laryngitis, or chorditis vocalis inferior, as it is also called. In fact, my first diagnosis of my own case was this, a diagnosis confirmed in a meeting of the Chicago Medical Society by all the laryngologists present. The points of similarity in subglottic laryngitis are the appearance of a smooth swelling in the subglottic region and a history of dyspnea with exacerbations which may have lasted a long time and which is often so great as to make tracheotomy at once necessary. The differences are the bilateral location of the swelling in subglottic laryngitis and its continuity with the vocal cords. Though the swelling in laryngeal or tracheal thyroid tumor is usually unilateral, my case shows that it can be diffuse and surround the subglottic space symmetrically, in a manner precisely like that of subglottic laryngitis. The tumefaction in subglottic laryngitis is seen to be a part of the lower portion of the vocal cord and to partake of its motions. The upper

swelling in the subglottic space subsided after about two weeks, though the result of the electrolysis was insignificant, but a small slough coming away. I had expected a better result as a similar current in the skin would have produced a large slough. A second attempt with the electrolytic needle did not add much to the result, though the lumen left in the larynx by the subsidence of the swelling was undoubtedly larger than before the operation. As the growth on the posterior wall of the trachea seemed responsible for the greater part of the dyspnea, I succeeded in getting my patient's consent to remove as much of this as I could through the tracheotomy wound. By means of the wire snare and a pair of Fränkel's forceps it was possible to take away the greater part of the intratracheal swelling, the most prominent part of which was situated at the second and third tracheal ring; this, when seen under the microscope, proved to be typical thyroid tissue. I repeatedly seized the swellings in the subglottic region with Scheinmann's cutting laryngeal forceps, from above, but the great firmness of the tissue made it impossible to remove even the smallest piece. After this the patient went about with her tracheotomy-tube, as her experience with suffocation made her feel unsafe without it, for though her breathing could be carried on quite well without it, she feared another attack of swelling and suffocation. She still refused operative measures from without, so I attempted to reduce the subglottic swelling with the galvanocautery, and, though I succeeded in introducing a cautery electrode into the growth from above, the result was infinitesimal. It is difficult to use instruments with accuracy in the subglottic region, and the necessity of avoiding injury to the vocal cords made it possible to burn only a very little at a time. The patient finally left me, improved but not daring to take out her tracheotomy-tube. I heard of her through others whom she consulted, and presume that perhaps by this time she has consented to a laryngo-tracheotomy, the only operative measure of value in this condition, as the thyroid tissue can only be removed by being dissected out.

I hope that my description will lead to the recognition of other cases of this kind which may be less rare than supposed. The fact that my patient had no appreciable thyroid gland in her neck leads to the supposition that a great part of it at least was represented by the extensive amount in her larynx and trachea, an amount greater than in most of the cases heretofore reported. Though in the other cases the thyroid tissue is described as forming a tumor, in mine its diffuseness made such a term inappropriate, it being rather a thick lining for the entire cricoid circumference and extending in the same manner down the back of the trachea. The only tumor-like formation was the prominence on the back of this that was removed.

In a recent article myxedema is described as following the removal of thyroid tissue at the base of the tongue, so it seems possible that the thyroid tissue in unusual situations may perhaps take the place of the normal gland. In regard to the power possessed by thyroid elements to penetrate and grow in other structures than the proper capsule of the thyroid gland, Dr. Christian Fenger, in a personal communication, mentioned a case in which the thyroid tissue had penetrated the lumen of the jugular vein. Dr. Fenger regards the microscopic specimens obtained from my case as typical thyroid tissue.

My experience with electrolysis in the subglottic region would make me hesitate to use it there again unless the patient had had a previous tracheotomy. A bipolar electrode, if it could be introduced, would doubtless be better than the monopolar one employed by me. Electrolysis would be an excellent method to employ for ecchondroma in this difficult region. On account of its loose areolar tissue the hypoglottic region is much more apt to react after irritation by inflammatory swelling

than the larynx proper. The connective tissue, in the specimens presented, forms a much denser network than that of the normal thyroid gland, a fact which accounts for the great firmness presented by the growth.
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OPEN TREATMENT OF SUPPURATION OF THE KNEE-JOINT.*

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In the January, 1895, issue of the *Annals of Surgery*, Dr. C. H. Mayo reported a case of acute suppuration of the knee-joint, which he had treated July 30, 1894, by a transverse incision across the front of the joint in the same manner as for excision. This enables the surgeon to get at every part of the joint, converting its many recesses into a simple open cavity. The result of the operation is astonishing. In a few hours a patient in whom an amputation seemed to be the only hope is on the road to recovery; such a procedure gives all the benefits of the mutilating operation without shock or injury to important structures. It must be understood that this method of treatment is for the more advanced cases after the usual measures have been exhausted and amputation appears to be necessary. In most instances the capsule has been perforated and the soft parts above and below the joint are infiltrated with septic material. All of the important structures are in the popliteal space, and a transverse incision through the patella enables the surgeon to pack the joint with gauze, and treat it as an open wound. By going through the patella, secondary sutures are given a firm support after the infection is under control. The abscesses, if they exist in the soft parts, are freely opened and drained. The margins of the wound granulate rapidly and in from two to three weeks, when the discharge has practically ceased, the cut patella is reunited, the excess of granulations removed and the soft parts allowed to granulate.

Surprising to relate, not all of the cases are followed by ankylosis. If the cartilage of the joint is not eroded considerable motion may be ultimately obtained, although this is a secondary consideration, as the condition is one which threatens life or limb. The reason ankylosis does not always follow is because the adhesions are developed in the same manner as a pannus projects over the cornea and, unless the cartilage is completely covered by the advancing granulation, the portion which remains smooth permits of motion. If erosion of the cartilage has taken place ankylosis will necessarily result no matter what method of treatment is followed.

For the milder cases in which the capsule is intact irrigation with antiseptic solutions or with pure carbolic acid followed by alcohol, as advocated by Phelps, is often all that is necessary. If this fails, lateral incisions, as practiced by Halsted, or tubular drains after the plan of Edmund Andrews, may be sufficient, but there are still a number of neglected cases, especially punctured wounds, in which these ordinarily satisfactory methods are entirely inadequate and the patients have in the past come to amputation or death. Open treatment by transverse incision across the entire front and lateral aspects of the joint gives all of the benefits of amputation without its risks, and saves for the victim a most useful limb. We have practiced this method for six years in a number of cases with the most satisfactory results, and in chil-

* Read at the annual meeting of the American Academy of Railway Surgeons, at the meeting held in St. Paul, Minn., Sept 5 and 6, 1900.

dren have obtained a range of motion from 15 to 60 per cent. of the normal. In conclusion I can not do better than to cite Dr. Arpad Gerster,¹ who says that Dr. C. H. Mayo's suggestion struck him as very plausible, and he has "applied it in two cases. The result has been excellent. As all know, these acute forms of joint phlegmon necessarily end in ankylosis, if, indeed, they do not cause loss of limb or life. The cartilaginous covering of the bones forming the joint is destroyed and, therefore, ankylosis is inevitable. Knowing this fact, the surgeon in adopting this method of treatment frankly accepts the necessity for ankylosis. The road then becomes very clear. The treatment consists in laying the joint open by a transverse incision, extending from one condyle to the other, just as a joint is laid open for resection. Then as many more incisions are made as may be necessary, in order to open up every collection of pus or fluid in or about the joint. The capsule in all of these cases is very intumescent and swollen and for this reason occludes all drainage tubes in a way to make retention inevitable. Then lay the joint freely open, removing or not removing tissues, as the case may be, pack and drain every recess, and treat it as an open wound. It is astonishing how rapidly the phlegmonous process ceases when compared with other methods of treatment. After the symptoms of active inflammation have subsided, the joint is put in proper position and ankylosis is allowed to take place."

Since these remarks by Dr. Gerster, this method of operation has been applied in a large number of cases at Mt. Sinai Hospital, New York City, with the most satisfactory results.

QUANTITATIVE TESTS FOR PROTEOLYSIS.*

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(Concluded from p. 808.)

The first table herewith presented gives the results of investigations on students who were free from subjective and objective evidences of stomach trouble, except for some transient disturbances of function as noted. The test meal throughout this series consisted of 50 grams of dry bread, 5 grams of butter, and 250 cubic centimeters of cold water, taken as a noon meal and removed by siphonage from sixty to ninety minutes after the completion of the meal. In no instance were remnants of breakfast found. In eleven of the sixteen examinations, syntonin was either altogether absent or present in the merest trace. The maximum precipitate was 20/100 c.c. in 10 c.c. As the qualitative examinations showed some slight variations from the theoretic normal, it was with some surprise that the following facts were deduced: 1. The presence of a measurable quantity of syntonin, was not connected with a failure of free HCl. In every one of the instances showing excess of syntonin, HCl was present by the resorcin and cane-sugar test. Conversely, HCl had all been fixed in three of the cases which were most typical so far as amount of syntonin was concerned. Hence, no generalization could be made as to the relation between proteolysis, at this stage, and presence of free HCl. 2. The excess of syntonin was connected with no conspicuous failure of ferments. However, it must be

admitted that no attempt was made to carry out a test of ferments at every examination and that our tests for ferments are exceedingly crude and unsatisfactory. 3. The excess of syntonin was not connected with an excess of lactic acid. The test employed was that with ferric chlorid masked by gentian violet, as recommended by Hewes, of Boston, and others. This test seems just delicate enough to detect an excess of lactates without reacting to the small proportion normally present after ordinary test-meals. 4. The excess of syntonin was not connected with an abnormality in carbohydrate digestion. 5. The excess of syntonin was not in relation with the amount of chyme present at the time of extraction. 6. The excess of syntonin was not due to the time at which the stomach was emptied, within the limits of sixty and ninety minutes after the meal. 7. Of the five occurrences of a measurable amount of syntonin four were in the case of one subject.

Three cases showed albumose only in traces, the remainder varied between 5/100 and 20/100, eight yielding almost exactly 10/100 c.c. in 10 c.c. of filtered chyme. This variation seemed entirely within physiologic limits and without obvious cause.

Only nine of the series were treated with phosphomolybdic acid, the earlier examinations showing only the inapplicability of tannin and unmodified mercuric salts. One of the nine cases yielded a precipitate of peptone amounting only to 40/100 c.c. in 10 c.c. of filtered chyme, but the stomach contents could not be extracted until after dilution. The remaining eight cases varied between 110/100 and 290/100. Careful study failed to explain this wide variation. Disregarding the sample obtained after dilution, the maximum and the minimum of peptone were found in stomach contents which corresponded almost perfectly in other respects. Several control tests showed that, in the absence of starch, the precipitate of peptone with phosphomolybdic acid is almost exactly six times as bulky as that obtained with tannin. Calculating with this coefficient, three more cases may be added to the eight and the conclusions drawn are corroborative of the other results, namely, that the peptone precipitate is normally between one-tenth and three-tenths of the volume of the filtered chyme, if phosphomolybdic acid is employed.

In regard to other tests carried out in conjunction with the proteolysis, one or two observations should be made. The apparent absurdity of noting an absence of free acids in general while free HCl in particular is present is explained by the different sensitiveness of the respective tests. Benzopurpurin, according to the writer's investigation, is the most sensitive of the aniline dyes for general free acidity. Next in order comes Congo-red. The others thus far employed are so far inferior either in delicacy or in distinctiveness of color change, that they need not be considered. The series of observations on normal individuals corroborates the conclusions reached by Hewes, of Boston, based on a similar but larger series, namely, that the small bulk of chyme assigned by German writers as normal, after the test breakfast, does not hold good for Americans.¹ The totals obtained by the writer varied from 35 to 200 c.c., the average being 83, at least double the amount formally taught as normal. Although every precaution was used to secure the thorough emptying of the stomachs, it is obvious that any possible error must be in the direction of minimizing the bulk of the contents.

While a larger series of observations will be necessary to determine details, especially as to the proportions of

1. *Tran. of N. Y. Surg. Soc.*, xxii, p. 503.

* Awarded First Gold Medal in Medicine, by the Prize Committee of the AMERICAN MEDICAL ASSOCIATION, at the Fifty-first Annual Meeting, held at Atlantic City, N. J., June 5-8, 1900.

1. *Boston Medical and Surgical Journal*, 1897.

the various proteids to be expected at different times after different test meals, the following conclusions are warrantable so far as the test breakfast is concerned, the stomach being evacuated within the usual limits of sixty and ninety minutes.

1. The proportions of the three stages of proteids do not vary materially during the third half-hour of digestion, nor according to moderate variations in other respects, in normal individuals.

2. Syntonin is most typically represented by a mere trace. It should not exceed 20/100 c.c. in 10 c.c. of filtered chyme.

3. Albumose, by ammonium sulphate, shows the same limits, but is most typically represented by 10/100 in 10 c.c.

4. Peptone, by phosphomolybdic acid, is most typically represented by 150/100 to 200/100 c.c. in 10 c.c., but may vary between 100/100 and 300/100.

While the precipitate by phosphomolybdic acid is peculiarly bulky, that by tannin is fairly comparable with the precipitates of the lower proteids. The use of various reagents, especially for albumose and peptone, will afford support for the most contradictory statements re-

solved particles of albumin—with which the present study of proteolysis is concerned—do not vary so widely. That is to say, when the gastric juice has attacked a particle of albumin, whatever the time after the meal, the successive stages of peptonization require just about the same delay, while the proportion of the higher products is limited by absorption. Even Boas' discovery regarding the difference of the stages of digestion of meat albumin on the one hand and of egg and plant albumin on the other, assumes relatively less importance when the various intermediate products between syntonin and peptone are precipitated by ammonium sulphate. Under normal conditions, active hydrochloric acid and ferments are present in about the same proportion during the entire period of digestion of any mixed meal, barring the preliminary hour or so. Thus while the amount of proteid food taken may modify the proportion of free HCl and while the latter factor may, in turn, exert a marked influence on carbohydrate digestion in the stomach, the conversion of albumin is not materially influenced unless, by overtaxing the capacity of the stomach, the secretion of gastric juice becomes relatively insufficient or unless a genuine deficiency or ex-

TABLE 1.

Number.	Duration of Digestion; hours.	Amount, c.c.	Free Acid.	HCl	Lactic Acid.	Starch	Erythro-dextrin.	Maltose.	Rennet.	Egg Test.	Albumin by Heat.	Albumose by SO ₄	Peptone Phospho-molybdic.	Peptone by other Reagents.	Remarks.
1	1	60	Yes.	Yes. . . .	Slight.	No. . .	Yes. .	Yes. .	Yes. .	Yes. .	20/100	5/100	Trace	5/100 HgCl ₂	All stomachs normal in location.
2	1	75	Yes.	Slight.	No. . .	Yes. .	Yes. .	Yes. .	Yes. .	Yes. .	5/200	12/100	Trace	Trace	
3	1 1/4	50	No. .	No. . . .	No. . .	No. . .	Yes. .	Yes. .	Yes. .	Yes. .	Trace.	Trace.	Trace	Trace	
4	1 1/2	80	Yes.	Marked.	Yes. .	Yes. .	Yes. .	Yes. .	Yes. .	Yes. .	20/100	10/100	Trace	Trace	
5	1 1/2	40	Yes.	Slight.	Yes. .	No. . .	Yes. .	Yes. .	Yes. .	Yes. .	Trace.	8/100	Trace	30/100 tannin	Total proteids 45/100 tannin.
6	1	90	Yes.	Yes. . . .	No. . .	Yes. .	Yes. .	Yes. .	Yes. .	Yes. .	Trace.	15/100	Trace	21/100	
7	1 1/2	25	No. .	Slight.	No. . .	Yes. .	Yes. .	Yes. .	Yes. .	Yes. .	Trace.	Trace.	Trace	5/100 HgCl ₂	
8	1	20 diluted	No. .	Yes. . . .	Yes. .	Yes. .	Yes. .	Yes. .	Yes. .	Yes. .	Trace.	10/100	Trace	40/100 tannin includ. starch	
9	1	40	Yes.	Yes. . . .	No. . .	No. . .	Yes. .	Yes. .	Yes. .	Yes. .	5/100	Trace.	290/100	Trace	Total proteids 30/100 tannin (total acidity 47%; free HCl 5%; resorein indicator) Total acidity 67%. Total acidity 56%. Total acidity 55%.
10	1 1/4	200	Yes.	Yes. . . .	Yes. .	Yes. .	Yes. .	Yes. .	Yes. .	Yes. .	Trace.	20/100	200/100	Trace	
11	1	100	Yes.	Yes. . . .	Yes. .	Yes. .	Yes. .	Yes. .	Yes. .	Yes. .	2/100	20/100	160/100	Trace	
12	1	160	No. .	No. . . .	Yes. .	Yes. .	Yes. .	Yes. .	Yes. .	Yes. .	Trace.	10/100	190/100	Trace	
13	1 1/4	150	Yes.	Trace. . .	Yes. .	Yes. .	Yes. .	Yes. .	Yes. .	Yes. .	Trace.	10/100	180/100	Trace	Total acidity 56%. Total acidity 55%.
14	1 1/2	100	Yes.	Trace. . .	Yes. .	Yes. .	Yes. .	Yes. .	Yes. .	Yes. .	Trace.	10/100	220/100	Trace	
15	1	50	Yes.	Yes. . . .	No. . .	Yes. .	Yes. .	Yes. .	Yes. .	Yes. .	Trace.	10/100	110/100	Trace	
16	1 1/4	25	No. .	No. . . .	Yes. .	Yes. .	Yes. .	Yes. .	Yes. .	Yes. .	Trace.	6/100	150/100	Trace	

Test meal for all in Table 1: 50 grams bread, 5 grams butter, 250 c.c. water. A — indicates that a test was not made. All were young, healthy medical students, all male except the last.

1 Also took glassful of wine some minutes after test-meal.

garding the amount of these substances formed. Ewald's statement that very little true peptone is formed by the stomach, has already been referred to. Hemmeter, of Baltimore, on the other hand says: "In normal digestion, one hour after the test-breakfast, propeptone," (albumose), "is present only in trace or, usually, is not to be detected at all." The results obtained in the present series are, in a sense, contradictory to both of these statements but comparisons can fairly be instituted only when investigations have been made following the same technic. At present, clinical students of digestion are greatly hampered in their attempts at scientific work by the lack of expert chemical authority on phases of digestion which appeal strongly to the practitioner, but have not as yet interested chemists. The chemical crudities of the present paper have not been allowed to pass as final without a diligent effort to secure corroboration or revision at the hands of local and other American chemists, but it has not been possible to find more exact information than that already given.

In considering the second table, comprising the results of examinations on pathologic cases, it should be remarked that, while the meals and the period of digestion varied widely, the conditions of digestion of dis-

cess of secretion or some other pathologic factor is introduced. Penzoldt's investigations as to the course of digestion after the most varied meals support this theory. Rosenheim's curves of acidity for various meals show distinct differences as to abscissas of time and ordinates of hydrochloric secretion when the curves after various test meals are contrasted. But if we change the position of the perpendicular axis, in other words, allow a little longer for the preliminary stage of digestion in hearty meals, the various curves present insignificant differences throughout the active period of digestion. Thus, it is really possible to institute comparisons without demanding absolute correspondence as to kind and amount of food, time of withdrawal of sample, state of starch digestion, etc.

One possible fallacy must, however, be borne in mind. The amounts of the end-products of digestion, maltose, peptone, and probably the higher albumoses also, in the case of the stomach depend on two opposite factors—digestive activity and absorption. Thus it is always puzzling and sometimes quite impossible to determine whether a large amount of an end-product signifies good digestion or poor absorption. It ought also to be admitted—though many excellent authorities do not—that

TABLE 2.

Number.	Name.	Test Meal.	Duration of Digestion; hours.	Amount of Chyme, c.c.	Free Acid.	Free HCl.	Lactic Acid.	Starch.	Erythro-dextrin.	Maltose.	Syntonin, heat.	Albumose NH ₄ 2SO ₄	Peptone phospho-molybdic.	Other Reagents for Proteids.	Total Acid, per cent.	Free HCl, per cent.	Diagnosis.	Rennet.	Egg Test.
1	R. B. . . .	Bread, butter and 250 c.c. water for R. B. intervals. 2, 4, 7 and 10 days between meals.	1	500	Yes.	Yes.	No.	Yes.	Yes.	Yes.	20/100	5/100	240/100	Target solution; peptone 4 100	86	53	Hyperchlorhydria and hypersecretion.	Yes.	Yes.
2	" " " "	" " " "	1	500	"	"	"	"	"	"	20/100	20/100	210/100	Peptone 20 100	90	56	"	"	"
3	" " " "	" " " "	1 1/2	330	"	"	No.	No.	Yes.	Yes.	20/100	5/100	140/100	Peptone 10 100	96	58	"	"	"
4	" " " "	" " " "	1 1/2	250	"	"	No.	Yes.	"	Yes.	20/100	2/100	120/100	Peptone 10 100	86	61	"	"	"
5	" " " "	" " " "	1 1/2	150	"	"	No.	No.	"	Yes.	Tr'ce	10/100	150/100	Peptone 5 100	81	50	"	"	"
6	J. L. J. . . .	The same meal; interval of two days between.	1	50	"	"	No.	No.	"	Yes.	Tr'ce	10/100	360/100	Peptone 30 100	148	62	Hyperchlorhydria.	Yes.	Yes.
7	" " " "	" " " "	2	80	"	"	No.	"	"	No.	30/100	Tr'ce	70/100	Peptone 10 100	108	55	"	"	"
8	F. J. O. . . .	Graham bread, coffee and cream, 250 c.c. oatmeal, cream, toast, mixed bread-stuffs, bread, butter, 250 c.c. water same. Intervals, 75, 50, 62, 115 and 50 days between tests	6 1/2	30	"	Yes.	No.	Yes.	No.	Yes.	25/100	"	52/100	Total proteid 30 100 by tannin.	55	55	Atonic dilatation and subacidity relieved at about time of second examination.	Normal at sev. previous tests.	"
9	" " " "	" " " "	4 1/2	30	"	"	"	No.	"	Yes.	20/100	2/100	110/100	"	76	4	"	"	"
10	" " " "	" " " "	6 1/2	40	"	"	"	No.	"	Yes.	20/100	10/100	180/100	Peptone 10 10 by tannet.	32	5	Dilatation and catarrh, hepatic sclerosis.	Yes.	"
11	" " " "	" " " "	1 1/2	60	"	"	"	No.	"	"	35/100	15/100	133/100	Peptone 11 100 by tannin.	29	0	Atonic dilatation and hypochloridia.	"	"
12	" " " "	" " " "	1	50	"	"	"	"	"	"	20/100	5/100	175/100	Peptone 15 100 by tannin.	29	0	"	"	"
13	" " " "	" " " "	3 1/2	"	No.	"	No.	"	Yes.	"	Tr'ce	10/100	85/100	Total proteid 50 100 by tannin.	29	0	"	"	"
14	A. T. M. . . .	Meat, bread, 250 c.c. water; one week interval.	3 1/2	"	"	"	"	"	"	"	Tr'ce	10/100	85/100	Total proteid.	29	0	"	"	"
15	G. W. T. . . .	No. 16 same as No. 14; hearty meal for Nos. 18 and 19; intervals, 27 and 11 days.	4	"	"	"	"	"	"	"	Tr'ce	10/100	60/100	Peptone 20 100 by HgCl ₂ .	58	0	Cancer	Yes.	Yes.
16	" " " "	" " " "	1 1/4	50	"	Yes.	Yes.	No.	Yes.	Yes.	20/100	5/100	180/100	Peptone 40 100 by Tannet solution	118	0	Hyperkinesis.	"	"
17	H. L. B. . . .	Same as No. 1.	1 1/4	50	"	Tr'ce	Yes.	No.	No.	Yes.	30/100	25/100	180/100	Total proteid 40 100 by Tannet.	66	0	Slight dilatation, syphilis.	"	"
18	B. K. . . .	Same as No. 1.	1 3/4	500	"	No.	Yes.	"	No.	No.	None	15/100	300/100	"	66	0	Chronic gastritis.	"	"
19	" " " "	Bread and milk.	1 1/4	75	"	"	"	"	"	"	20/100	3/100	375/100	"	72	2	Chron. gastritis and erosions	"	"
20	Mrs. P. . . .	Chicken, bread and butter.	1 1/4	80	Yes.	Yes.	No.	"	"	"	20/100	2/100	280/100	"	85	0	Atony.	Wek	"
21	W. F. V. . . .	Same as No. 1.	1	40	No.	No.	No.	"	"	"	Tr'ce	2/100	280/100	"	85	0	Chron. scolecitis, healed gastric ulcer.	"	"
22	F. K. . . .	" " " "	1	50	Yes.	Yes.	No.	"	"	"	Tr'ce	2/100	280/100	"	85	0	"	"	"
23	G. L. . . .	" " " "	1 1/2	200	"	"	Yes.	"	"	"	Tr'ce	2/100	280/100	"	85	0	"	"	"
24	C. L. B. . . .	" " " "	1 3/4	50	"	No.	Yes.	"	"	"	Tr'ce	2/100	280/100	"	85	0	"	"	"
25	J. J. M. . . .	Two slices of toast, butter, 250 c.c. water.	1	50	"	"	Yes.	"	"	"	Tr'ce	2/100	280/100	"	85	0	"	"	"
26	" " " "	" " " "	3 1/2	300	"	"	"	"	No.	No.	Tr'ce	20/100	300/100	"	85	0	"	"	"
27	" " " "	Eggs and cereals.	1 1/2	100	"	Yes.	Yes.	"	Yes.	Yes.	10/100	3/100	200/100	"	60	29	Gastroptosis, movable right kidney.	Wek	"
28	Mrs. J. P. . . .	One slice of bread, butter and 250 c.c. water.	1 1/2	100	"	"	Yes.	"	"	"	Tr'ce	10/100	200/100	"	60	29	Hepat. sclerosis, slight gastric dilatation.	"	"
29	Dr. R. . . .	Same as No. 1.	1 1/4	90	"	"	Tr'ce	"	"	"	Tr'ce	10/100	200/100	"	60	29	"	"	"
30	" " " "	" " " "	1 1/4	40	No.	No.	Yes.	Yes.	"	"	3/100	Tr'ce	80/100	"	40	0	Gastric hemorrhage, (cancer?)	"	"
31	Mrs. Mc. . . .	" " " "	1 1/4	40	"	No.	Yes.	"	"	"	None	"	260/100	"	43	0	Subacid dyspepsia.	"	"
32	Miss P. . . .	" " " "	1 1/4	70	"	"	No.	"	"	"	None	"	145/100	"	99	61	Hepat. scler., gastric catarrh.	"	"
33	G. A. Mc. . . .	" " " "	1 1/2	50	Yes.	Yes.	No.	"	"	"	5/100	2/100	320/100	"	66	23	Slight gastric dilatation.	"	"
34	A. C. C. . . .	" " " "	1 1/4	40	"	"	Slight	"	"	"	30/100	10/100	100/100	"	70	0	Ulcerating gastric cancer.	"	"
35	M. B. . . .	" " " "	1 1/4	130	No.	No.	Yes.	"	"	"	None	3/100	270/100	"	84	15	Gastroparesis, mov. rt. kidney.	"	"
36	A. J. S. . . .	Four slices of bread, butter, 250 c.c. water.	1 1/4	40	No.	Yes.	No.	"	"	"	25/100	3/100	150/100	"	70	0	Incipient hepatic sclerosis.	"	"
37	J. S. . . .	Fifty g. bread, 5 g. butter, 250 c.c. water.	1 1/4	80	Yes.	Yes.	Slight	Yes.	"	"	20/100	Tr'ce	200/100	"	96	9	Subacid dyspepsia (stimulating hyperchlorhydria.	"	"
38	McJ. . . .	Same as No. 1.	1 1/4	80	"	No.	"	"	"	"	20/100	"	200/100	"	96	9	Atonic dilatation (persistent pyrosis).	"	"
39	L. V. . . .	" " " "	1 1/4	80	"	Yes.	"	"	"	"	20/100	"	200/100	"	96	9	"	"	"
40	Mrs. J. S. . . .	" " " "	1 1/4	60	Yes.	Yes.	"	"	"	"	20/100	"	200/100	"	96	9	Atonic dilatation (persistent pyrosis).	"	"
41	Mrs. J. S. . . .	" " " "	1 1/4	60	Yes.	Yes.	"	"	"	"	20/100	"	200/100	"	96	9	"	"	"
42	Mrs. E. L. . . .	" " " "	1 1/2	100	"	"	"	No.	Yes.	Tr'ce	12/100	12/100	200/100	"	76	12	Chronic typhlitis, flatulent dyspepsia.	"	"

In Cases 34 to 42, rennet test good, except in 35, in which it was lacking. Egg digestion not tried.
1 Abundant (centrifuge broke).

we have no reliable test for absorption. The tests with potassium iodid and methylene blue involve so many unknown quantities that only a great divergence from the empiric normal standard is significant. In such extreme cases we need no scientific test. In view of the quite general dependence that has been placed on the test by titration of solutions of sugar or other absorbable substances, that have been left in the stomach for some time, a few words of refutation may be in order. As is well known, such a solution is found by titration, after siphonage, to be more dilute than when poured into the stomach. Thus it has been claimed, 1, that no absorption of water occurs through the gastric glandular membrane; and 2, that by titrating the solution and comparing with a previously established standard, absorption can be accurately measured. The writer has proved that during ordinary lavage an amount of water, equal approximately to the total contents of the stomach, is lost either by absorption or by passage through the pylorus. Judging by auscultation, the escape of liquid through the pylorus under any circumstances short of nearly complete closure, is an important factor. While loss by absorption from the stomach is usually mainly of soluble solids, not of water, it is by no means certain that the stomach never absorbs water and the assumption of such a hypothesis is *prima facie* evidence of the unreliability of a quantitative test. In the case of R. B., of Table 2, the test meal was diluted by gastric juice to the extent of about 100 per cent. It is altogether likely that a similar dilution would have followed the introduction of a solution of an absorbable substance introduced to test gastric absorption. Even if the test solution happened to be of the same bulk when withdrawn as when introduced—not counting the increments of water used in this method to insure thorough evacuation—it would be altogether probable that there had been loss of volume by passage through the pylorus and compensatory secretion. To speak in mathematical terms, the loss through the pylorus, the removal by absorption and the addition by secretion are unknown quantities. Furthermore, they are irregular variables that are not functions of one another. Yet the attempt has been made, not only to make these three variables constant quantities, but to assign a definite value to one of them, through the solving of one equation, involving knowledge of the original strength of a solution and its content after removal from the stomach after a certain delay.

Referring to Table 2, it may be of interest to discuss the cases somewhat in detail. The case of R. B. was one of supersecretion and, essentially, of hyperchlorhydria. Although the proportion of free HCl was not beyond the normal maximum—unless we accept the very low standard of hydrochloric acidity adopted by Dr. Reed, of Philadelphia, and some others—the formation of acid by the gastric glands was actually large and the symptoms included local irritation of the gastric wall as part of the local condition present. The digestion of starch was about as would be expected *a priori*. The abatement of the hyperchlorhydria is seen rather in the diminution of the total volume of the stomach contents than in a percentage change of acidity. Throughout all five tests the proportion of syntonin was at the normal maximum, as if the first stage of proteolysis, which is essentially one of saturation with acid, had been crowded on the later stages. The variation of albumose was within normal limits, but no satisfactory explanation of the difference between the several examinations can be advanced with our present knowledge, unless, perhaps, to

suggest that, as the time after the meal increases the intermediate stages are more rapidly passed through. The fact that the amount of peptone varied in general according to the amount of stomach contents might be interpreted to mean that the excess indicated poor absorption rather than good digestion, still the variation was within normal limits.

The case of J. L. J. was also one of hyperchlorhydria, but without supersecretion. The titration of the second sample was repeated to verify the unusually high acidity which is the maximum observed by the writer in any case.

The case of F. J. O. represents, for the first three examinations, diminished motility. The case was originally one of atonic dilatation of the stomach with achlorhydria, but, at this time, the stomach had returned to normal size and the hydrochloric secretion had been nearly normal for some weeks. It is scarcely necessary to state that the emptying of the stomach on these three occasions was undertaken for therapeutic reasons, otherwise more typical test meals would have been ordered. However, they do not differ materially, except in bulk, from the standard Ewald breakfast or the slight modification adopted by the writer. At several other treatments during this period the stomach was found nearly or quite empty. The last three test meals were taken and removed under circumstances that allow a fair comparison with Table 1. Unfortunately, the loss of a reagent bottle prevented the application of the usual test for peptone on one occasion. Whether on account of the difference in meals and duration of endogastric digestion or because of the improvement that actually occurred, the second set of three examinations shows that the balance has swung from lower to higher stages of proteolysis. A comparison between the last three examinations and the results of Table 1 show that further improvement in the same direction is to be desired. (The patient has since made a good recovery.)

The case of A. W. M. was somewhat similar, but the delay of the chyme in the stomach was due to actual present dilatation. The patient came from a considerable distance and the railroad time-table prevented the use of a test-meal adapted to withdrawal after an hour. On this account the patient would take a test dinner before leaving home and have it withdrawn immediately on reaching the office. While undiluted chyme was obtained for examination, it was not possible to empty the stomach except after adding water, so that an exact measurement of the contents was impossible. Probably they did not exceed 100 c.c. in any instance. It has already been explained that even if the increment of water is measured before introduction, an exact estimation of diluted stomach contents can not be made. The relative increase of peptone coincided with marked subjective improvement and a rapid diminution of the size of the stomach. At subsequent examinations after the same meal the stomach was always found practically empty.

G. W. T., H. L. B., and B. K. represent nearly identical conditions of subacidity and atonicity. On the whole, they show a relative diminution of peptone.

In the two cases of cancer it was impossible to regulate the tests to correspond at all with the others, and they are reported merely as isolated observations which may acquire some value with a better understanding of the subject of proteolysis. The case of R. was noteworthy in two respects; the rennet test several times resulted normally while the attempt to digest egg albumin after adding HCl failed. This observation is

contrary to the general belief that the two ferments rise and fall together, so that coagulation of milk may be employed as an easy, though indirect, test of peptic power. The second point deserving attention is that the patient, first seen in consultation during November, showed an increasing pyloric stenosis with obstinate constipation and the return of food and drink by vomiting. About Jan. 1, 1899, the diagnosis of cancer was verified by the finding of cancer nests microscopically in the wash-water of the jejune stomach. After this the pyloric stenosis rapidly abated, the patient gained somewhat in weight, the stomach returned to normal size, vomiting became infrequent and it is only recently (note made April 28) that the signs of stenosis have been again manifest. (The patient has since died.)

Mrs. P. had passed the test breakfast into the intestine by the end of the first hour, so that, for the next meal, meat was added. The rapidity of the passage of food through the stomach is shown here, also in that only 75 c.c. remained of a meal amounting to about 400 c.c. Her stomach was somewhat larger than normal, but under the circumstances it might be more appropriate to use the term "megalogastria" rather than dilatation to describe her condition, the latter term being usually associated with more or less gastric stagnation. The digestion of the dissolved starch had been completed and all the maltose absorbed, yet the precipitate of peptone made up half of the volume of the filtered chyme. The large combined acidity, with total lack of free HCl, is probably in intimate relation with these two facts. This case shows the maximum of peptone production observed by the writer.

W. F. V. was the patient of a neurologist, referred for examination on account of complaint of gastric symptoms. The analysis and physical examination failed to reveal stomach trouble. It will be noted that the quantitative estimation of proteids, though rather high in each instance, did not pass the normal limits.

F. K., who had previously suffered from atonic dilatation of the stomach with obstinate subacidity, remained well for two or three years and then presented himself with typical symptoms of hyperchlorhydria. The result of the examination shows how erroneous this preliminary diagnosis was and emphasizes the impossibility of making accurate diagnoses of gastric troubles by symptomatology alone. Proteolysis was practically normal, though syntonin was rather high.

G. L. presented no peculiarities beyond those clearly shown in the table. It may be said in general that the pathologic series shows a higher average of the preliminary proteids and a variable condition of peptone.

C. L. B. represented what may properly be termed a nervous dyspepsia, as, even after the restoration of his gastric motor function, he continued for some time to complain of symptoms of stagnation.

J. J. M. showed at several previous examinations a marked diminution of hydrochloric acidity, even after two or three hours of gastric digestion. He had an attack of what was described by his home physician as subacute scolecitis, toward the close of his treatment for the gastric condition. The latter was regarded as an independent affection, not a reflex from the bowel, on account of a distinct history of hematemesis. In spite of this interruption, the subsequent course of the gastric lesion was favorable.

Mrs. J. P.'s case was remarkable in that there was not a general splanchnoptosis, in spite of the marked prolapse of the stomach—the lesser curvature being just above the umbilicus—and the movability of the right

kidney. The esophagus was dilated, 250 c.c. of distinctly esophageal mucus being vomited at one time and the gastro-diaphane kinking without reaching the stomach, its stiff end of nearly two inches having turned within the esophagus.

Dr. R., in spite of considerable subjective discomfort and of the physical abnormalities of the stomach and liver, showed a good and consistent chemic condition.

Mrs. Mc.'s examination also resulted consistently, except that stagnation was not in evidence.

NOTES ON CHEMIC EXAMINATIONS.—Acidity in No. 9 was taken from similar sample next day.

In Nos. 1, 7, 13, 24, resorcin and sugar used as indicator for free HCl; in others dimethyl-amido-azobenzol. The former method is more tedious, but more accurate. Phenolphthalein used as indicator for total acidity in all examinations. Percentages refer to c.c. of $n/10$ NaOH solution, as compared with number of c.c. unfiltered chyme.

Diagnosis in Nos. 21 and 22 made from microscopic recognition of fragment of tumor. No. 21 died eight months after this examination.

Combined HCl by alizarin, 66 per cent. for No. 23, 25 per cent. for No. 24; in Nos. 25 and 26, free HCl perhaps disguised by presence of blood from siphonage. In No. 27, combined HCl, 45 per cent.

THE RAGE FOR RAPID OPERATING AND THE IMPORTANCE OF SAVING TIME IN SURGICAL OPERATIONS.

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The question of time consumed in surgical operations is an important one. In the pre-anesthesia days time meant much to the unfortunate victim, whose vitality or resisting power was already reduced by nauseating and depressing drugs, such as infusion of tobacco, opium, etc., given with a view to benumbing the sensibility of the patient, who was frequently held by a corps of powerful assistants, or fastened to the operating-table by straight-jackets, straps or other devices. Dexterity and speed on the part of the surgeon then were indeed desirable factors to the shrieking and suffering patient.

The introduction of anesthesia lessened the necessity for speed, and also removed the disturbing elements which may have interfered with the accurate fulfillment of delicate operations. Anesthesia, when properly induced, produces a tranquility in the patient, operator, and assistants, which is highly essential for the proper and successful progress of the operation. In this, however, many surgeons permit themselves to drag in their work, and for the time seem to forget that the state of general anesthesia is a dangerous one and that not a minute should be wasted. It is a well-established fact that prolonged anesthesia is a retarding element in the convalescence of the patient. This is the more prominently exemplified in a complicated abdominal case, in which the resisting power of the patient has been stimulated to a point when it is estimated that the patient has a chance to survive the operation. The anesthesia, exposure and manipulation of the peritoneal cavity for from one-half to three hours, with a physically bankrupt patient is a very important factor in the prognosis. These facts being accepted, time is as important an element to success as asepsis or correct methods in operating.

It is quite common in hospital clinics for the operator to lecture to his class while leaning over his work, and, frequently straightening up to address the students, and thus many valuable minutes are lost. A very wise practice is now being introduced in the German clinics. The professor operates, while one of his clinical assistants lectures to the class, or *vice versa*. The operator can thus concentrate his mind on the important task before him. Professor Albert, of Vienna, lectured to the students while his assistant, Ewald, operated. This method is advantageous to both patient and student. But few are endowed with the ability to lecture and operate simultaneously.

An operation should be done with despatch, without the semblance of undue haste or attempt at show, flourish or brilliancy. Such "speed" should be consistent with good conscientious work and the best results. Despatch in surgical operations is often misconstrued as haste and carelessness by jealous rivals. The operator is rapid whose equipment is thorough from his anesthetic and first assistant to the application of the safety-pin which secures the final turn of the bandage. He accomplishes his object who does not allow his plans to be modified by suggestions from visitors or guests, who is prepared to promptly combat any emergency that may arise, who operates deliberately, who does not drop his instruments on the floor, and who, in picking up an instrument from the tray, does so for a definite purpose. Such an operator knows what he wants two or three stages in advance, and gives his orders accordingly, so that there shall be no loss of time. His assistants are well trained ("team work") and comprehend his wants by a look or gesture, thus avoiding misunderstanding, conflicting orders and collisions.

It is in the saving of the minutes and avoidance of unnecessary delays that the minimum amount of time is consumed in performing the operation. Such methods should constitute "rapid operating."

VENEREAL DISEASE AS A SOCIAL PROBLEM.*

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When studying medicine I was taught, not only by one but by many, that if I would attain to the greatest degree of success in the profession I must treat every patient who presented, no matter what his social position or standing, age, or other condition, as if he were infected with venereal disease until I had proved to the contrary. At that time I could not fully credit the statement and questioned the observation of the men who made it. I entered practice about ten years ago, in a town with an average population of 500, which for all practical purposes of this paper is an ordinary country village, isolated from the rest of the world and a great distance from any city. There was no house of prostitution in the township, and no public prostitute has existed within its borders since my residence there, but time and experience have convinced me that my teachers were right in their statement.

Syphilis is a terrible disease and is so recognized by the laity, while the great majority regard gonorrhea as a trivial affection. To my mind it is tenfold more terrible than syphilis, while both diseases cause untold suffering to innocent parties, and during my very limited experience I have seen several blind from the dis-

ease. The year I entered the town a young man from one of the best families graduated from one of our schools; a few years later, while on a business trip outside, he contracted gonorrhea, was treated and, as he supposed, cured by a friend who had suffered several times in the same way. Soon after his return home he was married to a young woman whom I remember as a bright, robust, rosy-cheeked schoolgirl. Since then I have treated the man for stricture and his wife for all the evils following a gonorrheal infection of the pelvic organs. She is pale, anemic, a daily sufferer, and spends nearly a week out of each month in bed. Without children, in a beautiful home, she will drag out her life of misery and suffering.

A farmer's daughter, whom I remember as a beautiful schoolgirl, a perfect type of physical strength, two years ago married a man who bragged of the number of times he had contracted gonorrhea. Soon after marriage her troubles began, her strength failed and physical exertion became a source of discomfort and pain until she was unable to do her own housework. A few months ago I operated on her for pelvic peritonitis.

A year ago I knew a man, with a wife and four children, who possessed a good income and a happy comfortable home. He contracted gonorrhea, infected his wife before he knew it, became frightened and used so-called heroic treatment, and is now at Mt. Clemens under treatment for gonorrheal rheumatism, his wife is in a Chicago hospital to undergo an operation for salpingitis, the home is sold to pay the expenses, and the children are cared for by strangers.

I would ask my hearers to lay aside all prejudice and consider this subject in the true scientific spirit, going back to the fundamental underlying principles: 1, the passions actuating those who keep this evil in existence; 2, the breeding of children and the hereditary mental influence to which they are subjected; 3, the want of police and medical supervision through a morbid sentiment and a lack of knowledge in a class which wields the greatest influence.

I will first define a passion as a certain movement of the mind which not only influences, but predominates and controls the entire organism. What is the one supreme passion in man? What is the one supreme passion which actuates and controls, not only man, but all living organisms, without which, if suppressed, all life would soon cease to exist? The answer is plain—the sustenance of life. The passion which ranks next to this and nearly equals it in power is the propagation of life. If either of these passions were suppressed all life would soon cease to exist. They are unchangeable laws of Nature and no arbitrary law of society can suppress them or control them except to a very limited extent. These facts should never be lost to sight. Prostitution finds the reason for its existence in one of these passions, and if society would protect itself from the evils arising from prostitution it must study the subject carefully and act on reason instead of prejudice.

I believe much of the evil can be prevented and, as the acme of medical science is the prevention of disease, that this problem is pre-eminently one for the attention of the ASSOCIATION. It can not be left to the church, as she is unable to cope with it, and her influence, when brought to bear on this subject, has invariably been unsatisfactory. Churchmen are educated along different lines, seldom taught to differentiate fact from theory, or to reason from effect to cause, and they appeal largely to the sympathies and prejudices of those whom

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they would influence. Frequently, in times past, a few individuals have made a careful study of this phase of social life and succeeded in passing laws in some communities which have greatly mitigated the evils to which I have called attention, but the church has usually succeeded in sweeping them off the books.

Prostitution has existed under every social system of which the world has knowledge. Lecky, in his "History of European Morals," says: "Under these circumstances, there has arisen in society, a figure which is certainly the most mournful, and in some respects the most awful upon which the eye of the moralist can dwell. That unhappy being whose very name is a shame to speak, who counterfeits with a cold heart the transports of affection and submits herself as the passive instrument of lust; who is scorned and insulted as the vilest of her sex, and doomed for the most part, to disease and abject wretchedness, and an early death, appears in every age as the perpetual symbol of degradation and the sinfulness of man. Herself the supreme type of vice, she is ultimately the most efficient guardian of virtue. But for her the unchallenged purity of countless happy homes would be polluted, and not a few who in the pride of their untempted chastity, think of her with an indignant shudder, would have known the agony of remorse and of despair. On that one degraded and ignoble form are concentrated the passions which might have filled the world with shame. She remains, while creeds and civilizations rise and fall, the eternal priestess of humanity, blasted for the sins of the people."

While prostitution may be a necessary evil under our present social system, the experience of the past and the opinions of the best posted men in other nations and in our own country, prove beyond question that many of the resultant evils are not necessary and may, to a great extent, be prevented. As a step in this direction, I would suggest the AMERICAN MEDICAL ASSOCIATION invite the most able and prominent men throughout the country, considered to be the best posted on this and relative subjects, to a conference for the purpose of adopting such measures as, in their judgment, will result in the greatest good to the race and to society. I would ask not only physicians but police and other officials from our great cities, and any one who may be qualified to speak with authority on the subject under discussion.

Personally, I believe it is a mistake to try to, and an impossibility to suppress prostitution by passing laws and imposing penalties, but that society may eliminate and possibly eradicate the vice, by means of education and more careful breeding. I am of the opinion that less than 10 per cent. of the children born are the result of an actual desire for children backed by an intelligent study in an effort to breed and raise the best. This would leave over 90 per cent. born as the result of accident, while following the pursuit of physical pleasure, which must certainly have a great influence on the race and on the problems we are now considering. Out of this 90 per cent., a portion will most surely be born with perverted and abnormal instincts and passions.

A physically perfect man, standing high financially, and occupying a prominent place in society, may have a deformed moral nature which he recognizes and covers up, or, again, he has never thought of nor been educated on sexual relations. He marries a refined and highly-cultured woman. Ordinarily a model man, he occasionally finds some jolly companions, winds up with a big spree, goes home drunk, sick, and filthy, revolting

to his wife and family. His wife is horrified and disgusted, and while he insists on his marital rights, she loathes the contact but is compelled to submit. If conception takes place what kind of an individual will be developed? If the mental qualifications be derived from the mother, a sexually cold and passionless being; if from the father, possibly the opposite extreme. If the mother feels that conception has taken place, broods over her troubles, becomes reckless, tries to murder the child before it is born and fails, a graver element is added to the hereditary influences acting on the child.

Prostitution is a very great evil and its suppression would be a desirable thing, but so long as a great majority of the children born are subject to the worst hereditary influences associated with the sexual passion, and the question of how to breed and raise the best is seldom considered, I do not think its suppression possible. An individual is what he is born, plus his environment. The environment may be changed, but the other qualifications, such as stature, etc., are unchangeable, except to a very limited extent; therefore, some individuals are no more to blame for being prostitutes than others are for having red hair, or blue eyes. The enactment of proper laws to control prostitution and restrict the evils arising from it, with the best measures possible in educating the coming generations on these subjects, I believe is the best that can be done at the present time.

Social purity should be one of the ideal aims of society, and I believe its nearest attainment will be found through the means of education. Our medical schools should give more thorough instruction in sexual hygiene and physiology. Medical men can have great influence in moulding public opinion and causing people to give their children proper instruction in sexual matters. In a majority of our homes at present, if a child dares to ask a question pertaining to sexual matters, it is either lied to or deceived, or silenced in such a way that its mind receives a great shock. That all living organisms reproduce themselves is a fact which may be taught a child with plenty of every-day illustrations, without any element of sensuality presenting itself.

I think that the most woefully ignorant of all classes on such subjects are the clergymen and teachers, and as they wield immense influence their education should not be neglected; and unless special attention be given to the leaders of the churches, they will oppose all efforts along this line, because the truth runs counter to their pet prejudice on the subject of morality. While the church influence is unsatisfactory in the extreme, it is so through ignorance and prejudice. To those who will investigate this subject farther and wish positive and definite information, I would suggest a study of Lecky's "History of European Morals"; Sanger's "History of Prostitution"; Wier's "Lust and Religion"; Lydston's "Text-book of Venereal and Sexual Diseases"; and such other books as will suggest themselves in reading these.

Removal of Great Lengths of Intestine.—Blayney (*Dublin Journal of Medical Sciences*, March) reports a case of removal of 8 feet 4½ inches of intestine from a boy, aged 10. He had been run over by a wagon loaded with grain, the wheels passing over the lumbar region while he was lying on his face. Laparotomy was performed seventeen hours after his admission to the hospital and he recovered, but suffers from looseness of the bowels and occasional vomiting, and exhibits also an abnormally great appetite. From an analysis made on thirty-three of his cases in which over one meter of intestine was removed from human subjects, he concludes that where less than 6 feet 6½ inches are removed, intestinal symptoms are, as a rule, absent, but where more, present.

CIRCUMCISION IN RESTRICTING THE
SPREAD OF SYPHILIS.*

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There is difference of opinion as to the mortality of the chief venereal diseases, syphilis and gonorrhea. The latter was, until quite recently, regarded as purely local, but after the gonococcus was identified and cultivated, it was found that general infections were frequently caused by this organism. Pleurisy, meningitis, myocarditis and peritonitis, and of late a gonococcemia have all been indentified. These considerations force the conclusion that gonorrhea is not the innocent local disease it was formerly thought to be, with complications largely of a mechanical nature, such as stricture, etc. There will probably be a widening conception of the disease-producing power of the gonococcus, since it has been recognized that, in common with other germs, its pathogenic power depends upon a toxin and not upon the germ itself. The observations of Young show that in many cases the gonococcus can be identified by cultivation when it has escaped detection by centrifugalizing fluids, spreading and staining.

Hyde and Montgomery, in their work on venereal disease, say that gonorrhea and its complications have a mortality greater than syphilis. We are quite sure that the neurologist will deny this. As a matter of fact, neither is in a position to judge the mortality of these affections in their true light. To the andrologist comes those complications of the genito-urinary tract with ascending infection of the urinary tract. These form a group that leads him to think that gonorrhea is one of the most deadly diseases that affects the human race. The acute cases that are cured and have no relapse, in his own practice as well as in that of others, do not return, and, hence, his experience largely deals with cases having severe and lasting complications. The neurologist, looking over his case books, finds the enormous incidence of syphilis in grave disorders of the nervous system, and comes to the conclusion that syphilis is one of the most deadly affections of the human race. The large number of cases that escape involvement of the nervous system do not come under his observation. The same thing is true of the operating gynecologist, who largely fails to see those cases which are not infrequent in practice, in which the gonococcal infection is followed by a comparatively slight reaction in the urethra or the vagina, and subsides without involving the tubes or the endometrium.

It is not profitable to argue as to the comparative deadliness of these two infections, when they are both responsible for so much preventable suffering. Their legal restriction has been attempted in other countries, and legislation has been proposed and at times initiated in this country, looking to a restriction of the venereal diseases. It is proposed to effect a sort of quarantine against infected individuals, giving the health authorities plenary jurisdiction in such cases. The system of inspection of houses of prostitution in continental cities and registration has been revolting to the Anglo-Saxon, and its efficacy in restricting the spread of gonorrhea is doubtful. An infected person may convey gonorrhea long after all local signs have disappeared, and even after microscopic examinations of the secretions fail to show the gonococcus. Hence mere inspection is of little value, while microscopic examination of secretions is impracticable because of the time required.

Cultures would identify the germ if present, but these consume more time than the ordinary spread and stain. In restricting the spread of syphilis, inspection would be of value.

While the profession is studying the restriction of venereal diseases, I would especially call its attention to the literature bearing on circumcision. This operation is known to enormously lessen the case incidence of syphilis. It is free from risk, and does not inflict any disability on the individual; on the contrary, the operation is a decided gain, even if it had no influence in directly lessening the venereal diseases. It does away with phimosis, balanitis, and tends to prevent hernia and rectal prolapse, as well as a frequent train of nervous symptoms which follow a constricted and adherent prepuce.

A comparison of the condition of the glans and the preputial fold in those who have been circumcised and those who have not, reveals a striking difference. In the uncircumcised the ducts at the frenum become clogged with secretions, the mucous membrane of the glans is sodden and easily excoriated. Once a solution of continuity is formed in the epithelium, the retained secretions form an admirable culture-medium. It is surprising how few statistics there are bearing on this subject, but those that are at hand conclusively confirm the immense importance of circumcision in preventing the spread of syphilis. Jonathan Hutchinson¹ gives the following table showing the incidence of syphilis and gonorrhea in a series of hospital cases, one-third of whom were Jews.

	Total Venereal Cases.	Gonorrhea.	Syphilis.
Not Jews.....	272	107	165
Jews	58	47	11

Freeland² speaks of his experience with the Peninsular and Oriental Steam Navigation Company, as ship surgeon. He never remembers having seen a primary syphilitic chancre among the Lascar crews, who were invariably circumcised, while venereal diseases other than chancre were very common among the circumcised. He gives the following table to show the relative frequency with which primary infection occurs on the prepuce:

	No. of Initial Lesions.	No. on Prepuce and Furrow.	Percentage on Prepuce and Furrow.
Fournier	423	314	74.2
Clerc	325	234	71.6
Berkeley Hill	150	111	74.0

Perhaps it is too much to say that all of the 73 per cent. of cases which occur on the prepuce and in the furrow would be prevented by circumcision, but certainly a large proportion of them would, and the enormous reduction, even if it were estimated at 50 per cent., would so far lessen the case incidence of syphilis and the reduction of hereditary and accidental infections, as to make the universal adoption of this operation one of the leading hygienic factors in improving the physical condition of the race. It may be argued that there is some fallacy in these figures. In a recent number of the *Journal of Mental Science*,³ it is stated that the proportion of general paralytics among the Jewish population of the London asylums is much larger than in other races. If we assume that syphilis is the chief factor in the production of general paralysis, we may well ask ourselves why, if this infection is less common among Jews, general paralysis should be more frequent?

1. Freeland: The Lancet, Dec. 29, 1900.

2. Ibid.

3. October, 1900, vol. xlv, No. 195.

* Read before the Physicians Club, Chicago.

Several arguments might be advanced in support of the view that syphilitic infection is less common among Jews, and, at the same time, general paralysis is more frequent. It may be that those exciting factors that play such an important rôle in the production of general paralysis are relatively very frequent among the Jews. A further possibility is that other forms of insanity are comparatively rare, thus reducing the total Jewish population of the asylums, but relatively increasing the number of paralytics. In view of these possibilities, the argument loses its effect as against the prophylactic value of circumcision in preventing the spread of syphilis.

Many in our profession, realizing the disastrous effects of syphilis, have earnestly advocated the legal regulation of prostitution. In view of the doubtful efficacy of registration and examination, I would earnestly invite their attention to the figures contained in this paper. It is an operation that is simple, devoid of mortality or disfigurement, against which nothing can be said, and which has as a result, if universally applied, a lessening of the most disastrous of venereal diseases from 50 to 75 per cent. I earnestly hope that they will give attention to this matter, and throw the weight of their authority in favor of the operation. It is a practical means of reform, ready to hand, and its application is within the reach of every physician.

REPORT OF THE SPECIAL COMMITTEE OF THE SECTION ON STATE MEDICINE OF THE AMERICAN MEDICAL ASSOCIATION.

APPOINTED TO INQUIRE WHETHER AND WHEN THE GONORRHEIC MAY BE PERMITTED TO MARRY, AND
WHETHER THE MATTER IS A PROPER ONE
FOR REGULATION BY STATUTE.

The resolutions under which your Committee was appointed directed the following inquiry: 1. Whether the gonorrheic can be so treated and so far cured that he can be allowed to marry with safety to his wife. 2. If he can be so cured, what are the forms of treatment best calculated to cure, the period of time which should elapse and the physiologic reactions which will positively determine the question of his fitness?

QUESTIONS SENT TO GYNECOLOGISTS.

To the gynecologists who more than any others deal with the remoter and more serious results of the disease, the following list of questions was submitted: 1. What proportion of the cases of pelvic inflammation coming under your care are attributable to gonococcal infection? 2. In what proportion of these cases, if any, has infection resulted where the man had been pronounced cured by a competent physician after thorough treatment and careful bacteriologic examination? 3. In what proportion of cases in the female is gonorrhea curable so that the patient is no longer infectious? 4. In what proportion of cases is sterility traceable to gonorrheal infection?

Drs. P. D. Jacobs, of Brussels; S. Pozzi, of Paris; Prof. V. Czerny, of Heidelberg; Drs. Heywood Smith and Granville Bantock, of London; E. H. Grandin, H. J. Boldt, P. Sherwood Dunn and Paul F. Mundé, of New York; A. J. C. Skene, of Brooklyn; Barton C. Hirst, Charles P. Noble, J. M. Baldy and Joseph Price, of Philadelphia; J. W. Bovée, J. S. Stone and H. L. E. Johnson, of Washington; Ely Van de Warker, of Syracuse; W. D. Mann and C. C. Frederick, of Buffalo; J. F. Baldwin and F. F. Lawrence, of Columbus; W. H. Wathen, of Louisville; Hunter Robb and W. H. Humiston, of Cleveland; Joseph Eastman, of Indianapolis; Henry T. Byford and E. C. Dudley, of Chicago; A. Lapthorn Smith, of Montreal; James A. L. Ross, of Toronto; Emory Lanphear, of St. Louis, and H. Kreutzmann, of San Francisco, replied by letter, and by reprint, Dr. Reuben Peterson, of Grand Rapids. A reply from one New York gynecologist came unsigned, and while your Committee tabulated his returns, they have not been able to satisfy themselves of his identity.

Drs. Abraham Dudley, of New York; Henry O. Marcy, of Boston; E. E. Montgomery, of Philadelphia, and Professor

Leopold, of Dresden, acknowledged the receipt of the questions, but excused answering them on the ground of the press of other work. Dr. Marcus Rosenwasser, of Cleveland, in a letter, in which he stated that he had so far kept no tabulated record along the lines of the inquiry suggested by the Committee, made the suggestion that gynecologists keep an especial record for one, two or three years from now on with a view of answering such questions, the diagnosis in each case to be corroborated by microscopic or bacteriologic test, concluding that a collective report along such lines would, in his judgment, furnish data from which approximate conclusions could safely be drawn.

QUESTIONS SENT TO GENITO-URINARY SPECIALISTS.

To the genito-urinary specialists the following list of questions was sent: 1. Is gonorrhea curable—so curable that the physician can confidently say to his patient: "You may marry now. You run no risk of infecting your wife?" 2. In what proportion of cases is it so curable: *a*, in anterior urethritis; *b*, in posterior urethritis? 3. What methods of treatment in your experience give the most prompt and certain results: *a*, in acute cases; *b*, in chronic cases? 4. What period of time should elapse after the disappearance of the last evidence of the presence of the gonococcus before the patient should be allowed to marry? 5. Upon what tests do you rely in order to determine positively whether the patient is wholly free from the gonococcus and is no longer infectious?

Replies have been received from Professors A. Neisser, of Breslau; E. Fuerbringer, of Berlin; H. Feleki, of Budapest; N. Jadassohn, of Berne; E. Burkhardt, of Basel; E. Finger, of Vienna; S. Rona, of Budapest, and P. Tommasoli, of Palermo; Drs. J. Verhoogen, of Brussels; J. de Keersmaecker, of Antwerp; Charles Audry, of Toulouse; A. Guepin, and P. Nogues, of Paris; Charles W. Catheart, of Edinburgh; Gardner Allen, of Boston; Eugene Fuller, Herman Klotz, James P. Tuttle, Edward L. Keyes, Charles H. Chetwood, Ramon Guitéras, and George E. Brewer, of New York; H. M. Christian, William White and Edward Martin, of Philadelphia; Roswell Park, of Buffalo; William T. Corlett, of Cleveland; William Judkins, and A. Ravogli, of Cincinnati; G. Frank Lydston, Joseph Zeisler and W. T. Belfield, of Chicago; C. E. Burnett and Bradsford Lewis, of St. Louis, and George Chismore, of San Francisco. Drs. Max Melchior, of Copenhagen, and Orville Horwitz, of Philadelphia, replied by reprints.

EFFECTS OF GONORRHEA ON THE FEMALE.

The portion of the work assigned to Dr. Dickinson was greatly delayed by her necessary absence abroad, and the returns have come in only partially, and not in time for anything like complete collation. The questions submitted were as follows: What are the effects of gonorrhea on the female? 1. Are the vulvovaginal and periurethral glands infected? 2. Are the urethra, bladder, ureters and kidneys infected? 3. Is the rectum infected? 4. Is the myometrium infected, cervical and corporeal? 5. Is the endometrium infected, cervical and corporeal? 6. Is the endosalpinx infected? 7. Is the pelvic peritoneum infected? 8. Are the lymphatic vessels and glands which drain the genitals and rectum infected? 9. Is there any affection of the joints single or multiple? 10. What are the other effects? 11. Should gonorrhea be recognized by statute and, if so, what should be the substance of the law?

The answers to questions 1 to 10, inclusive, are simply corroborative of the answers to the questions submitted by the chairman to the gynecologists. Most simply answer "yes," but Winslow Anderson, of San Francisco, gives his reply in percentages, as follows: 1. The vulvo-vaginal glands and Skene's glands of the urethra are infected in fully 75 per cent. of my cases. 2. The urethra is infected in about 40 per cent., the bladder in 10 per cent., the ureters and kidneys in about 2 per cent. 3. The rectum is infected in about 2 per cent. (Lydston, and one other who forgot to sign his name, qualify by stating that this occurs only in perverts where coitus is practised per rectum.) 4. The myometrium, cervical and corporeal is infected in about 50 per cent. of cases. 5. The endometrium, cervical and corporeal is infected in about 90 per cent. of untreated cases. 6. The endosalpinx is infected in about 25 per cent. of untreated cases. 7. The pelvic peritoneum is infected in about 25 per cent. of untreated cases. 8. The lymphatics are infected in 25 per cent. 9. The joints are infected in from 1 to 2 per cent. of my cases. 10. The other effects are septic absorption, which destroys the red blood-corpuscles, causing leukemia, and septic anemia with deterioration of the red blood-corpuscles and hemoglobin. (Newman adds: "Sterility, ophthalmia neonatorum, etc.;" Canney,

"sterility, endometritis"; Harsha, "sterility more or less permanent, endocarditis, fixation of uterus and adnexa, etc."; Orendorf, "invalidism and sterility"; Burr, "endocarditis"; Matos, "all the serosæ, pleura, peritoneum, meninges, etc."; Steele, "resulting sterility and relapsing invalidism," and Kales, "periophoritis as well as the conjunctiva of the patient herself or her new-born child if she has one. The latter infections I hold to be of considerable medicolegal importance.")

VIEWS OF THE GYNECOLOGISTS.

1. *Pelvic Inflammation and Gonococcal Infection.*—In reply to the question as to the percentage of pelvic inflammation traceable to gonococcal infection, there seems to be a very wide diversity of opinion among gynecologists. The widest is between Van de Warker, who in forty years has seen but two cases where gonorrhea invaded the tubes; Bantock,¹ who sees no reason to change his views expressed in a paper read before the Section of Obstetrics, Medicine and Gynecology, at the annual meeting of the British Medical Association, in Birmingham, July, 1890; Cathcart, who, after 4½ years' work in the Lock wards of the Edinburgh Royal Infirmary, maintains that "the majority of those who have suffered from disturbances of the menstrual function have not been affected more severely than one expects to find in a similar number of women who lead regular lives," although he admits that "there certainly have been a few cases of undoubted salpingitis and ovaritis"; and Humiston, who finds that, "without classifying doubtful cases as gonorrhea, 90 per cent., at least, of pelvic inflammatory troubles are attributable to gonorrhea, the infection being usually of a mixed character—gonococcal with some one of the pyogenic micrococci," and Joseph Price, who says that in over one thousand sections for pelvic suppuration, 90 per cent. were traceable to gonorrheal infection, and that 90 per cent. of those histories are reliable and clear. Czerny regards it as impossible to tell. Boldt estimates from 5 to 8 per cent., admitting it a guess. Ten per cent. is the estimate of Skene, Robb, Eastman and Bovée. Dunn gives the same percentage for private cases, and Jacobs—5000 private cases—gives 10 to 12 per cent. Johnson says "a large majority"; Wathen, "nearly all of the cases"; Byford, "in majority," and Mann, "nearly all" of those who have not borne children; Heywood Smith, differing from his English confrères, finds many cases of salpingitis and ovaritis due to gonococcal infection, and Barton Hirst also finds the number large. The estimate of Pozzi and Frederick is 75 per cent.; 60 per cent., that of Lapthorn Smith and Stone; 50 to 75 per cent., the estimate of Baldwin; 50 per cent., that of Watkins and Lawrence; Ross, 50 per cent., omitting sepsis following labor, and Noble, while giving 50 per cent. as his estimate, is under the impression that it is too low. Dunn finds 33 to 55 per cent. in charity hospital work; Lanphear, not to exceed 25 per cent., excluding prostitutes; Kreutzmann, at least 33 per cent.; Baldy, 33 per cent.; Grandin, 20 per cent.; Jacobs—7000 cases—18 per cent., in polyclinic cases. E. C. Dudley, while giving no estimate as to percentage, has found not infrequently the gonococci in the tubes removed.

Diverse as these estimates are, the weight of evidence bears unmistakably toward the conclusion that gonococcal infection is a very considerable factor in the causation of the inflammatory diseases of the pelvic organs in the female, and that, as Peterson aptly remarks, "the more the disease is studied in women, and the greater the improvements in bacteriology, the higher is to be found this percentage."

2. *Infection from Patients Pronounced Cured.*—As to the second question regarding infection by men where the cases had been pronounced cured after thorough treatment and careful bacteriologic examination, a large majority responded that they have no data. Baldwin knows of but few instances where such examination has been made, but one such was followed by prompt infection. Mann knows of but two cases; Jacobs gives 2 to 5 per cent.; Eastman, 5 per cent.; Noble recalls three cases; Hirst has seen it recur a number of years after the man was pronounced cured. E. C. Dudley does not estimate the proportion, but states that many wives of such men have salpingitis. The gonococcus is not uniformly found; it may never have been present, or other germs may have taken its place. Wathen states that many are so infected, but that physicians seldom make correct examinations, hence their opinions are not reliable. Byford finds the infection usually from recent cases or complicated old ones. Lanphear has known a large number of infections where the man has not waited long enough, and where no bacteriologic test had been made. Humiston, while giving no estimate, inquires, very pertinently: "How many physicians do make careful bacteriological examinations?" Price says: "In a large per-

centage—over 50 per cent., in married women"; Lawrence, "Very difficult to determine, but probably about 20 per cent." Jadassohn states that when, after thorough treatment and repeated and thorough bacteriologic examinations, he has concluded that a man is cured and, as he has often done, has permitted marriage, he has never come to know of a single infection that has taken place following the marriage. Finger, likewise says: "With a very extensive"—genito-urinary—"practice and numerous candidates for marriage I have, as yet, seen no case where a person, permitted to marry as cured, has infected his wife." Frederick says: "I do not know that I have ever known of infection after thorough treatment and the culture tests have been negative; most men, as you know, are pronounced cured when the discharge ceases. If your report can in any way lead the general profession to more fully realize the injustice they are doing by their careless and incomplete treatment of these cases and by the consent to marriage and to intercourse, not having proven that the man is cured, you will merit the praise of all womenkind."

3. *Curability of Gonorrhea in the Female.*—As to the curability of gonorrhea in the female, so that the patient is no longer infectious, there is also a wide diversity of opinion. Johnson says the proportion is very small—"once a clap, always a clap"; Bovée, 5 per cent.; Lapthorn Smith thinks that none are absolutely curable, but in the course of time the infection dies out—the gonococcus kills itself with its ptomaines—in all cases. Frederick says: "I have never seen one whom I felt sure was absolutely cured; if we could know all the subsequent history of women after we had treated them we might find that some were cured. I have known men to be infected by women whom I had treated thoroughly and for a long period, thinking them cured. Some men in a sense become immune to gonorrhea. I have known a man to cohabit with a woman for years without infection, and another was infected at the first intercourse with this same woman." Noble regards it as a matter of great difficulty to positively eradicate gonorrhea in the female. Pozzi regards it as "very often" curable. Dunn says: "Where the gonococcus has not invaded the tubes they are all curable." Skene regards all cases as curable where the disease has not reached the body of the uterus and oviducts. Lawrence says: "All if proper treatment be instituted early." Byford considers nearly all as curable "after a long time." Ross says: "No reason to believe that there are any incurable cases in this sense so far as danger of infection of the male goes. While the disease may spread up into the tubes and ovaries and may produce incurable disease in these I am firmly convinced that the vagina remains no longer infectious." This is corroborated by E. C. Dudley, who says: "Many widows who have had gonorrhea from the first husband fail to infect the second husband. I do not recall a case in which a man was infected in consequence of marriage with a widow. If the danger were very great I think more men would suffer. Why should not a man marrying such a widow be as liable as a woman marrying a man with a gonorrheal record?" Watkins believes that nearly all cases are curable "if treated early, actively and especially during the first one or two menstrual periods following the infection"; Wathen, "in nearly every case"; Baldy, "100 per cent." Van de Warker has always found the duration of the disease short and more tractable in women than in men, while Hirst thinks "gonorrhea is apt to remain latent in the female and to be infectious for a long time." Boldt says, "it is curable in nearly all cases and I believe in all if thoroughly and patiently cared for." Grandin states "that if seen in the acute stage, e. g., after infection of uterus, cure doubtful." Robb believes "that all cases if properly treated and if kept under the observation of a competent physician can be cured." Kreutzmann regards it "absolutely curable either with conservative treatment or radical operative procedures." Humiston's opinion is that "every female can be freed from gonorrheal infection by proper procedures, the vagina and uterus readily, the Fallopian tubes and the Bartholin glands may require complete extirpation." Price says: "Incurable if the diseased uterus and appendages remain. Infection rarely occurs after prolonged treatment of vagina and mucous membrane," and Jacobs concludes as follows: "In the vagina gonorrhea is easily curable, in the cervix with difficulty, in the uterus and peritoneum, incurable except by radical operation." It is Audry's opinion that "in a general way in the case of a woman one can express a great probability in favor of a cure, but one never has a certainty thereof; for the duration may be indefinite, the latency absolute, and the infection manifest quite formidable habits of reviviscence."

4. *Gonorrheal Infection and Sterility.*—As to the extent to which sterility is due to gonococcal infection, Pozzi

says: "It is impossible to say"; Van de Warker states that "the results of an investigation once carried on were negative." Of those giving percentages, Dunn's estimate is the lowest, viz., 3 per cent.: A. Lapthorn Smith estimates 12 per cent. due to the man's gonorrhea, and 21 per cent. due to the wife's. Jacobs gives from 20 to 21 per cent.; Skene, Grandin and Boldt estimate 33 per cent.; Bovée, 40 per cent., as also does Ross; Stone, Lanphear, Price, Frederick and Mann give 50 per cent.; Noble, 66 per cent.; Eastman and Baldwin, 75 per cent.; E. C. Dudley, Byford, Johnson, Watkins, Wathen, Boldt and Heywood Smith, without giving any definite percentages, regard the number as very large. Hirst and Robb regards it as the rule where infection has occurred. Humiston and Kreutzmann say that sterility results in every case where ovaries or tubes are attacked, and Czerny believes that "certainly in half the cases the sterility of the woman is to be traced to the husband's gonorrhea."

VIEWS OF THE GENITO-URINARY SPECIALISTS.

1. *Curableness of Gonorrhea.*—As to the first question propounded to the genito-urinary surgeons, viz., whether gonorrhea is so curable that the physician can confidently say to his patient: "You may marry now, you run no risk of infecting your wife," they have without exception responded "Yes." Some of them, however, qualified their answers to a certain degree as follows:

Lydston said: "In the majority of cases"; Chismore, Fuller and Verhoogen, "In the great majority"; Park, "In the majority of cases if the disease is not too extensive"; Ravogli, "If organs which can not be reached by instruments be not involved"; Zeisler, "That depends on a variety of conditions which are not always controllable by the physician"; Allen, "But we can not certainly predict recovery at the outset in any given case"; Audry, "If the physician attends to it diligently and the patient is willing to care for himself as required and for as long a time as is necessary"; Feleki, "Only a small percentage must, in consequence of the uncertainty of the duration of their infectiousness, or in consequence of serious complications, be looked upon as incurable. I estimate this proportion as about 3 per cent."; Guepin, "Gonorrhea (gonocoeal urethritis) is curable, but not more so than syphilis, and like it, the physician can never say to his patient that he is absolutely cured"; Jadassohn, "Not curable in such a sense that the physician can indeed undertake to guarantee that no infection will result therefrom, but so that in good conscience he can give an assurance that in all human probability infection is now excluded."

2. *Curableness of Urethritis.*—With regard to the second question, the relative curability of anterior and of posterior urethritis, there is considerable diversity of opinion as to the exact percentage, but a general agreement as to the curability of a great majority provided proper treatment be instituted early and persisted in until the evidence of cure is complete. Finger states that "all are curable." "I have," he says, "as yet seen in my practice no condition in which, with earnest determination on the part of the patient, it has not been possible to bring about a cure." But he also says, "I always follow this principle rigidly; when a patient does not obey my injunctions and take the treatment of the disease seriously; when warnings do not bear fruit, I positively decline to treat him further." Keyes and Chetwood, Belfield, Lydston, Chismore, De Keersmaecker and Audry maintain that practically all cases are curable in so far as infectiousness of the man is concerned, it being understood that time enough is allowed to effect a cure. Fuller expects all to be cured except where tuberculosis or extensive involvement of glands coexist. Burnett says, "100 per cent., if gonorrhea alone be present"; White, "Nearly all"; Martin, "95 per cent. certainly"; Judkins, "85 per cent., but somewhat less in posterior urethritis." All cases of anterior urethritis are regarded as curable by Guitèras, Christian and Tuttle. Klotz regards posterior urethritis not less amenable than anterior, provided the deeper glandular appendages or adnexed organs be not involved; in a large majority of cases both are curable; likewise Allen notes a large majority as recovering, but more in cases of anterior than in posterior urethritis. Feleki finds 2 to 3 in 1000 of anterior urethritis incurable, and from 26 to 28 in 1000 of posterior urethritis. Rona says: "The majority of uncomplicated cases of total as well as anterior urethritis"; Verhoogen, "Anterior urethritis always curable, posterior urethritis with greater difficulty." Neisser gives a good prognosis in anterior urethritis, a less favorable one in posterior. Burkhardt says he sees no acute cases whatever, but in 256 cases of chronic urethritis—all of posterior or total urethritis—reports 245 complete cures. Christian regards a small

proportion of chronic posterior urethritis as incurable owing to the involvement of the seminal vesicles and prostate. Guitèras estimates 98 per cent.; Cathcart regards it as most obstinate; Tuttle and Corlett estimate 60 per cent., while the latter estimates 80 per cent. in anterior urethritis. Lewis gives from 80 to 90 per cent. of both, provided that there be no serious complications, but he believes that posterior urethritis is present in the great majority of cases of prolonged gonorrhea, and that it is not properly to be considered a complication, but a natural phenomenon of gonorrhea. Tommasoli gives 93 per cent. in anterior, 80 per cent. in posterior urethritis; Zeisler and Fuerbringer give the lowest estimate, the former holding that a majority are cured in anterior and a minority in posterior urethritis, and the latter giving 50 per cent., and far below 50 per cent., respectively, as his estimate. Jadassohn, speaking of these complicated cases, says: "I personally know of no case where that"—the disappearance of the gonococci—"has not been accomplished, where the patient has not prematurely and arbitrarily interrupted the treatment."

There is no uncertainty therefore in the statement of these physicians, the weight of testimony is unquestionably in favor of the position which has heretofore been publicly taken by one member of your committee, viz., that gonorrhea is a curable disease, curable in every stage, and in a large majority of cases, provided only that the physician exercises due diligence and skill, and the patient cheerfully submit himself to treatment and for a sufficient length of time.

3. *Treatment.*—It is not possible, within the limits of this report, to do even scant justice to the various and accurate details regarding treatment given by your correspondents, some of whom have furnished your Committee with very carefully prepared and full papers. Suffice it to say that broadly speaking they may be divided into two classes: those who employ the Janet method in one or another of its modifications, and those who do not. Whether they employ it or not, these diverse schools of genito-urinary therapeutics all agree upon one point, viz., that the disease is curable if treated patiently, intelligently and persistently, adapting the means to the pathologic condition of the urethra and its adnexa, and to the constitutional idiosyncrasies of the patient. Finger "can not recommend Janet's method of irrigation," but recalls no case of failure to cure. Feleki, who in the very earliest stage uses the urethroscope and through it pencils the affected part and afterward the entire anterior portion of the urethra with a 3 per cent. solution of nitrate of silver, recalls only two or three failures in a thousand in the anterior urethra. Jadassohn, who says that "irrigations . . . without catheters according to Janet's method seem to afford no special advantages, on the contrary often occasion increase of irritation," further says, "the duration of the treatment seems to me the chief factor in all cases and especially those chronic cases in which the tendency is to relapse whenever the treatment is suspended."

On the other hand, Nogues, De Keersmaecker and Verhoogen, claiming the same results as to final cure, are enthusiastic advocates of free lavage with permanganate of potash in the acute stage. All agree that the involvement of the glands of Littre, of Cowper, of the prostate, and of the seminal vesicles, constitute complications requiring especial, prolonged and patient treatment with injections, sounds, dilatations, massage, internal urethrotomy, or even, in some cases, external urethrotomy to effect a cure.

4. *Duration of Gonorrhea.*—As to the question of time limit, Martin, Park, Czerny, Chismore, Fuller, Lydston, Nogues and Corlett mention one year as the proper interval after disappearance of the last gonococci. Fuerbringer says several months. Six months is Cathcart's limit. Three to six months is the time stated by White, Judkins and Burkhardt. Christian says four to six months; Lewis, three to four; Guitèras, Allen, Jadassohn and Rona, three months. Six weeks to six months from the time the urethral mucous membrane is normal is Burnett's rule. Ravogli prescribes four to six weeks. Guepin's opinion is: "The longer the better." Audry directs three or four weeks in ordinary cases; if, however, there be a slight secretion of the urethra, but without pus, he extends this period to six or seven weeks, but in case the urethritis shows a well-marked purulent secretion, although gonococci have positively disappeared, he requires a period of several months or more, "that is, a lapse of time indefinite, if not infinite." Feleki sets no time limit, but is governed by the absence of pus cells. Tommasoli mentions two to three weeks. De Keersmaecker and Verhoogen judge by the absence of all signs after the usual tests, and Neisser regards the time as a secondary consideration to the fact of demonstrated presence or absence of the gonococcus.

5. *Determination of Cure.*—There is a substantial unanimity in the replies respecting the tests necessary to determine the question whether the patient is no longer infectious. All agree that the examination should be searching, thorough and repeated; that the discharge of the anterior urethra, the posterior urethra, the prostatic secretion and that of the seminal vesicles should be examined separately, and that only on the basis of repeated negative examinations, conducted over a considerable period of time, should the conclusion be reached that the patient is no longer infectious. Jadassohn, however, does not regard beer test and the cohabitation test as necessary to an accurate result, while Catheart would not recommend illicit intercourse, not considering it justifiable under any circumstances. Most all insist on the absence of pus cells as well as of gonococci. Nogues, Guepin, Feleki, Tommasoli and Lydston in particular call attention to the importance of other pyogenic germs. "The fact is," says Feleki, "that we see cases where men in whom the gonorrhea, from the standpoint of the gonococcus, can be pronounced as positively cured, infect their wives, where nevertheless neither in the man nor in the woman can gonococci subsequently be demonstrated," and further, he says, in regard to such cases, "I hold it as out of the question for the patient to infect his wife with gonorrhea, but in the presence of secretion containing pus, I regard it as possible that the wife can acquire from this husband an infection which is not gonorrheal in character." Nogues says: "Microscopically I do not go so far as to require the absence, in toto, of leucocytes—a thing which is practically impossible, but it ought to be so that they are found only occasionally, and that they be not accompanied by altered epithelium. I must repeat this, that I require the absolute asepsis of this drop"—the "morning drop"—"but I attach a very great importance to this also, that the state of asepsis has not been disturbed by a single attack of secondary infection for a very long time—a year at least." Lydston says: "A patient is dangerous so long as a trace of purulent discharge is present whether the gonococci be present or not; it may not convey gonorrhea, but it is capable of producing non-specific inflammation in a healthy woman which may at any time cause serious pelvic results." Tommasoli is the only one who does not insist on following out these prolonged tests to determine, as positively as can be, the absence of the gonococcus. His reasons are: "1, because bacteriological examination for the gonococcus in chronic urethritis is too deceptive and not sure; 2, because I recognize that there may also exist infective urethritis, acute or chronic, even without gonococci . . . and I do not believe that it is possible in every country to compel the patient to submit to those repeated, multiplied and tedious trials to which Professor Neisser subjects his patients. In my country, where the vivacity and the impatience of patients is such an extreme item, no specialist, I believe, will be able to follow the rules of the school of Breslau, even though he believe them extremely useful." Guepin maintains that "in order to say that the patient is cured it is absolutely necessary that the urethral discharge shall no longer contain a single pathogenic microbe; that the urinary filaments be no longer purulent, and, *a fortiori*, no longer infected; that the products of the submucous urethral glands (glands of Mery in particular) and submucular (prostate, seminal vesicles) should be normal; the semen ejaculated should also be examined. That methodical examination done after the patient, cured to all appearances, shall have resumed his customary life, while it is of great prognostic value in the majority of cases, still does not warrant the affirmation that the spontaneous reappearance of gonococci is impossible." Neisser sums up the matter as follows: "We do not to-day possess any test or tests which enable us to declare with positive certainty that the patient is wholly free from the gonococcus. When considered from a practical rather than a purely academic standpoint, however, our present methods of examining and 'testing' the patient are such as to deserve our entire confidence, and when these have been carried out in a thorough, careful and intelligent manner by one skilled in their use, the obtaining of a clear negative result will justify the physician in saying to the patient, 'You may now marry; as far as I am able to judge, you will not infect your wife.'"

GONORRHEA AND THE LAW.

The response to Question 11, of Dr. Dickinson's list, shows a pretty evenly divided sentiment as to whether legal restriction should be attempted or not. Winslow Anderson says: "I look upon the sequelæ of gonorrheal toxemia as the most serious complication with which the gynecologist and abdominal surgeon has to deal and something should be done to check

the disease, but those who advocate legal restriction are by no means agreed on the best method." Most of them would have rigid and regular inspection of prostitutes, with license of houses of prostitution according to the European fashion. Ridlon would make the wilful transmission of the infection a criminal offense. Steele, Burr and Orendorf would deny license to marry to persons suffering from gonococcal infection. Newman, with a keen recognition of the complexity of the problem, writes: "Laws should be so framed as to secure ample protection to all innocent persons, both women and their offspring, and should be formulated by a committee composed of representatives of both medical and legal profession." On the other hand, Harsha says: "Impracticable to regulate by statute"; Wherry, "No. To do so would lead to blackmailing and many social disasters. It is the medical profession and not the law that should repress it." Matos says: "While the gravity of gonorrheal infection justifies its recognition by law, I do not believe that the time is opportune for legal recognition; the subject must still be left in the hands of the profession and to the gradual education of the people to its importance"; Lydston, "I do not believe any statute bearing on gonorrhea would be practical"; Edmund Andrews writes: "In general terms some useful legislation is possible, at least theoretically, but the well-known impossibility of enforcing a law under our present corrupt civil service which has not a strong, watchful and almost unanimous public sentiment sustaining it, renders a good result practically hopeless at the present time. The often suggested plan of having persons appointed to examine physically all candidates for marriage and to decide on their permission would, in our present defective means of keeping examiners above the reach of bribery, blundering and partiality from other motives, wreck any such statute in five years." And, finally, Kales admirably sums up the reasons that prompt so many earnest and honest men to oppose any statutory regulation of the evil, as follows: "Such a serious variety of infections as those listed and known to be propagated by irregular sexual relations may seem to call for legislative interference, or, at least, regulation. Better no law than one which is not or can not be enforced. Public approbation is necessary to the enforcement of such laws. The legal aspect of the question might be divided into: a. Laws dealing with domestic immorality. b. Laws relative to public immorality.

a. Perhaps the most important laws would be those which aim to protect the innocent woman, or mother, from infection in her marriage relations with her husband. 1. She may be unfortunate enough to marry a man who has an uncured gonorrhea or syphilis and thus either disease is communicated with all its attendant misery. 2. Or she may receive the infection from her husband in later years owing to his dissolute life.

b. Laws which refer to public immorality or prostitution aim to get at the probable sources of infection. Such laws have been in operation in certain countries for many years. The very general opinion is that they have failed, though enforced with the rigor of European police methods.

The times seem foolishly to call for laws which shall suppress or regulate every evil, and these laws are usually impotent according as they are numerous. Their non-enforcement develops lawlessness, and their irregular enforcement is oftentimes a matter of bribery or blackmail. The evils thus developed by over-legislation are often worse than a continuance of the evil legislated against. I should not add a single new law to the statutes, except to amend those which facilitate divorce, and if venereal disease be transmitted, divorce, damage or other penalty should be obtained without unnecessary delay or publicity. Such hearings might be before a judge, and jury of physicians, or laymen and physicians. As regards laws regulating prostitution, I would have none. The general public needs education on venereal and sexual matters by able physicians. It is rare in family practice that the opportunity to give this advice is not afforded one. Advice of this kind should be wholly personal and private, but such counsel usually spreads in the same personal and private manner from one confidant to another and ultimately does much good. Public advice of this kind simply excites morbid sensibility while a confidential interview does much to enable one to get the better of individual weaknesses with no loss of self-respect."

It must be manifest to any one competent to weigh evidence that a disease which is responsible for so large a proportion of pelvic inflammatory diseases and sterility in women is an ailment which demands our conscientious care and earnest consideration as to the best method of stamping it out. We can not but regard it as one of the more serious diseases that

affect humankind—all the more serious in that its graver consequences are usually so remote that the connection between cause and effect has not as yet impressed itself upon the minds of the laity, or even of the medical profession as a whole. Worse yet, the cities teem with advertising quacks and the druggists' shelves are stocked with advertised nostrums that claim to quickly cure this disease so serious in its consequence and so intractable in a considerable proportion of cases. The first duty, then, of the profession in this regard would seem to be to impress the gravity of the disease on the minds of their patients, so far as possible, and, as opportunity offers, on the minds of the public generally. Young men should be taught authoritatively that a man with an uncured gonorrhea is a man dangerous to himself, to his family and to the community; that no acquisition to the "wild oats" period, not even syphilis, is likely to be so fraught with serious results to them and to their families in after life. Whatever may be the outcome of syphilis to the individual, under a proper course of treatment and in a period of time fairly well determined, he may marry with a reasonable prospect of having fairly healthy children, and of not infecting his wife. Moreover, a syphilitic expects to undergo from eighteen months to two and a half years' treatment before he is wholly cured, and submits to it willingly. But with gonorrhea, unless a patient knows by the actual determination of the physician, that the very last gonococcus has been dislodged from his urethra and the glands and organs in connection therewith, he is liable to infect his wife with an inflammation that may cost her her ovaries and tubes, if not her life, and the least penalty that it is likely to entail upon her is hopeless sterility. The sooner these facts are known to young men, and parents, and young women the greater will be the incentive to self-control on the part of young men, the greater will be the reluctance of parents to consent to the marriage of their daughters to men whose characters are not clean, and the more willing will those be who are so unfortunate as to have contracted the disease to submit to the treatment necessary to effect a complete cure.

Your Committee would emphasize the necessity of every physician treating every case of gonorrhea seriously, treating it thoroughly from the beginning, treating it with all the appliances which modern science places at his disposal, and not discharging the patient as cured until every evidence of pyogenic process in the secretions of the urethra or of the adjacent glands has disappeared. The members of the profession should also do their best to enlighten their clientele regarding the serious dangers involved in the use of nostrums prescribed over counters by druggists and sold from their shelves and advertised in the newspapers—nostrums which profess to cure this disease rapidly and completely. The fact should be emphasized that the disease is not necessarily nor even probably cured when the visible discharge and the burning have ceased; that just at that time it may be taking on its most insidious, chronic and intractable form; that just at that time, when the discharge has apparently ceased, is the time it is essential to know positively from a competent man whether the cure is apparent or real, whether there be any disease remaining in the deeper urethra, its glands, or the organs connected therewith.

Aside from the question, whether or not a physician can be legally required or even allowed to report a case of venereal disease, it is doubtful in the minds of your Committee whether any plan of examination of prostitutes or any plan requiring a report to health authorities of cases of gonorrhea occurring in the hands of general practitioners and specialists can be made practicable. The lesions of syphilis are visible to the naked eye, they are obvious, they can be inspected; the gonococcus, however, is microscopic and elusive—so elusive that a person may be infectious and yet half a dozen careful examinations may fail to demonstrate the presence of a single one. While it would be easy enough to demonstrate the infectiousness of a person in the acute stage, it is not through cases in the acute stage that infection is chiefly spread, but from cases which suppose themselves well, hence it is that the only hope we have of suppressing the spread of the gonococcus is by cultivating a general intelligence regarding the danger and the insidiousness of the contagion, and by never discharging a patient from our hands as cured until, after the use of all the means that science has placed at our command, we can say positively that in all human probability he is no longer infectious. Then, and only then, can consent to his marriage be given.

The thanks of the Committee are due to our colleagues in the profession who have so cordially responded to our questions, and to Drs. William Conrad, E. J. Rose, A. Pasini and

A. Ravogli for their kindly aid in the translation of the manuscripts in German, French and Italian.

Respectfully submitted,

L. B. TUCKERMAN, Chairman.

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PURULENT OTITIS—ITS TREATMENT AND PREVENTION BY THE FAMILY PHYSICIAN.

H. GRADLE, M.D.

CHICAGO.

The scope of the present paper is defined exactly by its title. It is to present to the practitioner the teaching of modern otology regarding a very important disease, for acute purulent inflammation of the middle ear is so common that the majority of cases, at least among children, are seen by the general practitioner, and not by the specialist. Frequent experience has shown me that the form of treatment which progressive otologists have recognized as the best and safest has not yet been adopted by all general practitioners. Yet it is so much simpler than the less efficient methods so often employed or advised by physicians. It is but the application of ordinary surgical principles to purulent inflammation localized in the ear. Just as in the preantiseptic days, wounds did heal after a fashion, so in incorrectly treated cases purulent otitis will often heal, but delays and unfortunate accidents are much more common. Many an

ear and occasionally a life is lost which a little care on the part of the attending physician would have saved.

The diagnosis of acute purulent otitis is very definite. Sudden earache with some feeling of fulness and moderate deafness leave but little doubt as to the diagnosis. The view of the uniformly reddened drumhead seen through the speculum dispels all doubt. During severe infectious diseases, like measles, scarlet fever and diphtheria, the depressed condition of the patient may mask the onset of the ear symptoms, and it is particularly necessary under these circumstances to watch for them. Some doubt may arise in a given case whether the disease is the ordinary form of purulent inflammation, which surely terminates in perforation of the drumhead with discharge through the meatus, or whether it may not be the milder or abortive variety in which no perforation takes place. The latter form is much less common. As a rule the prognosis can be made within the first day. When the pain lasts continuously, perforation will surely follow. When the pain is intermittent, perhaps only nocturnal, the exudate may disappear without discharge through the drumhead. It is only when the pain has been distinctly intermittent that surgical puncture of the membrana tympani should be deferred. Otherwise the interests of the patient are best served by immediate paracentesis.

The first demand of the patient is usually for relief of the severe pain. The use of the various popular ear drops, tincture of opium in sweet-oil, camphorated oil and a host of others can not be condemned too severely. They are all utterly useless and have no influence on the pain. No form of application is known which can surely stop the earache of purulent otitis. Carbolic acid dissolved in glycerin—10 to 12 per cent. solution—has a slight benumbing influence in some mild instances, but it is not to be depended on. It may perhaps help to avert perforation in the mild form of cases. It can therefore be endorsed as a palliative and perhaps slightly curative agent, all the more so since it sterilizes the skin of the meatus if left in place sufficiently long. External heat in the form of the hot-water bag or the Japanese stove gives slight but grateful relief. Severe pain, however, can only be controlled by opium internally. The speediest way of obtaining relief is immediate paracentesis.

The curative treatment consists in draining the discharge promptly and efficiently and preventing secondary changes. The effusion is present as soon as the disease manifests itself, and the sooner it can escape the quicker the relief and the milder the course. It has not been sufficiently emphasized that the discharge is serous at the start—at least in most instances—and only becomes purulent later on. The more severe cases, and especially those due to streptococcus infection, may seem exceptions to this rule. In some of these instances mentioned the effusion is purulent when it breaks through the drumhead or even when paracentesis is done after thirty-six hours. I am quite in doubt, however, whether an earlier puncture would not have shown a serous fluid even in these apparent exceptions. When proper treatment is begun during the stage of serous discharge, the latter can be prevented from becoming purulent and the disease will then pursue the mildest and shortest course possible. Not only is its duration shortened, but the liability to complications is diminished. Personally I have never seen mastoiditis supervene in a case in which the discharge remained serous.

The change from a serous to a purulent discharge is

in some instances due to later secondary (mixed) infection by bacterial invasion through the meatus, as can be shown by bacteriologic analysis. But I believe that this is only a later accident and that primarily the purulency is due to insufficient drainage of the serous discharge. For whenever the discharge is retained in the middle ear until a late spontaneous perforation occurs, perhaps on the third or fourth day, it is almost surely purulent. Experience thus points out three well-defined indications in the treatment, viz., early paracentesis, efficient drainage, absolute asepsis.

Puncturing the drumhead is an easy, safe operation for which every practitioner ought to be prepared. The technical details are found in all text-books on the ear. It must be remembered that it causes a sharp, but transient, pain which can not be diminished by any local anesthetic. Before the operation the meatus should be cleansed by syringing if it contains wax or scales of skin, otherwise this is unnecessary. After spontaneous perforation or paracentesis syringing should be avoided. It is useless at best, and if repeated seems to influence the disease unfavorably. If required in order to obtain a view of the punctured drumhead, it should be done with sterile water and under aseptic precautions.

Before paracentesis the meatus should be sterilized in a reliable way. Watery carbolic acid solution may be left in place for at least three minutes, filling the meatus and the auricle. Carbolic acid dissolved in glycerin is not as active a disinfectant and requires a longer time, but its efficacy is increased by previously moistening the walls of the meatus with water. The same sterilization is required before applying the first dressing after spontaneous perforation. For the purpose of drainage, a narrow strip ($\frac{1}{2}$ by 4 inches) of a good absorbent gauze is pushed with a probe through the disinfected speculum into the meatus until it touches the drumhead. The concavity of the auricle is then packed with bits of gauze until a thick pad is formed. As the discharge is sometimes very copious, a large absorbing cushion is required. It may be retained by a strip of adhesive plaster. The external pad should be replaced when it gets moist, which the properly instructed patient can do himself. The strip in the meatus, however, should only be changed by the surgeon once in one or two days. As it is impossible to assure permanent sterility by asepsis alone, it is best to powder the gauze freely with a mixture of boric and salicylic acids (6 to 1). With sufficient thoroughness a serous discharge can thus be prevented from becoming purulent and the patient be saved considerable discomfort, delay and danger. Even when the treatment is begun too late, when the discharge has assumed a purulent character, it is still the best method to insure the most rapid course under the circumstances. Occasionally it happens, especially with a purulent discharge, that the walls of the meatus get macerated. It is best to omit the salicylic acid in such instances, using only boric acid, and to protect the skin by smearing with an oxid of zinc and lanolin salve after thorough drying.

The prevention of acute otitis consists in attention to those influences which are known as causes or predisposing factors and which the family physician can control. The most important of these is the enlargement of the pharyngeal tonsil, or adenoid vegetations. I have observed with much satisfaction that the profession is getting more and more to recognize the importance of this frequent morbid occurrence, and it is only rarely that I now hear the old vicious advice given to patients,

"to wait and outgrow it." Experience has shown in the most positive manner that an enlarged pharyngeal tonsil enormously increases the danger to the ear when over the child takes scarlet fever, diphtheria or measles or merely acquires an acute nasal catarrh. The family physician should insist, without exception, on the removal of adenoid vegetations whenever they are of sufficient size to produce the easily recognizable symptoms of nocturnal nasal obstruction. The operation is free from risk of any kind and properly done causes very little pain.

A second important influence which often leads to a suppurative otitis is the misuse of the nasal douche. I do not condemn the nasal douche as such. It is a valuable therapeutic method with definite indications. But it should not be advised except for these specific indications, since in other instances it is useless. I do not think that it ought to be recommended by any one not fully familiar with nasal pathology. In spite of numerous warnings by otologists, many physicians are still not fully aware of the dangers of the douche. When water gets into the Eustachian tube a violent otitis is almost sure to follow. Many an ear has been permanently damaged and much needless suffering has been caused by the careless advice to a patient "to syringe out the nose." Worse even than this is the suggestion to snuff up fluids or to pour them into the nose with some spoon-shaped device intended as a substitute for the douche. The different contrivances sold for this purpose have not even the valid excuse which can be claimed for the douche itself. The latter does really remove viscid secretion from the upper part of the nasal cavity, where its presence perpetuates disease. The substitutes do not accomplish this at all, but carry with them all the danger to the ear incident to nasal irrigation.

A physician not well versed in nasal diseases will do better to avoid the nasal douche and to substitute for it the liberal use of the spray from a good atomizer for the purpose of removing secretion. Though less efficient than the douche, it is safe. Its frequent employment, especially in the suppurative rhinitis accompanying the infectious diseases of childhood, lessens to a moderate extent the liability to infection of the middle ear. The material used in the atomizer is nearly irrelevant. It is the mechanical effect, which can only be obtained by a coarse, watery spray, upon which its utility depends.

Clinical Reports.

PRIMARY UNION IN A GUNSHOT WOUND.

REPORT OF CASE.

ALBERT SOILAND, M.D.

LONG LEAF, LA.

S. V. C., night-watchman at a planing-mill, was accidentally shot while stooping to pick up an object from the floor, his pistol falling out of its holster and being discharged upon striking the floor. The ball, of 41-caliber size, entered the anterior fold of the left axilla, between the third and fourth ribs, and emerged at the back, between the sixth and seventh ribs, just external to the axillary border of the scapula. The patient was able to walk from the place of accident to his house, a distance of 500 yards, and when I arrived I found him bleeding profusely and complaining of an intense burning pain through the entire left side. There was very little shock noticed and he was in good spirits. The anterior wound was

round, clean and surrounded by a few powder-burn marks. The posterior wound, or point of exit of the bullet, was large and ragged, and from this the hemorrhage ensued. On careful palpation I could not detect any crepitus nor signs of extravasations of blood in the pleural sac.

Treatment.—Both wounds were syringed out thoroughly with hydrogen peroxid, packed with sterile gauze, and a moderately tight bandage applied. Ten grains of eitrophin were administered and a like amount ordered taken in one hour if very restless. On the following morning the dressings were removed and the same procedure gone through with as before. Pain was now nearly gone and hemorrhage reduced to a mere oozing of serum. No further internal medication was deemed necessary, as the pulse and temperature were found to be normal. A saline was administered, however, and a generous diet of easy digestibility instituted. On the fourth morning dressings were found to be absolutely dry and the anterior wound nearly closed up, the posterior being reduced to one-half its original size and filled with healthy granulations. A fresh dry dressing was now applied, plain sterile gauze being placed over the wounds and a minute quantity of iodoform was sprinkled into the meshes of the gauze, this dressing to remain on indefinitely. On the sixth day the patient walked about and suffered no inconvenience, except a little stiffness noticed in the left side. On the morning of the tenth day dressings were removed and both wounds found to be nicely healed, a firm cicatrix covering each one. That night he resumed his work as watchman, exactly ten days from the time of accident.

It might be well to state that that patient had taken a bath and donned clean undergarments just prior to the accident. He wore no coat nor vest, as the weather was extremely warm. This may account for the absence of infection and the aseptic condition of the injury throughout its course.

CASE OF TYPHOID IN AN INFANT.*

MINNIE C. T. LOVE, M.D.

DENVER, COLO.

The only notable thing in this case is the age of the patient. She was born March 8, 1900, so that she was 8 months old at the time of contracting the fever. When I began taking her temperature, regularly, I found it ranging between 102.5 and 103 in the mornings, and 103.5 and 104 in the afternoons. I was attending an older brother who had scarlet fever, and the mother called my attention to the baby, saying that she had had considerable fever of nights for over a week. On examination, I found rose spots on the trunk, and a dry, brown tongue. Although the clinical picture was so plain, I was skeptical, and asked Dr. J. N. Hall to see the patient with me. He was of the opinion that it was an undoubted typhoid, and the examination of the blood by Dr. Wilder, for the Widal test, confirmed the diagnosis. The course of the disease was typical, the temperature gradually declining, and reaching normal about the twenty-first day. The rose spots were very plentifully distributed over the trunk and limbs. The temperature, from about the tenth to the seventeenth day, rose to 104 F., every evening. The babe was entirely breast-fed. There was no tremor nor delirium noticeable, no tympanites and no diarrhea. This was the third case in the family since September 6. A girl of 10 years was very ill, a severe relapse prolonging the attack to over seven weeks. Ten days after the first, a child 3 years old developed a well-marked case, but it aborted about the fourteenth day. Between eight and nine weeks elapsed between the first and third cases. The mother had typhoid twelve years ago, but, as the oldest child had such a severe attack, and the 3-year old a more moderate one, we may exclude any condition of the mother's blood being transmitted to the baby which would give a Widal reaction. Unfortunately, the mother, who nursed all the children, destroyed the temperature records. This case is interesting, as it is rare to see typhoid under 2 years of age.

Nevada Building.

* Read before the Denver and Arapahoe Medical Society.

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LARDACEOUS, WAXY OR AMYLOID DISEASE OF THE KIDNEYS.

Our knowledge of amyloid disease of the kidneys is of comparatively recent date. Rokitansky, in 1842, described the amyloid kidney as representing a special variety of nephritis. From the appearance of the organs, on account of their resemblances to bacon, he described them as *speckartig*, which has been rendered into English as "lardaceous." The term "waxy" has also been employed. Ten years later Meckel discovered the characteristic reaction with compound solution of iodine, and shortly afterward Virchow showed that this reaction was dependent not on the presence of cholesterol, but upon that of amylin, a substance resembling vegetable cellulose, and subsequently found to be a proteid.

The morbid process is a degenerative one, and, as Litten¹ points out in a recent communication, it does not generally arise spontaneously, but it is almost always secondary to some cachectic condition, especially tuberculosis, scrofulosis, suppuration of the skin, bones or mucous membranes, syphilis, intestinal ulceration, malaria, pyelitis, carcinoma, leg-ulcers of long standing, chronic bronchitis, gout, emphysema, spondylitis, pulmonary abscesses, etc. Amyloid degeneration, however, does occasionally occur independently, without apparent cause. Children are less commonly attacked by the disease than adults. The condition is most prevalent in middle life. It develops slowly, often insidiously, and it may persist for years; occasionally it is rapid in development. The spleen and the kidneys are the organs almost invariably involved earliest and in greatest degree in the morbid process, especially the former. The liver and the intestinal mucous membrane probably follow next in frequency.

One of the most usual symptoms of amyloid disease is dropsy, both of the serous membranes and of the subcutaneous connective tissues. The former most frequently takes the form of ascites, while the latter appears especially in the lower extremities, the genitalia and the abdominal walls. The exhaustion of the patient is favored by disease of the liver, the spleen and the intestines. Involvement of the intestines is usually associated with diarrhea, which is dependent in part on ulceration, and in part upon degeneration of the villi and their vessels, as well as portal stasis. Vomiting is less common, but when present it is usually obstinate; the

vomited matters have at times an odor of ammonia. When the liver and the spleen are involved they may be considerably enlarged. Uremic symptoms and apoplexy are rare. Hypertrophy of the heart also is uncommon, except in the presence of contracted kidney.

Three principal varieties of amyloid disease of the kidney may be distinguished anatomically: 1. Pure amyloid disease of the vessels, with or without fatty degeneration of the cortical epithelium—pure amyloid kidney. 2. Amyloid degeneration with chronic parenchymatous nephritis—large, white amyloid kidney. 3. Amyloid contracted kidney. The first variety is not common, and it may escape recognition during life, unless coincident enlargement of the spleen indicates its presence; and even after death the disease of the kidney may not be obvious on macroscopic examination. The second variety is much more common, and the third least so. A fourth variety, rarely observed, is sometimes described, representing a combination of acute nephritis with pre-existing amyloid disease.

Amyloid disease begins in the blood-vessels, and especially in the muscular layer, though the intima and the adventitia do not, as a rule, entirely escape. Rarely the morbid process extends to adjacent tissues. Macroscopically the condition is recognizable from the peculiar luster to which it gives rise, and which has been compared to the appearance of bacon, but particularly from its reaction to certain chemical agents. Thus, addition of compound solution of iodine causes the development of a mahogany-brown color; of sulphuric acid and zinc chlorid, the development of from a violet to a blue color; of methyl-violet, an intense and brilliant red color; and of thionin, a sky-blue color.

Amyloid disease of the kidneys is supposed to begin in the glomeruli and to extend thence to the afferent vessels, the interlobular arteries, as well as the straight arteries of the medullary portion, and finally the efferent vessels and the capillaries of the cortical structure. It is not distributed homogeneously, nor does it extend by continuity or contiguity, but its distribution is rather irregular and disseminated. The lumen of the vessels may be variously narrowed, but their walls are not unduly friable, and they do not rupture.

In the majority of cases of amyloid disease of the kidneys the urine is free, pale, clear, of low specific gravity, without noteworthy sediment or the presence of morphologic elements. At times, however, the secretion exhibits great variations in quantity and quality. It has been stated that amyloid tube-casts appear in the urine; but with regard to this there is serious doubt. So, too, it has been thought that albumin is invariably present, but evidence is not wanting that this view is not strictly correct. Whether albumin will or will not appear in the urine depends, it is thought, in the first place, on the amount of albumin excreted by the kidneys, and in the second place, on the absorptive power of the uriniferous tubules. The amyloid, large white kidney is, it is true, always attended with the presence of large

1. Berliner klin. Woch., 1900, Nos. 51 and 52.

amounts of albumin in the urine, as is likewise the kidney when it is the seat of amyloid disease and parenchymatous inflammation.

The diagnosis of amyloid disease of the kidneys will depend essentially on a knowledge of the existence, present or past, of any of the etiologic factors named, together with a recognition of similar disease in other organs, as for instance in the liver and spleen from enlargement of these organs, or in the intestines from the presence of diarrhea. So too both prophylaxis and treatment will require a consideration of the causative conditions and the application of the necessary measures for their removal or amelioration. In other respects the therapeutics will be governed by general principles and is much the same as that indicated for the several varieties of nephritis, with which too often the amyloid disease is associated.

THE BONE MARROW AND LEUCOCYTOSIS.

In various inflammatory conditions leucocytes migrate from the vessels in enormous numbers and at the same time there usually is a more or less marked general leucocytosis. Most of the leucocytes in question are of the finely granular variety, with polymorphous nuclei—"polynuclear leucocytes." The mechanism of leucocytosis, which apparently is a very sensitive one, is not thoroughly understood. It is acceded generally that a proliferation must take place in order to account for the great increase in leucocytes in the conditions just mentioned. The exact changes that lie at the bottom of the proliferation are quite hidden as yet. We do not understand the chemical and physical processes set going by the so-called chemotactic substances of various kinds, which induce general leucocytosis and local leucocytic accumulations. This problem is one of fundamental importance, and its ultimate solution depends on other methods of observation than the prevailing morphologic mode of study. There are many things that speak in favor of the bone marrow as the ultimate source of the leucocytes that make up the great bulk of cells in local and general leucocytosis. Ehrlich, Ribbert and others hold this view, which they base on the facts that the granules of the polymorphonuclear leucocytes resemble those of certain cells in the bone marrow, and that the bone marrow undergoes a definite change when there is an increased demand for leucocytes.

Robert Muir¹ has recently given a summary of his experiments bearing on this question. According to him, the bone marrow contains three kinds of cells that are of especial interest in this connection, *a*, cells with a finely granular protoplasm form the great majority, the granules corresponding to those polymorphonuclear leucocytes in being neutrophile; *b*, cells with coarse, eosinophile granules, and *c*, hyaline or non-granular cells. Only the two first should be called myelocytes. The finely granular myelocytes have a single round, oval or slightly indented nucleus. These cells are prone to multiply,

and multiplying they produce smaller cells, the nucleus of which becomes polymorphous at the same time as amoeboid movement is acquired, and thus they give rise to the polymorphonuclear leucocyte of the blood. The eosinophilous myelocytes are held by Muir to produce the eosinophilous leucocyte. Muir found that the smaller finely granular cells lie at the margin of the blood channels of the marrow, thus forming a reserve store of leucocytes. When *staphylococcus pyogenes aureus* is injected into rabbits, leucocytosis develops after a preliminary leucopenia. Marked proliferative changes appear in the bone marrow, the finely granular myelocytes increase in number and show numerous mitotic figures, and the fat cells of the marrow are crowded out. The marrow assumes the "leucoblastic" type. Myelocytes and erythroblasts may pass into the blood stream. Muir did not find that the spleen took active part in the increased supply of leucocytes, and constant changes are not present in the lymphoid tissue in experiments of this kind.

With Ehrlich and others, Muir considers chemotaxis as the essential factor in leucocytosis. The absorption of chemotactic substances into the blood induces the passage of leucocytes from the bone marrow into the blood stream. Local and general leucocytosis is produced by a similar mechanism. The hyperplastic processes in the myelocytes may be induced by the rapid passage of leucocytes from the marrow into the blood. The newly-formed cells constantly pass into the blood, and proliferation of myelocytes may be explained according to Weigert's theory of over-regeneration after repeated loss. Muir also suggests the possibility that the substance which acts chemotactically may also directly stimulate cellular proliferation.

MARRIAGE LEGISLATION IN MINNESOTA.

THE JOURNAL a few weeks ago briefly noticed the proposed marriage legislation in several states, and the probable difficulties in the enforcement of the laws when passed. The bill now before the Minnesota legislature is probably one of the best conceived and most practicable of these, and a brief notice of its chief provisions is perhaps not out of place. It provides that no man or woman who is epileptic, imbecile, feeble-minded or afflicted with chronic insanity shall intermarry when the woman is under the age of 45 years, and that no person not thus afflicted shall marry any one unless under severe penalties. No official shall issue a marriage license to any applicant unless, in addition to the conditions heretofore required, he shall be furnished with a certificate from a reputable physician, or physicians of the counties in which the applicants reside, certifying that on examination it has been found that there is, besides the patient's actual freedom from imbecility and insanity, no such defect in parents, grandparents, brothers or sisters. Every such certificate must be filed in the office of the licensing official. No clergyman or other person authorized to solemnize marriages shall

1. Jour. Path. and Bact., 1901, vii, 161-183.

perform the marriage ceremony for any person not thus qualified by this law, under severe penalty.

It will be seen from the above that the proposed law is comparatively limited in its scope, and that the provisions for its enforcement are such as may probably be fairly efficient within the state itself. The difficulty will remain that unless other, and especially adjoining, states adopt similar regulations it will be practically a dead letter, as forbidden marriages can be contracted at any time over the boundaries. This is evidently recognized, and it is said that the Minnesota authorities will ask other states to enact similar laws. It is still a question whether, in making a family taint, including both direct heredity of insanity or imbecility back several generations and collateral heredity in brothers and sisters, a bar to marriage, the authors of this proposed legislation have not gone too far. Such a law would disqualify a large proportion, if indeed not the great majority, of the members of the reigning families of Europe, and a strict construction of the act might make it inconveniently comprehensive in its workings even in Minnesota. There are possibilities of purely acquired chronic insanities involving no family taint, and some discretion, it would seem, might in justice have been allowed the certifying physician for such cases. This, it is true, would let in a chance for evasion that the present wording prevents, and this is one of the difficulties met with in all such legislation.

It will be of interest to observe the working of this and similar enactments. Something like this is on the statute books of at least one eastern state, and the experience of its enforcement might be suggestive and instructive to the Minnesota legislature. In any case there is no question as to the desirability of checking the degenerative tendencies of modern life and the propagation of degenerates, and the experiment of legislation to that effect will be of value—possibly in its effects, certainly in its instruction.

BACTERIOLOGY AND PATHOLOGY OF DIPHTHERIA.

An important monographic study of the bacteriology and the pathology of 220 fatal cases of diphtheria, by Councilman, Mallory, and Pearce, has just appeared as a number of the *Journal of the Boston Society of Medical Sciences* (1901, v, No. 5). As pointed out in the introduction, diphtheria may now be considered as the best known of any of the infectious diseases. The study devoted to this disease has "in a marked degree increased our knowledge of pathological anatomy, of bacteriology, and of therapeutic measures in infectious diseases. In no other disease has the discovery of the cause led to measures of prevention and of cure which have been rewarded by such brilliant success."

Diphtheria was first described definitely by Bretonneau in 1826. Now its literature has grown to enormous proportions. The development of the different phases of our knowledge of the disease—the pathological anatomy, the bacteriology, and the antitoxic treatment—has in

each instance led to the production of numerous articles. There are, however, a comparatively small number of articles each one of which represents an important increase of our knowledge. The authors of this monograph divide the literature of diphtheria from this point of view as follows: First recognition of the disease, Bretonneau; its recognition clinically as a specific contagious disease, Trousseau; anatomic investigation of the membrane, and its mode of formation, Virchow, Wagner, Weigert, Cohnheim and others; the remote lesions, Bizzozero, Oertel, Babes; discovery of the bacillus, its relation to the disease, and the study of experimental lesions, Klebs, Loeffler, Roux and Yersin and others; discovery of antitoxin, Behring, Roux; clinical evidence of value of antitoxin, Welch, McCollom and others. This outline well shows the development of our present knowledge of the disease. The present monograph comes as a fitting addition to this list. Naturally there is but little new added to what is known, although it is quite evident that all investigators do not agree on all points. This is especially true of many questions of a histopathologic nature.

An honest and skilful study of the anatomic and bacteriologic details of 220 cases of diphtheria is sure to become a permanent landmark in the literature of the disease. But the work has another significance that can not be too strongly emphasized. It shows what may be accomplished when the services of a large public hospital are properly organized, co-ordinated, and manned. All of the 220 cases referred to came from the so-called South Department of the Boston City Hospital—a department of 300 beds devoted to the infectious diseases of children, and the anatomical and bacteriological work was carried out in the pathological laboratory of the hospital. Here we have a striking example of the highest grade of scientific clinical and pathological work carried on year after year within the walls of the city hospital of a large American municipality. It is a noteworthy example for other hospitals of similar type; for so few of them are organized and managed in such a manner that this high grade of work is fostered. And surely the hospital that is devoted to scientific ideals takes the best care of its patients. Let physicians in the recurring scrambles for positions in the large hospitals of our cities think more of this side of the question than of a brief period of apparent authority.

THE JAPANESE AND OPIUM.

The use of opium in China is apparently regarded by the Japanese authorities as one of the causes of the decadence of that empire. To such an extent does this feeling exist that it is said that out of a number of Japanese coolies employed in the China-Japanese War, a certain portion contracted the opium habit and for this were brought before the Japanese commander. Rather than allow them to return to Japan and introduce the habit there, it is reported that he had them lined up and shot. Considering the community of political interests

in the Orient, and general friendly feeling between Japan and Great Britain, the pro-opium tendencies of the British government are perhaps worth considering as bringing in a discordant element that may give trouble in the future.

"ELÆOMYENCHYSIS."

THE JOURNAL is always glad to furnish information desired by its eastern contemporaries. In a recent issue of a New York medical journal, the leading editorial, on "Therapeutical Injections of Solidifying Fats," stated that the editor did "not know where Gersuny's work in this direction was done or where the original account" was to be found. Gersuny's original article appeared in the *Zeitschrift für Heilkunde* (Bd. xxi, Heft 9), and was abstracted in the *Wiener Klinische Wochenschrift* (No. 51, Dec. 20, 1900, p. 1207). The *Semaine Médicale*, of Paris, published Gersuny's article in its issue of December, 19, 1900, without giving credit to any other journal. This article was abstracted in THE JOURNAL of January 19, 1901, p. 219, and a further reference to the injection of paraffin for surgical prosthesis may be found in the issues of February 23 (p. 532) and March 16 (p. 775).

THYROID TREATMENT AND OPTIC NEURITIS.

The usual symptoms of thyroidism, emaciation, weakness, shortness of breath, nervousness, etc., are well known, but there are others occasionally observed that are less generally appreciated. If we are to regard exophthalmic goiter as the result of hyperthyroidization, we can see possibilities in the way of unpleasant symptoms that have not all been actually observed from the therapeutic use of the extract. However that may be, it is probable that observations on the increasing therapeutic use of the drug will from time to time bring out many important additions to our knowledge of its effects. One such has been editorially noticed in the *Medical Press and Circular* for March 6. The reference to the record is not given, but it states that Dr. Coppez, of Brussels, reports the cases of five patients, four of them women, in whom prolonged thyroid treatment for obesity produced well-marked optic neuritis, occurring several months after the beginning of the treatment, but then progressing very rapidly, vision being reduced to one-tenth in the course of a few weeks. No other symptom of thyroid intoxication appeared in these cases, but in some of them suspension of the administration sufficed to relieve the condition, and its connection with the treatment therefore seemed obvious. In other cases a prolonged course of tonics and the use of electricity were required. As the writer remarked, henceforth the inquiry as to the use of thyroid treatment will be in order in cases of optic neuritis of obscure etiology.

REPORT OF THE YELLOW FEVER COMMISSION OF THE LIVERPOOL SCHOOL OF TROPICAL MEDICINE.

Last summer the Liverpool School of Tropical Medicine sent Dr. Herbert E. Durham and Dr. Walter Myers to Para, Brazil, for the purpose of studying yellow fever. About two months ago both these investigators were attacked by yellow fever. Unfortunately Dr. Myers

died, as noticed in THE JOURNAL. Dr. Durham, who recovered, has issued preliminary reports¹ of the results so far obtained in their work. These were printed in THE JOURNAL of March 9, p. 679, and show that they have found a fine, small bacillus in the organs of all fatal cases of yellow fever examined. This bacillus is found in the contents of the lower intestine, also in great preponderance over other micro-organisms. While it is likely that this bacillus has been seen by Sternberg and other observers, the reason that it has been accorded little or no notice heretofore is probably due to the difficulty with which it is stained. Prolonged staining in diluted carbol-fuchsin (Ziehl) is necessary to bring out the organism. So far pure growths have been secured only by placing whole mesenteric glands in broth under atmosphere of hydrogen. Search is now in progress for suitable culture-media. Protozoa have not been found. The reports state that the evidence in favor of the fine small bacillus is regarded as stronger than for any other pretended yellow fever germ, but there is much work yet to be done in order to definitely establish this claim. The death of Dr. Myers must be regarded as a loss to medical science. His work gave promise of fruitful activity as an investigator. In commenting on the report of Drs. Durham and Myers, Professor Welch, of Baltimore, writes: "Both Lazear of the American and Myers of the English yellow fever commission have laid down their lives in the search for means of prevention, based upon better knowledge of causation, of one of the most baffling and terrible scourges of mankind. How much more glorious is the cause to which these bright young lives were sacrificed than any for which nations are in arms to-day!"

"IMMUN-PROTEIDINS."

An abstract appears elsewhere in this issue (p. 929) of THE JOURNAL giving the details of certain interesting experimental studies by Emmerich and Löw, on the production of immunizing and curative substances. Emmerich and Löw belong to that large school of investigators which believes that acquired immunity and the healing of some infectious diseases are produced by soluble chemical substances of the nature of bacteriolytic enzymes. The source of these substances has been much discussed, some finding it in the serum of the blood and other fluids, others in leukocytic and other cells. Emmerich and Löw, however, claim that these bacteriolytic substances are produced by the bacteria themselves in the same way as it is thought that in cultures injurious substances appear and cause the organisms to die out. These substances are regarded as enzymes formed from zymogens in the bacteria. These enzymes are proteolytic and destroy the bacteria by which they are formed; and in some instances they also destroy and dissolve many other bacteria as well. Thus the ferment derived from *Bacillus pyocyaneus*—pyocyanase—destroys large numbers of anthrax, typhoid, diphtheria and plague bacilli, as well as diphtheria toxin. Furthermore, pyocyanase cures animals infected with anthrax bacilli. When bacteriolytic ferments develop in the living body, they may unite with proteids and form stable and durable compounds, possessing the bacteriolytic and

1. JOURNAL A. M. A., March 9, pp. 673 and 679.

antitoxic properties of the ferment, and this in even greater degree. This, in brief, is Emmerich and Löw's theory of the chemistry of immunity and of the healing of the infectious disease, more especially the septicemic, such as anthrax and swine erysipelas. The compound of ferment and proteid is designated as "immun-proteid." It is of complex molecular structure, not readily subjected to osmosis, consequently more or less persistent. When present in an organism it confers a certain degree of immunity, corresponding to the amount present. In the article abstracted the authors dwell especially upon the artificial production of immun-proteids outside of the animal body. But the method evolved is as yet far from perfect and the beginner who undertakes to test the method is specifically cautioned against condemning the method because of failure at the first attempts.

NEWSPAPER IGNORANCE AND SCIENTIFIC MEDICINE.

The death of Ex-president Harrison is taken as a text for abusing the medical profession by one of the quack-favoring dailies. It calls the event a "conspicuous instance of the helplessness of the medical profession when confronted by certain cases of diseases." Pneumonia, it says, while it is "always dangerous, is seldom deadly," and it suggests what a storm would have been raised if the ex-president had trusted himself to the osteopaths or "Christian Scientists." The editorial is a type of many now appearing, inspired by ignorance and malice, and the question often arises whether such utterances are unworthy of notice or should be taken up and resented. Under ordinary circumstances it would hardly be worth the trouble to notice them, for they usually defeat their own purpose by their rank exaggeration and evident inspiration by prejudice and ignorance. It does not require much intelligence to recognize the fact that medicine has earned the confidence of the public by its success, and to perceive the probability that this same caviling editor would throw himself into the hands of a physician did he think himself the victim of a dangerous or troublesome disease. An average intellect can perceive that the death of so prominent an individual under the ministrations of voodooists or ignorant masseurs or bone-setters might reasonably arouse comment and sins of omission be charged. The editor and the public do not apparently know, however, that for six months of the year pneumonia is one of the most fatal of all diseases in our northern climate, and with its la grippe complications incomparably the most fatal. Moreover, it is the disorder which, more than others in recent years, has been one of the least amenable to control, and its mortality is increasing while that of other diseases, like tuberculosis, is decreasing. The editorial referred to is simply an exhibition of ignorance in this respect. There is a sort of cheap self-consciousness of virtue and liberality indulged in by editors and others that shows itself in taking up and supporting self-assertive frauds and denouncing the bigotry of those who, with better knowledge, are compelled to conscientiously oppose them. It does not matter to such that a little investigation of facts and a limited utilization of their intellects would demonstrate to them the error of their ways. They are too well satisfied with things as they are. In

the meantime medicine and the medical profession will continue to follow the scientific paths and do all they can to lead mankind into the ways of bodily salvation.

MALARIA FROM AN ECONOMIC STANDPOINT.

One is surprised on reading Celli's books¹ on malaria, recently translated into English, to see how this authority has quite subordinated the scientific and medical view to the social and economic, or rather, how he has utilized scientific and medical truths to solve those of an economic and social nature. Some facts presented are almost startling. For instance, he tells us that in Italy the mean annual mortality from malaria is about 15,000, and the number of those who suffer from the disease he estimates at 2,000,000 a year, with a rather long average duration of illness. The loss in productiveness of labor and productions and the expense entailed in dealing with this disease consequently amount to several million francs. Because of malaria more than 5,000,000 acres of land are imperfectly cultivated, and in these localities the average life of the workman is shorter, the infant mortality higher, and the number of emigrants greater than would otherwise be the case in healthy places. The economic loss from malaria is, therefore, enormous. Some of the railways have to reckon on a certain sum to be expended annually on account of malaria. One company with about 850 miles of railway, and employing 6416 workmen, spends \$200,000 a year for this reason. The army has averaged about 15,000 cases a year for twenty years. One can thus see how the question is of prime importance to the state, and how legislation may be necessary to secure those conditions that will tend to check the development and the spread of the scourge. Attention must be given to destruction of the breeding-places of the mosquito. Forests, standing or sluggish water, rice and cane fields, peat bogs, fish-ponds and certain industries, such as the maceration of hemp, must be under governmental supervision. In fact, laws regulating the cultivation of rice, where the wet fields afford excellent breeding-places for the mosquito, have been for years on the statute books, placed there even before the relation of the mosquito to the disease was known. The insect in its larval state must be subject to government attack. And laws may be necessary to regulate the proper building of houses, the screening of the doors and windows, the furnishing of proper food and clothing to the laborer by his employer, the compulsory isolation of those ill with malaria, etc. Realizing that the vulnerability of an individual to disease may depend much upon proper food, clothing and hygienic surroundings, when we read of the condition of the Italian laborers as it is depicted by Celli, how they are often huddled together in wretched huts or even caves, underfed, insufficiently clothed, overworked yet poorly paid by the capitalist land owner with his hireling overseers, we can well understand the earnest words that the author pens in an almost socialistic strain, and can see how the mosquito is perhaps destined to play a not insignificant part in improving the condition of the poor in Italy and in bringing about a social revolution.

1. Celli, Angelo: *Malaria According to the New Researches*. Translated from the second Italian edition by John Joseph Eyre. Longmans, Green & Co. 1900.

What is said concerning the sociologic and economic view of the mosquito in Italy will apply with greater or less force to other malaria-scourged lands, even to including our own country, especially since it is now responsible for the welfare of the newly-acquired tropical possessions.

THE INFLUENCE OF SERUMTHERAPY ON DIPHTHERIC STENOSIS OF THE LARYNX.

It has been objected by those who are not convinced of the efficacy of the antitoxin treatment of diphtheria, that since this method has been introduced into hospital practice a relatively larger number of mild cases are admitted into the hospitals. Even were this objection supported by the facts, it would admittedly not be applicable to private practice. It has further been suggested that both in hospitals and in private practice a change in the character of the disease has taken place, in the direction of an attenuation in its virulence and a lessening of its fatality; but even did such a variation coincide with the introduction of serumtherapy, it would be applicable to mild and severe cases collectively, and not to severe cases alone. To eliminate these objections as far as possible, Galatti¹ has made a study of the cases under his observation in which symptoms of laryngeal stenosis were present, and his services were invoked in consultation with other physicians for the purpose of performing intubation. Sixty-one carefully observed cases seen in the course of several years—29 before and 32 since the introduction of serumtherapy—were analyzed. Intubation was advised against in 20 of these, such treatment being meanwhile employed as was in vogue at the time. Of the 29 cases of laryngeal stenosis prior to the employment of serumtherapy, recovery occurred in 6—21 per cent.—without operative intervention, while of the 32 cases during the antitoxin period, recovery ensued in 14 or 44 per cent. without operation. A comparison of the cases subjected to intubation in the pre-antitoxin period with the cases of laryngeal obstruction treated with antitoxin, and thus escaping intubation, as well as with cases requiring intubation, showed that there was little difference between the several groups of cases with regard to severity. The lessened necessity for intubation was not found to be dependent on differences in age, as the improvement was noted equally in earlier and in later childhood. In the pre-antitoxin period, intubation had to be supplemented by tracheotomy in 1 case, and in the antitoxin period in 5 cases. This circumstance must be considered as indicative of the gravity of the cases of the latter group. Of the 23 intubated cases of the first period, death occurred in 11—47.8 per cent; while of the 18 intubated cases treated with antitoxin, death occurred in 1, or 5.5 per cent., and this probably because of the small dose employed. The period for which intubation had to be maintained was shorter in the serum-treated than in other cases, being on an average fifty-seven hours for the former and seventy-eight and one-half for the latter, the contrast being particularly marked in the cases in which recovery ensued, namely, as 58 to 108. The length of the period in individual cases varied between thirty and seventy-nine hours in the cases treated with antitoxin; and between thirty-one and forty-three and three-fifths hours in the cases treated in the pre-antitoxin period.

1. Wiener med. Woch., 1901, Nos. 2 and 3.

Medical News.

ARKANSAS.

A unique bill has been introduced in the legislature, to prevent physicians and surgeons from practicing if they use intoxicating liquors as beverages.

The State Board of Health has been organized, with Dr. George M. D. Cantrell, Little Rock, president, and Dr. Robert B. Christian, Little Rock, secretary.

CONNECTICUT.

A sanatorium for consumptives is to be built on Cedar Hill, three miles from Hartford, on land owned by the Hartford Hospital.

The citizens of Westville, New Haven, held a mass meeting and have protested against the establishment of a hospital for contagious diseases in that village.

Dr. Joseph H. Townsend, New Haven, has been appointed a member of the State Board of Health, vice Dr. G. Herrick Wilson, Meriden, whose term has expired.

Physicians have appeared before the judiciary committee of the legislature in behalf of the medical practice act with especial reference to reciprocity in certificates between the various states.

DELAWARE.

Dr. Joseph W. Bastian, Wilmington, has been appointed port physician.

Delaware Hospital, Wilmington, has received \$5000, a legacy under the will of Mrs. Sarah Esther Cummins, of Smyrna, to endow a bed in memory of her parents.

The Abbott bill, which permits physicians who have practiced ten years in another state and have resided one year in Delaware, to practice in Delaware without undergoing an examination, is meeting with vigorous opposition from the reputable physicians of the state.

Smallpox prevails in Seaford, where it was discovered seven weeks ago. The disease is said to be confined mostly to negroes, and up to March 13 about 50 cases had been reported. On that date members of the State Board of Health visited the town and promulgated regulations providing for thorough vaccination and quarantine, to include obstructing of the town; appointment of inspectors and thorough antiseptic bathing of patients, and complete disinfection, private internment and abolition of all public assemblages. Georgetown has decided to place armed pickets along the roads leading from Seaford, in order to prevent the disease from spreading to that town. Every resident has been ordered to become vaccinated under a penalty of \$10 fine.

ILLINOIS.

A Jerseyville practitioner was fined \$100 and costs, March 12, for practicing medicine without a license.

Rockford City Hospital's consulting staff, on March 15, elected Dr. Daniel Lichty, president, and Dr. Sanford R. Catlin, secretary.

A fine was imposed on a Clinton physician, on March 14, for failing to report a case of contagious disease to the local board of health.

Quarantine of Salisbury, on account of smallpox, is said to be contemplated by the State Board of Health. As usual, the local physicians deny the existence of the disease.

Dr. George A. Zeller, Peoria, who went to the Philippines two years ago as acting assistant surgeon has been promoted and now holds the rank of captain and assistant surgeon of volunteers.

Dr. James A. Egan, secretary of the State Board of Health, has been nominated and appointed a member of the State Board of Health, to succeed Dr. Peter H. Wessel, Moline. In his communication to the senate, the governor says: "This appointment is made because I deem it best that the secretary of the State Board of Health should be a member of the board."

Chicago.

Dr. Niles T. Quales, who was injured by an accident, March 15, and taken to the Deaconess Hospital, is now convalescent.

County Hospital Staff.—The following-named physicians have been appointed on the assistant staff of Cook County Hospital: F. Gregory Connell, Maurice L. Goodkind, Arthur M. Corwin, Carl J. Anderson, Bertram W. Sippy, Henry F. Lewis, William A. Quinn, Amiel B. Spach, William A. MacFarlane.

John E. Rhodes, August F. Lemke, Arthur D. Houghton, George E. Thompson, David J. Doherty, Henry J. Brugge, and Patrick J. H. Farrell, of Chicago, and Dr. William R. Livingston, Maywood.

Decreased Mortality of Chicago.—There have been 581 fewer deaths this year, up to the close of last week, than during the corresponding period of 1900. This is a decrease of nearly 10 per cent. In the first twenty-three days of March there were 1451 deaths from all causes, as against 1833 in the similar period last year—a reduction of a little more than one-fifth. Last week the total reported deaths numbered 465; for the corresponding week one year ago, 640, or 30 per cent. more. This low mortality record, which has now been maintained since the end of the fourth week of January—up to which date the deaths this year slightly exceeded those of last, the respective totals then being 2095 and 2056, is without parallel in the history of the city. In the presence of influenza and smallpox it is nothing short of marvelous. The deaths from diseases of the respiratory system numbered 173, diseases of the heart caused 33, and nervous diseases, 34 deaths; violence is noted as the cause of death in 33 instances.

Unvaccinated School Children.—Judge Dunne's ruling that unvaccinated children can not be excluded from schools until an emergency exists, is susceptible of various and dangerous interpretations. Dr. Spalding, chief medical inspector of the health department, says that there is always an emergency. The office of the health department is to prevent, not to cure disease. As a result of the extraordinary precautions against smallpox, of the 138 cases of the malady this winter only 4 were of school children, and not one of these children had been vaccinated, but each was attending school on false certificate of vaccination. Smallpox takes hold rapidly. If Chicago had not been thoroughly vaccinated when smallpox broke out last year there would have been a great epidemic. Children being more susceptible to the disease, as they are to all contagious diseases, would have been the first to suffer. The history of smallpox in the city shows that in the epidemic of fourteen years ago 40 per cent. of the children stricken died, while the general mortality was only 25 per cent. In 1893 there were 4000 to 5000 cases, and the children furnished a heavy proportion of them.

IOWA.

Dr. Charles R. Russell, Ottumwa, was elected state physician of the Knights of the Maccabees, March 15, by a large majority.

Dr. William S. Grimes, Wapello, has been appointed a member of the pension examining board, vice Dr. G. W. Younken, resigned.

Dr. Maurice A. Hanson, Osage, is about to take a three-years' post-graduate course in Vienna, devoting his attention chiefly to surgery.

Dr. Edward E. Dorr, Des Moines, has started a movement for the transfer of the medical school of the state university from Iowa City to Des Moines.

MARYLAND.

Baltimore.

Dr. G. Lane Taneyhill has been elected first vice-president of the Baltimore City Missionary and Church Extension Society of the M. E. Church.

Dr. Schwatka, the new surgeon-general of Maryland, is outlining a plan whereby the duty of the medical officers and hospital corps of the national guard shall not be purely ornamental. His plan provides for a thorough course in field-hospital work.

Notes from Osler's Clinic.—Of 51 cases of lobar pneumonia in the hospital this session, there have been 14 deaths. There were 24 cases of typhoid fever; in 9 of these there were relapses; in 12, the typhoid bacilli were isolated from the blood, in 4 of these before the Widal reaction appeared. Two cases of typhoid fever were admitted to the surgical side and operated on for appendicitis.

Pneumonia Antitoxin.—The recovery of Quarantine Physician Sydney O. Heiskell, from pneumonia, following rapidly on two injections of pneumonia antitoxin, is attracting much attention. He testified to the great relief it gave, which morphin failed to give. From a statement made at the health department, it is learned that members of the department first used the serum in 1899, Dr. C. B. Canby publishing successful results in three or four cases. Other cases were known to have been successful and there was one failure. In all there was almost immediate relief from pain and oppressed breathing.

Such relief is confidently looked for within four hours. The injection should be given as soon as the diagnosis has been made, and repeated every four to six hours until results are obtained. It is only in the pneumococcus that the antitoxin is of service. In Heiskell's case, treatment was instituted in twenty-four hours. At 4 p. m. the temperature was 102 degrees, respiration 35 and pulse 100; sputum rusty. At 5.45 p. m. 20 c.c. of serum was injected. At 10 p. m. the temperature was 100.6 degrees; respiration, 30, and pulse 98. A second injection was given and at 4 a. m. the temperature was 99.6 degrees; respirations, 25, and pulse 90.

MASSACHUSETTS.

Dr. James C. D. Clark has been appointed city physician of Medford.

Dr. Mary P. Dole, Greenfield, has been elected a member of the board of managers of the Franklin County Hospital.

Dickinson Hospital, Northampton, is to be given a new operating-room fully equipped, as a memorial of a citizen of Northampton.

Anne Jaques Hospital, Newburyport, in one week has received a \$10,000 bequest from Mrs. Sophia C. Hale, and an offer of a \$5000 site and a \$50,000 new building from William C. Todd.

Amendment to Registration Law.—Dr. Immanuel Pfeiffer, North Adams, has urged before a legislature committee the adoption of amendments to the law regulating the registration of physicians and surgeons. As finally presented to the committee the petition asked that any person having a diploma from a recognized medical college shall be registered without examination; that the fee for registration be reduced from \$20 to \$10; that such fees shall be paid into the state treasury; that all expenses and salaries of members of the State Board of Registration in Medicine shall be paid from the treasury, that such salary and expenses shall not exceed \$1200 annually for any single member of the Board, and that all examination papers shall be open to the inspection of physicians for three years after such examination.

MINNESOTA.

By the will of Mrs. George A. Pillsbury, Minneapolis, the Northwestern Hospital in that city received \$10,000.

Temperance is the text of a bill introduced by Representative Sageng, Otter Tail, which makes it a misdemeanor for physicians or surgeons to administer medicines or perform operations when under the influence of liquor.

The St. Paul physician charged with violating the health ordinance in failing to report a case of smallpox was discharged March 17, the judge holding that there was no evidence to show that the defendant recognized the case in question as being smallpox.

Members of Health Boards.—Amendments to the laws have been presented by Senator Chilton, which provide that county boards of health shall consist of the county attorney and a physician, the latter to be the health officer and to be selected by the county commissioners; that township boards of health shall be composed of the supervisors, who may select a physician or local health officer; that village boards of health shall consist of three members, one of whom shall be a physician, and that the secretary of the State Board of Health must be a physician.

MISSOURI.

The Hall medical bill has been signed by the governor, and becomes operative ninety days after the adjournment of the legislature.

Mumps is epidemic in St. Louis. Physicians estimate that there are 20,000 cases in the city at present, and that in 85 per cent. of the cases the disease was preceded by influenza.

Columbian Medical College, Kansas City, has held its annual commencement exercises, March 19, and graduated a class of 14. The annual address was delivered by Rev. George H. Combs, D.D.

Ensworth Hospital Medical College, St. Joseph, held its graduating exercises March 18, and granted diplomas to a class of nine. Prof. B. Macafee, president of Park College, Parkville, delivered the address to the class.

NEW HAMPSHIRE.

Margaret Pillsbury Hospital, Concord, is a beneficiary to the extent of \$25,000, by the will of Margaret A. Pillsbury.

Manchester's Board of Health, at its annual meeting, re-elected Dr. William M. Parsens as its medical adviser and health officer.

The State Board of Health has taken forcible possession of one of the boarding houses of the Cheshire mills, at Harrisville, for use as an isolation smallpox hospital. For three weeks the contagion has been raging and on the increase.

NEW YORK.

Dr. Roland H. Stubbs has been elected health officer of Waterford.

Dr. William E. Johnson, Waverly, has been appointed secretary to the state health commissioner.

Minerva offers inducements to a young medical man looking for a location. At a recent town meeting it was voted to pay a physician \$500 a year if he will only settle there. The town has a population of 1052.

Legislation on Practice.—A bill has been introduced providing that no person shall practice hypnotism, mesmerism, suggestive therapeutics and allied phenomena after May 1, unless previously registered and legally authorized, or unless authorized by the Regents. Candidates are required to show evidence of good general education and of having studied medicine in a medical school for at least two full school years. The penalty for violation of the provisions of this bill is a fine of not more than \$250 or imprisonment for six months for the first offense.

Buffalo.

Dr. Fred A. Pitkin has been appointed house physician to the German Hospital.

Dr. Nelson A. Wilson has been appointed sanitary officer of the Pan-American Exposition.

German Hospital Staff.—The election of officers on the medical staff of the hospital resulted as follows: Dr. Charles H. W. Auel, president; Dr. Marcello Hartwig, vice-president, and Dr. Charles Weil, secretary. The position of clinical pathologist was filled by the election of Drs. William G. Bissell and Albert E. Woehnert.

Erie County Hospital Staff.—At a recent meeting of the Erie County hospital staff, Dr. Harvey R. Gaylord, Vertner Kenerson and Marshall Clinton were elected to fill positions on the attending surgical staff made vacant by the resignations of Drs. Eugene A. Smith, John Parmenter and Herbert Mickle.

New York City.

Dr. Francis Delafield, who has so long occupied the chair of practice of medicine in the College of Physicians and Surgeons, has resigned and will be succeeded by his clinical assistant, Dr. Walter B. James.

St. Luke's Hospital is to sell the remaining five lots of its old site on Fifth Avenue, for \$575,000. The market value of its remaining real estate is \$2,326,000, and the cash value of its personal assets \$1,180,260.

New Maternity.—Application has been made for articles of incorporation of a new maternity hospital, to be known as the Manhattan Maternity Hospital and Dispensary. A wealthy gentleman, whose name is at present withheld, has donated a sufficient sum to build and equip the hospital, and partly maintain it for a term of years. It will have a small indoor service for especially severe and complicated obstetric cases, but its special sphere of usefulness is stated to be the carrying on of a large tenement-house midwifery service. In this respect its work seems to overlap that of the other maternity hospital which has become so well known because of the million-dollar donation of J. Pierpont Morgan.

OHIO.

Dr. Najib Taky-ud-Deen, Assistant-Surgeon, U. S. A., is ordered for duty to Columbus Barracks.

Dr. Raymond E. Whelan, Youngstown, has been promoted from acting assistant-surgeon to captain and assistant-surgeon of volunteers.

Dr. August Ravogli, Cincinnati, has been appointed a member of the State Board of Registration, for a term of seven years, to succeed himself.

Dr. Jerome B. Thomas, Dayton, who has been for some time an acting assistant-surgeon in the army, has been made captain and assistant-surgeon of volunteers.

PENNSYLVANIA.

Dr. J. Linton Harkness, Philadelphia, has been appointed resident physician at the Pottstown Hospital.

Lancaster County Hospital for the Insane, which has been erected at a cost of \$72,000, was opened March 13.

Dr. Fred R. Underwood, London, has received an appointment as acting-assistant surgeon in the army and has been ordered to report for duty at Fort Leavenworth, Kan.

The Pottstown Board of Health has adopted a resolution declaring tuberculosis contagious and placing it among the list of infectious diseases, and the public has been warned to take the same precautions as in case of typhoid fever and diphtheria.

Refuse Vaccination.—The teachers' committee of the school board of Harrisburg has been notified that 750 pupils in the public schools of that city refuse to comply with the state law requiring them to become vaccinated. They have been notified that if they fail to be vaccinated before March 20 they will be excluded from the schools.

Hospitals in Cities.—Judge J. D. Shafer, of Pittsburg, on March 16 handed down a decision regarding the erection of hospitals in built-up portions of cities to the effect that this law did not prevent hospitals from having additions made, but that it prohibited the erection of new hospitals. This decision may have an important bearing on the generous gift to Pittsburg, by the late Christopher Magee, providing for the construction of a large hospital in the residence portion of that city.

Philadelphia.

The annual prize of a complete "Surgical Anatomy" offered by Dr. John B. Deaver to the graduating class of the University of Pennsylvania, has been awarded to Albert Griffith Miller for his essay on "Appendicitis."

Dr. Robert P. Robins, who served as acting assistant surgeon and was in charge of the Second Reserve Hospital at Malate, near Manila and was made captain and assistant surgeon of volunteers a year later, has been promoted to major and surgeon of volunteers.

RHODE ISLAND.

A general hospital for Pawtucket and Central Falls is being strongly urged by the Pawtucket Medical Society.

The Boston Medical Library has received from Dr. Horatio R. Storer, Newport, a valuable collection of 2300 medical medals. It is to be known as the Storer Collection of Medical Medals, in memory of Dr. D. Humphrey Storer, father of the donor.

Medical Practice Act.—An act has been introduced in the house of representatives which provides that all applicants for authority to practice medicine will be compelled to take an examination instead of being admitted by diploma as at present. It gives the state board of health authority to grant certificates and provides for an appeal from the state board to the supreme court.

WASHINGTON.

Dr. Donald G. Russell, Spokane, has been reinstated as surgeon for the Great Northern Railway Company, and in addition has been appointed chief surgeon to the Spokane Falls and Northern and the Kootenai Valley and Bedlington and Nelson Railways.

Dr. James R. Yocum, Tacoma, president of the State Board of Health, has given the governor and legislature timely warning regarding precautions to be taken against the invasion of bubonic plague. He urges that the state board of health be empowered to establish such a system of quarantine inspection as will prevent the introduction of the plague at any port in the state and insure its suppression should it creep in.

WISCONSIN.

Dr. William C. F. Witte, Milwaukee, has been critically ill from infection of a finger during an operation, but is now improving.

Dr. Charles E. Ide, formerly interne at Passavant Memorial Hospital, Chicago, has been appointed to a similar position in the Johnston Emergency Hospital, Milwaukee.

An unlicensed practitioner of Stanley, who was arrested a month ago for practicing medicine without a license, was fined \$50, March 22, but the fine was remitted on his promise not to repeat the offense.

Mrs. Mary Deleglise, Antigo, has deeded a block of valuable land to be used as a hospital site, on the condition that a \$10,000 hospital be erected thereon and that the institution shall care for her two invalid sons during their lives.

Dr. Gilbert E. Seaman, Milwaukee, has been commissioned assistant surgeon in the Wisconsin National Guard and assigned to the First Regiment. He had previously seen service in the Spanish-American war and in the Philippine Islands.

GENERAL.

Yellow Fever Precautions.—It having been brought to the attention of the Marine-Hospital Service that smallpox exists in an epidemic form at Progreso, Yucatan, the acting assistant surgeon of that service, formerly located at Vera Cruz, Mexico, has been transferred to Progreso, while another acting assistant surgeon has been transferred from Habana to Vera Cruz. The duties of both these officers will be to inspect all vessels leaving those ports for ports in the United States or its dependencies, and also to inspect the passengers and their baggage. All baggage which requires such treatment will be disinfected before shipment. This action was intended specially for the protection of Cuba.

Appointments.—Following the usual custom, the U. S. Marine-Hospital Service has detailed the following named acting assistant surgeons for duty at the fruit ports of Central and South America, during the coming close quarantine season: Paul Osterhout, Boeas del Toro, Colombia; D. W. Goodman, Port Limon, Costa Rica; W. K. Fort, Livingston, Guatemala; S. H. Backus, Puerto Cortez, Honduras; W. H. Carson, Bluefields, Nicaragua; R. H. Peters, Ceiba, Honduras; J. Grey Thomas, Belize, British Honduras. It will be the duty of these officers to supervise the loading of fruit at each of the ports mentioned, to inspect the vessels, their passengers and crews, and to disinfect such baggage as requires this treatment, with a view to preventing the introduction of yellow fever into the United States.

Emergency Hospital at the Pan-American Exposition.—In the hospital building, which has been located near the west end of the Mall, for the Pan-American Exposition, floor area is



a prominent feature, and the free Spanish renaissance has been followed in the architectural work, with a tendency toward the old mission interpretation. The hospital has a frontage of 90 feet on the Mall, and the main wing a depth of 38 feet, being but one story high, except in the center, where it assumes the form of a square tower with a rounded top. This tower is two stories high, and bears two flagstaves, one supporting the exposition flag, and the other the Red Cross banner. A rear wing, one story high, runs back from the center portion a distance of 56, with a width of 32 feet. A low wandering adobe mission house covered with heavy red tiling, may be readily imagined from the external architecture, but within everything is modern, and approved medical and surgical appliances have been selected with regard to their adaptability to emergency work and the exigencies that are likely to arise. The main office contains telephone and electrical annunciator, and messenger call service, etc. The first floor front contains, in the extreme western wing, two male wards with seven cots each, a bath-room, physicians' office, a morgue and a linen chest. The eastern wing contains a woman's ward, large enough to hold a dozen cots, with direct communication to the woman's bath-room. This wing also contains an office for the superintendent of nurses, a private physician's office, a linen closet and other conveniences. The upper story is intended for the use of the resident physician and the necessary attendants. It is fitted up with four pleasant, comfortable bed-rooms and a bath-room. The rear wing, extending back from the main entrance, contains the operating-room, sterilizing department and instrument cases. Immediately across the hall is the emergency bath-room and patients' waiting-room. Still farther down the corridor

is located the kitchen, pantry and dining-room, which is intended for the use of patients only, as the members of the staff have their culinary department in the service building near by. In the extreme southern end of this wing is the storage room for the electrical ambulances, and this room also contains a station for recharging the batteries; electricity for this purpose being brought from an electric circuit provided for the electric launches on the Grand Canal. In addition to the two electrical ambulances, a steam or gasoline motor ambulance will be ready in case of a possible failure of the electrical current. The building is provided with natural gas for heating purposes and for cooking when necessary for the patients. Water, gas and electricity are carried to every part of the hospital in the most approved manner. Dr. Roswell Park is the director, Dr. Vertner Kenerson, deputy director, and Dr. Alexander Allen the resident physician. To March 1, 504 cases have been treated on the grounds, only one of which proved fatal. These include all forms of sickness and accidents to workmen employed upon the construction work. In this connection it is well to note that the number of cases treated at the Omaha Exposition was about three thousand, while the history of the hospital at the World's Fair in Chicago gives a total of 11,602 medical and surgical cases treated, with 69 deaths.

CANADA.

Death of Nurse.—A nurse of the Montreal Civic Hospital, while attending to her duties in that institution, recently contracted measles and died, and the unsanitary conditions of the hospital are held accountable for her death.

Memorial Building.—The honorary secretary of the Hamilton City Hospital Board has decided to erect, at his own expense, a new \$5000 out-door building for that institution, in memory of his wife, who took an active interest in the affairs of this hospital.

Private Wards.—At the next meeting of the Medico-Chirurgical Society of Montreal the question of private wards at the General Hospital will come up for discussion. There is much feeling among members of the profession of that city at the present on this question.

Antivaccination Bill.—There is a bill now before the Ontario legislature providing that persons having religious objections to vaccination shall have the option of declining to be vaccinated. The Civic Committee of the legislature will make a vigorous fight against the bill.

Notification of Tuberculosis.—The board of health of the Province of Quebec now requires that every householder in whose home a death from pulmonary tuberculosis occurs, shall notify the secretary of the board within forty-eight hours thereafter. The municipality must then disinfect any compartments of the house that may have become contaminated by the patient.

Vital Statistics.—Quebec's death-rate from tuberculosis is 1.99 per 1000; Ottawa, 3.12; Montreal, 2.87; Toronto, 2.41; Kingston, 2.17; London (Ont.), 2.67; Paris, 4.9; New York, 3.60. In 1898, while the birth-rate in Ontario was 20.4, that in the province of Quebec was 35.7; in 1899, it was 33.46. The birth-rate of the province of Quebec is higher than that of all countries except Germany.

Montreal's Scarlet Fever.—The scarlet fever epidemic in Montreal continues unabated. For six months, from September last, the cases reported to the health office have numbered 1046, while the deaths for that period from this disease number 222. In 1894 the city experienced a similar outbreak and the cases numbered 1915. Only 159 have been treated at the Civic Hospital, and of these 46 have died.

Addition to McGill.—Another large addition is to be made to the medical building of McGill University, Montreal, and will greatly increase the accommodation of the present buildings. It will be four stories in height, with a suitable basement and a lecture room, museums and chemical laboratories. The total cost of the proposed addition will be defrayed by Lady Strathcona and the Hon. Mrs. Howard.

Toronto Societies.—The organization of an academy of medicine is again being agitated in Toronto. The city has three societies, the Clinical, the Toronto Medical and the Pathological Society, and in a medical population of nearly 500, neither can muster an average attendance of two dozen. It is thought that an academy of medicine would prove instrumental in producing more original medical thought in the city.

Victorian Nurses.—The annual meeting of the Montreal branch of the Victorian Order of Nurses took place in that city last week. The nursing staff varied from seven to three during the year; 529 patients were cared for and 6751 visits,

in addition to 150 night calls were made. The fees derived from patients amounted to \$782.50. The staff at present consists of six nurses. Professor Adami was re-elected secretary.

Amalgamation of Schools.—In regard to the negotiations pending toward the amalgamation of Trinity Medical College with the Toronto School of Medicine, the corporation of Trinity does not consider the scheme as proposed feasible. The College is, however, favorable to amalgamation on broad lines. The rejected proposal was that the teaching staffs of the two schools be consolidated without any reduction at the present, and that a re-arrangement be made within two years.

Missionary Hospitals.—A cottage hospital at Sifton has been completed and equipped, by private aid, Lady Minto being particularly generous. A Montreal woman has offered to build a second one, and Dr. Reid, the medical missionary among the Doukhobors and Gallicians, urges that it be established at Ethelbert, twenty miles from Sifton. He says another medical missionary will be necessary to carry on the work connected with the two hospitals among these people of the Northwest Territories.

Treatment of Inebriates.—The prospects that the proposed bill for the treatment of inebriates will go through the Ontario House of Assembly this session appears very slim. The bill has the approval of the premier and other members of the government, and has been endorsed by the inspectors of prisons and the warden of the central prison, who is a medical man. Still the government hangs back and does not introduce the measure, and the session is now near its close. The promoters of the bill are very outspoken at the action of the government.

LONDON.

The Commission on Arsenical Poisoning.

The royal commission appointed to investigate the recent epidemic of arsenical poisoning has held several sittings. Dr. Winon, medical officer of health of Manchester, said that it was safe to say that not less than 2000 cases had been seen by medical men in Manchester. Professor Hope, medical officer of health for Liverpool, said that he was one of the members of a small subcommittee appointed by the Liverpool medical institution to investigate the extent of the poisoning epidemic. About 100 cases were tabulated by the subcommittee, which were all treated in public institutions. Arsenic was found in the viscera in some cases and there was no doubt that the poisoning was due to consumption of beer. There are sixty breweries or wholesale beer-selling firms in Liverpool. Samples of beer were taken from all these, and arsenic was found in those from twenty.

The Polyclinic.

The second annual report of the Medical Graduates College and Polyclinic shows that there is ample room for extensive development, both charitable and professional, on the lines which the Polyclinic has laid down for itself. The council has decided to appoint corresponding associates in all the important cities of America, and the continent. It is also contemplated to expedite the spread of clinical knowledge by some means of association with the other polyclinics of the world, so that each may be able to learn the more important work carried on in the others. The annual dinner will be held on May 22, at which the Right Hon. A. J. Balfour, M.P., will preside. The subcommittees appointed to investigate leprosy, yaws, climatology and tuberculosis have held repeated meetings, and laid the foundation of what is hoped will prove useful information on these subjects. A most valuable feature of the Polyclinic is the Hutchinson Museum. It contains the enormous collections of portraits of disease, mostly in water-colors, made by Mr. Jonathan Hutchinson. The greater number are original. With the exception of the splendid collection of the St. Louis Hospital, Paris, disease in the living has never been illustrated on such an extensive scale. This museum, which may be described as his life-work, Mr. Hutchinson has presented to the Polyclinic. At one time the portraits formed his private museum at Park Crescent, where he held weekly clinics, which were rendered exceedingly instructive by the systematic use of the drawings to illustrate the malady of each patient. No one has insisted so much on the value of clinical illustrations of disease for purposes of instruction and even for investigation of disease, and certainly no clinician of any age or any country has made such use of them. Skin diseases, which lend themselves most readily to pictorial illustration, form the greater part of the portraits, but almost every disease which shows external changes capable of illustration is represented.

For an annual subscription of \$5 a doctor has the use of the library and museum, admission to the consultations and clinical demonstrations which are held daily, and to special courses of lectures, permission to use the laboratory for private research on payment of a small fee, a copy (post-free) of the college journal, facilities for attendance at affiliated hospitals, reports at a nominal cost on sputum, blood, urine or morbid growths, the right to recommend patients for gratuitous consultations, and title to vote at general meetings. There are now 674 members and subscribers. Special tutorial classes are held in laryngology, ophthalmology, otology, applied anatomy, Roentgen rays, neurology, and clinical microscopy. For these a fee is charged. American practitioners in considerable number have availed themselves of the institution. The great advantage of the Polyclinic is that it brings to a focus in one institution, for the benefit of qualified practitioners, the best clinical teaching of the metropolis. The ordinary hospitals are devoted to the training of students, and the practitioner can there only pick up a few crumbs and feels himself very much *de trop*. The weak point of the Polyclinic is that it has no hospital of its own—no beds. Hence the practical teaching is confined to out-patients. To remedy this the Polyclinic has been affiliated with a number of the special hospitals, and some of the smaller general hospitals—at which there are no medical schools. A doctor can attend any of these daily for a month on payment of \$5.

FOREIGN.

Albert's Successor.—The chair of surgery at Vienna left vacant by the death of Professor Albert, has been bestowed upon the professor of surgery at Königsberg, A. von Eiselsberg, a pupil and assistant of Billroth in his day.

Suspension of "Vratch."—The publishers of the leading Russian medical weekly, *Vratch*, have appointed Dr. Vladislavleff editor to succeed the recently deceased founder and editor, Professor Manassein. The publication will continue, as heretofore, until the end of the year when it will be suspended, as expressly stipulated in his will.

New Journal.—Prof. Japp, Sinclair, of Owen's College, Manchester, and others who are connected with gynecological and obstetrical work in England, are arranging for the publication of a monthly journal devoted to these branches. There is not, at present, a gynecological and obstetrical journal in Great Britain, except the quarterly published by the British Gynecological Society. It is thought that such a publication is needed and that it will be well supported.

Smallpox Epidemic at Glasgow.—The smallpox epidemic is seriously threatening the prospects of the success of the forthcoming Glasgow International Exhibition. The epidemic is the greatest in Glasgow for thirty years. Since it broke out there have been over 1000 cases and 134 deaths. In most of the fatal cases the patients were aged from 40 to 50 and were unprotected by vaccination. There are 370 patients now in hospital. In the past week 130 fresh cases have been admitted, 90 dismissed and 10 deaths have occurred. Additional sanitary inspectors have been appointed and a house-to-house visitation is being made to discover unvaccinated persons and to impress on all the necessity of re-vaccination. In the past fortnight 77,562 have been vaccinated. Mild cases of the disease are often regarded as chicken-pox or spots due to indigestion, and give great trouble to the health department, as they are difficult to discover and produce numerous "contacts" which cannot be traced.

Abandoning the Old Trousseau.—This famous Paris hospital for children is to be demolished and a street opened through the site. Its place is to be taken by three hospitals in different parts of the city. One of these, the Bretonnean, in Montmartre, is already completed and the little patients were transferred to it on March 8. The hospital occupies a triangular lot between three streets and faces a large cemetery on one side. It has a capacity of 244 beds and the building alone costs about \$1600 per bed; \$60,000 had to be spent on the foundations, owing to the slope of the site. Jayle, in an article in the *Presse Médicale*, criticizes the arrangements unfavorably, pointing out that the promiscuous mingling of the children at the one entrance invites contagion. The pavilions for contagious diseases are all connected by a gallery, except the one for diphtheria. He regrets that the opportunity was not seized to separate the contagious from other diseases, and devote one hospital exclusively to surgical cases, instead of combining all the services in each hospital. The two others will be opened this month; one will be known as the new Trousseau.

Progress of the Plague.—The census of Bombay City just taken shows a population of 770,000—a decrease of over 50,000 as compared with the census of ten year ago. This decrease is mainly due to the exodus which has occurred during the last two months of the plague epidemic. In Mauritius, for the week ending February 28, there were 12 new cases, of which 8 were fatal. The total deaths from plague were 18. The increase of plague at Capetown caused considerable alarm and anxiety. Recently four new cases were reported in one day. Rats have been found in the dockyard, dying of plague. Inoculation of the inhabitants is proceeding. The government has issued regulations preventing natives from leaving the Cape district without a pass, prohibiting shipowners from landing natives at Table Bay without permission, and compelling natives to move their location. One morning five corpses of colored persons dead from plague were found and ten colored persons suffering from plague sent to the hospital. A large number of "contacts" and suspects have been placed in quarantine. A hotel in the center of the city, in a grossly insanitary condition, in which a case of plague occurred, has been closed.

Association News.

Railroad Rates for the June Meeting of the American Medical Association.—The Committee on Transportation reports that the Western Passenger Association has granted the following rate for transportation through its territory for the St. Paul meeting of the AMERICAN MEDICAL ASSOCIATION: One fare (regular) plus \$2 for its round trip from all points in the Western Passenger Association territory more than 200 miles from St. Paul. From points within that radius, one fare and one-third for the round trip. Tickets from points 200 miles and over from St. Paul are to be sold May 27 to June 3 inclusive, and from points within 200 miles of St. Paul May 27 to June 4 inclusive. Tickets are good for return leaving St. Paul May 29 to June 15 inclusive. These rates will be given to the other passenger associations by the Western Association for ticketing through. The Committee will endeavor to obtain a better rate with a stop-off privilege and a longer time limit. H. L. E. JOHNSON, M.D., Chairman Committee on Transportation.

Correspondence.

Illustrations with Articles.

ADIN, CAL., March 7, 1901.

To the Editor:—Can not the contributors to THE JOURNAL be induced to include drawings in their articles, as Dr. Stricker has with his article in the March 2 number? The articles now being published on middle ear diseases would be of unstated benefit to hundreds of young physicians who do not and can not get to see clinics of that nature. If they were accompanied by illustrations showing the anatomical parts and the different steps in the operative work of those who frequently meet and deal with them successfully, we would be far better prepared to deal with those unfortunate ones who fall into our hands as general practitioners.

Our knowledge is very limited at best, on the study of medicine and surgery, and the only way a great many of us have to learn it is by reading, being so situated that we can not go to hospitals and watch every step in operative work. Therefore, I believe the more experienced would remove a great stumbling block if they would give us drawings with their papers. Most of our text-books illustrate very well, but omit that which sometimes would be of the greatest benefit. For instance, take a leading work on appendicitis, and the author illustrates the pathology of the condition, and tells us all about the operation, saying that if we do not properly pack the wound, when there is suppuration, we will have done a bad job, but he does not give one drawing to show what he calls a properly packed wound. This leaves us to our imagination to understand from what we read, what a properly sutured appendiceal stump is and a properly packed cavity as well. Yours truly,

C. M. TINSMAN, M.D.

Seasickness: A Sure Preventive.

PARK CITY, UTAH, March 19, 1901.

To the Editor:—Apropos of the treatment of seasickness, given in THE JOURNAL of March 16, I offer the following: None seem to have a sure remedy of seasickness, and the main reliance appears to rest on massive doses of nerve sedatives. It is a question with many, which they would sooner prefer, the after-effects of the medicines or the seasickness. Dr. Rawlin's remedy to "elevate all the limbs" is, for good reason, impracticable, when it is remembered that, on a rough sea, the position of the body is constantly changing. Dr. Brunton's bandage affords some relief; still, a better remedy is to plant the palms of the two hands on the abdomen and press hard toward the spinal column; but the good effect of either expedient is only temporary. If any one desires to experience genuine seasickness and to try his remedies for seasickness, he should cross the North Sea during winter; compared with the Atlantic Ocean, the waves of the North Sea are short and choppy. I there tried a simple contrivance, which I have never seen mentioned in articles on seasickness, and which served me excellently. I simply made a hammock from a blanket. It matters not how much the ship plunges or rolls, the hammock will practically stand still and keep the horizontal position. As long as I stayed in my hammock I experienced no seasickness, but if I left it when the sea was rough, nausea soon came on; as soon as I returned to the hammock the sensation of illness passed off.

E. VIKO, M.D.

The Edinburgh Tradition and Clinical Instruction.

ELIZABETH, ILL., March 20, 1901.

To the Editor:—The editorial on p. 670 of THE JOURNAL for March 9, on "The Edinburgh Tradition and Clinical Instruction," was read with much interest. I appreciated more fully perhaps its importance from having been instructed in an institution where the students, from the time they matriculate, are obliged to devote one-half of each day to clinical bedside instruction. This has been the practice, since its foundation in 1834, of the medical department of the Tulane University, New Orleans. The great Charity Hospital, so closely associated with this school, has given the faculty the opportunity to give bedside instruction. Since 1868 it has been the fixed regulation to divide the students into sections, each of which is taken in charge by a clinical professor and his chief of clinic. Bedside instruction is given each day in the hospital wards. Each student in a ward is assigned to a bed, and during the daily visits of a section to these wards, the individual student may at any time be called upon by the clinical professor to make a diagnosis, suggest treatment and offer a prognosis. This is done before the entire section, and the clinical professor is always there to make criticisms.

Since mention has been made in the editorial, calling attention to the superior methods used in several other medical schools, not of this country, the publication of this letter will point out that in our own country too, the "Edinburgh Tradition," in some schools at least, is also an established method. Yours truly,

PHILIP ARNOLD, M.D.

Medical Interstate Reciprocity.

DETROIT, MICH., March 23, 1901.

To the Editor:—In the interest of the movement aiming at interstate reciprocity for the license to practice medicine, and at uniform medical legislation, on the basis of uniform medical education, the undersigned, as member of various committees, asks all secretaries of medical boards to be kind enough to favor him with information in regard to the present status within their jurisdiction. It is especially important to know: 1, whether the respective medical law contains the reciprocity clause; 2, whether the profession in the respective political division is sufficiently familiar with the subject matters; 3, whether any amendments have been added to the law, since May, 1900, or whether there exists any intention to amend the law.

EMIL AMBERG, M.D.

270 Woodward Avenue.

The Yellow Fever in Port Limon, Costa Rica, in 1900.
Reply to Surgeon-General Wyman, of the U. S.

Marine-Hospital Service.

NEW ORLEANS, La., March 23, 1901.

To the Editor:—In reply to Surgeon-General Wyman's communication in THE JOURNAL of March 16 I will simply state that the fact that the representatives of the U. S. Marine-Hospital Service did not agree in the diagnosis of the representative of the Louisiana State Board of Health is no proof that Limon was not infected as early as July 17, 1900. The proof that the resident medical inspector of the Louisiana board was correct is that a few weeks later the natural evolution of the infection was so patent that it forced itself on the representatives of the service. EDMOND SOUCHON, M.D.
President, Louisiana State Board of Health.

Married.

SHERMAN A. ALLEN, M.D., Imogene, Iowa, to Mrs. Isabel Linton, of Shenandoah, Iowa, March 13.

H. STEPHEN HILL, M.D., Seattle, Wash., to Miss Marie F. La Barraque, of San Francisco, at Seattle, March 4.

CARL JOHNSON HOLMAN, M.D., St. Clair, Minn., to Eudora Madge Timmerman, M.D., of Mankato, Minn., March 14.

Deaths and Obituaries.

William F. Channing, M.D., University of Pennsylvania, Philadelphia, 1844, died in the Perry Hospital, Boston, March 19, aged 81. He lived in Providence, R. I., for a time after his graduation, and lately returned to Boston, after a residence for sixteen years in Pasadena, Cal. He published some of the first books on medical electricity, and was rather an inventor than a practitioner. The alarm telegraph, the hand receiver on the telephone and the marine railway were among his inventions.

Sherman A. Yule, M.D., Omaha Medical College, 1897, acting assistant surgeon, U. S. army, died from nephritis, in the Philippine Islands, March 4, aged 33. At the outbreak of the Spanish-American War he enlisted in the Funston Rifles and went to San Francisco. There he obtained his discharge in order to serve as an acting-assistant surgeon. He was on duty two years in Honolulu, and then was ordered to the Philippines.

James W. H. Lovejoy, M.D., Jefferson Medical College, Philadelphia, 1851, died at his home in Washington, D. C., March 18, aged 76. He served several times as president of the local medical society, was a member of the AMERICAN MEDICAL ASSOCIATION, one of the incorporators of the Garfield Hospital, and had been dean of the faculty of the Medical Department of Georgetown University.

Walter W. Medill, M.D., Medical College of Indiana, Indianapolis, 1889, a resident of Denver, Colo., for ten years, and a member of the AMERICAN MEDICAL ASSOCIATION, died at his home in Denver, March 14, from pneumonia, after an illness of one week.

George C. Venable, M.D., University of Pennsylvania, Philadelphia, 1850, for 40 years a practitioner of Charlotte County, Va., and for the past ten years a resident of Lynchburg, died at his home in that city, March 14, aged 73.

John K. Clark, M.D., Missouri Medical College, St. Louis, 1882, a member of the AMERICAN MEDICAL ASSOCIATION, and for many years a resident of Chillicothe, Mo., died at his home in Denver, Colo., March 9.

Rufus D. Sperry, M.D., Albany Medical College, who practiced for many years at Red Oak, Iowa, died at the home of his son in Omaha, after a ten years' illness from paralysis, March 11, aged 81.

George C. Chapman, M.D., Vanderbilt University, Nashville, Tenn., was struck by a falling telephone pole and killed

during the cyclone that devastated Birmingham, Ala., March 25.

Stephen F. Gano, M.D., Transylvania University, Lexington, Ky., for many years a leading physician of Scott County, died at his home in Georgetown, March 23, aged 94.

William Watson, M.D., College of Physicians and Surgeons, Baltimore, Ind., 1886, died at his home in Allegheny, Pa., March 16, after a prolonged illness.

Jacob J. Smith, M.D., Jefferson Medical College, 1864, a well-known physician of La Crosse, Wis., dropped dead from heart disease, March 16, aged 63.

Charles L. Stoddard, M.D., Pennsylvania Medical College, Philadelphia, 1860, formerly of La Crosse, Wis., died at Colton, Cal., March 16, aged 65.

Henry Worthington, M.D., College of Physicians and Surgeons, New York, 1874, died at his residence in Los Angeles, Cal., March 12, aged 49.

J. Frederick Hedgecock, M.D., Southern Medical College, Atlanta, Ga., 1895, died from pneumonia, at his home in Lake City, Fla., March 13.

Charles H. Bowen, M.D., Columbian University, Washington, D. C., 1862, died at his home in Washington, D. C., March 12.

New Instrument.

An Effective Electric Trephine.

S. S. BISHOP, B.S., M.D.

CHICAGO.

The accompanying cut shows the exact size of two electric tubular saws, or trephines, the smaller of which is the one in common use in surgery of the nose and its connecting cavities. This instrument is capable of rendering excellent service where little work is to be done; but it has several serious faults which the writer has overcome in devising the larger trephine.



In removing a large and long spur from the nasal septum, it is necessary to trephine through the center of the spur, then above and below the center in lines parallel with the first section, if the small trephine is employed. If the spur is longer than the tube of the trephine, the instrument ceases to cut as soon as it penetrates the distance of its own length, for the portion of the spur that enters the tube fails to pass out of the counter-opening as fast as it enters the tube, and it prevents the saw from entering further. This necessitates withdrawing the trephine, removing the cut portion of the spur and readjusting the trephine for proceeding with the cutting. Meanwhile the field of operation is likely to become covered with blood, and more time is lost in removing this in order to see what tissues one is attacking.

The large trephine has a counter-opening as capacious as can be made without sacrificing the strength of the tube, so as to allow the contents to pass out as fast as they enter. It is much longer than the average spur, so that it would operate more satisfactorily than the small trephine, generally, even if the counter-opening were smaller. Its generous diameter renders it necessary to drive the instrument through the tissues fewer times in order to remove a given amount of growth.

In operating on the maxillary antrum the large trephine gives better results than the other. By passing the large instrument once into the antrum a canal of good size is obtained. Formerly I have passed the small one twice, and more times in some cases, before obtaining a sufficient opening for free drainage and efficient treatment. The large trephine is well adapted for opening the frontal sinus and the mastoid antrum.

Miscellany.

Calculus Weighing Twenty-two Ounces.—The *Indian Medical Gazette* reports a case of removal of a vesical calculus weighing twenty-two ounces from a man of 50. It consisted of uric acid and earthy phosphates.

The First Lithotomy in France.—The *Jour. de Méd.* relates that the physicians and surgeons of Paris besought King Louis XI to let them experiment on a criminal condemned to death, in order to learn the technique of removing calculi. The king consented, and the operation was performed in public, January, 1474, in the open air in a cemetery. After the surgeons had finished, the intestines were replaced, the wound sutured and the patient soon recovered.

Etiology of Malaria.—C. Schwalbe, of Los Angeles, opposes the mosquito theory of malarial infection and, in a brochure just received, *Beitrag z. Malaria-Frage*, No. 1, calls attention to discrepancies in the researches to date. He suggests that no attempts have yet been made to inoculate persons with malaria on the open sea, for instance, absolutely free from suspicion of malarial infection from any other source. The failure of all efforts to determine the germ of infection in the air has forced scientists to evolve the mosquito theory, but no one will maintain that we are yet fully acquainted with the chemical composition of the air under all circumstances. The causal agent of malarial infection may yet be found to be a certain gas or gases in the atmosphere. The air close to the ground during the night has never yet been studied with all the appliances of modern science in malarial regions, to his knowledge. The scientist who will be able to enter upon this research under these conditions will be, he thinks, the fortunate one who will solve the problem of the etiology of malaria.

Varicocele in Army Surgical Practice.—Surgeon-General Sternberg has issued a circular, dated Feb. 27, 1901, inviting the attention of medical officers of the Army to the cure of varicocele by surgical intervention. The circular states that the rule laid down in Tripler's Manual should govern medical officers in the examination of recruits, viz., that a candidate for enlistment should be rejected if he has a varicocele which is larger than the sound testicle. If, however, upon a subsequent examination after enlistment a recruit is found to have a varicocele as large or larger than the sound testicle, and complaint is made of disability arising from it, this should not be considered a cause for discharge but for surgical treatment. A former decision of the War Department is cited to the effect that, except in case of a capital operation involving the risk of life, a soldier can not refuse to submit to medical treatment or surgical operation without subjecting himself to trial by court-martial for wilfully avoiding treatment the purpose of which is to enable him to perform the duties for which he enlisted. The circular publishes reports on operative procedures in such cases, at the General Hospital Presidio, San Francisco, by Lieut. Col. A. C. Girard, deputy surgeon-general; at the General Hospital, Washington Barracks, D. C., by Captain W. C. Borden, assistant surgeon, U. S. Army; at the U. S. Military Academy, West Point, N. Y., by Major J. M. Banister, surgeon, U. S. Army, and at Fort Snelling, Minn., by Captain A. E. Bradley, assistant surgeon, U. S. Army. The operation by incision over the pubes on the line of the inguinal canal has given uniformly better results in the hands of these surgeons than by incision through the scrotum. An aseptic field can be obtained with greater certainty above than below the pubes. Major Banister concludes that: 1. The operation for the radical cure of varicocele by the high incision with ligation and excision of the veins is one of the most successful of surgical procedures. 2. The operation is without risk to life in the case of a patient without disease of vital organs. 3. It is well adapted to the military service. 4. No soldier otherwise sound should be discharged from service on account of varicocele. 5. It should be the duty of the medical department of the army to cure these cases, compelling compliance on the part of the soldier where objection is urged. Captain Borden is of the opinion that a varicocele which produces disability and which has originated in the service should not be considered a cause

for discharge, but should always be operated on, provided the operator is so situated that he can be reasonably sure of asepsis. The circular closes with an extract from a paper by Lieut.-Col. N. Senn, chief surgeon, U. S. Vols., chief of operating staff with the army in the field, from his work on the "Medico-Surgical Aspects of the Spanish-American War," in which the writer comments on the frequency of the existence of varicocele in young men who presented themselves for enlistment. In 9815 recruits, 2078 were affected with varicocele. His experience was to the effect that of itself the varicocele seldom gave rise to any noticeable disturbance, and that the patients who applied for treatment did so in consequence of nervous disturbances entirely separate and independent of the enlarged spermatic veins.

Necessity for a Closer Union of the Medical Profession in Missouri.—Efforts are being made by the AMERICAN MEDICAL ASSOCIATION to bring about a closer union of the regular medical societies in the United States. At the last meeting of the ASSOCIATION a committee was appointed to consider and recommend a plan for a thorough organization of the profession of this country. At the present time there are about thirteen hundred regular medical societies in the United States, most of which were organized, and are acting, independently of each other. The result is a lack of uniformity or concert of action among these bodies. In most of the states no systematic attempt has been made to organize local societies on a specific plan, the result being no uniformity of purpose or action in matters pertaining to the welfare of the profession in the state, consequently there can be no united effort made—political or otherwise. If the profession is to become a united body the beginning must be made in the county medical society. These must be organized in every county of the state and in harmonious relation to the state organization, and this in turn with the national organization. The difficulties which have beset the efforts to secure legislation for the regulation of the practice of the healing art in this state show that the opposition on the part of those whose objectionable practices would be prohibited by it are strongly organized and are powerful, and have with them the powerful influence of the lay press to which they are a source of profit. It has also shown that the profession must be so organized and united as to utilize its fullest power for the purpose of combatting this influence and it must not be content to leave to the efforts of a few courageous and self-sacrificing members the burden of defeating a strong opposition which is daily becoming more powerful and which is daily making it more difficult to secure adequate protective legislation. The tendency in the commercial world is to a closer union with a concentration of energy and the development of its greatest forces. Such a plan must be followed by the profession; it must be brought to a realization of the power and influence that it can wield through a close and a thoroughly organized union of its members, and such an organization must be effected, *it has become a necessity*. The politician hearkeneth eagerly to the strongest influence, be that what it may, and the ability to reward and the fear of retaliation are the motives that most frequently govern the actions of the average politician. In order for the profession to accomplish its best results and secure its greatest influence, a medical society must be organized in every county in the state to which should belong every regular practitioner in that county. Every member of the profession in the state must be interested in the general welfare of the profession and every county society must be brought into a close working relation with the state organization. . . . The office of president of the state association should not be regarded simply as an honorary position, but as the administrative and executive head of the profession in the state, and the occupant of that position should be chosen for his fitness for it, and should be a man of good executive ability, one who may be able to promote the organization of county societies and to weld them in a strong cohesive body. To obtain recognition for its demands the profession must make its influence felt—politically if need be—and it must act as an unit in all matter of interest to it. To do this it must organize, and that thoroughly.—*St. Louis Cour. of Med.*, March.

Book Notices.

THE ESSENTIALS OF PRACTICAL BACTERIOLOGY. An Elementary Laboratory Book for Students and Practitioners. By H. J. Curtis, B. S., and M.D. (Lond.), F.R.C.S., Late Surgical Registrar, University College Hospital. Cloth. Pp. 291. Price, \$2.50. New York and Bombay: Longmans, Green & Co. 1900.

This work will be found of practical value to the student or to the clinician who desires to refresh his memory in regard to details of investigation of certain subjects. Simple and reliable methods of staining are given, and the minutest detail is gone into in describing methods. The book is well illustrated.

DISINFECTION AND DISINFECTANTS. A Treatise on the Best Known Disinfectants, their Use in the Destruction of Disease Germs, with Special Instruction for their Application in the Commonly Recognized Infectious and Contagious Diseases. By H. M. Bracken, M.D., Professor of Materia Medica and Therapeutics, University of Minnesota. Cloth. Pp. 85. Price, \$1.00. Chicago: Trade Periodical Co. 1900.

This handy manual aims to present clearly the modern methods of disinfection which have come into common usage in recent years, especially since the introduction of formaldehyde and its use in various forms for disinfection. The author has had extended opportunity for practical tests and observations, as the secretary of the Minnesota State Board of Health, and the results of his study of methods employed as presented here are of value.

INTRODUCTION TO THE STUDY OF MEDICINE. By G. H. Roger, Professor Extraordinary in the Faculty of Medicine of Paris. Authorized Translation by M. S. Gabriel, M.D., With Additions by the Author. Cloth. Pp. 545. Price, \$5.00. New York: D. Appleton & Co. 1901.

The object of this work, which is a reproduction of a course of lectures delivered in 1897-98 at the University of Paris, is to give to those proposing to study medicine a comprehensive general outlook over the subject as a preliminary to more detailed study. The plan adopted by the author is first to show what the object of medicine is and the method of study and, after having explained why and how persons become sick, he considers the causes which tend to modify healthy conditions with the lesions and reactions which these determine, whether appreciable during life or after death. In this way he introduces pathologic physiology, pathologic anatomy and semeiology to the student. Therapeutics is only lightly touched upon, as might naturally be expected. While some parts of the book would seem to be suitable to advanced students as well as to the beginner, it is safe to say that the reading of the work will enable the beginning candidate for the medical degree to orient himself in the study of medicine far better than he could by his own selection out of the mass of medical literature. The average medical practitioner will also find the book instructive and serviceable. It is wholly up to date and practically authoritative. The translation appears to be fairly well made, and the printing and make-up of the book is excellent.

Societies.

COMING MEETINGS.

Tri-State Medical Society of Iowa, Illinois and Missouri, Keokuk, Ia., April 2-3, 1901.

Medical Association of the District of Columbia, Washington, D. C., April 2, 1901.

Tennessee State Medical Society, Nashville, April 9-11, 1901.

Florida Medical Association, Jacksonville, April 10, 1901.

Western Ophthalmological and Otolaryngological Association, Cincinnati, Ohio, April 11-12, 1901.

Medical Association of the State of Alabama, Selma, April 16, 1901.

Medical Society of the State of California, Sacramento, April 16-18, 1901.

South Carolina Medical Association, Florence, April 17, 1901.

Medical Association of Georgia, Augusta, April 17, 1901.

Louisiana State Medical Society, New Orleans, April 18-20, 1901.

Medical and Chirurgical Faculty of Maryland, Baltimore, April 23-26, 1901.

Texas State Medical Association, Galveston, April 23, 1901.

American Association of Genito-Urinary Surgeons, Old Point Comfort, April 30, 1901.

Association of American Physicians, Washington, D. C., April 30, 1901.

South Carolina Medical Association.—The annual meeting of this Society will take place at Florence, April 17. Dr. James Evans of that city has been chosen to deliver the address of welcome.

Stevens County (Wash.) Medical Society.—The physicians of this County met recently and formed a medical society with Dr. Marcus R. Peck, Colville, president, and Dr. Matthew B. Grieve, Bossburg, secretary.

W. W. Keen Surgical Society.—The annual banquet of this Society was held recently in Philadelphia. Drs. W. W. Keen, James C. Wilson, Edward P. Davis, Hobart Amory Hare and W. M. L. Coplin responded to toasts.

San Joaquin Valley (Cal.) Medical Society.—The eleventh session of this Society was held in Fresno, March 13. The following officers were elected: Dr. Harry W. Taggart, Stockton, president; and Drs. Henry Hildreth, Delano, Nathaniel P. Duncan, Hanford, and Claeburne W. Evans, Modesto, vice-presidents.

Denver and Arapahoe Medical Society.—At its meeting March 12, the Society authorized the appointment of a committee to investigate and report on permanent headquarters with medical library, assembly hall and clubrooms. A committee was also appointed to watch the bills before the legislature, relating to the practice of medicine.

Newport (R. I.) Medical Society.—At a meeting of this Society, March 11, a proposed act was discussed under the provisions of which no physician or surgeon will be permitted to practice dental surgery. The Society entered a vigorous protest against this section, and a committee was appointed to take charge of the matter.

Society of Medical Jurisprudence.—This Society held its regular meeting, March 11, at the New York Academy of Medicine. Brevet Major-General N. Martin Curtis addressed the assembly, on "Capital Punishment—Unscientific and Futile." He maintained that it was an actual bar to the administration of justice owing to the prejudice of juries toward the death penalty.

Erie County (N.Y.) Medical Association.—This Association, which is an affiliated body with the New York State Medical Association, met March 11 and elected the following officers: Dr. DeLancey Rochester, Buffalo, president; Dr. William H. Jackson, Springville, vice-president; Dr. Arthur G. Bennett, Buffalo, secretary; Dr. Charles A. Wall, Buffalo, treasurer, and Dr. Alvin A. Hubbell, Buffalo, trustee for three years.

JOHNS HOPKINS HOSPITAL MEDICAL SOCIETY.

Meeting held March 18.

Dr. William H. Welch in the chair.

A Curious Form of Peritoneal Tuberculosis.

DR. W. G. MACCALLUM presented an observation made in an autopsy. The peritoneal surface was smooth, with but little fluid, and embedded in it were numerous sessile nodules, many of which hung by pedicles in the peritoneal cavity. Some of the pedicles were long and slender, and entangled with their neighbors. Some were so deprived of blood as to be almost strangulated, and one of the nodules was free in the peritoneal cavity. Some of the pedicles have channels in their centers, lined with epithelium. These bodies are due to a traction on the peritoneal surface from the weight of the nodules. The latter have the characters of caseous masses and contain numerous tubercle bacilli. Definite miliary tubercles were not seen. These conditions are common in the perisperm of animals, but rare in man. Only one similar case in the human subject has been described, by an Italian observer in 1867.

DR. WM. H. WELCH said that doubtless many of the pedicles are due to traction on the serosa, but another explanation is possible. There is a form of peritonitis where a vascularized

membrane forms on the peritoneum, analogous to that seen in pachymeningitis hemorrhagica, and some of the tubercles in Dr. MacCallum's case were doubtless formed in such a vascularized false membrane.

Lipomyoma of Uterus.

DR. J. H. M. KNOX had obtained this rare specimen, in an operation by Dr. Kelly, from a woman aged 62, the mother of thirteen children, the youngest being 24. She had had three miscarriages, the last twenty-six years before. The first symptoms occurred nine years ago, with a serous discharge lasting three weeks, but no pain. After some years the discharge reappeared, and again some weeks before the operation, which was done about sixteen months ago. There was never any pain, except on one occasion, when she had sharp pains like those of labor. The whole pelvis was filled with a firm mass extending to the umbilicus. There was nothing suggestive of anything more than an ordinary myoma until examination in the laboratory. Numerous oil globules could be pressed out of the mass, which was composed almost equally of muscular and fatty tissue. There was no fatty degeneration of the muscle fibers. Numerous eosinophilic cells were found grounded around the vessels, and a sessile polyp extended into the uterine cavity. The speaker reviewed the literature, in which very few such cases are to be found, and said that the specimen was of interest both because of its rarity and because the appearance may be due to misplaced embryologic elements.

DR. THOS. S. CULLEN, in 600 specimens of myoma in the hospital, had seen nothing like this. He said he had met at least three cases of malignant degeneration of a uterine myoma.

DR. WM. H. WELCH thought the explanation given by Dr. Knox correct, and he had lately examined a myoma, sent by Dr. Geo. Ben Johnston, of Richmond, in which, mingled with the muscular elements, were true bone and much mucoid tissue.

Advances Made in Medical and Surgical Diagnosis by the Roentgen Method.

DR. CHARLES LESTER LEONARD, of Philadelphia, presented a paper illustrated by lantern projections. The chief advantages are in fractures and calculi. In fracture without pain we can obtain more information than by manipulation. In impacted fracture diagnosis is impossible in any other way without great damage. It also aids greatly in securing coaptation and reducing. It may point out when reduction can be affected and when operation is necessary. The rule used to be to treat all suspected fractures as such; this is only justifiable now where we can not secure a Roentgen examination.

With this method we can absolutely detect or exclude all calculi. Early operation in pelvic or ureteral calculus, is of great advantage. Of 153 suspected cases examined, in 44 calculi were found; 25 of these were in the ureter. In one case several phleboliths in the veins of the broad ligament were shown in the plate.

DR. H. A. KELLY said that the apparatus was indispensable and he had provided himself with one for private use and also for teaching purposes. In one case where he had removed a stone from the ureter, he was surprised to find that several more remained behind.

CHICAGO PATHOLOGICAL SOCIETY.

Meeting held March 11.

Dr. L. Hektoen, President.

Primitive Splenomegaly or Anemia Splenica.

DR. MAXIMILIAN HERZOG read a paper based on a study of the literature of this subject and on two cases in which Dr. M. L. Harris performed splenectomy. Particularly one of the two cases, both of which got well after the removal of the spleen, had been studied carefully as two years had elapsed since the operation. Before the operation there had been present in this case a marked diminution of the erythrocytes, a low color index and an absolute and relative reduction in the number of the leukocytes. The blood had improved very much since splenectomy, and there had developed a marked eosinophilia. An examination of the spleens removed showed a marked endothelial proliferation with enlargement of the blood

lymph-spaces—pulp-spaces. Herzog stated that he had in vain sought for many destroyed blood-corpuscles inside of lymph-endothelia, a picture as it is, for instance, found in typhoid fever. Considering the fact that the blood condition had always improved in all cases of splenomegaly in which splenectomy had been performed provided the patient did not die from the operation, it appeared conclusive that the changes in the spleen must be looked upon as the primary factor in the disease. We therefore must look to the pathologic changes in the spleen as the cause of the blood destruction. From an examination of the two cases, as well as from a study of the literature, it appears that no evidence can be found that lymphatic endothelia destroy the blood by directly taking up blood-corpuscles. Herzog, therefore, advances the theory that lymphatic endothelia of the spleen and of lymph glands secrete an erythrolytic ferment, and in this manner destroy old and worthless blood-corpuscles. We have in splenomegaly an enormous endothelial proliferation, and probably in consequence an enormously increased production of the erythrolytic ferment, which, when present in such a large amount, destroys many healthy blood-corpuscles. If the spleen is removed, the source of the increased production of the erythrolytic enzyme is removed, and the blood improves rapidly and permanently.

DR. W. A. EVANS referred to a case of Dr. Ferguson's, in which there occurred petechial spots in the skin and where the spleen became smaller before death. He spoke of a case reported by Dr. Dalton, before the London Clinical Society, which was clinically one of splenic anemia, but at autopsy the enlargement of the spleen was discovered to depend on passive congestion, due to constriction by an anomalous colon.

DR. LEO LOEB declined to accept the theory of an enzyme which destroys the red blood cells in the spleen.

DR. E. H. OCHSNER referred to a patient who clinically presented splenic anemia, and who improved for a time after the spleen was removed, but subsequently died. There were a few small tuberculous peritracheal glands found at autopsy. A possible infection in such cases must always be considered.

DR. B. W. SIPPY spoke of the similarity of these cases to the ordinary lymphatic pseudoleukemia as regards blood changes, general asthenia, etc., a similar enlargement of the spleen also being observed. In many cases of splenic anemia there is enlargement of the lymph glands, although it may be slight. In all cases the bone marrow has been converted into a fetal condition, like that found in many cases of pseudoleukemia lymphatica. He objects to the term "splenic anemia," and considers the one "splenic pseudoleukemia" to be the proper one. He believes the primary cause can not be positively located in the enlargement of the spleen. In the case described by him, the fibrous changes were much more marked than in Dr. Herzog's. This he thinks may depend upon the longer duration of the disease.

DR. P. KEYES said that in the specimens of Dr. Herzog, the proliferation involves all the structures of the spleen, and such a condition can not be due to a primary proliferation of any one element, as the endothelium.

DR. T. R. CROWDER presented sections of an amyloid spleen with unusually distinct endothelial linings in the vascular spaces.

DR. M. HERZOG, in closing, said that he did not claim that there was proliferation of the endothelium alone, but that the increase in the endothelium was enormous, so much so that the condition had been mistaken for an endothelioma. Dalton's case had not been considered, as it was too indefinite. One reason for separating these cases from lymphatic pseudoleukemia is because they are curable by operation.

Pancreas Annulare.

DR. THEO. TIEKEN exhibited a specimen of pancreas annulare, with resulting constriction of the duodenum so that a large fusiform sacculatation of the latter had formed.

Blastomycosis.

DR. H. M. RICKETTS presented specimens of experimental general blastomycosis in the lung of a dog, produced by the intravenous inoculation of an organism obtained from a case of blastomycosis of the human skin.

MEDICAL SOCIETY OF RUSH MEDICAL COLLEGE.

Meeting held March 4.

Acute Ulcerative Endocarditis.

DR. THEODORE TIEKEN demonstrated a specimen of this condition, with a large perforation in the posterior segment of the aortic valve, and almost complete destruction of the anterior cusp by the ulcerative process. The valves were covered with large vegetations, many of which were calcified. The mitral valves were likewise studded with vegetations, which extended down the chordæ tendineæ as far as the apex of the papillary muscles. In addition to the ulcerative process on the aortic valves, an area of ulceration was found at the attachments of the bases of the semilunar valves which extended through the walls of the aorta, into the peri-aortic space. The heart was greatly hypertrophied and showed some interstitial fibroid changes. In the same case were found an annular pancreas and a sacculatation of the duodenum, caused by the constriction of the intestinal lumen by a band of glandular substances, springing from the head of the pancreas in such a manner as to entirely encircle the lower part of the duodenum—descending portion, forming a true "pancreas annulare." The pancreas was normal in size and consistency, and cut with about normal resistance. The head measured 4 cm. in its vertical and 3.5 cm. in its transverse diameter. The annular portion measured 2.75 cm. at its narrowest portion and was 1 cm. in thickness. The ducts were in every way normal, and no abnormality was noticed in its vascular supply. In a hurried review of the literature he was able to find only four other cases reported to date. Although the patient had been under observation for nearly a year, no symptoms referring to the gastro-intestinal tract were ever manifested during life.

Obstruction of Popliteal Artery.

DR. JAMES B. HERRICK presented a specimen showing obstruction at the bifurcation of the popliteal artery, produced by an embolus from the heart, the seat of chronic valvular and myocardial disease.

Suprarenal Tumor.

DR. HERRICK also showed a specimen of a suprarenal tumor where the tumor mass had invaded the inferior vena cava. This finding, which had been suspected during life, explained the early occurrence of an edema of the lower extremities, and had been one determining factor in deciding against operation for the removal of the kidney.

Lymphatic Leukemia.

DR. HERRICK also showed specimens of blood from six cases of lymphatic leukemia. He referred to the unknown etiology of the disease, to its clinical separation into acute and chronic varieties, to the resemblance of the former to an acute infection and of the latter to Hodgkin's disease, and also dwelt upon the variations in the blood picture as shown in his six cases. The statement so frequently made, that in lymphatic leukemia nucleated red corpuscles are very rare, was disproven in four of the six cases, three acute and one chronic, and specimens were exhibited showing numerous nucleated red blood-corpuscles. He spoke also of the great variety in the picture presented by the blood, according as the larger or smaller mononuclear forms prevailed in a given case. In one case, a rapidly acute one, there had been about 2 per cent. of myelocytes. Another interesting combination he had seen was that of a patient with carcinoma of the neck and jaw, with diffuse hyperplastic enlargement of the lymph glands and with the typical findings of a lymphatic leukemia, the blood counts never showing less than 100,000 leucocytes.

Interparietal and Intraparietal Aneurysms.

DR. L. HEKTOEN presented several specimens illustrating interparietal and intraparietal extension into the heart of aneurysm of the beginning of the aorta, and of dissecting aneurysm of the heart. He described the spatium periaorticum cordis of Vestberg. The spatium periaorticum cordis is situated at the root of the aorta, and is covered by the reflection of the epicardium as it passes over the aorta behind the

auricles and forms the floor of the sinus transversus pericardii. It is in this space that interparietal dissecting aneurysms of the heart most frequently are found by rupture or ulceration of its internal wall, the aorta. The specimens demonstrated illustrated the formation of dissecting aneurysm in this space as a consequence of ulcerative endocarditis of the aortic valves, and in consequence of the rupture into the space of small aneurysms in the beginning of the aorta developing primarily upon the basis of a syphilitic aortitis.

He also demonstrated a specimen of a large interparietal aneurysm in the right ventricle, originating in the sinus Valsalvæ of the aorta, and also an aneurysm originating in the left ventricle by two small openings, and forming a large cavity upon the lateral and posterior aspects of the left ventricle. The post-mortem in this case was made by Dr. Le Count, and the question as to the dissecting character of this aneurysm was discussed, the conclusion reached being that the aneurysm most likely originated in a suppurative process in the myocardium, and probably reached its present large extent in consequence of more or less dissection of the walls of the left ventricle.

Relief of Portal Obstruction.

DR. H. GIDEON WELLS reported two cases illustrating relief of portal obstruction in hepatic cirrhosis by plastic peritonitis. In one the condition was found at autopsy, there having been no evidences of obstruction during life; the numerous adhesions of a chronic fibrous peritonitis were found largely replaced by thin-walled vessels, full of venous blood, up to the size of a crow's quill. The portal obstruction was due to an obstructive biliary cirrhosis from impaction of a calculus in the common bile-duct. The other case was that of a man with excessive ascites of about twenty months' duration, requiring frequent tapping, and due to alcoholic atrophic cirrhosis. A large umbilical hernia, resulting from the ascites, became strangulated and was reduced by operation. No attempt was made to establish a plastic peritonitis, and there was but little intra-abdominal manipulation, yet the ascites never recurred up to the time of the patient's death, eleven months later from carcinoma of the pharynx.

OMAHA (NEB.) MEDICAL SOCIETY.

Meeting held March 12.

Need for More Thorough Physical Examination of the Abdomen.

DR. W. O. BRIDGES, in a paper on this subject, pointed out that the neglect of abdominal examination is a serious omission. He suggested a few of the important points of information, lost not only in diseases of the abdominal organs, but also in the failure to observe changes in abdominal organs which are a part of the pathology of constitutional diseases, and changes due to diseases of distant organs. We are too apt to draw conclusions from answers given and to fail to make painstaking examinations of organs so accessible. We are often asked why appendicitis, movable kidney and gastropexia are more common now than formerly. The proper answer should be that they only seem more common because, hitherto, physicians have been too neglectful to investigate the abdomen. The literature on these conditions has been written, practically, in the last dozen years. The life insurance examination blank should require the same investigation as to the liver, spleen, kidneys, stomach and appendix as is now demanded for the heart and the lungs. The technique of examination is really very simple. Anesthesia will seldom be required. Inspection reveals some things. Distention or retraction, and prominence of veins should always be noticed. The character of the respiration, if abdominal, should be observed.

In many infectious diseases, particularly malarial and typhoid fevers, changes in the liver and the spleen are easily discoverable by palpation and percussion. These changes should be searched for daily, for the degree of change is a guide to the probable severity and duration of the disease. The persistence of a palpable spleen in typhoid fever, after cessation of fever, should warn of relapse or a sequel, and forbid the getting up

of the patient, no matter how favorable everything else is. In malaria, specific treatment should be carried on until both spleen and liver are no longer palpable. Chronic diseases of the heart and lungs frequently produce great enlargement of the liver and spleen, and fluid in the abdominal cavity long before there is edema of the feet. In the anemias, the spleen should always be examined, for the grave cases only show enlargement of this organ. In many instances, affections of the abdominal organs produce effects elsewhere which are often very misleading. Precordial pain is often the result of pressure from a dilated stomach. Dyspnea, cyanosis, edema of the feet with coldness and numbness, irregularity of pulse, all can arise from enlargement of the liver or spleen, excessive tympanites, or an abdominal tumor. The pain of biliary colic is often referred to the right shoulder, and hepatitis, peri-hepatitis and abscess of the liver may simulate affections of the right pleura. A supposed pneumothorax has been proven to be hernia of the intestines through the diaphragm. Pus from an appendiceal abscess will sometimes burrow to the diaphragm and press it upward, simulating an empyema, or it may perforate the diaphragm and produce a purulent pleurisy. We are all familiar with melancholia and hypochondriasis as the result of disturbances of the stomach and liver. Dilatation of the stomach, gastroenteroptosis and movable kidney disturb greatly the nervous systems of women, and many a hysterical woman, whose affection is due to one of these conditions, travels the rounds without the real cause of her hysteria being detected. Reading Tolstoi's "Ivan Ilyitch" will give one a better idea of the relation of an abdominal organ to the nervous system than will a medical text-book, for the hero had a movable kidney, and the details of his life-history are painted far better than they could have been by the most celebrated neurologist.

A few illustrative cases were reported. Miss S., aged 22, had been a sufferer for months. She had cough, fever, sweats, emaciation, absence of respiratory function in the lower right lung. A diagnosis of pulmonary tuberculosis had been made. Close interrogation developed an early history of pain in the abdomen. An abdominal examination revealed a large appendiceal abscess, operated on later by Dr. Jonas, with slow but complete restoration to health.

Mrs. K., aged 34, gave a history of former and recent biliary colic without jaundice. She had fever, rapid pulse, nausea, vomiting and marked nervous symptoms. Two physicians in attendance had not made careful physical examination, and an extremely tender, movable egg-shaped tumor was found in the gall-bladder area. The diagnosis of empyema of the gall-cyst was proven by an operation made by Dr. Summers, which resulted in recovery.

Mrs. H., aged 30, was supposed to have passed through a malarial fever with slow convalescence. She had abdominal pain, nausea, vomiting, chills, fever, sweats, and jaundice; these had been present for several weeks. Examination showed a movable, tender tumor beneath the liver, the size of a small orange. It was diagnosed as a distended gall-bladder. Operation by Dr. Jonas proved the mass to be an empyema of the cyst, with calculi. Recovery took place.

Mr. H., aged 36, a hypochondriac of the worst kind, had been treated for years for dyspepsia, and had become an expert with a stomach-tube and was a superior dietist. After failure of treatment based on analyses of the stomach-contents, a more careful physical examination revealed a movable kidney of the third degree. This seemed to be the key to the situation, and Dr. Summers made a nephrorrhaphy which promised well for a time. Relapse, however, took place with the kidney fixed and later a surgeon in another city found many adhesions near the junction of the pylorus and duodenum, which he liberated. Again improvement followed for a short time. The latest report is that a third surgeon opened the gall-bladder and removed thirty to forty calculi, and the results of this are not yet known.

Crushing Injury.

DR. BRIDGES briefly reported the case of a man who was caught between the bumpers of two cars, and suffered from crushing of the chest. His attention was called to the patient

by reason of the fact that, during inspiration, there was recession of the right chest with expansion of the left; during expiration, expansion of the right chest and recession of the left.

WILLS' HOSPITAL OPHTHALMIC SOCIETY.

Meeting held in Philadelphia, March 11.

Dr. S. D. Risley in the chair.

Sympathetic Ophthalmitis.

DR. FRANK FISHER presented a case of sympathetic ophthalmitis coming on after a panophthalmitis which had followed a cataract extraction, the patient being 64 years of age. He laid special stress on the age at which the ophthalmitis had developed, and the long period of time elapsing between the condition and the cataract extraction.

DR. WILLIAM ZENTMAYER inquired whether it is not rare for the disease to evidence itself in cases in which there is panophthalmitis. In answer to Dr. John T. Krall's question whether the fundus of the sympathizing eye had been examined,

DR. FISHER stated that when he saw the case the eye-ground had become invisible.

DR. S. D. RISLEY asked whether subconjunctival injections of solutions of chlorid of sodium had ever been tried by any of the members of the staff.

DR. WALTER L. PYLE expressed belief that the occurrence of sympathetic inflammation after panophthalmitis depends on the amount of destruction of the globe. He believes that if there is decided scleral rupture and escape of most of the intra-ocular contents, sympathetic ophthalmitis is not likely to follow.

DR. CHARLES A. OLIVER said that all attempts to do useful iridectomy in such cases are futile, the iris-tissue being brittle and friable; while any obtained good results are rapidly lost. He has been successful in several instances, by either the Gritchett-Story operation or Tyrrell's method of drilling. He has never employed subconjunctival injections to any advantage, nor as yet made use of large doses of the alkalies, but if lymph formation and circulation are good the former method might be of assistance.

False Maculae.

DR. GEORGE C. HARLAN presented a case of false macula. The patient, a white man, 23 years of age, whose family and personal histories were negative, had squinted since childhood. He could use either eye. On Feb. 23, 1900, he was admitted to the hospital with an esotropia of 40 degrees, preferably fixing with the left eye. A tenotomy of the right internal rectus muscle, with an advancement of the corresponding external rectus, was done, leaving a residual squint of about 10 degrees. Two weeks later similar operations were performed on the left eye, with the result of an overcorrection of 10 degrees. On January 23, of this year, the perimeter showed 10 degrees of esotropia. The Maddox rod gave 20 degrees of crossed diplopia. At this time a tenotomy of the right external rectus muscle was done, allowing both eyes to fix centrally, but the crossed diplopia remained the same. One week later it was found that the esotropia of 10 degrees still persisted. There was no monocular polyopia. During fixation with both eyes a crossed diplopia of between 8 and 16 degrees, with a hypophoria of 0.5 to 2 degrees could be determined.

Extraction of Foreign Body from Vitreous.

DR. C. BERENS presented a case of successful extraction of foreign body from the vitreous chamber, with a resultant vision of 6/9 of normal. The patient, a man 38 years old, came to the hospital on Feb. 12, 1901, with the history of having been struck in the left eye one hour previously, by a chipping from a hammer. The external wound, which was vertical and 3 mm. in size, was situated in the cornea, 5 mm. from the nasal limbus. There was a corresponding wound in the iris. The pupil was 4 mm. in size, and central, and the iris reacted well. Under atropin the pupil enlarged to 8 mm. There were numerous vitreous opacities anteriorly, and some posteriorly. The details of the eyeground were slightly veiled. Far down and to the inside two semilunar areas, one of which at first showed a suspiciously bright point, could be seen. Under the Doctor's

guidance, the senior resident surgeon enlarged the corneal wound down and in, did an iridectomy, and placed a magnet tip toward the side of the retinal laceration. Three unsuccessful attempts were made in this direction. Dr. Berens took the tip and inserted it twice, the second time down and out, recovering a piece of steel from that locality. Atropin was instilled and a bandage applied. On the next day there was slight reaction, but no pain. Two days later there was a moderate injection. At this time the patient could tell time on a watch, at one-half meter's distance. In eight days the eye was quiet, and vision equalled 6/20 of normal. The eye-ground could be distinctly seen. Four days after this vision had arisen to 6/9 of normal, and the eye was quiet.

Double Coloboma.

DR. C. A. OLIVER exhibited a case of double coloboma of the iris, chorioid and optic nerve, with unusually small cornea in an Italian girl of 16. As far as could be ascertained, there was no history of inheritance, nor were there any other signs of congenital malformation present. The colobomata were in their usual positions downward and slightly inward, those of the right eye being the larger. The characteristic curvilinear extension of the retinal vessels along the borders of the colobomatous areas could be plainly seen. The surfaces of the colobomata of the fundus, which were on a much deeper level than the rest of the eye-grounds, were quite ectatic in places. Refraction in the uninvolved macular regions was myopic and slightly astigmatic. Corrected vision equalled about two-thirds of normal. The visual fields showed defects corresponding with the fundus abnormalities. Both optic nerve heads were considerably enlarged. The retina in the colobomatous areas were visible as thin, almost transparent, membranes over and in which a few small vessels could be traced. The case was particularly interesting in the fact that, in spite of the apparent microphthalmus, the eyeballs were enormously lengthened in their anteroposterior diameters, giving high degrees of myopic refraction.

Spontaneous Extrusion of Iron from Eyeball.

DR. OLIVER also showed a patient from whom a chip of iron had been spontaneously extruded from the eyeball two years after its entrance into the crystalline lens, through the cornea and the iris. No reaction followed the expulsion of the foreign body. The lens itself had been studded with brilliant cholesterol crystals for more than a year.

Plastic Operation in Symblepharon.

DR. C. BERENS presented a case showing the recent effects of plastic operation for symblepharon, in which the conjunctiva of the upper lid had been adherent to the cornea over more than two-thirds of its surface, entire freedom of motion being restored to the globe.

Interstitial Keratitis

DR. OLIVER also gave a brief account of a case of interstitial keratitis occurring in the left eye of a man of 24, suffering from other stigmata of hereditary syphilis. He had treated and cured the patient's right eye for a similar attack of keratitis some six months previously. The point of interest in the case consisted in the fact that at the time of the patient's second admission to the hospital, some three weeks previously, the senior resident surgeon discovered a sloughing chaneroid involving almost the entire foreskin of the patient's penis, necessitating excision of the sloughing part of the organ.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting held March 13.

Dr. George Erety Shoemaker in the chair.

Appendicitis and Cystic Ovary.

DR. C. F. NASSAU reported and presented specimens from a case of appendicitis and cystic ovary. The patient at one time had given the history of extra-uterine pregnancy, and a soft fluctuating mass had been found in the abdomen. An operation had been done and the uterus was found to have no supports. Later the patient suffered from uterine hemorrhages.

and the odor characteristic of carcinoma was present. The abdomen was again opened and a perforation of the appendix found. It was noticeable that seven weeks previous to the operation the right ovary had been healthy, but it had within that time undergone cystic degeneration and was several times the size of the normal organ.

Case of Appendicitis.

DR. MORDECAI PRICE reported a case that, a few days before, showed abdominal symptoms with great distention. The patient had taken enormous quantities of purgative medicines without avail. He was entirely unable to pass gas from the bowel. The patient died March 12, and at the autopsy a perforation of the appendix was found. The duodenum showed induration, and it might have been malignant in character. Another obstruction was in the region of the appendix, and thus the ilium was obstructed at both ends.

Postpartum Metastatic Panophthalmitis.

DR. W. L. PYLE read a paper on this topic. He stated that this condition is rare in this country. The symptoms are usually manifested within the first fifteen days after delivery. Unilateral panophthalmitis is the most common, and this may occur after normal labor. Early ocular symptoms may begin by loss of vision, slight hypopyon, burning of the orbit, and finally an abscess forms followed by destruction of sight. The condition is essentially a septic one, and pyogenic microorganisms of different kinds have been discovered. The prognosis as to vision is hopeless. The treatment in the early stages consists in the instillations of atropin, and the application of hot compresses. Should an abscess form, it should be incised and drained carefully. The speaker detailed a case.

DR. W. REBER said he had seen two cases of metastatic ophthalmia. He believes the usual seat of infection is in the choroid.

Obstetric Forceps.

DR. R. C. NORRIS made some remarks on obstetric forceps employed by the general practitioner, and also on treatment of arrested position of the occiput. He thinks the employment of obstetric forceps during labor should be regarded as a major operation, and as of equal importance with an abdominal section. Absolute sterilization should be employed. The instruments should be placed preferably in boiling water for at least ten minutes. The hands should be sterilized, first with soap and water, and afterward with bichlorid solution. It is a mistake to think that sterilization can be made complete by simply laying the instruments in an antiseptic fluid. The vagina must be thoroughly scrubbed with soap and water, but a vaginal douche is not necessary unless a foul discharge has occurred. In forceps delivery rubber gloves should be employed. In all cases previous to the application of the forceps the position of the child must be determined. The head should be delivered through the vaginal ring, by means of the forceps. In 83 per cent. of the cases in which he had been called in consultation by general practitioners, the occiput was in a posterior position and failed to rotate anteriorly. One of the most common causes for this is incomplete flexion of the head. In some of these cases, external and internal manipulations are frequently insufficient to correct the faulty position. The reversed forceps operation should only be employed by a skilled obstetrician. When flexion is incomplete, backward rotation of the occiput is prone to occur, and in these cases forceps are useful as tractors. As rotators, he has more recently come to use the solid blade forceps of the Tucker pattern. Reversed forceps as rotators should be condemned.

Treatment of Placenta Previa.

DR. CHARLES P. NOBLE read a paper entitled "The General Considerations of Treatment of Placenta Previa." He reviewed the literature on the subject. The mortality to the child is probably 50 per cent. and to the mother 5 per cent. The induction of premature labor is one of the most important plans of treatment. About the seventh month of gestation, the hemorrhage is severe and, if life is endangered, pregnancy may be terminated. Prior to this period, if the hemorrhage is recurrent in character the same procedure may be carried out. If

the cervix is dilated the fingers may be inserted and a Barnes bag may be introduced and inflated by means of a syringe. It is always advisable to determine beforehand how much water the bag will hold. If hemorrhage is profound, version may be done. If the placenta is marginal, it may be left to Nature, as advised by Murphy. The rapidity of the fetal heart indicates the condition of the child. In these cases there is always increased liability to infection, and the parts should be sterilized as far as possible. Rubber gloves are to be recommended.

Cesarean Section in Placenta Previa.

DR. GEORGE M. BOYD read a paper on "Indications for Cesarean Section in Placenta Previa." At the Philadelphia Lying-in Charity, placenta previa occurs in about 1 to 170 deliveries. The speaker would recommend that an examination under ether be made in order to determine the position of the fetus, as well as dilatation of the soft parts.

DR. BARTON COOKE HIRST said it is unnecessary to exaggerate the dangers of occipito-posterior positions, since this condition occurs in probably 25 per cent. of cases of labor, and of this number there are probably only 5 per cent. which failed to rotate. He has known of cases of this position in which forcible rotation of the head has not been followed by rotation of the body. In certain instances in which there has been damage to the pelvic floor, even without a tear, he has put in stitches to restore strength to the parts.

As to the treatment of placenta previa, he has met with twenty-four cases without having lost any. He thinks the usual mortality to the child is about 50 per cent. and to the mother 1 per cent. He does not consider Cesarean section necessary in these cases.

DR. W. REYNOLDS WILLSON said that it is immaterial whether the blades of the forceps are applied to the sides of the child's head or not, in many cases. He could not agree with Dr. Norris in rotation by means of forceps, when the occiput is in a posterior position, because of the danger to the mother. As to the treatment of placenta previa, we should consider this condition in two classes: 1. those which might be called emergency cases; and 2. those which can be watched. In many of these cases it is unnecessary to resort to artificial dilatation, since this has been usually accomplished when the case is seen. Death generally results from shock in placenta previa.

DR. MORDECAI PRICE, as to the use of forceps, believes that these instruments do more harm than good to the child. He has never seen a Simpson forceps which slipped. As to the treatment of placenta previa, he believes that pregnancy should be terminated at once. If the placenta is centrally located, he believes in going straight through it. There is no hope through delay. To do Cesarean section is carrying it too far.

DR. STRICKER COLES believes that in cases of posterior positions of the occiput the most important thing to do is secure flexion.

DR. J. M. FISHER said it is often difficult to make a diagnosis of the exact position of the fetus. He has seen only two cases in which the occiput failed to rotate anteriorly.

THE CHICAGO LARYNGOLOGICAL AND CLIMATOLOGICAL SOCIETY.

Meeting held February 28.

The President, Dr. Melville T. Hardie, in the chair.

Thyroid Tissue in Trachea.

DR. OTTO T. FREER exhibited a patient with typical thyroid tissue in the trachea. He had shown the patient three years previously.

Functional Tests of Hearing.

DR. W. L. BALLENGER referred to the controversies regarding the value of the functional tests in the diagnosis and prognosis of aural diseases, pointing out that much of the discussion has arisen on account of exceptions to the general rules, and that the continuous and increasing use of these tests by otologists is a fair indication of their recognized utility. He next laid down the physiologic facts of hearing, aural and bone conduction, and the principles underlying the tests, the range of normal hearing, the impairment in hearing low or high tones

according as disease affects the conduction or perceptive apparatus respectively, and the difference between bone and air conduction in normal and in pathologic states. In the application of the tests constant practice is essential to estimate correctly their indications, hence the necessity of their routine utilization.

The various tests were reviewed. The most valuable physiologic methods are, he thinks, those with tuning-forks and whistles, and the best outfit for making a complete test of the range of hearing is the Bezold-Edelmann set. The Weber test he finds most reliable in unilateral middle ear disease, somewhat less so in labyrinthine disease, and least of all in chronic middle ear affections. The Schwalbach test was also described, and its modification, the Rinne, which, while not as reliable as the Weber, should always be used with the others. If in examination there is a correspondence between the results of the Weber, Schwalbach and Rinne tests, the latter is an additional proof of the pathologic condition present. Also the non-accordance of the tests may lead to valuable deductions sometimes as to the locality of the disease. The tuning-fork best suited for the Rinne test is C² 512, although one two octaves higher may be used. Unlike the Weber test, low forks are not satisfactory.

The author's personal experience with the Gelle test does not warrant him in expressing an opinion as to its value. According to Politzer, it is of value only in very severe deafness, and Ballenger thinks this is also true of Bing's test, No. 1. Bing's second test was also described, as well as the condition recently denominated spongifying of the labyrinth, but which was first described by Bezold twelve years ago.

In conclusion, Ballenger says that he has found many of these tests he describes of great value, though in many cases the information they give can also be obtained without their aid. In special cases they are of particular utility.

DR. J. HOLINGER said that from the characteristic restriction of the function of the hip-joint we make the diagnosis of hip-joint disease. From restrictions of the function of the eye the oculist makes nearly 75 per cent. of his diagnoses. Hearing tests for diagnostic purposes are very recent. Those spoken of were mostly known before the seventies of the past century. But it was Professor Bezold who brought a system into those tests, and Bezold and Siebenmann proved by post-mortems that the system upon which they based their diagnosis was correct.

To test the hearing watches have been abandoned very largely, because they are not uniform. They can not, therefore, give results which allow comparison. Why not use the voice as long as we know its range is comparatively limited, and we always have it at our disposal? The essayist makes a distinct difference all through and gives some tests for middle ear disease; others for diseases of the labyrinth, etc. These tests vary considerably, owing to the condition of the middle ear or of the drum. Therefore, the examination with the funnel must precede. The differential diagnosis between disease of the Eustachian tube and an affection of the labyrinth or oval window can be made by comparing the results of all examinations with the normal. In an affection of the tube, if the drumhead is retracted and the middle ear comparatively emptied of air, we get three distinct symptoms by the tuning-fork tests, which are the same as in spongifying of the labyrinth. First we have negative Rinne; then an increase of bone conduction for the lower sounds; then a decided lack of hearing for the lower sounds by air conduction. The moment we inflate the middle ear through the catheter we create normal conditions in cases of affection of the tube. We have normal Rinne; we have normal bone conduction and normal lower sound limits. In spongifying of the labyrinth there is no change after inflation. Whenever we use these different tests we must ascertain first the condition of the drumhead. The test of Gelle was referred to by Dr. Ballenger. In the works of Bezold it did not find place. He dropped it for good reasons. The test is quite indefinite.

The essayist has told us that spongifying of the labyrinth occurs mostly at from 18 to 30 years of age. I would like to lay stress on the point that it *begins* at that time, continues for a longer or shorter period, and remains stationary thereafter. This is an important point to remember.

The three cardinal tests for spongifying of the labyrinth are negative Rinne, increase of bone conduction for A tuning-fork and the loss of the lower sound limit in normal condition of the drumhead.

DR. ALBERT H. ANDREWS said there are certain inaccuracies in most of the tests described. He finds the watch test of very little value, except in recording the changes which occur in the course of treatment or in the progress of ear disease. With regard to tuning-forks, each one has an individuality of its own. He has a number of forks that are C² 512, but with one, with which he has made a great many experiments, the average relation in the normal ear between bone conduction and air conduction is in the relation of about five to six, bone conduction being about five-sixths of the time of air conduction. With another fork having the same number of vibrations per second, bone conduction is less than one-half that of air conduction.

He emphasized the point made by Dr. Ballenger, that in reporting functional tests it is necessary to determine and report the characteristics of the fork used in order that we may have a proper understanding of the tests given. As to functional tests with the voice, conversational tones range from about 80 to 256 vibrations a second, while the extreme limits of the human voice run from perhaps 64 to 1000. In testing the hearing ability for conversation, forks should be used ranging from 68 to 256.

DR. WILLIAM E. CASSELBERRY suggested that the essayist

bring both prongs as near as possible. In this way the tone of the fork is heard at its maximum.

A Suggestion Concerning Uvulotomy.

DR. W. E. CASSELBERRY presented this topic, saying, in part: It is understood that chronic elongation of the uvula and relaxation of the soft palate are features of chronic pharyngitis, nasopharyngitis and rhinitis. It is in part secondary to these conditions and in part the conjoined effect of identical causes. The etiology includes recurrent acute attacks of rhinopharyngitis, contiguous tonsil disease, nasal stenosis, tobacco irritation and chronic pharyngitis incidental to digestive derangement and nutritional disorders such as rheumatism and gout. A complexity of causes is often operative in the same case.

The hypernutrition which affects the uvula and velum, like that of the posterior pharyngeal wall, has its origin in persistent hyperemia. Congestion leads to an exudation of leucocytes and a proliferation of the connective tissue cells of the submucosa. It excites hypersecretion and, in turn, the "hawking habit" serves, in part, to maintain congestion. Greville McDonald has called attention to the large number of glands imbedded on the posterior surface of the soft palate. In addition to the hyperplasia of the submucosa it is inferred that constant congestion of the subjacent muscular structures and their peripheral motor nerves, especially the levatores and tensores palati, leads to sluggishness of contractility and an ultimate fixation of the muscular fibers in their relaxed state. Moreover, the paresis in certain cases is attributable to pres-

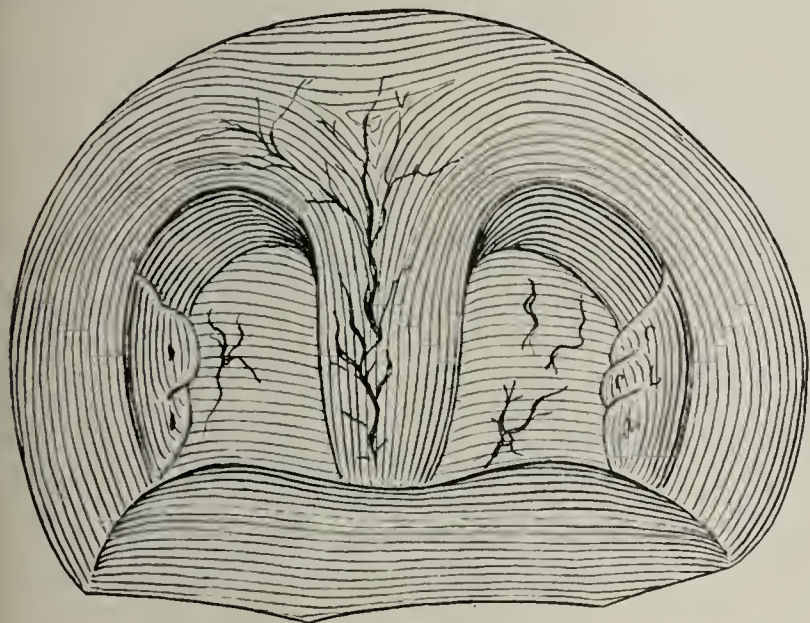


FIGURE 1.

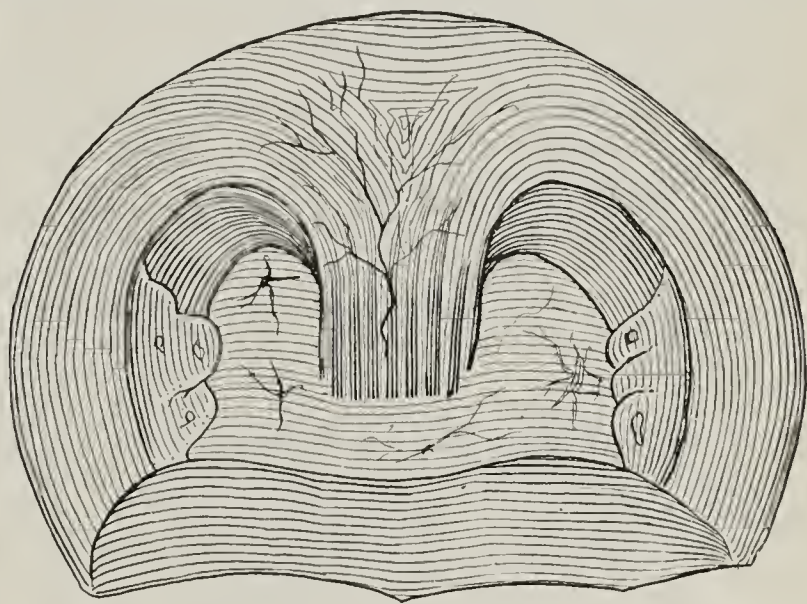


FIGURE 2.

state what he considers the proper distance to hold the fork from the ear in testing air conduction. The results which will be obtained, especially with the Rinne test, will vary according to the distance at which the fork is held from the ear. In border-line cases a positive Rinne might become negative Rinne if the fork be held some distance from the meatus. The usual inexact instructions are to hold the fork opposite the meatus—it might be 1 cm. from the meatus, or many centimeters, and still be opposite.

DR. BALLENGER, closing, said, in reference to Dr. Holinger's remarks concerning the stapedius muscle, that he only mentioned the opinion of Runbold, and not his own. As to the watch having practically been dropped as a test, he is not using it as much as formerly. It is of some value, however, as a test for ascertaining the progress that is being made during the course of treatment. Referring to the remark of Dr. Andrews that his fork shows a relationship on the average of five for bone conduction and six for air conduction, he said that such an instrument is poorly adapted for making the Weber, Rinne and Schwabach tests. The voice test is all right as a means of determining how well a patient hears conversation, but it is of comparatively little value in testing for diagnosis. It is of some value in testing the progress and course of the disease while under observation.

In reply to Dr. Casselberry, he said that his practice is to hold the fork near the ear and a little bit forward, say within one-quarter of an inch, care being exercised to avoid touching the hairs about the concha. The fork should be held so as to

sure as from a very large adenoid growth and posterior enlargement of the inferior turbinated bodies.

Instead of hypernutrition the paretic palate may be actually thinner than normal, as in association with atrophic pharyngitis and in anemic emaciated states.

Regarding the uvula itself, at times the hypernutrition results only in increased length, its original diameter being approximately maintained, but in other cases, especially with chronic pharyngitis in plethoric persons, the uvula grows thick as well as long. The surplus growth near the tip may consist only of mucous membrane and connective tissue, but when much lengthened, and particularly in the thick variety, fibers of the relaxed and hypertrophied azygos uvulae muscles are found well down in the elongated uvula, and require to be cut through in making an abscission.

Speech is plainly defective in extreme degrees of enfeebled palate resembling that of cleft-palate: *g* is substituted for *k*, as "gill" for "kill" and *d*, *b* and *s* are difficult to accentuate. The patient talks through his nose, the post-palatine space remaining too open. This defect should be distinguished from the "dead voice" of adenoid vegetations and nasal obstruction, although the two may be conjoined. Public speakers suffer from throat fatigue by reason of the unconscious extramuscular effort needed to raise the palate to a proper plane in speaking, thus conducing to chronic laryngitis. The singing voice is impaired in similar ways.

Snoring is another annoying symptom, caused by the vibration of the paretic velum while impinging on the base of the

tongue. It is more common during oral respiration, but sometimes occurs with the mouth closed.

Treatment—He considered treatment in general and pointed out that, first or last, one resorts to amputation of a part of the uvula. The old method consists simply of a square amputation by scissors or uvulotome, an effort being made to slant the cut somewhat upward and backward. The stump which is left is broad, flat and firm at the end, instead of a rounded tip of yielding consistency. The mucosa retracts, leaving a bundle of sensitive muscular fibers exposed. The healing is prolonged, the swelling considerable and the after-pain severe. The stump may remain sensitive for several weeks. In one case the patient was conscious of it for months thereafter, complaining of the impression of something in his throat worse than before. These inconveniences may be largely avoided by the following simple expedient: The first step in the operation is practically the same as by the old method, except that the uvula is grasped by the retaining forceps a trifle below the exact point of desired abscission. The forceps are locked and the uvula abscised by scissors just above the forceps. The author's uvulotomy scissors answer especially well. The mucous membrane now retracts somewhat, and the next step is to make quickly a second abscission of the protruding bundle of muscular fibers. It is caught by serrated forceps drawn still further out from the retracted mucosa, and this time the muscle alone cut through. There is left a protruding edge of mucous membrane which folds around the stump like a

from two to four ounces, to render ether anesthesia still safer, especially with regard to elimination by the kidneys. For the same reason, revival is quickened. Incidentally, time is saved, disagreeable sensations are obviated and the subsequent nausea minimized. The case reported showed only the general feasibility of adapting the gas-ether combination by the open method to the needs of the operation for conjoined adenoid growth and hypertrophy of the tonsils.

Preliminary Report on Adrenalin.

DR. W. E. CASSELBERRY also presented this report, referring first to the extract of suprarenal gland and its action, saying that a medicament of such decided and much needed powers should possess a broad usefulness, but the inconveniences of the preparations heretofore supplied have served to limit its application. The most minute care is necessary to make and maintain the aqueous extract sterile. The development in it, of organisms of putrefaction, is hindered but not prevented by various antiseptics. It is both alleged and denied that uncertainty attends its administration by the stomach, but all agree that its use hypodermically is liable to result in abscesses. Hence efforts have been made from time to time to isolate its active principles.

He described adrenalin, a derivative, evidently an active principle, whose exact nature is not given. It is a gray, stable, amorphous powder, insoluble in strong alcohol, ether, almond oil and albolene, and only sparingly soluble in water,

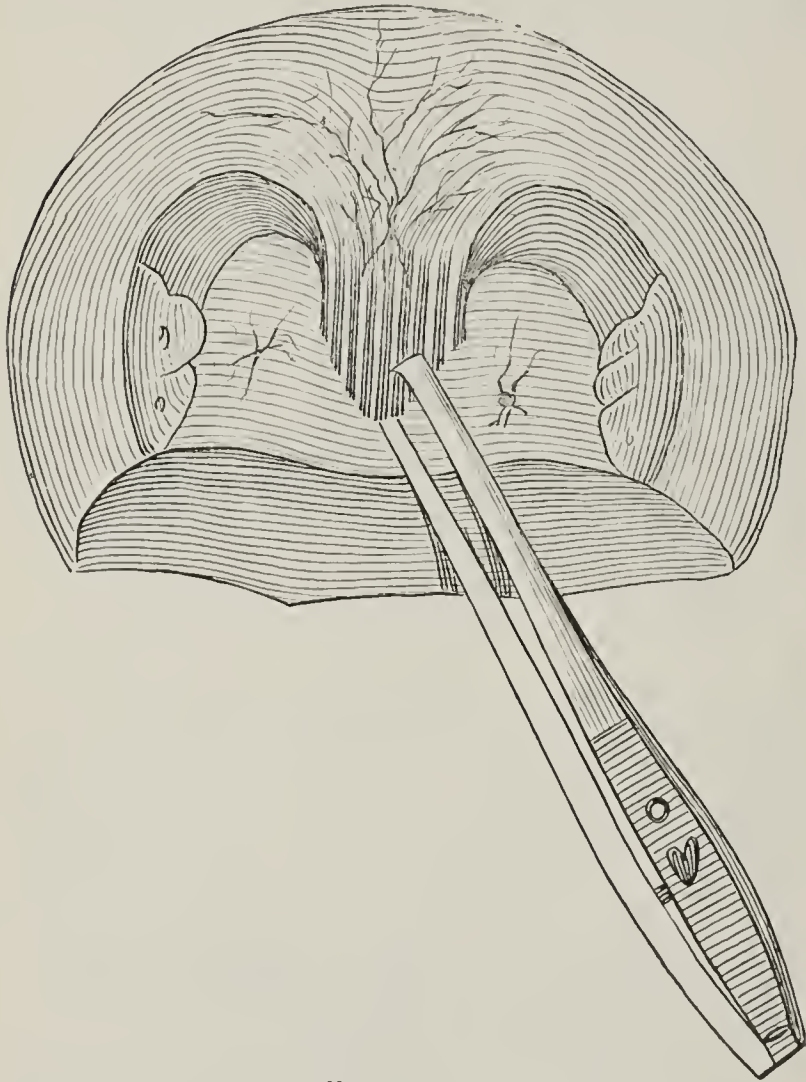


FIGURE 3.

circular flap, and in part covers its lower end. Thus cicatrization is hastened, the after-pain and swelling lessened, and the result is a more naturally rounded soft-tipped extremity. Fig. 1 represents the elongated uvula; Fig. 2, the stump after the first abscission with protruding muscular fibers; Fig. 3, grasping the muscular fibers and drawing them out from the retracting mucosa preparatory to the second abscission; Fig. 4, the circular flap folding around the stump after the second abscission.

Case of Nitrous Oxid and Ether Anesthesia for Tonsillotomy and Adenotomy.

DR. W. E. CASSELBERRY also reported a case, pointing out that the purpose of the combination is to hasten unconsciousness and thus, by lessening the quantity of ether absorbed, by

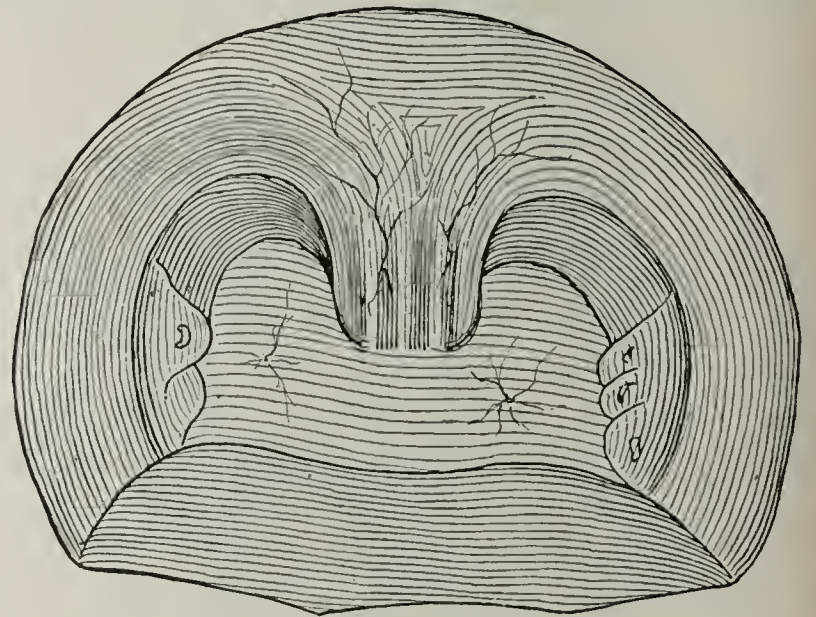


FIGURE 4.

about 1 to 5000. For practical use it is furnished in the form of adrenalin chlorid dissolved in normal salt solution 1 to 1000, 1 to 5000 and 1 to 10,000, and from this he infers that the active principle acts as a base, uniting with acids to form salts. The adrenalin chlorid is more soluble in water, but is not a stable salt in dry form. The adrenalin chlorid solution is clear, colorless, odorless, sterile, stable if protected from light, and non-irritating to mucous membranes. When exposed to light for some days, or to heat, it undergoes some change which renders the solution pinkish in color and the strength less. When applied locally it exerts identically the same vasoconstrictor influence as the aqueous adrenal extract. Sprayed into the nostrils in the strength of 1 to 10,000, it produces at once a visible change from turgidity to compactness of the turbinated tissues, and a decided pallor of the mucous surfaces. In the strength of 1 to 1000, or even 1 to 5000, it has the same power to limit hemorrhage during operations upon spurs and deviations of the septum, and in pharyngeal operations. It is equally an aid in the treatment of epistaxis. It may be substituted for cocain in all cases in which an ischemic but not anesthetic effect is desired, e. g., to facilitate inspection of the deeper recesses of the nasal cavities and to increase access by cleansing solutions. Unlike cocain, it has little or no cerebral stimulant effect, exciting no desire for more beyond the local relief afforded by it, hence he thinks it is unlikely to lead to a habit.

Like cocain, its retractile effect on vascular tissue is followed by a reaction or subsequent turgescence, which varies in time

and degree in accordance with the freedom of application, the extent of previous turgescence and other conditions. Thus, in acute rhinitis it has acted admirably in certain cases and seemed to aggravate others because of this reaction. It pales the congested mucosa in acute laryngitis and acute tracheitis, affording a corresponding temporary relief to the symptoms and hastening recovery. For this purpose he has shaken thoroughly together one-third aqueous solution of adrenalin chlorid, 1 to 1000, and two-thirds oil-vaselin, which mixture can be inhaled through the larynx in the form of spray. In like manner it should afford relief to those cases of asthma which are associated with bronchitis and vasomotor paresis, although he thinks there is little reason to expect an effect on cases of asthma in which spasm of the bronchioles is the major element. It is not chemically incompatible with the commonly used alkaline and antiseptic solutions, and it remains active in such solutions, at least for a time. The adrenalin may be rubbed up with vaselin, to form an ointment, or mixed with stearate of zinc, powdered starch or sugar-of-milk to make nasal or laryngeal insufflation powders. Its internal and hypodermic uses present fair fields for future observation.

DR. EDWIN PYNCHON described his method of procedure in uvulotomy, as follows: Assuming that the uvula should be three-eighths of an inch long, he examines it and finds that it is three-quarters of an inch long. He then takes hold of its tip, with a suitable forceps, and stretches it until it is double that length, when, by using a curved shears such as is used by gynecologists for vesicovaginal fistula operations, and with the concave surface of the shears upward, he makes a curved cut, beginning in the middle and cutting backward and upward so the cut is finished up near the base of the uvula. Having done this he finds the muscular tissue shrinks more than does the mucous membrane, and the wind-up is that the muscular tissue or traumatic surface is entirely at the rear of the mucous membrane which covers and protects the stump of the uvula, so the annoyance incident to swallowing is thereby diminished. Eventually it heals at the size he desires it to be.

DR. MOREAU R. BROWN said that it has been his custom to remove the uvula in a similar manner to that described by the essayist, and the operation has satisfied both himself and the patients. In removing the uvula it is his aim to make the incision so that the cut surfaces will be to the back part of the stump. This is done with any ordinary curved-on-the-flat scissors. In some cases where the mucosa is lax it can be caught by the forceps and slipped up over the underlying muscular tissue. When both mucosa and muscular tissue can be divided, the mucosa will hang down and completely cover the muscular tissue. Occasionally he has reversed the procedure by catching the mucosa high up on the uvula and drawing it upward, then cutting through the tissues below the forceps.

Regarding adrenalin, he has been using it with considerable satisfaction. The preparations of adrenal gland have passed beyond the experimental stage and we know their value and efficacy and have for some time been anxious for the introduction of some such preparation as adrenalin.

DR. E. FLETCHER INGALS thought removal of the uvula by the method recommended by the essayist would be satisfactory, but the double cut seems unnecessary. He could not recall more than one case in the last twenty-five years where he would have gained anything by making a double cut. In that case the uvula was about as thick as one's little finger, and the patient had a very sore stump for several days. The best method, in his experience, is to remove the uvula with the ordinary polypus snare. The uvula is caught exactly at the point where we want to cut it, and with a single closing of the fingers it is removed. If thought desirable to cut the muscular tissue, higher up, this could be done in cases where the mucous membrane is loose, by simply catching the uvula lightly with the wire first, then lifting up the mucous membrane an eighth of an inch and then closing the wire loop.

In most cases we will note that when we have cut it off, the raw end of the stump is not more than half the diameter of the whole uvula. He has never seen any inconvenience from oper-

ating in this way, except possibly in the one case to which he referred. The hemorrhage from this method of operating is much less than when scissors are employed, and the tissues may be cut with much more accuracy than when they have been drawn down by forceps.

DR. G. P. HEAD said he had found, in operating on the uvula, that unless he wished to do as Dr. Pynchon recommended, that is, put the uvula on such a stretch as to amputate a large portion of the mucous membrane, with the ordinary curved scissors it was difficult to engage it in the first snip. In looking around for an instrument that was not a uvulotome, he found a useful one in Hanks's trachelorrhaphy scissors, which is notched at the end, and curved a little on the edge as well as on the flap. With it he gets the advantage spoken of by Dr. Ingals in the use of the snare, in that when he engages the uvula he does not pull it down to any extent, but simply holds it lightly with forceps, the notch at the extremities of the blades holding the uvula firmly while he makes the snip. In this way we can get what portion we want without putting the mucous membrane on a stretch. These scissors are unexcelled as an instrument for removing tonsils which are too small for the tonsillotome.

DR. J. HOMER COULTER asked whether the only object in giving the ether is to obtain additional time?

DR. CASSELBERRY, closing the discussion, said "yes, nitrous oxid is supplemented by ether to gain additional time for operating." In elucidating his method of uvulotomy, he said that his instrument is a pair of long-handled, slightly curved scissors, which he had made for the purpose. One blade has a cross-bar at the end. This curve facilitates the upward and backward slant, and the cross-bar keeps the uvula from slipping out. He has not had serious hemorrhage following uvulotomy, but in one or two cases a slight application of the cautery point seemed best to stop the bleeding without annoying delay. Should an active hemorrhage occur inside the flap of mucous membrane, it might be difficult to control it by mere canterization, and this might be some objection to the method. Persistent bleeding, however, from uvulotomy, by his method is exceedingly rare, and if it should occur it could be controlled by compression, or one could snip off some of the mucous membrane that had been folded around the stump. With reference to a second cut, he has not found it objectionable, if made very quickly after the first one; the patient does not appreciate that it is more than a continuation of the one cut, but after having made the first one, he often takes a moment to apply cocaine afresh to the raw surface, and then makes the second. In regard to snaring the thick type of uvula, to get the snare on the uvula in exactly the right place, especially with patients disposed to gag easily, would require a high degree of expertness.

With respect to the reaction following the use of adrenalin and the alleged greater liability to hemorrhage than would otherwise result from operations done without its influence, in nasal operations for the removal of excrecences, correction of deviations of the septum, etc., it is his custom to pack antiseptically, immediately after the operation, hence it does not matter whether there is greater liability to bleed or not. In pharyngeal operations he has not used adrenalin nor aqueous extract of adrenal gland, on account of the tendency to greater hemorrhage after its use. As a rule, we can get along just as well without it in pharyngeal operations.

DR. EDWIN PYNCHON called the attention of the Society to the use of a strong solution of nitrate of silver—25 per cent.—to prevent hemorrhage after uvulotomy. It has been his custom to apply it in this strength, and he has always found it very satisfactory.

Notes on Adrenalin and Adrenalin Chlorid.

DR. E. FLETCHER INGALS read a paper on this subject. It will be printed in THE JOURNAL.

Officers.

The following officers were elected for the present year: President, Dr. Wm. E. Casselberry; secretary and treasurer, Dr. John Edwin Rhodes; council, Drs. T. Melville Hardie, Dr. J. Holinger, and O. J. Stein.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulæ and outlines of treatment will be answered in these columns.]

Treatment of Gonorrhea.

The varieties of urethritis may be classified as follows: Acute and chronic. 1. Simple: *a*, toxic; *b*, traumatic. 2. Specific, due to the gonococcus. Attention will be called to the treatment of the specific form only. It consists of both local and internal medication. Lydston advises, as abortive treatment, removal, as far as possible, of the virulent germs which have been deposited on the surface of the mucous membrane; a prolonged and thorough irrigation of the anterior urethra with a solution of potassium permanganate, 1 to 10,000 to 1 to 5000. During this treatment he advises internal medication by the administration of alkalis. As to the general management of the disease, he emphasizes the importance of rest—physical and sexual—in bed. Next in importance to rest is attention to the diet, in order to limit the elimination of irritative products by the urine. A vegetable diet or a bread and milk diet is preferable, avoiding asparagus and tomatoes.

LOCAL TREATMENT.

A solution of hydrargyri bichloridum, 1 to 30,000 to 1 to 15,000, in combination with a small amount of glycerin, is recommended.

AS AN ANODYNE INJECTION.

R.	Atropinae sulphatis	.....gr. i	06
	Bismuthi subnit	.....3iii	12
	Mucil. acaciae		
	Aq. destil., āā	.....3ii	64
M. Sig.:	Shake well and inject three times daily; or		
R.	Tinct. opii deod.	.....3iss	6
	Bismuthi subnit	.....3iii	12
	Mucil. acaciae		
	Aq. destil., āā	.....3ii	64
M. Sig.:	Shake well and inject three times daily.		

AS AN ASTRINGENT INJECTION.

R.	Zinci Sulphatis	.....gr. x	66
	Morph. sulph	.....gr. viii	50
	Glycerini	.....3i	4
	Aquæ rosæ	.....3iii	96
M. Sig.:	As an injection; or		
R.	Zinci sulpho-carbol	.....gr. xii	72
	Glycerini	.....3i	4
	Aquæ rosæ	.....3iii	96
M. Sig.:	As an injection.		

A VEGETABLE ASTRINGENT.

R.	Hydrastis muriatis	.....gr. viii	5
	Ext. hamamelidis flu.	.....3i	4
	Glycerini	.....3i	32
	Aq. destil q. s. ad.	.....3iv	128
M. Sig.:	As an injection.		

The following may be of service as an astringent:

R.	Bismuthi subgallati	.....3iss	6
	Zinci sulphatis	.....gr. xv	1
	Aquæ calcis	.....3vi	192

M. Sig.: Use as an injection three times a day, after urinating.

The following is the general outline of treatment used by Dr. Henry J. Scherek, as given in the *Ther. Gazette*: The urethra is first carefully washed with lukewarm water, followed by an injection of the following:

R.	Protargol	.....gr. xx	133
	Aq. destil. q. s. ad.	.....3iv	128
M. Sig.:	As an injection twice or three times a day.		

The solution, whatever it may be, should be introduced gently into the canal with a three-ounce, hard-rubber syringe. The solution should be allowed to remain for five minutes, the patient closing the meatus by pressure of the finger. Instead of protargol, Dr. Scherek sometimes employs mercuriol in 2 per cent. solution, or Credé's silver in 1 per cent. solution. After the solution has been allowed to escape, a two-gallon irrigator filled with a 1 to 1000 solution of potassium per-

manganate, at a temperature of 120 F., is irrigated into the canal, the irrigation being raised to a sufficient height to cause the pressure to distend the canal without overcoming the sphincter muscle. The entire amount of the permanganate solution is used in this way. The strength of this solution should be increased from day to day until about 1 in 500 is attained.

As to internal medication, the main object is: 1, to keep the urine from causing irritation, and this may be accomplished by alkaline treatment; 2, to render the urine aseptic and germicidal, by the use of the following combination:

R.	Cystogen	.....gr. v	33
	Ol. santoli	.....m. x	

M. Ft. cap. No. i. Sig.: One such capsule every four hours.

Cystogen is said to be of similar composition to urotropin, which is a compound produced by the action of formaldehyde on ammonia.

Careful attention to diet is necessary, with care to avoid such articles as would tend to congest the genito-urinary tract or increase the acidity of the urine, or in any way increase the irritation to the mucous membranes. He advises, in the main, the same line of treatment in chronic as in the acute cases.

SILVER SALTS IN ACUTE GONORRHEA.

Younmans (*Med. Standard*) states that the urethra should be irrigated twice daily with a 1 to 4000 solution of potassium permanganate. If streptococci are present in the discharge, a 1 to 20,000 bichlorid solution should be added to this. The temperature of the solution used for injection should be 110 F., gradually increased to 120. If the disease is in the posterior urethra the fluid is allowed to flow into the bladder by hydrostatic pressure, after washing out the anterior portion of the urethra. After each irrigation, the following injections are used:

R.	Argonin	.....3ii	8
	Aq. destil. q. s. ad.	.....3iv	128

M. Sig.: As an injection; or

R.	Protargol	.....gr. xl	26
	Aq. destil. q. s. ad.	.....3iv	128

M. Sig.: Use as an injection after each irrigation, and retain ten minutes.

W. W. Wilson (*Buffalo Med. Jour.*) states that argonin is by far the best. He uses it as follows:

R.	Argonin	.....gr. xl	266
	Aq. destil. q. s. ad.	.....3iv	128

M. Sig.: Use as an injection four times a day. The solution should be retained ten minutes each time.

Argonin is a compound of silver—4 per cent. It has the disadvantage of not being soluble in cold water. It should be kept in dark bottles, as it is easily decomposed by light.

ARGENTAMIN IN GONORRHEA.

This preparation has been employed with good success in gonorrhea. It is a solution of silver phosphate in aqueous solution of ethylendiamin. It is an antiseptic which does not precipitate albumin, is alkaline in reaction, and can be used in the strength of 1 to 3000. For conjunctival application it can be used in 5 per cent. strength.

IN HIGH-GRADE INFLAMMATIONS.

The following is sometimes recommended to subdue the inflammation:

R.	Morphinae sulphatis	.....gr. ii	12
	Liquoris plumbi subacetat. q. s. ad.	.....3vi	192

M. Sig.: Inject four or five times daily. A warm solution is better.

Duguaire (*Sem. Med.*) very highly recommends the following as an injection:

R.	Ol. gaultheriae	.....gr. xv	1
	Bismuthi subnit.	.....3v	20
	Petrolati (liquid)	.....3iii	96

M. Sig.: Use as an injection three times daily, with a syringe, the nozzle of which has a soft and extra wide canula.

POTASSIUM PERMANGANATE AS AN INJECTION.

R.	Potassii permanganatis	.....gr. 1/4 to 1/2	015-03
	Sodii chloridi	.....gr. xv	1
	Aq. destil.	.....3vi	192

M. Sig.: Inject four or five times daily.

Medicolegal.

In some cases where there is chronic inflammation of the bulbous urethra, Lydston advises the following, introduced through the endoscopic tube:

- R. Iodoformi3iv

Tinct. benzoin comp.

Balsami peruvianæ, āā.....3i
- 16|32|
- M. Sig.: Apply through the endoscopic tube.

METHYLENE BLUE IN GONORRHEA.

Dr. J. A. Oneill (*Med Record*) states that he can quickly effect a cure by the administration of methylene blue as follows:

- R. Methylene bluegr. i

Olei myristicæm. i

Olei santolim. ii
- 06|06|12|

M. Ft. capsula No. i. Sig.: One such capsule four times a day.

By giving four grains of methylene blue daily, he states, there is always enough of it in the urine to kill all the germs with which it comes in contact. It should not be used continuously longer than ten days at a time.

ICHTHYOL IN THE GONORRHEA OF WOMEN.

Dr. J. G. Clark (*Am. Jour. of the Med. Sci.*) maintains that absolute rest in the acute stages is of the greatest importance. As to treatment, he regards ichthyol as the most valuable preparation, because it is non-irritating and is very effective in alleviating pain and reducing the inflammation, and its use is not followed by the disagreeable results sometimes noted after the use of more irritant remedies. He uses it in solutions of 1 to 5 per cent. strength, injected into the urethra.

Complications of Gonorrhea.

EPIDIDYMITIS AND ORCHITIS.

Rest in bed is the important treatment when there is acute inflammation of the testis. Stimulation to the urethra by means of injections should be stopped. Local applications of poultices of linseed or tobacco are strongly recommended by many specialists. The administration of saline cathartics and alkaline diuretics is necessary. The use of opiates to control the pain is sometimes imperative. Where it is inconvenient to apply poultices, Lydston recommends the following:

- R. Mentholgr. xl

Ext. belladonnægr. xx

Ext. aconitigr. x

Lanolini q. s. ad.....3ii
- 2|1|66|33|64|

M. Sig.: Spread on lint and continuously apply to the testicle; or

- R. Methyl salicylatis3iii

Ext. belladonnæ3i

Adifis3i
- 12|4|32|

M. Sig.: Apply locally to the testicle.

GONORRHEAL OPHTHALMIA.

It is not unusual for the general practitioner to make a mistake in his diagnosis of gonorrheal ophthalmia. He may attribute the purulent discharge to other causes than gonorrheal infection; on the other hand he is very liable to mistake a mucus for purulent discharge, and thus, by use of the silver salts, create a diseased condition in an otherwise healthy organ. Especially may this be the case following the use of silver nitrate solutions. In true gonorrheal infection of the eye the following seems to be the favorite of most oculists, because it is non-irritating:

- R. Protargolgr. xx-xxv

Aq. destil. q. s. ad.....3i
- 1|33-1.66|32|

M. Sig.: Drop into the eye twice daily.

Protargol is a proteid compound containing 8.3 per cent. silver. It is freely soluble in cold water and is stable.

GONORRHEAL ARTHRITIS.

Dr. C. A. Porter (*Boston Med. and Surg. Jour.*) says that drug treatment does not yield the proper results. He has obtained his best results from the continuous use of ice-bags, or dry heat, preferably at a temperature of 250 to 400 F. The actual cautery is the best counterirritant and frequently relieves the pain. After two or three weeks, when the acute process has subsided, resort to massage and movement of the joint should be had.

Issuance of but One Temporary Certificate Authorized.—A statutory provision that one member of a board of medical examiners may give a temporary certificate entitling the holder to practice medicine until the next meeting of the board, the Supreme Court of Texas holds, in the case of Peterson vs. Seagraves, will confer on an individual member of the board authority to issue but one temporary certificate to a person. An express prohibition of the issuance of more than one temporary certificate or license to the same person it deems unnecessary. Nor does it consider that the fact that the laws regulating the practice of dentistry and pharmacy in the state may contain provisions expressly forbidding the issuance of more than one temporary certificate can be taken to determine the construction of a practice act existing before those laws were passed.

Change of Residence Requires New County License.—The Appellate Court of Indiana says, in the case of Mayfield vs. Nale, that the statute of that state is plain that, if a physician changes his residence from one county to another, he must obtain a new license in the county where he proposes to reside. This is a condition precedent to his right to practice in that county, and it is made unlawful for him to practice in such county without such license. In consequence, he can not maintain an action for medical services rendered in a county, after moving thereto, without first having procured the requisite license. That he may subsequently comply with the law will not enable him to recover for services rendered in such county prior to obtaining a license therein. Whether the law that makes possible such a defense where competent professional services have actually been rendered is a wise one, it is held, is not for the courts to say.

Conversations in Presence of Third Parties.—The Appellate Court of Indiana holds, in the case of the Masons' Union Life Insurance Association vs. Brockman, that as to what a witness who made his headquarters at a physician's office for a couple of weeks heard the physician and a patient say was not privileged, as to such witness, but he could testify thereto. For example, if the patient was being treated for the drink habit, and the witness knew it, either from his own knowledge or from what he heard the patient and his physician say when they were in each other's presence, it was competent for him to so testify. As to what weight the evidence might have with the jury was not a question with the court. It is the rule, the court adds, that, if statements are made in the presence and hearing of a person affecting his rights, and under such circumstances as call for a reply, what he said, or if he failed to say anything, may be proven as in the nature of an admission.

Physician May Testify as to Wounds on Shaved Head.—In the homicide case of the State of Missouri vs. Tettaton, where the evidence of the physicians disclosed the fact that it would have been impossible for the defendant to have been cut in the head as he was by any other person than himself, it was insisted that the court should not have permitted witnesses to testify with respect to the condition of the wounds on his head, as they existed after his head was shaved. The contention was that the act was involuntary, and was compelling the defendant to give evidence against himself. But this contention, the Supreme Court of Missouri, Division No. 2, says was not borne out by the record, which showed that it was not only voluntary on the part of the defendant, but that it was necessary in order to enable the physicians to treat the wounds. Yet, even if the shaving of his head had been against his will and consent, there can be no question, it holds, but that physicians could have examined his head, and then testified to the condition of the wounds, their character, and whether or not done with a sharp or blunt instrument.

Proper Evidence of Injury of Private Parts.—The Supreme Court of Wisconsin says, in the personal injury case of Guhl vs. Whitcomb, that it can not pass silently the reception in evidence of photographs showing rear views of the plaintiff's person, nude from below the shoulders to mid-thigh. Such photographic exposure of the body of a 20-year-old girl in a court room full of men is even more grossly improper and

shocking, it goes on to say, than the conduct disclosed in *Brown vs. Swineford*, of which this court thus expressed its condemnation in the seathing words of Chief Justice Ryan: "No such indecency is ever necessary, or should be tolerated, in court. If the condition of any private part of the body of any party, male or female, is material on any trial, it should be privately examined by experts out of court, and expert testimony be given of it. Such an exposure as was made in this case, if made without leave of the court, might well be punished as a contempt. Made with the sanction of the court, it is none the less improper and indecent, well calculated to disgrace the administration of justice, and to bring it into ridicule, if not into contempt. It is hoped that this court may never have another occasion for such censure." To those words, the court now declares, it can not and need not add, save to reiterate the sentiments they express, and to invoke for them the careful attention of those, whether of court or bar, who may be tempted to repeat such defilement in a court of justice.

Opinion of Physician Called After Making of Will.—A physician visited, at about noon, or after it, a man who, there was evidence tending to show, had had a slight stroke of paralysis the night before, and had made a will between 10 and 11 o'clock in the forenoon. He did not get an intelligent word out of the man, although he considered that he had partial intelligence. Under these circumstances, and the physician having got the impression from the inquiries he made that the man had been in the same condition from early morning, the Supreme Court of Michigan holds, *Lange vs. Wiegand*, that it was clearly competent for the doctor to express an opinion as to the mental capacity of the man at the time he saw him. It adds that it did not conclusively appear that the condition of the man had changed so materially after the time of making the will that the opinion of the doctor as to his mental capacity at the time of his visit was wholly without force. On the other hand, it holds that it was error to charge the jury in this case that if the statements made by three witnesses named were true, they showed a mental capacity in the man to make a will, over against which "you put the statements of what the doctors say, and what they say about his not having awakened sufficiently to speak, and so forth." It says, in explanation of its holding that this was error that the doctor did not see the man until the afternoon. The will was made between 10 and 11 o'clock in the morning of the same day. He was failing rapidly from a stroke of paralysis. His condition, according to the testimony of several witnesses for the proponent of the will, was not alarming while the will was being signed. He lay propped up in bed, and, though his right arm and hand were considerably affected, they testified he could talk, and that he bore no evidences at that time of mental aberration. In the afternoon, however, his condition very much changed. Under these circumstances, what his condition was at that time, the court holds, could not be weighed against the testimony of witnesses, who stood unimpeached, as to the condition when the will was made.

On Criminal Abortion and Dying* Declarations.—The Court of Appeals of Maryland says, in *Worthington vs. State*, that, whatever may have been the severity of the earlier common law, the proposition is too broadly stated that death resulting from criminal abortion has always been murder at common law. The crime of abortion is a misdemeanor, only, at common law; and the Maryland statute, while broadening the scope of the common law, and increasing the punishment, still leaves the crime a misdemeanor. Thus, it has been said that "causing the mother's death in attempting an abortion is only manslaughter at common law, if the attempt is not made in a way that endangers the mother's life. In the latter case it is murder." It is only in jurisdictions where abortion is raised by statute to the grade of felony that causing the death of the mother is necessarily murder. It is common knowledge, the court goes on to say, that death is not now the usual, nor, indeed, the always probable, consequence of an abortion. The death of the mother, doubtless, more frequently resulted in the days of rude surgery, when the character and properties of powerful drugs were but little known, and the control over

their application more limited. But, in these days of advanced surgery and marvelous medical science and skill, operations are performed and powerful drugs administered by skillful and careful men without danger to the life of the patient. Indeed, it is this comparative immunity from danger to the woman which has doubtless led to the great increase of the crime, to the establishment of a class of educated professional abortionists, and to the enactment of the severe statutes almost everywhere found to prevent and punish this offense. The woman takes her life in her hands when she submits to an abortion be she wife or maid, but her death is no necessary element in the procuring of an abortion; and the application of the harsh rule that the death of a woman, resulting from a criminal abortion upon her, is murder would have no effect in the repression of that abhorrent crime, which can only be efficiently dealt with by severity in the enactment and administration of the law punishing the attempt upon the life of the unborn child. The corpus delicti of the offense of abortion is the destruction of the unborn infant. The crime is complete, with the death of the woman or without it. Her death is not a constituent element of the offense. But in this case the indictment was not for abortion. It was an indictment which charged manslaughter, and the facts of the abortion were simply alleged there as going to show what caused the death, just as if it had been alleged that the means of death were by shooting the woman with a pistol. Under such an indictment, dying declarations, the court holds, are receivable, although in a prosecution for abortion it would seem they would not be where the death of the woman is no part of the facts which go to constitute the crime. It is certain, it says, that dying declarations can only be received where the death of the deceased is the subject of the charge, and the circumstances of the death the subject of the declaration. It is essential that actual danger of death must exist, that there is full belief that it is actually impending, and that death ensues. Any expressed or clearly visible hope of recovery will render the declaration inadmissible. But the declarant's own belief at the time is the criterion of admissibility. It is not material that others, even the physician, thought differently and had hopes of recovery.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Philadelphia Medical Journal, March 16.

- 1 Strangulated and Gangrenous Hernia. Kelotomy and Laparotomy in Strangulation, External and Internal; Artificial Anus-Enterostomy, Primary or Secondary Resection—Enterectomy, and End-to-End or Lateral Jointing in Gangrenous Hernia. (To be continued.) Thomas H. Manley.
- 2 *Percentage and Laboratory Feeding. J. P. Crozer-Griffith.
- 3 *A Contribution to the Technic of the Widal Test. A. Robin.
- 4 Rupture of the Rectum and Hernia of the Intestines in an Insane Man. A. R. Moulton.
- 5 Removal of the Right Upper Cervical Sympathetic Ganglion for the Relief of Glaucoma Simplex. D. H. Coover.
- 6 A Synoptical Report of 1141 Cases of Indigent Visitors Treated at Hot Springs, Ark. Howard P. Collings.

Medical News (N. Y.), March 16.

- 7 *Recent Experiences with Erythromelalgia. Henry L. Elsner.
- 8 The Treatment of the Heart in Typhoid Fever and Other Infectious Diseases. Albert Abrams.
- 9 *A Report of Three Cases of Thoracic Aneurysm Treated by Subcutaneous Injections of Gelatin. Lewis A. Conner.
- 10 *Observations upon Amoebae Coli and Their Staining Reactions. Charles F. Craig.
- 11 *A Preliminary Note on the Relation of the Form of Tubercle Bacillus to the Clinical Aspects of Pulmonary Tuberculosis. Henry Sewall.
- 12 Rhinoscleroma. H. Jarecky.
- 13 Subglottic Growths; Report of Cases with Exhibition of Improved Instruments. Robert C. Myles.

New York Medical Journal, March 16.

- 14 Congenital Dislocation of the Shoulder, with Report of Two Cases of Dislocation Posteriorly. Daniel W. Marston.
- 15 *The Representation of Biliary Calculi by the Roentgen Rays. Carl Beck.
- 16 Substitute Feeding of Infants upon Milk Modified According to Prescription in Laboratories. W. P. Northrup.
- 17 *The Specific Treatment of Acute Dysentery. (Concluded.) William J. Cruikshank.

- 18 The Pathology of Intra-uterine Death. (Concluded.) Neil MacPhatter.
 19 Angeloma Cysticum of the Nose. Henry L. Wagner.
 20 A Simple Apparatus for Modifying Cow's Milk. Charles Herrman.

Medical Record (N. Y.), March 16.

- 21 *The Treatment of Gonorrhea with Frequent Irrigations of Hot Deci-normal Salt Solution. Charles E. Woodruff.
 22 A Whistle in the Esophagus. A. E. Isaacs.
 23 *The Treatment of Colitis by Valvular Colostomy and Irrigation. P. R. Bolton.
 24 The Ovary: Its Relation to Normal Functions and to Pathological States. Samuel W. Bandler.
 25 The Use of Suprarenal Capsule in Hemoptysis. Wm. B. Kenworthy.

Boston Medical and Surgical Journal, March 14.

- 26 The Story of the Boston Society for Medical Improvement. J. G. Mumford.
 27 Notes from the Neurological Department of the Massachusetts General Hospital. Sudden (Apoplectiform) Bulbar Paralysis; Hemiplegia; Astereognosis. W. E. Paul.
 28 *Intestinal Anastomosis. Charles G. Crampton.
 29 A Case of Cesarean Section. Herbert J. Keenan.

Cincinnati Lancet-Clinic, March 16.

- 30 The Medical Man's Position in Education. Brose S. Horner.
 31 Rev. John Wesley as a Physician. H. V. Sweringen.

Atlanta Journal-Record of Medicine, March.

- 32 The Relation of the Profession to the General Public. R. R. Kime.
 33 Management of Labor with Reference to Some Complications. W. Monroe Smith.
 34 Treatment of Catarrhal Deafness by Electrolysis of the Eustachian Tube. Dunbar Roy.

Northwestern Lancet (Minneapolis, Minn.), March 1.

- 35 Lobar Pneumonia—Croupous Pneumonia—Pneumococcus Infection (Musser). Christopher Graham.
 36 Primary Laryngeal Tuberculosis. W. N. Porteous.
 37 Ideas of Disease and Medicine Among the Chinese. I. M. J. Hotvedt.

Annals of Surgery (Philadelphia), March.

- 38 *On Non-Obstructive, Post-Operative Anuria. F. Tilden Brown.
 39 *Diagnosis of Stone in the Kidney by the X-ray, and its Treatment. Arthur D. Bevan.
 40 *Hernia of the Fallopian Tube Without Hernia of the Ovary. Paul F. Morf.
 41 Contributions to the Surgery of Malignant Disease of the Prostate Gland and of the Tonsils. Nathan Jacobson.
 42 *Resection of the Pendulous, Fat Abdominal Wall in Cases of Extreme Obesity. Lindsay Peters.
 43 *Eversion of the Tunica Vaginalis as a Remedy for Hydrocele. Dudley Tait.
 44 Report of a Case of Recovery after Abdominal Section for Multiple Gunshot Wounds of the Abdomen. Frank Martin.
 45 Periosteal Osteosarcoma of Upper Extremity of Femur; Ligation of Common Iliac Artery, with Amputation at Hip-Joint and Removal of Portion of Pelvis, Etc.: Recovery, with Freedom from Recurrence at End of Nearly Sixteen Months. Leonard Freeman.

Clinical Review (Chicago), February.

- 46 Divulsion, Counter-Pressure and Diversion in the Treatment of Certain Forms of Dysmenorrhea. O. B. Will.
 47 Clinical Lecture on the Treatment of Septic Infections of the Extremities. A. J. Ochsner.
 48 Causation and Treatment of Constipation in Children. John H. Byrne.
 49 Clinical Lectures upon the Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.

American Journal of Insanity (Baltimore, Md.), January.

- 50 *Hallucinations: Their Origin, Varieties, Occurrence and Differentiation. W. Alfred McCorn.
 51 Clinical Cases. VII. The Pathology of Chronic Alcoholism. Henry J. Berkley.
 52 Results of Five Years' Experience with Co-operation between State Hospitals for the Insane: May it be Profitably Extended to Other Charitable Institutions? Peter M. Wise.
 53 Kraepelin's Clinical Picture of Katatonia. Translated by A. E. Brownrigg.
 54 John S. Butler: The Man and His Hospital Methods. Charles W. Page.
 55 *On the Importance of Pathological and Bacteriological Laboratories in Connection with Hospitals for the Insane. Lewellys F. Barker.
 56 *A Contribution to the Pathology of the So-called Functional Neuroses. Theo. Klingmann.

Dominion Medical Monthly (Toronto), February.

- 57 Autointoxication and Excretion in Relation to Disease. H. B. Anderson.
 58 Cases in Diseases of the Skin. Graham Chambers.
 59 Report of a Case of Simple Fracture of the Ulna Where Incision Was Necessary for Reduction of Deformity. A. Primrose.

American Gynecological and Obstetrical Journal (N. Y.), February.

- 60 *Can Interstitial Keratitis be Prevented in the Offspring of Syphilitics. Peter A. Callan.
 61 Two Interesting Cases. (Perineal Sinuses and Pelvic Abscess.) Charles P. Noble.
 62 A Case of Pseudo-tumor, Following Instrumental Delivery and Adherent Placenta. Joseph M. Rector.
 63 The Relation of Appendicitis to Diseases of the Uterine Appendages. Albert L. Beahan.
 64 Cholemia and Hemorrhage. D. Todd Gilliam.
 65 Seventeen Cases of Congenital Nocturnal Incontinence of Urine Cured by Operation. George H. Noble.
 66 The Cure of Complete Prolapsus Uteri by Plastic Surgery. John D. Emmet.

Medical Review of Reviews (N. Y.), February 25.

- 67 On the Early Recognition of Typhoid Fever. James K. Crook.

Ophthalmic Record (Chicago), February.

- 68 A Most Simple and Efficient Eye Dressing and a Bandage that Will Stay. M. F. Weymann.
 69 Extraction of Iron from Interior of the Eye by the Haab Electromagnet. N. J. Weill.
 70 A New Skiascopic Mirror. William E. Baxter.
 71 Case of Hemorrhage from the Conjunctiva in an Infant. Howard F. Hansell.
 72 *Report of a Different Operative Method in the Treatment of Trachoma, with Notes upon the Construction of an Instrument Devised for the Purpose. P. Chalmers Jameson.
 73 Ophthalmic Notes. Melville Black.
 74 "Ossified or Calcareous Eye with Specimen." Thomas McDavitt.
 75 Listing's Plane—A Reply to Dr. Harold Wilson's Criticism. G. C. Savage.
 76 *A Word Concerning the Etiologic Relationship of Epidemic Influenza to Chronic Glaucoma. G. E. de Schweinitz.
 77 *Blindness and Death from Drinking Essence of Jamaica Ginger, Peppermint, etc., Due to Methyl Alcohol. Herbert Harlan.

University Medical Magazine (Philadelphia), February.

- 78 Dysentery (in the Tropics): its Symptomatology, Complications and Treatment. B. L. Wright.
 79 *The Association of Chronic Jaundice with Gastroparesis. Report of a Case. J. Dutton Steele.
 80 A Clinical and Histologic Study of a Case of Melanosarcoma of the Choroid. Charles A. Oliver.
 81 *A Note on the Disinfectant and Deodorant Action of Ammonium Persulphate. Mazyck P. Ravenel and Samuel H. Gilliland.

New York State Journal of Medicine (N. Y.), March.

- 82 Removal of Pin Embedded in the Tissues Twelve Years. Charles T. Bell.
 83 *The Etiology and General Prophylaxis of Tuberculosis. Victor C. Vaughan.
 84 Some Unusual Cases of Infectious Disease. Delancey Rochester.
 85 The Long Period of Incubation in Animals Affected by Rabies. G. W. Goler.
 86 *Treatment of the Patient During the Weeks Previous to Expected Confinement. Edward P. Davis.
 87 Biographical Sketch of Dr. John P. Sharer. Chas. H. Glidden.

St. Paul Medical Journal, March.

- 88 *Cases of Gall-Bladder Surgery. John C. Munro.
 89 Is There a Decadence of Our Ethical Standard? J. G. Mumford.
 90 *A Consideration of the Different Operative Procedures in the Treatment of Retro-Displacements of the Uterus. O. Beverly Campbell.
 91 *Operative Measures for the Radical Cure of Inguinal Hernia. Gustav A. Renz.
 92 Preparation and After-care of Surgical Cases. John T. Rogers.
 93 Heat in Surgery. C. H. Mayo.
 94 Recurrent Acute Catarrhal Otitis. B. M. Behrens.
 95 Synchronous Dislocation of the Humeri (sub-glenoid). Howard Lankester.

Colorado Medical Journal (Denver), February.

- 96 The Domain of Preventive Medicine. Charles W. Hertzman.
 97 Some Observations on Medical Legislation. William Duffield.
 98 Reminiscences of a Pioneer. O. B. Whitford.

The Laryngoscope (St. Louis, Mo.), February.

- 99 *The Pneumatic Sinuses in the Sphenoidal Wings. Beaman Douglass.
 100 *The Use of the Tuning Fork as a Test for Disease of the Maxillary Antrum. D. A. Knyk.
 101 Extracranial Abscess following Acute Suppurative Tympano-Mastoiditis with Report of Two Cases. James Francis McCaw.
 102 Necrosis of Turbinate Bones and Adjacent Structures. J. W. Bird.
 103 Some Notes on Routine Office Work. E. C. Ellett.

Toledo Medical and Surgical Reporter, March.

- 104 *Melanosarcoma of the Choroid with Report of Three Cases. Francis W. Alter.
- 105 Actinomycosis, with Report of a Case. E. B. Barlow.
- 106 Treatment of Acute Articular Rheumatism. J. W. P. Smithwick.

Mississippi Medical Record (Vicksburg), March.

- 107 A Résumé of Recent Advancements in Rectal Surgery. John L. Jelks.
- 108 Laryngo-Tracheotomy for Foreign Body. W. H. Barr.
- 109 A Case of Fracture of the Neck of the Femur. John Brownrigg.

American Journal of Surgery and Gynecology (St. Louis, Mo.), February.

- 111 Diabetic Gangrene—Amputation—Recovery. L. Braunon.
- 112 Preventive Operation in Acute Inflammation of the Appendix. Mansell Moullin.
- 113 Clinical Cases in Surgery Illustrated by Radiographs and Photographs of a Compound Pott's Fracture Complicated with Osteomyelitis and Necrosis; A Compound Fracture of Clavicle and Tubercular Cervical Glands; Mammary Adenoma and Appendectomy. Harlan Trask.
- 114 Tuberculosis of the Spine and its Treatment. A. M. Phelps.
- 115 Division of Fees. Robert T. Morris.
- 116 A Peculiar Accident from the Use of Rubber Gloves. Emory Lanphear.

Kansas City Medical Index-Lancet, March.

- 117 *Climatic Conditions in Western Texas, and Their Influence upon Pulmonary Diseases. Junius A. Rawlings.
- 118 Three Cases of Typhoid Fever Complicated with Malarial Fever. N. A. Drake.
- 119 Meningitis. John Punton.
- 120 The Diagnosis of Pott's Disease. D. H. Gibney.
- 121. A Case of Chronic Rheumatism. L. B. Smith.

Medical Standard (Chicago), March.

- 122 Appendicitis and its Treatment. A. J. Ochsner.
- 123 The Constitutional Treatment of Syphilis. W. S. Gottheil.
- 124 Management of the Victims of Drug Habits. David Paulson.
- 125 How to Teach Anatomy. J. F. Burkholder.
- 126 Acute Respiratory Diseases. Wm. F. Waugh.
- 127 Some Surgical Cases (Lipoma, Keloid, etc.). N. Senn.
- 128 Typhoid Fever: Its Complications and Sequelae. J. T. Moore.
- 129 Neurasthenia Treated by Electricity. Francis B. Bishop.

Medical Council (Philadelphia), March.

- 130 Disorders of the Sexual Function in Man. A. H. P. Leuf.
- 131 Acute Purpura Hemorrhagica, with Autopsy. F. W. Gavin.
- 132 Water Analysis. J. L. Wolfe.
- 133 Lithemie Orchio-Epididymitis. W. H. Lyne.
- 134 The Female Bladder. A. L. Russell.
- 135 Tonsillitis and its Treatment. Chas. F. Hop.
- 136 Puerperal Infection and its Treatment. I. B. Washburn.
- 137 Asepsis in the Lying-in Room. Joseph B. Cooke.
- 138 *Suprarenal Extract in Diseases of the Eye. W. H. Bates.
- 139 The Injection Method for the Relief and Cure of Hernia. C. Fletcher Souder.

St. Louis Medical and Surgical Journal, March.

- 140 La Grippe. Wm. Hooker Vail.
- 141 The Necessity and Value of a Good Eliminant in Post-grippal Conditions. A. H. Ohmann-Dumesnil.
- 142 A Practical Prescription Applicable in Many Affections of the Air-Passages. Ed. Gros.
- 143 A Case of Chronic Rheumatism. L. B. Smith.
- 144 The Treatment of Enteritis with Xeroform. Giovanni Petrucci.
- 145 Some Anomalous Cases of Typhoid Fever. Augustus A. Eshner.

Memphis Medical Monthly, March.

- 146 Mosquitoes in Malaria—A Further Consideration. Wm. Britt Burns.
- 147 *The Etiology and Treatment of Hemoglobinuric Fever. J. B. McElroy.
- 148 *Clinical Notes on a Few Cases of Malarial Hemoglobinuria. J. W. Laws.

Georgia Journal of Medicine and Surgery (Savannah), February.

- 149 A Study of Artificial Infant Feeding. W. E. Fitch.
- 150 Hysteria, its Nature and Etiology. Henry Brooks, Jr.
- 151 Rotary Lateral Curvature of the Spine. Daniel W. Marston.
- 152 *The Diagnosis of Ectopic Pregnancy before Rupture, Based on Eleven Cases. J. F. Baldwin.
- 153 Extensive Skull Fracture with Recovery. A. J. Richter.

AMERICAN.

2. **Laboratory Feeding.**—Some of the questions in regard to infant feeding are noticed by Griffith, who insists on the value of milk laboratories as they now exist in large cities. One of the secrets of successful feeding is, he thinks, to have the infant begin with a low percentage. We should not take mother's milk as the standard for artificial feeding. The pro-

teids of cow's milk differ from those of the human species, and this mistake is sometimes made. In the first two weeks of life the child should be treated with .5 per cent. proteid, and even later in the first year it is wise to begin with low proteid. We should begin with a small amount of fat, 2 per cent. instead of the normal 4 per cent. of woman's milk and a little less than the normal percentage of sugar, 6 per cent. instead of 7, for example. For a very young baby, therefore, who has had signs of indigestion without serious disease, the formula of 2 per cent. fats, 5 per cent. sugar, .5 per cent. proteids is best. This will not answer long, but the method of increase will depend upon the conditions. It is important to weigh the child weekly or semiweekly. If the increase in weight does not progress satisfactorily, look out for unfavorable symptoms and alter the formula. In any cases where the percentage feeding does not seem to agree, we should be sure the error is not with our own formula or method. There are idiosyncrasies in special cases, but they are rare and not to be our guide to practice. He gives an account of three cases showing the need of adaptation to the conditions in percentage formula feeding.

3. **The Widal Test.**—Robin describes the technique of the Widal test, the special apparatus devised by him for the drawing of but one drop of blood, and insists on the need of high dilutions in making the test, since one drop of normal blood, diluted 1 to 5 or 10, may at times produce agglutination. It is not difficult to obtain from the bacteriologist a culture of typhoid bacilli which can be kept in sealed tubes and be available at any time. The last cultures he had were sealed for eight months, and the bacteria none the worse for the confinement. He points out the difference between pure and pseudo reactions, and gives illustrations of them. The time limit is a matter of much importance, and the irregularity practiced in this regard is to be deplored. He would recommend the following: Dilution 1 to 10, time limit five to fifteen minutes; 1 to 20, fifteen to thirty minutes; 1 to 40 to 1 to 100, thirty to sixty minutes; 1 to 100 to 1 to 200, one to two hours. That would mean that if within the specified time a considerable number of bacilli are found actively motile or, if dead, fail to arrange themselves in clumps, the reaction is to be pronounced negative, irrespective of the clumps which have already formed. He says there is no reason why the general practitioner who is removed from municipal laboratories may not make the Widal test himself, if he is properly instructed.

7. **Erythromelalgia.**—Elsner reviews the history of erythromelalgia and reports cases. He does not consider the condition as yet worthy to be called a disease per se; it seems to be attendant to a great variety of conditions. He is inclined to consider it as a circulatory rather than a nervous disorder, the result of secondary vascular changes.

9. **Gelatin Injections for Aneurysm.**—Three cases of thoracic aneurysm were treated by Conner by gelatin injections. In two they had to be discontinued because of severe local pain. In one case where seven injections were given, a very slight improvement could be detected, in another a slight increase of the symptoms was noticed, while the third died under treatment, from rupture of the aneurysm. The autopsy showed no evidence of recent thrombosis, though the conditions were favorable for such formations. Aside from pain and local irritation no bad symptoms were observed in any case here noticed. He is not ready to conclude that the method has no therapeutic value, since in none of these was the treatment fully carried out, but he thinks its usefulness is seriously impaired by the severe pain which it often produces.

10. **Ameba Coli.**—The following, Craig claims, have been demonstrated by the study of stained specimens of ameba coli: 1. That vacuolization is a degenerative process, as the young amebæ show no vacuoles, the full-grown healthy ones, few, while the amebæ in which they are most numerous are degenerate bodies, showing neither a nucleus nor inclusions of any kind. 2. That there occur in all but the degenerate forms of amebæ, small, round or oval, unstained areas, uniform in appearance, and most numerous in the large, full-grown forms, and entirely absent in the vacuolated shells of amebæ. These areas resemble similar ones observed in stained, segmenting malaria plasmodia, which are, in them, due to the young spores, which take the

tain but faintly. Reasoning from analogy, it may be that these areas in the amebæ are also spores. 3. That in the protoplasm of the ameba, there occur peculiar structures, evidently not bacterial in nature, the significance of which it is impossible to decide. It may be that they are certain crystals which occur in the feces and which have been absorbed by the amebæ. 4. That degeneration of the amebæ takes place in two ways, i. e., by vacuolization and by fragmentation.

11.—See abstract in THE JOURNAL, XXXV, p. 448.

15. **Biliary Calculi.**—Beck reports his success with skiagraphy of biliary calculi *in situ*, and gives the essentials for success. The first condition is a strongly built and powerful tube which will bear a fifteen-inch spark for about five minutes without becoming too hot; it should be of medium hardness so as to permit the permeation of soft tissues without the denser ones, and this can be best decided by its effects on the hand. If the bones of the wrist appear grayish-black, but well defined, while the softer tissues show but little, the tube is suitable. If the tube is too soft the bones will be intensely black. The tube should always be new, as later they show less contrast. The position of the patient is also important; he should lie on his abdomen with about three pillows underneath his clavicles, so as to bring the gall-bladder nearer to the photographic plate. Another point is that the rays should not penetrate the abdomen in the vertical position, but from the side, so that the thick and less transparent tissue of the liver is not traversed in its whole diameter. The direction of the rays at an angle of about 70 degrees to the slant is best. The bowels should be freely evacuated. He admits that the method needs further improvement, but he maintains that even a faint skiagraphic reproduction of biliary calculi proves their existence to the expert, though a negative result cannot insure their absence.

17. **Specific Treatment of Dysentery.**—The points made by Cruikshank are that dysentery is contagious and infectious, that the germ is introduced into the system through food and drink, that the disease is the same wherever it is found and only varies in its intensity. As to the majority of therapeutic agents, they are usually useless and, in many cases harmful, but the sulphate of magnesium properly administered in the acute form of this disorder acts as a specific.

21. **Gonorrhea.**—Woodruff treats gonorrhea by the use of hot normal salt solutions, the good effects of which were first noticed accidentally, but which he has followed up with good success. He usually gives an astringent injection to use two or three weeks after leaving the hospital. He suggests the possibility that gonorrhea is a self-limited disease, with periods between forty and sixty days. Chronic and severe cases would then occur in persons of abnormal lack of resistance, and in those of bad habits generally.

23. **Colitis.**—Bolton reports a case of severe colitis treated by the formation of a cecal colostomy with a valvular opening through which irrigation of the colon was carried on. From the first the diarrhea began to improve, and at the end of two weeks no ulceration of the mucous membrane could be seen, while at the end of the treatment the condition was apparently normal; the patient had gained 10 pounds. A pad was worn for twelve days, at the end of which time the fistula healed. A small ventral hernia has appeared at the site, but he thinks it can be easily controlled by operation. In the future he shall adopt the intermuscular incision of the abdominal wall.

28. **Intestinal Anastomosis.**—Cumston's article is a historical one, in which he calls attention to the fact that in the work on surgery, published in 1769 by Bertrandi, he gave an account of a case where the trachea of a calf had been dried and softened in hot alcohol, then covered with Peruvian balsam and used as a bobbin in intestinal anastomosis with success. This method of intestinal anastomosis even then was an old one, since it was mentioned by Pierre d'Argellata that four surgeons had employed it, the pieces of trachea being afterward expelled in the natural way. He is certain that this refers to the end of the thirteenth century. He also mentions other operations described by Bertrandi, including that for extrauterine pregnancy.

38. **Non-Obstructive, Post-Operative Anuria.**—Brown reports a case of post-operative anuria due to delayed surgical shock, which was interpreted as a manifestation of auto-intoxication due to renal suppression in a person of poor constitution and emotional temperament. The possibility of the septic state was also conjectured. He uses the case to point out the mistakes made and the measures to be taken for their avoidance in future similar cases. In such a patient with a questionable heart he would in future give a large stimulating enema and have it repeated immediately after the operation if there was then the smallest indication. Nitrous oxid gas and ether should be employed for the anesthesia, preferably to chloroform. The medication should be given subcutaneously or by rectum, and all vomiting met with hot lavage. The first manifestations of anuria would be looked upon, where the pulse is small and rather rapid, as due to vasomotor paresis or cardiac weakness with lowered renal pressure, the result of shock, and stimulation to be employed.

39. **Stone in the Kidney.**—Bevan's article notices the use of the x-ray in the diagnosis of kidney calculi. As regards his own experience, which includes seven nephrolithotomies and two cases in which the stones were removed from the kidneys converted into pus sacs, he has been agreeably surprised in having no mortality, and he believes that the mortality from nephrolithotomy is not so great as we have been led to suppose. The prognosis as regards permanent cure is not so good as after operation for bladder stone or gall-stone, still, in some cases the operation has been followed by complete and permanent cure. He thinks the best incision for nephrolithotomy is an oblique one, beginning a finger's breadth below the last rib and running obliquely downward and outward to a finger's breadth above the anterior superior spine. This can be easily extended by splitting the external oblique downward to get the fullest exposure of the ureter, if necessary. The kidney is freely loosened from its bed so that it remains attached only by its vessels and ureter, and can be brought out of the wound in perfect view unless in very obese patients, while the operator can in them control the pelvis and vessels. He says: "Don't be afraid of large incision." "Don't be afraid of displacing the kidney." The kidney, its pelvis and vessels under perfect control, is split by an incision two or three inches in length on its convex border, the pelvis opened and examined, and the stone or stones removed. Then wash out with a hot normal salt solution, carefully examining for remaining fragments. If none are found close the wound with deep medium-sized catgut, the external wound with buried catgut and silk-worm gut, excepting a small portion for drainage. Where pus infection exists, the pelvis should be drained. Where stone is found by the x-ray and can be diagnosed by palpation, a small incision can be made and the pelvis closed by Lembert's sutures, as has been done by Morris. Care should be taken to prevent pushing of small stones into the pelvis and dilated ureter and, where the kidney is not brought out of the wound, pressure can be made with the fingers to collapse the pelvis and prevent a stone slipping in during the efforts at removal.

40. **Hernia of the Fallopian Tube.**—Morf reports a case of this condition and discusses its etiology, morbid anatomy and treatment. In this case the woman probably had congenital hernia of the left oviduct, complicated by epiplocele, the fat of which underwent serous change. Shortly before the hernia became irreducible, the patient probably acquired an acute vaginitis, the infection extending upward into the hernial sac. The microbes, finding a favorable culture-medium on the omentum, multiplied, exudation and pus formed, and as a result the hernia became increased in size and irreducible. The diagnosis is not always possible in these cases; in none of those reported has it been absolutely correct. The radical operation, he thinks, is demanded in all instances. The paper closes with abstracts of reported cases in the literature.

42. **Resection of Pendulous Abdominal Wall.**—Peters reports a case of pendulous abdominal wall in which an immense transverse gore of the enlarged adipose abdomen was taken out, leaving the patient after recovery in a good condition with a reduction of over 60 pounds of weight and a normal abdomen. He

refers to a previous case similarly operated on by Bullitt with good results.

43. **Hydrocele.**—Tait recommends eversion of the tunica vaginalis as a cure for this condition, and describes the operation; also a simpler one first published by Longuet and given his name, though Tait himself employed it independently of Longuet's publication. The operation consists essentially in the inversion of the cellulo-fibro-vaginal layers without decortication or hemostasis; the testicle is transposed. A transverse fold is taken up over the testes and cut with the scissors down to the serosa, under local anesthesia. The serosa is cut in like manner, neither cut exceeding 3.5 cm. The testicle is then drawn out upward and forward, the serotum being at the same time pulled in the opposite direction. The tunica vaginalis and overlying fibrocellular tissues follow and are turned inside out. One or two sutures are taken to secure the vaginalis in its new position; these stitches are placed in such a manner as to avoid injury or strangulation of the cord. Chromic catgut (two weeks) is perhaps preferable to the ordinary gut, which is absorbed too early. The testis is not placed in its original position, but a new bed is made for it in the middle of the inner lip of the incision by gently dissecting the cellular tissue with the finger. The resulting new cavity is inside of and parallel to the old cavity. The testicle is slightly twisted on its axis, not being in normal anteversion but in retroversion, rotated inward a quarter of a circle and lying directly against the raphe. The position of the testicle may be defined as retro-latero version. The wound is then closed with two or three stitches. The operation is completed within a minute or two; no hemorrhage is noted; and the immediate effects are barely noticeable, thereby differing radically from all the other methods. There is no local reaction or infiltration of the soft parts, no tenderness, and within a few hours after the operation palpation of the testis does not elicit more than the normal sensitiveness. Consequently, the patient may resume his work on the following day. Nothing simpler, neater, nor more expeditious could be imagined. In a very large hydrocele, Longuet combines the above procedure with partial excision of the vaginalis, using elastic clamps and a continuous hemostatic catgut suture on the cut edges of the serosa. He claims that this operation will prove serviceable in the majority of cases of hydrocele and cysts, also where the surgeon is desirous of exploring the serous sac of the tunica vaginalis, testis, or epididymis, and in some cases of hernia complicated with hydrocele and in the presence of numerous cysts. Three cases are reported.

50. **Hallucinations.**—The general subject of hallucinations is reviewed by McCorn, who summarizes his conclusions in regard to them as follows: Hallucinations are not new creations; they are composed either of present or of latent memory-pictures or ideas, and are accordingly designated concomitant or spontaneous, respectively. They are not due to an external stimulus, but to one within the sense organ itself—one acting on its sensory tract or the sensation cells of the brain cortex. Hallucinations may affect any or several of the senses simultaneously, and influence thought and action according to their contents and the importance ascribed to them by the patient. They may be due to toxic conditions—whether caused by drugs or infectious diseases, disorders of nutrition, the effects of extreme heat or cold—and often accompany the functional neuroses. They are particularly common in paranoia and dementia in their various forms, but occur more rarely in the affective psychoses.

55.—This article has appeared elsewhere. See *THE JOURNAL* of February 2, 1916, p. 350.

56. **Bacterial Poisoning in the Lower Organisms.**—Klingmann's paper is a statement of the facts which have already been published by him and noticed editorially in *THE JOURNAL*, xxxv, p. 1218, on the influence of bacterial toxins on vegetable forms of life, algæ, etc.

60. **Interstitial Keratitis.**—It is assumed by Callan that the majority of cases of this condition are due to inherited syphilis, and the question may arise as to whether this can be avoided. The conclusions which he reaches are: "The offspring

of syphilitics show the evidences of the inherited taint in only a slight percentage of the cases; that is, if we except those children under 5 years of age. Only a slight percentage of such children develop interstitial keratitis. When the disease attacks one eye, all our treatment appears to be powerless to prevent its development in the fellow eye. We may possibly delay, but we can not prevent, the outbreak of interstitial keratitis in certain cases."

72. **Trachoma.**—The method proposed by Jameson seems to be a sort of mild superficial grattage, with a special instrument devised to attack superficially and repeatedly and thus eliminate all granular growths.

76. **Influenza and Glaucoma.**—The physiologic relationship of influenza and glaucoma are illustrated, de Schweinitz thinks, by the case which he reports. It started, he says, through the axial neuritis which is so frequently caused by epidemic influenza and which more frequently than perhaps any other condition, is a starting point of glaucomatous excavation of the nerve-head.

77. **Methyl Alcohol Blindness.**—Cases of Jamaica ginger blindness that have been reported have been already noticed editorially. Harlan reports two in which an analysis of the ginger essence was made. It seems that blindness is not only caused by Jamaica ginger essence, but by others, as lemon, peppermint, etc., which are made up with methyl alcohol.

79. **Jaundice from Gastrop-tosis.**—The patient whose case is reported by Steele had an attack of abdominal trouble, possibly hepatic colic or some gastro-intestinal inflammation which probably involved the peritoneum, with formation of adhesions. After this came symptoms of chronic gastro-enteritis. In the course of a year jaundice appeared, and steadily increased, with moderate loss of weight, and slight secondary anemia and leukocytosis. Inflation of the stomach showed decided gastrop-tosis. The stomach was restored to its place by a belt and the jaundice immediately began to improve and in seven months disappeared. Bile is not present in the urine and has reappeared in the stools. He discusses the possibility of gastrop-tosis causing jaundice by obstruction of the bile-duets, and concludes that this can not be the case without adhesions from some previous inflammatory condition, such as was supposed to have occurred in this case.

81. **Ammonium Persulphate.**—Ravenel and Gilliland have experimented with this salt, which has only of late years been reduced to such a price as to make it available for a disinfectant. He finds that, experimenting with solutions of various strengths, it kills the microbes of diphtheria, typhoid, and ordinary pus microbes at various periods from fifteen or twenty minutes to one and one-half or two hours, and the anthrax spores are killed by a 5 per cent. in thirteen hours. He finds it also of considerable value as a deodorant. Forty c.c. of a 5 per cent. solution was added to 530 c.c. of decomposed blood and bouillon, and almost thoroughly deodorized in twenty minutes. Ribbons of delicate colors, immersed in a 10 per cent. solution for one and two hours, showed no apparent change of tint.

83.—See abstract in *THE JOURNAL*, xxxv, p. 1171.

86.—*Ibid.*, p. 1104.

88. **Gall-Bladder Surgery.**—Three cases are reported by Munro, which he thinks point out the necessity of early operation in all marked cases of gall-stones, since, after the attacks are allowed to go on, the operation becomes, for some reason not yet explained, a serious undertaking. The ideal cholecystotomy is worth trying if the surgeon is sure that this is not contra-indicated. Cholecystitis is better drained surgically than medically, other things being equal. The possibility, not so remote as has been heretofore considered, of pancreatitis, should weigh on the side of urging operation for gall-stones. The majority of gall-bladders can be reached easily and properly through a short vertical incision in the outer third of the rectus. Any nerves coming in the way can be pushed aside and not destroyed if care is taken.

90.—See abstract in *THE JOURNAL* of January 12, p. 127.

91. **Hernia.**—Kocher's new operation is described by Renz, which is a modification of his old method, as follows: In the new operation the small opening above and outward to the

ternal ring is continued into the peritoneal cavity, a long reeps introduced into the inside of the sac, its end caught and pulled; the other steps of the operation are the same as above. This inversion of the sac is the essential point; it forms a pyramid toward the inside of the abdominal cavity instead of outward into the canal; consequently, every time the patient coughs, the abdominal wall distends and he is, as it were, trying to pull his internal ring into the abdominal cavity, or at any rate the sac. With this operation the patient remains in bed but two weeks; the results are excellent, Kocher claiming at 3 per cent. of returns; the operation is simple and is ideal in its plan. Unfortunately the method is not applicable to direct herniæ, nor in the oblique ones where the sac is too thickened and enlarged, but in suitable cases Renz finds it highly useful and recommends it.

99. Sphenoidal Wing Sinuses.—Douglass calls attention to the extension of sinuses of the sphenoid into the sphenoidal wings, and the variation of their development, illustrating the anatomical possibilities with a number of plates. The practical bearing of the existence of these cavities is that disease may continue in them even after that in the ethmoid cells is cured. These accessory sinuses, therefore, will escape treatment and trouble may ensue. The possibility of their existence should be borne in mind and their anatomical relations studied.

100. The Tuning-Fork Test in Antral Disease.—The use of the tuning-fork for testing for disease of the maxillary antrum is recommended by Kuyk. If the antra are free and clear, the tone may be heard with equal distinctness and for a like duration over each side and on the first and second molars, but if one antrum contains fluid, its tone should be fainter. If the symptoms are obscure and transillumination gives a shadow on one side and none on the other, with subjective symptoms indicating disease, the use of the tuning-fork may confirm the diagnosis. He has also used it in cases of frontal sinus disease, and thinks it may be used with other conditions, in mastoid and ethmoid infections.

104. Choroidal Melanosarcoma.—This article reviews the symptoms and stages of the condition and reports three cases. Alter's conclusions are summarized as follows: "1. Melanosarcoma of the choroid is a fatal disease. Probably not more than 15 per cent. make an absolute recovery after operation. 2. The prognosis of this affection, though grave in all stages, is best with an early operation. 3. It is well-nigh impossible to make a diagnosis of acute inflammatory glaucoma due to tumor when the fellow-eye presents a glaucomatous aspect, as evidenced by Case No. 1 recorded in this paper. 4. The round-celled highly vascular tumor speaks almost unequivocally of a fatal termination. The spindle-celled growth gives a much more hopeful outlook. 5. The presence of melanin in the urine give strong evidence of metastatic involvement. It fore-shadows a fatal termination."

117. Climate of Western Texas.—Rawlings describes the climate of El Paso, which he thinks possesses the essentials of sunshine, dryness and rarefied air suitable for the proper treatment of pulmonary disorders. Bronchial asthma is also greatly benefited, but the fibroid form of phthisis is not so much so, nor is laryngeal tuberculosis. The climate is at its best for these cases for seven months of the year. The mid-summer months, which is the rainy season, are less advantageous, but there is a region, high and spruce-covered, within 120 miles, which furnishes ideal conditions. Cases in the late stages are not benefited by the climate anywhere.

138. Suprarenal Extract.—Bates gives his experience with suprarenal extract in various ocular troubles. He has treated many recent cases of conjunctivitis successfully with local applications, and found it a valuable remedy in keratitis, iritis, glaucoma and lacrimal disorders. Two cases of lacrimal fistula have been cured without other operation. As a hemostatic for eye operations, he believes it the best, and he considers it a safe remedy to use in all inflammations of the eye. When it does good after the local use, the benefit is apparent in less than a minute.

147. Hemoglobinuria.—McElroy endorses as rational the advice of Bastianelli to use quinin when malarial parasites are

present in the urine, and not if they are absent. If quinin has been given before hemoglobinuria appears, and no parasites are in the blood, it should be suspended, but if the parasites persist, it should be continued. He reports cases and thinks on the whole, however, that the better plan is to give quinin to prevent the attack, and suspend its use as long as hemoglobinuria and albumin continue. Then, if fever continues, quinin may be given successfully without danger of producing another attack. In oliguria and anuria the best plan is to withhold quinin. When diarrhea is absent, he gives calomel in 10-gr. doses, at intervals of three hours for three doses, and if this does not act sufficiently, assists its action with hyposulphite of soda. At the first appearance of oliguria the safest procedure is to apply dry cups to the loins, followed with poultices, and administer normal salt solution hypodermically.

148. Hemoglobinuria.—Laws thinks it is necessary to determine whether the micro-organism is active, to intelligently treat a case of malarial hemoglobinuria. Where the organism is still active, he would give quinin, but where the condition is more of a toxemia due to spent activity of the organism, we should discard it. As a general rule, where the fever is of an intermittent type, or even a remittent type with chills, quinin should be given, but remittent fever with slight variation in the temperature is not often thus benefited. He mentions the use of sodium hyposulphite, but does not apparently endorse it. He thinks, however, elimination through the bowels and kidneys is of prime importance.

152.—See abstract in *THE JOURNAL*, XXXV, p. 841.

FOREIGN.

British Medical Journal, March 9.

Neglect of the Actual Cautery in Surgery and Its Value in the Treatment of Pruritus Ani. WILLIAM M. BANKS.—The neglect of some old methods which in former times had been abused is regretted by Banks, and he calls special attention to the use of the actual cautery which, he maintains, may be of great value in certain conditions. Among them he mentions syphilitic periostitis, in which the cautery might be more extensively used, especially in the late forms. He reports a typical case in which he obtained relief with this method where other means had failed, and also certain joint diseases, not the white swellings of children, but the gouty or rheumatic gouty conditions. He says that we have neglected this method too much and gives two or three patients' accounts of their experience with it after others had failed, one in which chronic arthritis of the knee, for example, had been treated with the Thomas splint without benefit and was almost immediately helped by cauterization. Still another condition is spinal inflammation after injury, and in conclusion he mentions a disorder for which the use of this remedy seems to be almost new, viz., pruritus ani. The great majority of the ordinary cases of this form of pruritus are curable when the cause is found out, but there are a certain number in which he could find no evidence of any local or systemic cause, and yet the itching is most intense. For some of these cases he believes the actual cautery will be the best form of treatment and reports one or two. It is only in those very serious cases in which no cause can be found that he ventures to recommend it; he has used it perhaps a dozen times for this purpose in the last twenty years. The value of the remedy, he says, lies in its being unfailingly curative in certain otherwise intractable cases.

Diseases and Disorders of the Heart and Arteries in Middle and Advanced Life. J. MITCHELL BRUCE.—This is the first of a series of Lettsomian lectures on diseases and disorders of the heart and arteries in middle and advanced life. The mode of inquiry which Bruce purposes to follow is by an analysis and study of a large number of instances, their origin, clinical characters, course and result. He thinks that perhaps our attention lately has been too much confined to the pathologic states of the heart and arteries and too little to causes which produce them. Arterial sclerosis is too often accepted as the final diagnosis, without regard to the actual nature of the general pathologic factors, whether strain, syphilitic, gouty, or otherwise. He first notices the normal heart after the age of 40. The blood-pressure up to 45 is apt

to be high, but at that age remarkable changes occur. While the arteries continue to increase in circumference, the blood-pressure falls and the heart begins to diminish in size. These three features characterize the circulation for the next twenty years. The fall in the size of the heart is partly accounted for by the widening of the arterial trunks, but not entirely, and the other causes which he suggests are the probable reduction of mechanical stress due to bodily relaxation, the loss of vasomotor tone in the splanchnic area, and chronic diseases which come on at these periods. At 65, other changes occur: the peripheral resistance becomes increased, the blood-pressure rises, the heart once more increases in size, till, at 75 years, it is as large as at 45, and the hemoglobin value of the blood again proves to be higher. The arteries continue to grow wider, thicker and longer, another proof that the size of the heart is not diminished altogether by their caliber. These become strengthened by the fibroid tissue and the heart responds to the altered mechanical condition in the arteries. In the great majority of cases of persons who have passed to old age, the arteries are still generally sound, according to the investigations of Humphry and others, and the actual changes may be considered probably not normally senile in their nature. They are rather the effects of pathologic processes which the author enumerates. 1. First among these he mentions physical strain. He says that we must speak with due caution as regards muscular exercise, but he feels sure that after 45 years of age, excess in this direction may be dangerous. The principal safeguards which the arteries possess against strain is their extensibility and elasticity, but the disorders liable to occur at this age, including gout, are just the ones which are accountable for weakening of the walls of the vessels. 2. As to the nervous system, he mentions cases where nervous strain in conditions of special stress have caused arterial and cardiac degeneration. However clear the direct connection between nervous strain and cardiac vascular disease happens to be in some heart cases, it is in others unreal and this is a matter of great importance. The nervous temperament often drives the subject of it to physical overwork with insufficient rest or sleep, and to the unwise attempt to remove the nervous exhaustion by violent muscular exercise. Worry often induces recourse to alcohol and stimulants, while many of the complaints of nervous depression, lowness and worry are really due to gout, influenza, etc., which are at the same time the true cause of the cardiac symptoms. 3. Extrinsic poisons, alcohol, tobacco, tea, coffee and lead are next considered. There is no need of proof of the reality of the connection of these with cardiac disorder, and they will be mentioned further on under the head of diagnosis. 4. Disturbances of metabolism are taken up next, including gout, which seems to be favored by substitution of quiet for active healthy exercise, and while the demands on the growth of the alimentary system have declined, the pleasures of the table are too much indulged in, with the result of functional disorders of the liver and gout in various forms and many other disorders of that character. At the same time the arterial tension rises and stimulation of the vasomotor center by nitrogenous waste occurs, and the arterial pressure, heart-vessels and kidneys are kept under excessive strain to carry off the extrinsic poisons; like other vessels working under strain, they are the first to suffer, so we have chronic Bright's disease, cardiovascular degeneration, etc. 5. Syphilis by no means always ceases to attack the organs of circulation after 40, and is a standing danger to the heart and arteries of men of middle age, and even in declining years. 6. Among acute diseases he notes influenza in particular, but also typhoid, rheumatism, diphtheria and syphilis in various forms. 7. The chronic disorders, anemia, exhaustion, etc., are next considered. 8. Among complex causes he first mentions emphysema and other chronic diseases of the lungs and pleura, which strain the right ventricle, and chronic Bright's disease, which similarly strains the left ventricle. Various agencies combine together and the result is disastrous. The wear and tear of life may be stated, in a general way, to be the cause of cardiovascular disease, but it must be remembered that in many cases the heart and blood-vessels may have been damaged in early life so that they fall victims to influences which would have been insufficient otherwise, and in the second place the

heart and the vessels at 40, though apparently free from danger may be molecularly weak and unable to offer effective resistance even to ordinary strain. Lastly, the author calls attention to family idiosyncrasy, as in the case of hereditary senility where the patient becomes prematurely old. A type of cases described as family heart is noticed, where cardiac disease seems to run through various members of the family. We find men, say 30 years of age, with vessels already enlarged and lungs emphysematous without any history of respiratory strain.

Histology of the Urinary Tract in Its Relationship to Morbid Urinary Deposits. G. LESLIE EASTES.—The author first notices the normal and morbid histology of the urinary tract, describing the epithelial linings in the different parts. The Malpighian capsule and its neck are lined with a flattened epithelium very similar to that of the serous cavities. The first convoluted tubule has individual rodlike cells with granular-looking protoplasm toward the free edge. The descending loop of the tubule and loop of Henle are lined with clear flattened cells, while the ascending limb and second convoluted tubule are like the first portion of the tubule with granular rodlike epithelium. The junctional tubes and ducts of Bellini, which latter open directly into the pelvis of the kidney, have an epithelium consisting of clear cubical or columnar cells. In the course of over 6000 microscopic examinations of urine, from cases of nephritis where centrifugalization was practiced, he has never been convinced that he has seen the clear flattened epithelial cells of the Malpighian corpuscles. He has, however, he believes, recognized the granular rodlike epithelium, and the cubical or columnar epithelium of the latter parts of the tubules is most commonly found when renal epithelium is present. This is what might be expected since the lumen of the collecting tubules is broad enough to allow the passage of isolated cells with ease, while the lumens of the loop of Henle and of the collecting tubules are so small that it is a matter for surprise that the epithelium, peculiar to those situations, when shed, can squeeze its way through. In a few cases of examination of the urine in carcinoma of the kidney he has found abundance of renal epithelium. Epithelial cells do not appear isolated as in tubal nephritis, but were frequently found in clumps indicating a rapid proliferation. Of sarcoma of the kidney, cysts, angioma, etc., he has nothing to say. In a few cases he found indications which led him to suggest the existence of buried calculus, which was found later. These indications were the characteristic renal blood, with hyaline casts, epithelial cells, the size, shape and appearance of which suggested an origin in the collecting tubules; there were no epithelial casts, but blood-casts were present. In every case there was much free uric acid in the deposit, and the crystals aggregated together. Pelvic epithelium was lacking, or, if present, in very small quantities. Chemical examination showed more albumin than was accounted for by the blood present. There was also in each case a history of tender kidney with, usually, reflected pain. The characteristic epithelium of the renal pelvis is what is known as transitional. It consists of about four layers; the free edge with flattened cells; the next one or two, spindle or pear shaped, and the last layer composed of cells which are remarkably pleomorphic. The cells of the deeper layers are most easily recognized and the commonest forms a rounded body with granular contents and nucleus, usually tailing off into prolongations, the length of which may be two or three times that of the diameter of the body. These are only shed when there is extensive damage to the renal pelvis and the movement of the stone frees them. There are also usually blood and hyaline casts, and a slight though constant leucocytosis in this condition. In pyelitis due to other causes, similar cells, together with pus, are usually found, and the deposit contains casts. When the pyelitis is due to any other disease than tuberculosis, numerous bacteria are present. Eastes frequently noticed that in pyelitis casts are present which are broad and contain many bacteria, though pus casts are rare. In all lesions of the renal pelvis he has found more albumin than the microscopic examination would apparently indicate. The renal pelvis may contain neoplasms usually of the papillomatous variety, and they not infrequently become malignant. He has been able to diagnose this con-

dition from an examination of the deposits. Of the ureter, he has nothing special to say, but the diseases of the bladder that can not be diagnosed by examination of the deposits are very few. In cystitis the cells are usually derived from the surface of the epithelium, and there are few of the more characteristic tailed and pear-shaped cells of the deeper layers of the mucosa. In the epithelium the cells are highly pleomorphic, but the most characteristic cells are found in cases of villous growth; papillomata usually, but sooner or later almost certainly become malignant, with a marked tendency to infiltration at the base. These cells are exceedingly long and of remarkable thinness. The urethra is lined with a columnar epithelium, but it is rare to see this in perfection in the urinary deposits. It is only seen well where a small calculus has been passed. In gonorrhea or urethritis of septic origin there is much epithelium, but it is swollen and altered in appearance. If the prostate supplies fresh epithelium, it is unrecognizable. The only thing he has to say about it is that in the urine of lads between the ages of 14 and 20, which is at the period of prostatic growth, he has frequently found clumps of clear, luminous, pear-shaped cells imbedded in a mucoid material. He has never seen this in girls, and therefore is inclined to think they may be derived from the prostate.

The Lancet, March 9.

Public Health and Housing. JOHN F. J. SYKES.—This second lecture is devoted to the effects of certain kinds of dwellings upon the health. The author notices the peculiar conditions, bad ventilation, coldness, water-supply, etc., and remarks that these are the characteristics of the jerry-built dwelling-houses, the flimsiness being the cause. It has been shown by experiments that putrid gases predispose animals to the infection of attenuated morbid germs of disease, therefore, bad drainage and sewage will have its direct influence upon the health. The latter part of the lecture dwells on special forms of structures, windows, streets, admission of light, air, etc. He condemns the inside staircases for compound dwellings, as they are seldom properly ventilated. The common stairway should be the external one. He finds that it is a mistake to make large rooms for poor people, as it only leads to overcrowding. If the same sized family that could live in one very large room should live in two smaller ones, there would be a better sanitary condition, as well as physical well-being.

The Statistics of Gastric Ulcer, with Special Reference to Gastric Hemorrhage, Its Frequency and Fatality. BYRON BRAMWELL.—The accepted statistics of gastric ulcer are questioned by Bramwell, who thinks that the methods of estimating them are unreliable. It is probable that a larger portion than 5 per cent. have at one time or other in their life suffered from gastric ulcer. This may or may not be correct, and is only taken as approximately so. It is difficult to estimate the mortality from this cause, and he thinks it may vary very materially from year to year. He also criticizes Mayo Robson's conclusion with regard to the frequency of fatal hemorrhage. Errors of registration are perhaps less likely to occur in cases of hemorrhage than in cases of perforation. He believes that physicians of large experience will agree with him that death from hemorrhage from gastric ulcer very rarely occurs. He can himself recall but one case in hospital practice, and another that he saw in consultation, from what was thought to be duodenal ulcer, which, however, may have been gastric.

Pure Urea in the Treatment of Tuberculosis. HENRY HARPER.—The writer says he has used pure urea in a large number of cases of tuberculosis, and believes it to be a remedy of superior value to any used at the present time. With its administration, he applies treatment in the broad sense, pure air, plenty of nutritious foods, especially those rich in albumin. These act as an antitoxin, and render the tissues and fluids of the body proof against the bacteria finding a suitable soil. Twenty-nine cases are reported, all diagnosed microscopically as well as otherwise, and all apparently hopelessly bad cases, with recovery or improvement. He remarks that careful and systematic examination of the urea excreted by the kidneys previous to the treatment is needed. In only two cases in which he examined the urine with Martindale's urea-

meter has he found any increase in the quantity of urea excreted. One thing he feels sure of is that urea, given as he employs it, in simple doses three or four times daily, or hypodermically, has produced cures in some and improvement in other serious or bad cases, that he has been heretofore led to conclude were incurable.

Janus (Amsterdam), February.

History of Syphilis. L. HIRSCHBERG.—This thesis states that no ancient writer has described syphilis. Errors of interpretation have been found in all the passages that have been cited as purporting to describe what is now known as syphilis. A complete description is, however, on record in the Japanese government annals, dating from A. D. 900, when an official report was made of all the diseases existing in Japan at that time. The geographical discoveries of the fifteenth century permitted the introduction of syphilis into Europe with the malignancy usual to a newly-introduced disease. Certain parts of Europe were spared until long afterward, as for instance, Schleswig-Holstein and certain points of Norway, where the endemic raged comparatively recently with pristine malignancy. The Russian province of Kosloff is now undergoing this experience. After a disease has been common for generations, the receptivity of individuals becomes less. Besides this acquired immunity, there is also an ethnic immunity. In Iceland, for instance, although syphilis has frequently been imported, it rapidly dies out. The natives of Madagascar are likewise refractory to a certain extent, while severe cases are numerous among the Malays. "Government regulation of prostitution has a tendency to retard the creation of immunity and favors the evolution of severe individual cases."

Bulletin de l'Académie de Med. (Paris), February 19 and 26.

Hemoglobinuria in Malaria. TROUSSAINT.—The hemoglobinuric bilious fever of tropical countries is the direct result of malarial infection. The syndrome is caused by a process of special, transient demineralization of the blood, the result of the alterations in the liver, due to the malaria. Treatment should comprise the administration of small doses of quinin and the mineralization of the blood plasma by subcutaneous or intravenous injection of salt solution. These injections arrest the destruction of corpuscles by stimulating urinary depuration and thus favoring the elimination of urea, bile and sugar, all of which are demineralizing agents. At the same time the injections increase the isotonic power of the serum.

Appendicitis a New Disease. LUCAS-CHAMPIONNIÈRE.—Even if we group all the obscure inflammations of the bowels in the past, which may include cases of appendicitis, the total does not equal the number of cases of appendicitis in our day. It is evident, therefore, that it is comparatively a new disease, unknown to our fathers. Lucas-Championnière adds that whereas he had occasion to observe 34 cases of abscess in the iliac fossa, between 1882 and 1899, since 1899 he has seen 19. He suggests that the increasing consumption of meat, the epidemics of la grippe and the neglect of the old-fashioned salutary measure of an occasional purge are the factors that have resulted in appendicitis. Robin stated in the discussion which followed, that he had noted appendicitis 82 times in 1585 cases of hypersthenic dyspepsia with hyperchlorhydria. In this condition the waste of nitrogen averages 12.61 per cent. instead of the normal 5.4 per cent., and this favors irritation of the intestines. Pinard called attention to the frequency of puerperal appendicitis, having had occasion recently to observe 3 fatal cases in one month. Kelsch maintained that appendicitis is the localization of a general infection. It is usually a chronic process, with acute recrudescences, at the instigation of some secondary factor. He believes that appendicitis is even more common than we yet suppose, but persists in a latent symptomless form. Sahli calls it an "angina of the appendix," and compares it to the guttural exanthem of scarlet fever, pointing out the follicular structure of the appendix.

Bulletin Gen. de Therap. (Paris), February 15.

Efficacy of Guaiacol in Varices and Serous Effusions. ALLANVERDIANTZ.—The region of the varices or of the effusion is painted with guaiacol, covered with oiled silk and cotton.

This treatment is repeated morning and evening for ten to twenty days. The author states that he has thus cured 7 cases of varices of three to seventeen years standing, rebellious to all other measures. 3 of varicocele, 5 of hemorrhoids and 2 of hydrocele, the latter being completely cured in three to five days, without surgical intervention. Pleuritic effusions and edema of all kinds do not require puncture but heal under the use of guaiacol.

Echo Med. du Nord (Lille), February 24.

Treatment of Hemorrhoids. H. FOLET.—The surgical treatment should always be dilation, either alone or accompanied by excision. The latter is done with the bistoury in case of non-infected hemorrhoids, but the thermocautery is to be preferred if they are infected. In simple cases hygienic measures suffice, re-enforced possibly by hamamelis or argyria, which are sometimes, Folet adds, of a "great psychic efficacy."

Systematic Operation in Traumatism of the Urethra. CARLIER.—Every person with an urethrorrhagia consecutive to a trauma of the perineal region should be operated on at once, even in the absence of a tumor or of ecchymosis, especially if he can not urinate spontaneously within fifteen minutes. Carlier combines external urethrotomy and urethrorrhaphy at one sitting. He has observed a number of instances in which anatomic lesions were very severe, although the symptoms indicated only a slight injury. The fact of miction after fifteen minutes does not speak for the absence of rupture, as the bladder may spontaneously evacuate its contents.

Gazette Med. Belge (Liege), February 21.

Treatment of Whooping-cough.—J. E. Godeau has asked a large number of physicians how they treat whooping-cough. He learned that 32 per cent. use belladonna; 23 per cent. carbolic acid; 20 per cent. the bromids; 12 per cent. creosote; 6 per cent. antipyrin and 2 per cent. opium. Godeau himself recommends inhalation of creosote and antispasmodics after the bronchitis is quieted. Belladonna, however, may be used before this.

Journal de Med. de Bordeaux. January 6.

Fate of Insoluble Substances After Subcutaneous Injection. X. ARNOZAN.—It has been supposed until recently that only soluble medicines were suitable for subcutaneous injection. Late researches, however, have established the mysterious fact that the leucocytes take up undissolved foreign particles and then have a tendency to congregate at the site of a lesion or any *locus minoris resistentiae* thus bringing the medicinal substance exactly where it is most needed. Besredka administered a fatal dose of arsenious acid to animals after he had caused a cold abscess by inoculation with dead tubercle bacilli. A remarkable proportion of the total amount of arsenic was found in the pus corpuscles of the abscess. Others have also demonstrated that leucocytes loaded with foreign substances accumulate at the points where lesions exist. Landerer experimenting with balsam of Peru and cinnamic acid, Stassano with mercury and Montel with calomel and iodoform. The research of the latter is described in his thesis (Bordeaux, 1901). When a substance is dissolved in the blood plasma it becomes generally diffused throughout the organs, but when it is insoluble it is taken up by the leucocytes and carried to the blood-forming organs especially, and to the excretory glands. These facts suggest a possible explanation of the benefits of revulsive measures, of Fochier's fixation-abscesses, etc. The leucocytes loaded with the foreign bodies accumulate at the site of the lesion, and in case of foreign or autopoisonous substances isolate and thus tend to render them harmless.

Journal des Praticiens (Paris), February 23.

Toxic Dyspepsia in Children. SEVESTRE.—Children between 7 and 15 sometimes present symptoms which suggest a serious condition, but they are in reality merely manifestations of a toxic dyspepsia and yield rapidly to appropriate treatment. Headache is the principal symptom, aroused or increased by study, also insomnia or nightmares, and fever recurring at intervals of four to six weeks, with sometimes vomiting, persist-

ing several hours to two days. The apex of the heart may be displaced outward by the dilated stomach, with arrhythmia and palpitation on the slightest effort. Appropriate diet, massage of the abdomen and cold morning douches or frictions will relieve the toxic dyspepsia underlying these symptoms. The gastro-intestinal atony can be counteracted by ten or fifteen drops before each meal, of a mixture of 3 gm. of tincture of nux vomica, 4 gm. of tincture of calumba and 5 gm. of tincture of illicium. Roast or broiled meats should be replaced by meat that has been sterilized by long cooking.

Combination of Autotoxic Dyspnea and Angina Pectoris. H. HUCHARD.—The patient whose case is described presented evidences of a toxic alimentary dyspnea from cardio-renal sclerosis, associated with true coronary angina pectoris and neuralgic or false angina from peri-aortitis. Each complication requires different treatment; the dyspnea is controlled by an exclusive milk diet for ten to fifteen days, with 50 cg. of theobromin two or three times a day. The milk diet is resumed for five or six days twice a month afterward, accompanied by 25 to 50 cg. of sodium iodid during the day. At other times the diet should be restricted to vegetables, fruits, a little meat, one powder of 50 cg. of theobromin once or twice a day and a glass of Evain-Cachat water. If the milk produces diarrhea, it should be controlled with bismuth subnitrate, 1 gm. to each cup of milk. Kefir is another effective measure for control of the diarrhea. Constipation will yield to one or two teaspoonfuls of magnesia, or the usual measures. The peri-aortitic false angina pectoris indicates revulsive or analgesic remedies, but the coronary, true angina requires vasodilating medication to reduce the blood pressure, inhalation of amyl nitrite, subcutaneous injection of trinitrin during the attacks, and, during the intervals, trinitrin, tetranitrol or iodids by the mouth. This reduces the pain of the angina but does not affect the dyspnea, which can be controlled only by promoting renal elimination by the milk diet, which must be kept up as directed, at intervals, for months or even years.

To Expel the Oxyuris in Children. DEGUY.—Four days are required for the course of treatment recommended. First a calomel purge and milk exclusively, for twenty-four hours, then 5 cg. of santalin before breakfast for two days, followed by a rectal injection of a .5 per cent. solution of nitrate of silver after a cleansing injection. It is retained for five minutes and followed by an injection of salt solution to neutralize any excess of the nitrate of silver.

Revue Gen. d'Ophthalmologie (Paris), February.

Traumatic Atrophy of the Optic Nerve. A. PÉCHEN.—Injury from penetration of a foreign body into the orbit may cause blindness at once, from lesion of the optic nerve, without any immediate ophthalmoscopic injury. In a personal case related, a boy of 14 hit his eye against an iron rod, in the dark. The next day he could not see with it but no lesion, external nor internal, could be discovered for nearly fifteen days, when atrophy of the papilla became evident. Péchin has been able to collect only twelve similar cases in the literature, the earliest dating from 1873. He remarks that the prognosis should be extremely cautious in case of the penetration of a foreign body into the inner or outer angle of the eye, even when it does not remain in the eye, and in the absence of any appreciable lesion. Complete amaurosis, under such circumstances, should suggest a grave lesion of the optic nerve. It may show first as a discoloration and later as progressive optic atrophy, which will soon differentiate it from hysteria or simulation. The mechanism differs from that of optic atrophy consecutive to fracture of the optic foramen, which is itself consecutive to a fracture of the base of the skull or of the arch of the orbit. The atrophy in this case is due to the stretching of the nerve, which may be complicated by a direct traumatism.

Semaine Medicale (Paris), February 27 and March 6.

Quinin Treatment of Malignant Neoplasms.—Launois has recently reported a case of inoperable mammary carcinoma in which he relieved all the symptoms and restored the patient to active life, with partial retrogression of the neoplasm, by subcutaneous injections of quinin, as recommended by Jabonlay.

he latter has recently discovered that ingestion of quinin by the mouth is equally as effective in such cases as its subcutaneous administration. He gives one gram a day, substituting Fowler's solution two days in each week, and applies locally a 5 per cent. quinin salve, which he states has a remarkable antiseptic action.

Spinal Cocainization as Treatment of Sciatica.—Manega and Pullé, in Italy, have cured a case of intense pains in the lower members accompanying hemiplegia and one of rebellious sciatic neuralgia, by the subarachnoid injection of 15 mg. of cocain or .75 c.c. of a 2 per cent. solution of cocain. The pains were abolished with a single injection, and have not returned.

The Flap Method of Treating Anthrax.—Sacchetti has successfully treated several severe cases of anthrax by incising the lesion in the shape of an X down to sound tissue below and on each side. The four triangular flaps thus made are turned back, and the surface beneath packed with rolls of gauze moistened copiously with ferric chlorid. The flaps are then replaced, separated from the surface below and from each other by the gauze. The lesion rapidly heals; a dry eschar is browned off from the surface below, and when a healthy granulating surface is left, the flaps are replaced and sutured, leaving but a minimal scar instead of the extensive defect that usually results.

March 6.

Filiform Bacilli Sign of Malignant Neoplasm of the Stomach. H. EHRET.—When the filiform bacillus is found in great numbers in the stomach, the possibility of a malignant neoplasm must be considered. If this phenomenon is not accompanied by indications of considerable stagnation of the contents of the stomach, it is sufficient ground alone for the diagnosis of carcinoma. In 29 cases in Ehret's experience, in which the great number of these bacilli attracted attention at the first glance, the existence of a malignant neoplasm was established later by the course of the affection in 25, and in the remaining 4 there was almost complete stagnation of the stomach contents from atony or stenosis of the pylorus, and a tumor might have existed unperceived.

Centralblatt f. Gyn. (Leipsic), February 16 and 23.

Difficulty in Extraction of Fetal Skull After Separation from the Trunk. F. NEUGEBAUER.—Seventy cases are reviewed, including a number that have not been published. Even such an expert as Hegar asserts that this complication, in one instance at least, rendered the accouchement the most difficult of all in his experience. It is frequently impossible to grasp the mobile skull. In 4 cases the patient died without extraction of the skull; in 16 the attempt to extract it was abandoned. In 6 instances the skull was spontaneously evacuated later, and in 17 it suppurated out in fragments. In 14 of the 70 cases the patient died. Cesarean section was done 6 times, and was successful in 3 cases. In one of these, Jaeggy experienced the greatest difficulty in extracting the skull from the small pelvis where it had become lodged. Laparotomy was done 11 times with 7 recoveries, and symphysectomy once. The fetus was autotomized in 9 cases. The skull was separated by decapitation in 14 and torn off in 56 cases, in 23 by the attending physician, once by the woman herself, and once by the husband. Eleven patients were operated on for vesical or rectal fistulae produced by retained fragments of bone, in one case sixteen years after the delivery. Narath succeeded in curing a patient who had a vesicovaginal and also a jejunovaginal fistula caused by perforation of the uterine wall by a piece of bone after fragmentary removal of the skull of a macerated fetus, one month after death at term. Neugebauer remarks that narcosis is imperative. If manual extraction is not possible, he proceeds at once to perforate the skull, according to Naegele's directions, and extract it with a cranioclast.

Cyst-Formation in Remains of an Ovary. H. EHRENFEST.—The question of neoplasms developing in the fragment of an ovary left after a conservative operation is one of great interest. Fischer and Waldstein have recently reported cases of this kind, and Martin mentions six. Ehrenfest calls attention to five that have been reported in American literature since 1897.

Cbl. f. Kr. d. Harn u. Sex. (Leipsic), February 9 and March 16.

Syphilitic Cystitis. CHRZELITZER.—The urine was turbid, slightly acid and occasionally blood-stained, but with no sugar indician, gonococci nor tubercle bacilli. Urination was frequent and painful, with retention at times. The patient, a man of 45, denied syphilis and refused narcosis. The tonsils were congested. Local treatment induced merely slight, transient improvement. Finally the testicle showed signs suspicious of syphilis, and under specific treatment the cystitis was promptly and permanently cured. It must have been due to a gummatous lesion in the bladder, the first and only indication of the infection for years.

March 16.

Improved Urethroscopy. N. NICOLAI.—The principle of the Welsbach light has been applied to the urethroscope by Nicolai. A very fine platinum wire, coated with thorium oxid, will bear without injury an amount of heat which would consume it without the protective coating. The light afforded is extremely brilliant. It is possible that the thorium takes up the heat and transforms it into light energy.

Deutsche Med. Wochenschrift (Leipsic), March 7.

Treatment of Gangrenous Hernia. W. PETERSEN.—Between 1877 and 1900, 309 cases of gangrenous hernia were treated at Czerny's clinic; 280 were operated on with a total mortality of 18.5 per cent. Petersen considers the Murphy button and Schleich's infiltration anesthesia the two most important improvements in treatment. The latter is a valuable protection against collapse and obviates aspiration pneumonia, which is the principal danger in operating for gangrenous hernia. Local anesthesia also permits the systematic, thorough evacuation of the contents of the afferent intestine. A long rubber tube is introduced, through which thin feces and gases are soon voided. When this ceases, a pint to a quart of water is allowed to flow into the intestine and this usually straightens it out so that more than three feet of the tube can be worked in. By flushing the intestine in this manner several times, assisted by light massage, incredible amounts of gases and feces are evacuated. The relief experienced by the patient compensates for all the inconveniences of consciousness during the operation. While this is being done the surgeon can be deciding as to the extent and intensity of the gangrenous process. Very recent cases of incarceration do not require such thorough cleansing. By these measures primary resection has become a much less serious operation than it used to be, and should be preferred for all cases of certain gangrene. Before they were introduced primary resection was done 15 times with 8 deaths, a mortality of 60 per cent. Since then it has been done 12 times with only 1 death, or 8 per cent. mortality. An artificial anus is an emergency makeshift. It should never be done except in case of severe collapse or of extensive phlegmons around the hernia. The latter, however, do not necessarily contraindicate primary resection. Reposition is not permissible if there is the slightest suspicion of a gangrenous tendency. Ten of the 18 deaths after reposition were from secondary necrosis of the intestines in the 20 or more cases in which there had been some doubt in regard to the vitality of the tissues, a mortality of 50 per cent. The loop was kept outside for observation in only 3 cases; one required resection later. The grooves where the forceps had been applied became necrotic, which never occurred in Petersen's experience when the intestine was replaced in the peritoneal cavity, and this suggests that the circulation may be unfavorably influenced by this procedure. Reposition was done 216 times, with a mortality of 11 per cent.; artificial anus 22 times, mortality 67 per cent., and primary resection 22 times, mortality 33 per cent. During and since 1898, an artificial anus was made in only 5 cases, with 5 deaths. The proportion of cases in which the operation was responsible for the fatal termination has been reduced from 33 to 12 per cent. during and since 1898. The article is concluded from Nos. 8 and 9 and contains the details of all the cases of primary resection.

Radical Operation for Hernia in Childhood. H. MAASS.—During the last five years Maass has operated on 33 children

for hernia, about 1 per cent. of all the cases he has had occasion to treat. Under 1 year of age a suitable truss will usually cure the hernia without operation. The tissues in childhood grow so rapidly that a plastic operation is unnecessary under 4, and was not required in any of his operations under 7 years of age. All have been permanently cured, many for more than two years. The child's serosa is so tender and transparent that it is not necessary to open the sac. This reduces the danger of infection. Maass merely pulls out the isolated sac, twists it several times and ligates it at the neck with silk. The wound is closed with iodoformed collodion, without other dressing. The sutures are removed the sixth day and the collodion renewed, which completes the operation. There is little or no general reaction and the local varies with the tender handling of the serosa. The most serious complications were in six cases of vaginal hernia. The principal danger is from the narcosis. In 4 cases there was extraperitoneal infection of the side of the scrotum, requiring drainage and tamponing. In one case the vas deferens or testicular vessels must have been injured, as necrosis of the testicle ensued, requiring its removal ten months afterward. An incarcerated inguinal hernia in a ten-months infant contained no intestine but the entire adnexa of that side, twisted and hemorrhagic. They were excised and the child soon recovered.

Sieve for Feces. MAX EINHORN.—An ordinary flour sieve is mounted on a tripod standard and fitted with a cover sloping inward to an aperture in the center. The feces are placed on the sieve, the apparatus placed under the faucet and the handle turned as the water flows through. The feces are thus rubbed smooth and rinsed clean in three to six minutes, with less trouble than with Boas's sieve devised for the purpose (illustrated in THE JOURNAL of Oct. 6, 1900, p. 913). The flour sieve can be used alone without further adaptation.

Jahrbuch f. Kinderheilkunde (Berlin), January.

Relations Between Scrofulosis and Tuberculosis. E. PONFICK.—From the etiologic point of view there is a pyogenic scrofulosis, a bacillogenic, and a third mixed variety. Ponfick considers it an open question whether the conception of scrofulosis shall be carried over into the new century or not. It has certainly outlived its meaning as a specific affection, but until a more appropriate term is invented, it still serves to represent that anomaly in the constitution which influences the course of infections and imparts a special character to them. This constitutional disposition depends on the congenital or acquired enhancement of certain features of the childish organism, on the one hand, and on the other, on a congenital, abnormal tendency in the development of certain cell-complexes. It may also depend—but very rarely—on a direct, intrauterine transmission of the pathogenic agent. Future researches will find a fruitful field in the congenital deviations from the normal constitution, which betray a condition of weakness in certain regions of cells.

Purulent Cerebrospinal Meningitis Caused by the Influenza Bacillus. J. LANGER.—After eleven days of severe, progressive and rebellious meningitis in a girl of 9, Langer resorted to lumbar puncture. About 8 c.c. of cerebrospinal fluid were withdrawn, which deposited a thick sediment of fibrin and polynuclear leucocytes, many containing influenza bacilli. The temperature dropped to normal immediately after the puncture, as at a crisis, and the patient rapidly recovered. He has noticed the same favorable result in a number of other cases of meningitis.

Wiener Klin. Rundschau, February 17 and 24.

The So-called Sclerotic Atrophy of the Hemispheres. E. BISCHOFF.—In the two cases reported, of progressive epilepsy with idiocy or dementia, the autopsy showed that one of the cerebral hemispheres was slightly smaller and harder than the other. In every other respect it appeared normal under the microscope and all tests. There was no atrophy nor sclerosis. In both patients and in others that have been reported, the course of the affection and the anatomie findings indicated an original encephalitis restricted to one hemisphere, but evenly generalized in this, and gradually retrogressing to complete anatomie restitution. It imposed, however, a premature limit

on the physiologic development of the hemisphere, and left a permanent disposition to epilepsy. The first indications were symptoms of an acute encephalitis between the second and sixth years of age, and paralysis, with or without fever, lasting for days or weeks. The hemiplegia may persist or subside. The subjects later become feeble-minded or idiotic in most cases, and epileptic seizures usually follow after months or years, or may coincide with the first manifestations. In a few cases there was almost complete restitution in the nervous and psychic domain. In Muhr's case there was no epilepsy, merely slight hemiparesis and moral weakness, terminating in insanity. Kast's patient showed no signs of mental deficiency. In Bischoff's first case, and also in one described by Bourneville, and in another by Ollier, there were no marked paralytic symptoms. In his second case, on the other hand, the symptoms deceptively indicated a focal affection in the region of the cortical center for the arm. Spastic paresis and hyperesthesia were noted over the entire left side, explainable by defective functioning of the abnormally small hemisphere. Disturbances of this nature must entail the same symptoms as a diffuse partial interruption of the nerve fibers passing from the peripheral to the central masses of gray matter, as for instance by a tumor. These cases show that the central nervous system requires not only normal brain substance, but also a certain quantitative minimum for its normal functioning. The anatomical findings in these cases are similar to those in Struempell's pseudo-sclerosis, but the clinical course is entirely different.

February 24.

Cure of Lymphangitis with Massage. BATSCHE.—The advantages of massage in reducing inflammation, aborting phlegmons, and curing lymphangitis and lymphadenitis, have long been proclaimed by Batsch. He now relates a striking personal experience with a very severe lymphangitis, the result of infection from a cut on his finger inflicted while operating on a rectal fistula, and further infected at a five-hour medico-legal autopsy. In less than two hours after the infection had traversed the barrier of the first obstruction in the finer lymphatics, the lymph vessels in the upper arm were engorged with bacteria. He made an opening above and applied the galvanocautery to the wound. The arm and axilla were energetically massaged for one-half to one hour, two or three times a day, lubricating with gray ointment. The massage deprived the bacteria of the quiet necessary for their development, and obviated the danger of obstruction of the lymph vessels with subsequent destruction of tissue. It summoned the leucocytes with their bactericidal enzymes to the region, and distributed the bacteria throughout the circulation so that the entire army of phagocytes could act upon them. The threatening symptoms subsided without abscess formation, in four to five days, but he continued the massage for three weeks, once or twice a day, supplemented by an abundance of nourishing food to meet the extra demands on the blood-forming organs. The fever noticed after the first massage was probably from a chemical reaction due to the dissolving of the bacteria by the alexins secreted by the leucocytes.

Wiener Klin. Wochenschrift, February 28.

Experiences with Cinnamic Acid in the Treatment of Tuberculosis. POLLAK AND HODLMOESER.—Pollak reports that in many cases treatment with cinnamic acid, according to Landercer's directions, had an unmistakably favorable effect on the entire course of the disease. It may prove a valuable aid in the treatment of tuberculosis in certain cases, he concludes, but, as a general thing, sanitarium treatment alone is fully as effective. He reports 48 cases of pulmonary tuberculosis thus treated. The results were that 66.7 per cent. were essentially improved, including 12.5 per cent. clinical recoveries, and 20.8 per cent. improved. No benefit was derived in 5 cases of intestinal tuberculosis. Two out of 9 cases of laryngeal tuberculosis were completely cured after the failure of other methods. Another was much improved by a combination of cinnamic and lactic acids. One out-patient with pulmonary tuberculosis was clinically cured by the treatment; another old chronic case, under the same conditions, was not influenced.

he remainder of the patients were inmates of the Alland sanatorium. Hodhmoeser reports 22.2 per cent. of essential improvement in 18 patients with pulmonary tuberculosis, including 7 out-patients. Kraemer has collected 186 cases treated by Landerer's method. Of this number 81 were under treatment for more than four weeks, with positive results in 72.8 per cent. and negative in 27.2 per cent. Hodhmoeser agrees with Ewald that the results to date of treatment with cinchonic acid encourage further trials.

Ziegler's Beitrage z. Allg. Path. (Jena), XXIX, 1.

Permeability of Granulating Tissue for Pathogenic Micro-organisms. A. JUERGELUENAS.—An aseptic, uninjured granulating surface proved a complete mechanical protection against penetration of bacteria in most of the tests reported. Bacteria placed on the granulating surface were not modified in the case of animals susceptible to infection, but on immune animals the bacteria were much altered by the secretions, and killed in the course of six hours. The animals who had not experienced the slightest harm from anthrax bacilli placed on the granulating surface, rapidly succumbed when they were placed on a fresh wound or injected under the skin. The character of the dressings has no influence on the course of the infection, but the healing processes are less rapid under an air-tight dressing.

Retroperitoneal Hernia. C. ABÉE.—At the autopsy on a man of 53, who had been received moribund at the hospital, a large hydronephrosis was found, coinciding with an enormous, complete retroperitoneal hernia. Eight of the fifteen similar cases that have been reported were cured by surgical intervention; the prognosis is better the earlier the diagnosis. In this case the hernia protruded through Treitz's vascular ring, composed of the aorta, left colic artery and inferior mesenteric vein.

Zeitschrift f. Hyg. u. Infect. (Leipsic), XXXVI, 1.

Artificial Production of Immunizing and Curing Substance. R. EMMERICH AND O. LÖW.—By the artificial cultivation of bacteria on a large scale, Emmerich and Löw have reaped an extensive harvest of the specific bacteriolytic enzyme which is produced when bacteria are developing on a suitable culture-medium or in the animal organism. The combination of this enzyme with the albumin of the blood or organs, produces the actual, specific immunizing and curative substance, the immun-proteid, as it is called. They have succeeded in manufacturing this substance on a large scale for swine plague and anthrax. The immunizing and curative results obtained with it have been so successful that they proclaim this agricultural method of obtaining the specific remedy destined to supplant serotherapy for infectious diseases. The medium must require weeks and months, instead of days, for the bacteria to develop in it, in order that the harvest of enzymes reaped may be as abundant as possible. The mixture found most satisfactory is a combination of asparagin, .8 gm.; pepton sec., 10 gm.; potassium-sodium tartrate, .8 gm.; sodium bicarbonate, 1 to 2 gm.; potassium biphosphate, 2 gm.; magnesium sulphate, .15 gm.; sodium chlorid, 3 gm.; bouillon, 100 gm., and aq. dest., 1000 c.c. The bacilli of swine plague grow slowly on this medium and produce the enzyme, "erysipelas" in abundance. The culture-medium for the bacillus pyocyaneus is nearly the same, omitting the peptone, bicarbonate, tartrate and bouillon and adding sodium acetate. They state that the "pyocyanase" thus derived is a certain cure for anthrax, destroys diphtheria and typhoid bacilli, and it is possible to cure an otherwise fatal intoxication in guinea-pigs by repeated subcutaneous injections of this pyocyanase solution. The media are sown in pint or quart vessels and kept at 25 C., and later at 30 to 37 C. After four or five weeks they are shaken several times a day, and then, after a day's rest, the fluid is aspirated and filtered through a Berkefeld filter. The albumin is added, in the form of fresh beef blood or ground spleens, with .3 per cent. sodium oxalate and .4 per cent. caustic potassium or .3 per cent. potassium carbonate. The mixture is kept at 37 C. for six to eight hours. The finished immun-proteid thus obtained is a highly molecular, trypsin-proof albuminoid. It is precipitated with ten times the amount of absolute alcohol and made into a

powder. The enzyme is also a powder and has been kept for two years without losing any of its properties. The particles of spleen show marked agglutination at first, as in the Widal test.

Gazetta degli Ospedali (Milan), February 24.

Primary Syphilitic Pleurisy. N. DE DOMINICIS.—A syphilitic origin was retrospectively evident in seven cases of primary pleurisy in this writer's experience during the last five years. It was distinguished by its chronic course, commencing with extensive effusion and becoming later extremely hyperplastic, by the absence of high or continuous fever and of acute pains, although there were dull, diffuse pains and progressive dyspnea. This chronic phlogosis may last for years, entailing progressive cachexia, although never severe as in case of a malignant tumor. The affection is rebellious to all ordinary measures, but promptly subsides under mercurial treatment. One of his patients refused to acknowledge syphilitic infection and rejected specific treatment, but the slowly progressive cachexia and dyspnea for three years finally compelled him to yield, and ten injections of succinamid of mercury produced marked improvement, while fifty more cured him completely.

Talma's Operation for Ascites. T. POZZAN.—Ascites accompanying hepatic cirrhosis has been treated, by Talma, by the production of peritoneal adhesions and the fixation of the omentum to the abdominal wall, all for the purpose of establishing collateral circulation. This procedure has been employed in 18 cases by various surgeons, with 5 deaths, 7 patients cured of the ascites, and 6 unmodified by the intervention. Death occurred as the result of shock, peritonitis, interstitial nephritis or marasmus. All the patients operated on were affected with atrophic cirrhosis, and in all the successful cases the general health was improved and the spleen reduced in size, besides the abolition of the ascites. The operation is especially indicated for young subjects in the early stages of the affection, before the liver cells have lost their vitality. It is contraindicated in case of icterus, urobilinuria, acholia or hypocholia. It is by no means a radical cure of atrophic cirrhosis of the liver, but its harmlessness and the successes obtained in certain cases with it justify its more general adoption. A personal case is described, operated on in an advanced, chronic stage of the affection. Improvement was apparent for a time, but the affection continued its course till the patient's death, eleven months later.

Cirugia Contemporanea (Mexico), 1, 1.

Spinal Cocainization. J. VILLARREAL.—Four cases are cited in which gynecologic operations were performed under the influence of spinal injections of .75 to 1 c.c. of a 2 per cent. solution of cocaine. In all but one case the patient complained of pain on traction of the peritoneum, and the anesthesia was completed with a small amount of chloroform. Villarreal suggests that the injection of cocaine might be fully as effective for operations on the lower limbs, if made in the cauda equina, while the danger of injuring the cord would be avoided.

Books Received.

Acknowledgement of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review as dictated by their merits, or in the interest of our readers.

A SYSTEM OF PRACTICAL THERAPEUTICS. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Second Edition. Revised and Largely Rewritten. Vol. II. Fevers—Diseases of the Respiratory and Circulatory Systems—Diseases of the Digestive System and Kidneys—Nervous Diseases and Diseases of the Skin. With Illustrations. Cloth. Pp. 926. Price, \$5.00 net. Philadelphia and New York: Lea Brothers & Co. 1901.

A TREATISE ON THE DISEASES OF THE EAR, Including the Anatomy and Physiology of the Organ. Together with the Treatment of the Affections of the Nose and Pharynx Which Conduce to Aural Disease. By T. Mark Hovell, F.R.C.S. Edin., M.R.C.S. Eng., Aural Surgeon to the London Hospital. Second Edition. Cloth. Pp. 808. Price, \$5.50. Philadelphia: P. Blakiston's Son & Co. 1901.

HYPNOTISM. A Complete System of Method, Application and Use, Prepared for the Self-Instruction of the Medical Profession. By L. W. De Laurence, Instructor at the School of Hypnotism and

Suggestive Therapeutics, Pittsburg. Illustrated. Cloth. Pp. 256. Price, \$1.50. Chicago: The Henneberry Co.

TRANSACTIONS OF THE IOWA STATE MEDICAL SOCIETY. Volume XVIII. Forty-ninth Annual Session, 1900. Cloth. Pp. 442. Waterloo, Ia.: Geo. C. Hubbs.

THE MEDICAL MISSIONARY SOCIETY IN CHINA. Annual Report for the Year 1900. Paper. Pp. 33.

PROCEEDINGS OF THE PATHOLOGICAL SOCIETY OF PHILADELPHIA. March, 1901. Paper. Published by the Society. 1901.

ORAL SEPSIS as a Cause of "Septic Gastritis," "Toxic Neuritis," and Other Septic Conditions. With Illustrative Cases. By William Hunter, M.D., F.R.C.P., Senior Assistant Physician, the London Fever Hospital. Cloth. Pp. 30. Price, 3/6. London, Paris, New York and Melbourne: Cassell & Co., Ltd. 1901.

REPORT OF THE MINISTER OF AGRICULTURE FOR THE DOMINION OF CANADA for the Year Ended October 31, 1900. Printed by order of Parliament. Paper. Pp. 131. Price, 15 cents. Ottawa: S. E. Dawson. 1901.

SIXTH BIENNIAL REPORT OF THE BOARD OF TRUSTEES OF THE DELAWARE STATE HOSPITAL at Farnhurst. December, 1900. Paper. Pp. 109. Wilmington, Del.: Sunday Star Print. 1900.

ANNUAL REPORT OF THE DEPARTMENT OF HEALTH, City of Niagara Falls, N. Y., for the Year 1900. Submitted by James H. Meehan, M.D., Health Officer. January, 1901. Paper. Niagara Falls, N. Y.: Cataract Journal Co. 1901.

CYCLIC ALBUMINURIA. By G. A. Sutherland, M.D., Physician to Paddington Green Children's Hospital. Paper. Pp. 63. Price, 2s 6d net. London: Clinical Journal Office. 1900.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, War Department, Washington, D. C., March 7 to 13, 1901, inclusive:

Charles Anderson, captain and asst.-surgeon, Vols., recently appointed, to proceed from Fort Brown, Tex., to San Francisco, Cal., en route for assignment in the Division of the Philippines.

Robert W. Andrews, lieutenant and asst.-surgeon, 46th Infantry Vols., honorably discharged from the service of the United States, to take effect March 17, 1901.

John E. Bingham, acting asst.-surgeon, now at Walla Walla, Wash., to duty at Fort Walla Walla, relieving Major Walter Whitney, surgeon, Vols.

Joseph, K. Combe, acting asst.-surgeon, now at Brownsville, Tex., to duty at Fort Brown, Tex.

Frederick A. W. Coon, acting asst.-surgeon, leave of absence granted.

William H. Corbusier, major and surgeon, U. S. Army, member of a board at Governor's Island, N. Y., to examine officers of the army for promotion.

Frederick W. Cox, captain and asst.-surgeon, Vols., recently appointed, from Vermillion, S. D., to San Francisco, Cal., en route for assignment in the Division of the Philippines.

J. B. Cutter, acting asst.-surgeon, leave of absence from the Department of California extended.

J. Ryan Devereux, acting asst.-surgeon, member of a board at Washington Barracks, D. C., to examine officers of the army for promotion.

Frank A. E. Disney, captain and asst.-surgeon, Vols., recently appointed, to proceed from Chicago, Ill., to San Francisco, Cal., en route to Manila, P. I., and subsequent assignment in the Division of the Philippines.

Gerry S. Driver, captain and asst.-surgeon, Vols., recently appointed to proceed from Chicago, Ill., to San Francisco, Cal., en route for assignment in the Division of the Philippines.

Richard M. Fletcher, Jr., acting asst.-surgeon, leave of absence from the Department of Dakota extended.

John S. Fogg, acting asst.-surgeon, leave of absence granted.

Ernest W. Fowler, acting asst.-surgeon, from New York City, N. Y., to duty at Fort Preble, Me.

Francis A. Halliday, acting asst.-surgeon, member of a board at Fort McPherson, Ga., to examine officers of the army for promotion.

Harry M. Hallock, captain and asst.-surgeon, U. S. Army, member of a promotion board at Fort McPherson, Ga.

Paul C. Hatton, lieutenant and asst.-surgeon, U. S. Army, recently appointed, to duty at Fort Thomas, Ky.

James S. Kennedy, captain and asst.-surgeon, Vols., recently appointed, to proceed from Fort Sam Houston, Tex., to San Francisco, Cal., en route to Manila, P. I., for assignment in the Division of the Philippines.

Frank P. Kenyon, captain and asst.-surgeon, Vols., recently appointed, to proceed from Joplin, Mo., to San Francisco, Cal., en route for duty in the Division of the Philippines.

John S. Knip, major and surgeon, Vols., from the Division of the Philippines to duty at Fort Hancock, N. J.

Harry A. Littlefield, captain and asst.-surgeon, Vols., recently appointed, to proceed from Portland, Oregon, to San Francisco, Cal., en route for duty in the Division of the Philippines.

James C. Merrill, major and surgeon, U. S. Army, member of a board at Washington, D. C., to examine officers of the army for promotion.

George H. Penrose, major and surgeon, Vols., sick leave from the Department of California extended.

Arlington Pond, major and surgeon, Vols., recently appointed, to duty at Fort Preble, Me.; subsequent orders relieve him from this duty, grant him leave of absence, on the expiration of which he is directed to proceed to San Francisco, Cal., en route for assignment in the Division of the Philippines.

Samuel O. L. Potter, major and surgeon, Vols., recently appointed and now in San Francisco, Cal., to report for transportation to Manila, P. I., and for assignment in the Division of the Philippines.

Dwight B. Taylor, captain and asst.-surgeon, Vols., recently appointed, to proceed from Columbus Barracks, Ohio, to San Fran-

cisco, Cal., en route to Manila, P. I., for assignment in the Division of the Philippines.

Ira A. Shimer, lieutenant and asst.-surgeon, U. S. Army, former orders relieving him from the Department of Cuba and assigning him to duty at Fort Columbus, N. Y., revoked.

Justus M. Wheat, acting asst.-surgeon, leave of absence granted.

Ernest H. Wheeler, captain and asst.-surgeon, Vols., recently appointed, to proceed from Rockland, Me., to San Francisco, Cal., en route for assignment in the Division of the Philippines.

Walter Whitney, major and surgeon, Vols., recently appointed, to duty at Fort Walla Walla, Wash.

Allie W. Williams, lieutenant and asst.-surgeon, U. S. Army, member of a board at Governor's Island, N. Y., to examine officers of the army for promotion.

Charles K. Winne, major and surgeon, U. S. Army, from Fort Porter, N. Y., to Washington, D. C., for consultation with the surgeon-general on official business pertaining to the exhibit of the medical department of the army at the Pan-American Exposition at Buffalo, N. Y., returning thereafter to his proper station.

Leonard Wood, brigadier general, U. S. Army, resignation of his commission as captain and asst. surgeon, U. S. Army, accepted by the President, to take effect March 2, 1901, the date of his acceptance of his commission as brigadier-general, U. S. Army.

Robert H. Zauner, major and surgeon, Vols., from Fort Du Pont, Del., to San Francisco, Cal., en route to Manila, P. I., for duty in the Division of the Philippines.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ended March 16, 1901:

Surgeon O. Diehl, ordered to the *Indiana*, March 15.

Asst.-Surgeon R. K. McClannahan, detached from the *Indiana*, and ordered home to wait orders for sea duty.

Asst.-Surgeon O. M. Eakins, resignation accepted to take effect April 15, 1901.

Pharmacist H. T. Morse, detached from the Boston Navy Yard, and ordered to the *Michigan*.

Pharmacist I. N. Hurd, detached from the *Wabash* and ordered to the Boston Navy Yard.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended March 16, 1901:

SMALLPOX—UNITED STATES.

Alabama: Mobile, March 2-9, 1 death.
California: Feb. 24-March 2, Los Angeles, 5 cases; Oakland, 1 case; Sacramento, 1 case.
Illinois: Chicago, March 2-9, 7 cases.
Indiana: Evansville, Feb. 24-March 9, 2 cases.
Kansas: Wichita, March 2-9, 23 cases.
Kentucky: Lexington, March 2-9, 1 case.
Louisiana: New Orleans, March 2-9, 14 cases, 3 deaths.
Massachusetts: March 2-9, Lowell, 1 case; Somerville, 1 case.
Michigan: March 2-9, Detroit, 1 case; Grand Rapids, 1 case.
Minnesota: Minneapolis, Feb. 24-March 2, 4 cases; Winona, March 2-9, 2 cases.
Nebraska: South Omaha, Dec. 28-Feb. 5, 5 cases.
New Hampshire: Manchester, March 2-9, 21 cases.
New York: New York, March 2-9, 54 cases, 10 deaths.
Ohio: Cincinnati, March 2-9, 2 cases; Cleveland, March 2-9, 52 cases; Dayton, Nov. 2-9, 1 case.
Oregon: Portland, Feb. 1-28, 2 cases.
Pennsylvania: March 2-9, Erie, 2 cases; Philadelphia, 1 case; Steelton, 1 case.
Tennessee: Jackson, Jan. 1-31, 20 cases, 2 deaths; Memphis, March 2-9, 10 cases; Nashville, March 2-9, 11 cases; San Antonio, Feb. 1-28, 16 cases.
Utah: Ogden, March 2-9, 18 cases.
Washington: Tacoma, Feb. 25, 6 cases.
West Virginia: Huntington, March 2-9, 11 cases; Wheeling, Feb. 24-March 9, 4 cases.
Wisconsin: Milwaukee, March 2-9, 2 cases.

SMALLPOX—FOREIGN AND INSULAR.

Austria: Prague, Feb. 9-23, 14 cases; Vienna, Feb. 16, 23, 1 death.
Belgium: Antwerp, Feb. 9-23, 2 cases.
Canada: Ontario, Sudbury, Feb. 22, prevalent.
Ceylon: Jan. 26-Feb. 2, 1 case, 1 death.
Egypt: Cairo, Jan. 28-Feb. 4, 2 cases.
Great Britain: England—London, Feb. 16-23, 1 case; Newcastle on Tyne, Feb. 16-23, 1 case. Scotland—Dundee, Feb. 16-23, 2 cases; Edinburgh, Feb. 16-23, 1 case; Glasgow, Feb. 22-March 1, 13 deaths.
India: Bombay, Jan. 29-Feb. 12, 6 deaths; Calcutta, Jan. 26-Feb. 9, 235 deaths; Karachi, Jan. 27-Feb. 10, 15 cases, 7 deaths; Madras, Jan. 26-Feb. 8, 8 deaths.
Italy: Naples, Feb. 20, present.
Malta: Feb. 16-28, 1 case.
Mexico: Yucatan, Progreso, Feb. 19-28, 16 cases, 4 deaths.
Philippines: Manila, Jan. 5-19, 4 cases.
Russia: Moscow, Feb. 2-16, 10 cases, 1 death; Odessa, Feb. 8-23, 26 cases 7 deaths; St. Petersburg, Feb. 8-16, 7 cases, 1 death; Warsaw, Feb. 8-16, 6 deaths.

YELLOW FEVER.

Colombia: Jan. 7, Honda, epidemic; Guaduas, epidemic.
Cuba: Cienfuegos, March 4, 1 death; Havana, Feb. 25-March 4, 2 cases, 1 death.
Mexico: Vera Cruz: Feb. 16-23, 2 cases.

CHOLERA.

India: Bombay, Jan. 29-Feb. 12, 12 deaths; Calcutta, Jan. 26-Feb. 9, 33 deaths; Madras, Jan. 26-Feb. 8, 22 deaths.
Strait Settlements: Singapore, Jan. 12-26, 35 deaths.

PLAGUE—FOREIGN AND INSULAR.

Africa: Cape Town, Feb. 16-26, 44 cases, 6 deaths.
China: Hongkong, Jan. 19-26, 2 cases, 2 deaths.
India: Bombay, Jan. 29-Feb. 12, 1711 deaths; Calcutta, Jan. 26-Feb. 9, 176 deaths.
Philippines: Manila, Jan. 5-19, 2 deaths.

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Original Articles.

CHLORALOSE.*

JAMES TYSON, M.D.

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In 1896 I published¹ a "Clinical Note on the Action of Chloralose," referring to the sources of my information about it and detailing some clinical experiences. I referred to Dr. George William Balfour's favorable allusion to it in his book on the "Senile Heart," and to an unknown author who said of it: "Chloralose has all the advantages of chloral without its disadvantages." Another writer especially commended it in the treatment of insomnia of the insane. I also mentioned that it was so named by Richet and Hanriot, of Paris, and is said to be a combination of chloral and glucose—technically anhydro-glucose-chloral, chemically $C_8H_{11}Cl_3O_6$. It is described technically as a "hypnotic yet excitant of the spinal cord." Virgil Coblentz, in his "Newer Remedies," says it forms fine colorless needles, which melt at 180 to 186 C.—363.2 to 366.8 F.—soluble in 170 parts of cold water, readily so in alcohol. I have felt that the communication scarcely received the attention which the importance of the subject demanded, and I take advantage of the opportunity to bring it before the Section on Materia Medica, Pharmacy and Therapeutics, in the following short paper, in which I repeat much that I published before, but also add some additional observations, hoping thus to secure wider publication.

REPORT OF CASES.

CASE 1.—This was one of most obstinate insomnia, for which I had ineffectually used sulphonal, chloralamid, trional, and paraldehyde. I ordered for him 10 grains of chloralose at bedtime. The effect seemed magical. He went promptly to sleep and slept soundly until morning, awakening much refreshed, and without any of the unpleasant feeling so often consequent on remedies of this class. The dose was repeated the next night and the next with like effect. On the morning of the fourth day the patient informed me that he had gone through some strange performance during the night: that he had unconsciously removed all his clothing and found himself stark naked in the morning. This experience did not impress us seriously, and the drug was repeated the following night. During the night, his wife, who occupied an adjacent room, happened to enter his apartment and found him sitting on the edge of the bed, again entirely unclothed. She succeeded in getting him into bed, apparently without arousing him, and he awoke in the morning thoroughly ignorant of what had happened during the night.

CASE 2.—A hale and hearty medical gentleman of 80 years, but a confirmed insomniac, had tried every known remedy for sleeplessness, except morphin, and whenever a new one arose, his friends were apt to call his attention to it. Thus he learned of chloralose. It was recommended to him in 5-grain doses to be taken in a cachet. He had taken it two nights in succession with the most charming effect, and was delighted with it. The day preceding the next night was stormy, and he was not able to take his usual exercise out of doors. In the evening he ate rather too much of some favorite food, and hence had a little indigestion. At bedtime he took his 5-grain cachet of chloralose, but it produced no effect. Twelve o'clock came, but no sleep. He then took half of another cachet, which was also without effect. In a couple of hours he took the remaining half of the cachet. In the morning his wife found him asleep, breathing stertorously, and could not arouse him. She became alarmed and wired for her son. A little later he awoke, feeling very well and thoroughly unconscious of anything unnatural. His wife thought it best, however, to keep him in bed until we arrived, when we found him in his usual health and entirely unaware that anything unusual had occurred.

CASE 3.—This was that of another physician suffering with stubborn insomnia. Nothing but morphin could make him sleep. It was just after I had the first happy experience with the drug that this occurred, and I advised chloralose in 10-grain doses, recommending it confidently. It was some days before I heard from him, when early one morning in June, the physician's son called me up and begged me to come at once, saying that the medicine I had given his father had not agreed with him. On the way I learned that a dose of 10 grains of chloralose had been taken, and as there was no effect, the doctor, on his own responsibility, repeated the dose at the end of an hour. I had not advised a second dose. In a short time he fell asleep, and a little later began to be restless, and, still later, unmanageably violent. The family physician was called and it required all his strength to keep his friend and patient in bed. The struggle lasted from soon after midnight until I was sent for at daylight. During this time the patient had evacuated his bowels and bladder involuntarily. By the time I arrived he had fallen into a quiet sleep from which he was easily aroused. He recognized me at once, spoke intelligently and wondered why I had been sent for.

These cases were published in my first paper. To them I now add the following:

CASE 4.—I was asked by my friend, Dr. Githens, to see with him Master K., aged 9, who, succeeding an attack of influenza, had fallen into a state of great nervousness, which, perhaps, may be truly called actively choreic, that is, almost every voluntary muscle of the body appeared to be in motion—his hands, his legs, his head and neck were in constant motion. He would turn

* Read by title in the Section of Materia Medica, Pharmacy and Therapeutics, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.
1. University Med. Mag., Dec., 1896.

from one side to another, rest there a few seconds, then turn on his face, and then around to his back, then on his face again, then would draw up his legs, extend them again, and so on without cessation. It had commenced twenty-four hours earlier, and though interrupted during a couple of hours of sleep, as soon as he awoke the motion again set in. All the simpler anodynes, except morphin, had been employed without effect. I advised 2 grains of choralose every hour. The very first dose quieted him, or at least diminished decidedly the activity of the movements. Three more doses were given, by which time he became perfectly quiet, went off to sleep and awoke completely recovered.

CASE 5.—R. W. was completely unnerved by the death of his wife, after a long and trying illness. Sleep was an impossibility, and the ordinary remedies were ineffectual. Five-grain doses of choralose were ordered, and one at night at bedtime produced a quieting effect.

CASE 6.—F. G., aged 40, was suffering from phthisis attended by a peculiar clonic and tonic spasm. He slept very little on account of the spasms, which were excited by the slightest touch. No hypnotic had any effect. Five-grain doses of chloralose were used, the effect lasting from fifteen to sixteen hours, and making him drowsy for several days.

CASE 7.—D. S., aged 49, was neurasthenic, with cardiac and gastric symptoms. Sleeplessness was very marked. Trional and sulphonal were of little use. Bromids and chloralose were good. He slept soundly after taking the latter, but often dreamed and started up suddenly in his sleep after taking the former.

CASE 8.—F. H. was a surgical patient, and a poor sleeper. Five grains of chloralose were given, and followed by delirium, violent spasms, pallor, cold clammy sweat, and an intermittent, weak pulse, while the temperature fell 1 degree. He had several attacks during the night, but slept soundly afterward. He remembered bad dreams, but nothing else. This was the only case in which the symptoms assumed at all an alarming character, and, as the report was made only by nurses and anxious relatives, it must be taken *cum grano salis*. The ultimate effect was sound sleep, and there were no unpleasant after-effects.

CASE 9.—This case was that of a patient admitted to the hospital of the University of Pennsylvania, for the morphin habit. The morphin had been gradually reduced and finally withdrawn. Insomnia remained, however, a prominent symptom. Five grains were administered the first night, without effect. On the second night, 5 grains were given and, being without effect, 5 grains additional at the end of two hours. The patient then fell asleep, and had a comfortable night. The next night the same course was pursued, with less satisfactory results, though the patient slept some. For some reason no further trial was made in this case.

CONCLUSIONS.

The conclusions which I think are justified from the above cases are the following: 1. Chloralose is a prompt and safe hypnotic, more prompt in its action than any drug except morphin. 2. From a large experience with chloralose, I am satisfied that it is more prompt in its action than chloral and efficient in much smaller doses than the latter drug. 3. Its effects occasionally include involuntary actions, which, while surprising and even fantastic in some of their exhibitions, are, nevertheless, harmless. 4. The drug needs to be further studied. 5. The maximum dose is 5 grains in a capsule, which may have to be repeated in not less than an hour;

it should be tried also in smaller doses, because it is reasonable to believe that the unfavorable effects may be thus averted while the hypnotic action may be continued.

POST-OPERATIVE NERVOUS PHENOMENA OR ARTIFICIAL MENOPAUSE.*

JOSEPH PRICE, M.D.

PHILADELPHIA.

The general practitioner has a world of patience with the nervous phenomena incident to the normal menopause, but little or none with the nervous phenomena of a precipitated menopause or that following the removal of the uterus or appendages at an early age. They have all patience with the hot and cold sensations, spinal and cerebral disturbances, local and general troubles so common at both normal and precipitated menopause. If the patients are active and pay but little attention to the uncomfortable sensations associated with the normal change, but little is done or advised.

If the change is stormy, patients are commonly freely medicated, often favoring the drug habit—acute and chronic inebriety—and more patients are lodged temporarily or permanently in asylums or rest-cures for the management of the normal menopause phenomena, than that from an artificial menopause.

Physicians commonly encourage their patients to persevere with treatment, saying that they have a long period of comfort and fine health before them when the change is well established.

Healthy environs, a strictly physiological life, favored by a non-stimulating and nutritious diet—avoidance of condiments—and an active out-of-door life, free from emotional disturbances, favor the best results.

The complaint is made by the general practitioners, that patients are returned to them after operation for the removal of bilateral tubal and ovarian disease or the extirpation of a diseased uterus, with peculiar nervous disturbances, are difficult to manage, and quite commonly carry on a correspondence with the operator about certain phenomena that do not disturb him in a normal menopause.

Unfortunately, but few of these patients are kept under treatment sufficiently long for permanent results after the operation. The operations are urged by all interested because the patients are acutely or chronically ill—suffering, anemic, and emaciated—many of them have lost thirty or forty pounds, locomotion is distressing or impossible, and relief from the operation is commonly rapid and pleasing. If every care is exercised in choice of diet, systematic rest and massage, they commonly recover the loss in a few months. The digestion improves, renal and vesical disturbances vanish, and alarming mental disturbances subside.

Unfortunately, these sufferers are systematically treated only for a period of three or four weeks, then they are hurriedly returned, sometimes to their uncomfortable homes, where everything is unfavorable to a favorable convalescence. Many operators favor an early rising and an early discharge, and boast of sending their patients home in two or three weeks. The practice favors post-operative sequelæ and a tedious convalescence. By so doing they lose the opportunity of demonstrating what the rest-cure or treatment will do for a class of patients that need it most. Married

*Presented to the Section on Physiology and Dietetics, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

women are expected, by their husbands and friends, to return to their homes and resume domestic duties; rarely are they sent to health resorts.

Nothing has been more pleasing in my own work than the general improvement of feeble and emaciated patients after complicated sections: they eat and sleep well, are bright and cheerful, all their uncomfortable symptoms vanish, they recover flesh and color rapidly, and are always grateful for the systematic rest and rubbing they receive.

Every nurse is taught massage by a professional teacher, and practices it throughout her stay in the hospital. Every charity patient receives precisely the same care. Systematic rubbing and massage, and the diet-kitchens and training of hospitals have done much to rapidly advance the professional nurse—as yet the diet-kitchen in hospitals is not the special department it should be. Sick people commonly need something better in the shape of a cook than they have in their own kitchens. It is natural that we should look for it in our nurses. If the same care were taken in the preparation of the diet in hospitals, that is required in the preparation for the operations and all dressings, results would all improve. Many of the trays you see passed about the hospitals should go directly to a swinery. Many of the supervising nurses and matrons know little about diet, and some do not know the simple ingredients of a loaf of bread.

In my specialty for speedy, good results, I would urge prolonged rest-treatment after serious operations. I am satisfied that thrice better results can be obtained by turning the patient over, three or four days after the operation, to a good clinician—one who is interested in diet and systematic rest-treatment.

The time and opportunity is commonly lost for the correction of many disturbances amenable to early therapeutics. This Section should correct greatly the common, careless practices of specialists and the medical and surgical departments of hospitals and nurses' schools.

At the normal menopause sufferers commonly feel that the phenomenon is naturally a part of their experience, and accept all sorts of counsel, neglecting serious troubles until it is too late for good results, or they are overtreated or overmedicated into distressing drug habits. In the premature menopause the clinician is annoyed that the phenomenon should occur—he demands freedom from everything, and cures.

SYPHILIS AS A NON-VEREREAL DISEASE.

WITH A PLEA FOR THE LEGAL CONTROL OF SYPHILIS.*

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Physician to the New York Skin and Cancer Hospital; Consulting Physician to the New York Hospital, etc.

NEW YORK CITY.

Syphilis is a great disease, which has ravished the world for centuries, and has counted its victims by tens and hundreds of thousands. It is a contagious disease, always communicated from one individual to another by direct or indirect means—or transmitted through inheritance—and yet, to-day, there is scarcely any restraint placed upon its continued spread by individual propagation, over the whole world.

Advancing civilization has recognized one after another of the contagious or infectious maladies which afflict mankind, and the arm of the law has come in to

protect the defenseless, and we no longer have the wholesale sweep of epidemics which occurred before health boards were organized and given control of these matters. This is often accomplished at the sacrifice of the comfort and, it would often seem, the rights of individuals; but the principle of the "greatest good for the greatest number" prevails, and those who unhappily may become afflicted with any of the maladies coming under the jurisdiction of the health boards are often obliged to sacrifice all personal interest for the benefit of those around them.

Why is it that syphilis, which has always been recognized as an intensely contagious disease, in certain of its stages and manifestations, has, to such a great extent, been allowed to pursue its unbridled course, attacking alike the innocent, as well as those guilty of sexual transgression? Why is it that thousands, yes hundreds of thousands of innocent and trusting wives, and helpless and blameless children have had to suffer for the sins of others? Why is it that syphilis has thus been allowed to spread its ravages unchecked by the hand of advancing science and broad philanthropy?

I need not answer these questions, for I am convinced that all of my hearers know full well the reason. But, thanks to the light of accumulated knowledge and experience, the shame which has too often checked discussions of the subject, and hampered the efforts of many who, from time to time, in various countries, have tried to stem the tide of this disease, need no longer have an influence. I hope to give you facts and show you reasons which will make every one present feel and know that the disease (syphilis) should and must now have a check put upon its ravages—and my plea will rest, as the title of my paper indicates, upon the vast "army of innocents" who plead for protection from a disease which may attack them when least expected, and may often extend its malign effects through years, and even to succeeding generations.

It is not a little interesting to note that when the disease burst out with such frightful severity in the years 1494 and 1495, at a date closely following the discovery of America, and about the time of the invasion of Italy by Charles VIII of France, it was not by any means considered as a venereal affection, but spread so greatly among families and in neighborhoods that it was regarded as a form of plague; many laws were therefore enacted for the protection of the community against what was considered as a new disease which had appeared among them. Also later, even in the sixteenth and seventeenth centuries, we find laws regarding those afflicted with syphilis, prohibiting them from the use of public baths, and even preventing them from coming into general assemblies, etc., and some of the measures taken to hinder the spread of the disease were harsh in the extreme.

I will not attempt, in any way, to go into the legal aspect of the case, either historically or practically, for time and space would fail me on an occasion like this; legal action will follow when once the public is convinced that there is a danger which can be thus avoided.

Mention was made of legal restrictions of the disease exercised long ago, in order to call attention to the fact that when syphilis was regarded as a general malady, not necessarily connected with the sexual act, there was great attention paid to its control; but now, in later years, since it has been regarded more and more as a venereal disease, it has been ignored and left to pursue its destructive way unchecked by sanitary control. The

*Presented to the Section on Cutaneous Medicine and Surgery, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

height of the folly culminated in the silly agitation in England which terminated in 1881, with the repeal of the "Contagious Diseases Acts," which had wrought such beneficent results from 1864 till 1881, as English doctors at that time testified, and as every medical man knows.

As already intimated, the pendulum of knowledge has swung the other way, and during the last twenty-five years or so, a mass of facts has been steadily accumulating, which again calls attention to the aspect of the innocent infection by syphilis, and which demands that the thoughts of those who make laws for the protection of the public shall be again turned to the disease. The data referring to this "Syphilis in the Innocent," the present writer has been collecting for the past ten years, and has recently embodied in a volume,¹ to which further reference will be made in our discussion of the subject.

The basis of our present argument is as follows: as long as syphilis is regarded exclusively as a venereal disease, it is and will be extremely difficult to obtain adequate legislation for its control; whereas, if it can be shown to be one from which the general and innocent public should be protected, there will be little difficulty in meeting and solving the question; it is the hope of the writer that the present paper, with the discussion which may follow, will be the means of such agitation as will result in the ultimate adoption of laws which will in a measure control syphilis in this country.

In order, therefore, to properly understand and appreciate the task before us, it will be necessary to enter into some details in regard to the present extent of syphilis, its modes of propagation in times past, including many episodes which were called epidemics, on account of the large numbers innocently affected in a brief period, and finally to the modes of propagation of the disease in late years, by other than unlawful venereal acts. These matters I will endeavor to present as concisely as possible.

WORLD-WIDE DISTRIBUTION OF SYPHILIS.

A word first in regard to the general distribution of syphilis in the world.

Many have written from time to time as to the antiquity of syphilis as a disease, even from the most ancient times, and bones exhumed here and there have seemed to show that it has prevailed for ages, as also records in Chinese literature point back to its existence at least 2000 years B. C. But for practical purposes most studies of syphilis go back only four hundred years to the period mentioned, 1494 and 1495, and as all know, it was charged that the followers of Columbus brought the disease to Europe from the western lands. Since 1494, the disease has spread, apparently *de novo*, until now, according to the best writers, there is hardly a portion of the inhabited globe where it does not exist with more or less virulence. It is stated that in Russia at least one-quarter of the inhabitants in some villages are infected, and all writers agree that there it is mostly spread in an innocent manner, mainly in family life, as will be mentioned later, for prostitution is almost unknown in the villages.

In Great Britain and Ireland it prevails widely in the great cities and ports, favored by the neglect of all restrictions on prostitution. Dr. Holland in 1854 estimated that in the United Kingdom there were at least a

million and a half persons infected with syphilis each year.

Japan and China are so full of it that Dr. Eldridge states that it is very exceptional to meet a male Japanese who will not acknowledge that at some time he has had syphilis, and in the French Hospital at Tien-Tsin, China, almost 30 per cent. of all cases were of this disease.

Time fails even to touch on its prevalence in various other countries, but as stated before, syphilis exists almost universally, and, according to the best authorities it is steadily on the increase.

There are no data to determine the extent of its prevalence in the United States, but any one familiar with dispensary and hospital work here will vouch for the very great amount of it seen in daily life. The statistics collected by the American Dermatological Association, relating to some 300,000 cases of skin disease, give a percentage of 11.5 due to syphilis. Some years ago Dr. Sturgis collected the returns from the public institutions in New York City, and estimated that the numbers newly infected there with syphilis could not be far from 50,000 each year.

In the earlier history of medicine, in the sixteenth century, and later, there occurred, as already alluded to, such sudden spreadings of syphilis on certain occasions that the name epidemic has been rightly given to them. The earliest of these epidemics of which we have a good account occurred in the town of Brunn, in Moravia, where there were 180 directly infected in the town and others in outlying districts. The infection took place by means of cupping and blood letting as practiced by the public town barber, and no mention is made of its conveyance by venereal acts. These epidemics of syphilis I tabulated, from literature, collecting 110 of them, with a total number of considerably over three thousand victims. This is quite exclusive of those episodes where it is stated that there were "a large number infected." Included among the causes as a means of conveyance of the poison in these sad occurrences may be mentioned nursing, hand raising of infants, domestic transmission by household utensils, kissing, breast-drawing, *accoucheement*, also by cupping, blood-letting, circumcision, vaccination, tattooing, glass-blowing, the application of the tongue to the eye to remove foreign bodies, catheterizing the Eustachian tube, etc.; and even as late as 1892 no less than twenty-seven cases of infection of this nature were reported by one physician, and, in Paris, in 1870, there were over seventy reported where the poison was conveyed to the Eustachian tube accidentally by one practitioner, in the treatment of diseases of the ear—this resulted from gross carelessness on the part of the physician.

Time would fail me even to hint at the mass of material which has been brought to light in regard to the modes and methods by which syphilis has been innocently given to individuals, even up to the present time, and often in spite of great care being exercised.

The three great classes or divisions of the subject to which I wish briefly to call your attention are: 1, marital syphilis; 2, hereditary syphilis; 3, extragenital, innocent syphilis.

MARITAL SYPHILIS.

The subject of marital syphilis has been very fully discussed by a number of writers, and all acquainted with the subject know well that this mode of infection stands prominent in connection with the innocent acquiring of the disease. While men occasionally contract

1. Bulkley: Syphilis In the Innocent (syphilis insontium) Clinically and Historically Considered, with a Plan for the Legal Control of the Disease. New York: Bailey & Fairchild. 1894.

syphilis innocently in lawful wedlock, even indeed from wives who have acquired it in nursing a syphilitic child, or in some other innocent manner, it is principally the wives who suffer, from the sins of their husbands, before or after marriage, and on them falls a large share of the burden of "innocent syphilis."

Fournier, of Paris, recently made some studies from the cases of syphilis coming to him in private practice. He found that fully 25 per cent. of all females whom he had seen in private practice had contracted the disease innocently and undeservedly, and in the discussion of his paper, Ricord thought that that proportion was too low. Of the married females in Fournier's practice, he found that in 75 per cent. of the cases the disease was unmistakably traced to the husband.

In my own private practice I found that in fully 50 per cent. of the females, the disease was acquired in a perfectly innocent manner, while among the married females the percentage of innocent infections would be 85 per cent., or more.

Surely, then, there is reason in the plea that something should be done to prevent the wholesale infection of these innocent victims of marital syphilis. But if this aspect of the subject is dark, that of hereditary syphilis is yet darker, and calls even more strongly for relief.

HEREDITARY SYPHILIS.

The literature of hereditary syphilis is very large and the facts related to it are well known to the profession. Time and space will allow of but the briefest mention. We may for a moment first refer to the effect of the poison upon the viability of children born of syphilitic parents. I can not do better than to refer to some very striking tables given by Sturgis in an appendix to Diday's work on infantile syphilis. They are from the records of births of syphilitic children at the Moseow Hospital, Russia, from 1860 till 1870. During these years there were 2002 such births, and 1425 deaths; that is, 71 per cent. of the children born there of syphilitic parents died. Other writers are in accord as to the very great death-rate among those born of syphilitic parents.

It is to be remembered also that syphilis is the cause of innumerable abortions, and also produces sterility, both in the male and female. If, therefore, the effects of syphilis were limited solely to destruction of life in the new-born, or in the products of conception, there would be a strong reason for the introduction of measures to check the spread of the disease, from its loss of life to the state. But this is only a portion of the ills wrought by syphilis in connection with generation, and it would be better that children of syphilitic parents should thus fail of life, rather than be born with an inheritance which often proves such a curse.

Tarnowsky has recently given us some interesting facts which could easily be more or less paralleled from others. In three families, born of syphilitic parents, there was a total of 22 births; of these there came only *one* healthy adult person. Of 13 who survived some years, 8 were incapable of self-support, from mental or physical defects, and the other 5 were weak, nervous and totally unfit for further procreation. He states that the families in which this occurred belonged to the intelligent class of society, with no other cause than syphilis for these disastrous results. He quotes further, from Tschistiakow, the case of a man who had severe syphilis in early life, destroying the palate, of whose 9 children, 2 were idiots, 1 was deaf and dumb, and 1

died in infancy. The works of Hutchinson and many others give abundant testimony as to the direful effects of syphilis on the progeny of those thus affected.

Thus the army of innocents swells in size, and pleads for the restriction of a disease, which it is now believed, may sometimes be inherited even to the third generation. What the later effects of syphilis may be in producing some of the conditions commonly known as scrofula, and in inducing race-degeneration, can not now be answered positively. We know, however, that it has at times decimated our American Indian tribes, and has wrought unspeakable havoc in Russia, in the Hawaiian Islands, and elsewhere.

EXTRAGENITAL SYPHILIS.

The third division of our subject, namely, extragenital infection, or syphilis acquired quite apart from any sexual relations, is one of the most interesting lines of investigation possible, and has been illustrated by thousands of recorded cases, reported by many hundreds of observers. I may remark that nearly 200 cases of this kind have fallen under my own personal observation and care.

Time and space again forbid our more than lightly touching upon a few of the outside facts relating to this branch of our subject, but a slight classification of the facts may help us to a better understanding of the vastness of the subject, and its very, or most, important bearings upon the health of the community, and the dangers from syphilis.

ACQUIREMENT OF SYPHILIS.

The cases referring to the different methods of acquiring syphilis accidentally, apart from sexual life, as actually observed at the present time by every one who has opportunities and experience in this line, may be grouped under three main catalogues: 1. Those relating to domestic and industrial life. 2. Those relating to the nourishment and care of children. 3. Those relating to professional pursuits in the care of the sick.

Under the first class we find the instances of transmission finally classified into almost fifty groups, relating to the most different phases and aspects of domestic and social life. Not only has syphilis actually been given by spoons, knives, forks, cups, glasses and jugs, but it also has been communicated by tobacco pipes, cigars, cigarettes and even by troches or candy passed from mouth to mouth; also by shirts, drawers, masks, plasters, bandages, lint, towels, sponges, combs, tooth-brushes, syringes, sick-chairs, etc. Among those who have acquired it in industrial life, that is, innocently in connection with their occupation, we may mention glass-blowers, assayers, weavers, musicians, conductors (by whistles), servants, cooks, furriers, upholsterers, shoemakers, and others.

The second class, representing syphilis acquired through the nutrition or care of children, includes literally thousands of cases where the disease has been innocently acquired by suckling syphilitic children at the breast, and innumerable cases where the nurses and attendants have acquired it by contact with the syphilitic secretions of infants and where diseased children have communicated the disease to each other.

In the third class, relating to professional body service, in connection with the care of the sick, we find three divisions: 1, where the operator is the victim; 2, where the operator is the syphilifer, or gives it from himself to a patient; and 3, where the operator is the medium of conveying the disease from one patient to another.

Under the first class we find hundreds of cases where physicians, surgeons, and midwives have become infected in the practice of their calling. Large numbers of cases are on record where breast-drawers and wound-suckers have acquired the disease.

In the second class we find many records of those who have had syphilis giving the disease to others by body service, as in breast-drawing, tattooing, circumcision, vaccination, etc.

In the third class the operator acts as a medium, conveying the poison from one patient to another. Here we find a sad array of cases of infection by skin-grafting, vaccination, through dental instruments, by wet-cupping, tattooing, the use of the Eustachian catheter, etc.

LEGAL CONTROL OF SYPHILIS.

I have thus hurriedly, and necessarily very briefly, run over a few of the points relating to our subject, illustrating the propriety of my "plea for the legal control of syphilis based on its frequency in the innocent"—the details necessary to a full understanding of it would take many, many pages and occupy as many hours. I beg now to present a brief argument for and a statement of the method and mode of the legal control of syphilis which I think is feasible at the present time.

From what has preceded it is readily understood that syphilis is a disease which inflicts great injury upon the public health; for it imperils not only those who have been guilty of sexual transgressions, but also those who are quite innocent, and it is upon the basis of protection for the latter that I believe legal action should be taken.

While syphilis occurs most frequently as a "venereal disease," its prophylaxis or legal restraint by no means relates to the restriction of venereal diseases; the limitation of the spread of syphilis should be considered from a much broader and higher standpoint, namely, from that of defending the public health and that of individuals against a malady which affects the innocent and guilty alike, and which comes to the innocent not only when its dangers are anticipated, but also when they are least suspected.

In the matter of legal protection against syphilis, therefore, the subject of prostitution becomes a secondary consideration. The question is not one of "regulating prostitution," or of inspecting, licensing, or legalizing the "social evil," or of protecting those engaged in it. We approach it from a higher ground, and seek to have some restriction put on a disease which is dangerous and communicable, and which might at any time attack any one in a wholly innocent and unexpected manner. That the spread of syphilis can be checked is self-evident, as has been conclusively proved by the fact that all the epidemics to which reference has been made were averted when the cause was recognized and sufficient measures introduced to prevent the further transference of the poison from one person to another. It is also abundantly shown in certain instances where foreign governments have in some places enforced stringent measures looking in this direction.

We know positively that the poison does not and can not develop *de novo*, but that it is always communicated from one individual to another. We know also that within a certain period syphilis ceases to be contagious in each individual; so that if no new infection is introduced into a community, and the members of that community are guarded against acquiring the disease from one already infected until that safe period is reached, the malady will cease to exist.

Such precautions are exercised both by the public

and by individuals against other contagious diseases, such as smallpox, scarlatina, measles, diphtheria, yellow fever, etc.; is it not eminently proper that syphilis should be placed in the same category, and protection should be afforded to the innocent against it? Syphilis counts its victims, guilty and innocent, by thousands where other diseases count hundreds. More deaths are ultimately caused by syphilis than by smallpox, while the injury to health, and interference with life work is infinitely greater in the former than in the latter. The conclusion is absolute: syphilis should be placed, like other contagious diseases, under the control of the health authorities.

In this country, as far as known, there have never been any sanitary safeguards against the spread of syphilis, and there are very few hospital advantages for those thus affected. In most cities in Europe, there are large accommodations for this class of patients, amounting in Paris to between one and two thousand beds. New York has but a relatively small service at the City Hospital, while the vast majority of syphilitic patients are treated at the dispensaries, and are allowed to go about, often in an extremely contagious condition. It would be difficult to convey an idea of the carelessness and indifference of some of these patients when informed of the dangers to others from their disease. Many, indeed, by far the larger share of them, disappear from treatment long before their syphilis is cured; and generally, even while they are in the contagious stage of their disease.

The republican ideas of this country would probably not endorse or submit to such sanitary police inspection and restraint as is exercised in many places in Europe; but the question naturally arises: Is there not some way in which the end can be reached of arresting the spread of this dangerous disease? Can there be no safeguards thrown out which shall prevent its extension here as it has spread in certain countries in Europe, such as Russia, where whole communities have been syphilized, and Portugal and Japan, where the disease is well-nigh universal?

The first step toward accomplishing the legal control of syphilis would undoubtedly be found in placing it among other contagious diseases which come under the jurisdiction of the health officers; indeed, the wonder is that it has not been so placed long ago.

If syphilis were first recognized as one of the great contagious diseases, against which it is the duty of the government to protect the community, the details of that protection would follow with time, as they have in regard to other contagious diseases; as the public became aware of the dangers arising from syphilis, and the benefits accruing from its restriction, there would be no difficulty in securing proper laws relating to the subject.

The suggestion, therefore, is most earnestly put forward that the time has certainly come when the dangers of syphilis, and especially the dangers to innocent persons should be fully and fairly recognized and met. It is too late in the history of science and of humanity to stigmatize the disease as "venereal," and on that account to withhold scientific protection from thousands of innocent sufferers. Among babies, nursing women, persons infected in dental and surgical operations, and in dozens of other innocent manners, syphilis can no more be described as venereal than can any other contagious disease. The time has come to place it under the control of the proper health officers, and to make it quite as *criminal to transmit syphilis wittingly*, as it is to com-

municate smallpox, scarlatina or diphtheria. It is believed that if only syphilis can be included on the list of contagious diseases which the health boards can control, proper legislation will follow slowly as the profession and public become more enlightened as to the real nature of syphilis and the real danger of the public from it.

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DISCUSSION.

DR. C. W. ALLEN, New York City—The subject is of deep interest and I have been very much gratified in listening to the presentation of this paper with its interesting statistics. Dr. Bulkley and I took part in a discussion almost ten years ago, before the Academy (New York). At that time I made certain suggestions, one of which was that we should begin by treating syphilis as a nonvenereal disease—not treating it medically in that sense, I mean, but in our discussions, in our writings; dropping the sexual view of it and treating it more so the public could come to learn what an important condition it presents as a family disease. I also advocated at that time, as one of the measures which might be carried out until others could be introduced, a certain authority to be exercised over those who sought admission to the public hospitals, having the disease in its contagious stage. Some authority should be vested in the institutions so that they could retain such cases until they are no longer sources of danger to the community at large. In a very large dispensary practice, where there are many foreigners recently arrived in this country and a great many Russians, I see so much of the family aspect of syphilis, the non-sexual kind, that I think I am safe in saying that two-thirds, and possibly more, of the cases I see have no immediate relation to the sexual act. I am continually seeing children, not only one, but two and as many as three in a family, all suffering from early syphilis, and I am unable to trace it to any source. The mother who comes with the children is healthy as far as examination goes; the father, I am usually unable to see, but as far as his history goes he is healthy and has been so. One of the last cases I saw before I came here was an instance of most aggravated chancre of the lower eyelid, producing a tumor the size of a walnut. It was a hideous looking affair, almost closing the eye, and I could get no history of how it was acquired. I see young men with chancres in various locations, not only upon the lips but in several instances upon other portions of the face—not bites from women but acquired in fights with men. Many of the suggestions I have previously made relating to the dissemination of a proper knowledge of the subject can be carried out if we go about it in the right way. Since this discussion in the New York Academy, ten years ago, I have endeavored, in a modest way, to carry out this view, and have recently written an article which was published in the *Medical Record*, in which is cited a large number of extragenital chancres, and nothing of a sexual nature is touched upon, so that article could be read by any one. We should all write this kind of papers to give the public and the profession at large, and the family physicians, the non-sexual aspect of lues so as to lead them to think of it as something more than a venereal disease. The speaker then referred to a case of chancre of the finger in a midwife, acquired in pinning a diaper upon a woman after delivery. She had washed her hands in carbolic acid at once, but in spite of this the chancre appeared. He also spoke of a large number of infecting sores in medical men, acquired in the pursuit of their calling.

DR. W. T. CORLETT, Cleveland, Ohio—I am in thorough accord with the ideas of the speaker, and think it an extremely important subject. The main difficulty which we have to encounter in doing anything to regulate the disease is the association with venereal disease. In common with Dr. Allen and others, I can testify that it is not uncommon to see children and innocent women presenting themselves with various forms of syphilis. Among those whose duties call them in contact with the disease it is not infrequently met with. In the last twenty years I have seen numerous cases acquired innocently. I have now, in Cleveland, a case of a nurse who acquired it in

the performance of her duties. In Lakeside Hospital two orderlies were discharged with well-marked cases. It was only accidentally discovered by a nurse who called attention to it. The cases were at once recognized and the orderlies discharged. They had been giving baths, etc. The disease should be regarded as contagious as others now on the list, and should be subject to report as is smallpox, diphtheria, etc. It seems the only way to make a beginning in regulating and preventing the spread of this very prevalent and dangerous disease.

DR. E. WENDE, Buffalo, N. Y.—In regard to the board of health preventing the spread of this scourge, it is a matter which will present many difficulties in supervising. Yet I have frequently noticed a practice which is much in vogue in the hospitals of this country and Europe, that is, syphilitic patients are allowed to roll bandages for and dress the wounds of other inmates. It would seem proper that the profession should, as educators, first eliminate this custom from their own domain, before requesting special legislation governing such a delicate proposition.

DR. G. T. SWARTZ, Providence, R. I.—It would be very difficult in the face of the feeling against this disease, to introduce any regulations regarding it, so long as there exists so much difficulty in enforcing regulations against those diseases which have no such odium attached to them. I think the members of our profession should be brought to consider the desirability of speaking of this topic to one another and to patients, to treat it as a communicable disease, and a non-venereal one. The time will come when it will be classed with the diseases which should be regulated. And though we can not expect to obtain all cases, nor have all cases reported, it will act something like the law regarding consumption in New York City. One-half of the physicians do not report consumption, yet the law is beneficial to that extent. In many cases which come into our practice, we do not know what to do with them; many patients would be amenable to restraint if we had authority to keep them. They are not received in our hospitals and must go back to their homes, to their families, with such ordinary precautions as we can give them, and you know how poor these can be. I think if this Section would put the matter in proper form, so that those outside of this Sections could see something was on foot in this direction, progress would be made and in a few years health officers would be willing to have ordinances and regulations covering the subject, and would be willing to attempt their enforcement.

DR. W. S. GOTTHEIL, New York City—I agree with the reader of the paper and yet there is an aspect of the matter which has not been touched upon, and which I think is of importance. We have had a good deal of trouble with the reporting of cases of tuberculosis in New York City, and if it becomes obligatory to report our syphilitics, I foresee practical difficulties of no mean order. We are dealing with a disease the duration of whose contagion is entirely indefinite, for we do not know when the mucous patch, for instance, ceases to be a source of danger; and to make all cases of syphilis reportable, so to say, would greatly increase the unpaid work with which the profession is already overburdened, and further interfere with the confidential relationship between physician and patient which is perhaps more essential here than with other affections. And while I approve of all preventive measures that are reasonable, we must beware of the inevitable tendency of the health authorities to go too far in such matters. That this has occurred already in New York in the case of tuberculosis is the opinion of many competent judges and to add syphilis to their field of action would hardly be wise. The disease is a stigma, no practitioner would report a private case, and I doubt whether it would be possible to do so with those of the clinics and hospitals. I would make a plea for great caution in increasing the power of boards of health to interfere with the private work of practitioners of medicine. Some of us think they do so far too much already.

DR. W. L. BAUM, Chicago—I believe very thoroughly in what Dr. Gottheil has just stated, and Dr. Bulkley's paper should be distributed, and given as wide distribution as possible into the hands of the general practitioner. While admitting the general theoretically correct methods which Dr.

Bulkley would pursue, I still think the province is in the education of the general practitioner in the regulation of syphilis, and also in inducing him to carry to his private practice these regulations, and some admonition in regard to the promiscuous intercourse which is constantly practiced. One of the best methods of securing benefits is by inducing health officers and hospital boards to admit larger number of syphilitic patients to the hospitals for treatment; but they have no right to detain such patients under the English common law, and it is a question in my mind whether they have the right to stigmatize these patients with the diagnosis of syphilis which can reach any degree of publicity. With the ordinary contagious diseases publicity carries no stigma as syphilis does, even if we call it by another name. A tuberculous patient in a family is not felt to be a disgrace, but a syphilitic patient in one reaches future generations, and in that way such regulation would be decidedly objectionable throughout the community and it would be impossible to enforce such regulation features. A majority of patients who might be detained in clinics would abandon those clinics and remain outside and distribute their disease more thoroughly than if they knew their disease was kept for private record rather than a public measure of protection.

DR. L. D. BULKLEY—Syphilis has been ignored from ignorance, and has been neglected from negligence, on the part of the profession and health authorities. The objections which have been raised in regard to the regulation of syphilis, as a contagious disease, I fully appreciate, and I did not say in my paper, nor do I now, one word in regard to reporting of cases. If the first step could be made, and the health laws were so framed that it would be as much of a crime or a misdemeanor to wittingly give syphilis to others, as it is to give smallpox or scarlet fever, the first wedge would be inserted whereby the door could be opened wider at a later date. What I mean is this: If the proprietor of a hotel puts a visitor in a room where there has been a patient with smallpox or scarlet fever, without properly disinfecting, he is liable to damages, because he wittingly allows one to get disease there. Now apply the same to syphilis. This simply opens a door whereby people could be made responsible for giving syphilis wittingly, and would thereby make the careless ones careful. If the keeper of a bad house should expose one to smallpox or scarlet fever, he would be as punishable as the keeper of a hotel. Let him be held responsible for syphilis acquired in his house, then he will be careful to have everything in his house free from disease. To do this he will see that none of his male visitors bring it in, and for this purpose he will have to examine the men. This would result favorably in checking licentiousness by keeping a certain number away who have venereal disease, and also some others from shame at having to submit to such an examination. This would further tend, in a measure, to check promiscuous street prostitution, as it would be recognized that women thus engaged were probably infected, while men already infected would fear prosecution in case they communicated the disease to others.

I quite agree with what has been said in regard to the difficulty of thus including syphilis among the diseases subject to health regulations. Cases would not be reported—tuberculosis is not—but the beginning has been made in regard to the latter, and the sooner that syphilis is put on the same footing the better. The word "stigmatized" has been used in this discussion. The sooner you can get the idea abroad that syphilis is frequently acquired otherwise than by sexual intercourse, the sooner will it be recognized that there need be no stigma connected with the discussion of it or its restriction by law.

Transposed Rectum.—A case of transposition of the rectum is reported in the *British Medical Journal* of March 23, in a boy of 5. The cecum was in a normal position, with a very long appendix passing through a hole in the mesoecum. The ascending, transverse and descending colons were normal, and the sigmoid flexure had a long mesentery which passed across the front of the cecum, but at the sigmoid flexure the bowel crossed behind the bladder to the right iliac fossa and down to the anus. The left iliac fossa was free from the large bowel.

RECENT CLINICAL OBSERVATIONS ON TINEA VERSICOLOR.*

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The statement has recently been made that nothing further is to be learned from the clinical side of study in dermatology, and that all progress in this direction must come from effort to exhaust the possibilities of bacteriology and histology.

Granting that the preponderance of recent advances have been due to the finer scientific explorations with the aid of instruments of precision, and that this must continue to be the case, still, I can not believe that the clinical field has been exhausted. If it were not as true



FIGURE 1.

as it would seem to be that there is nothing new beneath the sun, the proposition that clinical discoveries are at an end might be successfully defended. Fortunately or unfortunately, we are prone to forget and are misled as to facts, once perhaps known and their importance appreciated. Rediscoveries must be made before we either learn of or come to realize the significance of certain clinical conditions.

If we take, for example, so common and readily to be diagnosed an affection as pityriasis versicolor, one would suppose that the last word had been said in regard to its clinical features and that text-books would be in accord concerning all points connected with it.

To discover points of dissimilarity of view it is not necessary to go back to 1864, when Erastus Wilson, calling the affection chloasma—pruriginosum pigmentosum and furfuraceum—looked upon it as due to granular

*Presented to the Section on Cutaneous Medicine and Surgery, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

degeneration of cell tissue, "the granules being seen in great numbers under the microscope." Much more recent writers make statements which do not bear a critical clinical test.

Among such statements are to be mentioned "the disease is never seen in children;" "there is an absence of eruption on parts exposed to light;" "it is never seen on the palms and soles;" "it does not affect the face;" "it occurs only in those who have seborrhea and dyspepsia;" "it occurs chiefly in phthisical subjects." One of the latest writers to state that the disease never occurs on the face is Bosenquest.¹

It is not my intention to attempt a refutation of all of these statements. The occurrence of tinea versicolor in those below the age of 10 years has several times been verified by competent observers. Dr. Gottheil,² of this city, recently reported a unique instance of the affection located upon the palm, as shown in Fig. 1. Patches which were almost black in color had existed on the palm of a physician for fifteen years. When examined no other spots were found on the body.

The writer has in a number of instances during the



FIGURE 2.

past three years observed the affection on the face, as shown in Fig. 2 and Fig. 3. In both instances it extended from the neck over the jaw and upon the cheek. In the case of the boy (Fig. 3a), who is a favus subject, the lesions are seen well up in front of the ear. Upon the opposite side they extended only to the cheek on a level with the ear-lobe. The region involved has been painted with a strong iodine solution as a test, of which I shall presently say a word. The outline of the patches on the face and neck are somewhat better brought out by this procedure. I have also seen an isolated patch on the forehead in a young woman. It has been my observation that patches on exposed regions are darker than those hidden from the light.

Clinicians who have a large experience know that those in perfect health are affected as well as the debilitated. In the practice of a specialist for the lungs and heart, the vast majority of subjects of tinea versicolor will be also subjects of phthisis.

In my personal experience it is quite the exception to find phthisis, or indeed any other severe disease co-existing, and I have not been able as yet to verify the

statement as to dyspepsia and seborrhea being frequently present.

A year or more ago I pointed out the clinical fact that there is frequently to be found in the pubic region of both men and women one or more patches of tinea versicolor which escape adequate treatment because hidden by hair. These patches often escape the observation of the physician as well as of the patient, and I believe they are to be looked upon as the source of renewed infection in the recurrences which so often follow a course of treatment. In a large number of patients who have presented themselves in the recurrent attack, with a history of having previously removed all the spots from the trunk by treatment, I have examined this region for hidden lesions, and my search has often been abundantly rewarded.



FIGURE 3.

There is one other source of latent or lurking disease to which sufficient attention has not been directed. The affection is almost invariably referred to as one of the superficial epidermis. If the outlying little islands surrounding the larger plaques are closely examined in their earliest stages of formation, it will be seen that they spring from a fine lanugo hair or follicular opening as a central starting point, from which the round spot slowly extends equally in all directions. Very little treatment often suffices to remove all that is to be seen upon the surface, but unless treatment is persisted in, the fungus which has dipped down into the follicle will, under favorable conditions, start up a renewed growth. In some rare instances a tinea versicolor of long standing will be limited to such small round lesions upon the upper portion of the chest.

The iodine test, to which I have referred, consists in painting suspected areas with Lugol's solution or tincture of iodine, the former especially giving a deep mahogany or dark brown color to lesions in which the fungus still exists. This is also a valuable test in distinguishing pigmented areas of this disease from chloasmas, macular syphilides, erythemas, exanthemata, etc. It does not distinguish between this affection and

1. British Journal of Dermatology, October, 1899.

2. Med Record, July 1, 1899

pityriasis rosea or disseminated ringworm of the body, both of which stain in much the same manner. It has the advantage of being at the same time curative, though perhaps in a lesser degree than some other commonly used remedies.

The diagnosis without microscopic aid is not always as simple as we know it to be in the majority of instances. This may be because of unusual situation, unusual form, color distribution, or because of some modification by treatment which has been applied.

A remarkable black-ringed, deeply-pigmented eruption was presented a year or so ago at the New York Dermatological Society as some rare or undescribed affection. It turned out to be a pityriasis versicolor which had been treated by chrysarobin.

The diseases which are apt to be confounded with pityriasis versicolor are the pigmentary syphilide of the neck, unusual freckle-like pigmentations over the trunk,



FIGURE 3a.

chloasma due to various causes, the pigmentation remaining after syphilitic roseola, vitiligo with surrounding pigmentation, leprosy, seborrheal eczema, pityriasis rosea, and in a case recently seen the lesions were so masked by an acute dermatitis that the picture was very confusing.

Pityriasis nigra, as recorded by Willan, Cazenave and Tilbury Fox, is so infrequent a form, at least in this country, that I will, in closing, refer to an instance recently presented by me at the New York Dermatological Society. The neck of a young man who had been about two months in the country was almost entirely surrounded with coal-black plaques running into one another and extending slightly upon the hairy scalp. So similar were the appearances to a dirty neck, such as a worker in coal might present, that at first glance almost all the gentlemen present were disinclined to attribute to the disease any great share in its production. No amount of washing, however, with soap and water, was adequate to remove the stains, and it was only after

vigorous treatment that the patient was freed from his disfiguring affection.

Another unusual form of the affection is that occurring as ringed lesions over the chest. I show a photograph of such a case in a young syphilitic discovered on stripping him in the stage of roseola. At first the outline of the rings were so like the acute mild attacks of seborrheal eczema in this same situation that such a diagnosis was suggested. Scrapings examined by the microscope at once dispelled this erroneous view.



FIG. 4.—Iodin has been applied to cause the patches to show better.

Now a word as to treatment. Among the great number of recent suggestions added to the already large list of "cures," I have found one which promises well: a butter-like ointment made with calcium bisulphid in saturated solution, 50; lanolin, 20; lard, 30. To be applied twice daily. Lugol's solution is efficacious.

Soap of itself alone I have found capable of ridding the surface of the growth. A sand soap or one made with pumice-stone, etc., have rendered good service. Arthur Powell, writing of the disease as it affects the face of natives of Bengal, states that they not only seldom use soap, but that some anoint the body with oil, and we know from the sites of predilection of the eruption that those parts richest in sebaceous structures are mostly implicated.

EXPERIENCE WITH AN EPIDEMIC OF RABIES IN BUFFALO.*

ERNEST WENDE, M.D.

HEALTH COMMISSIONER, BUFFALO, N. Y.

An important fact to be gathered from history is the liability of human beings to be attacked by diseases of a contagious nature, transmitted through the agency of inferior animals. These diseases often present such unusual features of interest and severity as to engage the serious attention of the local health authorities, and alarm the public generally; and none more so than rabies, on account of its cruel character, distressing anxiety, mortality, its ever-present source—the dog—and the unfortunate dispute as to its actual existence. It is a much easier and more popular task to dilate concerning the habits and good traits of this inseparable companion, than to describe the peculiar morbid manifestations which can not be considered apart from or independent of the other mammalia that have been infected through his bite. It must be viewed in conjunction with man, if we would hope to form a just, enlarged and correct idea of its true significance and pathologic affinities. It is one associated with misconception and ignorance, which entails a large amount of needless and woful suffering, and even death.

It is not my intention to make a thorough analysis

* Presented to the Section on Hygiene and Sanitary Science, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

of this interesting subject now, nor to discuss its antiquity, extent or origin, but merely to record a few facts and experiences that are especially connected with the epidemic of rabies, circumscribed within certain bounds in and about the city of Buffalo, N. Y., and now practically under control.

I wish to accentuate that the malady was first observed in November, 1898, in a pug-dog owned by a resident in the Kenmore section of the city, followed by a cow being attacked, and, later, by a horse from a livery stable on Jersey Street, the latter dying and the former being killed.

These were followed by a number of isolated cases, scattered throughout the city, at varying intervals, until June, 1899, when a stray dog, acting strangely, appeared in Alden, N. Y., and bit a dog, which subsequently went mad, biting several dogs, and among them, it was surmised, a large Newfoundland, of a playful and tractable disposition, that had never strayed from his master's threshold, was everybody's crony, the pet of the neighborhood, the willing comrade and frolicsome playmate of the village school children. It would almost seem that he was too gracious an animal, in the process of time, after catching the infection, to have become frenzied, and furious, and to have wandered miles from home, snapping at everything alike, whether animate or inanimate, and biting three men, two horses, four cows, and no one knows how many dogs.

Of the men, J. G. was attacked and severely bitten in the arm, near Wende Station, a distance of four miles from the home of this once affectionate animal. O. S. was bitten in the hand, at Looneyville, a mile or more further on, and S. J. W. likewise was bitten in the hand, in the Township of Lancaster, at a distance of at least ten miles.

The Department of Health, to arrest this terrible infection of these men intrusted to its care, did not hesitate to advise them to take immediate advantage of the treatment to be obtained at the Pasteur Institute, New York City. These, then, were our first cases to leave Buffalo for the special treatment of this unique and mischief-making complaint.

Of the horses bitten, one died; of the cows, three; while the dogs were mostly killed, leaving but a few to be securely housed for demonstration and observation of facts, however, only to see them grow uneasy, develop the disease and die. Somewhat later, at Derby, N. Y., a singular tramp dog also turned up, behaving in an uncustomary manner and, before being shot, bit seventeen dogs and two cats, all of which were promptly killed. These two cases mentioned must suffice to illustrate the deadly work that can be perpetrated by a single mad dog, for similar instances have been so frequent with us that it would be tiresome to try to enumerate them all.

Verification of the true nature of the malady was made in numerous cases by Drs. Bissell and Carpenter, bacteriologists of the Department of Health of Buffalo, with the result of uniformly finding the diagnoses to be correct. Further verification was had in portions of the brain of dogs sent to Professor Moore of Cornell University, and the Bender Laboratory at Albany, notably in one case where the dog presented but vague evidence of the malady. Direct inoculations upon fox-terrier dogs were made jointly by Dr. John Wende, veterinarian, and Dr. Carpenter of the Health Department, from rabid-dog brains, with the result of developing the malady on an average on the twenty-third day.

In a communication to me, from Deputy Commis-

sioner W. C. Patrick, of the State Department of Agriculture, I am able to give the following illustrative cases of the epidemic in the rural districts. One vagrant dog bit one calf, one cow and possibly others. The calf and cow both died with pronounced symptoms of rabies. A second vagrant dog bit one calf and three cows, of which the calf and two of the cows died—undoubted signs of rabies. A third vagrant dog bit one horse and one cow; both died of typical rabies. A fourth vagrant dog bit one horse, two hogs and one cow; all died with rabies.

These animals belonged respectively to: L. T., Marilla, N. Y.; F. B., Marilla, N. Y.; J. V., Alden, N. Y.; W. J. R., A. S., C. F., and B. J. S., all of Lockport, N. Y.

These dogs were all acting strangely when observed, were aggressive, and bit without provocation, and attempted, though failed to bite many other animals. The animals bitten, and which died, were particularly examined and studied, and their malady diagnosed as rabies by Dr. Kelley, state veterinarian, Albany, N. Y., and Dr. Anderson Crowforth, Lockport, N. Y.

MUNICIPAL RESTRICTION OF RABIES.

The question of municipal control for the restriction of the spread of rabies is most important, presenting many peculiar aspects. The experience of the Department of Health of Buffalo, in securing legislation in the interest of public health, shows that such procedures can not be obtained without strong opposition from certain classes, some undoubtedly well-meaning, but not well-informed, others well-conned, but not well-disposed.

Ordinances relating to sanitation, contagious disease, and the regulation of the practice of medicine, have all been borne with opposition that has ultimately fallen into merited oblivion, but in none has there been such unreasonable, violent antagonism as toward measures directed to restrain the possibility of injury from dogs. It would appear by those referred to that the possible discomfort of dogs was of more moment than the protection of human beings. Muzzles were objected to as cruel; leashing and chaining as injurious to their health, while evasion of the dog ordinance regulating the action of animals most likely to be infected is practiced and justified from a sense of false sentiment or morbid heroism. It was obvious that no laws, however good, could be substituted for good citizenship, and it was evident that the public is much to blame for this apathy, carelessness, opposition and cussedness.

The presence of a multitudinous dog population in a community serves no good purpose; their diminution and restriction is indicated and should be accomplished. They should be permitted only under restraint of safeguards. It should be the policy of the authorities of all large cities to have regulations of such character as would cause not only a decided decrease in the number of useless curs usually prevalent, but would limit their character and ownership to those most desirable, thus benefiting the community and the dogs themselves, which, in relation to rabies, would mean less material, less menace and greater facility of control. Unless every care is taken, each individual case is liable to start an epidemic. Only those who make a special study of this question can be fully impressed with its importance. The extreme ignorance of the public generally in this matter is a fact admitted by all capable of judging on the subject, and is, indeed, manifested by evidence of the most abundant and notorious kind. The most false and most absurd notions are entertained respecting the

whole subject and respecting the means capable of removing it. The prevalence of rabies in large municipalities is a grave danger, not only to the well-being of the community itself, but to all the surrounding territory—and equally pernicious, if not more so, are the so-called antirabic wiseacres who trade upon opposition which, unfortunately, obtains to such an extent in these days, and is, in my opinion, unmitigated insincerity of the most detestable description. Here, as elsewhere, it is apparent that their mind can scarcely ever escape from the conventional thralldom in which it has been nursed. They naturally oppose and restrain the unselfish efforts of the sanitarian in his attempts to blot out sickness, sorrow and suffering, by dodging the truth and working upon the ignorant to deceive the public, and to increase their own consequence, like the witches and imposters who have always held competition with physicians, caring nothing for the safety and health of the public, but continually striving to induce it to swallow falsities for facts. I have often wondered if it ever occurred to them that such misery and death might be entirely prevented. At any rate, and in all events, it is the duty of an honest mind, on attaining conviction of an error, to abandon and to explain it, even though the truth that is sure to succeed it may, as yet, be seen only darkly, or be entirely hidden.

Therefore, every city in dealing with dogs should be provided with efficient rules, regulations and ordinances and demand their rigid enforcement, the features of which should embody: 1. Police supervision, registration, tagging, a large license fee and penalties. 2. Capture and death of all dogs at large not so registered and tagged. 3. Muzzling and leashing all dogs when at large. 4. Distribution by police to registered dog owners of cards educational in character, giving information concerning the care of dogs, rabies, ordinances, penalties. 5. Periodical police house-to-house census to determine that such regulations are in force. 6. Stringent quarantine against all localities known to contain this disease; and additionally during periods of epidemics. 7. A large force of extra dog-catchers to raid the streets, catching, for destruction, all unmuzzled, unleashed and unlicensed dogs. 8. Police instruction to kill such animals, whenever found practicable, by shooting. 9. Destruction of all dogs, cats or other animals bitten under even suspicious circumstances. 10. Immediate cleansing and disinfection under official supervision of stables or premises where animals have been harbored while suffering from rabies. 11. The destruction by fire, or thorough cleansing with hot soap-suds, and disinfection of kennels, bedding and feeding utensils. 12. The skinning of carcasses of animals dying from rabies or suspected to have died from rabies should be strictly forbidden. 13. All carcasses of animals that have suffered from rabies, real or suspected, should be rendered harmless by cremation. 14. Prohibition to cure any animal suffering from rabies, or being suspected of suffering from rabies, without official permission. 15. The transportation, if ever necessary, of animals having or suspected of having rabies, should only be performed in a closed vehicle or receptacle.

By this combined system of raiding and police action rapid extermination is effected. Both methods are considered actually necessary on account of the dog-catching system being so possible of evasion—owing to the fact that the whereabouts of these officials spreads like wild-fire, dogs are secreted and efficiency is thereby crippled. Therefore, in order to gain speedy protection, to succeed in suppressing an epidemic of this nature, the com-

munity at large must graciously express a willingness to accept the indicated procedures.

OBSERVATIONS ON THE BUFFALO EPIDEMIC.

Briefly, the prominent clinical characteristics of the Buffalo epidemic were: 1. History of altered behavior of the animals; they showing irritability, restlessness, changed disposition. 2. Desire to swallow foreign bodies—wood, stone, glass, dirt, grass, etc. 3. A tendency to stray; in the majority of instances the dogs left their homes, wandering away for one or more days, an act unknown in their previous lives, and returning in a bad condition, sick.

Of all the symptoms, in the furious stage none were so constant, characteristic and diagnostic as the alteration in voice; almost every dog manifested this evidence of paralysis of the vocal cords in the hoarse, howling bark, changing into a high-pitched falsetto-like note. All were characterized by biting and snapping at imaginary objects, with furious aggression toward anything before them—the floor, bucket of water, sticks, any article in fact within their reach. Many would hold on so tenaciously to objects held before them that they would be lifted by their hold and moved from one place to another. A marked symptom observed in cases of the furious form, and one to which attention has, apparently, not been called or observed, and which may become a strong differential diagnostic point, was the absence of any inclination on the part of the dogs to shrink or retire from impending blows or attacks. Ordinarily, a dog approached with a club in the attitude of a coming blow recedes, dodges and evades it. In dogs, however, with this malady blows could be aimed directly toward their eyes, face or head without their giving any evidence or appreciation of the impending danger of possible injury or pain. This was so noticeable as to be commented on by even non-professional persons, and was demonstrated over and again. Of course, when objects were held before them, or were coming toward them they would frequently attack them viciously, blindly, but between the paroxysms of fury, when quiet, dogs approached with a club aggressively, as stated, would pay no attention, the act being unappreciated. This is not the case with well dogs which, under such circumstances—depending on their dispositions—appreciate the movement and either endeavor to evade or retire from it or attack. This feature, noticed in rabies, I believe to be characteristic, and, if experience in this epidemic is a criterion, it will be found in the future when looked for.

Another symptom noticed and heretofore undescribed, when spasms of muscles of deglutition were violent, was a pouching out of the throat, visible externally. When present in this degree these spasms were followed by relaxation of the sphincters and involuntary defecation and urination.

At the dog pound, from the inception of the epidemic up to April, 1900, there were 4429 dogs disposed of, among which were 95 furious and 35 dumb animals.

From April 1, 1899, till April 1, 1900, the Department of Health investigated 230 cases of persons bitten by dogs. Of the 37 persons bitten by rabid dogs in the city, 4 died in the agonies of hydrophobia. A synopsis of their cases seems pertinent, on account of their rarity.

FOUR FATAL CASES.

W.B., living in the Cheektowaga Township, at the city boundary, had a mixed-bred collie watch-dog. The child of one of his near neighbors, 8 years of age, in

passing the gate on his way home from school was, without provocation, bitten by the dog, which at the time was loose in the yard. On B.'s return to his home, the biting being reported to him, he searched for the dog; found it secreted under the barn, and in securing it was bitten slightly on the hand. The dog was killed and taken to the bone-yard, when, on opening its stomach it was found to contain sticks, stones, grass and other foreign bodies. No further consideration was, apparently, given to the matter of the biting beyond ordinary medical attendance at the time.

Eighty-one days later, however, the boy who had been bitten was taken sick and died on the fourth day, in great suffering, his illness presenting a classic picture of rabies in the human being. The death of the boy brought a realization of the possibilities of the case to B., who was sent without delay to the Pasteur Institute in New York for treatment, but he died under similar circumstances, the disease developing in him just two days later than in the boy.

A. F., a strong young man, was attending a dance, when a stray fox-terrier wandered into the dance-hall, acting peculiarly. He succeeded in throwing the dog out, but was bitten in the hand in so doing, as was also a second young man who had attempted it just previously. Neither of them paid any attention to the incident, further than to have their bites cauterized and properly dressed at the Fitch Hospital. On or about the thirty-sixth day he was taken ill with symptoms of an indefinite character, but which soon developed into a typical case of hydrophobia, when he was removed to the Buffalo General Hospital, dying there, in the greatest agony, after an illness of but four days. During the time he was in the hospital, his case was observed by a number of prominent physicians, all of whom diagnosed the case as typical, also considering it one of the most terrible death-bed scenes in their experience. The other man who was bitten disappeared, but was finally found with some difficulty and sent to the Pasteur Institute, New York City, for treatment, and he escaped the fate of his companion.

The fourth case of death from rabies in a human being was in the person of M. D., of 375 Peckham Street. She was under the care of Dr. Emil Lustig, and died after a three days' illness from typical hydrophobia. The death certificate of this case, as those of the others, are on file in the office of the registrar of vital statistics.

Postmortem Findings.—Autopsy on the child, performed by Dr. W. H. Heath, of the Health Department, showed the boy well developed, with some emaciation. Rigor mortis was slight; the skin cyanosed, particularly in the dependent part of the lips. The mucous membrane of the mouth and throat was more especially swollen, dark colored and congested, and the larynx and large bronchi reddened, and swollen, with an excess of tenacious mucus present. The lungs were found moderately congested. The heart, in diastole, contained the death clot, and the large vessels were filled with dark heavy blood. The stomach was normal, the liver very full of blood; the kidneys normal. The bladder contained a small quantity of urine, with no albumin. The brain showed intense congestion over the cortex, most marked posteriorly and over the medulla, extending down and fading away over six or seven inches of the upper part of the cord; on section, red punctuated points of engorged capillaries were present; the membranes were edematous and not adherent. The autopsy showed no pathognomonic lesions. Death was due to exhaustion and heart failure.

Those who dispute the existence of this disease and its fatal consequences, likewise assail the honesty of

Pasteur's great work, the usefulness of the Pasteur institutes and the integrity and even commercial honesty of those who operate them.

Our experience and the deductions best drawn from it is briefly as follows: Thirty-four persons were sent to New York City for this treatment. These were all bitten by dogs pronounced rabid after careful examination by Dr. W. H. Heath of the Department of Health of Buffalo, a graduate of the University of Pennsylvania, and lately from the U. S. Marine-Hospital Service. The Doctor brought to this work the proper training, education and reputation, and, further, a strong personal interest, all of which is referred to as evidence of the correctness of the deductions and weight of opinion. During this epidemic many prominent physicians were induced to make personal examination of the nature and character of the malady and the various phases of it present in different cases. Of these, many were known to be owners of dogs, skeptical or non-believers in hydrophobia, and it is gratifying to note that, with that honesty characteristic of the true medical man, there was no difficulty nor hesitation in recognizing the malady, nor in acknowledging their previous erroneous views. One of these gentlemen, a professor in the University of Buffalo, in undergoing this change of opinion considered it his duty to exhibit a case of the affection to the medical class of the University, and give a clinical lecture thereon.

POPULAR MISCONCEPTIONS ON HYDROPHOBIA.

This epidemic demonstrated the fact that, at least in this section, popular misconception concerning certain features of hydrophobia continue to exist to a large extent and had to be contended with, viz., that after dog bites, in the event of the dog becoming rabid, the person bitten would become likewise affected; that dogs should be killed at once to prevent the bitten ones from becoming liable to the malady; and, singularly, no reference was made at any time in press or letters to the press to the superstition and curative properties of the "mad-stone."

To the writer it would appear superfluous to seriously present facts substantiating the existence of the malady in dogs, and its communication to man, were it not that a number of no doubt well-meaning, but misguided persons take the opposite view to the detriment and injury of their fellow beings. When consideration is given to the fact that governments abroad recognize the malady and make provision for it, that it has been the subject of investigation and demonstrated to be a malady of the most horrible possibilities, and by men of the highest ability and undoubted integrity, that it is considered in all classifications of disease, in all courses of medical education, in all text-books, it seems incredible that there can be found any to dispute the question. As the antivaccinationists seek for other reasons than the true one to explain the subjugation of smallpox, so do these persons seek by the most untenable way, in the light of facts, to explain this malady. They can not, or will not, see the simple fact that dogs get a fatal malady, inflict fatal wounds upon dogs and man with fatal results, and that it is possible to practically and successfully avert these consequences in man through a treatment which is based upon the correctness of views held by medicine concerning it; they are so strenuous to deny its existence in this connection.

THE smallpox cases in Glasgow, up to March 18, numbered 1527 with 187 deaths.

PURE-FOOD. LEGISLATION VS. POOR FOOD-LEGISLATION.*

MURRAY GALT MOTTER, M.D.

PHILADELPHIA.

For the purposes of this paper, it matters but little which of the above titles is taken; the one representing what is admittedly desirable, the other—unfortunately to a large extent—what actually exists. The problem involved is by no means so easy as, at first sight, it might seem. Much of our knowledge of the general subject is, as yet, but tentative and, in attempting to formulate it, so much depends upon our definitions. Certain general principles, however, seem to have been fairly established; and legislative enactments embodying them prove efficient or futile just in proportion as these fundamental principles are kept well to the front, or are lost in a mass of minor detail.

For the present we shall use the term food in its broadest sense, meaning thereby "the substances taken into the body which are utilized in maintaining the functional activity of the organism." This definition, given by Sidney Martin,¹ it will be seen may be made to include drugs, as well as foods and accessory foods, as they are more commonly understood. While it would be beside our purpose to argue that a drug is a food, or vice versa, it is certainly true that drugs are used to maintain "the functional activity of the organism," and as the subject of pure drugs is so frequently considered in connection with that of pure foods, the one general term may be used to include both—at least in public health discussions.

While the fact may be rather a sad commentary upon our times and customs, the necessity for legislation on these subjects is assumed to be granted. In a paper, not yet published, Dr. H. W. Wiley, of the U. S. Department of Agriculture, classifies food legislation in regard to its source, as national, state, and municipal. For obvious reasons, such division of the subject is, in this country, of peculiar import. Continuing, Dr. Wiley defines food legislation according to character, as general, subjective, prohibitive, restrictive, and fiscal. Taking them in inverse order, we can hardly look upon food legislation from the fiscal standpoint, however effective it may have proved, as other than an emergency measure. Of this, more later. Restrictive legislation is held to be objectionable because it can hardly be framed without more or less unjust discrimination. Prohibitive legislation is almost invariably a failure; that it has a distinctly deleterious moral effect has been deduced from our experiences in the effort to prohibit the sale of intoxicants. Subjective legislation is deemed too cumbersome for practical efficiency, inasmuch as it involves legal enactments for each separate product to be controlled.

General legislation then, according to Dr. Wiley, is the only just and practicable method of securing the desired results. The Brosius, Mason and other bills before Congress partake of this character, and are to be executed by the (to-be-elevated) Director of the (to-be-erected) Bureau of Chemistry of the Department of Agriculture.

Here, then, we may hear the old cry: "There is no god but God, and Mahomet is his prophet!" It is rather

confusing, though, to discover that there is more than one claimant to the title of "Defender of the Faith."

Dr. Charles A. Crampton,² Chief Chemist, Internal Revenue Office, in a recent article on "Food Preservation and Food Adulteration," declares that: "In view of the difficulties which have beset the path of the Interstate Commerce Commission in the exercise of their authority, it is a matter of grave doubt whether the Secretary of Agriculture would be able to enforce a law based upon the same authority. The Department of Agriculture, moreover, while it is well equipped in the matter of scientific experts, has no large force of local officers at its disposal, a most essential and expensive part of the machinery necessary to the proper execution of a measure which will involve the inspection of the entire area of the United States from Maine to California." Dr. Crampton seems to have overlooked the fact that the U. S. Department of Agriculture has, perhaps, a larger and more widely distributed "force of local officers" than almost any other of the government departments. It may be questioned, however, whether a veterinarian for instance—at least in the present state of development of our veterinary schools—would be wholly competent to fulfil the manifold functions which these proposed laws create; and if the veterinarian be incompetent, the revenue officer would be apt to be still more so. Dr. Crampton concludes that "a much more feasible plan . . . would be the enactment of a general law modeled upon the revenue laws now in operation, or the gradual extension of these laws to cover other articles of food liable to sophistication; the scientific resources of the Department of Agriculture could be well applied to the establishment of standards of purity, a most troublesome branch of the subject, and one not necessarily connected with the routine of its execution."

For any one familiar with the history of the old National Board of Health, and the steps by which it was practically smothered out of existence, it is easy to imagine that the Supervising Surgeon-General of the U. S. Marine-Hospital Service, writing in the same strain, might be able to demonstrate that that Bureau of the Treasury Department is the only possible government office to which the great work should be assigned. It is a fair inference, from Dr. Crampton's opening paragraph, that the War Department, too, may know something—at least of preserved meats.

Turning now to the bulky volume of testimony before the Senate Committee on Manufactures (Senate Report No. 516, 56th Congress, 1st Session), one is inclined to question "the wisdom of Congress" (invoked by Dr. Crampton), if it is to be adjudged by some of the propositions here set forth. Perhaps, from the standpoint of a chemist or a member of congress, "the great bulk of the condensed milk of the country is a perfect human food" (page 3), and candy may be "a natural and proper element of food" (page 9), but the members of the Section on Diseases of Children, of this ASSOCIATION, will scarcely endorse these dicta.

It would be as tiresome as it would be futile to wade through this conglomeration of repetitious testimony, the value of which, by reason of the way in which it was taken and recorded, is—from a scientific standpoint—infinite; even were all the articles there enumerated mentioned, the whole field would not be covered. Nor do we find the National Pure Food and Drug Congress conducted with that singleness of purpose which might be thought desirable. Those of us who attended its

* Presented to the Section on Hygiene and Sanitary Science, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

1. Stevenson and Murphy: Treatise on Hygiene, vol. i, p. 393, Phila.: Blakiston. 1892.

2. N. Y. Independent, vol. lii, No. 2681, pp. 942-44, 19, iv, 1900.

sessions found much of the time taken up with the bickerings of conflicting interests, the cross-purposed wire-pulling of individuals who have axes to grind.

In spite of all these conflicts and differences of opinion—many of which arise from inability to get a comprehensive view of the whole situation, or from unwillingness to move in this matter with an entirely unselfish desire for the public welfare—there are some points about which all who are in earnest are agreed. For convenience, Dr. Crampton is again quoted: "The keynote of modern propaganda in respect to methods of control of food adulteration may be given in three words—viz. *an honest label!* No one wishes to deprive the poor man of his right to use a cheap and wholesome substitute for a more expensive article of food; it would be an unwarranted interference with the rights of both producer and consumer to prohibit the sale of such an article; moreover, it would be inimical to the advance of scientific invention, which has conferred a distinct benefit upon mankind by its production. But it should be sold under its true name and upon its own merits, not as or for the article of which it is an imitation or substitute."

The idea, then, would seem to be not that adulteration, imitation, sophistication, substitution, are unobjectionable, but that they would be practically impossible if everything were labeled *suo nomine*. From a scientific standpoint, it is desirable to demonstrate, wherever possible, that this or that food product is, or is not, wholesome. But there is a fact, so often overlooked by scientists as well as would-be scientists, which has been especially emphasized by Prof. A. B. Prescott in his testimony before the Senate Committee, namely, that laboratory reactions, test-tube physiology, are very different processes from those which take place in the human economy. Says Professor Prescott (Senate Report 516, page 197): "No two stomachs are in exactly the same condition. The contents of the stomach, the chemical agencies of solution in the stomach, are very, very, complex; in fact too complex to be fully defined by chemistry at the present time." Would that all physiologic chemists were so honest and frank! The inability of even competent chemists to reach final conclusions on these subjects is curiously illustrated in some of the German laws. In one section of the country we find that borax and boric acid have been adjudged inimical to health, and therefore their use as preservatives prohibited. In another, we find that similar authority has decided that these preservatives are harmless and therefore their use is permitted.

Viewed from the other standpoint, the history of food legislation shows pretty clearly that the consumer may safely be left to his own instinct and experience to determine what is or is not wholesome. What he seeks and demands is simply the truth. So that, both physically and fiscally, the public weal is best conserved by absolute honesty. In proof of this take the testimony offered on the subject of mixed flour (Senate Report 516, page 5). Said Mr. Augustine Gallagher: "People don't want a mongrel, they want real goods; they are satisfied to trust their judgment. If they want any mixing done they wish to do it themselves. They do not wish to be victimized in the mixing. People understand there is no use of any one mixing products unless they are making money by the process. The enforcement of the flour act has accomplished more in three months than was ever claimed for it by the most extravagant. . . . Our export trade in wheat flour has increased between 24 and 25 per cent. during the

first three months of the operation of the mixed-flour law."

This brings us to another point, well made by Dr. Crampton, the absolute futility of the attempt to inculcate moral principle by mere legal enactment. As he puts it: "the first and most important requisite to a more rigid control of the practices of false pretences and counterfeiting in the preparation and sale of food products is, not more legislation, but a more sensitive public conscience; not more illy considered and half executed laws, but more respect for existent laws on the part of the producer and seller, more vigorous assertion of his rights in the premises on the part of the buyer and consumer. So long as it is practically impossible, owing to the state of public sentiment, to send a man to the penitentiary for selling oleomargarine as butter, it will not be possible to execute with any degree of thoroughness further laws which multiply the number of the same character of misdemeanors."

What then, in conclusion, is the proper solution of these problems? The writer by no means feels himself competent to give a final answer to the question. Yet, there are suggestions which may come to the mind of any thoughtful student of the subject, and in proportion as they are honest and disinterested they are, presumably, worth recording.

In the first place, this subject demands a greater interest and a more thoroughly cultivated intelligence on the part of the medical profession. The physiology of digestion, absorption and assimilation and the whole question of dietetics, in health and in disease, together with that of practical therapeutics, must be more carefully worked out. These studies should be so conducted as to be wholly removed from the debasing influence of commercialism. We are yet far too prone to be led by the alluring advertisements of the enterprising manufacturer to try, and even to commend without a fair trial, the multifarious products which he foists upon the market—for revenue only.

Given such a preparation, the second point will have been insured, the adoption—by the profession, not by the laity—of certain definite and more or less reliable standards, embodying the fundamental principles involved.

The third item will have to do with the putting into effect and carrying out of these principles—necessarily a governmental function. And here I would ask, where is the sense in, what is the excuse for the miserable, puerile, petty jealousies of the various government departments in the discharge of these functions? In common with many other members of the ASSOCIATION, the writer has long hoped and worked for the establishment of a national department of health, which, logically, should have charge of this and all allied subjects. Perhaps our efforts along this line have been misdirected. Certainly any measure which would convert into a mere political organ what should be—if I may so phrase it—a purely scientific organism, is to be deprecated. But is this necessary? In the past ten years, as my acquaintance therewith has grown, I have been more and more amazed at the extent and value of the work of the many scientific establishments under the direction and control of our national government. From the standpoint of economy, the apparent waste arising from the duplication and reduplication of effort in this direction, is even more amazing. As a matter of fact, it would be very difficult to so differentiate and isolate these various works as entirely to avoid duplication. The diverse functions of the governmental body are as closely inter-

related and interdependent as are those of the human body. Might it not be possible to establish a bureau of science, for instance, in which the achievements of these various laboratories—no matter in what department located—might be assembled and centralized, a scientific clearing house as it were? What matters it whether a chemical analysis be made in the laboratories of the U. S. Department of Agriculture, of the Treasury, or of War? There is no danger that a soil analysis will be attempted by the Biochemic Division, nor that a specimen of *Trichinella spiralis* will be referred to the bacteriologist of the U. S. Marine-Hospital Service. Nor yet is there any reason why the Entomologist's nose should be dislocated just because the Helminthologist is able to determine a specimen of *Boophilus bovis*!

Finally, when this whole subject has been properly formulated in the shape of a bill to be passed—not passed upon—by Congress, let the bill first be submitted to all specialists, all the trades, all the trades organizations whose interests are involved. Let each perfect his or their own section, showing in what way it will affect them and what points it is most important to secure. It is absurd to expect that a committee of Congress should wisely and justly determine upon the details of such a bill. Equally absurd is it that a chemist should define what is to be the part taken in these investigations by the botanist, the zoologist, the pathologist.

Several of the bills before Congress are supposed to contain all that is necessary, after a careful study of the food laws of other countries; but a comparison of these bills with the national laws of Great Britain and Germany, for instance, will show how utterly inadequate they are. It has been urged that, in prospect of the passage of the bill recently agreed upon by the National Pure Food and Drug Congress, it is best to withhold criticism—this upon the argument: "Better half a loaf than no bread." On the other hand, it may be said: "'tis better to bear the ills we have than fly to those we know not of." The bill referred to, if passed as agreed upon, will not only work a manifest injustice in certain particulars, but it will, almost inevitably defeat itself, in others.

633 North Sixteenth Stret.

A NEW LEG-SPLINT FOR TRANSVERSE FRACTURE OF THE TIBIA.*

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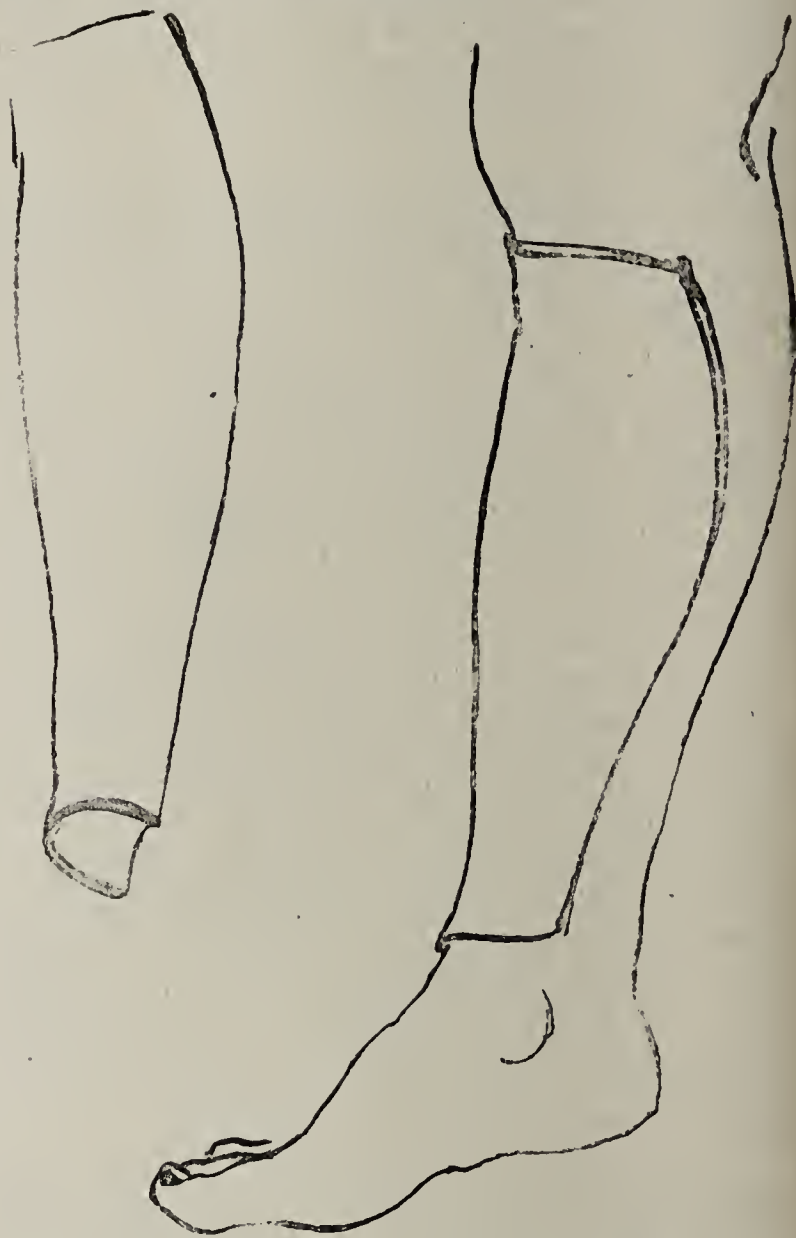
This paper considers, briefly: 1, why surgeons splint a broken leg; 2, the plaster-of-paris treatment for it; and 3, a new leg-splint devised by the writer.

WHY SHOULD SURGEONS SPLINT A BROKEN LEG?

The question, though elementary, is quite opportune, as shall be shown further on. Senn¹ says: "In the treatment of fractures as in the treatment of wounds of the soft parts accurate coaptation and effective fixation should be aimed at, so as to place the parts in the most favorable conditions to unite by the smallest possible amount of new material." Thomas Bryant,² in his manual, writes: "After the setting of the fracture, the essential part to be observed in its treatment is the immobility of the broken bone; and next to this, its

exposure during the process of repair to render certain that the bone has maintained its right position."

These quotations are sufficient to answer the query why we should splint a broken leg. A reference to the medical journals of the past year will show, however, that several surgeons—notably Champonnière—advocate the treatment of fractures without the use of immobilizing apparatus. Massage and passive motion are deemed all sufficient. It is difficult to comprehend the *raison d'être* of the newer teaching, unless it be viewed in the light of a reaction from alleged immobilizing apparatus in vogue that has serious disadvantages. The swing of the pendulum of practice, from misfit immobilizing apparatus that often produces deformity, and always prevents the seasonable application of massage and passive motion, to no apparatus at all, is the swing of the pendulum that has many illustrations in the history of the practice of medicine.



One advocate of the new method of treatment gravely informs us that the Hottentots never employ fixation in fractures, but rely solely upon rubbing. Despite this interesting information, it is probable that the English-speaking races, with the restraining influence of their jury system, will continue to employ immobilization in the treatment of fractures. The necessity for the use of massage and passive motion in the treatment of fractures is not questioned. That manipulation alone should suffice in the treatment of fractures, as with the Hottentots, is untenable. The combination of fixation, massage, and, in proper cases, passive motion, is doubtless the most effective treatment.

THE PLASTER-OF-PARIS TREATMENT.

In describing this treatment, I shall quote an advo-

* Read by title in the Section on Surgery and Anatomy, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

1. "Principles of Surgery," Phila., 1890, p. 56.

2. "Manual for the Practice of Surgery," Phila., 1855, p. 63.

ite of it, a skilful surgeon, Dr. Estes,³ of Pennsylvania: "After a transverse fracture has been thoroughly reduced and the fragments accurately adjusted, there is comparatively little danger of the fragments slipping, the foot be kept quiet and some stiffening splint be applied to the leg. Plaster-of-paris splints I have found ideal in these cases. Two strips of tin, one on either side, or some flexible wood splints may be used as opposition splints at the seat of fracture, to prevent any movement of the fragments, until the plaster hardens. Before applying the plaster it will be well to pad the leg with an even layer of cotton-wool and to use a flannel bandage over the cotton, neatly, but not too tightly, applied, from the toes to the knees. If the fracture be near the knee it will be well to extend the plaster dressing 6 inches above the knee. More or less swelling will surely result after fractures of the bones of the legs; it is well, therefore, to bear this in mind and never use very tight bandages. The cotton-wool when properly used and the bandage skilfully applied will prevent any hurtful pressure resulting, but the surgeon should carefully watch the extremity for twelve hours after applying the dressing, and he should instruct the patient and his attendants to notify him at once in case great pain in the extremity or swelling and discoloration of the toes should take place. In any case in which it will be impracticable for the surgeon to see within ten hours after the application of the plaster-of-paris dressing, he should insert, while applying the dressing, a narrow strip of tin under the plaster just over the flannel bandage, and instruct the attendants in case swelling and persistent and very severe pain should follow, at once to cut through the bandage upon the tin strips with a penknife, and so loosen the dressing."

The necessity of splinting having been shown and the plaster-of-paris treatment described, it remains to consider, in the third place, the new leg-splint.

THE NEW LEG-SPLINT.

After the fracture is reduced, a piece of wood-plastic material is suitably cut, moistened with water and bandaged snugly upon the limb, directly next the skin, so that it embraces the shin-bone. The middle line of the long axis of the splint coincides with the anterior border of the tibia. This splint, lying next the skin, gives an efficient immobilization. It is light, cheap, and durable. At any time the surgeon can inspect the bone by unwinding the bandage and lifting up the splint. It thus permits of massage, to the importance of which this paper has already referred. There are no bits of wood, nor tin strips to be kept in place, no cotton batting to impair fixation, no flannel bandage, and no mussy application of plaster-of-paris.

Should the loosening of the apparatus be required in the absence of the surgeon, it can be done by simply unwinding the bandage. It is no easy matter for one unfamiliar with the technique to remove a plaster-of-paris "cast." The writer has treated cases of fracture where he would as well expect the attendant to know how to do an amputation, as to remove a plaster-of-paris dressing from a broken limb.

In conclusion, it is claimed that the leg-splint described fulfils the requirements deemed essential in the treatment of a broken bone, namely, efficient fixation, easy removal for inspection, or the application of massage, and proper protection of the weakened limb until normal bone reunion is complete.

SOME OBSERVATIONS IN RENAL SURGERY.*

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This paper is a contribution to the natural history of error. In these days of enthusiastic renal surgery every frank analysis of diagnosis gone wrong, of operative blunders committed, of difficulties unexpectedly faced, must be not only of interest but of actual value to those undertaking operations on the kidney. It is a trite enough observation that we learn more from defeat than from victory—this is my apology for directing attention to certain of the errors observed during the development of the cases recorded in this article.

Jacobson describes nephrolithotomy as "one of those advances in modern surgery in which the operation has outstripped the diagnosis."¹ This statement is borne out by the astonishing fact that of twenty-seven nephrotomies for stone he met failure in six. Henry Morris also remarks that within his observation sixteen unsuccessful explorations of the kidney had occurred. Those who are overconfident of their own abilities, or disposed to think harshly of diagnostic error in others, would do well to study carefully the valuable outlines furnished by Jacobson of his six unsuccessful cases.²

It is a pity that this classification of error has not been extended further, so that we could have some statistical view of the percentage of miscarriages occurring in all kidney undertakings in the practice of some of the best diagnosticians and operators. For it would appear that the true *terra incognita* of present day surgical investigation lies behind rather than within the abdominal cavity. It is instructive to observe that this lack of definition as to the exact location and condition of the kidneys, which has not yet been sublimated out of the medical mind, is reflected on lines of broader ignorance in the sensorium of the layman, who never displaces heart or liver, rarely has left-sided appendicitis, yet incorrigibly locates his urinary organs anywhere from the sacrum to the *vertebra prominens* and from the spinous processes to the axillary line.

The cause for this constantly recurring inexactitude of place conception becomes on consideration sufficiently apparent, nor can it from the nature of things ever be thoroughly eradicated even from the medical mind, but must continue forever as a bar to anything better than a respectable percentage of perfect diagnosis. Our direct ideas of location and condition or quality of any organ or thing are based on sense perceptions, which enable us to separate it from other structures and conditions; bearing this fact in mind, it becomes immediately obvious that we can predicate little—with that certainty which we apply to ordinary things—of an organ which can never be apprehended by sight or touch except as disguised by the body wall, and is never directly or indirectly manifest to the other three senses. Moreover, while the absolutely definitive location of a kidney as such becomes singularly elusive, much more so must be the definition of local and limited disease within the organ itself. It must, indeed, be admitted that we are rarely in a position where the surgeon can predicate with certainty and from direct testimony the complete location and condition of any given kidney before exploration.

What I have said with reference to the uncertainty of the *direct* evidence of position and structure, applies with equal truth also to any *indirect* or circumstantial

3. "Internat. Jour. of Surg.," 1899.

* Presented before the Chicago Surgical Society.

methods employed to fasten the diagnosis of surgical disease upon one or both kidneys. It is an axiom of logic that the number and limitation of the premises being indefinite, the deductions must perforce become uncertain. Nowhere does this truth obtrude itself more constantly than during the endeavor to formulate a consistent and ultimately correct theory concerning an organ, the exact duplicate of which is found on the opposite side of the body, both organs pouring their only evidence of activity and identity into a common receptacle, and both of which are buried in fat and muscle and surrounded on all sides by organs, themselves scarcely perceptible and themselves perhaps pathological both in location, position and intimate structure. Here we must of necessity often lodge finally, if we are honest, in a mere probability, putting up the moment before the incision with "the most likely looking" diagnosis, and more or less contented to follow in the lead of Lawson Tait, who solved the same kind of operative difficulties by observing laconically that "the kidney is best reached by the most likely-looking road."

Again, in groping for safe and infallible guides to this diseased organ, the surgeon is many times tempted to make deductions from single classical relations assumed on too narrow grounds to be inflexible in spite of changes in other organs and relations. If we would not make the error of placing the normal where it becomes abnormal, we must admit that normal relations disappear with the development of diseased conditions, so that no relation can be said to be normal or to be counted on in the presence of pathology. Most of us have at times lost sight of the fact that the principles of regional anatomy can not be applied to organs which have become so distorted through disease as to fall entirely out of their position, leaving vacancies into which other organs are at liberty to fall. We must admit that the colon lies in front of the kidney, and that the spleen and liver and gall-bladder lie above and in front of the colon; yet if we apply these truths too liberally, or lay down too many rules for the surgical guidance of our country friends, based on the literal and normal anatomy of these parts, we land them presently farther from the truth than if they had attacked their problems with ordinary common sense. Certain of the cases cited below bear witness to this point.

A somewhat acrimonious discussion which took place two years ago as to the relations of the portal vein to the common duct of the liver served to illustrate the fact that normal relations may be dangerous to follow in pathological and surgical dissections, for while we must admit that the vein normally lies entirely behind the duct, many of us have had occasion to thank Dr. C. Fenger for calling attention to the fact that in the engorged and distended portal vein incident to many diseases of the liver, the duct may be imbedded in and surrounded, in a great measure, by the vein.

This paper, therefore, is not written with the idea of exploiting any new or peculiar method of diagnosis in renal surgery, but rather to show that after careful consideration of this class of cases, and after applying faithfully to the elucidation of their diagnosis all of the methods commonly noted in the text-books, we still find it necessary many times either to confess ignorance or to run a large chance of being presently overtaken by error.

In the following reports we see the kidney taken for the spleen, and the spleen for the kidney; we see the liver sinking behind the colon to confound the surgeon in search of a kidney, and the kidney stretching its pedi-

cle until it lies flush against the anterior abdominal wall; we see the gall-bladder finding its way into the loin and again into the iliac fossa, perinephritic abscess masquerades as calculus or appendicitis, and empyema as renal cancer. We see stone in the kidney treated for Bright's disease by the clinician, but we also see the kidney cut by the surgeon for stone and none found. Surely a chronicle such as this must give us pause if too much inclined to assume the skiagraphic eye when making a diagnosis of those surgical diseases lying in relation to the posterior reflection of the peritoneum.

CASE 1.—A. B., aged 27, country schoolmaster by profession, of good family history, but of excessively neurotic temperament, came to Cook County Hospital, complaining of frequent and painful micturition, with pains shooting into both groins from the lumbar region.

There was no history of gonorrhea, or of sexual indulgence of any kind, no varicocele, and the patient was unmarried. There could be no question about the frequency of the micturition, which occurred at least every half-hour during both day and night, and had caused him to lose much flesh through loss of sleep and food. An examination of the urine showed hyperacidity, a few blood cells, but no pus. An exploration of the bladder by means of the sound revealed nothing except an abnormally sensitive prostatic urethra, which was accordingly dilated, but without improvement. After trying various remedies, including large doses of bromids and pichi, the patient begged for operative measures, and accordingly the bladder was opened and drained, with complete relief of the symptoms. This relief, however, continued only as long as the bladder was open, and when the wound closed—which it did some time after his return home—his symptoms were as bad as ever, and he was absolutely unable to perform any of his duties. He returned to the hospital, where he showed no change in his symptoms, except that the pain was referred more directly to the left side. He underwent a nephrotomy of that kidney, the organ being thoroughly explored for stone or other pathological condition, but nothing abnormal was found. After this operation he was assured that he would be absolutely relieved, which proved to be the case until some time after he returned home and the wound was thoroughly healed. Eventually, his symptoms returned, this time being referred to the right kidney with redoubled severity, and he came once more to the hospital, very much emaciated and begging for a final operation on the remaining kidney. At this time his symptoms were thoroughly canvassed; the acid urine voided at frequent intervals and containing blood in small quantities, together with the pain shooting from the loin into the testicles, were thought to justify a third search for stone. At the third operation the result was similarly negative, except that there was an obstinate hemorrhage, which was thought at the time to have been controlled by gauze packing; during the night there was either a continuance or a return of the hemorrhage, and the patient died. At the post-mortem, there was found an incision into the renal vein, from which something like two quarts of blood had escaped, finally forcing its way into the peritoneal cavity. Other than this, there were no conditions which could be called pathological beyond great thickening of the bladder walls with an abnormally small bladder. There was no stone.

This painfully instructive case discloses the fact that frequent and painful micturition with acid urine and a mild hematuria, may result simply from abnormally developed excitability of the genitourinary system, produced by conditions closely resembling hysteria. In the absence of better defined objective symptoms of organic disease it would seem that this case should never have come to an operation. Nature, unhampered by the suggestion of operative interference would very likely have worked out a cure.

CASE 2.—G. S., age 32, normal weight 210 pounds, saloon-keeper by occupation, was referred to a hospital with what was thought to be appendicitis requiring operation. After some days' treatment in the hospital under observation both of the

physician and the surgeon, his symptoms subsided, and the case not seeming to call for an immediate operation, he was discharged, under the diagnosis of catarrhal appendicitis.

After leaving the hospital, the patient returned to his occupation, but continuing to lose flesh, his weight then being about 190 pounds, he consulted several surgeons for the purpose of confirming or establishing a diagnosis. By one surgeon his condition was held to be due to appendiceal abscess, with the appendix lying underneath and parallel to the colon; by another, a diagnosis of renal calculus was made. He then consulted the writer, and after an examination of the urine, which was neutral and contained a small quantity of blood and pus, I held to the first diagnosis, believing that the organic elements in the urine were due to the proximity of the abscess, the large number of the symptoms, viz., pain, slight temperature, constipation, recurrent intestinal colic, with occasional vomiting attacks being thought sufficient to turn the diagnosis in the direction of appendicitis. There was no tumor, but the right rectus abdominis was rigid and deep pressure showed tenderness. At the operation I found the appendix non-adherent and non-suppurating, but erect and in a condition of catarrhal inflammation. It was therefore removed, and the wound healed without temperature or complication. Shortly before leaving the hospital, the urine commenced to show a considerable increase in the quantity of pus, the reaction varying from mildly acid to mildly alkaline, and an evening temperature of 100 developed. This was thought to be due to a chronic cystitis, the patient having drunk the alkaline Missouri River water for several years. A deep stricture was found and dilated, and the bladder washed out daily. The temperature fell, and most of the pus disappearing from the urine, he was discharged feeling much improved. After a period of about three months the patient returned with a farther loss of weight of about twenty-five pounds, stating that the pain in his side, which appeared to have been relieved by the operation, had returned, together with hectic fever and a large quantity of pus in a neutral urine, accompanied by intermittent hematuria. It then became evident that the diagnosis of stone in the kidney was a most probable one, since there was great and definitely located pain on pressure below the twelfth rib, which could not be said to have existed as definitely before. The pelvis of the kidney was therefore opened and drained. No stone was found, although the needle was freely used in exploring the kidney substance, but the pelvis on exploration was found to contain a considerable quantity of pus, blood and debris. This was thought to represent the extent of the disease. The operation was followed by fall of temperature, and cessation of the symptoms, except the pyuria continued, though less in quantity. The tube remained in the wound for three weeks, and the patient was discharged with a urinary fistula, through which at least a portion of the urine of that kidney made its escape. It was thought that a subsequent nephrotomy would be necessary at no distant date. In two months my good friend returned, emaciated by hectic fever and pain to 140 pounds, and with the urine containing a large amount of pus, but no tubercle bacilli or cheesy particles. At the third operation, which was performed under great difficulties in consequence of the enormous development of fibrous tissue in and around the kidney capsule, at least one-half of the renal structure was found to have disappeared, being replaced by fibrous and granulation tissue and sinuses leading in several directions. No abscess, however, was seen until the kidney had been partially extirpated and drawn into the wound. This procedure was attended by increasing difficulties, owing to the adhesions in all directions requiring a dangerous amount of traction to deliver the organ and its capsule. These adhesions were especially noticeable in a direction upward and behind the liver, and the final effort to free the organ literally pulled out the wall of a large cavity above the kidney and between the liver and diaphragm. After such pedicle as was possible had been formed from the fibrous tissue adjacent to the pelvis, the pedicle was clamped with three large forceps, which were left *in situ*, it being impossible to differentiate the ureter and renal vessels in the mass of adhesions. Attention was then directed to the abscess cavity, from which was cleared out a great quantity of pus, broken-

down blood-clot, granulation tissue and partly organized abscess wall. In evacuating this mass of semi-solid debris, my entire hand was introduced between the liver and the diaphragm, barely reaching to the top of the cavity, but not identifying disease either of the lung, liver or spine as the source of the suppuration. The operation was followed by no shock, the fever and pain at once disappeared, and within a week the urine was free from pus. The clamps were removed on the third day and there was no resulting hemorrhage. It was found, however, that a small portion of the kidney had been left in the lower portion of the wound, and from this urine continued to be secreted through a sinus for about two months. There were no other complications, and at the end of three weeks the patient left the hospital. In three months the wound was entirely healed, and the patient at the present time weighs 230 pounds, secretes a normal quantity of normal urine, and is indulging enormously in stimulants.

It is of interest to know that this patient, when about to leave the hospital for the fourth time, finally recollected having fallen heavily against some article of furniture while entering his house one night in an intoxicated condition, and that he spent two days in bed, suffering great pain in the right lower portion of his chest, and that there was some discoloration of the skin over the lower ribs, continuing until about six weeks before he went the first time to the hospital.

This case certainly illustrates to a remarkable degree the vicissitudes of renal surgery. In the light of subsequent developments, some of the errors may seem inexcusable; nevertheless, I was not the only one who fell into them, for two other surgeons had previously made a diagnosis of appendicitis as the pathological condition. It is obvious that the error was based on too little attention paid to the relation of the pain to McBurney's point, and in failing to give the small amount of blood and pus present from the first in the urine their proper value. The temporary improvement in the patient's condition after the first two operations was due to the rest in bed. Again, it is probable that not sufficient care was taken in securing a previous history and a little more careful questioning by his four or five surgeons might have brought out the story of trauma. Too little attention also was paid to the fact that the urine was often acid in reaction, although containing pus and blood; this would have ruled out the theory of cystitis secondary either to stricture or to the drinking of alkali water. Fourthly, the first operation on the kidney should have been a nephrectomy and not a nephrotomy, thus saving the patient the perils of three operations. Lastly, the questions must arise, Was this abscess primarily in or above the kidney, and by what method could it have been located in the absence of bulging of the side and increased liver dullness?

CASE 3.—Mrs. B., came to me with the diagnosis of Bright's disease, having been under treatment for one year for chronic nephritis. I found her suffering with slight temperature, and there was great pain in the right lumbar region shooting into the groin; there was a point of greatest tenderness about two inches above the anterior superior iliac spine, not accompanied by swelling. The urine was acid, contained no casts, but a large quantity of blood, pus and mucus; after filtration there was no more albuminuria than the blood serum would account for, and after repeated examinations, most of the blood, with practically all of the albumin disappeared. She was presently sent to the hospital for a nephrolithotomy, but prior to going there two skiagraphs were taken, the lower end of the plates reaching to the crest of the ilium. On development these proved negative, and the operation was postponed for several days until the urine could be taken from the separate kidneys after Harris' method. The separate urine analyses also proved negative, for the urine from both kidneys was acid,

and contained pus and few blood cells. On account of these negative findings, the operation was again deferred, the patient was put on large quantities of water with urotropin, and the bladder was washed out daily.

Under this treatment she steadily improved, and as there was no recurrence of the pain she was discharged from the hospital and visited me at my office. She gained in weight and comfort for two months, and one day brought in a brownish calculus the size of a navy bean, which had passed without pain. On examination the calculus was found to be rough, but nearly round, and to consist almost entirely of urates. She is now in good health, though pale, and the urine still contains pus and mucus, but no blood.

This case is a typical one of nephrolithiasis, but the negative character both of the skiagraph and the analysis of the separate urines saved the patient from an operation. Had the pain continued, or should it have recurred the indication was clear for operation, but it is plain that neither skiagraph nor separate urine analysis gave any assistance in diagnosing. It is possible, however, that the stone was in the ureter below the field of the plate.

CASE 4.—Mrs. H. In this case a very small stone was imbedded in the right kidney of a stout, gouty woman. Pain, accompanied by the passage of very small particles of gravel, without hematuria, were the only symptoms. The urine was acid, and contained urates. I hesitated to operate until a skiagraph had been taken, which showed a small stone on the right side. At this operation I had occasion to experience the solid comfort which can come from the positive evidence of the shadow found in the skiagraph, for without the testimony of the picture the search for the stone would have been abandoned. On opening the pelvis nothing abnormal was found, and the needle was introduced over twenty times before it encountered a small uric acid calculus the size of a split pea deeply imbedded in the substance of one of the pyramids. The operation was followed by a complete recovery from the symptoms.

CASE 5.—Mrs. B. A case where phosphatic gravel was repeatedly passed, together with blood and pus, and with intense pain located in the left loin. A sound in the bladder found numerous rough, gravelly surfaces and some ulceration. The surfaces were gently curetted and the bladder washed out daily, but there was no relief from the pain, which apparently radiated from the left kidney. No skiagraph was taken, as the symptoms were thought to point sufficiently toward stone in the kidney to warrant a nephrotomy. This was performed without result, the pelvis being thoroughly explored, and the kidney, which seemed perfectly healthy, was repeatedly needled. The wound closed rapidly, with no apparent infection, and the patient was sent home. In four weeks she returned with high fever, chills, and great pain in the same kidney, which was thereupon opened and found to contain multiple abscesses, requiring a nephrectomy, which was performed by Dr. Eisen-drath. The wound did well, with the exception of a sinus from the ureter, and six weeks later I dissected out this structure from the kidney incision down to the broad ligament. She then made a good recovery, but still continues to suffer with her bladder, the condition of which seems to be due to a cystocele.

It would appear that this nephrotomy should hardly have been performed without a previous skiagraph, especially since the patient was hysterical and complained of pain in the opposite side. I am also convinced that while the case has been previously reported³ as one of surgical kidney, it should properly be classified as one of direct infection at the first operation; for not only were the kidney and pelvis apparently normal when I first incised them, but on removing the ureter at the third operation, that tube was found to show neither dilatation nor gross pathological change. If we accept the current

definitions of surgical kidney, this one could hardly be classified as such, since the definition implies the spread of suppuration from the bladder up the ureter into the kidney, and must of necessity call not only for evident ureteral dilatation and infection, but also for chronic changes in the kidney and pelvis.³

CASE 6.—This was one of wandering kidney in an hysterical French woman, which I report because the condition was not recognized by me while the patient was on the table under an anesthetic, but was discovered by the house surgeon as she was erect and preparing to leave the hospital. The kidney could be brought close up to the anterior abdominal wall and had a decided pedicle. A nephrorrhaphy, after the usual methods, was performed, and although the kidney has been found in place by several surgeons, the patient claims to have sustained no relief from her symptoms.

CASE 7.—A case in which nephrotomy had been performed four months previously by another surgeon, with the successful removal of a stone of considerable size; a fistula persisted, and patient came under my care for relief. On examination the entire secretion from the right kidney was found to be escaping through an opening, remaining at the lower extremity of a very long lumbar incision. An effort was made to close the opening by curettage, and by keeping the patient on the opposite side. This was unsuccessful, and an opening was made embracing the lower half of the former incision, but extending to just above the middle of Poupart's ligament, as in Koenig's incision. The muscles being dissected back and the uninjured peritoneum stripped up, the ureter was disclosed from the brim of the pelvis to the point where it entered the pelvis of the kidney. No visible disturbance in the continuity of the ureter being noticed, a ureteral bougie was passed into the fistula in the hope of finding the ureteral orifice. The search was unsuccessful, except as it led to the discovery that the fistula passed directly through the lower pole of the kidney into the most dependent portion of the pelvis, and that gravity alone, without other assistance, would drain the bulk of the urine into the fistula. But this did not account for our inability to find the ureteral orifice, and a small incision was therefore made in the ureter about three inches below the kidney, through which the bougie was passed upward. On reaching the pelvis it would pass no further, and a careful inspection disclosed the fact that the scar from the original incision had passed through the lower portion of both kidney and pelvis, nearly bisecting the ureter. The contraction of the scar had evidently completely excluded the ureter. After some consideration it was decided to divide the stricture from without, cutting down on the point of the bougie by an incision parallel to the long axis of the ureter, and then to unite this incision—when it became evident that the ureteral orifice was again patent—transversely to the long axis of the tube after the Heinecke-Mickulicz method of pyloroplasty. This was accordingly done and the bougie, after closing the lower ureteral opening, was left *in situ*, the upper end projecting through the fistula. A drain was introduced down to the kidney and the wound was closed. No complication followed the operation, but on withdrawing the bougie, after five days, the urine refused to resume its flow through the original channel. The patient now passes the entire urine from that kidney through the fistulous tract. No nephrectomy was advised, because the urine from the opposite kidney contained some albumin and a few hyaline casts.

This case is instructive in showing that there is danger in too extensive incisions into the kidney substance and that in no case should the knife be carried so far through the lower pole of the organ as to encroach on the ureter. It is instructive also, in showing that the persistence of urinary fistulae may be accounted for by gravity alone, since in this instance the fistulous opening from the pelvis must in the erect position have been considerably lower than that of the ureter. In such a case it was an absolute waste of time to try to close the urinary fistula or to attempt to restore the patency of the strictured ureter by plastic operation.

CASE 8.—Mrs. G., a tall, pale, neurotic, small-waisted woman of 46, who boasted that she had been attended by twenty-four physicians prior to my own brief ministrations. She submitted to my examination, which was made at the request of her medical adviser, complacently, yet with frankly expressed doubt as to my ability to make a diagnosis, in which opinion I presently joined her. She gave a history of fairly normal pelvic organs, and the urinary examination was negative. Her digestion was impaired and her yellowish pallor showed deficient blood-production, though not sufficient jaundice existed to definitely associate the liver with her condition. There was constant slight pain or discomfort in the region of the ascending colon, and palpation showed an indistinct body encroaching, as it seemed, from behind that structure. The patient stated that the enlargement was of recent date, as she had not noticed it until a year previously. On distending the colon it was found to lie in front of the growth, and the liver, apparently not enlarged, could not be shown to be either continuous with or separated from it. The tumor was fixed, did not seem to move with the slightly prolapsed liver, and could not be pushed into the kidney position. The flank was neither sunken nor swollen. This case has already been presented to a clinic as one of renal growth, that diagnosis having been based on exclusion of the liver, because the distended colon covered the lump. My own diagnosis was withheld because the tumor was indistinct, the other symptoms were obscure, the patient had not failed materially, and the colon relations alone were not sufficient to bring conviction that a prolapsed and adherent liver could be excluded. A preliminary examination under ether was proposed, but was refused by the attending physician on the ground that the patient was hardly strong enough to bear two anesthetics, so she passed on. An operation, performed at a clinic two weeks afterward, for removal of the tumor, disclosed a prolapsed corset liver with omental adhesions. The kidney was normal.

This case illustrates the fact that deductions based on colonic relations are not always to be depended on. The absence of urinary findings was in itself suspicious, though blood and kidney or tumor elements are not present in more than 60 per cent. of renal growths. Again, though the patient was ill-nourished, she was not cachectic and took life rather too easily for one afflicted with a growth of a malignant nature, such as this would probably have been had the kidney really been the offending organ. The case serves also to demonstrate that the elusive nature of the diagnosis of loin tumors should preclude anything like positive predictions as to their origin.

CASE 9.—This patient illustrates the same points and was brought by a suburban physician for the relief of gallstone colic. The patient was well nourished, with a color showing no trace of icterus; the doctor, however, stated that there had been jaundice, and severe colic located near the tip of the twelfth rib. An examination showed a rather movable tumor the size and shape of the kidney, behind the colon and near the edge of the quadratus lumborum, apparently too far back to be the gall-bladder. Urine analysis was negative. A cautious diagnosis of renal misplacement with possible tumor was made, but the incision was brought farther forward than usual, both because of the location of the swelling and in order to reach the liver in case of error. This course proved to be a wise one, for the tumor was a distended and prolapsed gall-bladder with a very long duct, and contained mucus and calculi. Recovery was perfect.

This case was not mine, but I believed the kidney was the organ at fault, simply because it lay adjacent to the usual kidney location and felt very much like that organ. Of course, the negative urinary findings were ignored, as well as the small voice of the country doctor who was posted on jaundice, but had not read up on colonic relations. The case offered also an illustration of the practical working basis furnished by Lawson Tait's observation already quoted, that "the kidney"—or any

other organ—"is best reached by the most likely-looking route."

CASE 10.—This case is introduced to demonstrate that the gall bladder may prolapse in front of, as well as behind the colon. The patient was brought to the city by her physician for an operation for appendicitis. When I saw her there was a not very tender tumor lying close to the abdominal wall, slightly above McBurney's point. Temperature and active symptoms had subsided, but the tumor continued. I made an incision without attempting a diagnosis, and found a prolapsed gall-bladder containing calculi and some pus mixed with mucus. There was recovery with a biliary fistula, taking a year to close.

CASE 11.—T. C., aged 24, weight 110, family history tuberculous, and patient himself had had chronic cough and night-sweats for a year, with progressive emaciation. Right apex consolidated. A few days prior to admission to the hospital he was taken with colic, vomiting and constipation, and the right rectus abdominis became rigid. The abdomen was not distended and the temperature ranged a. m. 99, p. m. 101, with sweats at night. Pain was constant, but the vomiting and constipation disappeared shortly after admission. Urine analysis negative. There was no definite history of other attacks. Although the symptoms pointed strongly to appendicitis, the tendency of the pain to locate itself rather higher and more posteriorly and deeply than in appendicitis was thought worthy of consideration. Operation was withheld for thirty-six hours on account of these doubts, but there finally seemed no good reason to question the diagnosis of appendicitis. My house surgeon performed this operation, and was instructed to incise higher and more posteriorly than in an ordinary appendectomy incision. He was so convinced, however, that he was dealing with appendicitis that an incision was made over McBurney's point, which presently had to be extended four inches higher to reach a peri-nephretic abscess containing several ounces of pus of tubercular origin. The appendix was not involved.

This case and Case 2 warn us that all abscesses covered by the ascending colon are not from the appendix. Taken with the preceding—Case 10—we note also the value of McBurney's point in establishing or excluding a diagnosis of appendicitis, for in Cases 2, 10, and 11 the spot of greatest tenderness was quite a little above that point. Pain radiating to or from the loin or liver is also of value in excluding appendicitis, for, though lumbar pain has occasionally been noticed, I doubt if in a great percentage of appendiceal disease the pain radiates in any other direction than toward the navel. We see here also that, other things being equal, the point of greatest tenderness is the point for incision, even when the diagnosis seems reasonably certain.

Cases 11 and 9 illustrate, respectively in a negative and positive way, the value of not allowing theoretic ideas to divert the surgeon's approach to the point of difficulty from a route manifestly in accordance with common sense, to one based on a preconceived theory of diagnosis.

CASE 12.—This was a man of 50, with a very large round tumor under the left ribs, extending downward into the loin and abdomen, and pushing the colon toward the median line. The progressive emaciation and cachexia pointed to trouble of a serious nature, but diagnosis was withheld until an exploration was made through the abdomen. On reaching the growth it appeared to be the spleen. The wound was closed without proceeding farther and the patient presently went home no worse than before, taking treatment for splenic enlargement. After some months he returned for operative relief, requesting removal of the offending spleen, which was undertaken after advising him that his chances were small for recovery. An incision was again made across the peritoneum, and the tumor was found to be a carcinoma of the kidney which had attached itself to the spleen and had dragged

that organ below its normal location. The kidney was removed.

This case did not occur in my practice, but it is so remarkable, and illustrates so perfectly the unusual distortion of normal relations which occur in renal tumors, that I add it to my list. Roberts⁴ describes a similar example of misplaced relations, the recollection of which led me into an error in locating the spleen in Case 14.

CASE 13.—E. C., aged 47, traveling man, temperate, always healthy until February, when he commenced to emaciate and suffer with pain in right side near twelfth rib. In April a tumor which seemed to be the focus of the pain appeared behind the colon and at outer edge of quadratus lumborum muscle. In May he came under my care after having been in bed for several weeks. He was sallow but not jaundiced, had lost forty pounds; there was an evening temperature of 100.5, no chills, no night sweats, no cough, bowels were open and tongue moist; the urine was loaded with urates, but contained no albumin, peptones, or organic elements; blood examination showed no increase of leucocytes. Spleen was not enlarged. The liver seemed to be enlarged upward, dullness reaching to within an inch of nipple and no lung sound below that line. The liver dullness extended higher posteriorly also, reaching to seventh interspace, and the lung sounds were not clear below that line. Change of position produced no change in the line of dullness, and an exploratory puncture withdrew no fluid. Below the liver and behind the colon a hard tumor had pushed itself into the flank between the twelfth rib and the iliac crest. It occupied a space about three inches in diameter, was irregular in outline, and seemed slightly movable, though not with respiration. It was not so tender but that it could be handled to test its mobility; it was continuous with the lower and posterior outline of the liver, but also lay on the quadratus in the kidney region. The temptation to make a diagnosis of malignant growth, with the patient's age and cachexia as a basis, was a strong one—in fact the patient had been told that he had a cancer of the kidneys. Granting malignancy, however, there seemed no good reason why the liver might not have originated the growth from its dorsal border. But the lack of jaundice and indigestion, and the absence of blood and organic material in the urine, looked away somewhat from cancer of liver or kidney. The temperature, tenderness, and febrile urine pointed toward inflammation, at least as a complicating factor in the problem; but the normal blood-finding and absence of peptonuria negated the idea of an abscess. It would appear in this case that the diagnosis should lie between an inflamed malignant growth of either kidney or liver, and an inflamed gall-bladder with omental adhesions possibly concealing an abscess. In the absence of convincing proof of the existence of any of these conditions the patient was informed frankly of the dilemma and advised to submit to an exploratory operation. He consented, and an incision parallel to the quadratus was made directly over the tumor. On reaching the deep fat, evidences of inflammation appeared, and on pushing forward the peritoneum to separate the tumor there was a gush of thick material made up of fibrin, blood-clots and pus to the extent of eight ounces. On introducing several fingers into the sac the liver and peritoneum were found to lie anteriorly and the kidney and diaphragm posteriorly. The fluid continuing to flow after the sac was evacuated, the index finger traced the discharge to an opening beneath the ligamentum arcuatum externum of the diaphragm. Through this, access was had to the pleural cavity, and by the same route between one and two pints of the same thick fluid was presently evacuated. A microscopic examination of the material showed it to be made up of old blood, fibrin, unrecognizable shreds and a few pus-cells. Two drains were introduced, one into the abdominal sac, which had collapsed as soon as it was emptied, and another under the ligamentum arcuatum externum into the chest. The patient made a good recovery, although he hiccupped a great deal, I think on account of the pressure of the tube passing through the diaphragm.

During his convalescence he stated that in January

he fell from a chair on which he was standing to light the gas, and struck his side against the chair-back. He paid little attention to the injury, the pain disappeared in a few days and the circumstance passed out of his memory.

Cases 2 and 13 illustrate exquisitely the fact that many men of sturdy constitutions often sustain serious injuries which they presently forget in the stress of business and other activities; after a lapse of time disease appears, insidious in its course and mysterious in its manifestations, because the real cause has been put aside as inconsequent and forgotten.⁵ Such cases—most of them with a strong elementary foundation, I think, in passive inflammations occurring in slight and neglected traumas—usually prove enigmas, impossible jumbles without any correct key available prior to operation, but clear and consecutive enough when looked back upon as completed pictures.

CASE 14.—Mary M., aged 24 months, very hearty and happy—in fact, a little over-nourished. There were no pathological changes in the urine, no hematuria, no pain in the side, even on freely handling a tumor which protruded noticeably into the left loin, apparently coming from behind and above. The lump was smooth but somewhat irregular, and proved on rectal insufflation of air to lie behind but intimately associated with the colon. The latter structure seemed to run in a kind of groove on the tumor. The spleen was not to be made out in its normal location. The tumor could be shifted in all directions, though swinging from a central point near the normal location of the kidney. Manipulation was made the easier by a smaller lump, the size and shape of a small apple, which projected from the lower pole. The growth was an irregular sphere averaging about three inches in diameter, and we took it for a renal sarcoma which had contracted attachments to the spleen, carrying the latter below and to the outside of its normal position. The colon was thought to lie in the groove, partially separating the two organs. In support of this view a case of cancer in a man aged 44, cited and diagramed by Roberts, was recalled, in which the spleen, usually pushed by renal growths well up under the diaphragm, was carried downward toward the iliac fossa in front of the mass.

It was decided to make an exploratory operation, to be followed by more radical measures should they seem to be justified. The loin was opened by an incision from the twelfth rib to one-half inch above the iliac crest and parallel to the outer border of the quadratus. This incision was afterward continued forward nearly to the rectus, dividing everything down to the peritoneum. That structure was not divided, but together with the colon and much subperitoneal fat, was held back by sponges. On reaching the kidney the following observations were made: 1. It was non-adherent to anything, being held merely by its own normal pedicle; 2. the spleen was in its usual location and not in any way attached to the kidney; 3. the small lump was the lower pole of the organ, and not yet involved in the tumor which had developed in the upper part of the capsule; 4. the growth had pushed the kidney over so that the pelvis lay in front and to the outside; 5. the incision was ample for purposes of removal. Accordingly, the mass was peeled away with the fingers from the peritoneum in front and the lumbar muscles behind, without encountering hemorrhage, adhesions or other difficulties, and by depressing the edges of the wound, it could be brought entirely out of the incision without traction on the pedicle. Two long-bladed forceps clamped the pedicle, overlapping each other from above and below. The tumor was then removed and the pedicle tied with silk, the ends being left long and hanging from the wound. No especial effort was made to isolate the ureter from the vessels, and a small portion of the pelvis distal to the ligature was left in the wound. I could find no glandular metastasis. Astonishingly little hemorrhage taking place, the cavity was packed and drained, and the extensive muscle and skin incision was brought together by catgut and silkworm sutures. There were no complications except a temperature

developing on the third day after removing the drainage tube; on returning the tube the temperature fell, about an ounce of thin purulent fluid escaping which had probably been infected from the stump of the ureter. Eight weeks after the operation the silk ligatures came away and the wound closed immediately thereafter. The patient is in excellent health and shows neither cachexia nor emaciation; the abdomen is larger than it was prior to the operation the bowel appearing to have lost some of its tonic contraction, but a tight binder is reducing the protrusion. The kidney and tumor weighed about eighteen ounces, and a report of the pathological examination made by Mr. Ready, of St. Luke's Hospital is appended.

Six months after the nephrectomy, this patient was brought back to me with a recurrence of the growth at the site of the original operation. The recurrent tumor is considerably larger than the original growth, and so diffuse as to be inoperable. She is now under treatment with mixed toxins.

In analyzing this case several points of interest are developed: 1, the diagnosis of organs involved and the kind of tumor; 2, elements entering into the choice of operation; 3, What were the errors in the operative technique?

A tumor appearing in the left loin of a fat and healthy child of 2 years could hardly be anything but a sarcoma—syphilis of the spleen, tabes mesenterica, retained feces, or congenital cysts, need hardly be considered. Hydronephrosis rarely produces a lobed tumor, nor did the growth fluctuate in size. The absence of history of trauma, as well as the age of the child, pointed toward a congenital growth. So, also, its painless and non-inflammatory development—without adhesions—occurred almost as smoothly and quietly as in the normal evolution of a normal organ. That the kidney should have turned halfway round on its long axis, between the peritoneum and the loin muscles, and neither have contracted adhesions nor have produced trouble through traction on the vessels, etc., in the pedicle, is certainly a remarkable evidence of the plastic character of infantile structures. The fact that this tumor is within its own capsule as well as within that of the kidney, and that the kidney tissue around and below it was still healthy and evidently performing its function, points toward the retention of fetal, but unhomologous elements within the kidney stroma as the starting point of the growth. I am disposed to regard it therefore as arising from the pronephros as described by Grawitz and Klebs,⁸ although Mr. Ready describes it as an adenocarcinoma, without referring to its origin. A curious fact is noted by König⁹ that these sarcomas are much commoner in girls than in boys. As to a diagnosis of the organs involved, this also appeared easy, for the tumor had not yet attained sufficient size to push the colon toward the median line, and away from its normal relations to the kidney. To call the smaller lump the spleen, however, was hardly excusable, for a moment's thought would have shown, that so freely movable and uninflamed a growth could never have contracted adhesions to the spleen sufficient to drag it halfway down the abdominal cavity and around the splenic flexure of the colon. Such dislocations of the spleen are rare and, as in Case 12, and in Roberts' case, cited above, occur only in older persons with carcinoma of growth slow enough to produce intercurrent inflammations with resulting adhesions.

The comparatively small size of the tumor and its early recognition afforded ample justification for its removal. This growth weighed about one pound. König¹⁰ has removed some of enormous size, weighing up to ten

pounds, without immediate death. Nevertheless, the immediate mortality in nephrectomy for tumor is appallingly high, both König and J. W. White quoting Sigris's statistics of 64 operations with 32 deaths attributable to the operation alone. Of these 64 patients only 5 were alive at the end of two years, and but one of Kronlein's series of 5 cases lived four years in good health.

As to the choice of operations, I believe the lumbar route by König's¹¹ long-curved incision, with the operation field lying entirely outside of the peritoneum, was the best in this case. Jacobson¹² also prefers this incision where tumors are of moderate size and without dense adhesions.¹³ He concludes that the König incision is the one of election in all those cases where the peritoneum can be pushed to one side and the tumor is not too large for a loin incision. As showing the statistical argument for and against both methods, König¹⁴ gives the following for what they are worth:¹⁵ Immediate death after transperitoneal incisions 58 per cent.; immediate death after extraperitoneal incisions 24 per cent.; recorded recurrence among survivors of transperitoneal incisions 5 per cent.; recorded recurrence among survivors of extraperitoneal incisions 41 per cent. König, therefore, thinks it an error in the interest of radical work not at least to consider the transperitoneal route. J. W. White, also, thinks that with large tumors and more modern asepsis the transperitoneal operation is slowly gaining ground.¹⁶

Let us now seek, briefly, to summarize the errors with which the foregoing fourteen cases appear to have been fraught. Roughly classified, the miscarriages appear to have resulted from a violation of one or more of the following principles:

1. The surgeon should not attach too great weight to the recollections or the subjective symptoms of the patient, unless borne out by the physical signs. Thus the tale told by the patient with corset liver—Case 8—that her "tumor" appeared during the previous year must have been a fabrication, though she herself may also have believed it. In like manner the ill-starred schoolmaster went to his fate because his surgeon, in the absence of objective manifestations, did not cultivate a wise and conservative skepticism of the patient's ability to make his own diagnosis.

2. On the other hand, due weight should be given to statements made by intelligent patients, especially in cases where the objective testimony is abundant, but confusingly contradictory. Every legitimate opportunity should be offered the patient to establish a sequence of disease. Careless history-taking is responsible for more than a little obliquity of diagnosis. Thus, in the gathering and arrangement of minute and seemingly inconsequential facts, the two cases of traumatic abscess (2 and 13) might have been spared a good deal of perilous delay, and the surgeon a good deal of humiliating mystification, had the relations between trauma and tumor been sufficiently indicated in the history.

3. It is an error in pathologic conditions to place too great reliance on relations normal to the healthy individual. It is probable that exaggerated stress has recently been laid especially on certain normal relations of the colon, and that numerous absolute and exclusive diagnoses have been based on supposed correlations between tumor and colon, which were hardly borne out by subsequent operative revelations. (See Cases 8 and 9.) No diagnosis of tumor or structure is complete until consideration has been given to the possibility of the encroachment by organs or growths on the normal

sites of organs which *prima facie* evidence would lead us to believe to be the ones involved. In this connection, it is interesting to observe how easy it is to regard as pathognomonic certain signs happening to be much discussed in current literature (Case 8), and also how easy it is to think two cases identical because they happen to bear a certain superficial resemblance (Case 14).

4. It is an error, even in the presence of conditions which seem pathognomonic, to neglect every diagnostic resource, and to follow up each resource faithfully to its logical conclusion. Thus, in Case 2, the blood and pus in the urine, and the valuable deductions to be made therefrom, were ignored; in Case 3 the urine was probably not filtered, and a diagnosis of Bright's disease was made on the mere existence of albuminuria; in the same case, although a skiagraph was taken, the plate was so placed as to fail in taking the entire urinary tract, and a stone was, probably on that account, overlooked. In Case 5 a skiagraph was entirely omitted and no stone was found. It is difficult, at the present time, to justify a nephrotomy, undertaken for the avowed purpose of removing a calculus, where a preliminary skiagraph has not been prepared. Although it is contended that pure uric-acid calculi fail to give a shadow, this is hardly at present a matter of sufficient demonstration to warrant such an omission in every case of suspected calculus. The negative testimony afforded by the absence of shadow may lead to a revision of diagnosis and treatment not particularly productive of glory to the operator, but often of incalculable benefit to the patient.

In this connection it may be well said that no class of cases more than these calls for such careful and persistent observation of the physical signs, and the hourly record of temperature, urine, etc. Thus, in Cases 5 and 14 the temperature chart revealed abscesses, which might have proved fatal in the absence of the record and deductions based thereon. In Case 13 a more careful working-out of the physical signs might have pointed even prior to the operation to a subphrenic abscess.

5. Among operative errors, may be noted the failure to properly care for the ureter in Cases 5 and 14. The ureter should be ligated with catgut and brought separately into the wound after cauterizing with carbolic acid; or, better still, should be inverted a short distance and stitched. Kidney stumps should not be ligated with silk (Case 14). Too deep incisions into the kidney structures are dangerous and jeopardize the subsequent integrity of the pelvis and ureter (Case 7). The kidney and the operation wound should not be closed primarily after nephrotomies. Drainage for a few days, at least, is much safer and may save a subsequent nephrectomy. (Case 5.) A kidney which is riddled with sinuses is best removed; conservative measures only lead to another operation. (Case 2.) It is an error to base an incision on any preconceived idea of diagnosis. Rather follow Tait's rule that "the kidney is best reached by the most likely-looking route." (Cases 9, 10, 11 and 13.)

NOTES AND REFERENCES.

1. Jacobson: Operations of Surgery, 3d ed., p. 714.
2. Loc. cit., pp. 715-716.
3. Chicago Medical Recorder, 1899. Also Century Dictionary: "Surgical Kidney is a term somewhat loosely applied to chronic nephritic conditions arising from trouble farther down in the urinary tract, but especially to pyonephrosis arising from a cystitis."
4. Roberts: Urinary and Renal Diseases, 4th ed., p. 525.
5. An interesting consideration of this class of cases is found in Paget's Studies from Old Case Books under the title "Obscure Cases of Caries of the Spine." He calls them "quiet diseases."
6. Roberts: Loc. cit.

7. Extirpated kidney, weighing 12½ oz., measuring 4x3½x3x2½ inches. Macroscopical examination: Both poles and a portion near the hilus show normal kidney substance; the remainder is occupied by a bulging tumor mass; near the lower pole the tumor extends 2½ inches above the niveau of the external surface. Section shows a soft growth measuring 3½x3x2 inches, extending from the capsule of the kidney (near the lower pole), and bulging into the pelvis. The tumor shows in places a tense fibrous capsule, from which it can be separated with some difficulty. The portion projecting above the niveau of the kidney is covered only by kidney capsule. Microscopical examination: Sections show epithelial cells traversed by bands of connective tissue, and without any characteristic arrangement. There are also large masses of cuboidal epithelial cells in groups of tubules, especially well marked in sections taken from the center of the growth. Near the periphery these neoplastic acini and tubules almost disappear. The tumor is quite vascular and hemorrhagic. Diagnosis: Adenosarcoma.

8. König: Spec. Chir., li, 635.

9. Loc. cit., p. 636.

10. Loc. cit., p. 636.

11. Loc. cit., p. 654.

12. Jacobson: p. 753.

13. In this view he is opposed by K. Thornton, and an interesting analysis of the arguments for and against the intraperitoneal and extraperitoneal approaches to the kidney and its tumors found on pages 737 and 764 loc. cit.

14. König: p. 638.

15. These statistics are fundamentally deceptive and König himself warns against basing any deductions on them. The reason is quite obvious.

16. Dennis: Syst. of Surg., iii, p. 475.

DISCUSSION.

DR. J. E. OWENS—I have but little to say about this valuable paper. It reminds me, however, that long since diagnosis was defined to be the "science of probabilities." The cases reported are certainly very interesting and instructive. The paper, being a report of a series of cases in which errors are more or less mingled, is more useful than a report of a series of successes. I have always thought a carefully-prepared paper on deaths after operations well worthy of the consideration of any society, particularly of a surgical society; and likewise a paper on errors of diagnosis and unexpected aberrations encountered in operative surgery. But how rarely are such papers presented. It is very natural for us, even the older members of the profession, to report successes, leaving the less fortunate cases as silent teachers for ourselves. It will stimulate us to be more fearless in relating some of the complicated problems met with in practice.

I have failed with the needle to find stone. No further operative steps were taken in these cases as a promise was exacted beforehand, that if we did not find a stone we should not operate. Many times since the period I am about to speak of, I have asked patients "Were you drunk?" This was suggested to me by one of my cases. A saloon-keeper sent for me one night on account of a severe sticking, or lancinating pain in his side. He said he had not been hurt, and that he knew of no reason for his trouble. I put my ear to his chest and discovered a friction sound, so I said, "Put a blister upon the part complained of and I shall call again." Two days later the patient said, "You are not in it. I had the pain so badly I sent for another doctor and he fumbled about my chest and found a broken rib." "How did you get a broken rib, as you said you were not injured?" "I will tell you; I was very drunk and the folks told me a man said he could throw me, and he did."

Loin pain in appendicitis is often very severe. I had an attack of appendicitis some years ago and experienced intense pain far back in the loin, as well as in the appendiceal region. Other such cases have come to my notice. The use of silk in such operations is not desirable. It will almost certainly come out or give trouble sooner or later. I have had it do so in nephrectomies, and in other operations. I remember well an operation for a large venous varix extending from the armpit to the crest of the ilium. Seventy-five to one hundred silk ligatures were employed. During the following five or six months many of them came away or had to be removed.

DR. D. A. K. STEELE—I quite concur in the suggestion of the President that if we could have a society of surgical and medical pessimists it would be a good thing. I believe there is such a body in London, where no fellow is allowed to report his successful cases, only his failures. We might once in a year or two have such a meeting with profit.

Some of these cases remind me of a personal experience along the same lines where a subdiaphragmatic right abscess was overlooked and mistaken for disease of the kidney. Two such have fallen under my observation. In neither was there a history of preceding injury, although undoubtedly an injury may have been precedent. The question whether the patient had been intoxicated was not asked. One of these cases was in the service of another physician and I was present at the operation. The kidney was incised under the impression that it contained a stone. It was explored with a needle and unnecessarily handled, and just before the kidney was closed up the abscess was accidentally discovered and drained, but the patient did not recover.

One of the cases reported by Dr. Allport, No. 12, seemed to me incomplete, because he did not tell us what became of the patient. A case of interest in this connection came under my observation three years ago, a colored man, 56 years of age, who had been under the care of Dr. Quine for some weeks for persistent pain in the region of the right kidney. He examined him, treated him for some weeks and made a diagnosis of stone in the kidney. I saw the case in consultation, and he was subsequently placed under my care at Wesley Hospital with the request that I operate. I do not know why, but I had an idea there was some mistake in the diagnosis; the operation was fixed for two different days and postponed by me on account of doubt as to the propriety of operating, and then I asked Dr. Danforth to see the case. He said the symptoms pointed to stone in the kidney and it was a case for operation. This was Saturday, and I said we will operate Monday. I called to see the patient Sunday; he had eaten a hearty dinner and was laughing and joking, when he suddenly complained of feeling faint, said, "I cannot see anything" and fell back on the bed; in ten minutes he was dead. I made the post-mortem examination and found that he had a ruptured aneurysm that was overlooked. Fortunately for me I postponed the operation until nature ended his life; had I operated we would have had a death on the table. The kidney was normal, but displaced by the aneurysm behind it; there was only a quart of blood behind the kidney. It was an aneurysm of the renal artery. There is another class of cases, two of which I have under observation now, and have had during the past year, in which there are classical symptoms of stone in the kidney, in which I have declined to operate because the skiagraph fails to show the presence of the kidney stone. For the last year I have availed myself of this aid to science in diagnosing stones, and not finding them in the skiagraph I decline to make a positive diagnosis.

DR. L. L. MCARTHUR—In the series of cases reported by Dr. Allport, reference is made to the appearance of a few blood-corpuscles and pus-corpuscles in the urine, and yet the case was suspected to be appendicitic. Although there has not yet been any paper written calling attention to this fact, it is nevertheless a fact that blood-corpuscles in quite liberal number, and even albumin accompanying them sufficient to give a nitric-acid reaction, will be present in a certain small percentage of cases of appendicitis. I have had four cases in which it was difficult to decide whether it was renal colic or appendicular colic, and still more difficult after a microscopic examination and finding blood. In two cases in which the temperature seemed to be out of all proportion for renal colic, operation was had and gangrenous appendicitis was found, although bloody urine, vesical tenesmus, and albumin were found in the urine, and those symptoms which go with renal colic were present.

As to skiagraphs of stone in the kidney. I presented a paper before the Chicago Medical Society with skiagraphs of all varieties of renal stones, and at that time called attention to the fact that we must not look for a distinct shadow from renal calculi of organic origin. For instance, uric-acid calculi are probably the most frequent of all calculi, amounting to nearly 89 per cent. Uric-acid stones cast almost no shadow on the plate itself and how much less when it is to be observed through the body.

I returned to the city this evening from a case to which I was called at Columbus, Wis., that had been under the obser-

vation of three doctors for three years—a woman 58 years of age, the mother of a large family, who for three years has been complaining of obscure pains in the right loin. She had some yellowness of the skin and presented a tumor movable in respiration in the right loin in the neighborhood of the kidney. I was called to see the case because it was supposed to be a tumor of the kidney. Urinalysis was negative. On examining the case this morning a tumor was very distinctly to be palpated, which moved with respiration, and by bimanual palpation moved backward and forward as well as up and down, but the colon had not been inflated. So I inflated that and found the tumor lying anterior to the colon. That, taken with the fact that the colon was very distinctly palpable and the patient was icteric, led me to believe that it was a tumor of the liver or distension of the gall-bladder. I made a diagnosis of tumor of the liver, probably echinococcus and not malignant, because the patient had not emaciated. An exploratory incision was advised and enlargement of the incision to remove the trouble if found feasible. A small incision was made to the outer margin of the rectus and a corset liver found, a lobular elongation shaped like the kidney. The kidney was perfect, distinctly palpable behind it, of infantile size, nothing in the pelvis and the gall-bladder very small. Nothing was to be found in the neighborhood of the ileum, or pancreas. Such mistakes can be made as Dr. Allport describes in his paper without any reflection being cast on the surgeon. At one of the meetings of the British Medical Society, for a presidential address, Paget read a paper entitled "Necessary Errors in Diagnosis." A logical conclusion can not but be drawn from the premises furnished, sometimes the premises are false and therefore your conclusions false. Jacobson says, any operation which justifies exposing the kidney for handling also justifies the exploration of that kidney with the finger. I think it extremely difficult, even with the finger, to find a stone; I know they are overlooked, I have done it myself; how much more difficult is it with the needle! I chanced to be present at the operation on the 14th case reported by Dr. Allport, and as he was about to amputate his ligatures I suggested that he leave one long so as to extend out of the wound. I think that extremely wise, because they do suppurate frequently. If you have an end, you can take hold of it and you can get them out by a small amount of continuous elastic traction.

DR. D. N. EISENDRATH—Case No. 1 seemed to come under the class of hysterical pains which are so frequently met in viscera, the stomach, spleen and kidney; they come under the head, in this case, of nephralgias. The second case was one of hematuria, without apparent cause until afterward trauma was found. I was interested because there are so many cases of hematuria without apparent cause which are due to tuberculosis. I read a report of a case in a German journal of very severe hematuria coming on suddenly in a patient without tubercular history, but operation showed typical tuberculosis of the kidney.

The case on which I did nephrectomy during the absence of Dr. McArthur from the city, in 1898, was undoubtedly a surgical kidney; it was an ascending pyelonephritis, and was hardly of the variety in which infection could have taken place except from the bladder upward. It is not likely that infection at the time of operation would have caused this form of infection of the kidney, which most frequently ascends from the bladder, passing upward through the ureter. Weir reports four cases in which surgical kidney was strictly unilateral, so I think the infection came from the bladder, and not from the previous operation.

Painful Limping from Uteropathy.—De Luca writes to the *Riforma Medica* of February 7, describing three cases of lameness in women, owing to severe pains that appeared at the first steps or after walking a certain length of time. The pains affected the various groups of muscles in the lower members, and disappeared when the patient sat or reclined. The hobbling gait was traced to the influence of displacement of the uterus, retroversion, lateroversion or prolapse with antero-version. Alexander's operation in one case cured the limping and pains at once. In the others there was no operation performed.

THE RELATION OF INDICANURIA AND OXALURIA TO GASTRO-INTESTINAL FERMENTATION.

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CHICAGO.

The object of treating such a large subject in one article is, if possible, to determine if there is a relationship between the excreted indican and oxalic acid, and the bearing these bodies have on gastro-intestinal fermentations. Harnack¹ has shown most conclusively that when oxalic and sulphuric acids are given to dogs per stomach or per os, indicanuria is produced, the sulphuric acid producing not so intense an indican reaction as when oxalic acid is used. He further shows that the subcutaneous injection of even .06 gram of sodium oxalate is followed by indicanuria. He raises the question whether indicanuria is associated with pathologic oxaluria. This is one of the questions which I have tried to solve. The putrefactive bases are formed in the small intestines and are known as indol, skatol and phenol. They are also often spoken of as the aromatic compounds. By the action of the pancreatic juice the proteids are changed into alkali, albumin, proteoses, pepton, leucin and tyrosin. The proteoses are still further broken down by the action of bacteria, the aromatic bodies being some of the products formed. These are absorbed and changed into the potassium sulphate salts, indican being the postcedent of indol. Jaffe² has pointed out that the amount of indican is relatively proportionate to the degree of putrefaction. Diet is an important factor in the production of indican. It seems that a vegetable diet does not produce these aromatics. Rosin³ found the urine of rabbits to be free of indican. Hoppe-Zeyler⁴ and Peurosch⁵ showed that in order to produce indicanuria in these animals it was necessary to feed them either orthonitrophenol propionic acid, or give them meat. As yet it has not been positively demonstrated that indican is produced anywhere in the body except in the intestinal canal.

Harnack,¹ however, believes that the indicanuria following the subcutaneous injection of small doses of sodium oxalate can only be accounted for as being of metabolic origin. He argues that as oxalic acid is a severe protoplasmic poison, its action would produce such changes in the living tissue as might lead to indican formation.

To support this view, Nencki⁶ and Kühne⁷ produced the aromatic bodies by heating proteids with potassium hydrate. Salkowski⁸ and Jaksch⁹ believe that indol can be formed in the tissues by the abnormal decomposition of this. Keilmann¹⁰ believes that he demonstrated that in pus formation indican is produced. This would be entirely independent of intestinal origin. Rosenbach,¹¹ Senator¹² and Concetti¹³ think indicanuria is found in many diseases, especially of children, in whom it is not of intestinal origin, but due to decomposition of proteids in the living tissue or to changes in the tissues themselves. Senator,¹² Rosenbach¹¹ and Mazetti¹⁴ found that the urines of new-born infants do not contain indican during the first year or so. In cholera infantum and in tuberculosis it was always present. Momidkowski¹⁵ finds indican in infants before they begin to nurse; after that it disappears.

I will show later that the milk is probably the important factor in the prevention of putrefaction in the intestine. It seems, from the literature, that when indican is found in the urine of infants, it always denotes

some grave intestinal disorder. Against this view of indican formation, outside of the intestinal tract, is Beckmann.¹⁶ He examined twenty-five cases suffering from suppuration and found an increase of indican in only six of the total number. Müller¹⁷ says the indicanuria of inanition can only be considered as of intestinal origin.

We can readily understand how in cystitis incited by the colon bacillus and proteus vulgaris indican could be formed in the bladder. In 116 sweat analyses made for Dr. Hoelscher I was able to demonstrate indican in a very few. This does not prove that the indican thus found was not produced in the intestine, nor that it may not have been formed in the pores of the skin by the action of bacteria living on the proteids of the sweat itself.

The presence of oxalic acid in the urine was first demonstrated by Wollaston,¹⁸ and later verified by Fourcroy.¹⁹ The constant elimination was demonstrated by C. G. Lehman,²⁰ W. Kühne,²¹ Schultzen²² and Fürbringer.²³ The amount excreted daily is as yet unknown. Schultzen²² gives it as .05 gram; Fürbringer,²³ .02 gram; Dunlop,²⁴ .017 gram, and Baldwin,²⁵ as being less than .01 gram. The last three figures are probably nearer correct than the first. It was not until Dunlop's²⁴ method was used that anything like correct and concordant results were obtained. This is readily understood when one considers that the amount being so small any slight error in the analysis would ruin the final deductions absolutely. Dunlop²⁴ believes that the small amount of oxalic acid eliminated daily is taken in with the food, and therefore is not produced in the body.

Gaglio,²⁶ from his experiments, concludes that oxalic acid is not readily oxidized in the body. Wesley Mills,²⁷ in his experiments, later verified by H. Lüthje,²⁸ came to the conclusion that oxalic acid does not disappear from the urine of starving dogs, and when meat alone is given the amount excreted is increased very materially. From these facts they conclude that oxalic acid is one of the end products of proteid metabolism. Helen Baldwin,²⁵ feeding dogs on meat, was able to stop the oxalic acid elimination absolutely, and Dunlop²⁴ demonstrated that a milk diet would do the same. Wöhler²⁹ and Frerick³⁰ believe oxalic acid to be an oxidation product of uric acid. Neubauer,³¹ Salkowski,³² Fürbringer,²³ and Hammerbacher,³³ feeding uric acid to dogs, were unable to produce an increase in oxalic acid. Salkowski³² found that a diet of thymus gland did not increase it. Prout³⁴ and Schultzen²¹ found oxaluria associated with diabetes and icterus. It may be of interest to state here that Salkowski³² has recently shown that 1000 grams of cow's liver contained .012 gram of oxalic acid. Reale³⁵ and Boeri³⁶ believe that oxalic acid is produced in the organism when there is imperfect aeration of the tissue. Aside from the above statement, there are some cases, according to Smoler,³⁷ Cantani³⁸ and Hass,³⁹ where there was noticed an abnormal increase in oxalic acid excretion without any other prominent symptom. This excess formation probably was due to an abnormal metabolism.

Table No. 1 gives a series of twenty urines, most of them containing indican and oxalate crystals. The total acidity and alkalinity are given here, with the object, if possible, of determining the cause of the precipitation of oxalate of lime crystals. The total acidity was determined by using a decinormal sodium hydrate solution, phenolphthalein being used as an indicator. The

results thus obtained were figured as total hydrochloric acid. The total alkalinity was determined by using a decinormal hydrochloric acid solution, dimethylamidoazobenzol being used as an indicator. The results were figured to sodium hydrate. At a glance it is seen that the precipitation is not due to acid strength, nor to alkaline strength. Neubauer³⁰ and Dunlop²³ both believe that sodium acid phosphate and possibly other substances prevent precipitation. Especially is this true of urines with high acidity. My work, and also that of Baldwin,²⁵ shows that high acidity does not prevent precipitation. Moddermann⁴² believes precipitation occurs when the sodium acid phosphate changes to the neutral or alkaline phosphate. The precipitation is not understood; concentration, high or low specific gravity, acidity, alkalinity, neutral reaction, none of these explain the precipitation. Dunlop²³ says that oxalates are only found in the urine as octahedron crystals, and that the dumb-bell forms are calcium carbonates. I find that several forms of oxalate crystals are produced from pure calcium oxalate. Besides the octahedron variety, there are also dumb-bell and prismatic forms. This agrees with the work of Salkowski⁴³ and Baldwin.²⁵

TABLE NO. 1.

Number.	Reaction.	Specific Gravity.	Urea; per cent.	Indican.	Oxalates (500 x diam.)	Acidity for 1000 c.c. as HCl.	Alkalinity for 1000 c.c. as NaOH.
1	Acid.	1025	3.4	Absent	Absent	1.387	.68
2	"	1027	2.5	Faint...	1 to field	.749	3.2
3	"	1026	1.7	Fair...	1 to field	1.715	1.56
4	"	1014	1.4	Faint...	3 to field	1.825	1.4
5	"	1019	2.2	"	6 to field	.876	.88
6	"	1025	3.2	"	20 to field	1.35	1.28
7	"	"	"	Absent	1 to 10 fields	2.37	1.6
8	"	1024	2.2	"	8 to field	.803	1.8
9	"	1027	3.3	Faint...	10 to field	1.314	.76
10	"	"	"	Absent	8 to field	1.659	1.6
11	"	1031	3.3	Heavy...	1 to 3 fields	1.825	2.32
12	"	1029	3.0	Faint...	20 to field	2.37	1.68
13	"	1026	1.9	Fair...	10 to field	1.13	2.
14	Neutral	1028	2.8	Faint...	3 to field	.13	2.6
15	"	1013	1.5	"	2 to field	.29	2.
16	"	1022	1.8	Heavy...	20 to field	.438	3.
17	Acid.	1028	2.6	Faint...	10 to field	1.277	1.44
18	"	1020	1.9	Absent	1 to 3 fields	.839	1.8
19	"	1009	0.9	"	Absent...	.4	1.2
20	"	1020	2.0	Faint...	Absent.	1.5	1.4

The percentages of urines showing oxalate crystals are variously estimated: Walsh⁴⁰ gives it as 28 per cent.; Gallois,⁴¹ 36 per cent.; Smoler,³⁷ 57 per cent., and Dunlop,²³ 35 per cent. Of 2000 urine examinations made at the Columbus Medical Laboratory, Chicago, 22.5 per cent. contained oxalate crystals. Of 200 urines examined for indican, 50 per cent. showed more or less indican. Of 200 urines examined, 15 per cent. showed oxalate crystals and no indican.

Table No. 2 represents 100 indican urines, 85 per cent. of which contain more or less oxalate of lime crystals. In many of these, as, for example, Nos. 3, 6, 7 and 12, there seemed to be a definite ratio between the indican and oxalic acid, but excess of oxalate crystals does not signify increase in the total amount of oxalic acid, and I therefore decided to put this to a further test by estimating the total indican and oxalic acid. Harnack¹ has demonstrated that oxalic acid produces indicanuria. Might we not, therefore, believe that the formation of one is dependent on the other? If the above statement is correct oxalic acid may be an end product of proteid metabolism.

METHOD TO DETERMINE INDICAN.

The method used to determine the indican is that of Eyvin Wang.⁴⁴ Take 300 c.c. of urine and treat with 25 to 50 c.c. of a 20 per cent. solution of lead acetate,

TABLE NO. 2.

Number.	Reaction.	Specific Gravity.	Urea; per cent.	Indican.	Oxalates.	Other Crystals.
1	Neut.	1022	1.9	Heavy...	Medium number	Triple phosphates.
2	Acid.	1020	2.4	Faint...	Few...	Uric acid.
3	"	1030	2.8	Heavy...	Abundant...	"
4	"	1013	1.1	Medium...	"	"
5	"	1017	1.8	"	Medium number	"
6	"	1028	3.1	Heavy...	Abundant...	"
7	"	1030	3.0	"	"	Urates.
8	"	1015	1.9	"	Medium number	"
9	"	1024	1.5	Faint...	Absent	"
10	"	1020	1.0	"	Few...	"
11	"	1020	2.8	"	"	"
12	"	1009	0.9	Heavy...	Abundant...	"
13	"	1024	3.0	Faint...	Few...	"
14	"	1028	2.7	"	"	"
15	"	1005	0.5	"	Very few	"
16	"	1020	2.9	"	Few...	"
17	"	1020	2.0	Medium...	Medium number	"
18	"	1008	0.7	Faint...	Few...	Uric acid.
19	"	1023	2.7	"	"	Phosphates.
20	Neut.	1019	1.4	"	"	"
21	Acid.	1011	2.0	"	"	Calcium sulphate.
22	"	1020	1.9	"	"	Uric acid.
23	"	1016	2.1	Heavy...	Medium number	Urates.
24	"	1017	1.8	Faint...	Few...	"
25	"	1022	2.0	"	Medium number	"
26	"	1029	3.3	Medium...	"	"
27	"	1026	4.0	Heavy...	Absent	Urates and uric acid.
28	"	1020	1.8	Medium...	Few...	Urates.
29	"	1016	1.8	Quite heavy	Abundant...	"
30	"	1013	1.7	Faint...	Very few	"
31	"	1027	2.8	Medium...	Few...	"
32	"	1020	2.8	"	Medium number	"
33	"	1005	0.8	Trace...	Few...	"
34	"	1038	1.9	Medium...	"	Uric acid.
35	"	1015	1.8	"	"	"
36	Neut.	1016	0.8	"	Absent	"
37	Acid.	1024	2.3	"	Medium...	"
38	"	1017	2.2	"	Few...	Urates.
39	"	1016	1.4	Quite heavy	"	"
40	"	1013	2.2	Medium...	Medium number	"
41	"	1023	2.8	Quite heavy	Abundant...	"
42	"	1021	3.2	Heavy...	Medium number	"
43	"	1031	3.1	"	Abundant...	"
44	"	1021	1.5	Trace...	Absent	"
45	"	1020	2.2	Faint...	Few...	"
46	"	1011	0.9	"	"	Phosphates.
47	"	1019	2.5	Medium...	"	"
48	"	1017	1.8	"	"	"
49	"	1011	0.8	Trace...	"	"
50	"	1021	1.7	Quite heavy	Abundant...	Urates.
51	"	1027	2.2	Heavy...	Absent	"
52	"	1020	2.1	Faint...	Few...	Uric acid.
53	"	1026	2.4	"	Very few	Urates.
54	"	1010	1.1	"	Few...	"
55	"	1012	1.2	"	"	Calcium sulphate.
56	"	1008	0.9	Trace...	Absent	"
57	"	1017	2.4	Faint...	Few...	Urates.
58	"	1020	2.8	"	"	"
59	"	1016	1.4	"	Very few	Calcium sulphate.
60	"	1016	2.5	Medium...	Medium number	Phosphates.
61	"	1025	3.0	Heavy...	Abundant...	Urates.
62	"	1013	1.7	Trace...	Absent	"
63	"	1013	1.5	Faint...	"	Triple phosphates.
64	Neut.	1015	2.0	Medium...	"	"
65	Acid.	1019	1.8	Faint...	Medium number	Urates.
66	"	1015	1.6	"	Absent	"
67	"	1036	2.1	"	Medium number	"
68	"	1015	1.3	Fair amount	"	"
69	"	1016	1.5	Very faint	Absent	"
70	"	1027	1.8	Faint...	"	"
71	"	1014	3.0	Very faint	"	"
72	"	1026	2.4	Trace...	Very few	"
73	"	1024	1.8	Faint...	Few...	"
74	"	1019	1.5	Trace...	"	"
75	"	1027	3.0	Very faint	"	"
76	"	1026	2.7	Faint...	Absent	"
77	"	1023	1.8	"	Few...	"
78	"	1025	2.7	"	"	"
79	Neut.	1020	1.7	"	"	"
80	Acid.	1030	2.2	Medium...	"	"
81	"	1008	2.7	Heavy...	"	"
82	"	1018	2.7	Very faint	Very few	"
83	"	1008	0.6	Faint...	Few...	"
84	"	1010	2.1	Medium...	"	"
85	"	1018	1.7	"	Absent	"
86	"	1014	1.1	"	Few...	"
87	"	1012	1.3	Faint...	Very few	"
88	Neut.	1012	1.4	"	Few...	"
89	"	1018	1.2	"	Absent	"
90	Acid.	1025	2.6	Heavy...	Few...	"
91	"	1010	1.2	Faint...	Very few	Uric acid.
92	"	1018	1.3	Very faint	"	Urates.
93	"	1014	2.3	Faint...	Few...	"
94	"	1026	1.7	Medium...	"	"
95	"	1014	1.4	Faint...	"	"
96	"	1027	2.5	"	"	"
97	"	1019	2.2	"	"	"
98	"	1025	2.9	Medium...	Medium number	"
99	"	1027	2.5	Faint...	Few...	"
100	"	1023	2.1	Heavy...	Abundant...	"

or enough until no further precipitate is given. Filter. Take an aliquot portion of the filtrate and add to it an equal volume of Obermayer's reagent—1 gram of ferrichlorid to 1 liter of hydrochloric acid, specific gravity 1.19. Place the mixed solution in a separatory funnel and shake with chloroform until all the indigo is removed. The chloroform is then removed by distillation, the residue left washed with a mixture of equal parts of alcohol, ether and water. The washings are filtered through a dry filter-paper and the washing continued until the solution comes through clear. The indigo, which is in the flask and also on the filter-paper, is dried. The filter-paper is then placed in a solution of chloroform and boiled under an inverted condenser until all of the indigo is extracted. The chloroform indigo solution is then poured in the flask which contains the dried indigo and the chloroform removed by distillation. The residue in the flask is evaporated down to dryness and then treated with 4 c.c. of sulphuric acid and allowed to stand for one hour. The sulphuric acid is poured into 100 c.c. of distilled water, the flask thoroughly rinsed with warm water until all of the indigo has been transferred to the flask containing the water. The solution is now titrated with a standard solution of potassium permanganate—3 grams of potassium permanganate dissolved in 1 liter of water; 5 c.c. of this solution is diluted to 200 c.c. with distilled water; each cubic centimeter of this solution is equal to .00015 of indigo. Multiply the number of cubic centimeters of permanganate used by the above factor, and then figure out the indigo for the twenty-four hours' amount of urine.

I have found that this method gives very good results, and, furthermore, believe it to be more convenient and better adapted for clinical purposes than is the estimation of aromatic sulphates. As indican is one of the putrefactive bases, it is sufficient to determine the amount of this alone, and from the result an index of the total putrefaction can be obtained without paying any attention to the other putrefactive bodies.

METHOD TO DETERMINE OXALIC ACID.

The oxalic acid was estimated by Salkowski's⁴³ method, with slight modification. Instead of weighing the precipitate of calcium oxalate as calcium oxid, it was titrated with a centinormal solution of potassium permanganate. It was found that the two methods agree within three-tenths milligrams. Coloring matter was thoroughly removed by washing the dried precipitate of calcium oxalate with equal parts of alcohol, ether and water. There is always a slight color residue left on the filter-paper, the sulphuric acid dissolving so little of it that it is not worth while to consider. The titration method can be used in the presence of phosphates, and in several of these precipitates of calcium oxalate phosphates were present, in spite of the fact that acetic acid was used to dissolve them. Acetic acid even in weak solution has more or less solvent action on the calcium oxalate. This in itself, besides phosphate impurities, is very liable to give in some instances too high and in others too low results. Comparing the method with the older ones, I find that the results are much more satisfactory, and liability of error cut down to a minimum.

Modified Method.—Take 500 c.c. of urine, acidulate with a few drops of hydrochloric acid, boil over a free flame until the volume has been reduced two-thirds. Now acidulate with 20 c.c. of hydrochloric acid, specific gravity 1.12, and continue the evaporation on a water-

bath down to a small volume. The residue is taken up with about 150 c.c. of water, the dish rinsed out with more water, all of which is placed in a separatory funnel and shaken three times with an alcoholic ether solution—nine parts of ether to one part of alcohol—using 200 c.c. of this mixture for each shaking. The ether is drawn off, filtered and removed by distillation, the alcohol solution left in the flask, treated with 15 c.c. of water, and the evaporation continued until all the alcohol is expelled. Should the solution be milky, add a little more water and continue the evaporation until clear. Filter and wash the residue on the filter part two times with distilled water. Add to the filtrate ammonium hydrate to a slight alkaline reaction, and then 1 or 2 c.c. of a 10 per cent. solution of calcium chlorid. This precipitates not only the oxalic acid, but also throws down the phosphates. The phosphates are redissolved by acidulating very faintly with acetic acid. The precipitate is allowed to stand twenty-four hours, then filter, wash and dry. After drying, wash with a solution of equal parts of alcohol, ether and water. The precipitate is dried again and then treated with 100 c.c. of a 3 per cent. solution of sulphuric acid. To this solution 5 c.c. more of sulphuric acid is added and the solution heated to 60 C. It is then titrated with a centinormal solution of potassium permanganate. Multiply the number of cubic centimeters of permanganate solution used by .00063, which gives the amount of oxalic acid in the 500 c.c. of urine used. From this the amount of oxalic acid in the twenty-four hours' urine is determined.

The results obtained from these analyses show most conclusively that there is not a relative ratio between the indican and oxalic acid excretion. (See Table No. 3.) It was thought that as sulphuric and oxalic acid, when given by stomach or per os, produces indicanuria, there might be a definite relationship between these two products. These results, however, do not by any means prove that the oxalic acid is not an end product of proteid metabolism, nor that it can not be produced from the decomposition of proteid matter in the intestinal canal. Oxalic acid thus produced may have been eliminated with the fecal matter, or if a large quantity of it were absorbed, it may have been oxidized. P. Marfori⁴⁵ believes that he could demonstrate that after taking several doses of oxalic acid part of it was oxidized. Baldwin²⁵ fed a healthy man on a diet of bread, butter and meat, giving him .2 to .48 gram of ammonium oxalate for a period of two weeks; only traces of oxalic acid appeared in the urine. A dog received the drug hypodermically, and 37 per cent. of it was recovered from the urine. Table No. 3 also shows that there is no relative ratio between the number of oxalate crystals and the total percentage of oxalic acid. Abundance of crystals does not signify high oxalic acid percentage.

Before discussing some of these cases it will be necessary to call again attention to Helen Baldwin's²⁵ excellent article on oxaluria. She was able to produce oxaluria in dogs by feeding them meat and large quantities of sugar. I give here one of the experiments:

A dog was placed under observation on Nov. 3, 1899. At that time there was a small amount of oxalic acid present in the urine. The dog was placed on a meat diet, and the urine examined November 18, 21 and 25 showed an absence of oxalic acid. On the last-named date the dog was placed on large amounts of sugar in addition to meat. The animal took the sugar greedily, at times receiving 250 to 300 grams in a day. For a month the dog showed no symptoms, but gained rapidly in weight. On November 9 a few calcium oxalate crystals were noted in the urine, but only a few. From that date until

December 27 oxalic acid was absent from the urine, or, if present, was in very small amounts. In the latter part of December there appeared simultaneously a group of symptoms consisting of loss of appetite, vomiting of frothy mucus, intermittent diarrhea, the absence of free hydrochloric acid in the gastric juice, the presence of organic acids in the urine, and the

precipitations of numerous large calcium oxalate crystals in the urine. On January 1 the dog took almost no sugar, and there were again but few calcium oxalate crystals deposited in the urine. On January 3 very large and very numerous crystals were noted, some appearing in masses of imperfectly formed crystal-like microscopic calculi.

TABLE NO. 3.

														Remarks	
Case	Amount of urine	H ₂ O	Reaction	Color	Urea	Albumin	Sugar	Cast	Epithel	Leucocytes	Calc. acid	Calc. alk.	Acidity as HCl	Acidity as NaOH	
I _a	2150	1008	Acid	Pale yellow	7%	Absent	1%	Absent	Few scales	0209	0402	—	—	Meat diet, diabetes and chronic interstitial nephritis, Constipation, head aches, urine caesura	
I _b	1580	1011	Acid	Pale yellow	9%	Trace	Absent	Absent	Few scales	00414	0167	—	—	Same patient since first examination laxatives and saline intake, feels better	
II	1750	1008	Acid	Pale yellow	9%	Absent	Absent	Absent	Calcium sulphate	00408	0098	—	—	Weak stomach, fits of depression, mixed diet, rich in spinach and vegetables, urine caesura	
III	575	1007	Acid	Normal yellow	2.2%	Absent	Absent	Absent	Calcates numerous	00714	0111	—	—	Active stenosis, broken compensation, unable to take much starchy food, because of gaseous distention of stomach, dull frontal headache, saline cathartics daily	
IV	1025	1020	Acid	Normal yellow	2.1%	Absent	Absent	Few hyaline	Few scales	00477	0051	—	—	Dyspepsia, numbness, palpitation, bowels regular, mixed diet	
V	160	1020	Acid	Normal yellow	2.8%	Absent	Absent	Hyaline granules	Few scales	006	00817	—	—	Dinking spells, palpitation followed by numbness, cardiac nervousness, protracted stomach, mixed diet for three days	
VI	950	1013	Acid	Pale yellow	15%	Absent	Absent	Few hyaline	Absent	00446	0144	—	—	Congenital cardiac anomaly, symptoms of numbness and palpitation, slight indigestion, mixed diet	
VII	940	1019	Acid	Normal yellow	1.8%	Absent	Absent	Few hyaline	Few scales	00405	0103	—	—	Chronic arterio sclerosis, cardiac changes, dull headaches, insomnia, desires to pass urine, mixed diet	
VIII	1000	1012	Neutral	Pale yellow	1.4%	Absent	Absent	Absent	Few scales	00158	0075	43%	72	Post cerebral head ache, mixed diet	
IX	960	1018	Neutral	Pale yellow	1.2%	Absent	Absent	Hyaline granules	Absent	00587	00814	455	103	Arterio sclerosis, palpitation, red meats, excluded, eats sparingly of starches	
X _a	1320	1027	Acid	Normal yellow	1.8%	Absent	Absent	Absent	Absent	0036	0179	854	2076	Nervousness, easily startled, vertigo after climbing to a height of 10,000 feet, moderate arterio sclerosis, signs of irritation of heart	
X _b	2000	1009	Acid	Normal yellow	9%	Absent	Absent	Absent	Absent	00466	401	12		Same patient since first examination cut down on meats, drinks milk water and uses "Urotropin"	
XI	900	1024	Acid	Normal yellow	2.3%	Absent	Absent	Absent	Calcates numerous	00448	00806	—	—	Acid dyspepsia, nervous head aches, malaise, etc. Meat diet, no cathartics	
XII _a	1210	1022	Acid	Normal yellow	2.1%	Absent	Absent	Absent	Absent	0054	0195	—	—	Uric acid diathesis, acid fermentation, irritable, depressed, attacks of melancholia, lives on meat, takes no gain of caloric daily	
XII _b	1500	1021	Acid	Normal yellow	2.0%	Absent	Absent	Absent	Absent	0064	0113	766	186	Same patient Diet of cheese, cereals and bran for three days, dose of sodium bicarbonate morning, feels better	
XII _c	900	1024	Acid	Deep yellow	2.5%	Absent	Absent	Absent	Few scales	00482	01587	2135	144	Same patient After one week on meat diet, mental lethargy, nervousness, sodium bicarbonate morning	
XII _d	1350	1020	Acid	Normal yellow	20%	Absent	Absent	Absent	Absent	00156	0122	153	189	Same patient Cheese, milk and bread diet for one week, myelitis feels much better	
XIII	1000	1023	Acid	Deep yellow	2.5%	Absent	Absent	Absent	Few scales	0203	0483	—	—	Uric acid diathesis, gastric intestinal indigestion, headaches, melancholia, constipation, followed by diarrhea, flatulence, irritation during urination	
XIV	700	1023	Acid	Deep yellow	2.7%	Absent	Absent	Few hyaline	Calcates numerous	0077	0609	—	—	No data	
XV	1200	1020	Acid	Normal yellow	2%	Absent	Absent	Absent	Calcates four numbers	00806	0141	—	—	Uric acid diathesis, hydrochloric acid gastritis, five years ago passed uric acid calculi, head aches, malaise, stupor, attacks of diarrhoea and polyuria	
XVI	970	1020	Acid	Normal yellow	1.8%	Absent	Absent	Absent	Few scales	01147	00916	—	—	No data	
XVII	860	1020	Acid	Yellow	2.2%	Absent	Absent	Absent	Few scales	00375	01233	—	—	Palpitation, preceded by malaise, stupor, pains in legs and about the heart, dull frontal head aches	
XVIII	1250	1024	Acid	Normal yellow	3.0%	Absent	Absent	Absent	Few scales	0078	0129	—	—	Uric acid diathesis, head aches, depression, attacks of diarrhoea, examination made after fasting for three days with saline cathartics	
XIX	1500	1022	Acid	Pale yellow	2.0%	Absent	Absent	Few hyaline	Calcates four numbers	00167	0069	—	—	Head aches and depression, takes cathartics	
XX	860	1017	Acid	Deep yellow	2.4%	Absent	Absent	Few hyaline	Few scales	00477	014	—	—	Nervothum, hypochondriacal	
XXI	1100	1016	Acid	Normal yellow	1.7%	Absent	Absent	Few hyaline granules	Few scales	0034	01506	—	—	Hydrochloric hyperacidity, constipation, head aches, malaise, melancholia, mixed diet	
XXII	1125									0058	0129	—	—	Balls with, constipation of five indigestion, mixed diet, gives a history of suffering from indigestion five years ago, from taking all of acidulated water	
XXIII	1400	1023	Acid	Normal yellow	1.8%	Absent	Absent	Absent	Few scales	00372	019	1379	56	Dyspepsia from luncheon, albuminuria at intervals, no casts, leads a vigorous life	
XXIV	1200									0051	0204	35	144	Hydrochloric hyperacidity, constipation, attacks of gastralgia, mixed diet, takes saline cathartics daily	
XXV	1700	1020	Acid	Normal yellow	1.8%	Absent	2%	Absent	Absent	0128	00449	191	666	Glycosuria, malaise, polyuria, constipation, mixed diet	
XXVI	3000	1018	Acid	Pale yellow	1.3%	Absent	3%	Absent	Urean and scales	Absent	0365	35	18	Uric acid diathesis, uric acid and urate crystals, usually present in urine diabetes for sixteen years, diet - fresh and vegetables, urine saline cathartics	
XXVII	700	1026	Acid	Deep yellow	2.4%	Absent	Absent	Absent	Few scales	00264	0152	968	98	Recovering from an attack of acute rheumatism	
XXVIII	1750	1013	Acid	Yellow	1.1%	Absent	Absent	Absent	Absent	00704	02425	958	28	No data	
XXIX	425	1025	Acid	Deep yellow	2.6%	Absent	Absent	Absent	Calcates abundant	0046	00803	527	646	Uric acid diathesis, attacks of vomiting, followed by diarrhoea and polyuria, uric acid and urate crystals abundant, indigestion marked, mixed diet	
XXX	960	1024	Acid	Dark yellow	2%	Absent	Absent	Absent	Absent	0078	161	1536		No data Not examination showed many urate crystals and some rather heavy In the twenty-four hours urine there were no urate crystals, nor uric acid	
XXXI	1700	1016	Acid	Yellow	2.3%	Absent	Absent	Absent	Few scales	00231	0235	146	88	Spells of vertigo, pulse beat weak - rate 40	
XXXII	1500	1028	Acid	Yellow	2.6%	Absent	Absent	Absent	Calcates	00837	0234	127	144	Uric acid diathesis, melancholia, dyspepsia, headaches, rheumatic joints feel stiff, flatulence, pain in vomiting, bowels irregular	
XXXIII	1250	1020	Acid	Yellow	1.9%	Absent	Absent	Absent	Absent	019	0239	837	18	Uric acid diathesis, has passed several uric calculi, at present has attacks of renal colic, suffers from indigestion	

She found that gastritis with anacidity usually showed oxalate of lime crystals in the stomach contents. Sugar solutions with beef extract inoculated with a portion of stomach contents from the above cases and incubated for two days contained oxalate crystals. Quantitative experiments will have to be made along this line before positive conclusions can be drawn. Suffice it for the present to say that oxalic acid is probably produced in the gastro-intestinal tract through fermentation.

Taking all of the urines showing less than 11 mg. of oxalic acid (see Table 3), we get .0077 as a daily average. Taking all of the urine showing more than 11 mg. we get a daily average of .0175 gram of oxalic acid. (Leaving out Nos. 1a, 13 and 14, as these were estimated by Neubauer's³⁰ method, and therefore not reliable.) As these were all urines from persons more or less ill, it is impossible to state absolutely just what amount would be considered a daily average. I think, however, that Baldwin's²⁵ average of less than 10 mg. for the twenty-four hours is about correct. Of indican there should be, under normal conditions, virtually none, or, if any, a very faint trace.

DISCUSSION OF CASES.

In Case 1, *a* and *b*, there was a great difference in the amounts of indican and oxalic acid eliminated. This was a result of purging.

Case 11, *a* and *b*, was the same patient, cut down on meat and taking urotropin since first examination. Whether it was the urotropin or not that stopped the formation of indican I would not want to say on one examination. I call attention to Case 12, *a*, *b*, *c* and *d*, as representing several examinations of the same patient; also to Cases 13, 15, 18, 26, 29, 32 and 33. These cases were under my personal observation and therefore I am in a position to discuss them more intelligently. Most of these cases were being treated, receiving cathartics and other drugs. One seldom gets the urine when the paroxysm is at its height, consequently the material can not be worked up as well as is desired.

Case 12, *a* had been suffering from indigestion, hydrochloric gastritis, for a great many years. Meat diet agreed with him best. Starches seemed to distress him. Taking of starches made the index finger on the left hand swell and become very painful and stiff. He was treated for gout. Going back to the meat diet would always correct the finger difficulty. Examination of 12, *a*, showed considerable indigo and a high percentage of oxalic acid. The excess of the latter would signify acid fermentation with some putrid decomposition. The patient was put on a cheese, bread and bran diet; a dose of sodium bicarbonate in the morning. At the end of three days' examination, Case 12, *b*, showed a slight increase in the indigo, but a marked falling off in the oxalic acid. He said he felt much better, and was placed for a week on meat, bread and coffee. Examination of Case 12, *c*, showed a little less indigo, but a marked increase in the oxalic acid. The patient complained of feeling heavy, drowsiness, was very nervous, and had considerable flatulence, so was again put on cheese, milk and bread diet, this time for one week, so as to be sure and have the bowels empty of previous diet. Examination of Case 12, *d*, showed a marked falling off in indigo and oxalic acid when compared with previous examinations on a meat diet. This looked as though the meat increases oxalic acid as well as indican. The casein diet probably lessens the putrefaction.

The object of putting the patient on cheese was to determine whether or not this diet would prevent putrid

fermentation. Winternitz⁴⁷ and Carl Schmitz,⁴⁶ as well as myself,⁴⁸ have shown that milk and koumyss diminish putrefaction, thereby restricting the formation of aromatic sulphates. I would like to refer to one case published in my original article. A patient, a typhoid, was put on a koumyss diet. Before commencing this the aromatic sulphates were .5 gram for the twenty-four hours. In three days, on the above diet, they were reduced to .0033. This goes to show that milk and koumyss restrict putrefaction. Carl Schmitz⁴⁶ says it is the casein in the milk which prevents the formation of these putrefactive bases; in that event one naturally would believe that the casein does not contain the skatol, indol and phenol group.

Cases 12, 13, 15, 18, 26, 29, 32, 33, all belong to the uric acid diathesis group. They suffered from hyperacidity gastritis. Examinations of the stomach contents seven hours after a meal showed the presence of considerable hydrochloric acid. Attacks usually come on as follows: Hands and feet cold and moist, feel heavy and depressed, polyuria lasting from five to six hours, headache, prostration, diarrhea and in some, vomiting. After a paroxysm the patients feel well again. This points to intestinal fermentation, the symptoms being brought on by the poisons absorbed.

Case 29 is especially interesting. I do not find so much indican and oxalic acid in the twenty-four hours' urine. The total quantity of urine passed being only 425 c.c. One can readily understand that there must be a great deal of retention. I have no doubt that if 1400 c.c. of urine had been passed the oxalic acid would have risen to .02409, which is very high. The patient, a medical student, has these attacks about once a month.

Case 26, *a*, diabetic, suffers from acid fermentation. I find no indican in his case, the absence of this probably due to diet. The oxalic acid is the highest percentage of all obtained by the modified method. Tenbaum⁴⁹ has called attention to the fact that in diabetes it is not uncommon to find indican, oxalic acid and lime salts very much increased.

Caspari⁶⁴ and Senator¹² have demonstrated that in oxaluria there is always increased elimination of the lime salts. This tends to point to an abnormal breaking down of proteid substance. P. Krohl⁵⁰ even goes so far as to say that he has produced glycosuria by subcutaneous injections of oxalic acid. Harnack,¹ however, in his experiments was not able to verify this.*

GASTRO-INTESTINAL FERMENTATION.

As a rule, in this condition we have two forms of fermentation going on—putrid, in which the aromatics are the end products, and acid fermentation, in which amido, fatty and oxalic acid are the end products. Table No. 3 shows that both forms are found in the majority of these cases. It matters not whether the hyperacidity is due to hydrochloric acid or to acids of fermentation, putrefaction will result in either case, indican being one of the end products.

Ziemke⁵¹ says the normal amount of hydrochloric acid prevents putrefaction; anacidity, on the other hand, increases it. Blumenthal⁶³ finds that alkaline fermentation increases the indol and acid fermentation increases the amido acids. These last-named products should also be considered as putrefactive bodies. C. E. Simon⁵² has demonstrated that in the hyperacidity of gastric ulcer indican is much increased. The poisons resulting out of this double fermentation belong to two groups: Those

* I used Dr. Walter Christopher's classification, putrid and acid fermentation.

that originate in the proteids and those that originate in the carbohydrates and fats. These probably produce different symptoms. It is, however, not the purpose of this paper to discuss that part of the question, merely to call attention to it.

OXALIC ACID PRODUCTION AND OXALURIA.

Oxalic acid in small quantities is a normal constituent of the urine, and is derived from food-stuffs. An increase in its amount—not due to food—can only be accounted for as being a katabolic product, or produced through fermentation. Beilstein⁵³ says that if cyanogen is allowed to stand in water a short time ammonium oxalate is produced. The potassium sulphocyanid found in the saliva is thought to be an end product of proteid metabolism. Furthermore, if glyceric acid is heated with potassium hydrate, oxalic acid is produced. I mention the last fact on account of the close relationship between this acid and the sarcocollactic acid.

The fermentation theory is pretty well proven. Baldwin's²⁵ experiment shows quite conclusively that the acid is produced by a fermentation in the gastro-intestinal canal. Many experimenters have demonstrated that fungi can produce oxalic acid. Pfeffer⁵⁴ says oxalic acid is produced in considerable quantities when different food-stuffs are treated with fungi; he found that he had to add enough of calcium carbonate to take up the acid quickly, as otherwise it is oxidized into carbon dioxide. Zopf⁵⁵ shows that *saccharomyces* found in cotton-seed meal, when added to fermentable carbohydrates, produce oxalic acid in place of alcohol. Beilstein⁵³ says that after the taking of fermented beverages oxalic acid is always found in the urine. Ernst Wissel⁵⁶ finds yeast cells and *sarcina* abundant in the stomach of individuals suffering from hydrochloric hyperacidity. Dunlop²³ notices an increase in the oxalic acid after the giving of hydrochloric acid. All of these facts must be considered in the production of oxalic acid.

Begbie⁵⁷ describes oxaluria as a poison produced during digestion and assimilation, carried into the blood and eliminated by the kidneys. Gallois⁴¹ says oxaluria is frequently met with in health, at all ages, and in all conditions of life; its appearance is influenced by certain food-stuffs and by certain drugs; it is often found in the urine of patients suffering from very different diseases. Prout³⁴ believes there is an oxalic acid diathesis. Hayem,⁵⁸ Ewald,⁵⁹ and others call attention to the neurasthenic phase in this condition; suffering from dilatation of the stomach and a great many other symptoms. Cantani³⁸ relieves the oxaluric condition by putting these patients on a strict meat diet.

URIC ACID THEORY.

In this connection a word must be said about uric acid. The most accepted theory at present is that uric acid is an end product of nuclein metabolism. The clinical diagnosis is based on the symptoms of headache, malaise, despondency, deposits of urates around the phalanges, etc.; the chemical diagnosis, on the total amount of uric acid excreted, and the presence of free uric acid in the blood and urine. Meat is still thought to increase the output, although it has been shown by competent observers that this also diminishes it. The ratio of uric acid to urea, namely, 1 to 33 (Haig's⁶⁰) has been proven to be wrong. It has been shown that in healthy individuals this ratio is a most variable quantity. In pneumonia and in leukemia the uric acid is much increased, due to the decomposition of leucocytes. These cases are not diagnosed as gouty, although chemically and microscopically we get the gouty findings. All this,

to my mind, shows that there are many and different causes that produce uric acid. Food per se, perhaps, is not a factor in its formation. The decomposition products of the food, however, are probably the inciters of uric acid formation. Poisons absorbed from the gastro-intestinal tract produce leucocytosis and general cellular activity, all of which have a tendency to early decomposition, uric acid being the ash of this combustion. Uric acid is non-toxic, therefore the general symptoms produced in these cases must be due to other poisons. These patients invariably complain of gastro-intestinal fermentation and flatulence. I refer to Cases 12, 13, 15, 18, 26, 29, 32 and 33, as individuals usually called gouty. Examination of the urine for the total amount of uric acid in such cases has been of no service as aiding in the diagnosis. This was not the fault of the laboratory man, but the fault of improper deductions. More work must be done along this line. Urines should be examined more for the products of fermentation and putrefaction than for uric acid, for in the gastro-intestinal canal will be found the agent causing these constitutional symptoms, uric acid being only a product of early decay and in no way a factor. The treatment of these cases by giving alkalies has been beneficial for two reasons: 1, they neutralize the gastro-intestinal tract; 2, when absorbed they increase cellular activity and oxidation. This last point has been beautifully brought out by the works of Professors Loeb⁶¹ and Zouthout.⁶² To make a proper examination of a twenty-four hours' urine for the total oxalic acid and indican the following foods must be excluded: Fruits, spinach, rhubarb, sorrel and tea.

CONCLUSIONS.

1. Traces of oxalates are found normally in the urine, having been taken in with the food.
2. Oxalate crystals usually denote gastro-intestinal fermentation. Food rich in oxalates must be excluded.
3. Abundance of oxalate crystals does not signify high acid percentage, because in addition there may be oxalate of lime in solution.
4. Indican is often, but not necessarily, associated with oxalate crystals.
5. Hyperacidity on a meat diet contributes to putrefaction, whether due to excess of hydrochloric acids or acids of fermentation.
6. In certain disturbances of the gastro-intestinal tract due to excess of hydrochloric acid or to excess of fatty acids, in which there is fermentation, indican and oxalic acid are increased.
7. The symptoms of oxalic acid diathesis associated with indicanuria are not due to the oxalic acid nor to the indol, but to other products formed in the process of fermentation, and therefore the oxaluria and indicanuria are valuable as indicative of a putrefaction, to which the symptoms are to be referred.

The study of oxaluria and indicanuria holds open a rich field for investigation. In the intestines there are various poisonous bodies produced directly associated with the formation of oxalic acid and the aromatics. These, when better understood, will lead to new ideas, thereby giving us a better understanding of chronic diseases, such as rheumatism, gout, nephritis, etc. I hope to be able to continue this work, as material presents itself.

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SOME ADDITIONAL OBSERVATIONS ON THE EFFECTS OF INJURY TO PERIPHERAL NERVES.*

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Two years ago I read a paper before the Academy, on "Injuries to Peripheral Nerves," in which a case was related illustrating the effects of a comparatively slight injury to the nerves of the thumb, resulting in very distressing symptoms covering a period of more than two years. The extremely painful symptoms were due to a pressure lesion including the branches of the median nerve supplying the thumb. The amount and density of the connective tissue attending the healing of the wound was remarkable. The healing of the original injury was scarcely accomplished before painful twitching of the thumb occurred. It was at once recog-

nized that the nerve branches were caught in the scar, and it was apparent that relief could be obtained only through surgical means. Twice the scar was dissected out and the nerve freed. Later the external cutaneous and the collateral branches of the median supplying the thumb were resected with the effect of producing paralysis of sensation on the palmar surface, but the pain recurred after the healing, with the addition of painful spasms of the fingers supplied by the median nerve, painful sensations extending up the arm, and vasomotor paralysis together with somewhat widespread reflex disturbances.

A fourth operation consisted in a division of all the soft parts, including the adductor muscles, nerves and vessels, to the inner side of the original injury down to the bone, at the same time removing the scar tissue, allowing the parts to retract, uniting only the skin with a few stitches and using gauze drain.

The fifth operation consisted in amputating the thumb through the middle of the metacarpal bone. Complete relief would follow each operation for a period of about six weeks, when the old pain would return—although it may be said that after the last operation the pain did not reach its original intensity, in fact, for a few days in succession comparative relief would be obtained, then for several days the pain would be very severe, extending up the arm, and attended with vasomotor paralysis in the hand and fingers, violent and painful flexion of the fingers into the palm of the hand. It was at this time that the case was reported.

At the end of six months, the condition not improving—and, as the pain had increased and the man totally incapacitated for any kind of employment—propositions for further operative procedure were made. The patient was now quite willing to have the median nerve resected with all the crippling effects resulting therefrom, or even to have his arm amputated if it would afford any relief. At the suggestion of Dr. Owens, the remaining portion of the metacarpal bone of the thumb was removed by amputation at the carpo-metacarpal articulation, all the scar tissue dissected out and the median nerve carefully raised and freed from any nerve connective with the thumb—if any existed. The wound healed promptly, but in three weeks the pain returned in all its former intensity. I had already been impressed with the fact that a chronic neuritis existed in the median nerve, and that under the influence of this morbid condition trophic changes occurred in the new-forming tissue of the wound, resulting in the production of a large amount of dense connective tissue, which exercised a pressure influence on the already irritated nerve. The great suffering of the patient, his utter inability to perform any labor, and my failure thus far, to furnish any permanent relief led me to consider every possible means short of the mutilation operation of the median nerve resection or amputation. After considerable reflection, it occurred to me that if I could protect the nerve from the compressing influence of dense scar tissue, something could be accomplished. I therefore secured from a dentist a sheet of gold of the uniform thickness of 1/500 of an inch, 1 3/4 inches in length and 3/4 of an inch in width. This I placed in the sterilizer, and I prepared the hand with great care, observing the most rigid asepsis. I again opened up the wound, dissected out all the scar tissue, lifted up the median nerve as it passed through the wound, on a strabismus hook, to make sure that the nerve was free from scar tissue. When this was done I covered the nerve with the sterilized gold sheet above

* Read at the Annual Meeting of the American Academy of Railway Surgeons, held at St. Paul, Minn., Sept. 5 and 6, 1900.

referred to, pressing it down on each side of the nerve, fitting it evenly so that the nerve could come in contact with the tissues of the hand only at its posterior surface as it passed along its course. The flaps, composed of the skin and subcutaneous tissue—which I had formed in exposing the field of operation—were united over the gold foil with silkworm gut and horsehair. The greatest care was taken at every step of the operation to secure the most perfect asepsis and coaptation of all the parts. The wound was covered with copious dressings which were removed at the end of ten days, when the wound was found perfectly dry and the stitches removed.

This last operation was made April 18, 1899, and about two months later the patient resumed work as a bridge carpenter, and has continued in this employment since, having been practically free from pain.

When he first resumed work, if he exercised the muscles of his arm much or exposed it to any continued jarring influence, or if he became exhausted from any cause, he would suffer more or less severe attacks of pain, which would however subside after a day of rest. The condition of the nerve gradually improved until at the end of a year he was practically free from pain, whatever he might do. At that time an incident occurred which illustrated the serious nutritive disturbance resulting from two and one-half years of constant irritation. He was employed to pick up nails for three hours, and that night suffered considerable pain, contraction of fingers into the palm of the hand and vasomotor paralysis. This all cleared up without treatment, after a day or two of rest. It may be observed in this connection that the hand was very susceptible to the influence of cold.

At the present time—one and one-half years after the operation—the median nerve may be said to have been restored to its normal state of nutritive stability, and that the man is able to perform any labor adapted to his years and strength with entire freedom from pain.

AN OPERATION FOR CYSTOCELE.

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ATLANTA, GA.

The necessity of operating for cystocele, either with or without plastic operations, of the female genital tract, is not an infrequent occurrence. The unsatisfactory results of operations usually employed, especially in old women with relaxed and dilated vaginal outlets, are frequent. Usually failure is due to stretching of the newly formed cicatrix, or to imperfect attachment when the base of the bladder is anchored to structures above the plane of the anterior vaginal wall.

In the absence of dense fascia in this part of the genital canal the repair of cystocele must depend upon the fixation of soft yielding structures to similar parts, but should be reinforced by ample support from the posterior vaginal wall and perineum, and in certain cases with ventrosuspension or some similar operation. Even then the results are not invariably good. This, with the fact that extensive operations in old women are objectionable, makes an urgent appeal for improvement in technique.

Hoping to find something to answer the demand, various procedures were tried as cases of this kind presented themselves to me. First, superimposed layers of catgut sutures were used in the sulci on either side of the vagina with fair success, and perhaps superior to the ordinary Stoltz-Sims operation or elliptical denuda-

tion. Following this the redundancy of tissue was folded in upon itself and pressed into the bladder-space by superimposed layers of catgut sutures in the median line (see Case 1). The effect was quite good, but occasionally there would be some return of the cystocele in after years. Other modifications were tried with varying success until buried sutures of silk, silver and kangaroo were used.

With patient in Sims' position, a diamond-shaped denudation is made over the protruding cystocele, which should be outlined in the following manner: With two pairs of tenacula the mucosa is picked up on either side of the vagina, about half-way up the canal, and drawn toward the median line. This is repeated until two points are selected that will barely meet or touch when slight tension is put on them. They are marked by snipping out the pieces of mucous membrane engaged by the hook. In like manner the angle at the base of the urethra, and also one anterior to the cervix uteri, are marked. A tenaculum should engage the point on the right-hand side and sufficient tension be made upward to throw the mucous membrane of the vagina into a sharp fold or ridge running from the urethra to the tenaculum. With a pair of scissors a strip of mucous membrane is pared off along the crest of the ridge marking the right inferior side of the quadrangle. The hook should then be fixed at the mark anterior to the cervix and a thumb forceps should catch the lateral angle just released from the tenaculum. The two instruments are then drawn in opposite directions, forming a fold in the vaginal wall similar to that described above. A strip of mucous membrane is removed between the instruments marking the right superior side of the quadrangle. In like manner outlining of the diamond is completed upon the opposite side, after which it becomes an easy matter to remove the island of mucous membrane in one piece. All fatty tissue should be removed as far as practicable, that it may not interfere with direct contact of the muscular tissue. The sutures are easiest introduced by starting on one side of the urethral angle. The needle should enter the edge of the denuded surface beneath the mucous membrane, penetrating at the junction of the middle and lower third of the right anterior side of the quadrangle, passing in an eccentric direction to a depth of one-half inch into the vesico-vaginal septum. On returning it should emerge from the margin of the wound one-half inch away, completely burying the suture. It is then carried a short distance toward the center of the field, perhaps one-half inch, and a deep stitch taken in the vaginal wall but not including the mucosa of the bladder. The suture is then returned to the margin of the wound and another buried stitch made as first described, but penetrating the septum one-fourth to one-half inch further. Another stitch is then made in the denuded surface, after which a third one is introduced upon the outer side of the wound as first described (see Fig. 1). In this way five stitches are introduced on each side of the diamond (see Fig. 1), three of which are submucous and extended horizontally outward, including the muscularis of the vagina and bladder; the other two are made in the denuded field and passed at right angles to the surface. It will be observed that a line drawn from the tips of each of the loops extending outward will approximate a circle, and the suture when drawn tight will assume a similar shape, effectually closing the wound on the principle of a purse-string. The sides of the diamond are forced sharply inward and each converted into a right-angled triangle,

the apices of which come in close contact in the center of the wound, forming an imperfect cross (Fig. 2). The margins of the wound are accurately closed with catgut (see Cases 4 and 5).

When silk or kangaroo sutures are used they should be introduced in a slightly modified manner (Fig. 3). Let the diamond *a, b, c, and d* represent the denuded surface over the vesicocele. Four small silk sutures are passed across the angles at the points 3-3-3-3, or at a distance from the angles equal to one-fourth of the respective sides of the quadrangle. They should be small silk or medium kangaroo, and include all the tissues of the vesico-vaginal septum except the mucous membrane on either side, and should be buried deep. They serve to close the angles of the wound and reduce the field of operation to such an extent that a smaller purse-string suture can be used. This is quite an important feature for unabsorbable sutures. When they

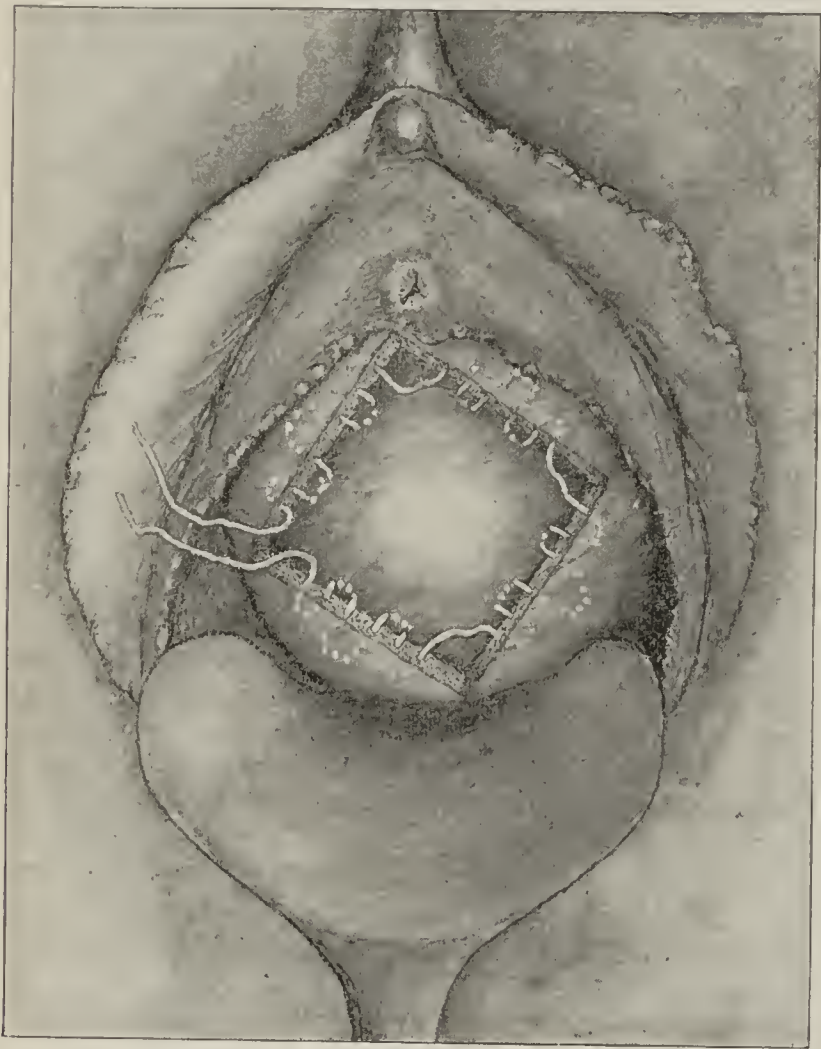


FIGURE 1.

exceed No. 28 silver wire in size the latter gives the least resistance, consequently the shorter the ligature the better are the chances of success, especially when silk is used.

This suture should be introduced in the manner described in Fig. 1, except that one stitch or loop only is made on each side of the diamond.

It should follow the line 2-2-2-2, each stitch surrounding the central point (Fig. 3, 1) of each side of the quadrangle. In passing across the denuded surface, from side to side, two deep stitches should be taken in the base of the bladder down to but not including its mucosa, at the points marked X. When drawn together and tied the sides of the diamond are forced in concentrically (Fig. 4, 1), producing the same effect as the wire—that is, the formation of a cross. The margins of the wound should then be closed with a whip-stitch of fine catgut (see Cases 2 and 3).

Success of the operation does not depend on the use

of silver wire, *but any lasting buried suture may be used.* Any one familiar with the technique of burying fine silver wire (No. 28) will meet with success when employing it in this operation. It should be buried deep, fastened with very little tension, and the ends folded under twice and mashed down flat to prevent its sticking or irritation (Figs. 5 and 6). When wire is used it is perhaps better to begin its introduction at one of the lateral triangles, that the twisted ends may be covered more deeply and placed out of harm's reach. Silk suture, large kangaroo, chromicized catgut are satisfactory materials, but personally I prefer the silver *for very bad cases*, because I have had no unpleasant result with it in the operation.

ILLUSTRATIVE CASES.

CASE 1.—M. C., Atlanta, Ga., aged 35 years, was admitted to the King's Daughters Hospital, April 30, 1890. The physical examination showed anemia and neurasthenia. The heart, lungs, and kidneys were negative. The perineum had been lacerated to the sphincter in her last confinement, four years

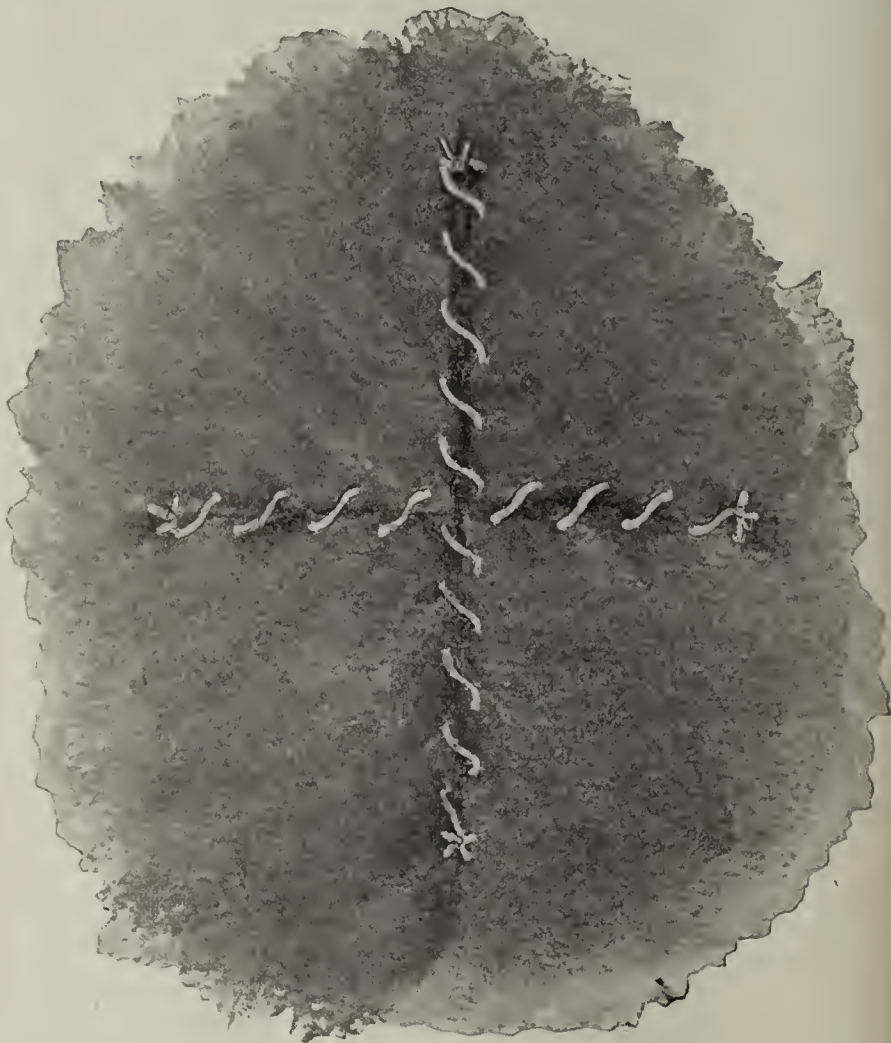


FIGURE 2.

before. The uterus was subinvolved, retroverted and about three times its normal size. The bladder was rolling out between the vulvæ in a mass the size of a large goose-egg. There was frequent dysuria, the urine alkaline, otherwise negative.

An oval denudation was made over the cystocele to its base on all sides and superimposed layers of catgut sutures—whip-stitch—were put in from above downward, tucking the redundancy of tissue into the bladder space as each layer was imposed. In all, three layers were employed, two being completely buried, the last used as a finishing suture to close the margins of the wound, after which colpoperineorrhaphy after Martin was done with slight modification. The immediate results were satisfactory and the patient was dismissed May 24, 1890.

Seven years afterward I had an opportunity of examining this case, and, much to my gratification, she had remained well with the exception of slight retroversion. Other cases were done in this way prior to the year 1888, but my notes of them are missing, consequently this one is employed for illustration.

CASE 2.—Mrs. M. E. D., aged 33 years, was admitted to the King's Daughters Hospital, Sept. 11, 1888. She was a hard-working woman, having the care and support of an invalid husband, two children and herself forced upon her. The perineum had been lacerated to the rectum in the first confinement, five years before. The uterus was completely prolapsed and protruding from the vulva. The bladder extruded in a globular mass about the size of a baseball. The anterior vaginal wall was very short, the posterior very long, making the fitting of a pessary impracticable. Frequent attacks of cystitis added much to her discomfort and the prolapsus grew rapidly worse until she was forced to go to bed.

The heart, lungs and kidneys were normal, also the urine, except that it was alkaline in reaction and contained a quantity of pus and albumin. Anemia was marked.

The cystocele was reduced in the manner described in the

day—twelve years after—is a well, hard-working stenographer and typewriter.

CASE 3.—With this case I had the honor of beginning the surgical work of the Grady Hospital—the first case, the first day, the first operation. Chromicized catgut was used, closing the diamond on the principle of the purse-string as described above. There was great relaxation of the vaginal outlet, requiring closure by the Emmett operation on the perineum.

The cystocele was very large, dragging the uterus so low that the cervix protruded between the labia with the rectum rolling out behind it. The patient was incapacitated for work of any kind, being confined to bed the greater portion of the time, and, not being able to retain any form of artificial support, suffered frequent and distressing dysuria and fermenting and alkaline urine.

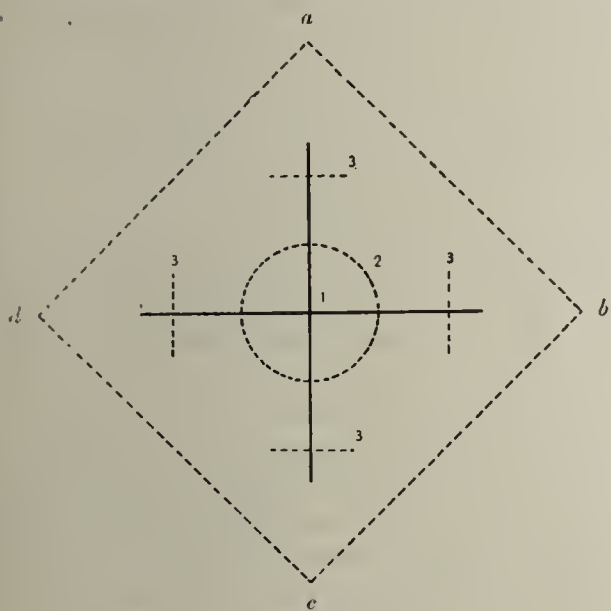


FIGURE 3.

operation where silk sutures were used (Fig. 3), this being the first case in which I employed it. I first began making the diamond denudation in preference to the oval, on account of the greater facility with which it could be done; then found

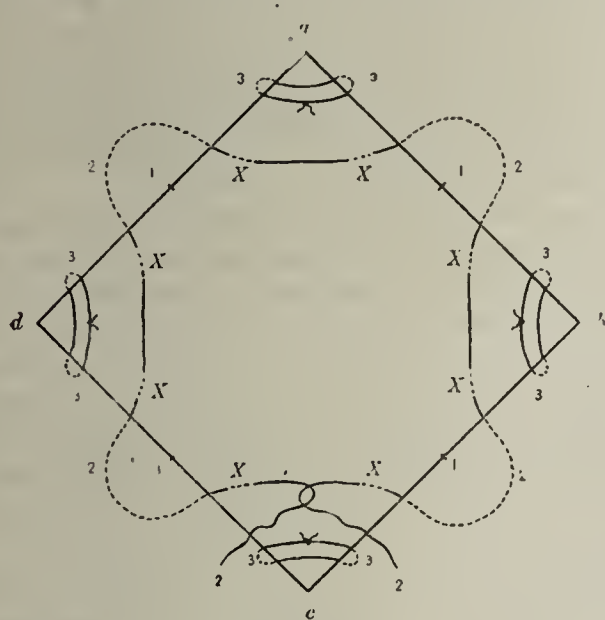


FIGURE 4.

that it afforded a better and easier approximation of the edges of the wound. This was strikingly apparent after putting in the small stitches across the angles. The purse-string suture naturally presented itself, and was employed to bring the sides of the diamond into the center of the field. An important step in each of these stitches is taking an extra deep hold in the muscular coat of the bladder as well as in the vagina. This is an immense advantage over the old Stoltz operation, which only puckers the mucous membrane together.

The posterior operation was done upon this case, employing Emmett's operation on the perineum and buried catgut—superimposed—in the posterior vaginal wall. The results were excellent. The patient was dismissed Oct. 13, 1888, and to-

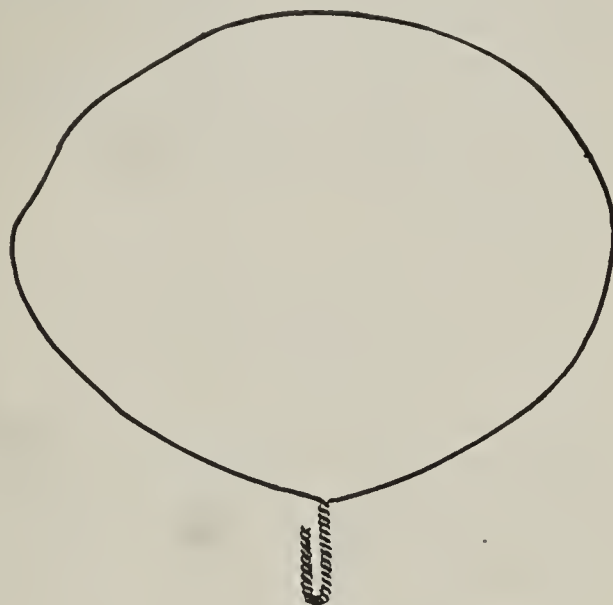


FIGURE 5.

The operation proved satisfactory for five years; after that time she was lost sight of. A result of this kind in a woman 60 years of age, who was placed in charge of the children of an orphan asylum, with the exertions her duties required, speaks well for the method of operating.

CASE 4.—Mrs. G., Decatur, Ga., aged 65 years, presented a bladder protruding through the vaginal orifice the size of a goose-egg, with painful and frequent urination from fermenting urine. Confined to bed for the greater part of three weeks, she

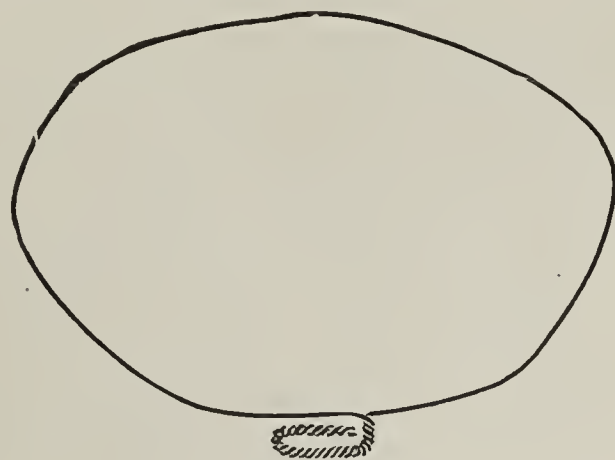


FIGURE 6.

was anemic with relaxed vaginal outlet; no tear in the perineum. The uterus was senile, but engorged, enlarged and dragged down nearly to the floor of the pelvis.

Operation was done with the assistance of Drs. Green and Thomas, and silver wire, No. 26, used. Approximation was nearly circular, the denudation being oval in shape. The center was imperfectly closed, leaving a slight aperture in the center where the tissues crowded together. Here the advantages of the diamond-shaped denudation were shown, as the sharp angles formed by the four sides of the quadrangle fitted accurately into each other so as to prevent gaping of the wound. Success was all that could be expected. The cystocele was relieved. The dragging uterus was relieved of its strain and

weight, consequently it resumed its normal position. The cystocele was not of very long standing.

CASE 5.—Mrs. C. O., aged 54 years, was admitted to Grady Hospital July 16, 1898. Urine: Color normal, specific gravity 1028, acid, small amount of albumin, much oxalate calcium crystals; no casts. The perineum was torn to the sphincter ani, a vesicocele, like a large pear, protruding from the vagina.

I operated on July 28, with diamond shaped denudation; wire purse-string suture, buried; superficial suture, catgut. A flap operation was done on the perineum, with wire and catgut. The stitches were removed Aug. 5. The results were perfect.

This case is selected as an illustration because the operation was done in the presence of Major McDonald, Surgeon U. S. V., of Albany, N. Y. The diamond was drawn together with buried silver wire, No. 28, and the margins of the wound whipped over with small catgut. The results were excellent and the wire was successfully buried. At last accounts the patient remained well and free from polyuria or prolapse of the bladder. The dysuria was completely relieved.

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INDIVIDUAL PROPHYLAXIS.

W. A. EVANS, M.D.

CHICAGO.

The question of individual prophylaxis includes preventive measures against bacterial and all other diseases and morbid conditions other than inherited structural changes and pathologic processes. What I will say will be limited to a few features of bacterial diseases.

In bacterial diseases we must never lose sight of two groups of factors: 1, the invader and its modifiers, and 2, the defendant and his modifiers. In the case of epidemic diseases the first of these is of supreme importance. However, even here the second is a factor, for even in times of severe epidemic not all of those who inhale or otherwise take in the bacterial cause have the disease, even though they have not the immunity acquired by a previous attack or by intermittent association.

In the case of endemic diseases, the second factor, namely, the individual and his modifiers, becomes of major importance. However, the first factor is not to be lost sight of, for, with influenza bacilli present in mucous secretions that are normal, and there being no such thing as acquired influenza immunity, in the ordinary acceptance of the term, it follows that there must be variance in the chemistry of the influenza bacillus.

Levy and Klemperer say: "From the constant contact with the infective bacteria to which man is continually exposed, infections would be far more frequent than they really are if the predisposition of human beings to bacterial disease were not on the whole but inconsiderable. In general, the power of resistance of our tissues against bacteria is so great that for infection to take place an additional special contributing cause that diminishes this power of resistance, in other words, a predisposing influence is necessary."

When we study the individual as a factor in infectious diseases we find many subsidiary factors. There is inherited immunity acquired by an attack of the disease, by an attack of a similar disease, by intermitting exposure, etc. In addition to these influences retarding infection, there are factors aiding it. I will restrict what I have to say to four of these: 1. Mental depression. 2. Overexertion. 3. Cleanliness. 4. Exposure to cold.

Mental Depression.—We have illustrations in the experience of every one that temporary susceptibility can come from mental depression. Every text-book article on susceptibility and immunity gives mental depression as a predisposing cause. This is a very considerable factor in infection in its inception; it can also be a factor in its continuation. The patient with an infectious disease, who is frightened or otherwise depressed, has a lessened chance of successfully resisting.

Overexertion.—The effects of overexertion are matters of constant laboratory observation. The dog treadmill and the rat-cage with a revolving attachment are matters of almost habitual class demonstration. The only point that I wish to raise here is: Is it not possible that at times our physical treatments are too vigorous? For example, some surgical dressings, especially those of fractures; the prolonged maintenance of one position in bed, whether that position is difficult or the easiest possible; the prolonged maintenance of head-low-position after hemorrhage; vigorous tubbing, etc.

Cleanliness.—A few years ago one of the most brilliant younger members of Chicago's medical profession quit that for the soap business. In a recent private letter he claims continued kinship with the medical profession because the soap profession is the cleanest of professions.

Two sides of the dirt question require no word: The first is, dirt as one of the elements of bad hygiene; the second, dirt as a carrier of infection in wounds. There is an unorthodox side about which I wish to say a word. Suppurative conditions and suppuration-bacteria are endemic. In ever-present diseases the personal equation of the individual attacked is the larger factor. Is not cleanliness increasing our susceptibility to pus processes, both as prime causes of localized abscesses, metritis, appendicitis, and diffused disease conditions—septicemias and pyemias—and as complications of other diseases, such as tuberculosis and typhoid. Fowls do not have suppurations. It is difficult to infect guinea-pigs, rabbits, and, in fact, any of the lower animals with pus cocci. Wounds of the feet of horses and other domestic animals do not ordinarily suppurate. Tuberculosis in such animals frequently makes fibrous, often caseating lesions. Sometimes liquefying areas are found. Suppuration is altogether exceptional.

It is a matter of common observation that wounds on the hands of farmers and machinists, where cleanliness is not possible, seldom suppurate. Wounds on the hands of people whose work does not soil the hands are very prone not only to local infection, but they frequently serve as portals for more or less general lymphatic or blood infection. Susceptibility and immunity of a given area entirely regardless of general susceptibility and immunity have been demonstrated in the case of the rabbit's ear.

I have seen postpartum infection of negro women of the less cleanly type yield speedily to the most rudimentary cleanings. Infections in white women, seemingly much less violent and combatted by cleanings that were much more thorough, have been inefficient.

Exposure to Cold.—It would consume space unnecessarily to cite proof that exposure to cold, to heat, to wet, etc., can determine infection in both man and the lower animals. It is quite possible that the mechanism lies in the vasomotor apparatus alone. Again, it is possible that it pertains to the vasomotor apparatus and the local cells combined. The only point I wish to make here is: To protest against the policy of protection; to be specific, woolen underwear, rubber shoes, chest protectors, throat mufflers, hot Scotch, etc.

Our resisting capacity, whether vasomotor, biologic, or something else, does not differ from our muscle capacity in the particular that, if it is exercised, it grows; if it is not it diminishes. If certain zones of the body surface are never allowed to get cool, then a sudden local chilling results in infection. But education can make those areas indifferent to the effects of chilling. One of the predisposing factors is removed. If the feet are habitually dry and warm, cold and wet will determine infection. If no attention is paid to whether the feet are wet or dry, they cease to be predisposing factors in infection. The neck can be trained to the same hardihood and the same indifference to changes of atmospheric conditions as the face, both in its relation to infection of the throat, and to general infection. I am trying to emphasize the habit side of this question. What I have to say does not apply to isolated exposures.

STATEMENT MADE BEFORE THE COMMITTEE ON PUBLIC HEALTH OF THE NEW YORK ASSEMBLY

AT THE PUBLIC HEARING ON ASSEMBLY BILL 759, REGULATING
AND LEGALIZING THE PRACTICE OF OSTEOPATHY IN THE
STATE OF NEW YORK AND FIXING PENALTIES FOR
THE VIOLATION THEREOF.

JAKOB BOLIN.
NEW YORK CITY.

The New York Medico-Gymnastic and Massage Society, incorporated under the laws of the state, has a membership of graduates and non-graduates of medicine who practice those branches of therapy, which are denoted in the name of the society. When this society resolved to appear before you through delegates, it was thought advisable that both these elements in its membership should be represented in order that the opinion might not prevail that the physicians among us carried things with a high hand, but to let it be known to you that whatever differences of opinion there may be on other questions, all the members stand hand in hand on this particular one. I have been elected to represent the laity in our society, and to give you our views on this matter.

The questions for me to answer are simply these: what relations exist between osteopathy on the one hand and massage and medicogymnastics on the other? What are their similarities and differences? And how does this bill, if it becomes law, effect those who practice massage and medicogymnastics?

Let me then state that here, as in so many other cases, the old saying slightly changed is true: What is good in osteopathy is not new, what is new is not good. Manipulations and movements have been used in therapy from time immemorial. It is not necessary to refer to the ancients, but you should know that from 1804 they were set into system in Sweden by P. H. Ling, and were in 1813 recognized by the government as a legitimate branch of therapy, and at the present time they are so recognized. But even in that country where these practices are unqualifiedly better understood than anywhere else, where the course of instruction has a duration of three years, and the students must have a preliminary knowledge corresponding approximately to the academic degree of B. A. before they may even enter upon their professional studies, the government does not allow the independent practice of the graduates of its own institution, but requires a certain amount of co-operation between them and the legalized physicians. In this bill it is proposed to give independent practice to persons who may have taken a course of a month or a correspondence course of a few months. When the standard of medical education in the state has been laboriously raised to approach that of Europe, is it not an arrogance, an audacity, a crime, aye, even a stupidity, which is perhaps still worse, to try to degrade it with one stroke?

The treatment of disease by manipulations and movements is not, then, a new discovery, as claimed. Nor is it new in this country. From Sweden it was introduced into New York by

two physicians, the two brothers Taylor, in the fifties, and it is now practiced more or less successfully by several hundred persons all over the country, who have gained no new knowledge from the osteopaths. I have here some works by osteopaths, and some by gymnasts. It was my intention to demonstrate by the pictures in them their similarities of procedure. The denial by the osteopaths of authoritative value to the works published in their name would, however, make such demonstration invalid.

Have our physicians taken any interest in these matters? A great variety of manipulations were collected in 1835, by Dr. Martin, of Lyon, and under the name of massage they have been studied and applied by several of the most noted physicians of our era. The celebrated Esmaïch, late surgeon-general of the Prussian army, was one of its most pronounced advocates. Zabludowsky, Mosso, and a host of others have studied its physiology. Dr. Metzger has gained world-fame in its application.

Now these men who come before you to urge this bill, which under the guise of breaking the monopoly of the physicians, endeavor to set up a monopoly in this particular branch, shutting out completely us who have practised long before osteopathy was thought of, these men are simply very poor imitators of their predecessors, very poor not only in so far that they apply only part of the means at our disposal, but poor also in the sense that they apply what they do use upon absolutely false and preposterous grounds. They see dislocations and subluxations everywhere. Last summer there came under my care a case of locomotor ataxia where they had diagnosed a dislocation of the spine. Less than two months ago I received from one of the most prominent neurologists in the city of New York a patient with localized cerebral venous stasis. They had "discovered" a subluxation in his neck! That is one difference between them and us. We take the diagnosis of the physician. They claim to make their own diagnosis and it is practically always the same. Why, if any one of you should put yourself in their care you would undoubtedly be found to have a dislocation of the neck. And still I will warrant that it is not your heads which have been turned, but theirs—turned completely around and topsy-turvy into the bargain.

The society, which I have the honor to represent, endeavors to gradually embrace all the reputable practitioners in this mode of treatment. And one of the cardinal points in our declaration of faith is this, that there must be co-operation between the physician and us, that the diagnosis lies outside of our sphere, that we are not prepared for it, and this notwithstanding the fact that most of us have looked far deeper into the etiology and pathology of diseases than these gentlemen with their peculiar notions. When we have got the diagnosis made by a reputable physician, we undertake the treatment in suitable cases, and so far as technique is concerned I have yet to learn of undue influence by the medical fraternity, at least the foremost among them. They recognize that those of us who have made a conscientious study of this matter during several years understand it far better than they themselves, while we bow to them without hesitancy so far as diagnosis is concerned.

It is rumored that an esteemed gentleman here present, Mark Twain, is to speak on the opposite side of this question. I do not know what his acquaintance with osteopathy, so-called, may be, but this I do know, that he himself has gained his first insight and benefit from manipulations and movements not from them but from Swedish gymnasts at Sanna in Sweden.

Let this bill become a law and havoc will be played with the health of the community. You will make impossible the endeavors of our society to raise the standard, so as to become an honor to the country. You will frustrate the plan, now in progress, to found a school where the science and art of this branch of therapy may be taught in accord with the doctrines of science. Defeat the bill and you will uphold our hands, and you will shortly see in New York City a school worthy of the imperial state, a school conducted by citizens of this state, a school which shall put the diploma factories in the west to shame.

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THE EMBRYOLOGICAL BASIS OF PATHOLOGY.

In the Middleton Goldsmith lecture before the New York Pathological Society, March 26, 1901, Minot discussed the relations between pathology and embryology.¹ Embryology and pathology—more particularly pathological anatomy and histology—both deal with problems of development of anatomical forms; and naturally the laws of organization of normal structure must be of fundamental importance to the student of abnormal structure and function. Minot first discussed normal differentiation, beginning with the fertilized ovum, which, though a very complex organization, is an undifferentiated being with a protoplasm of apparently uniform structure, every part of which is capable of producing any or all of the tissues of the adult. During the process of differentiation each successive stage limits the range of possible change, and before long the potential fate of the cells is limited by the conditions of layership, as Minot terms the relations of the cells to the germ layers, the three distinct primary strata—ectoderm, entoderm, and mesoderm (mesothelium and mesenchyma). Each of the three layers has specific functions to carry out in the further work of differentiation and histogenesis. He emphasizes the fact that recent efforts to upset the basic doctrine of the specificness of the cells of the germ layer have failed completely, the conclusions of Klaatseh and others against this doctrine having been based upon erroneous observations.

Differentiation in one direction terminates the possibility of differentiation in other directions so that there is no reversal and no transformation of the cells of one layer into cells with the capabilities of those of another layer. Hence pathological cell processes are still governed, as generally taught, by the law of the specific value of the germ layers. Various types of cell differentiation are recognized: the epidermis, derived from the ectoderm, presents in its basal layers cells that remain embryonal while the cells of the upper layers are more highly differentiated, and in the nervous system, also derived from the ectoderm, certain cells, namely the neurons, lose altogether the power of multiplication. In the mesoderm differentiation attains its highest maximum; here the endothelial cells, the red blood-cells, and the sexual cells are specialized precociously, retaining the embryonic power of proliferation at the same time as they can only reproduce their like. In the case

of the connective tissues of the mesoderm, cells are arrested in their development at various stages in differentiation. Minot urges the adoption of mesothelium to designate the epithelial lining of the abdominal and thoracic cavities because it is genetically different from the endothelium of the blood and lymph vessels. Up to this point the changes referred to have all been of constructive character; but they are eventually succeeded by changes of an entirely different nature, namely destructive. These destructive changes fall into three main groups: direct cell death; necrobiosis, or indirect cell death, preceded by structural changes in the cells; and hypertrophic degeneration, or indirect cell death, preceded by growth and structural changes as seen in the uterus after pregnancy. Necrobiosis and hypertrophic degeneration are normal processes, and may play a very important rôle in the life history of the individual. This phase in normal development is but little discussed outside of works on pathologic subjects, presumably because the traditional use of the terms mentioned carries with it the idea that the processes occur exclusively under pathologic conditions. It is seen that the changes, which occur in the death of cells, are nearly identical under normal and pathologic conditions. And the dead cells are removed by the same means under the two conditions, namely, mechanically as by sloughing and shedding, by chemical means (solution), and by phagocytosis. In the absence of a suitable term to designate the entire series of changes, progressive and regressive, of cell-structure, Minot proposes the word "cytomorphosis," which includes "all the structural alterations which cells, or successive generations of cells, may undergo from the earliest undifferentiated stage to their final destruction."

In applying the laws of normal differentiation to pathological processes, Minot dwells especially upon the current classification of tumors, which though based on embryonic grounds permits such errors as placing glioma, an ectodermal derivative, among mesodermal tumors. Several similar inconsistencies are noted. He suggests that carcinoma, now regarded as including a definite form of tumor, probably includes various distinct forms each with its peculiarities according to the layership of the cells from which it springs. From the standpoint of differentiation the cells of the basal layers of the epidermis, of the entoderm, and of certain mesenchymatous derivatives should possess the most marked powers of proliferation, and this has certainly been found to hold good in pathologic processes; for we know that it is precisely in these cells that tumors and other proliferations especially start. Liver cells, muscle cells, and nerve cells have but little power to form tumors because more highly differentiated. It is furthermore emphasized that most if not all pathologic necrobiosis and degenerations of cells are identical with normal processes of cytomorphosis, being pathologic solely on account of abnormality in time and place. Enough has been cited to show that embryology and pathology deal

1. Boston Med. and Surg. Jour., March 28, 1901.

with similar problems of cell life. Both await anxiously the discovery of the causes of cell differentiation and histogenesis. Experimental morphology, the new science, by means of which it is hoped to secure control of cell differentiation, may yet prove of the greatest practical importance in furnishing the physician with the means of attacking a number of diseases at the point of their departure, namely in erroneous differentiation.

THE PREVENTION OF VENEREAL DISEASES.

Although gonorrhea, chancroid and syphilis are occasionally conveyed through other channels than that of sexual intercourse, such a mode of transmission must be looked upon as exceptional and accidental; and these diseases, therefore, are with propriety designated venereal. That all are more prevalent than is good for the welfare of society, no one will doubt or deny, and despite various attempts, no measure yet applied has proved successful in their prevention. While the actual exciting agents of syphilis and chancroid have not been isolated with accepted certainty, sufficient is nevertheless known with regard to the mode of propagating these diseases, as well as gonorrhea—the exciting agent of which is agreed to be the gonococcus—to indicate clearly the lines upon which their spread is to be prevented and their ravages restricted. While it must be obvious that as a result of such knowledge much can be done to limit infection, by observance of the principles of asepsis and antisepsis the most important prophylactic measure must ever remain avoidance, so far as possible, of exposure to the risk of infection.

As the outcome of an investigation made by a special committee of the Section on State Medicine of the AMERICAN MEDICAL ASSOCIATION, appointed to inquire into the questions whether and when a patient who has suffered from an attack of gonorrhea may be permitted to marry, and whether the matter is a proper one for regulation by statute, an affirmative answer was given to the first and a negative to the second, in last week's JOURNAL. Consent to marry is made permissible only after it can be said positively that in all human probability the patient is no longer infective. In the minds of the Committee, "it is doubtful whether any plan of examination of prostitutes or any plan requiring a report to health authorities of cases of gonorrhea occurring in the hands of general practitioners and specialists can be made practicable."

With regard to syphilis, Dr. L. D. Bulkley (p. 936) makes a plea that, by reason of the injury it inflicts upon the public health, imperilling not alone those who have been guilty of sexual transgression, but also those who are quite innocent, the disease should, like other transmissible diseases, be placed under the control of the health authorities. In the course of a discussion on the "Ravages of the Venereal Diseases," recently held before the Physicians' Club of Chicago, Judge Lorin C. Collins¹

pointed out the difficulty in reaching an agreement as to proper legislation to be enacted for the purpose of controlling and diminishing venereal diseases, and the obstacles likely to be encountered both in its enactment and in its enforcement. In the course of the same discussion, Dr. Edmund Andrews struck the keynote of the situation in urging education of the public upon the subject of venereal diseases, in order that it may for itself realize the dangers, and intelligently apply the preventive and corrective measures, individually and collectively. The wisdom of such a course seems to have been appreciated by the German Department of Education, under whose auspices a series of public lectures on syphilis and gonorrhea has been delivered by prominent authorities at the Charité Hospital of Berlin and which, after publication in the *Berliner klinische Wochenschrift*, are to be reprinted for distribution among the students at the German universities and among the troops. A course of free clinical lectures on syphilis for physicians was begun on March 6 at the New York Skin and Cancer Hospital, to continue on successive Wednesday evenings until May 1.

The question is a most important one, and its regulation is likely to continue, as it has in the past proved to be a most difficult undertaking. It is clear, however, that the desired results are to be secured, not through any single means, but from a combination of all. The most important of these, as striking at the root of the evil, includes a full knowledge of the nature of the diseases, the methods by which they are conveyed, as well as the means by which such conveyance is to be prevented, and the adoption of all possible measures of prophylaxis, moral and physical, together with the most rigorous and systematic treatment in private and public alike.

HISTOLOGIC DIFFERENTIATION BETWEEN TUBERCULOSIS AND SYPHILIS.

At the last meeting of the German Pathological Society an interesting discussion was precipitated by Baumgarten's¹ remarks concerning the differential histologic diagnosis of tuberculous and gummosis orchitis. The differentiation of tuberculosis and syphilis is a problem that has a much wider interest than merely that of an examination question in medical schools. Baumgarten points out that quite commonly the macroscopic and microscopic appearances are so typical that the diagnosis is easy, but cases are sure to occur in which difficulties arise. The demonstration of B. tuberculosis is a sure criterion of tuberculosis, but in old, chronic cases of this disease, no matter whether in the testicle or elsewhere, bacilli may not be found in spite of prolonged search, and negative results do not exclude tuberculosis. Syphilis and tuberculosis may occur together, and consequently the finding of tubercle bacilli does not certainly always exclude syphilis. For these reasons the differential diagnosis must often rest on histologic

1. JOUR. AM. MED. ASSN., March 16, p. 761.

1. Verh. deut. path. Gesellsch., 1900, iii, 107-121.

grounds. At one time the giant cell of Langhans was regarded as specific for tuberculosis, but the same cell was long ago described by Baumgarten and others in gummatous growths—or growths so considered. From his extensive studies of tuberculous and gummatous testicles Baumgarten has been compelled to change his opinion, and he now believes that in pure syphilitic lesions giant cells are not present. In this opinion he will probably not find many supporters, but it is based upon the observations that cases with Langhans' giant cells contain tubercle bacilli no matter what the clinical or anatomical appearances are. He suggests the possibility that in some of his cases there were combinations of syphilis and tuberculosis, a very difficult problem to decide because of our ignorance of the virus of lues.

What, then, are some of the essential differences between the lesions of tuberculosis and syphilis? Syphilitic lesions consist mostly of small cells, the fibroblasts of syphilis rarely reaching the size of the epithelioid cells of tuberculosis. There are in syphilitic foci no such accumulations of epithelioid cells as in tuberculosis. In the case of the so-called lymphoid tubercle the differentiation is very difficult indeed unless bacilli are found, and they are usually frequent in lymphoid tubercles. While the old vessels disappear and new vessels are not formed in tuberculous foci, syphilitic growths are provided with vessels and capillaries. Syphilitic proliferations may change directly into fibrous tissue, but in tuberculous areas, except in lupus, cicatrization is usually secondary to caseation and absorption of caseous material—a statement to which exception undoubtedly will be taken by many. In gummas, necrosis may occur in the stage of connective tissue formation, an event not yet definitely proved in the case of tuberculosis. The necrosis in gummas is peculiar in that it slowly leads to obliteration of structural details, especially vessels, whereas in tuberculosis structural markings are lost rapidly. In the caseous centers of gummas it may be possible still to recognize the indistinct outlines of the necrotic cells. In the case of the testicle, tuberculosis begins in the walls of the canals of the epididymis while syphilis starts in the interstitial tissue of the testis where primary tuberculosis is exceedingly infrequent. When the syphilitic growth reaches the tubules it causes degeneration of the epithelial cells lining them, whereas tuberculosis induces the epithelium to form giant cells.

In the discussion, Orth and others emphasized the formation in syphilitic lesions of elastic fibers, which are absent in tuberculous foci. Chiari remarked that fibrous orchitis, commonly regarded as of syphilitic nature, frequently is of gonorrheal origin and starts in the canals. This statement seems to have met with general approval. Marchand believes in the direct transformation of tuberculous tissue in mature tissue, and Marchand, Hansemann and others thought that Baumgarten's statement that giant cells do not form in syphilitic lesions went contrary to the facts. Giant cells

form in various kinds of connective tissue, that caused by foreign bodies as well as in that caused by specific organisms, hence there is no reason apparent why they may not develop in granulation tissue of syphilitic origin. Baumgarten rejoined that to him Langhans' giant cells were always indicative of tuberculosis, especially in the absence of foreign bodies and larger, evident parasites. But experienced pathologists will have had abundant opportunity to observe that the inoculation in guinea-pigs of tissue containing Langhans' giant cells does not always cause tuberculosis. Giant cells are found frequently in typically syphilitic livers, and in suitable cases of this kind it should be possible to determine definitely by means of staining and by inoculation experiments whether tubercle bacilli are present or not.

THE RAPID DIAGNOSIS OF RABIES.

The time has surely long passed when serious doubt prevailed as to the existence of hydrophobia as a distinct entity. It is unfortunately true that the hypothetical micro-organism of this disease remains yet undiscovered, but the same statement is applicable equally to other disorders concerning whose identity no question is raised, and which it seems perfectly safe to consider as infectious and therefore of micro-organismal origin, as for instance, measles, chicken-pox, scarlet fever, whooping-cough, rheumatism, smallpox, and typhus fever. Even for some of these, causative micro-organisms have been described, but not with the demonstrativeness and constancy necessary to carry conviction and compel acceptance. With regard to rabies, reliance in diagnosis has been placed in the past upon the biologic method, namely the inoculation of lower animals with an emulsion of the medulla of the suspected animal, but the period of incubation is long and valuable time may be lost by the unavoidable delay. Recently, however, two methods have been proposed by which a rapid diagnosis seems possible, and these are described in an interesting communication presented recently to the Pathological Society of Philadelphia by Drs. M. P. Ravenel and D. J. McCarthy¹

Pollaillon and Nepveu found the entire cerebrospinal axis from a man dead of rabies markedly congested, and the ganglion of Gasser hyperemic and infiltrated with round or oval cells, some hyaline in appearance and believed to be epithelioid cells from the capsule of the ganglion-cells. Balzer and Benedikt observed distension of the vessels of the nervous centers, with escape of erythrocytes and leukocytes into the perivascular spaces. Kolesnikoff described, in addition, an invasion of the pericellular spaces by round cells in the hemispheres, the cerebellum, the spinal cord and the sympathetic and intervertebral ganglia. Schäffer called attention to hyaline and fibrillar degeneration and vacuolation of the cells of the anterior horns of the spinal cord. Finally Babès, who had previously suggested the prob-

1. Proceedings of the Path. Soc. of Phila., March, 1901, vol. iv, No. 5, p. 89.

able existence of characteristic lesions in the nervous centers, concluded, as a result of numerous observations in dogs and human beings, that the essential lesions of rabies consist in an accumulation of embryonic cells in the neighborhood of the central canal and especially about the large modified cells of the motor centers of the bulb and the cord. Later he pointed out the possibility of making a rapid diagnosis by a microscopic examination of the bulb and the cord and the discovery of the pericellular accumulations of embryonal cells, for which he proposed the name "rabie tubercle." The cells of the bulbar nuclei undergo degeneration and present the various stages of chromatolysis. There occur loss of the prolongations, progressive modification and even total disappearance of the nuclei, dilatation of the pericellular space, invasion of this space and of the nerve-cells by embryonal cells and also small corpuscles, hyaline, brownish and in part metachromatic. Many of the nerve-cells become surrounded by a large zone of embryonal cells, which take the place of completely degenerated cells and constitute the rabie tubercle.

Later Nélis and van Gehuchten found atrophy, invasion and destruction of the nerve-cells in the peripheral, cerebral and sympathetic ganglia and especially in the intervertebral ganglia and the plexiform ganglia of the pneumogastric nerve by newly formed cells derived from the capsule, appearing between the cell-body and its endothelial capsule. These newly formed cells increase in number, invade the protoplasm of the nerve-cell, and finally occupy the entire capsule. The observations of Nélis and van Gehuchten have been confirmed from a number of sources, including observations by Ravénel and McCarthy in twenty-eight cases of rabies in dogs, rabbits, a cow and a human being. In a large proportion of cases the rabie tubercle of Babès also was found. Similar lesions, although they can not be said to be identical, may be found in association with other toxic and irritative states of the nervous system, so that while they may be considered characteristic and under certain conditions diagnostic, they can scarcely be looked upon as specific. In any event we are thus brought one step nearer the solution of an obscure problem, with increased possibilities in the prevention of a justly dreaded disease.

MALARIA INVESTIGATION IN THE PACIFIC ISLANDS.

Dr. Patrick Manson recently delivered an address before the Epidemiological Society of London, in which, according to the *British Medical Journal*, he said that one of the problems of epidemiology still unsolved is why malaria is present in one country and absent in another, though the climatic conditions in both are the same. Also why the same applies as regards filariasis. He suggested as an explanation that the presence or absence of any malarial disease or filariasis in any particular locality depends on the presence or absence of their respective subserving mosquitoes in sufficient numbers, the presence of the respective mosquitoes

being determined not so much by the presence or absence of the essentials for mosquito life, viz., water, adequate atmospheric temperature, and vegetable food, as by the presence or absence of special conditions inimical to special kinds of mosquitoes. Manson suggested a plan for the investigation of this subject in the Pacific Islands, estimating the expense of such an expedition at £2000. Some one who has kept his name a secret, has already contributed one-fourth of this amount, and it is hoped that sufficient funds will be forthcoming for the investigation to be made.

SPECIAL LEGISLATION TO LEGALIZE HUMBUGS.

A bill was recently introduced in the New York legislature exempting a certain individual from the examinations required by the medical practice act. In this case it is said that the favored party was possessor of a certain remedy which he alone knowing its formula could use with great success, and the plea was made in behalf of the people who would otherwise be deprived of its benefits. The legislature was therefore asked to turn itself into a diploma-mill for the benefit of a secret-remedy proprietor. This would have been a very convenient precedent for other similar acts, and the result that the state would have been flooded with medical practitioners by special legislative enactments. In fact, the *New York Tribune* speaks editorially as if more than one such attempt was either made or contemplated, and very naturally and sensibly protests. But, after all, the licensing of one or two individuals to practice medicine without education or preparation is as rational as doing the same for a whole class as was proposed by the osteopathy bill.

THE PROTOZOON OF CANCER.

Elsewhere in this issue of THE JOURNAL will be found an abstract of a recent lecture by Prof. H. R. Gaylord, of the state cancer laboratory at Buffalo, N. Y. In this he announces his success in inoculating cancer by means of the organism described by him in 1899, and which was subsequently found, by Plimmer, also to be present in the majority of cancers examined. The pleomorphism of the organism, which was supposed for a time to be a yeast germ, has hindered its early recognition, but it appears that with the methods now available it can be readily demonstrated by any bacteriologist and its animal nature confirmed. Dr. Gaylord does not claim the exclusive right to be considered the discoverer of this germ. He credits Sjöbring, Pfeiffer, Plimmer, San Felice, and others with having had their share, but he has correlated their investigations with his own and has apparently furnished the demonstration that was heretofore lacking. There is yet much to do before our knowledge of the subject is even approximately complete, but it is a great step in advance when the germs that can experimentally produce cancer have been found. It is possibly not necessary, as Adami has maintained, that they should always be present in the growth, but that they are present seems to be the case, and this being a fact may materially affect the treatment of the disease and render its prognosis more helpful than Adami seems to hold. If their presence is essential it is to be hoped that in studying their life history

we may find an antidote to this pest of mankind that seems to be yearly increasing in its destructiveness. A verified discovery of the cancer germ may prove to be one of the epoch-making events of the opening century. It is interesting to note that some of the work leading to this apparent discovery was published nearly ten years ago by Pfeiffer, and has only been very recently recognized in its medical value.

CODE OF MEDICAL ETHICS.

Believing that much of the ignorance on the part of some members of the profession concerning the provisions of the Code of Ethics of the AMERICAN MEDICAL ASSOCIATION is due to unfamiliarity with the Code, and realizing that in most medical schools very little, if anything is taught directly on the subject of medical ethics, the ASSOCIATION has, during the past months, issued a pocket-sized edition of the Code for presentation to the members of the senior classes of all regular medical colleges in this country. These Codes are given gratuitously, one to each member of a graduating class, and already over 5000 copies have been distributed. It is believed that this will result in a higher standard in the majority of these young practitioners. We feel confident that no one will be injured by reading this little book, although in the eyes of some it is a very vicious document. On another page we reprint some remarks on the value of the Code to medical students, from one of our exchanges, and recommend its perusal by our readers.

OSTEOPATHY VS. MASSAGE.

Elsewhere in this issue appears the statement of Mr. Jakob Bolin, representative of the New York Medico-Gymnastic and Massage Society, before the Committee on Public Health of the New York Assembly, having before it the assembly bill No. 759 regulating and legalizing the practice of osteopathy. It was presented, it appears, before the widely noticed plea of Mark Twain, and ought to have somewhat modified its force with the members of the committee when they considered the fact that all his favorable experience had been with honest Swedish massage instead of the Missouri fraud, osteopathy. Mr. Bolin's exposure of some of the common mistakes of these pretenders ought to have prepared the legislators to properly appreciate the value of verbiage made up by the literary bureau of the Still manufacturing. Whatever is of value in osteopathy is massage; in spite of their denials the osteopaths are simply masseurs, but using their methods with an ignorance and presumption that is liable to make their manipulations perilous in some of the graver cases they too often venture to treat. It speaks ill for the scientific culture and general intelligence of the country that such palpable pseudoscience as the utterances of the Still propaganda should find so many dupes.

RECIPROCAL SANITARY MEASURES.

The recent brilliant showing of the U. S. health authorities in Havana has called out some comment. The *Boston Herald*, in its remarks, suggests that the Government also try its hand on some of our southern cities whose "happy go lucky ways of guarding the health

of the people" court pestilence and disaster. If we are to hold Cuba under guarantees to maintain satisfactory sanitary conditions, it would be only fair for our South Atlantic and Gulf cities, as well as those farther north, to be under similar enforced obligation. The *Charleston* (S. C.) *Courier* editorially endorses the view, saying that the remarks of the *Herald* are by no means impertinent. The officially reported annual mortality of some of our southern cities, it says, "tells the story of their condition to the outside world too plainly for denial or misplaced indignation on their part." This is strong testimony from such a source, and it is certain that not all our southern or even our northern municipalities can make as favorable a showing as the recent one from Havana with all its climatic disadvantages. The recent exhibition of ostrich policy of a certain state government is in point in this connection, and all these facts emphasize the need of the introduction of sanitation into the questions considered by international law. In this as in other matters there is room for international comity and regulation.

"THE PUNISHMENT TO FIT THE CRIME."

A writer in a sociologic publication¹ finds that one method of punishment for crime is defective in so many ways that a radical change is demanded, and suggests one so radical and revolutionary that it is strange it has so far escaped comment. Punishments are not reformatory because the mass of criminals are not reformable, and it is impossible with present means to secure the needed environment among the aggregations in our prisons. The old retributive idea of punishment is being abandoned, and while the sequestration of the criminal is still a need for the defense of society, the question what is to be done with him becomes more and more a problem. We are getting to a state in which we can not work our criminals to advantage because the trades unions forbid it, and we can not keep them in idleness and confinement because that means mental breakdown and is, in the eyes of the philanthropist, the worst alternative of all. Every member of society, even in a prison, should have his utility, and the author in question sees this for the incorrigible in making him of benefit to the race in deciding scientific questions, in other words a subject for experiment for scientific purposes. It has been said that the worst use to which a man could be put is to hang him, and this idea was doubtless in the mind of the sociologic student in question. While it is a little odd that the idea should be seriously propounded—at least to all appearances—it is much more likely to come from such a quarter than from any one even remotely connected with the medical profession. It would not be surprising, indeed, if it should receive the endorsement of some antivivisectionist zealots, for zoophilism and genuine philanthropy, understanding by the word a real love for their own species, are sometimes mutually exclusive. Science can get along with the necessary occasional sacrifice of the *corpora vilia*, and certainly does not ask for human sacrifices, even of murderers. The days of Herophilus and Erosistratus have not yet come again and it is to be hoped never will.

1. Am. Jour. of Sociology, March, 1901.

Medical News.

ALABAMA.

Dr. Willis W. Scales, Mobile, has been elected assistant quarantine physician.

Birmingham Medical College held its annual commencement, April 1, when degrees were conferred on a class of fifteen.

The quarantine board of Mobile Bay held its annual meeting at Mobile, March 13, adopted rules and regulations for the present quarantine season, and elected officers.

CALIFORNIA.

Smallpox is increasing in San Francisco. On March 26, thirty-five cases were on the records of the health office.

The State Board of Medical Examiners has been sued by a graduate of the San Francisco short-term college recently referred to editorially in *THE JOURNAL*. He accuses the board of bias and is endeavoring to compel the issuance of a license in his case.

The legislature has appointed a committee to investigate the feasibility of establishing a state hospital for the treatment of tuberculosis, in the southern part of the state. Great opposition was offered on the ground that the establishment of such an institution would flood the state with consumptives.

ILLINOIS.

Dr. Andreas Johannes, Peoria, will leave in a short time for Berlin, where he will take a post-graduate course.

Dr. John W. Kelley, formerly of Augusta, has been appointed physician at the Quincy City Hospital, vice Dr. Williams.

Dr. Joel G. Williams, Quincy, met with a serious accident March 22, fracturing his hip. The injury is the more grave owing to Dr. Williams' advanced age.

Two veteran physicians of Champaign County, Drs. Charles H. Mills, Champaign, and Samuel S. Salisbury, Tolono, who have each been in practice fifty years, are to be given a banquet by the Champaign County Medical Society, April 11.

Dr. John Milton Holt, assistant surgeon U. S. M.-H. S., in charge of the marine hospital at Cairo, has been transferred to Chicago. He will be succeeded by Passed Assistant Surgeon James Hurdus Oakley, who has been stationed at Queenstown, Ireland.

Chicago.

Dr. Rudolph W. Holmes and wife arrived in Chicago April 1, after a year's absence abroad.

Diversion of sewers is said by Health Commissioner Reynolds to have reduced the mortality from impure-water diseases in the district affected, 60 per cent. since 1898.

The Baptist Hospital lost an estate of \$2000, left to it by a former patient. The probate court refused to admit the will to probate on presentation of evidence that the deviser was not of sound mind at the time the will was drawn.

Unvaccinated School Children.—In the case noted in *THE JOURNAL* of last week, Judge Dunne has reversed his decision in all except one child who suffered from heart disease which the family physician declared might be aggravated by vaccination.

Chicago's Smallpox.—The smallpox situation was substantially unchanged at the close of March, the figures showing 36 cases in the Isolation Hospital at the close of February, 38 admitted during March, 39 discharged, 35 remaining under treatment March 31, and no deaths. The record of "never vaccinated" remains unbroken.

March Mortality.—This was about the lowest for March in the history of the city. Between 1890 and 1900 the number of deaths in March averaged 2279, the lowest being 1821 in 1894, and the highest 3405 in 1891. In the month just ended there were 1958 deaths, or 14 per cent. less than the average of the actual number of deaths and 20 per cent. less than the average deaths per 1000 of population.

KANSAS.

Damages for Quarantine.—The secretary of the State Board of Health has been sued by a Horton woman who avers that she suffered damage to the extent of \$5000 while in a temporary isolation hospital on account of smallpox, by inattention on the part of the medical authorities.

The New Medical Practice Act.—The last legislature passed a new law governing the practice of medicine in the

state, which goes into effect this week and provides for a board of seven members who are to be appointed by the governor. Three members will be selected from the regular school, two from the homeopaths and two from the eclectics. The appointments will probably be made in May, as Governor Stanley has requested a list of physicians from the state societies, from which he will choose the members of the Board. The regular meetings of the Board will be in February, June and October. All applications must be approved by at least five members of the board before the certificates to practice can be issued. The certificate fee will be \$2 and the examination fee \$15. Osteopathy and "Christian Science" are not barred, provided the graduates are from some reputable school and agree to obey all quarantine regulations. Medical students may practice if approved by a majority of the physicians of their particular locality. Graduates of optical colleges are admitted by passing an examination before the Board. The penalty for violation of the law and practicing without a license is a fine of from \$50 to \$200.

KENTUCKY.

Dr. John P. Gilmer, Louisville, has been commissioned as ad interim examining surgeon for the local pension bureau.

Norton Infirmary.—Ground will shortly be broken for the new addition to the Norton Infirmary, which will give two new operating-rooms and about fifty additional beds.

Graduation.—The annual commencements of the Louisville Medical College and the University of Louisville's medical department were held on March 27 and 28, respectively, both schools graduating large classes.

Good Samaritan Hospital.—This Lexington institution has selected the following medical staff: Dr. Henry M. Skillman, consulting physician; Dr. Charles W. Norris, consultant on diseases of eye, ear, nose and throat; Drs. Benjamin L. Coleman, Joseph W. Pryor, Frank H. Clarke and James C. Carrick, medical; Drs. George D. Kelley, Walter O. Bullock, Jr., John W. Scott and Thomas Lewis, surgical, and Drs. Claude W. Trapp, John Y. Oldham, and William B. McClure in special departments.

MARYLAND.

Carroll Monument.—A movement has been started to erect, by public subscription, a monument to Dr. Thomas King Carroll, whose remains rest in old Trinity Church cemetery, near Church Creek, Dorchester County. So successful has been the movement in the community where this gentleman labored for over a half century as physician and friend, that already the order for the monument has been given. It will be of white Italian marble, the shaft 10 feet 8 inches high, carved in laurel wreath with appropriate inscription.

Baltimore.

The Baltimore sewerage bill has passed the Maryland legislature.

University of Maryland Medical School.—A five-story wing for a maternity will be erected on ground recently purchased near the hospital; the students' building for internes will be remodeled, and the regents are negotiating for the present law building, which will be rebuilt, remodeled and made the "Hitchcock Laboratory," in honor of the alumnus who gave the bequest with which the purchase is being made.

MICHIGAN.

Saginaw is to have an isolation hospital with accommodation for ten patients.

The Isolation Hospital for Chippewa County is completed and has been accepted by the committee who had the matter in charge.

The remuneration for the physicians who cared for the smallpox cases in Marquette County has been fixed by the supervisors at \$20 a day.

Dr. G. Parker Dillon, Grand Rapids, has received an appointment as acting assistant surgeon in the Army, and has been ordered to report at Fort Sheridan, Ill., for duty.

Lansing City Hospital.—This institution will have the following medical board: Dr. Rush J. Shank, chief of staff; Dr. L. Anna Ballard, secretary; Drs. Charles N. Hayden, Lansing; Sidney H. Culver, Mason, and Alden G. Sheets, Eaton Rapids, consulting surgeons; Drs. Harry A. Haze, Alexander D. Hagadorn and G. Franklin Bauch, all of Lansing, attending surgeons; Drs. Frank W. Shumway, Williamsten; Thomas M. Sanford, De Witt, and John E. Hinkson, Wacousta, consulting physicians; Drs. John F. Campbell, Freeman A. Jones, Frank M. Thoms and William W. Munn, all of Lansing, at-

tending physicians; Dr. Johnson W. Hagadorn, consulting oculist; Dr. Joseph Foster, attending oculist; Dr. Robert E. Miller, attending neurologist; Drs. William A. Davis, Grand Ledge, and John A. Mapes, Dimondale, consulting gynecologists; Drs. Chauncey Barber, Rush J. Shank, Lansing, attending gynecologists; Drs. Gertrude D. Campbell, Mason, and Elwood D. Wilson, Bath, consulting obstetricians; and Drs. L. Anna Ballard, Theodore Cole and Cora P. Ganung, Lansing, attending obstetricians.

MISSOURI.

Kansas City Medical College graduated a class of 43, March 22.

Dr. A. H. Hull, Carthage, recently lost \$2500. in office furniture, instruments, etc., by fire.

University Medical College, St. Louis, held its annual commencement April 3, and conferred diplomas on seventy graduates.

Dr. H. L. Walker, St. Joseph, who has had charge of the smallpox cases in the Buchanan County jail, has been appointed jail physician.

Dr. James L. Day, Lebanon, who has been on duty with the Army in the Philippines, will leave Manila, May 1, and return to Lebanon, where he will resume practice.

MONTANA.

St. Peter's Hospital, Helena, was damaged by fire, May 16, to the extent of about \$20,000.

Diphtheria is reported to be epidemic among the Kootenai Indians at Dayton Creek; seven died in the last week and the agent fears that the Indians may become panic-stricken and attempt to leave the reservation.

The Smallpox Situation.—In Billings this is improving. There are only six cases in the city and about thirty at the pest-house. There are no cases in the railroad camps, but an isolation hospital has been established at Pryor Gap. At Anaconda, the disease has been stamped out, and the hospital has been closed. During the last two seasons 424 smallpox patients were treated, only five of whom died.

NEBRASKA.

Dr. Julius Lingenfelder, West Point, sailed for Hamburg, March 30.

Dr. Augustus Anderson, Norfolk, has also left for Europe, to take post-graduate work at Berlin.

Osteopathy has received the stamp of approval by vote of the legislature, but the bill has not yet been signed by the governor.

NEW JERSEY.

Several new cases of diphtheria have been discovered in Gloucester county during the past week.

Dr. William H. Shipps, Bordentown, has been appointed a member of the State Board of Medical Examiners.

Dr. Joseph Doherty, the new resident physician at the Atlantic City Hospital, assumed charge of the institution on March 25.

Dr. Louis A. Denis, West Hoboken, and **Edward C. Armstrong**, Weehawken, have resigned from the medical staff of the North Hudson Hospital, Union Hill.

NEW YORK.

Dr. Joshua E. Sweet, Unadilla, who has been studying in Germany for several years, has obtained his doctorate degree and is now taking a special course in bacteriology at the Pasteur Institute, Paris.

Batavia Hospital is now assured. The \$10,000 asked for has been obtained and this will insure about \$2000 additional, which was subscribed on condition that the former amount be first raised. The site has been purchased and the plans prepared, and the work of construction will be in progress in a short time.

Buffalo.

Dr. James E. King recently sailed for Europe to spend six months in study.

Dr. Edward E. Blaauw has been appointed editor of Dutch ophthalmic literature in the *Annals of Ophthalmology*, in the place of Dr. Wendell Reber, resigned.

New York City.

Indicted for Neglect.—J. D. Pierson, a strong believer in healing by faith, has been indicted, and held in \$1000 bail for trial, charged with violating the penal code in neglecting to

furnish medical attendance for his 2-year-old child, who died from pneumonia.

Scarlet Fever.—This is very prevalent in this city at present, though it is of a milder type than last year. Since January 1 4959 cases have been reported, distributed in the different boroughs as follows: Manhattan, 3175; Brooklyn, 1382; Bronx, 278; Queens, 77, and Richmond, 47. An unusually large number of adults have contracted the disease, which has been quite evenly distributed among the tenements and among the better classes.

Control of City Hospitals.—The committee has reported favorably on the plan to change the management of the city hospitals. The bill provides that the control of Bellevue Hospital, and the Fordham, Harlem, Gouverneur and the Emergency hospitals shall be vested in a board of trustees of seven members, together with the Charities Commissioner, appointed by the mayor from lists presented by the United Hebrew Charities, the special council of the Society of St. Vincent de Paul and the New York Association for Improving the Condition of the Poor.

Power of "Christian Scientists."—Some idea of the power of this cult may be gained from a reported statement of a member of the legislature, to the effect that in their efforts to defeat the so-called "Bell" bill they went into the district of every member of the Assembly, developed to the utmost there the "Christian Science" sentiment, and then coolly informed the representative of such district that if he did not vote against the bill he would not be returned to the assembly. It was said that this threat was accompanied by a statement of the number of votes controlled by the "Christian Scientists," with means for verifying them.

Alleged Hospital Abuses.—Sensational charges have been made by a wealthy importer, against the city's smallpox hospital on North Brother Island. His statement, given out to the newspapers, is specific and circumstantial, but comprises briefly assertions to the effect that while he was an inmate of that hospital, from March 9 to March 22, the bedding in several wards was in a horribly filthy state; that there was but one attendant—and that untrained—for twenty-six patients in the acute ward at night; that the patients were not given sufficient food; that they were roughly treated when being taken from the steamer dock to the wards; that disinfection was perfunctory, and that the health board inspectors took little precaution against carrying the disease back to the city. On the afternoon of the day these charges were published representatives of several newspapers accepted the invitation of the president of the board of health to accompany him on a tour of inspection of this hospital. The reports of these visitors have failed to substantiate the charges and assert that there was little or nothing to justify the suspicion that preparations had been hastily made for this visit of inspection. On the other hand, Mr. Martin stoutly asserts that one of the hospital employes, whose name he has given, has informed him that a warning was sent to the hospital, and that every possible preparation was made before the inspection, even to the extent of routing night nurses out of bed and putting them at work in order to refute the charge of not having sufficient nurses.

OHIO.

Dr. John L. Hervey, Martin's Ferry, has been appointed surgeon of the Wheeling Terminal Railway Company.

Dr. David B. Stener, president of the Cleveland city council, will go abroad early this month to study in Germany for two years.

PENNSYLVANIA.

Damages for Smallpox Scare.—Julius Law, a citizen of Allegheny, has entered suit against the city to recover damages resulting from placarding his house with a sign announcing the presence of smallpox which the plaintiff alleges was not smallpox. The man kept a grocery store and the house was placed in quarantine, and he desires to recover damages resulting from loss to his trade.

Diphtheria at Parryville.—This small town, five miles from Mauch Chunk, is threatened by an epidemic of diphtheria and officers of the Board of Health have ordered the public schools closed and many of the books, maps, charts, and other supplies furnished the students will be burned. The town was visited last year by a serious epidemic of the disease, and more urgent measures will now be taken to prevent its spreading.

Philadelphia.

The Jewish Hospital Association will receive the estate of Edward Weinberg, recently deceased—\$1000.

The Germantown Almshouse will abolish the system of having three outside physicians, and the township has been placed in charge of Dr. E. Sherman Clonting.

Reception to Dr. Dana.—The Philadelphia Medical Club, on March 29, tendered a reception to Dr. Charles L. Dana, of New York. Previous to the reception Dr. Dana was entertained by Dr. Edward L. Duer, president of the club. Among other guests present were Drs. William W. Keen, J. H. Musser, James Tyson, Dr. Wharton Sinkler, Hobart Amory Hare, Guy Hinsdale, James M. Anders, and S. Naudain Duer.

Examination of Eyes and Ears of School Children.—A movement has been set on foot by Drs. Samuel D. Risley, Edward Randall and others, together with the corps of school medical inspectors whereby it is hoped the Board of Education will adopt a plan to have examinations made of the eyes and ears of all pupils attending the public schools. To a certain extent this has already been done by the corps of volunteer medical inspectors, but the work has not been satisfactory, since a great amount of time is required to do this work thoroughly. It is hoped that school medical inspection will be put on a paying basis, and that the above work can be instituted, beginning with the fall term. Up to this time both branches of city council have entirely ignored the work of the school medical inspectors.

TENNESSEE.

Tennessee Medical College, Knoxville, graduated a class of 40, April 1.

Fire at Sparta caused a \$500 loss to Dr. D. R. Gist, and a similar one to Dr. James H. Snodgrass.

Dr. Frank P. Dance, Lynchburg, has been commissioned captain and assistant surgeon of volunteers and ordered to report at Hongkong for assignment to duty.

The University of Nashville held its commencement exercises March 29 and graduated a class of 75. The faculty address was delivered by Hon. James M. Head.

The alumni meeting and banquet of Tennessee Medical College, Nashville, was held March 25. After reading of papers, and clinics, Dr. Perry Bromberg was elected president; Dr. William R. Sifford, vice-president, and Dr. Robert L. Hayes, secretary, all of Nashville.

TEXAS.

Dr. Walter F. Blunt, Austin, state health officer, has been obliged to resign on account of continued ill-health.

Dr. John A. Jones, Ferris, has been appointed health officer of Ellis County, vice Dr. Charles W. Simpson, Waxahachie, resigned.

Smallpox is reported in epidemic form at Thurber Junction, an eating station on the Texas and Pacific Railway, where 23 cases exist. At Brenham, Dr. John B. York, health officer reports that he has 20 cases under treatment.

Farm for Consumptive Convicts.—A little over a year ago the state penitentiary authorities established a farm for consumptive convicts, about two miles from the Huntsville penitentiary. Large, airy and comfortable quarters were given these invalids, and they were required to do such light work about the farm as they were able. The result of the experiment has been highly satisfactory to the prison management in every respect. Many men who went to the farm, apparently in the last stages of consumption, are now hearty and stout, evincing not the slightest objective evidence of consumption, and the death-rate from the disease is steadily diminishing. The plantation is made self-supporting by this invalid labor.

UTAH.

Dr. Andrew J. Hosmer has been appointed surgeon to the Holy Cross Hospital, Salt Lake City, vice Dr. F. A. Meacham, resigned.

The Axton bill, which authorizes state and local boards of health to make and enforce regulations against malignant and contagious diseases, was unfavorably reported on.

Dr. George H. Penrose, Salt Lake City, who went to the Philippines with the troops from Utah, has been made major and surgeon of volunteers. He is at present in this country on sick leave.

New Quarantine Law.—The legislature has passed a law quarantining against smallpox and other contagious diseases, which so amends the statute that the quarantine shall be for at least twenty-one days, and includes whooping-cough, placing it on the same basis as scarlet fever or smallpox, except that no flag need be displayed.

WEST VIRGINIA.

Marshall County now has a board of health consisting of Dr. John N. Alley, Benwood, president, and Drs. James E. Cooper, Cameron, and Isaac N. Houston, Moundsville.

GENERAL.

San Francisco's Plague.—The U. S. Marine-Hospital Service has just published a summary of the plague situation in San Francisco as derived from the report of the commission of experts which recently concluded its investigation of plague conditions in that city. Ten cases of plague have been officially reported in San Francisco since January 1, all fatal. Six of these were reported by the special commission in February. The report says that the disease has been officially reported in San Francisco since March 6, 1900, the total cases to date being 32, all fatal. All of these were reported in detail in THE JOURNAL at the time of their occurrence. Following the work of the Commission, Surgeon J. H. White, of the U. S. Marine-Hospital Service was given control of the situation, as a result of a compromise between the California state officials and the Marine-Hospital Service, and the general disinfection of Chinatown and the betterment of light and air space is being provided for, also a suspect hospital, detention houses and morgue. The report says that the disease has been confined almost exclusively to the Chinese, and that the prevailing type is the bubonic, which, while mildly contagious, may give rise to graver forms and emphasizes the necessity of prompt and thorough measures to eradicate the disease.

CANADA.

Dr. Crockett has been elected mayor of Fredericton, N. B.

The Diet Dispensary, Montreal, held its annual meeting last week and appointed regular officers.

Bishop's College, Montreal, has added a course of lectures on the treatment of accidents and simple surgery. Dr. W. Russell Thomas has been appointed the lecturer on the subject.

The contagious diseases report for March, for Toronto, is as follows: Diphtheria, 77 cases; scarlet fever, 57; typhoid fever, 6. The figures for February were: Diphtheria, 91; scarlet fever, 37; typhoid fever, 2.

Appointment.—Dr. Manchester, a graduate of McGill University, who was at one time assistant to Dr. Burgess at the Verdun Hospital for the Insane, has been appointed superintendent of the Asylum for the Insane at New Westminster, B. C. Dr. Manchester has been assistant superintendent at that institution for the last three years.

Hospital Change.—In regard to the act at present before the British Columbian legislature, to incorporate the New Westminster Royal Columbian Hospital, a deputation recently waited on the city council of New Westminster asking that no medical superintendent be appointed and that the name be changed to the Westminster General Hospital.

Toronto's Hospitals.—The various hospitals of Toronto were not so great a drain upon the city in 1900 as they were in 1899. The city's assistance to charity patients consists of 40 cents a day per patient. The total amount given in that way in 1900 was \$30,829, as against \$37,238.05 in 1899. Of this sum the Gravenhurst Sanitarium got \$104.80. Other charitable institutions received \$43,895 or \$3500 more than in 1899. In the latter sum an amount of \$7500 appears for the Sick Children's Hospital.

Smallpox Circular.—The Ontario Board of Health has issued a circular to the physicians of the province, medical health officers, and members of local boards of health, on the diagnosis of smallpox. This is the outcome of the alarming spread of this disease during the past month, and the fact that some mild cases have been diagnosed as chicken-pox has also something to do with the sending forth of the circular. It is illustrated with confluent, semiconfluent, and mild smallpox, as well as chicken-pox. The circular is signed by the committee on epidemics, Drs. H. E. Vanx, Peter H. Bryce, J. J. Cassidy and William Oldright.

Labrador Hospitals.—Dr. W. T. Grenfell, deep sea missionary and captain of the hospital-ship *Strathcona*, who has spent eleven years among the fisher folk of Labrador, recently addressed a public meeting in Montreal. Speaking of the hospital work in Labrador, Dr. Grenfell said that there were three hospitals, one at Battle Harbor, another at Indian Harbor, and a third now in course of erection at St. Anthony, on the north French shore. In addition to these there is the steamship *Strathcona*, equipped with six beds, and all the necessary appliances, including the x-rays, cruising up and down the coast. There are two female nurses, and men

qualified in every way for the work. Last year 1020 cases were handled on the ship; and there were 62 in-patients at Battle Harbor, and 37 at Indian Harbor. Dr. T. G. Roddick has given great assistance to this work. Dr. Grenfell returns to Labrador about the middle of May.

Peculiar Quarantine.—There exists in the northwest territories of Canada a very peculiar quarantine. For some time a very unusual condition of affairs has prevailed among the settlers of the Edmonton and Calgary districts. There has been an epidemic of a disease which approaches so nearly to smallpox that two of the doctors in that district aver that it is that disease. Others say that it is either German measles or chickenpox; and this diagnosis seems to be the correct one, from the fact that though there have been over 1000 cases, no deaths have been recorded. The health officers appointed by the Territorial Government stand at the ticket wickets as people are buying their tickets between Edmonton and Calgary and present certificates to every one so purchasing, and then demand \$1, and sometimes \$2, for these. Armed with one of these certificates, a traveler can come and go as he likes, though he is supposed to be in quarantine all the time.

Dowie Practice by Wire.—Death and "Dr." Dowie (in the spirit) recently appeared in Scot's Bay, Kings County, Nova Scotia. This village is said to boast of a disciple of every religion known, and of course had its Dowieite. Ten days after confinement, his wife, who had not been attended by any physician, did not appear to be doing as well as she ought to be at that period, so the wires were put in touch with Dowie's Chicago "prayer office," with instructions to reply, collect. As there was no answer (Dowie was cautious), another message was sent, with return prepaid. Dowie now telegraphed a "prayer," and was answered: "a little better, pray again." He did and wired that at a certain time (Chicago) he would be found working as usual for the Scot's Bay disciple. The woman died, probably as Dowie was committing his specified sacrilege. The whole affair has created great excitement and indignation, and even the Toronto lay press has been most outspoken on the aspects of the case.

LONDON.

The Army Medical Service in South Africa.

Speaking at the annual dinner of the Hunterian Society, Sir William MacCormac, formerly consulting surgeon to the army in South Africa, said that neither he nor Mr. Treves attached much importance to criticisms which had been levelled at them of having deliberately misrepresented the conditions in South Africa. Their critics had no proper conception of the requirements of war. The work of the army medical corps had been extremely good under extraordinary difficulties. There were only 800 officers where there ought to have been 1200. It is now suggested in high quarters—which was most deplorable—that the fault lay with the officers. One of two things must be done; either the medical department of the army must be done away with altogether, or, if it is retained, it must be placed on a better footing. Medical officers must be placed on a higher status. Their chief is not accorded the high place he should occupy and which he occupied in other countries. The chief of the German army medical corps occupies a very different position. So far this is quite right. But it is a pity that Sir William MacCormac had not the courage of his convictions to fix the blame on the right shoulders—the war office—which has so bungled in this campaign, both as to medical and military matters. The attempt to fasten the responsibility on the army surgeons is not merely the desire of the military authorities to protect themselves. The army medical service has ever been treated with as much contumely as possible by them, simply because it consists of a body of men who live by their profession and are not fashionable idlers of the upper classes who enter it for the sake of the *eclat*.

The Infectiveness of the Dust of Houses Inhabited by Consumptives.

Careful investigations on this subject have been made by the Manchester corporation. They were carried out in: 1, houses in which a consumptive lived who was taking no precautions to dispose of his expectoration; 2, houses which were very clean but in which there was a patient who was not sufficiently careful, and 3, in very dirty houses in which there had been no case of tuberculosis for some years. Samples of dust were taken from various situations in the room in which direct infection with sputum was impossible. The dust was mixed with sterilized water and inoculated into guinea-pigs. In many cases the animals died within forty-eight hours, from septi-

cemia. Those which survived were killed after a month and found to be affected with tuberculosis.

The Sanitation of West African Coast Towns.

Mr. Chamberlain, the colonial secretary, has received an influential deputation consisting of Professor Boyce, Major Ronald Ross, and others, representing the Chambers of Commerce of London, Manchester and Liverpool, and the Liverpool Tropical School of Medicine, who submitted the following requests: 1. That the governments of the various colonies on the West Coast of Africa be invited to prepare schemes with estimates for the complete organization and sanitation of the ports occupied permanently by Europeans, especially with regard to: a, removal and disposal of refuse; b, surface drainage and removal of bush and undergrowth; c, removal of native huts where their presence is a menace to Europeans; d, institution of sanitary regulations for the people. 2. That sanitary commissioners be appointed to visit repeatedly these Colonies and report on their sanitary condition. 3. That where new settlements are being planned quarters for Europeans be arranged as far as possible on the Indian cantonment system.

In reply, Mr. Chamberlain said that he feared that a gigantic system of sanitary inspection of the houses of natives as well as Europeans would be too costly. The questions of water-supply, sewage and other points are receiving the careful consideration of the government. He proposed that the chambers of London, Manchester and Liverpool should each appoint a member of a commission to which the colonial office would add one as secretary, and that a scientific expert would accompany it. If these commissioners would show him how to govern the colonies with less excessive expenditure of life and health he would be much obliged.

The Conflict Between the Medical Staff and the Board of the National Hospital for the Paralyzed and Epileptic.

This unseemly quarrel, which has lasted a considerable time and has produced a controversy in the columns of the *Times* for nearly twelve months, is no nearer a solution. It may be remembered that the medical staff complained of certain defects in the administration of the hospital, such as an inadequate supply of nurses and defective diet of the patients, and that they requested to be allotted two seats on the board as a means of preventing such evils. This very modest request for two seats on a body of twelve has been persistently refused on the flimsy pretext that as the members of the medical staff were officers of the hospital their conduct might be called in question and become the subject of investigation by the board, and thus they would be in the position of judging their own case. The staff then demanded an inquiry into their charges of mismanagement, by an independent body. The board acceded to this and appointed a distinguished lawyer to investigate the matter. But the terms of reference were carefully drawn up so as to exclude proper investigation of the crucial questions, the staff declined to be parties to the inquiry, and it fell through. So the *imposse* continues and the most brilliant staff that ever gave its services to a hospital—men of world-wide reputation who have played a great part in the creation of the science of neurology—Hughlings-Jackson, Gowers, Ferrier, Buzzard, Bastian, Semon, Victor Horsley, etc., have been driven to the verge of collective resignation, and are overruled on purely medical questions by a lay body. But the real source of the difficulty is a certain secretary-director, a paid official who has been placed in the extraordinary position of both servant and master of the institution. All power seems to be concentrated in his hands and the board has become simply his puppets. His latest arguments in the *Times* do not require confutation in a medical journal. He alleges that in consequence of the prejudices of the public against vivisection, and the reputation of certain members of the staff for experiments on animals, an impression has arisen that the hospital might be turned into a scientific laboratory if the staff attained administrative power. Moreover, he fears domination by the staff—domination by two on a board of twelve! The struggle has now reached an acute stage. Unless the very reasonable demand of the staff is conceded, the members will certainly collectively resign, and the foremost position of the hospital will be lost. As Sir William Broadbent points out, secretary-directors and governors are cheap and can easily be replaced, but such men as comprise the present medical staff are irreplaceable.

PARIS.

Researches on Leprosy.

Dr. Jeanselme, physician of the Paris hospitals, was sent some time ago by the French government to investigate the

sanitary condition of the native population in the French possessions of Tonkin and around Saigon, and he has published in a recent number of the *Presse Médicale*, the result of his researches on the prevalence of leprosy. One fact is of striking importance; no measures have been taken so far in the French possessions to stop the spread of this malady. In Saigon itself and the surrounding country there are about 3500 lepers, and one should also take into consideration the fact that a great number of nervous forms escape attention. Along the shores of the Annamite province there are several small centers of leprosy, and at Hanoi, the capital of Tonkin, there is an important settlement which is more or less included within the city. Further up the Red River, there are several villages where a few cases are to be found, but it is a well-recognized fact that the number of cases is in direct correlation with the density of the population. In Burmah there are quite a number of cases, and at Singapore it has been found necessary to establish a special colony for the victims of this disease. On the upper stretches of the river Mekong, the number of lepers is much smaller and they are strictly isolated from the rest of the population, being obliged to live on a raft or on sandbanks in the river. It is often found that the disease was unknown until the advent of a Chinaman, who has been the focus of an epidemic around his abode, infecting first of all his own family and then those who came into contact with the different members thereof.

Treatment of Anorexia.

A new drug for anorexia has been recommended by Prof. Albert Robin, of Paris, as well as previously by Drs. Nicolas and Garel, of Lyons. It has been called "persodin" and is formed of a mixture of persulphate of sodium and ammonium. This body, persulphate of sodium, is by itself unstable, but by combining it in a certain proportion with persulphate of ammonium, a compound body may be produced which will remain unaltered. This drug is a fairly good antiseptic, as has been shown by Drs. Nicolas and Garel, and injected into the intravenous system of the guinea-pig or dog it produces death. As an agent for increasing the appetite, it has been found beneficial in the treatment of tuberculous patients, for anemia, hysteria and neurasthenia. The dose recommended is 5 to 20 eg. of the compound persulphates, making, therefore, in solution about 5 to 10 grains. This drug should be given in a small quantity of pure water about an hour or an hour and a half before the ingestion of any solid or liquid food.

Depopulation of France.

The depopulation of France has drawn the attention of medical men, as to the cause and a remedy. In 1870 the population was increasing by 2.57 units per thousand in France, 7.16 in Austria, 7.26 in Italy, 10.33 in Germany and 12.18 in England. At present the gain is only 0.81 in France, 10.6 in Austria, 10.7 in Italy, 11.2 in England and Russia, and only 15.6 in Germany. This shows how rapidly France is being surpassed in population by other nations, and it is of importance to know what can be done to counteract this tendency. The increase in the number of births is one that is more a question of ethics, but as for the death-rate of infants, a book, recently published by Senator Strauss, called "Depopulation and Puericulture," tends to show what might be done in this line. Public opinion has not as yet been awakened to the importance of the principles of social hygiene, and a great deal has yet to be done in France as elsewhere.

Administration of Phosphorus, Iodin and Turpentine.

Some experiments, made recently by Dr. Hulot, and Dr. Ramond, of Paris, would tend to show that phosphorus and iodine combined with turpentine, may be administered in large doses without causing symptoms of poisoning. It is a well-known fact that turpentine is an antidote to phosphorus. According to the researches of Jonas, Köhler, Rommelaëre, Moreau and Fort, there are two combinations formed: hypophospho-diterebenthic acid and hypophospho-monoterebenthic acid. To produce this body one should take 300 grams of essence of turpentine and add 5 grams of white phosphorus, cut up into small pieces. This mixture should be kept for twenty-four hours at an average temperature of 45 C. or during six days at the temperature of the laboratory. The product obtained contains about 6.5 per cent. of phosphorus and is found to be a sort of resin of a light amber color, transparent and presenting an agreeable odor. Two grams have been given to guinea-pigs, 4 to a rabbit and, on these animals being examined two or three weeks' later, no lesion was found. Two tuberculous patients were given pills containing from 0.75 to 1 gram of this product, which makes about 65 mg. of phosphorus, and no morbid reaction followed. The quantity of phosphorus

in the urine of each patient increased to double the previous amount, and the general health of one of the patients seemed improved. When iodine is combined with turpentine, there is production of heat, so that this body should be added in small fractions to the turpentine. The result is a greenish-brown resin with an agreeable odor, insoluble in water, but soluble in alcohol, chloroform and ether. As much as two grams of iodine were given to some guinea-pigs without any noticeable result. Some patients were given daily a gram of iodine, without showing any symptoms of iodism. About 80 per cent. of the iodine was eliminated, and the therapeutic action seemed to be that of iodide of potassium, but more extensive researches are needed.

Anniversary Celebration.

The Association of Internes and Former Internes of the hospitals of Paris will hold a celebration next year in honor of its foundation in 1802. At that period there were special physicians and surgeons for the hospitals, but there were no students attached in any special manner to each service. The position of interne has remained in many ways what it was in 1802, but the number has increased noticeably. There were thirteen named at first, but since then the number has increased so that now there are about 260 to 300. All the notable medical men in France, with but few exceptions, have been internes of the Paris hospitals, where they have worked four years before graduating.

FOREIGN.

The wine-growers of France have bestowed a handsome medal on Dr. E. Mauriac, of Bordeaux, for his work entitled "The Defense of Wine and the Campaign against Alcoholism."

Hypnotic Practice has been forbidden, except by medical men and under special permission, by the Hungarian government, on account of the number of crimes attributed to hypnotic influence there.

The newly-organized chairs of gynecology and surgery of children, at Paris, have been bestowed on the agrégés, Professors Pozzi and Kirmisson. Bouilly and Segmond were competitors for the first chair and Brun and Broca for the second.

Silver Jubilee Number.—The *St. Petersburg Med. Woehenschrift* for March 19 is a large souvenir number. This journal has been an important means of communication between Russia and the outside world, as it is published in German.

Campaign Against Tuberculosis.—An international bureau for the campaign against tuberculosis has been organized at Berlin, the outcome of the executive committee of the Antituberculosis Congress, whose task was not completed with the Congress, but has continued to date and is now thus officially remodeled. The headquarters of the "Internationales Centralbureau für Tuberkulosebekämpfung" are at Wilhelmsplatz, 2, Berlin, W.

Zinc Oxid in Painting.—The painters' syndicate of Paris has been officially notified by the municipality that henceforth zinc oxid must be used instead of lead carbonate in painting, and that contracts must specify this fact. The regulation will be strictly enforced. The toxicity of lead carbonate has been fully established, as THE JOURNAL mentioned at the time of Laborde's recent communication on the subject to the Paris Académie de Médecine.

Organotherapy in the Paris Hospitals.—The authorities have consented to the demand of the hospital physicians to be supplied with organ extracts, etc., for organotherapy. They request the physicians to be moderate in the use of very expensive medicines of this kind and call for those only that are actually needed. They are enquiring which makes a desired, and whether it will not be possible for the central laboratory of pharmacy to supply them in time.

Classical Training for Medicine.—The German *Medizinische Gesellschaft*, the largest scientific association in Germany, has petitioned the government to require a classical training as heretofore, of applicants for a course of medicine. In four days seventy other medical societies officially signed the petition, and an effort is being made to induce the authorities to refrain from admitting graduates of the technical schools to the medical course without further preparation.

Progress of the Plague.—The last official plague returns—those for the week ending February 23—for all India, gave 6309 deaths, or 399 more than the previous week, 221 of this increase occurring in Bombay City, with a total of 1118 cases for that city for the week. Every portion of the city is reported affected. In Bengal, for the same period, the plague deaths numbered 4066, or an increase of 453 over the preceding

week. In Calcutta they numbered 287 as compared to 233 for the previous week. In Mysore State the deaths were only 527 or 91 less than the previous week. Vigilant steps have been taken for some time at Southampton, to detect plague on board vessels arriving from the Cape. A few days ago a transport reported a Lascar to be ill. He was removed to the hospital ship in the river and placed under observation. It now transpires that he is suffering from plague in a mild form. Every possible means is being taken to prevent the spread of the scourge. The transport in which he came home has been taken down the river, battened down, and thoroughly disinfected. Steps will be taken to insure the destruction of every rat in the ship. It is thought that the infection was conveyed by rats as the man was not ashore at Cape Town. The military authorities are co-operating with the port medical officer in adopting precautionary measures: a barracks has been set aside in a convenient locality for the reception of possible cases. Plague seems to be establishing itself in Cape Town. For the week ending March 16 there were 81 cases admitted to hospital, 29 deaths, 17 suspects and 402 "contacts." Inoculations against plague are being freely practiced. Some 2000 natives were inoculated on March 14. Owing to the increasing gravity of the epidemic the authorities contemplate confining the soldiers to barracks. The proportion of European cases is increasing. In one day there were 4 of these to 8 among colored persons.

Association News.

Preparations for the St. Paul Meeting.—Those who desire to attend the meeting in St. Paul, need have no fear that the city will be overcrowded, or that there will not be sufficient good accommodations for all. The people of St. Paul are making extensive preparations to take care of the visitors, all will be provided for. A program of entertainment for the ladies is being arranged. St. Paul has quite a reputation as a convention city, and there is yet to be heard complaint of the management or lack of accommodation. St. Paul has a number of first-class hotels, several of which are situated in the business district, while others are on the hill in the residence portion of the city, and many of the citizens will be glad to open their houses to the city's guests. The women of St. Paul have already formed committees, made preliminary arrangements, and are preparing to help make this year's meeting of the AMERICAN MEDICAL ASSOCIATION a memorable one.

A New York Special to St. Paul.—Arrangements are being made for a special train from New York to the St. Paul Meeting, to leave New York City, Saturday, June 1. Parties who wish to use this train in making the journey will communicate with Dr. F. H. Wiggin, 55 W. Thirty-sixth street, New York City, for further information.

Correspondence.

La Grippe or Rabies.

ASHEVILLE, N. C., March 26, 1901.

To the Editor:—I have noticed in THE JOURNAL at different times, reports of rabies prevailing as an epidemic. It was reported as epidemic in Dawson during January, and as prevailing in Minnesota, at different points. During the past nine years I have had considerable clinical experience while watching the progress of a disease among the canines, which can be most easily mistaken for rabies. This affection prevailed here, and in other parts of the state, as an epidemic several times during the period above mentioned; besides, there have been many sporadic cases from time to time. I refer to la grippe in the dog. During one fall and winter I saw forty cases in our little city and suburbs. In a paper written for our local society, and published in the *Charlotte Medical Journal* (July, 1900), I attempted to give the results of my observations, in a comparative study of the disease in the human and canine subject. I feel that this is a matter of the gravest importance, that two forms of this disease are so like the

two forms of rabies as to make it quite possible to confound them, at the cost of unnecessary alarm in the community where the disease prevails, and unnecessary suffering to the animals. Can it not be possible that where the clinical history and symptoms seem identical, that the same pathological changes may be found in the medulla? Or is it not possible that the micro-organism of la grippe may produce the same or similar changes? Two well-defined types of la grippe in the dog can not be distinguished from rabies unless the microscope can determine the difference. Two different causes may produce the same affect. Can not, therefore, two different micro-organisms produce the same pathologic changes? I believe that at Dawson and in other places they have been having an epidemic of la grippe among the dogs. Very respectfully,

A. M. BALLARD, M.D.

Married.

N. MONROE DODSON, M.D., to Miss Agnes Bendick, both of Berlin, Wis., March 25.

CORA E. BROWN, M.D., Dawson Springs, Ky., to L. E. Lutz, at Paducah, Ky., March 20.

WILLIAM COMMODORE CAUBLE, M.D., Salem, Ind., to Miss Harriett Banks, of Hooker, Ind., March 31.

HOWARD R. WEIRICK, M.D., to Miss Dorothy Herrick Compton, St. Paul, Minn., at Duluth, Minn., March 21.

BYRON H. CAPLES, M.D., Wankesha, Wis., to Miss Grace H. Stelle, of Washington, D. C., at Milwaukee, March 23.

Deaths and Obituaries.

William Taliaferro Hord, M.D., medical director, U. S. navy, retired, a graduate of the University of Pennsylvania, Philadelphia, 1853, died at his home in Washington, D. C., from diabetic gangrene, April 1, aged 70. He was born in Kentucky and was appointed to the navy soon after his graduation. He served during the Crimean and Civil wars; became fleet surgeon in 1872 and was made medical inspector in 1879. He was three times a delegate from the navy to the AMERICAN MEDICAL ASSOCIATION, and was a vice-president of the International Medical Congress in 1887. He was retired in 1893.

G. M. B. Maughs, M.D., Missouri Medical College, St. Louis, 1849, a pioneer practitioner of St. Louis, mayor of Kansas City in 1860, a surgeon and president of the Confederate Board of Examiners, a member of the St. Louis Medical Society for thirty years, and in 1879 president of the Missouri State Medical Society, died at a sanatorium in St. Louis, March 23, aged 80.

John Henry Hobart Burge, M.D., New York University, 1848, died March 24, at his home in Brooklyn, N. Y., aged 77 years. Shortly after his graduation he established the first hospital in California, at San Francisco. This work completed, Dr. Burge returned to Brooklyn, where he practiced for fifty years. He was a member of the AMERICAN MEDICAL ASSOCIATION.

Stephen B. Bennett, M.D., Rush Medical College, Chicago, 1859, who had practiced in Fairview and Canton, Ill., for more than forty years, and was coroner of Fulton County in 1878, and an active promoter of the movement for a public hospital, died at his home in Canton, from pulmonary tuberculosis, March 1, aged 62.

Charles N. Fowler, M.D., Western Reserve University, Cleveland, 1850, major and surgeon of volunteers in the Civil War and a prisoner in Libby prison, one of the most successful practitioners in Northeastern Ohio, died at his home in Youngstown, Ohio, March 19, aged 73.

Ralph J. Hess, M.D., Cornell University, New York, 1900, died at North Brother Island, N. Y., March 24, from scarlet fever, aged 27. He was attached to the house staff of Bellevue Hospital and was removed to the Isolation Hospital from the Willard Parker Hospital.

Mary S. West, M.D., Woman's Medical College of the New York infirmary, 1879, died suddenly from apoplexy, at her home in New York City, March 24, aged 61. She was born in England, and had practiced in New York for more than twenty years.

S. R. McClanahan, M.D., University of Pennsylvania, Philadelphia, 1859, a prominent physician of Calpeper County, Va., and at one time a member of the state legislature, died at his home at Brandy Station, Va., March 19, from paralysis, aged 65.

Augustus E. Hoeltge, M.D., Medical College of Ohio, Cincinnati, 1860, a member of the AMERICAN MEDICAL ASSOCIATION, a veteran of the Civil War, and a prominent physician of Cincinnati, died at his home in that city after a long illness, March 26.

George M. Fisher, M.D., University of Maryland, Baltimore, 1862, who had practiced medicine at Denton, Md., for several years, died after a long illness at his home in that place, from lung disease, March 21, aged 67.

John B. Busteed, M.D., College of Physicians and Surgeons, New York, 1892, died March 11, aged 31. He went to Corea as a medical missionary in 1893, but returned to Brooklyn, N. Y., in 1897, suffering from phthisis.

James A. Roseberry, M.D., University of Cincinnati, 1882, who had practiced at Forrest for several years, died at his home in that place, from carcinoma of the intestines, after a long illness, March 24.

Kelon H. Long, M.D., University of Louisville, 1893, a practitioner of Humboldt, Neb., who was forced to leave that place on account of his health a year ago, died at Jasper, Mo., March 23.

Herbert K. Tefft, M.D., Bellevue Hospital Medical College, New York City, 1873, who had practiced for twenty-five years in Topeka, Kan., died at Los Angeles from Bright's disease, March 11.

George W. C. Wren, M.D., the University and Bellevue Hospital Medical College, New York City, 1899, died March 23, at St. Vincent's Hospital, New York, from typhoid fever, aged 27.

F. G. Mason, M.D., University of Nashville, Tenn., 1859, who had practiced for many years in Dyer County, died from paralysis at his home in Newbern, Tenn., March 19, aged 67.

George W. Williams, M.D., Northwestern University Medical School, Chicago, 1873, died at the City Hospital, Aurora, Ill., from carcinoma of the stomach, March 23.

Joseph H. Binney, M.D., Medical College of Indiana, Indianapolis, 1878, of Fullerton, Neb., died at his home in that place, March 26, after a prolonged illness, aged 54.

A. G. Hollenbeck, M.D., University Medical College of Kansas City, 1894, division surgeon of the Memphis route, died at his home, Willow Springs, Mo., March 22.

William J. Almon, M.D., University of Glasgow, Scotland, 1837, died recently at his home in Halifax, Nova Scotia, from the results of a fall. He was 82 years of age.

Myron H. Parkhill, M.D., University of Buffalo, N. Y., 1886, coroner of Steuben County, died from pneumonia, at his home in Howard, N. Y., March 26, aged 35.

Patrick A. Holohan, M.D., McGill University, Montreal, 1894, died from typhoid fever at his home in Great Barrington, Mass., March 19, aged 32.

Matthew F. Ryan, M.D., Medical School of Maine, Brunswick, 1889, died March 18, at his home in Millinocket, Maine, after a lingering illness.

Seth B. Singleton, M.D., Kentucky School of Medicine, Louisville, 1880, died March 17, at his home in Welsh, La., after a short illness.

Francis M. Bledsoe, M.D., Jefferson Medical College, Philadelphia, 1859, died at his home in Georgetown, Ga., March 17, aged 70.

William E. Scull, M.D., University of the South, Sewanee, Tenn., died at the residence of his father in Lavernia, Texas, March 14.

Jerome M. Payne, M.D., Kentucky School of Medicine, Louisville, 1881, died at his home in Bagley, Iowa, March 22, suddenly.

James T. Halloway, M.D., University of Louisville, 1889, of Eupora, Miss., died at Mineral Wells, Texas, March 18, aged 41 years.

A. T. Blackburn, M.D., Northwestern Medical School, Chicago, 1881, died at his home in Atkinson, Neb., March 18.

Edward Clarence Frazer, M.D., University of Maryland, Baltimore, 1883, died in Philadelphia, March 19, aged 61.

Leo Randall, M.D., New York University, 1890, died at his home in New York City, March 15, aged 37.

Calvin M. Brewer, M.D., Baltimore Medical College, 1888, died suddenly at Clarkson, Texas, March 20.

James O. Campbell, M.D., Denver Medical College, died at Winslow, Ari., March 20.

Miscellany.

New Theory in Regard to Antitoxins and Immunity.—Apostolico suggests, in a communication to *Il Morgagni* (December, 1900), that the bacteria secrete the antitoxins themselves. He cites various established facts as arguments in favor of the theory that the bacteria secrete or generate both the toxins and antitoxins. At first the former predominate and the latter are in imperceptible quantities, but gradually the proportion is reversed and the antitoxins predominate as the bacteria become less and less virulent. He states that this production of antitoxin can be observed in cultures of certain molds.

The Parasite of Cancer.—Dr. Harvey R. Gaylord discussed the parasitic nature of cancer of variola before the professors, physicians and student body of the medical department of the University of Buffalo, N. Y., March 28. He referred to Busser who, in 1893, discovered a pathogenic organism belonging to the yeast family, and Cevollici, who isolated a yeast from the skin of a lemon and injected it into animals and to his surprise on examining specimens of the organs of the animal found that the yeast resembled the so-called organisms of cancer. The Doctor claims to have inoculated cancer into animals and to have transferred them from one animal to another. He said others have found organisms in cancer and explained them as protozoa. Sanvelli and all observers of alleged parasites in cancer have noted the great variability of these forms in the tissues. As a result of his preliminary work, he thinks he has discovered the reason for this, and said he owes to Busser the knowledge of the fact that all staining methods are unreliable for such a research. He therefore worked with the fresh methods, although at first it was very confusing. He has discovered in all the cases of cancer so far examined, that by fresh methods the organism can always be found. These bodies resemble fat in the fresh state. It was only when he applied the ether test and the osmic acid test that he discovered they were not particles of fat. He next found that he could crack their edges with a cover-glass and then learned that the same observation had been made by an observer in Christiania. There was no reason, however, to believe that these might not be unusual forms of fat, so he injected them into the abdominal cavities of animals, and most developed peritonitis, and large quantities of these bodies could be obtained from the peritoneal fluid. In the last few days he has observed the round form develop under the cover-glass. The bodies can be found in every cancer if properly sought for, and can be injected into animals and be recovered. They also change their form. San Felice succeeded in producing, by the inoculation of saccharomyces, local tumors followed by enlargement of lymph nodes. These lymph nodes were allowed to dry, and when pulverized and inoculated into successive animals, became more and more virulent, and finally produced death in two days. The inoculation of this virulent material produced in one animal true adenocarcinoma of the breast. From this, however, the organism could not be cultivated, but it could be found in the tissues, although in slightly modified form. It had been changed into

something that was very like the Russel fuchsin bodies. Cultivation of every possible kind has been tried in the State Laboratory for the Investigation of Cancer. Altogether 1200 cultures were made in sixty different culture-media. The result has been most variable. Only once did they find a yeast in pure culture. Only once was inoculation performed successfully. Advantage has been taken of the technique of San Felice in his recent observations, and now they there use aseptic material from dried lymph nodes for one inoculation. The work has been done only within the last three months (March 3, 1901) yet three times death has occurred within three weeks after inoculation. In certain of the cases they have found Russel's bodies present in the nodules which occurred in abdominal carcinoma. An exploratory incision was made, and a quantity of the serum from the abdominal cavity was given him for investigation. It was in this fluid that he first found these bodies, and observed that they did not increase. After the fluid had been kept in the thermostat for three weeks, he could still find the same bodies. They were then injected into the jugular vein of a guinea-pig, and three weeks and a half afterward on killing the animal, he found a primary adenocarcinoma of the lung. This experience was unique. The fluid had been carefully sedimented and that for inoculation taken from the top, so that it is not at all probable that cancer cells were actually introduced into the animal. Reference was made to an address delivered before the New York Academy of Medicine in 1900, in which Dr. Gaylord stated that the most important work on the etiology of cancer in recent years had come from the Italian schools. Roncali, in studying certain appearances that were supposed to be coccidia, recognized that they were yeasts, also Russel's fuchsin bodies, the character of which was supposed to be yeast, and Plimmer, who in 1100 out of 1200 cases found atypical bodies, the Plimmer cells which were said to be the etiologic consequence of the inoculations. Dr. Gaylord referred to the work of L. Pfeiffer, not the bacteriologist, but the Vorstand of the Impfinstitut in Weimar and a biologist. He credited Pfeiffer for the observation that cancer is due to an animal organism, a protozoon, and also credited him with having described in detail a protozoon as a cause for variola and allied conditions—varioid, varioline, vaccinia, horse-pox and cow-pox—besides attributing a parasitic nature to scarlet fever, measles, etc. Recently Munk has been able to obtain these bodies described by Pfeiffer from variola and vaccinia, and has studied them in a hanging drop bouillon culture. Dr. Gaylord found a resemblance between the organism of variola and that of cancer, and believes both to be protozoan. Lately, Isen, of San Francisco, has also seen these bodies in cancer. Sjöbring also contributed to the parasitic theory. He believes that these bodies, which can be obtained from scrapings of cancer, are best observed, unstained, and, being granular in appearance, have been regarded as fat. They have a vibratory circular motion, not ameboid, and go through cycles or stages of development. They have ameboid motion, and may possibly possess flagella. As to their multiplication, it is by sporulation, but whether by a direct cell division Dr. Gaylord did not state.

Where and How Shall the Medical Student Get Information Concerning Medical Ethics?—*The Medical World* for April says: "With all the everlasting hue and cry about medical ethics, one can not but wonder that there is so much loyalty existing, if he but know even a little of the actual condition of affairs. The medical student enters the medical school 'fresh from college'; or fresh from the farm; or fresh from his preceptor's office. He has never heard a word of medical ethics, and when he first hears the term, if he has the timber of a good doctor in him, he looks wise and remains silent while inwardly cursing his abject ignorance. So soon as he may, he looks up the term in every lexicon, dictionary, book, and periodical to which he has access, with absolutely no results in so far as information goes. That is, the good student does; the coming ignoramus or quack has not the energy, brains, or enthusiasm to do such labor. The good student has learned enough to attract his attention, and has done his full duty when he has studied all available references; but the very familiarity with which the subject is treated by his professors impels him to conceal what he supposes is his supreme ignorance, and he is afraid to ask what this term means.

Probably he does not again hear it in his entire curriculum, and graduates without knowledge of this important branch of medical education. All he learns thereafter will be over a very rocky path. He meets those as ignorant as himself; those who deliberately steal from him all his hard-won prestige; the foul and slimy back-biter; the quack, as well as some versed in ethical lore. What wonder that he blunders? Who is to blame? We recall the case of a young man who had graduated from one of our best colleges, with honors: he had served under a preceptor whose diploma was endorsed by the leading medical institution in the United States; he entered the curriculum of the said college and passed it with high grades, and some prizes; he was chairman of his class; yet until a few weeks before graduation he had never heard of 'medical ethics.' At once after hearing it he looked it up faithfully, and found nothing. He first heard it in a casual reference during a lecture on therapeutics in which the professor promised to devote *one hour* to a consideration of the subject of 'Medical Ethics.' The student, though he has practised for a number of years, is yet waiting to hear that lecture. After laborious search, he found where he could obtain a copy of the Code; when he perused it his horizon widened, and in the twilight he saw numerous shadows of failure, insult, misunderstanding, abuse and heart sickness and disgust, all of which might have been avoided or thwarted had he but known. When he obtained the copy of the Code he was a member of his county, state and the AMERICAN MEDICAL ASSOCIATION, and had written articles attracting attention in more than one continent. It is very easy to blame *him* for his ignorance; but were it not better to arraign the professors who should have given him a glimpse of light? These were the actual conditions in one of the leading medical teaching institutions in the United States. What they may have been in the more modest institutions we cannot tell. We have assurance that they are no whit better to-day. It is certain that if the medical students are not taught the vital principles of medical justice and equity, they can not practice them. When they meet their peers in ignorance, some one is injured; and probably the most honest man. We enter an emphatic plea for the teaching of the fundamental principles of medical ethics in every medical school; we urge every national, state, and county medical society to furnish every new member with a copy of the Code; we suggest that every doctor who has never seen it write to the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, Chicago, Ill., for a copy. If the schools have no time to mention it, they might at least present each graduate with a copy." [Codes will be furnished by THE JOURNAL at 5 cents a copy, postpaid.—ED.]

Societies.

- Tennessee State Medical Society, Nashville, April 9-11, 1901.
- Florida Medical Association, Jacksonville, April 10, 1901.
- Western Ophthalmological and Otolaryngological Association, Cincinnati, Ohio, April 11-12, 1901.
- Medical Association of the State of Alabama, Selma, April 16, 1901.
- Medical Society of the State of California, Sacramento, April 16-18, 1901.
- South Carolina Medical Association, Florence, April 17, 1901.
- Medical Association of Georgia, Augusta, April 17, 1901.
- Louisiana State Medical Society, New Orleans, April 18-20, 1901.
- Medical and Chirurgical Faculty of Maryland, Baltimore, April 23-26, 1901.
- Texas State Medical Association, Galveston, April 23, 1901.
- American Association of Genito-Urinary Surgeons, Old Point Comfort, April 30, 1901.
- Association of American Physicians, Washington, D. C., April 30, 1901.

Baltimore County (Md.) Medical Association.—At the meeting of this Association, at Arlington, March 21, resolutions in memory of the late George M. Bosley, Towson, were passed.

Stark County (Ohio) Academy of Medicine.—This organization, at its meeting in Canton, March 20, elected Dr. Robert A. Biechele, president; Dr. Esther A. Tyrrell, recording secretary and Dr. Frank E. Hart, corresponding secretary, all of Canton.

Practitioners' Club, Louisville.—At the annual meeting and banquet of this organization, held March 12, Dr. John J. Moren was elected president; Dr. Oscar E. Bloch, vice-president; Dr. William A. Keller, secretary, and Dr. James T. Windell, historian.

Sacramento (Cal.) Society for Medical Improvement.—The following officers have been elected by this Society, for the coming year: Dr. James A. McKee, president, and Dr. William H. Wentworth, secretary and treasurer.

Florida Medical Association.—The twenty-eighth annual meeting of this Association will be held in Jacksonville, April 10, under the presidency of Dr. William L. Hughlett, Cocoa. Dr. Jay H. Durkee, Jacksonville, is chairman of the committee of arrangements.

Paducah (Ky.) Medical and Surgical Society.—At the meeting March 20, a resolution was passed prohibiting any member of this Society from making a bid or contract to do the practice of any corporation, union, secret society or other organization.

Ophthalmological and Otological Society of Washington, D. C.—The thirty-sixth session of this Society was held on March 12, at the office of Dr. Henry A. Polkinhorn, who presented the paper of the evening on "The Use of Suprarenal Capsule in Ophthalmic Practice."

Wayne County (Mich.) Medical Society.—At the March 21 meeting of this Society at Detroit, its committee on medical legislation, composed of Drs. George A. Kirker, Leartus Connor and Robert H. Honner, all of Detroit, was instructed to go to Lansing, March 26, to oppose any amendment to the existing medical laws of the state.

Tuberculosis Congress.—The meeting of this Congress will take place in London, July 22. The work of the session will be divided into four sections, which will consider various phases of the subject; namely, state and municipal; medical, including climatology and sanatoria, pathological including bacteriology, and veterinary.

Jefferson County (Ala.) Medical Society.—A special meeting of this Society was called on March 25 to pay due respect to the late Dr. George C. Chapman, Birmingham, who had served for several years as its secretary. Committees were appointed to escort the remains to the train, to provide a suitable floral tribute and to draft appropriate resolutions.

Cass County (N. D.) Medical Association.—The first annual meeting of this Association was held at Fargo, March 25, and the following officers were elected: Dr. Edward M. Darrow, Fargo, president; Drs. Paul R. Sorkness, Fargo, Henry H. Critchfield, Hunter, E. C. Brauch, Jamestown, and George A. Carpenter, Fargo, vice-presidents; Dr. Cyrus N. Callender, Fargo, secretary and Dr. Edward B. Evans, Fargo, treasurer.

Health Officers' Association of Texas.—The health officers of the state met at Houston, March 21, and perfected a permanent organization. State, county and city health officers, mayors of incorporated cities and towns, sanitary officers of cities, and the governor are eligible to membership. Dr. James B. Massie, Houston, was elected president; Dr. Isaac J. Jones, Austin, vice-president, and Dr. John M. McCutchan, Temple, secretary and treasurer.

Saratoga County Medical Association.—This Association held a meeting for the perfection of its organization, March 14, and elected the following officers: Dr. Frank J. Sherman, Ballston Spa, president; Dr. George F. Comstock, Saratoga, vice-president; Dr. John F. Humphrey, Saratoga, secretary, and Dr. William E. Swan, Saratoga, treasurer. Delegates to the New York State Medical Association and THE AMERICAN MEDICAL ASSOCIATION were also elected.

American Surgical Association.—The provisional program for the 1901 meeting of this body, which occurs May 7, 8 and 9, at Baltimore, under the presidency of Dr. Roswell Park, Buffalo, announces "Some Phases of the Cancer Question" as the subject of the president's address, and "Examination of the Blood in Relation to Surgery," as the chief subject for general discussion. Mr. A. W. Mayo Robson, F.R.C.S., of Leeds, England, will be present and read papers on "Pancreatitis," and "Treatment of Chronic Ulcer of the Stomach."

Orleans Parish (La.) Medical Society.—At the meeting of this Society, March 23, Dr. Edmond M. Dupaguier read a paper on "Lung Infarcts in the Pneumonia of Cardiopathy"; Dr. Louis G. Le Beuf reported a case of gangrenous infection of the ischio-rectal region, with dissection and isolation of nearly four inches of the rectal tube, terminating in recovery; and Dr. Thomas S. Dabney related a case of acute alcoholism in which 1/16 gr. of apomorphin hydrochlorate given hypodermically had produced prompt emesis, followed by profound and refreshing sleep. A marked distaste for alcoholics was observed on the following day.

MEDICAL SOCIETY OF THE MISSOURI VALLEY.

Thirteenth Semi-Annual Meeting, held in Omaha, March 21.

Pelvic and Hepatic Disease.

DR. INEZ C. PHILBRICK, Lincoln, Neb., read a paper entitled "Association, in Women, of Pelvic and Hepatic Disease." Her experience has impressed him with the constant presence of a hepatic factor in cases of chronic pelvic disease. He said the question constantly arises as to whether hepatic congestion, biliary catarrh, autointoxication and cholelithiasis bear the relation of effect to cause of pelvic disease. What, save an understanding of the physiologic factors involved, can render intelligible that symptom-complex, retroverted uterus, irritable bladder, constipation, hemorrhoids, gastric catarrh, cholelithiasis and neurasthenia? All investigators agree that sedentary habit, tight lacing, faulty posture and pregnancy are predisposing factors to cholelithiasis. They do not emphasize chronic pelvic disease as an etiologic factor. Sex is a factor. Different observers estimate that about 80 to 85 per cent. of gall-stone cases are found in women. Sedentary habit and an irrational dress, its constricting bands, its heavy skirts, its corset, capable of amputating a portion of the liver, favor and induce flexions of the uterus. These directly affect the portal circulation. Recurrent menstrual congestion and the more prolonged pelvic engorgement due to frequent pregnancies become permanent factors in causing chronic pelvic disease. Retroversion almost certainly causes constipation, interferes with hepatic circulation and impedes liver function. Auto-intoxication, neurasthenia and general vascular relaxation, including the portal circulation, follow. Pregnancy has been assigned as the cause of cholelithiasis, but wrongly; pregnancy has been the cause of chronic pelvic disease and it has been the cause of the cholelithiasis. In every one of her patients with prolonged pelvic disease, hepatic congestion and torpor has been present.

Methyl Alcohol Amblyopia.

DR. HAROLD GIFFORD reported another case of this condition. in W. B. S., aged 35, brought to him November 28 last, with a history of slight failing for two days prior, and total blindness present for several hours. Otherwise the man was in apparent perfect health. The right eye was absolutely normal, objectively, except for a dilated pupil which gave no sign of contraction on light stimulus. The left had a shrunken cataract and had been entirely blind for years. The patient could think of nothing to account for his blindness except malaise for a few days. The case seemed to be one of idiopathic retrobulbar neuritis. The Doctor gave a not altogether hopeless prognosis and ordered pilocarpin sweats and large doses of the iodids. Vision slowly and steadily increased and in two months was nearly 20/20. Meanwhile the optic disc had become distinctly atrophic and the retinal vessels were bordered by well-marked connective tissue sheaths. The manner of the return of sight during the first two weeks suggested methyl alcohol, but the patient was sure he had never used any, though he recalled drinking some cologne spirits just before his sight began to fail. A sample from the same jug proved it to be nearly pure methyl alcohol flavor. Thus was the causation proved.

Clean Surgery in Obstetrics.

DR. J. E. SUMMERS, JR., read a paper on "Clean Surgery versus Mutilating and Unscientific Obstetric Procedures as Practiced upon the Viable Unborn Infant." During his student days, in England and America, embryotomy was the operation of choice when forceps or version failed. Cesarean section was only allowable when the deformity did not admit of embryotomy. On the Continent, because of religious belief, Cesarean section always had the preference over craniotomy on the living child. The steadfastness of the teachings of the Roman Catholic church has forced the application of the principles of modern surgery into the obstetric art so that the killing of the unborn, viable child is becoming recognized as ethically and scientifically reprehensible. The induction of premature labor, in well-selected cases, is conservative in that it saves nearly all the mothers and about 60 per cent. of the children. Cesarean section in such cases would save both mother and child. Por-

ro's operation and Cesarean section have reached a position so high that, in nonseptic cases, the maternal mortality should be practically zero and the infant mortality of necessity zero. In septic cases, the maternal mortality reaches 33 per cent. and the infant often succumbs. Improved technic has so broadened the field for successful operations by Cesarean section that it is called for when the true conjugate measures as much as 2.8 or even 3 inches. Reynolds, of Boston, who has had nineteen consecutive cases, says Cesarean section is so safe an operation that it may be used unhesitatingly in cases at term whenever an intrapelvic delivery will be fatal to the child, and may often be preferred to the induction of premature labor. Leopold, Zweifel and Gustav Braun together have done 222 Cesarean operations with a gross mortality of 7.2 per cent. The nonseptic cases gave a mortality below 4 per cent.

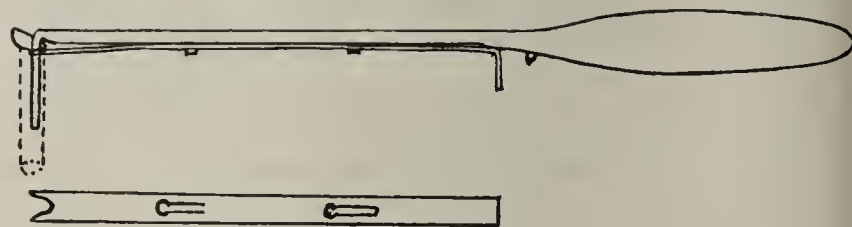
Diseases of Accessory Sinuses of Nose.

DR. D. C. BRYANT, Omaha, Neb., presented a paper on "The Pathological Importance of Diseases of the Accessory Sinuses of the Nose." He thinks the general practitioner does not attach sufficient importance to the seriousness of the conditions which may occur in these sinuses. This is shown by the disastrous results seen in overlooked and neglected cases. Inflammatory forms are most common. The suppurative is the all-important one. We are all familiar with the havoc produced by a suppurative inflammation in the middle ear or the mastoid cells. Every one understands that such a destructive process must soon be checked or there will follow destruction of the sound-conducting-apparatus, or thrombosis of some of the venous channels and septic infection of the meninges of the brain. Every physician knows that many of these cases end in death, and yet few seem to realize that the same result can follow suppurative inflammation of the accessory sinuses of the nose. This failure on the part of the general practitioner was brought very forcibly to his mind while seeing post-mortem examinations in Vienna. He saw two cases of suppurative meningitis following sphenoidal and ethmoidal disease unsuspected prior to post-mortem. Of the five sinuses, three have their natural openings near a common point in the nasal cavity, viz., the antrum of Highmore, the frontal sinus and the anterior ethmoid cells. The sphenoidal sinus and the posterior ethmoid cells have a nearly common point of outlet. This nearness of outlets makes it a very easy matter for the infection to travel from one sinus to another. The fact that there is often no pain at the seat of the disease, or even such pain as is present is located remotely, is very misleading. The discharge of pus is so scanty as to be easily overlooked by both patient and physician. When the smallest quantity of pus is found in the middle meatus, one can suspect disease of the antrum, frontal sinus or anterior ethmoid cells, when it is found in the superior meatus, or running down over the middle turbinate, one can suspect suppuration in the sphenoid, or the posterior ethmoid cells. The solid probe, the hollow probe, and the trocar and cannula will be found of untold service. The only certain method of finding whether the suspected pus comes from the antrum of Highmore is to make an exploratory puncture preferably through the wall of the inferior meatus, and to wash out the cavity with warm saline solution. The frontal sinus, the ethmoid cells, and the sphenoid can be entered through their natural outlet, with a solid, and then with the hollow probe, irrigated with saline solution.

Intubation Instrument.

DR. F. W. DEAN, Council Bluffs, Iowa, presented this, saying that while there are already on the market several admirable instruments for intubating the larynx, he has been unable to find one that will not fail in occasional cases. "When the tube is on the O'Dwyer, Waxham or Frank introducers ready for introduction, the instrument adds from one-quarter to three-eighths of an inch to the length of the tube. Dr. F. E. Sampson has made an introducer which obviates this difficulty though its mechanism is rather complicated for an ideal instrument. An introducer that I have devised not only corrects the fault but is exceedingly simple in its construction. It is durable and easily cleaned. It consists of two parts which for convenience in describing I will term the stationary and sliding

parts. The stationary part is a steel bar having about an inch and a quarter of one end rounded and reduced in size so that it will enter the smallest tube. One inch of the rounded portion is bent downward at a right angle to the bar. At the other end of the bar is the handle of the instrument. The lower surface of the bar is flat and merges into the handle at a short incline of about 8 degrees. There is a stop-pin upon the incline and a couple of headed rivets are fixed in the lower flat surface upon which the sliding part plays. The sliding part of the instrument is a strip of spring steel which slides on the under flat surface of the stationary part by means of two slots playing on the rivets. In its distal end is a V-shaped notch which fits under the enlarged end of the tube, holding



it firmly on the instrument. One-half inch of its proximal end is bent downward at a right angle to be used as a trigger. This trigger end rests upon the short incline of the stationary part, giving a frictional contact which prevents its sliding too easily. The distal ends of the slots are enlarged, enabling the two parts to be easily separated by raising the trigger end over the stop-pin."

Facial Paralysis.

DR. J. M. AIKEN, Omaha, in a paper on this subject, made a strong plea for more attention on the part of the general practitioner to cases of facial paralysis. He urged a thorough study of the anatomy, thus enabling the physician to locate more definitely the real seat of origin and adapt the treatment to the conditions discovered.

Plastic Operation for Pruritis Ani.

DR. H. T. HAMILTON, Omaha, described the plastic operation he has devised for the relief of this condition. He dissects out enough tissue to remove the terminal filaments affected. He secured very satisfactory results in the cases referred to in his paper.

Ante-Partum Diagnosis.

DR. A. B. SUMMERS, Omaha, presented a paper on this subject emphasizing the necessity of great care in the examination of women during attendance in labor. Examination should be made as early as possible, such as measuring the pelvis if it seems necessary, examination of the urine as to the presence of albumin, and the quantity of urea excreted. The question of the advisability of inducing premature labor should also be kept in mind, and that of performing Cesarean section in case of deformed pelvis or placenta previa.

Other papers were read on the following subjects: "Chorea." Dr. E. A. King, Blockton, Iowa; "Primary Perineorrhaphy." Dr. C. H. Wallace, St. Joseph, Mo.; "Treatment of Tuberculosis." Dr. J. W. Kime, Ft. Dodge, Iowa; "Compensation and Failure of Compensation in Heart Disease," Dr. Millard Langfeld, Omaha; "Chalazial Tumors," Dr. M. F. Weymann, St. Joseph, Mo.

NEW YORK ACADEMY OF MEDICINE.

Meeting of the Section of Otology, held March 13.

Dr. James F. McKernon in the chair.

Akouphone and Akoulalion.

MR. J. R. HUTCHINSON, on invitation, presented the above subject and said that in treating of deafness from the standpoint of a mechanic and engineer, he considers the ear merely as a piece of machinery, subdivided into its integral parts, which individually perform certain functions when acting in normal healthful conditions. For several centuries the attention of scientists has been turned toward the partial relief of deafness by the substitution of mechanical contrivances to perform the functions of the mechanical parts which have deteriorated, and he referred to early attempts in this line.

The speaker's estimate of the deaf people he has tested within the past four years, places those utterly unable to hear sounds by means of his strongest electrical apparatus at 5 per cent.; 20 per cent. of the deaf are not handled to a practical extent by these instruments. They may be able to hear sound, but the inability to distinguish between sounds is lacking and they seem beyond hope. The remaining 80 per cent., if handled in a practical manner, can be reached successfully. In speaking of these 80 per cent., he divided them into three classes: those who are totally deaf, or deaf-mutes; persons extremely hard of hearing; those slightly hard of hearing. To the first class belongs congenital deaf mutes, and also persons who are considered totally deaf but who could once hear. With the former, although they hear the sound of words, having never before experienced this sensation, they are not able to understand what sound is, and it is a very laborious task at first to get them to distinguish between sounds. Also the lack of desire on their part to hear is to be contended with, as, never having heard, they naturally do not appreciate what they are missing. This is possibly the hardest class to handle, and it is very rare that anything is ever done after they have reached maturity; for, having no time to devote to learning the meaning of all the different sounds, they naturally are reticent about undertaking a task that they consider of so great a magnitude. Children's minds, however, are in a receptive state, a course of instruction in the regular curriculum of our schools, which would enable a competent instructor to teach the children the meaning of sound, the difference between sounds, the sound of words connected with their meaning, would naturally cultivate a normal tone and perfect articulation, the children being able to hear their own voices in repetition after the teacher.

He considers it marvelous that so much had been and is being accomplished in this direction when it is considered that the pupil neither can hear the sound which he or she is trying to imitate, nor hear the sound of the voice in repetition. Although a deaf-mute has been thoroughly educated in lip-reading, and can speak himself, when he hears words spoken to him, he does not know what they mean. An analogous case would be that of a person who had always been blind. He knows a table, a book, or a chair, by the sense of touch, but if such a person should suddenly receive his sight, he would become totally confused, and it would take a long time and much effort on his part to learn to correlate the image of the thing with the name of that object and have a thorough understanding of these two. Also, if a person has been totally deaf for quite a length of time, not having heard the sound of articulate speech for so long a time, he naturally forgets what words sound like, and, although he has more of a foundation to build on than those of the congenital deaf-mute, still it is a matter of practice before he becomes familiar again with sound, even when presented with such tremendous magnification and precise articulation as is accomplished by the akouphone or the akoulalion. He knows a number of instances in which persons had been "totally deaf" for a number of years and had forgotten how to understand speech, yet, by means of these instruments, again became familiar with words by practicing talking to themselves. In fact this is the quickest and most satisfactory way of reaching such a case.

To the first class belong the akoulalion, the name being derived from the two Greek words akono, I hear, and lalo, I speak, which is intended to convey the idea that by hearing they are taught to speak correctly. This instrument consists of two instruments known as the pupil's stand and the teacher's stand respectively.

The pupil's stand is provided with two ear-pieces which are mounted on an electric spring that clamps the ear-pieces against the ears. On each of these ear-pieces is mounted a pneumatic cushion, which may be removed if desired, to correspond with the nature of the deafness as explained later. On this base is likewise mounted three vertical rods upon which slides a small hard-rubber carriage having mounted upon it the receiving instrument into which the pupil speaks when he wishes to hear his own voice. Connected to the pupil's stand is the teacher's outfit, which likewise has a round base, having mounted upon it a somewhat similar set of vertical rods having

a small carriage supporting a similar receiving instrument. The height of the receiving instrument in both cases may be adjusted to conform to the height of the pupil or teacher when using the instrument. To the teacher's outfit is attached a wire leading to the electric battery, which can be situated anywhere in close proximity to the instrument. The pupil's stand is likewise connected to the teacher's stand, by a three-conductor flexible cord. The phonograph attachment is also attached to the teacher's stand. This latter attachment can be adjusted to any phonograph, gramophone, or other talking instrument.

It is almost universally the case that one ear has slightly more hearing than the other, and for this reason it is necessary not only to adjust the amount of sound going to or being received by the ears of the deaf-mutes, but also to regulate the intensity of the sound delivered to each individual ear. This is a vitally important thing, and alone places the akoulalion far ahead of similar devices. By alternating instruction by simple, rhythmic music, an appreciation of music is cultivated along with that for articulate speech. The question naturally arises, what will be the eventual outcome of the course of instruction with the akoulalion? A person can not use so large an instrument in the transaction of every-day affairs, and naturally must be able to use a smaller instrument, which can be carried around with him? In answer to this, the speaker said that the akouphone, or small portable instrument, can be made just as powerful as the akoulalion, but the latter possesses many advantages in there being a tremendous increase in the articulation of the word and the application of the sound to both ears at once, and the ability of the pupil to hear and speak the words in immediate repetition after the teacher. So, having learned the meaning of the sounds, such a person can provide himself with a small portable akouphone, by means of which he can carry on an ordinary every-day intercourse. It is likewise a fact that the continued use of the akoulalion has improved the hearing of quite a large per cent. of the deaf. It is but natural to suppose that a function which is inactive, when exercised, will naturally have a tendency to awaken and perform its natural function more effectually, provided there is not some destruction of the nerve itself. He has known of many instances of persons being able to hear perfectly with the akouphone or the akoulalion who had no appreciation whatever of sounds by the ordinary tuning-fork, or the shrill Galton whistle. Likewise persons who by the tuning-fork tests have an appreciation of certain notes and a lack of appreciation for the lower or higher ones, hear all notes alike with the akoulalion.

The akoulalion is at its maximum efficiency when in the hands of competent instructors of the deaf, but the akoulalion can be used in the private home for the instruction of children during vacation, on lines mapped out by competent teachers.

Considering those extremely hard of hearing, he said that one who has been very deaf for some time has forgotten how to eliminate the sounds he does not wish to hear. For instance, when using the akouphone, which magnifies the sounds tremendously, if three or four people are talking in close proximity to the one who is addressing the deaf person, the latter hears a general confusion of sounds, and he is unable to eliminate the sound of the other persons and to concentrate his attention on what the party who is speaking to him says. For this class, the type C instrument is designed, and enables the person who is deaf to hear only that which the person he is addressing says. It is also possible for each of two or more persons to have a receiving instrument into which each member of the company speaks, and the deaf person can not only hear what each says to him, but can likewise hear the remarks of one of the persons to the other. The instrument gives a perfectly clear enunciation. The little receiving instruments are made of aluminum, are always clean and sanitary, and do not contain obnoxious odors. Furthermore, the lower a person speaks, the louder the akouphone delivers the sound to the deaf person. If the receiving instrument is shouted into, the excess of sound is entirely cut off, so that the deaf person is not inconvenienced in the least by having to ask the person to speak in a lower tone of voice, and no detrimental effect is possible

to the ear. There is a little black flexible cord running to each one of the receiving instruments. The deaf person has a small ear-piece about the size of a watch, which is either held to the ear in the palm of the hand, mounted upon a handle, or by a head-band which holds it in place. The ear-piece can be regulated to suit the case of deafness and intensity of sound, and is as necessary as it is to focus a field or opera-glass to correspond to the eyesight and distance of the object. A small, dry, pocket storage battery supplies the necessary electricity to operate the instrument, and this can be readily recharged by the aid of the outfit furnished, without inconvenience or knowledge of electricity on the part of the user.

After the deaf person has been using this style of instrument for some time, a normal condition is developed in that the hearing is accustomed to receiving sound applied to the outside. The use of any aural instrument, which protrudes into the ear, is not only a menace to the healthy condition of the ear, but likewise cultivates what might be termed "near-of-hearing." The same as would be the case if a person would habituate himself to holding a book two or three inches from the eye when reading. He would become near-sighted. So the ear, having the sounds projected upon the auditory apparatus by a tube extending into the ear, becomes so accustomed to hearing sound delivered in this manner that it is in many cases difficult to understand at first with the akouphone. The ear has to again become accustomed to hearing sound applied to the outside. In many cases this is the ultimate point that can be reached, but there is a tendency in many more cases for the hearing to be gradually developed to the extent of the patient being able to use an instrument which picks up surrounding sounds within a reasonable range, and transmits them to the ear of the person. Then again, the person has to learn to eliminate not only the echo in the room or hall, or bad acoustic properties, but also the sound of voices he does not wish to hear, in other words, turn the sound into an intelligent state of affairs. An analogous case is that of a telegraph operator, who is able to stand anywhere within hearing distance of a telegraph instrument, and in spite of the loud ticking of the instruments even closer to him than that which he wishes to read, is able to eliminate the sound of those other instruments and hear only what the instrument he is listening to says. But, if he leaves the telegraph office for a number of years and returns again, he is not able to do this at first. Not only that, but he is unable to follow any one instrument perfectly, for the reason that he has forgotten how to concentrate his attention on any one particular instrument. But after he has been in that office for some weeks, he can again accomplish the same results with ease as before. So it is with a deaf person. The akouphone and akoulalion are not practical for children under 7 years of age, persons having paralyzed nerves, persons of hysteric temperament, and people of extreme age.

Briefly stated, the akouphone is a portable instrument which a large per cent. of the deaf can carry around with them, hearing ordinary conversation, the theater or opera, etc., and again enjoying those blessings from which they have been ostracized. This is not accomplished immediately, but the continued use of the instrument will tend to this. There is an instrument to be used exclusively for the desk of the business man, in which his batteries are being charged when he is not using the instrument; for the dining-room table, so that the host can sit and listen to the general conversation going on around the table; for the library for similar use; and for the opera, theater or church there is the "opera-outfit." In fact, it supplies any demand which can be made upon an instrument for the deaf.

NEW YORK ACADEMY OF MEDICINE.

Meeting held March 21.

Modern Treatment of Gonorrhea and Its Complications and Sequelae.

DR. GEORGE K. SWINBURNE discussed acute gonorrhea. He insisted that the diagnosis should be confirmed by microscopic examination of the pus, and that the microscope should be used as a guide to the treatment of the different stages. In searching for gonococci it should be remembered that a single

injection of protargol will sometimes cause their disappearance for twenty-four hours. He is one of those who believe in the early use of urethral irrigations of a 1 to 4000 solution of permanganate of potassium at a temperature of 105 to 120 F. For the first few days the injections should be given twice daily; then once a day, and the interval gradually lengthened. The solutions should not be irritating. Ordinarily a .5 to 2 per cent. solution of protargol would be appropriate after the first few days of the disease. At the end of five weeks of such systematic and efficient treatment a test of the efficacy of the therapeutic measures adopted should be made by instructing the patient to drink beer freely for several days to see if it causes a return of the urethral discharge. As soon as the posterior urethra becomes involved, it should receive local treatment, sometimes by careful irrigation from the meatus, sometimes by deep instillations of protargol solution.

DR. JOHN VAN DER POEL, speaking of chronic gonorrhea, said that the ordinary urethral syringe is not usually sufficient; he prefers the fountain syringe. For an anterior urethritis, he uses a .5 to 1.5 per cent. solution of protargol, and for posterior urethritis a strength of .5 to 1 per cent. The strength should be gradually diminished and the interval of treatment lengthened. After all micro-organisms have disappeared, weak solutions of the acetate or sulphate of zinc or of the acetate of lead are beneficial. At times it is necessary to treat certain areas of the mucous membrane of the urethra, and for this purpose a few minims of a solution of nitrate of silver, .5 to 5 per cent. in strength, should be applied to the part, through the endoscope. A sudden increase of the discharge containing gonococci is usually indicative of a new focus having been broken open. It is a good general rule not to use dilating sounds until all micro-organisms have disappeared.

DR. J. PEDERSEN spoke of some of the complications of posterior urethritis. It should be the aim of all treatment to prevent, as far as possible, hyperemia of the genitals, and to do this the patient should rest as much as possible, preferably in the recumbent position; the diet should consist largely of milk, tobacco and alcohol being excluded, and an effort should be made to keep the urine sweet by the internal use of appropriate antiseptics. One of the best of these is salol in full doses. For the more severe cases of urethrocystitis, a dram or two of a solution of nitrate of silver, .5 to 1 gr. to the ounce, should be instilled through a catheter. Irrigation from the meatus in these cases is ordinarily too irritating, and dangerous because of the liability of forcing some of the fluid into the ureters. In the early stages of an acute general gonorrheal cystitis, forcible irrigation of the bladder is to be condemned. When the spermatic cord becomes involved during the course of a gonorrhea, direct treatment of the urethra should be stopped, the patient be kept in bed, and an ice-bag or an evaporating lotion applied to the part. If these measures are promptly taken and efficiently carried out, epididymitis may be averted. Where the latter complication occurs an icebag may be of service in the first twenty-four hours. Later on mercury and iodid of mercury should be used. A suspensory bandage is not sufficient, but the testicles should be well supported over the pubes, by a sling attached to a belt around the waist. Gonorrheal rheumatism is apt to occur at any stage. Immobilization, counter-irritation and cold are the measures to be used locally at first; subsequently, poultices, compression, massage and passive motion may find a place. The treatment of the urethritis should be active though conservative.

DR. W. A. HOLDEN considered gonorrheal conjunctivitis. He said that at the very onset a single application of a 2 per cent. solution of nitrate of silver or of a 50 per cent. solution of protargol may abort the attack. The constant application of ice-cloths and the frequent washing out of the affected eye with boric acid in saturated solution are most essential. The cornea should be inspected at least once daily, and hot applications substituted for the cold ones on the first sign of haziness of the cornea. Protargol or nitrate of silver solution should be applied to the everted lids.

DR. J. R. HAYDEN spoke of gonorrheal stricture of the urethra. He favors the use, in most cases, of appropriate irri-

gations and of gradual dilatation, up to No. 18, with bougies and above that size with the ordinary steel sounds. When this treatment fails, internal urethrotomy should be done, care being taken to hold the urethrotome exactly in the median line and to keep the urethra on the stretch. A caliber of 25 or 30 should be secured. On the first signs of urethral fever, all the urine should be drawn with sterile catheters and the urethra irrigated with antiseptic solutions, while antiseptics are given internally. For tough strictures of the deep urethra, external urethrotomy is indicated. The method known as rapid dilatation is never free from risk; that of continuous dilatation is proper in a few selected cases; electrolysis is only of service in a few soft strictures, and was mentioned only to be condemned.

DR. ROBERT W. TAYLOR said he could not see the necessity for aborting gonorrhea, nor is he in favor of very active treatment in the early stages. Soaking the penis in hot boric acid solution, and making use of measures calculated to render the urine and the food nonirritating are all that is required until the inflammatory symptoms have subsided, when injections of warm lead water are of service, as were also antibleorrhagics given by the mouth. He prefers nitrate of silver to protargol, and would begin with irrigations of a strength of 1 to 32,000, gradually increasing the strength until, after five or six weeks, instillations of a 1 to 500 solution of nitrate of silver may be employed. In the long-standing cases, solutions of acetate of lead and of sulphate of zinc or copper are beneficial.

DR. B. LAPOWSKI said that the physician should endeavor to locate the gonococci in the urethra, and treat those portions. He asserted that the microscope could not always demonstrate by the Gram stain the presence of gonococci, and in order to determine absolutely whether or not it is possible for a person to marry, a culture must be made with the discharge.

DR. RAMON GUITÉRAS said that at times the lighting up of an old urethritis, by the breaking open of latent foci, will explain certain cases where the patient is positive that there has been no new exposure. He is thoroughly in favor of the permanganate irrigations, but insisted that the hydrostatic pressure should be most carefully regulated, and that the patient should be taught how to relax the compressor muscle at the right moment. While he feels positive that, since the treatment of gonorrhea by permanganate of potassium irrigations came into vogue, fewer cases of urethral stricture are seen, he admits that seminal vesiculitis is more common.

DR. CHARLES CHETWOOD objected to the use of forced irrigation without a catheter in cases of acute urethritis. For the first six days of the disease only the anterior urethra should be treated; after that it is well to include the posterior urethra, as a prophylactic measure, even though this portion gives no distinct evidence of involvement.

DR. BISCHOFF, speaking of the prophylaxis of gonorrhea, said that he thought prostitution could be regulated to an appreciable degree if the work were placed in the hands of our sanitary authorities rather than with the police. He detailed certain recent experiments to show that it is possible to abort a considerable proportion of cases of gonorrhea.

DR. HILL praised picric acid as an agent for the treatment of chronic gonorrhea when the mucoid stage is present. It should be used in a 1 to 100 or 1 to 2000 solution, about sixty minims being employed for each instillation.

DR. FERD C. VALENTINE expressed his belief that there are different forms of the gonococci, and that each vaunted remedy is most efficient in combating the inroads of one of these special forms.

following points are to be considered: 1, the percentage of recoveries; 2, the amount of danger; 3, the inconvenience and danger entailed; 4, will the operation be accepted by old men who are naturally timid in regard to surgical operations? Prostatectomy inspires dread and is attended by risk; castration is falling into disuse, and its mortality is high—16 per cent. in 152 cases. Vasectomy does not insure relief. Canalization of the gland, ligation of the internal iliac arteries, electrolysis, puncture with the electric cautery through the rectum, etc., are not sufficiently safe or reliable. The Bottini operation consists in burning through the prostate gland, one or more furrows, by means of a concealed knife, heated to white heat by electricity. The bladder is kept out of the way by dilating it with air. The following are the advantages claimed by the author for the operation: the large percentage of recoveries—85 per cent; the mortality being lowered 5 per cent; suffering and inconvenience slight. He observed that drinking of large quantities of water and copious injections before and after the operation contribute much to the safety and comfort of the patient. The operation is done in a few minutes; the pain is seldom great, and always bearable. The patient is permitted to leave his bed in a day or two. The patients, as a rule, do not object to the operation. There is no loss of blood, no open wound, no anesthetic is used, and in case of failure the first time the operation can be repeated with every prospect of ultimate success. His operations numbered 15, performed upon 12 patients, and 2 operations performed respectively by Drs. Williams and Warren. Six were absolutely cured, 1 died of pneumonia, 1 was a complete failure, and 1 a relapse. In 3 cases a second operation was successfully made. Experience, familiarity with the region involved and attention to details are essential to success. His later cases have been more successful than the earlier. He believes that in a majority a maximum of good can be done by its aid, with a minimum of risk, and that its shortcomings are more than counterbalanced by the advantages.

DR. HOBART WARREN gave a brief outline of the anatomy of the prostatic region illustrated by diagrams. He thinks that by the Bottini operation the prostatic plexus of veins is avoided, and thereby the risk of embolism is diminished. He does not think the patient should be allowed to go around in a day or two. A too deep cut may be avoided by careful measurement.

DR. JOHN S. MILLER said the flow of blood along the groove of the instrument is considered by many operators to be a reliable sign that the cautery blade has cut deeply into the prostatic structure. The bleeding will not be so severe if the cutting is done slowly and the blade is not too hot. Unless the beak of the instrument is held firmly against the lobe to be incised, the blade simply makes a shallow cautery line, while the beak of the instrument instead of being stationary, pushes backward and at the same time makes a false registry upon the gauge; it is very clear why such an operation should be attended by failure.

DR. W. P. MUNN has never had an occasion when the Bottini operation had to be resorted to. He does not think it should supplant the older operation. He admits that the Bottini may have its definite field, but he is not prepared to say what it should be. He thinks prostatectomy is just as free from danger. He considers the Bottini operation as cutting in the dark—one can neither see nor feel what he is doing. He ascribes the greater number of recoveries to the use of recent urinary antiseptics, like urotropin, etc.

DR. LEONARD FREEMAN pointed out that the taking of an anesthetic for the older operations acts badly upon the kidneys, and the patient must be kept in bed for at least two weeks. As to the contention that the Bottini operation is "cutting in the dark," crushing of the stone and urethrotomy are certainly more dangerous, and yet no one objects to them on the score of their being "cutting in the dark."

Fictitious Bad Effects from Vaccination.

DR. WM. P. MUNN read a paper on the above subject. He recited the histories of three cases which came under his observation, in which various maladies occurring during the course of vaccination were ascribed to the virus. A girl, 11

DENVER AND ARAPAHOE MEDICAL SOCIETY.

Meeting held March 2.

President Dr. H. G. Wetherill in the chair.

The Present Status of the Bottini Operation in the Treatment of Prostatic Hypertrophy.

DR. LEONARD FREEMAN read a paper on the above title, and said in part: No drug, serum nor glandular extract has yet been discovered which has decided curative properties. In estimating the practical value of the various operations, the

years old, three weeks after vaccination, was taken with convulsions. Her temperature was high. She was unconscious for three weeks. It was a case of cerebrospinal fever, yet the parents and neighbors speak of it as having been caused by the virus. The other was a woman 35 years old, who was vaccinated by her husband, a dentist. She was taken sick when the seab was dry, with high temperature, and she lost sensation in both legs. She, too, recovered, and firmly believes the whole trouble to have been due to vaccination. In the third a death-certificate was made out by a homeopathic physician, attributing death to vaccination. Dr. Munn, who was at that time health commissioner of Denver, instituted an inquiry, and found that the secretion from the nose and throat of the dead child contained diphtheria bacilli, that another child in the house had diphtheria, and the physician's child also had it. Generalizing, Dr. Munn said that where 20,000 children are vaccinated within a short time, it is impossible to expect that all will escape the ordinary diseases of childhood, and coincident troubles will occur.

DR. E. P. HERSHEY related the history of a woman who had a papular eruption which came on one week after a vaccination. A careful examination revealed a sore throat and mucous patches. A history of exposure to syphilis, and rapid improvement under large doses of mercury, left no doubt in the minds of both physician and patient as to the nature.

BUFFALO ACADEMY OF MEDICINE.

Meeting of the Medical Section, held March 12.

Dr. Sigmund Goldberg, chairman, pro tem., presiding.

The Racial Factor in Hysteria.

DR. JULIUS ULLMAN read a paper on this topic. He cited the reports of Arneh, who studied the disease in dogs, and of Higur, who reported hysteria in a cat and canary bird. In the genus homo hysteria has been confined to no one time, latitude or race. The writer is of the opinion that racial characteristics are not so much the result of inherent qualities as of social conditions, and after classifying the physical and psychologic causes, took up the social conditions which increased this disease relatively among various races. Reference was made to the continued history of persecution among the Jews, their fertile mentality, his conditions of oppression, his exclusion from trades, segregation into ghettos, burdening with taxes, and isolation, and the tendency this gives for consanguineous marriages and for simulation of hysteria. He also spoke of the increase of hysteria among the Latin and Slavonic races; among the latter it can be attributed to conditions of serfdom but little better than slavery. Witchcraft and demoniacal possessions were spoken of as built on a ground work of hysteria and superstition, for, as Fere says, the hysterical anesthesias held first place as the marks of the devil. The Salem witchcraft in New England was spoken of, and it is not surprising to the writer that, among the progenitors of the believers of witchcraft, that other delusionary belief of "Christian Science" should have had its inception. The history of the negro native to Africa was called to mind, and the forcible kidnapping and horrifying voyage to this country in the slave-trading ships was mentioned as a sufficient cause for a psychic insult, the result of which may still be seen in hysteric manifestations in the negro of this country. The history of the native American, among whom it was shown that hysteria could not have existed, was given, and the effects of civilization and assimilation on the increase of the disease among them was shown. The Mongol and Hindoo races, among whom hysteria is relatively less frequent, also received consideration.

It was therefore shown that hysteria exists among all peoples and in all countries, and the fact that certain races, as the Jew, the Slav, the Latin and possibly the negro are relatively more affected may be attributed to causes of environment rather than inherent qualities, for as Jacobs says, if all the Johns and Maries were to be shut up in ghetto for a couple of centuries, they would undoubtedly show peculiarities in habits and thought and would develop a peculiar psychology. Heredity plays a rôle only in that a child may learn to imitate certain traits from a hysterical parent.

In conclusion it was emphasized that hysterical symptoms may exist as epiphenomena and a background in organic diseases among susceptible races. Nor is it to be forgotten that though symptoms of hysteria are well marked, the patient may at the same time have organic diseases. Better therapeutic results will, therefore, be obtained in cases where hysteria is relatively more common by the administration of drugs, suggestion and mechanical means of treatment directed against a latent hysterical condition in addition to the treatment for the organic disease if it is present.

Hysterical Aphonia.

DR. GEORGE F. COTT read a paper on this subject, giving the various theories thus far advanced as to this condition. He pointed out the fallacy of physicians in general maintaining that the vocal organs are absolutely under the will and control of the patient since the latter is in reality possibly hopeless until proper psychic equilibrium is re-established. It was emphasized that in hysterical aphonia both cords are always similarly affected. He, however, cited a curious condition where there was ankylosis of the left arytenoid articulation leaving the cord fixed near the median line, and at every effort made by the patient to produce a sound, the false cord could be seen closing upon its fellow on the opposite side, and a harsh sound as a loud whisper was produced in this way. This again shows the possible function of the false cord. The paper closed by citing several peculiar and most interesting cases.

X-Rays in General Practice, with Lantern Slide Illustrations.

DR. A. W. BAYLISH gave an interesting talk, illustrated by forty slides, on the advantages of this procedure in the diagnosis of surgical and medical cases. Fractures, foreign bodies, deformities of joints, as also tubercular chests and other interesting cases were shown.

ST. LOUIS MEDICAL SOCIETY OF MISSOURI.

Meeting held March 23.

DR. L. E. NEWMAN, President.

The Surgical Management of General Peritonitis, Resulting from Perforating Appendicitis.

DR. JOHN YOUNG BROWN read a paper on this subject. He thinks that as abdominal surgery has advanced, fewer cases of this character are seen, for the reason that the causes leading to widespread peritoneal involvement are now promptly recognized and as promptly relieved by surgery. He said that the condition known as general peritonitis yields to surgery, as is absolutely proven by the reports of many of our best operators, and he defines general peritonitis as widespread peritoneal inflammation, with bowel paresis, free filth pus and liquefied lymph, in the general peritoneal cavity, accompanied by rapid pulse, etc. The treatment is section, irrigation and drainage. His plan is to open the abdomen by a median incision. If the bowel distension is so great as to interfere with proper handling of the parts, the gas should be evacuated by bowel puncture in several places, care being taken to close the punctures with silk as soon as the purposes for which they were made are accomplished. This done, we should at once seek out the source of trouble—make such repairs of bowel as the local conditions warrant and then proceed to carefully cleanse the general cavity.

In regard to drainage, he does not believe the common practice of packing strips of gauze in different directions is a wise one. As Morris has pointed out, lymph is rapidly thrown out in the meshes of the gauze, and while it accomplishes its purposes as a drain, when it is removed raw and bleeding surfaces are left, frequently causing bowel adhesions and intestinal obstruction. A glass drainage-tube, placed at the most dependent point of the pelvis, and two or more small wick drains, placed in different directions, will accomplish all that can be done with gauze. The wicks, surrounded as they are with gutta-percha tissue, are free from the objections that plain gauze possesses. Through the glass tube we can, by means of the long syringe, manage to keep the cavity clean.

DR. L. H. LAIDLEY said that fear on the part of the surgeons of having a bad record in appendicitis had deprived many patients of their lives. The nomenclature should be revised in reporting cases, and general peritonitis from perforating appendicitis should not be called appendicitis. Present conditions and causes should be kept distinct. Some years ago he had reported a case of general peritonitis due to appendicitis. The patient had been operated on two years previously by another surgeon for appendicitis, and the subsequent peritonitis was due to breaking down of a plug of lymph. In his report he was criticised because he had not entered at the site of the appendix. But by median incision he was enabled to clear out the pus which filled the pelvic cavity and the patient recovered.

DR. A. H. MEISENBACH said that septic peritonitis was the opprobrium of abdominal surgery. It could be produced in two ways: 1, by rupture of the appendix; 2, by rupture of a walled-off appendiceal abscess. He considered four classes of appendicitis: 1, a simple inflammatory condition of the appendix; 2, abscesses walled off within the peritoneum; 3, free abscesses; 4, abscesses attached to the abdominal wall, and pointing externally. The first condition could always be successfully operated on. The second depends on the locality of incision. The fourth tends to recovery if there is not too much inflammation.

DR. H. JACOBSON believes in hunting out the appendix in almost all abscess cases, and flushing the abdominal cavity is better than packing gauze between the bowels. As in all cases of peritonitis, the toxemia causes more or less paresis, and the exudation present causes adhesions, which become more marked and dangerous to life if gauze strips are packed between the folds of the inflamed bowels.

DR. R. M. FUNKHOUSER has had few cases of the sort described in the paper, and thinks it safer to drain. He has made it a rule to flush the abdominal cavity with a weak solution of permanganate of potash, and has no cause to regret it. In some cases, packing with gauze has also seemed effective, though he would not pack high up. In operating for a localized peritonitis, he thinks there is no safer drain than a gauze wick surrounded by rubber tissue.

DR. M. B. CLOPTON said that there seems to be two types of peritonitis following appendicitis. In one the exudate is a cloudy fluid containing streptococci, in the other, colon bacilli are found, adhesions are more numerous and the process slower. In the first condition irrigation would be effective, hardly in the second. Wiping off the intestines requires too much time. For irrigation, it is better to have the water under pressure. Complete drainage is hard to attain. The prognosis seems better where the inflammatory condition from the appendix is high up.

DR. C. M. NICHOLSON said that all methods were unsatisfactory in some respects. He spoke of Fowler's latest method, of placing the patient at an angle of 45 degrees and opening at the most dependent portion. Fowler reported nine cases in his first paper and three in his second, all of which recovered. If any of these were cases of general peritonitis, there would seem to be something in the method. If localized, the term general peritonitis ought not be used; the conditions should be differentiated.

DR. A. H. MEISENBACH added that in cases where the abscess is attached to the abdominal wall, it is foolishness to hunt for the appendix; poking around may cause general infection of the peritoneal cavity. Nature takes care of the appendix in this class of cases, and he has never seen recurrence.

PHILADELPHIA PEDIATRIC SOCIETY.

Meeting held March 12.

Dr. T. S. Westcott in the chair.

Intestinal Sand.

DR. J. A. SCOTT read a brief paper on this topic, making a short resumé of the literature, which includes but six or seven articles. La Baulbene in 1873 first reported a case in which sandy material, which proved to be vegetable material with siliceous particles attached, passed per rectum. He calls

this material *sable intestinale*. Sheridan Delapine, in 1880, reported four cases before the London Pathological Society, followed in more recent years by D. Thomas, Lamb, G. Shattuck, Dieulafoy, Matthew and Rieuchaud, R. S. Thomson and Alex. R. Ferguson, and Eichhorst. Dr. Scott's first case was a patient of Dr. J. M. Da Costa, a woman about 40, with no organic lesions, who passed gritty material with the stools. Examination showed it to be a light yellow or yellowish-red concretion, not unlike brick-dust in appearance, microscopically looking like uric acid, but careful examination by chemical methods showed the absence of uric acid. It was considered vegetable in origin. The second case was that of a child aged $3\frac{1}{4}$ years, for eight months subject to attacks of duodenal and iliac catarrh, with marked toxemic symptoms. In the beginning of these attacks, together with undigested curds and mucus, would be found a very firm, gritty, reddish or pinkish sand, which would disappear as the stools approached normal. After maceration in strong acids the sand would gradually soften, with but little effervescence, and gummy material, crystals looking like those of fatty acids, such as are seen in fat necrosis, and epithelial cells were found. The tendency for certain materials to remain for long periods in the intestine was mentioned. A specimen of biliary sand—cholesterin—was also shown.

DR. A. A. ESHNER stated that he regards the condition somewhat a rare one.

DR. J. P. CROZER GRIFFITH called attention to the habits of children in placing different objects in the mouth. These may be composed of sandy material, as mortar from the wall of a brick house, etc. In some cases, however, the condition may possibly result from the precipitation of the salts from the milk combined with the acids of the body.

Anatomy of Childhood.

DR. GEORGE McLELLAN, by invitation, delivered an address on this subject, illustrated by original photographs, preparations and lantern slides. The speaker outlined the changes which occurred in the skeleton during infancy, childhood, and adult life.

DR. O. H. ALLIS called attention to the changes in the bony arches, and the differences in the relative position of the abdominal organs during infancy and adult life.

PHILADELPHIA PATHOLOGICAL SOCIETY.

Meeting held March 14.

President, DR. FREDERICK A. PACKARD, in the chair.

Snake Venom.

DR. JOSEPH MCFARLAND made some remarks on snake venom, referring to the work of Fontana, Mitchell, Reichert and Calmette, and stating that the venom from serpents may be conveniently classified into that obtained from vipers and that from cobras. The venom of all serpents is alike in color, and the secretion corresponds to that from the parotid glands of man. The venom may be collected by catching the serpent around the head by means of a piece of leather fastened on the end of a stick, after which its mouth may be opened and the secretion pressed out. Venoms irritate the mucous membranes, and when injected under the skin they produce local necrosis, hemorrhagic extravasations, and more or less toxic symptoms. Animals succumb from the poison due to its action on the heart. Chemically the venom consists of globulins and peptones, the former of which may be precipitated by heat, leaving the peptones in solution. Globulins paralyze the respiratory centers. Calmette heated the venom, thus getting rid of the globulins, and injecting the peptones into animals, producing a certain degree of immunity against snake bite. The speaker had experimented with rattlesnakes, copperheads, etc. The hog and the mongoose have a natural immunity. He has endeavored to render the horse immune against snake bite, and partially succeeded. He has also been able to obtain an antivenene which gave partial immunity to rabbits. As the venom of different snakes varies, it may be that one variety of antivenene may not be protective against the bite of certain kinds of serpents.

In his experiments he first used rattlesnake venom and

later that of the cobra. The first series of experiments was made with unheated venom, the second with unheated venom introduced under the skin, and the third by injecting the unheated venom immediately into the veins. The heated venoms produced little reaction, while the unheated killed rabbits in from a few minutes to two hours. The heated produced a partial immunity against the unheated. The secretion of the cobra, introduced under the skin of the horse, produced extensive swelling, followed by suppuration. He next injected venom into the veins and at no time was there any local reaction, but he obtained physiologic effects, such as increased rapidity of the heart's beat, and accelerated and shallow respirations. The serum from the horse which had received the injections was tested three different times, and no alteration from the normal could be found. After using unheated venoms, a reaction was obtained. The serum seems to have the greatest antitoxie power subsequent to the injection of large doses of venom. He has obtained an antivenene 2 c.c. of which will protect rabbits against an ordinary fatal bite.

DR. J. DUTTON STEELE asked as to the dose of antivenomous serum to be given in the case of man.

DR. FREDERICK PACKARD asked whether the peptones killed by the paralyzant effects on the heart.

DR. MCFARLAND, in reply to Dr. Steele, stated that about 10 c.c. of the serum should be injected. As to the question of Dr. Packard, the peptones seem to kill by action on the respiratory centers. The globulins act on the blood-vessels, allowing the extravasation of serum and blood-corpuscles. In his opinion whisky is contraindicated in all cases of rattlesnake bite. Strychnin would appear to be the best drug. As to local treatment, Calmette advises immediate ligation and cupping, or sucking out of the poison, after which a 10 per cent. solution of chlorid of lime should be injected into about ten different localities immediately surrounding the wound. Probably one reason that the supposed good effects result from the administration of whisky in snake bites of all kinds, except those of the rattlesnake, is that injuries of this kind are rarely fatal in this country.

Carbohydrates of Urine in Diabetes Insipidus.

DR. DAVID L. EDSALL read a paper on the subject. After reviewing the literature regarding the estimation of carbohydrates in diabetic urine, he detailed a case. The patient was a man, 27 years of age, under the charge of Dr. Alfred Stengel. In June, 1900, he suffered from polyuria, emaciation and thirst. When admitted to the hospital he was suffering from typhoid fever. At this time there was no acetone, nor diacetic acid in the urine. After recovering from typhoid the condition of diabetes insipidus was watched carefully. He found no increase in the fermentable carbohydrates. Normally they should be about 2 grams daily. The nitrogen was also estimated to see whether the benzo-esters fluctuated with it, and he found that they fluctuated synchronously, depending somewhat on the amount of fluids taken. The patient was kept on a regulated and constant diet. His results proved that the diet plays a most important part in the excretion of unfermentable carbohydrates.

Therapeutics.

Venereal Papillomata.

A subscriber asks for a short statement of the best treatment of venereal warts. He has used nitric acid, cautery, carbonate of soda, caustic potash, and has ligated them, and no improvement; they always return.

ANSWER.—As our inquirer seems to have employed unsuccessfully the usual methods of treatment, we give below other preparations which will probably permanently destroy the growths.

Lang gives the following treatment:

℞. Ferri sesquichloridi cryst.
Spts. vini dil., āā.....3iiss 10

M. Sig.: To be painted on the pedunculated venereal papillomata.

He suggests, sometimes, the following, which is painful when applied, but quickly removes the warts:

℞. Liquoris potassæ causticæ (30 per cent.) 3ii 8
Lythargyrigr. iv 25

M. Sig.: To be applied carefully only to small and broad-based venereal papillomata, by means of a fine cotton tampon or a pointed piece of wood, or to be rubbed in until the base of the wart becomes covered with a scab on a level with the surrounding integument, or somewhat below it; the part is then to be covered with a gauze bandage.

℞. Acidi arsenosi.
Morph. muriatis, āā.....gr. iv 25
Hydrarg. chloridi mitis.....3ss 2
Pulv. acaciæ3iii 12

M. Sig.: To be applied to the venereal warts.

He also recommends resorcin in powder form, as follows:

℞. Resorcini3ii 8
Saech. albigr. xv 1

M. Sig.: to be applied locally.

Or,

℞. Resorcini3ss-3iiss 2-6
Aq. destil.3iii 96

M. Sig.: Apply locally.

Very large papillomata which can not be made to disappear by means of local application, should be removed by surgical measures, as the sharp spoon or scissors, and the base cauterized with Paquelin cautery; local anesthesia will usually suffice for this operation.

Treatment of Chaneroid.

Sturgis, of New York, outlines the following treatment for chaneroid:

First arrest the virulent and destructive character of the ulcer, either with the actual cautery or other caustics in severe cases, and by alterative applications in mild ones. For the severe cases, as destructive agents either the actual cautery or the galvano-cautery can be used; strong sulphuric acid; pure nitric acid; pure carbolic or chromic acid.

As dressings subsequently the following powders are in common use:

℞. Pulv. iodoformi3iiss 6
Lycopodii3ii 8

M. Sig.: Apply locally.

Or, as an astringent:

℞. Pulv. iodoformi.
Pulv. acid. tannici, āā.....3ii 8

M. Sig.: Use locally.

Or,

℞. Pulv. iodoformi3i 4
Zinci sulphatis.....gr. v 30
Pulv. ac. tannici.....3i 4

M. Sig.: For local application.

If wet dressings are preferable to dry ones, then a carbolized solution of water of 1 per cent. strength; or a solution of zinc sulphate, about 5 grains to the ounce, can be used. Where the chaneroids are concealed either in the urethra or behind a phimosis, a dressing containing the following lotion is recommended by Sturgis:

℞. Lig. plumbi subacetat.
Tinct. opii, āā.....3i 32
Aqua, q. s. ad.....3viii 256

M. Sig.: Use locally as a dressing at night. The genitals should be bathed in hot water several times through the day.

Treatment of Syphilis.

As distinguished from the treatment of chaneroid, which, like gonorrhea, is only local in its effects, the initial sore of syphilis should never be cauterized nor excised; nor is it necessary that the mercurial treatment be begun with the appearance of the chancre, as it is powerless to check the infection. The treatment should be of the simplest kind, consisting of stimulating and protective dressings. As dry dress-

ings the following are recommended, of which the iodoform is much the best although disagreeable in odor:

- R. Pulv. iodoformi3iiss

Hydrarg. chloridi mitis.....3iiss

10|6|
- M. Sig.: Apply locally to the sore.
- Or,
- R. Bismuthi subgallati3ii

Pulv. lycopodii3i

8|4|
- M. Sig.: Apply locally.

When the chancres present a destructive tendency then apply the following:

- R. Hydrargyri chloridi mitis.....3ii

8|
- Sig.: Apply locally.

As a rule the tendency of the initial sore is toward healing and cicatrization unless unwisely treated, so that it is better to use the milder dressings locally, such as aristol, iodol, enrophen, nosophen, acetanilid or orthoform. As a wet dressing, if it is thought best to apply such, one of the following is probably preferable:

- R. Acidi earbol.gr. ii-iv

Aquæ.3iv

12-25|128|
- M. Sig.: Apply on lint two or three times a day.
- Or,
- R. Sol. hydrarg. chloridi corros. (1:1000 or 1:300).

Sig.: Apply locally every three or four hours.
- Or,
- R. Hydrogeni peroxidi3ss

Ag. destil3iv

16|128|
- M. Sig.: Apply locally three or four times a day.

In treatment of the initial sore in women, Lang, in "Twentieth Century Pract.", recommends the following:

- R. Hydrarg. chloridi corros.....gr. ¾-iii

Spts. vini

Spts. etheris sulph. āā.....3iiss

05-20|10|
- M. Sig.: To be painted on the affected part.
- Or,
- R. Ung. hydrarg.lxxv

Ol. theobromæ3iiss

5|10|
- M. Ft. Suppos. No. x. Sig.: One to be placed in the vagina. These may be borne by pregnant women.

TREATMENT OF MUCOUS PATCHES.

The patient should be instructed to keep the nose and mouth scrupulously clean by frequently rinsing the mouth and nasal cavities. He should avoid chewing tobacco and smoking in order to prevent relapse. Silver nitrate applied locally to the ulcers every few days gives very good results. As a gargle to cleanse the mouth the following is of service:

- R. Potassii chloratis.....gr. xl

Tinet. myrrhæ3iv

Aq. destil.3iv

2|66|16|128|
- M. Sig.: Use as gargle two or three times a day.

TREATMENT OF PUSTULAR SYPHILIDS.

- R. Hydrarg. chloridi corros.....gr. iii

Alcoholis

Tinct. benzoini

Glycerini, āā3i

Aq. rosæ q. s. ad.....3iii

20|4|96|
- M. Sig.: Apply locally.

PALMAR SYPHILIDS.

- Ohmann-Dumesnil recommends the following:
- R. Acidi salicylici.....gr. xx

Ichthyoli3ss

Ung. aq. rosæ.....3i

1|30|2|32|
- Misce. Sig.: Apply night and morning.

After the lesions have disappeared, apply the following to ward off recurrences:

- R. Hydrarg. chloridi mitis.....gr. xv

Ung. aquæ rosæ.....3i

1|32|
- M. Sig.: Apply locally night and morning.

CONSTITUTIONAL TREATMENT.

It is generally stated that constitutional treatment should not be employed until the secondary stage has made its ap-

pearance, claiming in this way to avoid mistakes in diagnosis, as the administration of mercury might retard the outbreak of the secondary symptoms. Mercurry is the preparation for the early constitutional treatment, which may be employed in the form of an inunction, in vapor form, given hypodermically or per os.

As an inunction, Shoemaker states that the efficacy of the ointment of mercury may be increased by combining with it some stimulating oil or green soap:

- R. Ung. hydrarg. nitratis

Saponis viridis, āā.....3iiss

Olei eucalypti3ss

48|2|

M. Sig.: Rub in well into the inner part of the thigh or arm, a piece the size of a marble once daily.

- Or,
- R. Ung. hydrarg. ammon.....3ii

Olei anthemidis3ss

64|2|

M. Sig.: Apply locally.

- Or,
- R. Ung. hydrarg. oleatis (10 per cent.)...3ii

Olei cadini3ii

64|8|

M. Sig.: Apply locally.

In severe cases of secondary syphilis, Dr. Dymnecki states that he derived benefit from the administration of quinin internally, associated with the inunction of mercury.

The place of applying the ointment must be changed. The points most favorable to the application are the inner aspects of the arms or thighs, the soles of the feet, before putting on the stockings in the morning.

HYPODERMICALLY.

- R. Tablets hydrarg. chlor. corros., āā..gr 1/25

Sig.: Inject once or twice daily, between the scapulae, or deep into the gluteal muscles.

BY FUMIGATION.

The patient is first advised to take a bath. He is then seated upon a chair with a perforated seat, beneath which is placed an alcohol lamp. A metal saucer containing from thirty grains to one dram of mild chlorid of mercury is placed over the lamp. The patient is then covered with a cloak or rubber cloth which fits snugly around the neck, and extending to the floor. The lamp is then lighted and a mercurial vapor is produced, which is deposited on the body. After the patient has been exposed to the fumes for fifteen or twenty minutes, he is placed in bed for several hours. This treatment may be repeated daily.

BY THE MOUTH.

- R. Hydrarg. iodidi flavi, āā.....gr. 1/5

Ft. pil. No. i. Sig.: One pill three times a day.
- Or,
- R. Massæ hydrargyri.....gr. iii

20|
- Or,
- Fiat pil. No. i. Sig.: One such pill three or four times a day, after eating.
- Or,
- R. Hydrarg. chloridi corros.....gr. 1/40

Sacch. lactis, q. s.

0015|

Fiat pil. No. i. Sig.: One such pill three times a day, after meals.

If the evacuations become too frequent or produce pain, small doses of pulverized opium may be given at the same time. Should the diarrhea still continue, the mercurials will have to be discontinued for a while.

Hutchinson states that mercury should be administered before the secondary symptoms have made their appearance, and that it is unwise to wait for these manifestations. He prefers the internal administration of mercury to either the inunction or the injection hypodermically. He uses the following:

- R. Hydrargyri cum creta.....gr. i

Pulveris opii.....gr. ¼

015|

M. Ft. capsula No. i. Sig.: One such three times a day for the first week, then four times a day, and later increased to five times a day.

THE ADMINISTRATION OF THE IODIDS.

It must be remembered that the iodids are of but little benefit except in the later stages of the disease. The best preparation is the potassium or the sodium salt:

R. Potassii iodidi ʒi 32
Aq. destil. ʒi 32

M. Sig.: Begin with ten drops and gradually increase the dose to the point of tolerance. These patients as a rule will tolerate daily doses ranging from 60 to 150 grains.

IODALBACID IN TREATMENT OF SYPHILIS.

When potassium iodid is administered in large doses almost the entire amount can be detected in the urine. For instance, if it is administered in 50 or 60 grain doses, 30 or 40 grains of that amount will be excreted by the kidneys, as it is very rapidly absorbed from the mucous membrane of the stomach and excreted almost as rapidly by the kidneys unchanged. The remaining portion is oxidized and liberates free iodine, which is in part excreted and in part is combined with the albumin. In speaking of this Zuelzer, as noted in the *Med. Review*, speaks of *iodalbacid*, which is a combination of iodine (10 per cent.) and albumin. It is much more slowly absorbed than potassium iodid, more slowly oxidized and consequently more slowly excreted. He states that in very acute cases of tertiary syphilis, in which a rapid effect is desired, potassium iodid, if well borne, is preferable to this newer preparation. In all other cases, especially when a slow but protracted action is required, *iodalbacid* is superior to potassium iodid.

ANEMIA IN SYPHILIS.

R. Ferri et quin. citratis..... ʒiiss 10
Ft. pil. No. xxx. Sig. One pill three times a day.

Medicolegal.

Fifteen Thousand Dollars for Personal Injuries.—On the appeal of the Galveston, Harrisburg & San Antonio Railway Company vs. Eckles, the Court of Civil Appeals of Texas approves of allowing a switchman \$15,000 damages for personal injuries. The evidence introduced by the latter, it says, established that he had been transformed, by the injuries inflicted on him, from a robust young man into a pitiable wreck in mind and body, and that for ten years he had suffered intensely. The jury returned a verdict for \$30,000. From this \$10,000 was voluntarily remitted. On the first hearing, though it was the third time that the case was before it, the court of civil appeals declared that it did not feel authorized to hold this verdict excessive as reduced by the remittitur. But, on rehearing, it decided to affirm the judgment of the court below conditioned on enough be remitted to make the verdict not exceed fifteen thousand dollars. More particularly, it appears that the man's head was mashed so that blood spurted out from his ears, and one of his eyes was forced from its socket and hung from his cheek; that unconsciousness resulted for two or three weeks; that he was in bed for many months; that his skull was fractured, and portions of it taken out; and, in short, that his physical and mental condition had been changed as before stated.

Physical Examination of Insane Person.—When one who is afflicted has been deprived of his liberty and property, and is seeking to regain their possession by establishing his present competency, Mr. Justice Fitzgerald holds, at a special term of the Supreme Court of New York, New York County, *In re Newcomb*, that the court should proceed with great care, to the end that he be not subjected to any harassing or oppressive conditions. Assuredly, he should be spared annoyances calculated to exercise painful influences, or cause him undue excitement; and to subject him to examination by doctors who have committed themselves by previously expressed sworn statements to the effect that his malady is incurable, the judge says, would appear to be a hardship. Wherefore, in this case, a motion that certain physicians be allowed to make a physical and mental examination of an applicant for the discharge of a committee of his property was denied, objection having been

made to one of the physicians that he was personally distasteful to the party seeking to establish his competency, and to others of them that they had committed themselves to the diagnosis that he was suffering from an incurable mental disease.

Not Death During Intemperate Use of Intoxicants.—

One of the provisions in a policy of life insurance was that in case the person whose life was insured should become intemperate in the use of intoxicating liquors or opium, the company might, at its option, cancel the policy. Another was that should the insured die during or by reason of the violation of the foregoing provision, then the reserve value of the policy only should be paid. The insured drank a good deal, it appeared, but his death was from consumption, and he was unable for several months before his death to drink as much whisky as the physicians prescribed for him. Under these circumstances, the Court of Appeals of Kentucky holds, *Union Central Life Insurance Company vs. Hughes'* administrator, that, the insured having been an invalid for six months before he died, and his habits during that time good as to the use of intoxicating liquor, it could not be said that he died during a violation of the stipulation of the policy against the intemperate use of intoxicating liquors, and that the full amount of the policy was payable.

The Defense of Insanity Broadly Considered.—

Under the Oklahoma statutes the test of responsibility for crime is fixed at the point where one has the mental capacity to know that the act is wrong, and if one has sufficient mental capacity to distinguish between right and wrong, as applied to the particular act, and to understand the nature and consequences of such act, he is responsible for the same. It is immaterial, the Supreme Court of Oklahoma says, in *Maas vs. Territory*, what standard scientific men may fix, or by what rules the medical profession determines that one is a lunatic or insane, he is in law insane or a lunatic, or of unsound mind, or temporarily or partially deprived of reason, to such an extent as will excuse him from punishment, only when he has not the capacity to know the wrongfulness of the particular act. But the knowledge of the wrongfulness of an act also embraces capacity to understand the nature and consequences of the same. Upon the question of the extent to which the duty of proving that he was incapable of knowing the wrongfulness of the act is upon the defendant the authorities differ. Two states, New Jersey and Delaware, follow the rule that he must prove his insanity beyond a reasonable doubt before he can be acquitted. Perhaps, on the other hand, two-thirds of the states follow the rule that the defendant must prove his insanity by a preponderance of the evidence. Among the states following this rule are Alabama, Arkansas, California, Connecticut, Georgia, Idaho, Iowa, Kentucky, Louisiana, Maine, Massachusetts, Minnesota, Missouri, North Carolina, Ohio, Pennsylvania, South Carolina, Texas, Virginia, West Virginia, and Nevada, and this is the rule in England. But with the development of criminal law, and the advancement of civilization, the rules which once governed the defense of insanity, the court goes on to say, are being relaxed so as to give defendants the fullest opportunity to present the truth to the court and jury, that full justice may be done; and, while it is true that this defense is sometimes successfully manufactured and imposed upon courts and juries, the adjudicated cases show no greater abuse of this defense than of the defense of alibi or self-defense. The defense of insanity, when successfully made, appeals to the tenderest sentiments and mercies of the jury, but when feigned and detected it invites their utmost contempt; and, while juries are always ready to deal kindly with one who is so unfortunate as to be dethroned of his reason to such an extent that he can not distinguish between right and wrong, they are also, as a rule, quick to punish a guilty defendant who tries to escape the result of his act through fraud and deceit. Therefore, viewing this defense from every standpoint, the court sees no good reason why the defense of insanity should be singled out and governed by rules as to burden of proof different from those applicable to other cases, and it feels constrained to enunciate the rule as to the burden of proof, where the defense

is insanity, to be this: Every person is presumed to be sane, or of sound mind, and able to distinguish between right and wrong, as applied to the particular act, and to understand the nature and consequence of such act; and the burden is upon the defendant in the first instance to overcome this presumption by introducing sufficient evidence to raise a reasonable doubt as to his sanity. When this is done, then the state must prove the defendant's sanity beyond a reasonable doubt, in order to secure a conviction; and if, taking the evidence all together, the jury entertains a reasonable doubt as to the defendant's sanity, he should be acquitted. This rule is now the settled law of Illinois, Indiana, Kansas, Michigan, Mississippi, New Hampshire, New York and Nebraska.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Philadelphia Medical Journal, March 23.

- 1 *Toxicology of Tellurium Compounds, with Some Notes on the Therapeutic Value of Tellurates. William J. Gies.
- 2 *Some Modern Gynecological Resources. Augustin H. Goelet.
- 3 Dejerine-Erb Type of Upper-arm Palsy Following Multiple Neuritis. D. J. McCarthy.
- 4 *A New Treatment for Tuberculous Glands of the Neck with Minimal Scarring, Involving a Method of Sterilizing a Tuberculous Region Through the Lymph Channels. G. Betton Massey.
- 5 Strangulated and Gangrenous Hernia. Kelotomy and Laparotomy in Strangulation, External and Internal; Artificial Anus—Enterostomy, Primary or Secondary Resection—Enterectomy, and End-to-End or Lateral Joining in Gangrenous Hernia. (Continued.) Thomas H. Manley.

New York Medical Journal, March 23.

- 6 *Some Retrospects and Prospects in Genito-urinary Surgery. Reginald Harrison.
- 7 *The Physical Examination of the Stomach. Mark L. Knapp.
- 8 *Infective Sigmoid Sinus Thrombosis. Clarence R. Dufour.
- 9 The Pathology of Intrauterine Death. (Continued.) Neil McPhatter.
- 10 *Emphysema of the Eyelid from Nasal Causes. Beaman Douglass.

Medical News (N. Y.), March 23.

- 11 *Cerebrospinal Meningitis (Weichselbaum Jaeger) Treated by Repeated Lumbar Puncture. Henry Koplik.
- 12 *Drainage in Abdominal Surgery. J. W. Long.
- 13 *Vertigo; A Stomach Lesion. Martin A. H. Thelberg.
- 14 An Interesting Case of Splenic Anemia. Herbert Maxon King.

Medical Record (N. Y.), March 23.

- 15 *1. A Case of Ambulatory Typhoid Fever with Intestinal Perforation. 2. A Case of Traumatic Rupture of the Intestine; Operation; Recoveries. Remarks Concerning Operation in Cases of Typhoid Fever with Intestinal Perforation. A. A. Berg.
- 16 *Chronic Gonorrhea and Marriage. Ludwig Weiss.
- 17 *Excision of Aneurysm, with a Report of Two Cases of Femoral Aneurysm so Treated. George Ryerson Fowler.
- 18 *Conservatism in the Diagnosis and Treatment of Prostatic Hypertrophy. James R. Hayden.
- 19 Subphrenic Abscess as a Complication of Appendicitis. J. McF. Gaston, Jr.
- 20 *Surgical Treatment of Abdominal Dropsy Following Cirrhosis of the Liver. James T. Jelks.

Boston Medical and Surgical Journal, March 21.

- 21 Puerperal Insanity. Arthur C. Jelly.
- 22 *Meat Ration in the Tropics. P. R. Egan.
- 23 *Bubonic Plague. Joseph J. Curry.
- 24 A Case of Retroperitoneal Lymphangiosarcoma; Operation; Recovery; No Recurrence After Two Years. T. B. Lund.
- 25 Vomiting of Pregnancy—Suspension of Pregnant Uterus—Extrauterine Pregnancy—Operation for Fibroids. Reported by J. Oswald Vogel.

Cincinnati Lancet-Clinic, March 23.

- 26 *Intestinal Vegetations. I. F. Tunison.
- 27 *Occupations Which Produce Rectal Diseases. Geo. J. Monroe.
- 28 A New Remedy for Hemorrhoids. E. V. Hall.

St. Louis Medical Review, March 16.

- 29 *Middle-Ear Disease in its Relationship to the Cranial Cavity. Otto Stein. With Abstracts of Five Cases, Explanatory of Illustrations. (Continued.) Carl Barch.

Medical Age (Detroit, Mich.), March 10.

- 30 *The Use and Abuse of the Galvanocautery in Nasal Surgery. C. D. Conkey.
- 31 Remarks on the Surgery of the Nineteenth Century. Hal C. Wyman.

Virginia Medical Semi-Monthly (Richmond), Feb. 22.

- 32 Acute and Chronic Bright's Disease: Symptoms, Etiology, Treatment, etc. Frederick Horner.
- 33 Our Conduct During Labor. Elmer Sothoron.
- 34 Notes on Epidemic Influenza. G. W. Drake.
- 35 A Handy Device in the Treatment of Opium Narcosis. W. H. Lyne.
- 36 Safety Pin in the Larynx—Removal by Tracheotomy. Walter A. Wells.
- 37 *Intestinal Indigestion (Dyspepsia Intestinalis), Nature and Concept. John C. Hemmeyer.
- 38 *To Cut or Crush in Stone of the Urinary Bladder. Stuart McGuire.
- 39 *Have We a New Treatment for General Septic Infections? Van Telburg-Hofman.
- 40 *Uterine Reflexes. J. N. Upshur.
- 41 Moot Questions in Abdominal Surgery. H. A. Royster.
- 42 Gonorrhea and Chaneroid—Their Modern Treatment. M. A. Auerbach.

Fort Wayne Medical Journal-Magazine, February.

- 43 Law and Insanity. H. I. Smith.
- 44 Criminals from the Standpoint of a Physician. W. D. Calvin.
- Annals of Gynecology and Pediatrics (Boston), March.
- 45 *A Plea for Enterostomy in Acute Intestinal Obstruction. Emanuel J. Senn.
- 46 *Topical Applications in Gynecologic Practice: Their Use and Abuse. J. M. Andrews.
- 47 Angio-neurotic Oedema of a Rheumatic and Scorbatic Affection. S. Seilkovitch.
- 48 Laryngeal Habit Spasm with Report of a Case. Luther C. Peter.
- 49 *Case of "Head-Knocking" of Medicolegal Interest. Charles J. Aldrich.

Clinical Review (Chicago), March.

- 50 Some Points in the Diagnosis of the More Common Gynecological Diseases. Thomas J. Watkins.
- 51 Clinical Lectures upon the Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.
- 52 The Treatment of Bronchitis. J. M. Patton.

Woman's Medical Journal (Toledo, Ohio), February.

- 53 *Physiology and Folklore of Pregnancy. Harriet C. B. Alexander.
- 54 Etiology of Puerperal Eclampsia. Jeannette C. Wallace.

The Post-Graduate (N. Y.), March.

- 55 *The Cure of Prolapsed Uteri. Bache Emmet.
- 56 Palpation of the Uterine Appendages. George Gray Ward, Jr.
- 57 Cesarean Section for Fibrocystic Uterine Tumor. George L. Brodhead.

- 58 Obstetrical Notes. R. Cronson.
- 59 Report of Clinics. (Cystic Ovary.) H. J. Boldt.
- 60 Report of Clinics. (Retroversion of Uterus, Endometritis, Chronic Appendicitis, etc.) Prof. Edebohls.

Medical Fortnightly (St. Louis), March 11.

- 61 London Hospitals. Warren Brown.
- 62 Practical Hydrotherapy. Frank R. Fry.
- 63 Pernicious Malaria. Arthur R. Edwards.
- 64 *The Clinical Value of Purgative Mineral Waters. Edwin Rosenthal.

American Practitioner and News (Louisville, Ky.), Feb. 15.

- 65 *Circumcision. Ernest G. Mark.
- 66 *A Few Notes on Naso-Pharyngeal Diseases Common to the Adult. S. G. Dabney.
- 67 *The Dangers of Glassware. J. S. Hoskins.

Albany Medical Annals, March.

- 68 The Duty of the State Toward its Idiotic and Feeble-minded. John F. Fitzgerald.
- 69 The Value of Antitoxin in the Prophylaxis of Diphtheria. Henry L. K. Shaw.
- 70 Discussion of Paper of Dr. J. Collins Warren. Robert T. Morris.
- 71 Report of an External Urethrotomy: Wheelhouse Operation. J. W. Wiltse.
- 72 Hyperplasia of the Pituitary Body with Eburnation of the Skull. J. M. Mosher and George Blumer.

Chicago Medical Recorder, March.

- 73 Resection of the Gasserian Ganglion. Carl Beck.
- 74 *Exophthalmic Goiter Successfully Treated with Collodion Dressings. Allen T. Haight.
- 75 New Method of Skiagraphic Diagnosis for Renal and Ureteral Surgery. G. Koltscher.
- 76 Pylorectomy for Cancer. Arthur D. Bevan.
- 77 *Interstitial Gingivitis as a Prominent Obvious Early Symptom of Autointoxication and Drug Poisoning. Eugene S. Talbot.
- 78 A Case of Laryngeal Stenosis and a Case of Infantile Scurvy. I. A. Abt.
- 79 *Have We a Continued Fever Which is Neither Typhoid Nor Malarial? T. J. Happel.

Western Medical Review (Lincoln, Neb.), March 15.

- 80 *Operative Management of Tubercular Hip-Joint Disease—A Critique. A. F. Jonas.

- 81 *Insanity in Women Associated with Pelvic Diseases. W. O. Henry.
 82 *Topical Applications in Gynecological Practice; Their Use and Abuse. J. W. Andrews.
 83 Hernia of the Bladder. Charles C. Allison.
 84 Some Cases of Abdominal Section. (Strangulated Hernia, Appendicitis, etc.) A. B. Anderson.

Canadian Practitioner and Review (Toronto), March.

- 85 The Relation of Ovarian Disease to Insanity and its Treatment. A. T. Hobbs.
 86 Asheville, N. C., as a Health Resort for Pulmonary Tuberculosis. J. Price-Brown.
 87 Cancer of Uterus. C. Wagner.
 88 Report of an Operation for Jacksonian Epilepsy. H. M. Thomas.

Oklahoma Medical Journal (Guthrie), March.

- 89 Fever—What Is It? How Shall We Treat It? C. B. Bradford.

Medical Bulletin (Philadelphia), March.

- 90 Urticaria. John V. Shoemaker.
 91 *The Use of "Normal Salt Solution" in Typhoid Fever. George W. Pfrohm.
 92 *Heroin. W. Blair Stewart.
 93 Neurasthenia and Insomnia. William Hooker Vail.

Peoria Medical Journal, March.

- 94 Report of Operations—Genital Prolapse in Women and its Cure; Removal of Gall-Bladder by the W. J. Mayo Method; Septic Infiltration of the Abdominal Walls Following an Attack of Appendicitis: Stenosis of the Pylorus Following Gastric Ulcer. J. F. Percy.
 95 Medical Charities in Their Relation to the Public, to the Profession, and to the Individual Physician. Emil Amberg.

International Medical Magazine (N. Y.), March.

- 96 *Common Anomalies of the Colon. W. Wayne Babcock.
 97 Leukemia and Pseudo-Leukemia. Charles H. Miner.
 98 Certain Skin Diseases and Some of Their Complications. J. Frank Wallis.
 99 Detection of Bile Pigment and Bile Acids. Determination of Uric Acid. A. Robin.
 100 The Causes of Cough in Children. John Madison Taylor.
 101 Acute Pharyngitis. E. B. Gleason.
 102 The Routine Examination of Women Following Confinement. John Cooke Hirst.

Iowa Medical Journal (Des Moines), January 15.

- 103 Fractures of the Pelvis. J. N. Warren.

Denver Medical Times, March.

- 104 Address before Arapahoe County Medical Society. C. K. Fleming.
 105 The Spectacle Diseases. James E. Free.
 106 The Antiseptic Treatment of Gonorrhea. Louis Stern.
 107 The Cecum and Appendix. Byron Robinson.

Journal of Medicine and Science (Portland, Maine), March.

- 108 *Nine Questions on Syphilis, with Answers from a Number of Authorities. B. B. Foster.
 109 Eczema. G. A. Puder.
 110 Congenital Dislocation of the Shoulder, with Report of Two Cases. Daniel W. Marston.
 111 Address at the Lincoln Club. E. E. Holt.
 112 Electro-Therapeutics. (To be continued.) E. H. Judkins.

Canada Lancet, (Toronto), March.

- 113 Medical Ethics and What Pertains to a Physician's Reputation and Success. Herbert A. Bruce.
 114 A Case of Puerperal Fever Treated with Antistreptococcus Serum—Recovery. A. H. Garratt.
 115 Remarks on Medical Aspects of the War in South Africa. J. T. Fotheringham.
 116 Cerebral Palsies of Children. Lusk and Parsons.
 117 A Case of Laminectomy. G. A. Bingham.

Love's Medical Mirror (St. Louis, Mo.), February.

- 118 *Congenital Dislocation of the Shoulder with Report of Two Cases. Daniel W. Marston.
 119 How to Write Well. Geo. F. Butler.
 120 Topical Applications in Gynecological Practice—Their Use and Abuse. J. W. Andrews.
 121 Defective Elimination and Buffalo Lithia Water as a Relief. I. N. Love.
 122 *Salophen—A Summary. Edward C. Hill.

Medical Sentinel (Portland, Ore.), March.

- 123 Latest Investigations on Uric Diathesis. Otto S. Binswanger.
 124 Face Presentation. J. S. Hammond.
 126 Clinical Report of a Fatal Case of Hemorrhagic Smallpox. W. Gilbert Cole.

American Medical Compend (Toledo), March.

- 126 A Report of Two Cases of Appendicitis, with Unusual Complications. Wm. J. Gillette.
 127 The Will, in Health and in Disease. Mary E. Law.
 128 Gonorrheal Urethritis. H. E. Smead.
 129 Hysteria. Anna G. Smith.
 130 Therapeutics of the Various Derangements of Menstruation. D. E. Bowman.

New Orleans Medical and Surgical Journal, March.

- 131 *Cocain and Eucain in Local Anesthesia, as Applied by the Combined Infiltration and Regional Methods in Major Surgery of the Extremities, with Illustrative Cases. Burdett Atkinson Terrett.
 132 *On Hypertrophy of the Left Ventricle in Plain Stenosis of the Mitral. Cosimo Noto.
 133 *A Case of Labor with Triplets. T. B. Odom.

Medical Summary (Philadelphia), March.

- 134 Good Health. Geo. J. Monroe.
 135 Boils—Abscesses. J. H. Yarnall.
 136 Heroin Hydrochlorid in Grippe. William D. Blackwood.
 137 Is the Cause of Malarial Disease Due to the Mosquito? J. F. Griffin.
 138 Membranous Croup: A Comparison and a Lesson. R. J. Faughnan.
 139 Hypodermatology. M. G. Price.
 140 Treatment of Urethral Stricture by Electrolysis. H. B. Stanley.
 141 Treatment of Jaundice. G. O. Smith.
 142 Report of a Rare Case. (Skin Complications in Gout.) W. H. Bentley.
 143 Perinephritic Abscess. C. E. Tucker.
 144 Pneumonia and Its Treatment. J. W. P. Smithwick.

Texas Medical News (Austin), February.

- 145 Two Interesting Cases of Hernia, One of Them Strangulated, Operation with Recovery in Each Case. H. A. Barr.
 146 The Evils Resulting from Tight Lacing. B. F. Calhoun.
 147 A Fatal Hemophilia of a New-Born. E. A. Malsch.
 148 A Simple Device in Draining the Bladder for Cystitis in Female. J. H. Reuss.
 149 The Role of the Mosquito in Malarial Infection. Walter Shropshire.

AMERICAN.

1. **Tellurium Compounds.**—Gies' article is a review of the facts so far as known and published of the action of tellurium compounds on plants, animals, and man. The author has also made original experiments on dogs, in connection with Mr. L. D. Mead, and they found that nontoxic doses of tellurium, several times as great as the therapeutic dose, and in the forms of oxid, tellurite, tartrate, and tellurate, did not materially affect metabolism in dogs, brought to the state of metabolic equilibrium, even when dosage was continued for a week. The substance appeared to stimulate proteid catabolism only slightly. It increased somewhat the weight of the dry matter in the feces and slightly diminished the absorption of fat. The urine was unaffected, excepting that it became dark brown in color. Excessive doses retarded gastric digestion, and caused vomiting, anorexia and somnolence. They also caused inflammation and disintegration of the gastric and intestinal mucosa and intestinal hemorrhage. Introduced under the skin tellurium caused restlessness, tremor, weakening of reflexes, somnolence, diarrhea, paralysis, unconsciousness, stoppage of respiration and death in convulsions from asphyxia. Much of the tellurium was deposited in metallic form, but it was also distributed throughout the organs and tissues. It was found that tellurium compounds in small proportions diminished the secretion of gastric acid, but did not increase intestinal putrefaction or diminish the action of trypsin or pepsin outside the body. Zymolysis was almost unaffected in the presence of almost as much as 1.25 per cent. of the salts. Ptyalin was more easily affected, even by the faintly alkaline tellurate. Tellurium was eliminated in the metallic form in the feces; as methyl telluride in the breath, urine, feces and epidural secretion; in a soluble form in small quantities in the urine and bile. The return of the urine to normal color was rapid after discontinuance of the administration. Albumin and bile pigment, besides tellurium, were the abnormal constituents of urine found after hypodermic injections. Toxic quantities given by the mouth cause the appearance of coagulable proteid, but not bile pigment in the urine. The literature of its influence on man is reviewed and the peculiar odor which it gives to the breath specially noted. Its therapeutic value seems to be in its anhydrotic action chiefly. The alliaceous odor of the breath appears to be the chief objectionable feature from its therapeutic dose.

2. **Modern Gynecologic Instruments.**—Goelot's paper is a description of gynecologic instruments devised by him; the uterine dilator, tent cover, endoscope, and irrigator.

4. Treatment of Tuberculous Glands.—The treatment described is based on the destruction of bacilli by the cataphoric diffusion of nascent oxychlorid of mercury, developed in their midst by the electrolysis of metallic mercury on a small gold electrode. An opening is made through the skin and into the gland, and a sliver of amalgamated zinc is pushed in, non-insulated, and a weak galvanic current—one to three milliamperes—turned on gradually and maintained for a few minutes to cauterize the tract and keep it open for the treatment proper. When this is accomplished the zinc electrode is withdrawn and a gold electrode about the caliber of a No. 18 wire previously amalgamated with as much mercury as possible for a quarter of an inch from its point, the remainder of the instrument being insulated. From 2 to 10 milliamperes is now turned on and kept up for ten minutes or until all the mercury has been dissipated from the gold surface. After which a piece of absorbent cotton is placed over the opening and topped by a piece of plaster and the operation is repeated after two to three days. A drop of a 10 per cent. solution of cocaine in the opening will deaden all pain. The purpose of the sinns thus formed is the drainage of the products of the dead bacilli and deposited chemicals, as well as to facilitate direct application. The chemical deposit will keep the wound antiseptic. Massey believes that the effect is not confined entirely to the gland operated on, but also involves other glands in connection with it. He reports two cases thus treated.

6. Genito-Urinary Surgery.—The principal subjects noticed by Harrison are litholapaxy, which he considers one of the greatest advances of the century just closed, prostatic hypertrophy and also kidney disorders. His remarks, in regard to prostatic conditions, that the form of hypertrophy may be very variable, and cites a case where pedunculated hypertrophy caused a rectal valve action. The effect of such on the production of calculi is specially mentioned, also the surgical treatment of the kidney in cases of albuminuria, and he intends to submit the matter to the British Medical Association under the form of two questions: 1. To what extent may kidney tension be responsible for permanent structural damage producing some forms of Bright's disease? 2. Under what circumstances, if any, is the removal of tension by surgical procedure expedient and justifiable? He thinks that there is perhaps a future for the surgery of this kind, and while he remarks on the possibility of toxic accidents, he believes that saturation of the urine with boric acid or other similar drugs before operation may easily serve to prevent them.

7. Physical Examination of the Stomach.—The methods of the physical examination of the stomach are described by Knapp, who includes under these specially percussion, inspection, palpation, and gastric distension and gastric transillumination.

8. Infective Sigmoid Sinus Thrombosis.—The symptoms, pathology and treatment of cerebral thrombosis from ear disease is described by Dufour, who pleads for the more careful lookout for symptoms pointing to this condition in cases of suppurative otitis media, and insists on the necessity of bearing in mind that the discharging ear is not a simple matter, but may at any time lead to serious and fatal complications.

10. Emphysema of Eyelids.—Douglass reports several cases showing that emphysema may occur in pathologic nasal conditions, all other causes being excluded, and asks whether it is a wound accident or results from pre-existing pathologic conditions. He considers that it is possible it may be the result of any wound; the surgeon can not be blamed for its occurrence. The reason why the upper lid is most affected is probably the fact that the wall of the orbit is as a rule perforated very near the middle, and that the air at once enters the space between the orbital periosteum and first fascia of the eyeball. It makes its way between the bony orbit and this fascia forward and backward, but finds less resistance forward than backward. The occurrence may be partially guarded against by avoiding the use of the curette as much as possible, and never amputating any part of the middle turbinate. While the condition has never been one of any seriousness, in his experience, it may be one from which great danger arises.

Abscess, destruction of the eye, and possibly meningitis may follow from septic conditions in these operations.

11. Cerebrospinal Meningitis.—The varying views that have been held as to the part played by the diplococci of Weichselbaum, and that of Fraenkel, are noticed by Koplik, as also the epidemic and sporadic forms of the disease, and he analyzes the symptoms as reported in the literature and those of his own cases collectively. In this series lumbar puncture after the method of Quinke was performed at repeated intervals and the bacteriologic, microscopic and macroscopic details studied. All the diplococci obtained corresponded closely to Weichselbaum's description, and the same was found in all the cases. The puncture was carried on with all the details of antiseptic; most of the patients were operated on three times and one more frequently. There was no routine, but each case was studied by itself and treated according to its needs. The indications for puncture were continuous headache with somnolence, delirium, repeated chills with sharp rise of temperature, increase in the rigidity of opisthotonus, or increasing or continued coma. If the immediate effects were favorable, the procedure was repeated on any exacerbation of the symptoms, but if improvement continued the patient was not further disturbed. No ill effects of the method were observed. In one patient the effects were so remarkable that the patient requested that the procedure be repeated. In one case the primary lumbar puncture had no perceptible effect and the second one only a very temporary one; a dry tap followed and, after a few days, the fourth puncture, in which 10 c.c. of turbid fluid were withdrawn, was followed by gradual improvement. The operation, rather strangely, seems to have no marked effects on the pulse or respiration; only in some cases is the pulse temporarily diminished in frequency. This is important because, when respiration ceases before the fatal issue, the heart still acting, lumbar puncture will not apparently aid us in re-establishing the respiratory function. Reviewing the results it can be safely said that lumbar puncture has relieved tension chiefly in diminution of pain and reduction of those symptoms which may be traced to toxic or mechanical pressure. Withdrawal of an appreciable amount of any fluid, from the spinal canal, which contains bacteria and their toxic products ought to be beneficial in the long run. The operation, Koplik thinks, will certainly come more and more into favor and take its place as a curative method. The five cases are reported in detail.

12.—See abstract in THE JOURNAL, XXXV, p. 1425.

13. Vertigo.—Thelberg believes that this symptom is brought about either by one or all of the following three causes: 1. Direct reflex irritation of the gastric branches of the pneumogastric nerve, and thence via the lower cervical ganglion to the vasomotors of the vertebral arteries which supply the internal ear. 2. By toxemia from amulon, and other ptomaines, nicotin, alcohol, reabsorption of bile, the toxins of the infectious diseases, etc. 3. By direct pressure upon the heart through distension of the stomach by gases resulting principally from so-called amyloseous indigestion and "hyperchylis." While he has not had the good luck to meet with a single case of purely Meniere's disease, he does not doubt that it may occur. His contention is that actual disease of this kind is less frequent than the vertigo from irritation of the centers controlling equilibrium from gastro-intestinal disorders.

15. Typhoid Fever.—After describing the cases, the subjects of this article, Berg offers the following conclusions: 1. The existence of typhoid fever does not contraindicate an operation; for typhoid patients bear operation almost as well as do otherwise healthy individuals. 2. The repair of ruptured typhoidal ulcer attended with extravasation should be undertaken as soon after the perforation as the patient can stand the necessary laparotomy and possible eventration. 3. Operation in the preperforative stage is not to be considered, for a local peritonitis does not always signify an impending perforation, nor does perforation always imply extravasation. As we have no means of foretelling which ulcers will perforate, an operation undertaken to forestall such a perforation is like putting out a fire that has not commenced to burn. 4. Ex-

travasation can usually be early diagnosed if strict attention is paid to the recognition of the symptomatology.

16. Gonorrhea and Marriage.—The question whether gonorrhea is curable and whether marriage should be advised, is answered by Weiss, who takes the stand that permission to marry should be given only when, after repeated and careful examination of slide specimens, exhaustive bacteriologic and microscopic investigation of the threads and of secretions of the prostate and seminal vesicles, done under the strictest rules and by the aid of Gram's method, the presence of gonococci can not be demonstrated.

17. Aneurysm Excision.—Two cases of femoral aneurysm treated by excision are reported by Fowler. One made a good recovery and in the other pulmonary congestion commencing at the end of the second day carried the patient off. He thinks that excision or ablation of the aneurysm will be the operation of choice in cases where the diseased condition of the vessel is fairly circumscribed and there are no inflammatory or other complications. This will include the majority of the cases of aneurysm of the extremities, and aneurysm involving communication with the corresponding vein is a positive indication for the operation.

18. Prostatic Hypertrophy.—Hayden thinks that the palliative treatment in cases of prostatic hypertrophy should be tried before operation is attempted, and this treatment consists in keeping the urine at a normally acid reaction, giving rectal injections of hot salt solution, noting the condition of the residual urine, corresponding medication of the bladder and urethra, attention to hemorrhoids, stricture, etc. If after this treatment operation is required, he favors prostatectomy, and does not recommend castration, vasectomy, or ligation of the arteries.

20. Talma-Morison Operation.—Jelks reports cases of dropsy involving cirrhosis of the liver, treated by the Talma-Morison operation with success. He thinks every patient suffering from ascites as a result of cirrhosis of the liver should be subjected to this operation.

22. Meat Ration in the Tropics.—The varying views that have been uttered in regard to the army ration in the tropics are first noticed, and Egan finds, from the literature and his own observations, that well-to-do individuals in warm countries eat fully as much meat and crave it as much as in temperate climates. He thinks that the abstinence from sufficient amount of proteids is the cause of the prevalence of anemia of the poor classes in the tropics. Something should be said in regard to the difficulties of keeping meat fresh in hot climates, and eating it too soon after killing, which is perhaps responsible for some disease among soldiers.

23. Bubonic Plague.—The extent of the plague in Manila is described briefly by Curry. There have been found in that city 225 cases with 167 deaths, which equals a mortality of 74 per cent. The native death-rate was nearly 81 per cent., while that of the Chinese was not over 72 per cent. He is at a loss to account for the higher mortality among the natives. There were but two deaths among Americans, both employed in the same place and probably subject to the same infection. The plague bacillus did not appear in the blood until late in the disease, except in the rapid fulminating type. Blood cultures and agglutination tests are unsatisfactory, therefore, for early diagnosis. The bacilli do occur early in the glands, and the most satisfactory method of diagnosis is aspirating one of the recently swollen glands. The objection to this, that there might be danger of causing general infection by injury to the blood-vessels, is, he thinks, more theoretical than practical. The right femoral and inguinal glands are usually the first to enlarge, and there is the possibility of introduction of the plague through the prevalent dhobie itch, and as most people are right-handed the tendency to scratch on that side may possibly cause this predominance. Almost all cases show evidence of flea and mosquito bites, but Curry does not think it probable that the mosquito plays any great part in the spread of the disease.

26. Intestinal Vegetations.—Tunison describes a kind of growth which has passed from the intestines, apparently re-

sembling some vegetable organism, which he suggests is possibly due to the use of fruit, though the case reported continued after complete abstinence from such food. The patient was treated with essence of pepsin, and essence of pancreas in frequent doses, with a complete and permanent cure. In the discussion in the Cincinnati Academy of Medicine, Dr. W. E. Shaw identified these forms with banana fibers. They are not noticed in the fresh fruit as they are there perfectly transparent, but the changes that take place in the bowels make them more visible.

27. Occupations and Rectal Diseases.—Monroe found that certain occupations are specially liable to produce rectal trouble, hemorrhoids, etc. Clerks in stores are frequent sufferers from hemorrhoids, which he believes are due to irregular habits of defecation, etc., and railway engineers are subject to the same liabilities from the same conditions, as are also commercial travelers.

29. See abstract in THE JOURNAL, xxxv, p. 1048.

30.—Ibid., xxxv, p. 52.

37. Intestinal Indigestion (Dystripsyia Intestinalis.)—Various types of this anomaly are enumerated by Hemmeter: 1. Those connected with pathologic anatomical alterations in the structures of the intestinal walls, lymphatics, blood-vessels, and nerves. 2. Absence of deficiency of intestinal digestive secretions, principally of bile and pancreatic juice and also succus entericus. He agrees with Rachford in his main conclusion that a small quantity of free HCl has little or no retarding influence, but that large quantities materially impair the diastatic action of pancreatic juices. The chemical processes in the duodenum are extremely complicated and easily disturbed. Secretion of bile, pancreatic and gastric juice may vary abnormally and throw out of balance the finely adjusted chemical transformations, giving rise to intestinal dyspepsia, which will only be elucidated by future chemical physiologic investigation. Other effects are described, with also the antizymotic influences of the bile secretion and disturbances in the secretion of pancreatic juices, succorhea pancreatica, hypochylia, and achylia pancreatica, the alkalescence of the pancreatic juice, and the general effects produced by its suppression. 3. Intestinal indigestion due to qualitative and quantitative irregularity of diet which may be too excessive; unhealthfully mixed, the food may be partially fermented or putrefied. He thinks also that not enough attention is given to harm caused by drugs, some of which actually produce the trouble which they are intended to relieve. 4. Intestinal indigestion due to abnormal bacterial activity. 5. That due to abnormal gastric chemistry, and he insists on the importance of analysis of the gastric contents in cases of intestinal dyspepsia. 6. Neurasthenia intestinalis. 7. Intestinal indigestion due to irritants coming from the blood. 8. That due to worms. 9. That due to hyper or hypoperistalsis. The paper ends with a series of formulas used by the author in special symptoms in different forms of this condition.

38. Cutting or Crushing Urinary Calculi.—McGuire reviews the opinions of various authors in regard to the preferable operation for vesical calculi, and gives his views as to the advantages and disadvantages of each. He does not condemn the crushing operation, which he believes has its advantages in certain cases, but he thinks the operation is overdone in an attempt to substitute it for cutting operations in cases not suited to it. Lithotomy, he holds, should be the operation most frequently employed, and lithotripsy reserved for a few carefully selected cases.

38. Artificial Abscesses.—Van Telburg-Hofman suggests the formation of artificial abscesses to relieve certain conditions. He reports cases of apparent general pyemia or septicemia in which this method was performed by the injection of spirits of turpentine under the skin, which seemed to be of decided benefit. He suggests its use in cases of puerperal fever where other methods fail.

40. Uterine Reflexes.—A possible danger of operating on the uterus is here suggested, and a case reported where there

seemed to be sudden collapse and heart failure, which Upshur thinks must be referred to reflex action from the uterine. Even the simplest operative procedure on the uterine cavity, he believes, may sometimes unexpectedly have fatal results.

45.—This article has appeared elsewhere. See *THE JOURNAL* of March 16, 93, p. 770.

46.—See abstract in *THE JOURNAL* of January 12, p. 128.

49. **Head-Knocking.**—Having been interested in the statement of Dr. Coolman, of the Children's Hospital of London, that head-knocking is a common symptom in young rachitides, Aldrich has looked for it in this country, but noticed it only twice. The literature is very silent in regard to it. In one case reported the child was a marked rachitic with rosary, flattening of the sides of the chest, enlarged epiphyses, dorsal pad and typical facies, and it seemed to delight in knocking its head against the cradle rail. The appearances were those of severe abuse, and he comments on the medicolegal importance of the subject. It should be distinguished from head-nodding and head-rotation usually associated with nystagmus, which is occasionally met with in young rachitides and described by Romberg and Henoch. The symptom is a curious one; that the child should enjoy such abuse is hardly comprehensible.

53.—See abstract in *THE JOURNAL* of January 26, p. 273.

55. **Procidentia Uteri.**—After noticing the different operations, Emmet says that any method which does not forcibly antevert the uterus and prove capable of holding it there is an insufficient operation. He preferably places the suture on the posterior aspect of the organ just below the crown, to make this anteversion perfect and permanent. Only one other method short of hysterectomy is capable of giving the best results, and that is the one originally suggested by Säger, of making an incision in the anterior fornix, pushing away the bladder and making the fundus fast to the vaginal wall. Schücking then devised his operation of vagino-fixation by passing a curved needle up the uterine canal through the anterior wall of the uterus and through the vagina, passing a suture and binding the parts together. This necessarily was confined to the lower portion of the wall and therefore insufficient. Mackenrodt carried out the idea better by separating the bladder and uterus extensively and bringing the fundus completely forward and then stitching the anterior aspect of the uterus to the vaginal wall. Kustner and Dührssen went a step further and opened the peritoneal cavity at its junction with the bladder, drawing down the adnexa for inspection. Wertheim and Vineberg drew down the round ligaments and made them fast to the vaginal wall, and Vineberg thinks this an admirable method in cases of prolapse in the first and second degrees, but believes it is contraindicated in complete procidentia where there is veritable hernia of all pelvic organs. Emmet is inclined to try it in such cases, counting much on the subsequent plastic work on the vaginal walls and perineum. Finally, hysterectomy is a last resort, the partial form from above being the better, since the stump of the cervix or vagina may be suspended by being sewed to the shortened broad ligaments.

64.—See abstract in *THE JOURNAL*, xxxv, p. 1050.

65. **Circumcision.**—Mark pleads for the more general practice of this operation, giving his reasons for the views expressed. He thinks that it can be best performed at about 3 years of age; there is rarely occasion for it earlier. He of late has removed a wedge-shaped piece from the frenum, to obliterate the folds which remain after ordinary operation has been performed, and this removes another lurking-place for infectious organisms.

66. **Nasopharyngeal Disorders of the Adult.**—Among those enumerated are oversecretion of the mucus, which may be due to obstruction within the nasal passages and relieved by operation. It may be caused by shrunken adenoid growths. The most hopeless cases are those where general hyperemia of the nasopharynx is the only cause to be detected. Another abnormality mentioned by Dabney is interference with deglutition, which he has found caused by postnasal soft polypi. The acute pain in swallowing may be due to ulceration of the

upper surface of the soft palate, generally specific. The characteristic of this is that when at rest the pain is far less than that of tuberculosis or carcinoma. When nasal obstruction develops in the adult it is often due to postnasal polypi and a long train of consequences may follow, such as nausea, etc. Few operations give more brilliant results in the way of complete relief than the removal of one of these. Deafness, tinnitus, occasional pain and over-resonance of the patient's voice are also noted, as well as over-secretion of mucus necessitating frequent clearing of the throat and thus interfering with speech. He describes his method of examination, by using White's palate retractor, which he has found of the greatest service. Having cleansed the nasopharynx, a 5 or 10 percent solution of cocaine is applied to the posterior and upper surfaces of the soft palate, soaked in a little cotton on a probe. After a few minutes the retractor is pushed around the palate and the patient directed to take a deep breath with the lips—not the teeth—closed, and so doing the soft palate is relaxed and brought forward and the retractor may be fixed on the upper lip. The patient should be instructed to breathe naturally as the tongue is depressed. Posterior rhinoscopy will quickly reveal the presence of any growths, hyperemia or ulceration. In a few cases tying the palate forward with a catheter brought through the nose and out through the mouth has been found a more satisfactory method, but the retractor has generally been less uncomfortable and more convenient. Jarvis's snare is the instrument most useful to him in removal of polypi of the posterior nasal soft palate. In adenoid tissue in the adult the indication for its removal is more often over-secretion of mucus and disease of the ears than nasal obstruction, and complete removal is more necessary. The forceps and curette may there be used, but the former is more convenient. For syphilitic ulcer of the soft palate he uses nitrate of silver applied on a mop, 30 to 60 gr. to the ounce-solution, after cleansing.

67. **Dangerous Glassware.**—Hoskins calls attention to the dangers of swallowing fragments of glass from vessels containing food, e. g., preserve jars, etc. For a remedy he suggests the use of annealed-edge glassware, and suggests inspection for nicks, etc., in every case where these utensils are used.

74. **Exophthalmic Goiter.**—Haight believes that exophthalmic goiter is due to hyperthyroidization and measures instituted to reduce the goiter reduce the secretion and benefit the condition. His attention was called to the collodion treatment, several years ago, in treating a case of Hodgkin's disease. It acts as a sort of compressor, reducing size and secretory function and shutting off the blood-supply. He has employed it in six cases with enlargement of the thyroid, one of which he reports. The collodion must be perfectly fresh. Rapid evaporation can be secured by using 20 to 30 pounds of air-pressure and increasing the compression fully one-third. The patient's head should be put in an easy position, with relaxed muscles, and collodion be repeatedly applied to keep up the pressure at intervals of from two to five days.

77. **Interstitial Gingivitis.**—Talbot holds that, aside from local causes, intestinal gingivitis may be due to auto-intoxication or blood poisoning. The former occurs during pregnancy and in change of climate, as is shown by American soldiers in the tropics and engineers and workmen in the Jungfrau Railway, 2600 meters above the sea-level. The poison due to auto-intoxication of drugs circulates in the capillaries, setting up inflammation. This extends through the alveolar process and gums. Pus infection frequently takes place and pus passing into the stomach produces indigestion. Treatment consists in the patient taking eight or more glasses of pure water each day, using a stiff tooth-brush three times a day and the employment of proper mouth-washes. Tincture of iodine should be locally employed every other day, until the parts are restored to health.

79. **New Type of Continued Fever.**—Happel describes a type of fever met with in the South, which can not be placed either in the malaria, typhoid, or typhomalarial group. It may occur at any time of the year, is most common in late

summer, early fall or winter, and is rare in the spring. It may commence with a chill followed by a high temperature, subsiding to about 102 to 104, rising two or three times in twenty-four hours and finally becoming intermittent. At this time there may be profuse sweats, no delirium in any case and the dull listless look of typhoid is wanting as well as the anorexia. The tongue may have an almost normal appearance. There is no tendency to diarrhea; purgatives are often required. There is no abdominal tenderness, frequently an inverse ratio between the pulse and temperature, but as a rule the pulse is not far from normal. In cases where the rapid pulse is found with low temperature, the experienced practitioner feels that he needs to watch the case. In a few cases there is subnormal pulse and temperature, and these are apt to be lingering ones. The facial appearance is entirely different from typhoid, the digestion is only slightly impaired, and there are no special symptoms on the part of the liver and the spleen and negative symptoms in the respiratory system. One attack does not prevent another, but rather predisposes. Quinin only affects the cases unfavorably; most have a tendency to get well. The diazo reaction and the Widal test have failed. Happel concludes his article with a protest against too much dependence on laboratory methods at the expense of clinical study.

80.—See abstract in THE JOURNAL of January 12, p. 128.

81.—Ibid.

82.—Ibid.

91. **Normal Salt Solution in Typhoid.**—The uses of hydrotherapy in private practice are not so great as in hospitals, unless a skilled nurse is at hand, but it appears to Pfromm that if the kidneys are properly stimulated to get rid of the toxins much good may be done. He has, therefore, resorted to the use of normal salt solution by rectal injection, beginning early in the disease and as soon as the urine has become diminished, using 1 pint per rectum per day until the quantity of the urine is normal. He reports a case and emphasizes the following points: Beginning of treatment early and examination of urine daily, since it may become highly alkaline and produce inflammation or irritation, and the stimulation of the cardiovascular system and the diminished tendency to complications.

92. **Heroin.**—Stewart has used heroin in various conditions, and notes that alkalines and alkaline mixtures will precipitate heroin from solution, which should be remembered. If given during or immediately after meals, the free hydrochloric acid in the stomach will cause it to be more rapidly converted and assimilated. The doses, he thinks, have often been too large: 1/24 to 1/12 gr. for adults is usually sufficient and 1/250 to 1/50 for children under 5 years of age. Its results in neuralgia and muscular rheumatism have been negative, and in whooping-cough it seems to relieve the paroxysm, but does not affect the duration of the disease. He thinks the drug slows respiration, and makes it stronger and deeper, steadies and strengthens the heart-action, is sedative and slightly anodyne; it is not cumulative, does not tend to produce habit, is not a hypnotic, lessens night sweats and is antispasmodic to a considerable degree. It should not be put in the hands of patients as it is liable to be over used.

96. **Common Anomalies of the Colon.**—Those common anomalies of the colon, described by Babcock, are dilatation of the omega loop and descending colon, elongation and displacement of the sigmoid flexure, the sigmoid loop touching the lower border of the left kidney, exaggerated and displaced sigmoid, V-shaped course of the transverse colon in different degrees and otherwise anomalous course of the same.

108. **Syphilis.**—Nine questions were asked of a number of prominent surgeons: 1, as to the frequency of syphilis—this, according to different observers, varies from 10 per cent (Lydston, Mathews and others) to 1/15 of 1 per cent. (Guitèras); 2, as regards specific treatment prior to secondary symptoms, the majority favor it, though some object; 3, as to the method of treatment of a local sore, in which excision is usually rejected and cleanliness with mild applications are advised; 4, the curability of syphilis, which is generally accepted, some

considering it curable in 90 to 95 per cent.—one or two hold that it is always doubtful; 5, advice as regards marriage—the majority consider marriage permissible after a sufficient period of time and thorough treatment; 6, the immunity given by one attack, which is recognized generally as the rule; 7, the danger of transmission of syphilis to offspring by parents who have been properly treated—this is not considered a special danger by the majority, though some hold that it may occur; 8, whether inherited syphilis renders immune from primary disease, the replies varying, some answering positively in the affirmative, and others, equally so in the negative, while still others are doubtful; 9, the plan of treatment, of which the majority prefer mercurial medication first and the iodids in the later manifestations. Hot baths and electric treatment are insisted on by some of the respondents.

118. **Congenital Shoulder Dislocations.**—The causes and description of symptoms of this deformity are enumerated. The conclusions drawn by Marston are in substance as follows: 1. It is of the utmost importance to distinguish between dislocation and true obstetrical paralysis. 2. The treatment of the former is immediate reduction by manipulation, if possible, otherwise by operation. 3. Every infant should be carefully examined at birth, for then reduction is most easy. 4. From the fact that, in three of Dr. Phelps's cases, fracture of the glenoid cavity was found and in nearly all the history showed difficult labor, the author is led to believe that these cases are not of paralytic origin, but are due to traction of the axilla by the finger or vectis. Paralysis may be coincident but not a primary factor. 5. The prognosis of the operative treatment is excellent; the earlier the operation, the more hopeful. 6. Like congenital dislocation of the hip, these cases are little benefited by mechanical treatment.

122. **Salophen.**—From a study of the literature and personal experience, Hill is convinced of the intrinsic value of salophen in properly selected cases, viz., in those neuralgic and inflammatory states due to rheumatic poisoning. It is specially effective and preferable in young and weakly patients. The combination in a single definite chemical product of a safe and efficient antipyretic, antineuralgic and antirheumatic makes salophen of special service in many obscure painful states that can be diagnosed with certainty only by therapeutic tests.

131. **Local Anesthesia.**—Several cases of the use of eucain and cocain in local anesthesia are described by Terrett, who concludes his paper with the following summary: 1. Cocain and eucain are undeniably the most potent, efficacious and reliable local anesthetics now in general use. 2. The agents in a menstruum of simple sterile water at ordinary temperature, and when freshly prepared, give entire satisfaction, and, when injected in the proper manner, can be made to engender the most profound and complete anesthesia. 3. Cocain and eucain must infallibly supplant a general anesthetic, whenever this latter is contraindicated by some organic lesion, whereby its use would be a menace and directly endanger the patient's life. 4. The combined infiltration and regional method is of unquestionable value, and its practical usefulness confined especially to those parts where the nerve distribution is easily accessible—notably the extremities and ribs. 5. The entire absence of any untoward or unfavorable symptom, as a result of this procedure, argues most forcibly and cogently for its ulterior recognition and more general use.

132. **Mitral Stenosis.**—The various theories of hypertrophy of the left ventricle occurring in stenosis of the mitral valves are mentioned by Noto, who offers one of his own. He rejects those of the precedent mitral insufficiency, or the co-existence of aortic stenosis and the theory of Struempell that hypertrophy is the result of compensation due to hypertrophy of the left auricle and right ventricle. His own theory is as follows: When stenosis of the mitrals is beginning, the left ventricle must react in its contractions as well in force as in number, and therefore becomes hypertrophied. This is apt to occur in the first period of the disease in every case of mitral stenosis, but as this is a chronic affection it may last for years when complications do not interfere, and after a certain period the blood given to the left ventricle is not sufficient to nourish it for the

important work. There is a period of regression, and from hypertrophy there must come atrophy. Between the two extremes there is a condition when the ventricle is nearly at its normal size, hence we have in these cases the normal left ventricle not absolutely physiologic. This agrees with Erb's view as to general dystrophies, that hypertrophy constitutes the first period of the alteration and atrophy the later stage.

FOREIGN.

British Medical Journal, March 16.

Causation of Carcinomatous and other New Growths. J. GEORGE ADAMI.—The author's arguments are summarized as follows: "1. The catabolic activities of the cell are of two orders: those determining the relationship of the cell with the exterior, and those that are vegetative determining the continued existence and multiplication of the cell; the former excited by stimuli of various orders from without, the latter only indirectly so excited, being more directly called into play by conditions obtaining within the cell. 2. The controlling agency in at least the higher catabolic activities of the cell, both 'functional' and 'vegetative,' is the nucleus, and nuclear activity is accompanied by breaking down and discharge, or by rearrangement of the nuclear molecules. 3. The changes which occur in the nucleus during the active performance of the specific functions of the cell are of a character so different from those observed during the process of cell division that proliferation and active performance of specific function, the one precluding the other, are obviously to a large extent incompatible. The cell engaged in the active performance of function in response to external stimulation cannot simultaneously proliferate. 4. It follows, therefore, that active cell division, and cell proliferation occur only in conditions in which the cell cannot fully utilize the assimilated material (and the energy stored up in the assimilation of that material) in the performance of its specific functions. 5. Such conditions are to be met with where the tensions acting on the cell are reduced and certain energies which before were necessary to counteract opposing forces are freed and become thus capable of diversion from their purpose, or again, where stimulation from without results in increased assimilation and storage of nuclear and cell material which now from any condition can not be utilized in the performance of specific function. 6. In either case the cells will continue to proliferate so long as the primary modification of physical relationships or the primary stimulus continues to act, so long as there is adequate nutriment and so long as the tension exerted upon the cells do not become excessive. 7. Provided that these conditions are observed, the greater the amount of cell proliferation, the greater the tendency for certain at least of the newly formed cells to be projected from the relations proper to cells of the tissue giving them origin, the less will be the opportunity for such cells to carry on their primordial function; the greater the liability to proliferation. 8. The longer the cells are diverted from their proper extrinsic functions to proliferative activity, the greater the momentum acquired by them to continue performing the proliferative act until the functional activities become largely suspended and the 'habit of growth' is set up. 9. When this habit of growth is inaugurated, the cells continue to grow and multiply in the complete absence of those conditions which initiated their proliferation in the first place, and we obtain that purposeless functionless cell growth characteristic of the true tumor. 10. According to the stage of cell development in which this habit becomes impressed upon the cell, so do we have various grades of benign and malignant tumor-formation." From these points he deduces the following conclusions: "Whatever the origin, therefore, of the tumor proper, however it is started, what makes the tumor is the assumption by the primary cells of that tumor of the habit of growth in place of the habit of work, and according to the extent of this replacement, so do we get the various grades of tumor formation from the most benign to the most malignant." The application of this theory to the possible microbial origin of malignant tumors is the subject of some remarks. It applies itself to such an origin in the following way: According to the theory, microbes and their products may be one of the causes originally localizing

cell proliferation in the first place, provided that they bring about stimulation rather than irritation, or such mild irritation that the cells are stimulated to increase the metabolism, which does not go on to exhaustion and breaking down of their protoplasm, and provided also that the microbes and their products act sufficiently long to set up the habit of growth. It is quite conceivable that such microbes might continue to exist in tumors they originated, exerting a cumulative effect. The more the cells departed from the type the greater the effect of these microbes and their products in producing rapid proliferation and malignant tissue. This continuance in persistence of microbial action, however, is not to be regarded as essential, and the fact that we doubt as to whether the bodies found in the tumors are real parasites and the failure of their reproduction of similar growths, point to the view that if microbes originate malignant tumors they do not necessarily continue in them in the living state. It is quite possible that certain specific forms of microbial growth originate certain forms of tumor growth and, like other pathogenic microbes, they may tend to attack such tissues under special conditions. If it be proven that malignant growths are specially common in certain localities, then such microbial origin becomes eminently probable. Adami does not see any immediate prospect of arresting the development of existing carcinoma by the discovery of the microbe. The most that we can expect is discovery and employment of means to arrest or destroy the continuous local cells that have taken on this functionless growth and, on the other hand, to study the habits of the germs outside of the body to exterminate them, as we are talking of doing with mosquitoes in malarial regions. The greatest benefit to the patient and the greatest triumph will be, for some years to come, the successful recognition and removal of malignant tumors at the earliest possible date, and of benign tumors before they take on the malignant growth.

Occurrence of Pyrexia in Carcinoma and Other Diseases of the Liver, and in Cases of Gallstone. C. O. HAWTHORNE.—The difficulties of the recognition of carcinomatous growths from other conditions of the liver are discussed by Hawthorne, at some length, and he concludes that the combination of jaundice and intermittent and hepatic enlargement may need careful consideration before deciding for gall-stones on the one hand or malignant disease on the other. In abscess of the liver various febrile symptoms are to be expected, but are not always present. Similar febrile attacks with jaundice and pain have been observed in other diseases than carcinoma, gall-stones, and abscess, and it seems also that cirrhosis of the liver, even of the atrophic or multilobular type, may cause considerable and indefinitely prolonged pyrexia in some way unexplained.

Digestion Leucocytosis in Carcinoma of the Stomach. CARSTAIRS DOUGLAS.—The author has investigated the leucocyte count in connection with the diagnosis of carcinoma, and finds that digestion leucocytosis is a very poor criterion to rely on in the diagnosis of the gastric affection, since it is only positive in about 54 per cent. The latest monograph on the disease by Osler and Macrae, agrees with his results in finding that reliance can not be placed on this method. It seems probable, he thinks, that the true statement of the case is as Marchetti recently put it, that digestion leucocytosis essentially depends on the digestive and absorptive powers of the stomach, and that it may or may not occur in carcinoma of that organ according to the degree of impairment of its function. He considers the presence of the phenomenon of more value in excluding carcinoma than its absence in proving its existence.

The Lancet, March 16.

Treatment of Tubercular Peritonitis. I. BURNEY YEO.—Three cases of tuberculous peritonitis are reported by Yeo, all in the acute form and in young persons, where the principal treatment consisted in rubbing in of iodine ointment in the abdominal surfaces, and the administration by the mouth of pills of iodoform and ereosote. The success was remarkable, but he thinks that the same treatment might fail in chronic cases of the dry adhesive type and in older persons. His idea as to the action of iodoform is that it probably enters the

blood and, if regularly applied, is eliminated in the secretions; including in the secretions the serous cavities, and as these do not pass out of the body as the secretions of the kidney, they must in time become charged with iodine compounds and act as an antitoxin to tubercle toxins or a bactericide to the bacillus. We have proof of the rapidity with which iodine is absorbed by the skin, by the quickness with which it appears in the urine. The idea of iodine being an antitoxin to tubercle is not a new one, and he mentions two Italian physicians who have reported cases of tubercular peritonitis cured by the injection of a solution of iodine, and a case of tubercular meningitis reported by Nilsson, cured by rubbing iodine ointment, strength 1 in 10, on the shaved scalp three or four times a day. He suggests, in conclusion, that we should bear in mind that antitoxins are not limited to animal products, and should not neglect the study of those which may be found in the mineral and vegetable world. They are not all serums or animal extracts. The oldest and surest ones we possess are mercury and quinine, and their effects are better known, and more certain and reliable than any at present known to us.

Annales de Gyn. et D'Obstetrique (Paris), January.

Connection Between the Mental and Functional Development of the American Girl. G. J. ENGELMANN.—The essential factors that influence the establishment of puberty are nervous stimuli and mental development, according to Engelmann. He has collected records of the age at the first menstruation in 12,000 cases. His statistics are gathered from all parts of the United States, but his own observations were made mostly in the Southwest, those in New York by Emmet and in Boston by Chadwick, supplemented by data published by the Association of Collegiate Alumnae and others. Nervous stimuli and mental activity are more intense in proportion to age, at least, in America, and consequently the first menstruation occurs earlier in American girls and earliest of all among college girls. The average age at the time of the first menstruation in this class is 13.52 years (2060 cases); in students in normal schools, 13.8 years (1342); in clerks 14 years (800); in the better classes, 14.23 years (3027); and in working girls, 14.27 years (4818). The figures for England show a higher age in each class, although the difference is slight; but in Germany the average for working girls is 16.8 years; for the middle classes, 15.5 years, and for the better classes 14.1 years, according to Krieger's statistics. In France, De Boismont found the average for the laboring classes 14.84 years; for the middle classes, 14.5 years, and for the better classes, 13.6 years. The average in Denmark and Russia approximates that of Germany for the laboring class, but in the better classes the average was 14.25 and 14.5 years respectively, in 6371 cases collected.

Blood Letting in Nurslings. M. DELESTRE.—Bacteriologic study of the blood of moribund nurslings revealed the streptococcus in 8 of the 22 positive tests on the 32 infants, and the staphylococcus and the colon bacillus each 5 times. Nineteen of the children weighed less than 2000 gm., and in these he found the streptococcus in 6 and the colon bacillus in 5. He was impressed with the fact that the withdrawing of the blood—2 c.c.—for the test was followed by a marked improvement in each case, and this experience suggested that venesection combined with infusion of salt solution might be useful in severe cases of infection in nurslings. He now reports that these premises have proved correct and that he has witnessed actual resurrections from this measure in these severe septicemias, especially in prematurely-born children, weighing from 1800 to 2000 gm. He draws 2 or 3 c.c. at a time, or even as much as 15 to 20 c.c., immediately substituting 20 to 30 c.c. of artificial serum. The effect is evidently a stimulating of the blood and lymph-forming organs, and the insufficiency of these organs is probably the reason why infections become generalized in these little beings with such facility. He remarks that his success with this lavage of the blood during the last year, at the Enfants-Assistés hospital, has been "veritably astonishing." Relative improvement was invariably attained even in the patients who succumbed later.

February.

Wedge Excision for Displacements of the Uterus. MAUCLAIRE.—Certain forms of displacement are best treated by a longitudinal, superficial wedge-shaped excision of the uterine tissue, tapering to a point above and below, the excised portion resembling a natural segment of an orange. The organ thus operated on, front and back, takes and maintains its normal position, although supplementary measures may be necessary as indicated by the adjoining ligaments, etc.

Annales des Mal. de l'Oreille, Etc. (Paris), January.

Chromic Acid for Malignant Tumors of the Upper Air Passages. H. DU FOUGERAY.—Cauterizing with a .5 per cent solution of chromic acid, at first every other day, has proved a valuable measure in Fougerey's experience with epitheliomata in the pharynx. He reports three cases thus treated. In one observed two years ago, the fungus growth in the pharynx appeared three years after excision of a malignant tumor of the breast. He first curetted and then cauterized with the chromic acid. Three months later not a trace of the epithelioma was left and the patient has since been in good health.

Fibrosarcoma in the Sphenoidal Sinus. G. FERRERI.—It may be found in the narrow summit of the nasal fossa and the roof of the nasopharynx, if a projecting tumor be visible and if the probe introduced through the middle turbinate bone reaches the bone to a depth of 8 cm. from the nose, there is reason to assume a lesion in the sphenoidal sinus. Sphenoidal sinusitis should be diagnosed and operated on as promptly as possible to forestall, intracranial complications, which are inevitably fatal. In a case described, this fatal termination was postponed for 1½ years by the extirpation of the tumor, which has been gradually developing for three years.

Treatment of Chronic Otorrhea Through the Eustachian Tube. P. J. MINK.—The prolongation of the axis of the Eustachian tube passes along the entire length of the upper portion of the tympanum and antrum, without obstruction. Mink calls attention also to the fact that a strong current of air introduced into the antrum along this route, dislodges pathologic products more successfully than is accomplished by fluid and that it penetrates to the remotest crevices. The products can then be further loosened and sterilized with peroxid of hydrogen. In case the ulceration has not invaded the bone, astringent and modifying treatment is sufficient, but if the bone is involved, acid is necessary to dissolve the necrosed particles. As long as any remain, hyperemia persists in the adjoining parts and all attempts to suppress the inflammation fail. Trichloroacetic acid is especially useful for this purpose on account of its solvent action on lime salts.

February.

Nail in Bronchus. J. GAREL.—A nail more than two inches long remained in the right bronchus of a young child for two months, without causing very serious disturbance. The parents suspected its presence and had a radiogram taken and sent to Garel. He diagnosed the case without seeing the patient, and when the latter arrived, easily extracted the foreign body with a magnet.

Annales des Mal. des Org. Gen.-Urin. (Paris), January.

Operative Cure of Renal Tuberculosis. P. DELBET.—The case described has been watched with interest as it was first reported as having been cured by nephrotomy alone. The patient was a man of 62 and at the operation five liters of fluid were evacuated and 300 c.c. of debris removed by curettage. The patient was apparently cured except for a small fistula, but fifteen months later symptoms recurred, necessitating nephrectomy from which he recovered in a month, and now, a year later, is apparently in perfect health.

Bulletin de l'Academie de Med. (Paris), March 5.

Chaulmoogra Oil in Leprosy.—Hallopeau remarked in regard to the alleged complete cure of a case of leprosy by chaulmoogra oil, reported by Tourtoulis-Bey, that the oil as received in the West is frequently adulterated with butter, fat and linseed, castor, sesame and coconut oils. Consequently control tests are not reliable. In the case reported the patient

was injected with 5 gm. of the oil, under the skin of the arm or leg, about twenty times a month for five years, with occasional suspension. He has thus received 2720 gm. of sterilized oil. The injections were not particularly painful and the swelling at the spot always vanished within twenty-four hours. In his personal experience Hallopeau has witnessed a number of cases so improved by the oil, administered by the mouth, that they are practically cured. One of Besnier's patients, whose case was so typical that a cast of the lesions is preserved in the Saint-Louis museum, is now improved to such an extent that he has resumed his usual life, and no one would suspect that he had had leprosy. Another severe case was exhibited at the International Medical Congress, in which the cure has seemed permanent during the eighteen months since the chaulmoogra oil was administered in large doses. Even when the disease continues under this treatment it assumes a much milder form. Hallopeau is now experimenting with its administration by the rectum emulsified with milk. Du Castel's experience with four patients has been less favorable. He stated that the subcutaneous injection of 5 gm. is a painful procedure and in sensitive patients may entail inflammatory infiltration. In one case the injection induced fat-embolism of the lungs and in another a tendency to syncope. The tuberculo-ulcerative forms appear as a rule to react more favorably to this treatment than the nervous variety.

Medication to Reduce Arterial Pressure. HUCHARD.—Vaso-dilating, pressure-reducing medication is extremely important, not only in diseases of the heart and vascular system, but in other morbid conditions in which high arterial pressure is a menace. Among these are the premonitory stage of arteriosclerosis or "presclerosis," in which the high arterial pressure is the cause and not always the effect of the sclerosis; in confirmed arteriosclerosis; in coronary angina pectoris and in pain in the heart from distension of the organ owing to peripheral vaso-constriction; in uricemia, as uric acid has a peripheral vaso-constricting action which explains the frequency of visceral congestions; in gout, which is to the arteries what rheumatism is to the heart; in tobacco intoxication, which entails vaso-constriction and consecutive arterial hypertension; in interstitial nephritis, one of the affections which increase the arterial tension to the highest point, whence the frequency of rupture of the blood-vessels and cerebral hemorrhages occur; in local syncope of the extremities; in Stokes-Adams' disease; in aneurysm and finally in the condition resulting from an excessive meat diet. The latter is one of the most frequent causes of arteriosclerosis and arterial cardiopathy. Owing to its richness in vaso-constricting toxins, the alimentary regime of our day is a constant or repeated alimentary poisoning. This is not the end of the list but it is enough to show the numerous indications and applications of "hypotensive" medication. In these important heart affections, superposed on an arterial cardiopathy, which commence with an intoxication and lead to an almost permanent condition of vasoconstriction, treatment should not be addressed to the central heart which is already more or less affected in its contractile power, but to the entire arterial system. Contraction of the arteries should be prevented in order to relieve and facilitate the work of the heart. Arterial hypertension is a direct menace in case of an aneurysm, as it hinders coagulation. The suprarenal capsules secrete a substance that has a marked vaso-constricting action. Huchard has witnessed a sudden increase in the size of an aneurysm, with threatened rupture, in a patient who had been taking suprarenal extract for two weeks. In treating an aneurysm the coagulation of the blood is not the only aim, the sac itself should be influenced and the distention, which is maintained by arterial hypertension should be reduced by appropriate measures, including a milk-vegetable diet and vaso-dilating and pressure-reducing medication. When the case requires the immediate lowering of the arterial tension, as in angina pectoris, this can be accomplished by the inhalation of amyl nitrite. Propyl and butyl nitrites possess the same properties but have not yet been sufficiently tested. Sweet spirits of niter deserve more general use as a vaso-dilating and diuretic measure. Potassium nitrate has also a vaso-dilating and

pressure-reducing action, besides a diuretic effect. It probably becomes transformed into a nitrite in the organism and almost all the nitrites are diuretics as they substitute vasodilation for constriction, which is the dominant mechanism of diuretic medication. Glycerin trinitrate has a similar action, but its effect is less prompt, and lasts one and a half hours, and it diminishes rapidly after the maximum is past. It causes severe headache in certain patients. These inconveniences are obviated with tetranitrate of erythrol or tetranitrol, which maintains the arterial pressure nearly at the physiologic point without intermission. Huchard's experience with it during the last four years fully confirms the recommendations by Lauder Brunton and other writers. The effect is felt in fifteen to thirty minutes and continues for three to five hours in most cases, although occasionally it subsides in one and a half to two hours. Huchard prescribes one to three, or six to eight, 1 eg. tablets during the twenty-four hours, beginning with three or four drops of a 1 per cent. alcohol solution of trinitrin in urgent cases. He has administered it to 120 patients and found symptoms of intolerance extremely rare, even the frontal headache noted with glycerin trinitrate. The hexanitrate of mannitol, he adds, is another member of this group that will repay study.

Bulletin de la Soc. de Pharmacie de Bordeaux, February.

Improved Starch Paper for the Iodin Test. G. DENNIGÈS.—Iodin is being used more and more as a test of the functional and metabolic processes going on in the organism. For instance, the absorbing power of the stomach is determined by ingestion—fasting—of 10 eg. of potassium iodid in a gelatin capsule. The saliva gives the iodine reaction in ten minutes under normal conditions. A number of German writers recently called attention to the value of iodipin as a test of the motility of the stomach, etc. This substance is a stable combination of oil of sesame and iodine. It is not affected by the buccal or gastric secretions, but is decomposed in the small intestine in the presence of bile. Fifteen minutes after eating a roll and drinking a cup of tea, 3.5 gm. of a 10 per cent. solution of iodipin are ingested in a little water. The appearance of the iodine in the saliva indicates the moment when the chyme is passing out of the stomach. This occurs in fifteen minutes under normal conditions. In ileus from retention, if no bile reaches the intestines, the iodine reaction does not occur at all, and it is much delayed in case of stenosis of the pylorus, atony of the stomach, etc. The permeability of the kidneys can also be determined by the iodine reaction in the urine during the twenty-four hours after subcutaneous injection of 4 eg. of potassium iodid. Still another means of utilizing the iodine reaction for diagnostic purposes is to examine the cerebrospinal fluid by lumbar puncture after ingestion of 4 gm. of potassium iodid by the mouth, in case of suspected meningitis. If the meninges are normal, the iodine does not pass through them. The ordinary starch paper used in the tests rapidly deteriorates, and may lead to erroneous deductions when not perfectly fresh. Dennigès makes a paper which keeps indefinitely, with no precautions, while it is so sensitive that it reveals the presence of even .001 mg. in a single drop of the solution. One gm. of starch is dissolved in 10 c.c. of cold distilled water and 40 c.c. of boiling water added. The mixture is then boiled for a minute or two, stirring constantly. When cooled, .5 gm. of sodium nitrite is stirred in and writing paper is painted with this mixture on both sides, drying each side separately. A strip of this paper, 1 cm. wide, is moistened with the fluid to be tested and held at an angle, the moistened side up. One drop of a 10 per cent. solution of sulphuric acid is then deposited at the top of the paper with a glass rod, and as the drop works its way down, the characteristic coloration appears.

Presse Medicale (Paris), February 27.

Generalized Pneumococcus Peritonitis in Children. F. BRUN.—Benign, encysted pneumococcus peritonitis is speedily cured by spontaneous or operative evacuation of the pus pocket, which is usually located near the umbilicus. Besides this benign variety Brun has had occasion to observe six cases in which the disease assumed a septic, generalized form, rapidly fatal. At the autopsy pseudomembranes were found numerous

in the abdomen and elsewhere, with greenish pus on the posterior surface of the stomach and spleen; the mesentery was dotted with ganglia. There was no trace of pneumonia. The pneumococcus was found pure in the pus. Two of the patients were girls about 5 years of age, another was a boy of 10; all were healthy children. One was operated on the second day of the disease, which was diagnosed peritonitis from appendicitis. In another, the disease commenced with pain, fever, headache, and white patches on the tonsils. These symptoms improved by the end of five days, but merely to be substituted by pain and tympanites, vomiting, imperceptible pulse, oppression, dark rings around the eyes and dull gaze. The abdomen was opened as for appendicitis and pus escaped, which was not traceable to the appendix. All the loops of intestine were scattered with pseudomembranes. Each patient died in three to seven hours after the operation.

March 2.

The Antituberculosis Dispensary at Liege. E. MALVOZ.—A model tuberculosis dispensary has been constructed at Liège, by the efforts of a society composed of all classes of people. The work has been in progress for more than a year and the results have been unexpectedly gratifying. The dispensary is open three days a week. Three physicians examine the applicants, and another makes the bacteriologic tests. The physicians do not treat the patients—they merely examine them from time to time and keep a detailed record of each case. An official is connected with the dispensary, an ex-working man, whose duty is to learn the circumstances of the patients, their occupation and all the details of their surroundings at home and at work, winning the confidence of the patients and their families, and educating them in hygienic measures. They are supplied with bedding, etc., as needed, and two quarts of Pasteurized milk a day. Arrangements have been made with farmers to board some of the most promising patients, and philanthropists have become interested in certain patients and assumed this expense for them, about sixty cents a day for each one. The tuberculous poor have learned to appreciate the work of the society and respond faithfully to its efforts, knowing that disregard of the prophylactic measures recommended means the withdrawal of the milk and other assistance. The work is carried on in a spirit of mutual helpfulness, with scrupulous avoidance of red tape. The society has now a hundred cases in its charge and has spent about \$600 for reclining chairs, bedding, etc. When surroundings are hopelessly unsanitary, a healthy home is found for the family at the same price, in an out-lying part of town, and is offered them rent free for the first two or three months, which usually proves a sufficient inducement to move, the society paying the deficit in the rent. Branch societies have recently been organized in the two nearest large towns, principally by the efforts of physicians, and the province is now erecting the first public sanitarium in Belgium, which will accommodate 500 inmates.

Therapeutic Indications for Kefir. L. HALLION.—In Russia a course of kefir is considered extremely beneficial for the treatment of pulmonary phthisis, as it affords a nourishing article of food, digested and assimilated with extreme ease, and even a specific action on the disease is ascribed to it. In other affections it will be found useful whenever a milk diet is indicated, substituting, or combined with the milk. It is particularly valuable in case of defective digestion, in biliary and renal lithiasis, in chronic rheumatism and affections retarding nutrition, anemia, chlorosis, convalescence from acute diseases, etc. Hallion considers it contraindicated in heart disease, stasis of the portal system, rachitis and obesity. Besides possessing the physiologic properties of milk, with superior digestibility, it also contains micro-organisms and diastases to counteract bacteria and pathogenic toxins. The therapeutic indications have been established on this basis, and have been confirmed by experience.

March 9.

Improved Nitric Acid Test for Albuminuria. EHRMANN.—The conical graduated glass has a tube held over it by a standard. The tube is shaped like a long narrow funnel and just touches the bottom of the glass. The nitric acid is

poured into this tube without interruption to the flow, thus avoiding air bubbles. As the acid emerges at the bottom the reaction of the albumin is much more even and regular than by any other means and the amount of the precipitate, when all has been deposited, affords a quantitative measure of the albumin, each division representing 5 cg. of albumin to the liter of urine. The standard is arranged to suspend a large funnel tube over a conical glass holding 50 c.c. on one side and, on the other, a small tube over a glass holding but 10 c.c., to correspond to a small or large amount of urine at one's disposal. The entire test requires absolute stillness. The tubes and glasses must be kept perfectly still after the acid has been poured in; the slightest touch impairs the accuracy of the reaction, even the removal of the pipette in the usual method of using the nitric acid test. The glasses were graduated by observing the depth of the precipitate that corresponded to a certain weight of albumin representing 5 cg. to the liter of urine, and fractioned in proportion.

Revue de Chirurgie (Paris), March.

Unilateral Exclusion in Case of Rebellious Fistula of the Intestine. X. DELORE AND M. PATEL.—Two cases are described. The first was a pyostercoral fistula in the right iliac fossa consecutive to tubercular appendicitis. Except for cervical adenitis in childhood, the patient, a woman of 40, had been healthy until six months before when vague pain was experienced in the right iliac fossa, with occasional vomiting. After four months a large abscess spontaneously opened in the region, with four orifices. These fistulae evacuated pus and fecal matter and the patient became cachectic. The cecum was found free, but the appendix was adherent to a number of loops of the small intestine. The latter was severed about a yard above the appendix and the distal end closed and replaced in the abdominal cavity. The proximal stump was implanted in the ascending colon. This unilateral exclusion did not arrest the cachexia which continued to a fatal termination four weeks later. The autopsy showed the anastomosis perfect, and the peritoneum sound, but the appendix was in a purulent focus. It was partially destroyed and one of the loops of the small intestine had several perforations communicating with the abscess cavity. In the second case the stercoral fistula was caused by a tubercular affection of the ileum and appendix. The cecum and lower portion of the ascending colon were severed from the small intestine and the distal stump closed. The lower segment of the ileum was inserted in the small intestine and the patient made an uneventful recovery with gradual disappearance of the fistula. These cases are typical of what may be anticipated in operations of this nature on the small or on the large intestine. When the small intestine is involved no better results are obtained than with entero-anastomosis, that is, fecal matters accumulate in the lower portion and the fistula persists. But the results are positive and frequently cure, when the operation is on the large intestine. If the fistula involve the cecum, the ileum should be implanted in the sigmoid flexure. But if located at the terminal portion of the intestine without involvement of the cecum, it can be implanted in the ascending colon. The circulation of fecal matters is definitely suppressed, the same as with bilateral exclusion. A purulent fistula has less reason for continuing than in the latter case, and the chances of infection from propagation are less. Unilateral exclusion may even be employed in case of a non-fistulous tubercular affection of the cecum, not only as a cure but as a preventive of a stercoral fistula. The disadvantages of the small intestine for unilateral exclusion are the greater amount of peristalsis liable to induce retrograde movement of the feces, the more copious secretions and consequently the greater fluidity of the intestinal contents.

Semaine Medicale (Paris), March 6.

Severe Vomiting in Pregnancy. CH. ACHARD.—Between the simple and the uncontrollable vomiting of pregnancy there is a third, intermediate class in which the vomiting is severe, frequent and distressing, but not absolutely uncontrollable. In a case described, the vomiting appeared at the third month, accompanied by symptoms of hyperchlorhydria, and was re-

lieved as the latter yielded to treatment with alkalis: a teaspoonful of equal parts of sodium bicarbonate and magnesia whenever the pains appeared, and a strict milk diet. In two other cases this treatment proved ineffectual and was suspended, but the vomiting was cured by lavage of the stomach. At first the lavage increased the vomiting spasms, but as it continued the stomach quieted down, and after a daily repetition for a few times, the vomiting was completely arrested. These patients had a tendency to hysteria and neuropathy, and Achard suggests that hysteria may be a prominent factor in the vomiting of pregnancy. Other factors may be an excessive excitability on the part of the vomiting center, and some special excitation capable of affecting this center by the reflex route. The starting point of his causal excitation varies with the case and is by no means restricted to the uterus and adjacent organs. The stomach is particularly liable to be its seat.

Berliner Klin. Wochenschrift, February 18 and 25.

Serum Test for Differentiation of Human and Animal Blood. A. WASSERMANN AND A. SCHUETZE.—These scientists and Uhlenhuth conducted, independently, simultaneous researches in this line and reached the same conclusions. Their announcements were published in two of our Berlin exchanges with only a day's interval between them. Uhlenhuth's discovery was mentioned editorially in THE JOURNAL of March 9, p. 673, and this communication from Wassermann more emphatically confirms the value of the new test. The rabbits were prepared by subcutaneous injection of 10 c.c. of human blood serum, free from cells, repeated every other day for five or six times. The animals bore the injections well, and, six days after the last, they were bled to death from an incision in the carotid, the blood being cooled on ice. By adding .5 c.c. of this serum to a specimen of human blood diluted with salt solution or distilled water, the fluid becomes turbid and a precipitate is deposited, more abundant at 37 C. than at room temperature. The blood of 23 different kinds of animals was tested and the reaction found absolutely specific for each. The only exception is monkey's blood, which reacts feebly to the prepared human blood serum. In two dozen tests with blood from all these animals, distributed on various substances and left unprotected for three months, the results were as decisive as with fresh blood. A flake of the brown, dried blood, a trifle larger than a dime, was dissolved in 5 or 6 c.c. of salt solution and the fluid filtered until perfectly clear, when .5 c.c. of the prepared serum was added and the vessel kept in the autoclave at 37 C. In twenty minutes the tube containing the human blood became turbid, while all the others remained clear. In fifteen minutes more, a flaky precipitate was deposited in the human blood tube, while the monkey tube alone showed signs of cloudiness. Serum for treating the rabbits can be obtained from the hospitals, but in greater abundance at the maternities, from placentas squeezed to extract the blood. The reaction is more pronounced the fresher the rabbit serum, but it was obtained even with serum fourteen days old. A prepared serum of this kind could be supplied from a central station. Tests are now in progress with goats instead of rabbits and with the fluid from effusions, ascites, etc.

Adenomyoma Obliterating the Cervix. L. LANDAU. Mesonephric adenomyomata have been found at various parts of the internal genitalia, but Landau states that this is the first case on record in which one was located in the cervix. It completely obliterated the outlet, and the patient, a robust woman of 40, had never menstruated, although the menses were marked every month. The tumor was solid, of the size and shape of an apple and accumulations of blood were found in the obstructed uterus and tubes, in the omentum and ovaries and beneath the peritoneum. Somewhat similar cases of gynastresia have been reported in Finland, operated on at the age of 40 and 46 years, and one by Rossa at 35.

Sterilization of Silk Catheters. MANKIEWICZ.—The sterilization of silk catheters, by boiling them for five minutes in a saturated solution of ammonium sulphate, is considered by Mankiewicz as a great advance in this line. All the bacteria and cocci are destroyed in two minutes, while the

catheters are not injured in the least by the repeated process. They are placed first in the cold solution and heated with it.

Muenchener Med. Wochenschrift, March 5.

Influence of Salt Solution on the Morphology of Coagulation. E. SCHWALBE.—Isotonic salt solution has no influence on the process of coagulation, but a hyperisotonic, 2 to 3 per cent. solution, alters the shape of the red corpuscles, rapidly increases the number of blood-plates and has a marked effect in accelerating coagulation. These facts, observed by Schwalbe, suggest that the blood-plates must be derived from the red corpuscles. The alterations in the shape of the corpuscles and the development of blood-plates coincident with the accelerated coagulation also suggest an evident connection between these processes. The assumption seems plausible that coagulation is the result of the liberation of a ferment from the red corpuscles undergoing destruction from the hyperisotonic salt solution, and that the changes in the red corpuscles are the morphologic expression of coagulation.

Drumstick Finger. A. DENNIG.—In only one of the ten cases of drumstick finger noted by Dennig, was it possible, by radiography, to detect any involvement of the bone. He concludes that in the majority of cases the enlargement is due to congestion and hypertrophy of the soft parts of the tip of the finger involved. In rare cases there may be an ossifying periostitis of the terminal phalanx. The affection is consecutive to an infection or toxic process, a congenital heart affection, disease of the nervous system or a malignant tumor. In one of Dennig's cases the only cause that could be incriminated was severe gastrectasis.

Ulcus ex Digestione in the Esophagus. K. ORTMANN.—Schaffer has reported finding patches of typical stomach epithelium in the pavement epithelium of the esophagus. This helps to explain the process known as *ulcus ex digestione* in the esophagus. Ortmann describes two cases with no preceding corrosion from caustics or syphilis. The first was a healthy man of 42, who began to spit and vomit blood, with pains in the thorax, discomfort and pain during and after meals, localized at the lower portion of the sternum. After four years symptoms of stenosis of the esophagus appeared, with constant vomiting, most severe about 2 or 3 a. m. The esophagus became enlarged above the stenosis. After repeated sounding, the stenosis was dilated and the symptoms relieved. In the second case, a man of 28 with a record of cerebral inflammation at 2 years of age, nervous fever at 12 and inflammation of the lower lobe of the right lung at 22, but otherwise healthy, drank some very sour wine and immediately afterward experienced violent cramp in the stomach and chest. This was followed by frequent local oppression and vomiting during and after every meal, and again on retiring. The vomiting was not accompanied by pain after the first few days, but increased in amount. He never vomited blood. Stenosis of the esophagus with enlargement above occurred as in the first case, and the introduction of the sound alleviated the stenosis and cured the symptoms in the same way. The troubles had lasted six years in the first and seven in the second case. The increase of 8 and 9 pounds in weight indicates that the stenosis could not have been of a malignant character, but in a previously reported case Ortmann observed that a carcinoma developed later at the site of the stenosis. The pains were regularly experienced at the ensiform process whenever the patient swallowed and after the ingestion of food, and the slow gradual development of the stricture indicated the ulcerative nature of the process.

St. Petersburg Med. Wochenschrift, March 2 and 9.

Diagnostic Value of Pulse Tracings. J. GRUENBERG.—The tracings of the sphygmograph do not always afford reliable information in general hospital practice for various reasons, but in private practice they may be found of invaluable assistance in diagnosing obscure cases. The tracings are particularly instructive in the incipient stage of arteriosclerosis before an anatomic cause for the variations in the pulse exists. Gruenberg pleads for more general study of the pulse with instruments, as digital investigation alone is frequently misleading.

Queries and Minor Notes.

PHYSICIANS AND THE AUTOMOBILE.

ROCHESTER, MINN., March 25, 1901.

To the Editor:—A recent request for information as to what is the best automobile for physicians' use urges me to give my experience. I have taken a great interest in the horseless carriage during the past few years, making several trips east to investigate them at exhibitions, and using a steam buggy during the past season with considerable pleasure.

The electric carriages are the easiest managed, the cleanest and least noisy. They have great objections in their weight, which causes them to pound over rough pavements, also in their short range of mileage, and in requiring special facilities for charging, which will limit their use to the city physician.

The gasoline carriages have more or less unpleasant vibration, and the higher power vehicles are clumsy in construction. The horse power has been gradually increased from three to nine to enable them to go through mud and climb the hills. Their main trouble is in the electric sparking device, which will be understood by those physicians who keep their medical batteries in order. In Europe, gasoline automobiles are in the lead, while in this country they are in a rapid transition stage of both engine and power transmission. The firms which appear to have the best outfits have none running, but the models, though many are under construction.

The steam buggy is the cheapest, lightest and most elegant for the amount of power developed. It requires the most attention from the operator, in spite of the many automatic additions. It slips and slides about in the mud in a most disagreeable manner, while in cold weather there is trouble from the freezing of the pipes and the necessity of keeping the barn warm. Reports from eleven steam vehicle operators, given in a recent edition of the *Automobile*, gave an average of over \$100 for repairs in 2000 miles for each buggy.

The small wheels used in most automobiles require good roads for comfortable riding. At this time, my opinion is that steam is the most sure power, yet the rapid advance in gasoline engines will undoubtedly make them the most convenient in another year.

Automobiles at present are more or less of a pleasure vehicle for good roads, their perfection not being such as to warrant the physician who purchases one in selling his horse.

C. H. MAYO, M.D.

DRUGGISTS AS PHYSICIANS.

The secretary of a medical society writes as follows: "The Society, having adopted the Code of Ethics of the AMERICAN MEDICAL ASSOCIATION, has received an application for membership from a regular practitioner in this city who likewise owns and operates a drug store in his own name. Kindly advise me as to his eligibility."

Ans.—There is nothing in the Code of Ethics which prohibits a physician from acting as a pharmacist and putting up not only his own, but the prescriptions of other physicians. It is a question of taste whether the two professions should be combined. A physician who operates a drug store after the manner of many druggists, dispensing and commending secret nostrums, put up by himself or others, or who in any way, by sale or otherwise, promotes the use of patent or secret medicines, violates the letter and principles of the Code.

IF I SHOULD DIE TO-NIGHT.

CHICAGO, March 25, 1901.

To the Editor:—F. N. M., in THE JOURNAL of March 23, p. 851, asked where he could find the poem beginning: "If I should die to-night." The parody referred to is the poem on the first page of "Ben King's Verse" (Forbes & Co., 1900). The poem which inspired the parody was written by Arabella E. Smith, and can be found on page 309 of "The Humbler Poets" (A. C. McClurg & Co.). The parody is suggestive, and can be appreciated by men of experience in loaning money and collecting bills. The other poem is a gem and should be read and remembered.

H. S.

MUNCIE, IND., March 23, 1901.

To the Editor:—"If I Should Die To-night," etc., is published in "The Doctor's Window," a volume of poems "By the Doctor, for the Doctor and About the Doctor." (C. W. Moulton, Buffalo, N. Y.) In that volume it is entitled: "The Latest Reconstructive Nerve-Tonic and Restorative." It was printed in the *Medical Standard*, Chicago, February, 1900, p. 106.

G. W. H. K.

[Answers have also been received from W. H. G., Philadelphia; F. B. F., Springfield, Ill.; N. L. J., Williamsport, Pa.; D. R., Atlanta, Ga.; W. T. M., Blue Mound, Ill., and E. W. B., St. Louis, Mo.—Ed.]

SCHOTT TREATMENT.

NUTLEY, N. J., March 16, 1901.

To the Editor:—Has there been published in THE JOURNAL a

description of the baths and resistance treatment of the Schott brothers and Dr. Beyley Horn, of London, or where could I find such information?

J. C.

Ans.—Papers on the subject, by C. N. B. Camac, appeared in THE JOURNAL for Aug. 28, 1897, by Dr. Ellsworth Smith, in the issue of Jan. 28, 1898, and by C. L. Greene, Oct. 15, 1898.

ADDRESSES OF SECRETARIES.

BALTIMORE, MD., March 25, 1901.

To the Editor:—Kindly give me the name and address of the secretaries of the state boards of medical examiners of North Carolina and Pennsylvania, and oblige.

SUBSCRIBER.

Ans.—They are Dr. J. Howell Way, Waynesville, N. C., and James W. Latta, Esq., Department of Interior Affairs, Harrisburg, Pa.

ORIGINAL EXPERIMENTER WITH INDIVIDUAL COMMUNION CUP.

NEW YORK CITY, March 22, 1901.

To the Editor:—For the information of L. P. D., who is desirous of obtaining the name and address of the original experimenter in the individual communion cup agitation, please state that it was Dr. M. O. Terry, of Utica, N. Y., who was the first physician to publicly suggest the desirability of a change. This he did in a paper read before the Oneida County Medical Society, in January 1887.

ALBERT S. ASHMEAD, M.D.

Books Received.

Acknowledgement of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review as dictated by their merits, or in the interest of our readers.

PROGRESSIVE MEDICINE. A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Assisted by H. R. M. Landis, M.D., Assistant Physician to the Out-Patient Medical Department of the Jefferson Medical College Hospital. Volume 1. March, 1901. Surgery of the Head, Neck and Chest—Infectious Diseases, Including Acute Rheumatism, Croupous Pneumonia and Influenza—Diseases of Children—Pathology—Laryngology and Rhinology—Otology. Cloth. Pp. 440. Price, \$2.50. Philadelphia and New York: Lea Brothers & Co. 1901.

TRANSACTIONS OF THE AMERICAN DERMATOLOGICAL ASSOCIATION at its Twenty-fourth Annual Meeting held in Washington, D. C., May 1, 2 and 3, 1900, in Connection with the Fifth Triennial Session of the Congress of American Physicians and Surgeons. Official Report of the Proceedings. By Frank Hugh Montgomery, M.D. Cloth. Pp. 235. Chicago: P. F. Pettibone & Co. 1901.

INFANT FEEDING IN ITS RELATION TO HEALTH AND DISEASE. By Louis Fischer, M.D., Attending Physician to the Children's Service of the New York German Poliklinik. Containing 52 Illustrations, with 23 Charts and Tables, Mostly Original. Cloth. Pp. 359. Price, \$1.50 net. Philadelphia and Chicago: F. A. Davis Co. 1901.

DIET AND FOOD, Considered in Relation to Strength and Power of Endurance, Training and Athletics. By Alexander Haig, M.A., M.D., Oxon., F.R.C.P., Physician to the Metropolitan Hospital. Third Edition. With Five Illustrations. Cloth. Pp. 112. Price, \$1.00. Philadelphia: P. Blakiston's Son & Co. 1901.

THE TREATMENT OF FRACTURES. By Charles Locke Scudder, M.D., Surgeon to the Massachusetts General Hospital, Out-Patient Department. Assisted by Frederick J. Cotton, M.D. Second edition, Revised. With 611 Illustrations. Cloth. Pp. 457. Price, \$4.50 net. Philadelphia and London: W. B. Saunders & Co. 1901.

A TEXT-BOOK OF DISEASES OF THE NOSE AND THROAT. By D. Braden Kyle, M.D., Clinical Professor of Laryngology and Rhinology, Jefferson Medical College. With 175 Illustrations, 23 of them in Colors. Second Edition. Cloth, Pp. 646. Price, \$4.00 net. Philadelphia: W. B. Saunders & Co. 1900.

A MANUAL OF PRACTICAL HYGIENE for Students, Physicians, and Medical Officers. By Charles Harrington, M.D., Assistant Professor of Hygiene in the Medical School of Harvard University. Illustrated with 12 Plates and 105 Engravings. Cloth. Pp. 729. Price, \$4.25 net. Philadelphia and New York: Lea Brothers & Co. 1901.

NEWFOUNDLAND IN 1900. A Treatise of the Geography, Natural Resources and History of the Island, Embracing an Account of Recent and Present Large Material Movements. By Rev. M. Harvey, LL.D., F.R.C.S. Finely Illustrated with Maps and Half-tone Engravings. Cloth. Pp. 187. New York: The South Publishing Co. 1900.

A TEXT-BOOK OF OPHTHALMOLOGY. By John W. Wright, A.M., M.D., Professor of Ophthalmology and Clinical Ophthalmology in the Ohio Medical University. Second Edition, Thoroughly Revised. With 117 Illustrations. Cloth. Pp. 378. Price, \$3.00. Philadelphia: P. Blakiston's Son & Co. 1900.

CHLOROFORM: A Manual for Students and Practitioners. By Edward Lawrie, M.B., Edin., M.R.C.S. Eng., Lieutenant-Colonel I. M. S. Cloth. Pp. 120. Price, \$1.75. London: J. & A. Churchill. 1901.

MANUALE DI CHIRURGIA OPERATORIA, Dei Dottori R. Streechi e A. Gardini. Con 118 Incisioni. Cloth. Pp. 64. Milano: Urico Hoepli. 1901.

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Address.

REFLECTIONS UPON THE PRESENT STATUS OF CLINICAL MEDICINE.*

ALOYSIUS O. J. KELLY, A.M., M.D.

Instructor in Clinical Medicine and Assistant Physician to the
Hospital, University of Pennsylvania; Professor of
the Theory and Practice of Medicine,
University of Vermont, etc.
PHILADELPHIA.

The pleasure and satisfaction with which I accepted the invitation of your president, to deliver the address on this occasion, I am free to admit were somewhat tempered by the knowledge that I was expected to say something. The selection of a subject that might be at the same time appropriate and interesting has been to me a matter of considerable concern. More especially has this been the case as the advent of the new century brings with it the temptation to review the achievements of medicine during the past one hundred years and to prognosticate the promises of the future. The changes wrought in medicine during the nineteenth century have been so revolutionary, the achievements so marvelous, the discoveries so numerous, the inventions so ingenious and of such far-reaching consequences to the individual and to humanity, that a discussion of them seems most pertinent and inviting. I have, however, been restrained from acceding to this temptation because I fully appreciate that it would be futile, in the time at my disposal, to attempt a survey even in a most cursory manner, of a field so extensive, and because I am well aware that such reviews will be made by other pens more able than mine. I have, nevertheless, thought that it might not be unprofitable to call your attention to some reflections upon the present status of clinical medicine and upon the relation of science to medicine at the dawn of the twentieth century. Such reflections must necessarily be cursory and fragmentary, rather than complete and exhaustive; they must serve to recall that which is probably more or less well known, rather than adduce new facts or novel theories. It is hoped, however, that they may be somewhat indicative of the changes in the art and science of medicine during the past, reflective of the trend of medical opinion at the present time, and possibly suggestive of the achievements to be expected in the future.

MEDICINE A SCIENCE OR AN ART.

From time to time it has been much debated whether medicine is a science or an art. It seems to me, however, that the abstract question admits of but a single answer. Aristotle defined medicine as the art of healing—and surely medicine broadly speaking is the art of healing disease. Such, however, have been the developments of medicine during recent years, that to the more practical

art of healing disease has been added the likewise practical, but more ideal, art of preventing disease. The modern conception of medicine, therefore, is the art of preventing and healing disease. It concerns itself not so much with abstract problems and speculation, as with concrete instances of disease, with disease as it occurs in the individual; in prophylaxis, however, its scope is broadened so as to include whole communities and nations. It is an art that all may cultivate, though each may not become equally proficient in its practice. Its acquisition depends in large part upon the character and personal qualities of the individual, upon the possession of an observant and properly trained mind and upon experience. These, however, avail the physician but little unless he be well-grounded in the sciences upon which medicine depends for its very existence; the art without the science leads inevitably to charlatanism. Thus medicine, like other arts—such as engineering, navigation, etc.—is founded upon science, upon the sciences of physiology, chemistry, pathology, bacteriology, and pharmacology, as well as upon certain well-defined principles of physic.

NEED OF KNOWLEDGE OF PATHOLOGY.

It is by no means my intention to discuss all the questions that obtrude themselves for consideration. The majority of us become general practitioners of medicine and surgery, and that which concerns us especially is the acquisition of the ability to recognize and differentiate disease, and hence to be able to institute the appropriate treatment. In passing, I may say that he who diagnoses well, treats well, and that the acquisition of the ability to do both is best facilitated by a thorough knowledge of the fundamental sciences of medicine. The importance of the principles of physic, and of chemistry, physiology, and pharmacology has been so long recognized as to require no reiteration from me. I can not, however, refrain from directing attention to the importance of science in general, and the sciences of pathology and bacteriology in particular, in the recent wonderful advances of medicine.

To my surgical confrères, I need but mention the value of a thorough knowledge of physics and mechanics in the appreciation of the factors at work in the causation and repair of luxations, fractures, deformities of the limbs and vertebrae, hernias, foreign bodies and calculi in the several cavities of the body, etc. A knowledge of physiology and chemistry, of fundamental importance in the study of medicine, is of no less value in the understanding of many problems in internal medicine—such for instance, as many of the disorders of metabolism and of nutrition, of atrophy and hypertrophy and degeneration; derangements of the functions of many of the organs of the body that are now known to have an internal secretion; the manifestations and appropriate treatment of many of the poisons, be they metabolic or physiologic, chemic or bacterial, etc.

* Inaugural address delivered at the opening of the session of the Medical Department of the University of Vermont, Jan. 3, 1901.

But he who will be a good diagnostician and a rational therapist must understand disease—he must know pathology. By this I do not mean that he must be acquainted merely with the macroscopic and microscopic appearances of diseased tissues and organs; such limited information avails but little in the practical application of our knowledge at the bedside. But I do mean that, in addition, he must be conversant with the natural history of disease and with the nature of diseased processes; he must be able to distinguish cause from effect; he must understand the reactions of the body to various morbid agencies, such as heat and cold, chemic and mechanic irritants, parasites and their deleterious products; he must appreciate the manner of the production of morbid physiology or the symptoms of disease; he must endeavor to fathom as far as possible the means provided by Nature to ward off, neutralize, and counteract the various morbid agencies and their deleterious products; he must study the phenomena of natural and acquired immunity to certain diseases; he must recognize that senility and finally death are natural events in the course of all forms of life, and that the retrograde alterations and degenerations that accompany and characterize old age are not necessarily manifestations of disease. Senility itself is an elastic term and is not always to be measured by the number of years that a man has lived. In the homely saying that a man is as old as his arteries, there is a goodly portion of truth. We recognize, however, that certain tissue metamorphoses that accompany and are expected in old age are distinctly pathologic when encountered, as they sometimes are, in earlier life. It is the physician confident in the possession of the knowledge as here outlined who is capable of recognizing and discriminating between diseased processes in actual practice; who is able to detect the earliest manifestations of the insidious onset of certain chronic diseases and by appropriate treatment to ward off the acute and alarming symptoms of some of them; who in the presence of disease assists Nature when there exists no specific for the malady in question, and who rationally administers it when there is one; who is able to prognosticate the outcome; and who does not retard the efforts of Nature by the indiscriminate and injudicious use of drugs and other remedial measures that are not indicated.

RISE OF DOGMATIC MEDICINE.

That a thorough knowledge of pathology is essential to correct diagnosis is sufficiently evident from the egregious blunders made by eminent physicians before the dawn of modern pathology and by others at the present time who are unacquainted with the subject. In days gone by there was much wise talk of impurities of the blood; of humors and of temperaments; of animal and vital spirits, etc. What we now know to be merely symptoms of diverse diseases were in those days mistaken for the disease itself. Thus a patient was said to suffer with a rheum, a palsy, a dropsy, or a fever. Ascites was held to be the cause of cirrhosis of the liver, fever of the excavations of the lungs in phthisis, asthma of dilatation of the heart, anarsarca of albuminuria, etc. The same erroneous views are evident in the designations applied to certain diseases, and which persist to the present time. Thus apoplexy means a stroke or striking down; pleurisy, stitches in the side; podagra, a seizure in the foot or a foot-ache; etc. Even when an examination of the body was made after death, the patient was often reported to have succumbed to such disorders as a "decline," and the like. When such were

the ideas of disease, it is not surprising that certain systems of medicine arose and flourished for a time. Of these I might mention the "depletory," the "corroborant," the "iatro-mechanical," the "iatro-chemical," that founded on the doctrine of signatures, in conformity with which the Paracelsian physician prescribed an infusion of yellow flowers and saffron for jaundice, an infusion of roses and bloodstone for hemorrhage, the spotted leaves of pulmonaria for tuberculous lungs, etc. that practiced by the astrologers who in accordance with the horoscope of the patients, prescribed various metals and plants; the Brunonian according to which disease resulted from either a deficiency or an excess of excitement; and finally that which still persists, homeopathy, "of which the theoretical absurdity is somewhat concealed by the more obvious nonsense of infinitesimal doses." (Pye-Smith.) It is not to be wondered at that the times when systems of medicine founded upon dogma flourished were not far removed from the days of exorcisms, incantations, witchery, etc.

END OF DOGMA IN MEDICINE.

With the dawn of modern pathology, however, when diseased processes, as other departments of science, began to be studied and patiently investigated for their sake alone; when there came to the prosecution of the investigations the genius of Meckel and Rokitansky in Germany and Austria; Laennec, Bayle, and Cruveilhier in France; Baillie, Abercrombie, and Bright in England; and later Cohnheim and Pasteur, the still living and distinguished Koch, the much revered Virchow, and a host of others in all parts of the world, the times of dogmatic medicine came to an end, the systems of medicine were buried in irrevocable oblivion, and exact diagnosis and rational therapy became a possibility. It was in consequence of the pioneer work of these men that empirical methods were replaced by those of science; to them the honor that, as regards medicine, the nineteenth century will be known as the age of cultivation of the scientific spirit. It is to the original investigations and patient research inaugurated and stimulated by these men, the seeking after new discoveries, the constant endeavor to add to our store of facts, that the wonderful achievements of medicine during the latter part of the past century are attributable.

BACTERIOLOGY IN MEDICINE.

The results of this cultivation of the scientific spirit are obvious in all departments of medicine, but nowhere more conspicuously than in the field of etiology. For years, while certain branches of medicine, more particularly surgery, were progressing, thanks to the introduction of anesthetics and what, in honor to the man, may be termed Listerism, clinical medicine seemed at a standstill. This was due to several reasons, but especially to our lack of knowledge of the etiology of disease. We were awaiting the new science of bacteriology—that science which during the past twenty years has added so much to our store of knowledge and been of such incalculable benefit to humanity. As a consequence of careful and minute investigations, patient research, and the replacement of empiricism by science, we now have satisfactory scientific evidence of the bacteriologic origin of many previously obscure diseases, of which the following may be mentioned: anthrax, tuberculosis, relapsing fever, leprosy, actinomycosis, glanders, gonorrhea, typhoid fever, Malta fever, diphtheria, cholera, lupus, tetanus, influenza, plague, erysipelas, dysentery, pneumonia, cerebrospinal menin-

tis, the various septic infections, certain epidemics of eat poisoning, etc. We have been enabled to trace many hitherto inexplicable diseases—veritable scourges of mankind and the lower animals—to minute organisms; we have isolated and recognized the micro-organisms themselves and differentiated them from others which they resemble; of many of them we have already determined the life history; in many cases we have determined the manner whereby they gain access to the human body; we have ascertained how they exert their deleterious effects; in some cases also we have discovered the methods by which these effects may be neutralized and prevented. There is, however, much virgin soil yet to be tilled; more particularly have we yet many problems referring to the chemie and toxic products of these bacteria to solve. While the clinical evidence of the infectious nature of some other diseases is beyond dispute, their bacteriologic origin is still undetermined. Thus we await the demonstration of the bacterial nature of such diseases as smallpox, syphilis, soft chancre, measles, mumps, scarlet fever, typhus fever, yellow fever, rabies, pertussis, rheumatism, arthritis deformans, etc. The origin of certain of these diseases has already been ascribed to certain bacteria, but the evidence is yet inconclusive. There can, however, be no reasonable doubt that ere long the specific causative bacteria will be isolated, and this is all the more likely when we remember that although Villemin demonstrated conclusively the infectious nature of tuberculosis, by systematic inoculations in 1865, the specific bacterium was not isolated by Koch until 1882.

But it was not alone the lowest forms of vegetable life that were found to exert such a malign influence on human life. While these minute vegetable organisms were being isolated and studied, it was also ascertained that some of the lowest forms of animal life were equally portentous for evil. Thus the filaria was demonstrated as the cause of one of the hitherto obscure diseases of the tropics, and malaria was found to be due to a protozoon. And both of these organisms were found to infest the blood of their victim. Then the dependence of dysentery upon the ameba was ascertained and it was also demonstrated that this organism gaining access to the portal circulation is carried to the liver, where it gives rise to abscess formation. Thus was conclusively shown the dependence upon the same organism of two conditions so closely related clinically. It is, however, interesting in this connection to note the recent investigations of Shiga and Flexner, both of whom have been studying a bacillus that seems to be the cause of many cases of tropical dysentery. The most noteworthy investigations of recent date, however, are those that conclusively demonstrate the rôle of the mosquito in the propagation of malaria, and the still more recent experiments that seem to show that the same animal is concerned in the spread of yellow fever.

We must remember that although bacteria are essential to the production of certain diseases, the mere presence of bacteria is not competent to provoke the disease. The general economy is an extremely important factor that has to be reckoned with. The healthy body offers a greater or less resistance to the development of certain diseases, and this resistance differs in different individuals and in the same individual at different times. Thus the infections of various diseases, such as tuberculosis, diphtheria, scarlet fever, smallpox, rabies, etc., exerts a varying influence for evil depending upon whether the patient is naturally immune to the disease, or has been vaccinated, or has had the disease, or has

received a dose of prophylactic serum. While there are many problems still to be unraveled, we are nevertheless beginning to understand something of the significance of hereditary predisposition and immunity; we are learning also the significance of shock, checked secretions, an initial chill, etc. We know that we are constantly surrounded by the specific germs of various diseases; in some instances these germs are introduced into and are harbored by the body. But such is the resistance of the healthy human organism to the deleterious tendencies of the micro-organisms that it is not until the bodily vigor is reduced or altered by exposure, indiscretions, fatigue, etc., that the bacteria are enabled to overcome the activities of the body that restrain them and, gaining access to the tissues, produce their evil effects. It is likely that the occurrence of this is sometimes manifested by a chill, etc.

It behooves us now to consider the bearing of these scientific investigations upon the practical aspects of medicine—upon the diagnosis, treatment, and prevention of disease. Of what value to us as practitioners of medicine have they become? Of what value to the individual and to the community at large has been the tracing a number of diseases to the activities of minute organisms?

DIAGNOSIS SCIENTIFIC.

The special object of the investigation of the etiology of disease is that disease in the individual may be recognized and cured if possible, and that the spread of the disease may be prevented. The diagnosis of disease is and always will remain an art, but it is becoming more and more scientific. It may be said that strictly speaking diagnosis is altogether a product of the nineteenth century. Prior to that time it was merely a matter of guess-work and was never definite. At the commencement of the nineteenth century, however, Louis inaugurated his methods of careful clinical investigations, and these amplified and extended have remained the guide of clinicians ever since. To Avenbrugger, Laennec, Skoda, and Corvisart we owe the perfection of methods of physical exploration, the common property of all physicians at the present time. It was, however, during the last quarter of the past century that the diagnosis of disease progressed by leaps and bounds. This was due entirely to the cultivation of the scientific spirit and the consequent employment of laboratory methods. Prior to this time, the careful clinical observation that had long been in vogue, the patient scrutiny devoted to the manifestations of disease, had led to the establishment of a nosology to which it is doubtful if any noteworthy additions would have been made but for the employment of laboratory methods.

In approaching a patient our aim should always be to make our diagnosis definite and exact. That this desideratum be attained our investigations must be thorough. We must inquire carefully and minutely into the influences of nativity, heredity, environment, habits of the patient, etc. We must secure an accurate account of the mode of onset and the manner of the evolution of the disease, and our examinations of the patient must be thorough, complete, and frequently repeated. In this connection I wish particularly to urge the importance of the cultivation of your powers of observation. It is well known that many of the physicians of bygone days owed their pre-eminence in the profession in large measure to the acuteness of their powers of observation and to the care and attention that they paid to little things—things that are likely to escape the observation of others less attentive. The

same may be said of us at the present time; the more careful and painstaking we are the more likely we are to attain success. On the extreme value of methods of physical exploration, I need not dwell here.

The necessity for careful bedside observation has been recognized from time immemorial; it must always remain our mainstay. At the bedside we must prove or disprove our theories, and there the results of laboratory investigation must stand the test of practical utility. We must never permit our theories to displace the results of our careful bedside observation and experience; these must constitute our guide in practice. In this connection, however, I am reminded of the aphorism of Hippocrates: "Experience is fallacious and judgment difficult." In an endeavor, therefore, to assist, correct, modify and supply the deficiencies of the purely clinical method, I wish to ask your serious attention to the importance and utility of what have come to be known as laboratory methods of diagnosis. The one is not to supplant the other; but both are to be employed in conjunction. I would have you adopt the wise middle course: be neither carried away by the extravagant claims of those who would seem to have us place exclusive reliance upon the results of laboratory investigations, nor yet so narrow-minded as those who, in their ignorance and indolence, refuse to admit the utility of the laboratory.

In that the laboratory to-day is indispensable, permit me to refer briefly to certain aspects of laboratory diagnosis. I am confident that no one to-day alive to the duties and responsibilities of his trust as a physician is unprovided with a microscope and a few chemical reagents and neglects to examine carefully, both chemically and microscopically, the urine—shall I say of all his patients? Surely a patient has a right to expect that his nausea, his headache, his dimness of vision, his dyspnea, if due to a renal lesion, shall be recognized as such; and that if his attack of typhoid fever be complicated by nephritis that the latter shall be ascertained and properly treated. There are a few simple methods of analysis of the gastric contents that are readily mastered by any one having the inclination. And who will deny that a patient with carcinoma of the stomach or a benign stenosis of the pylorus and consequent dilatation of the stomach has not a right to expect that the condition shall be recognized at the earliest possible moment, to the end that he may enjoy the benefits of early and appropriate treatment? Then the examination of the blood is of extreme importance in the recognition of very many diseases—diseases not alone of the blood and blood-forming organs, but also of the most diverse disorders of the various organs and tissues. I will not state that it is essential to the recognition of all cases of chlorosis, but it is always confirmatory of the diagnosis and in many instances the diagnosis can not be made with certainty without it. How many young women to-day are being dosed with bitter tonics for a supposed gastric catarrh, or with aperients for constipation, or with various coal-tar products for headache, or with various preparations designed for the relief of amenorrhea, or with digitalis for supposed heart disease, when in reality they are suffering only with chlorosis, which an examination of the blood would disclose and the administration of iron would promptly cure? Again, my experience leads me irresistibly to the conclusion that diseases such as leukemia are never recognized except by those who make a practice of examining the blood. I have seen a number of patients believed by other physicians to be suffering with typhoid fever,

when in reality they were ill with pneumonia, appendicitis with periappendicular suppuration, malignant endocarditis, acute lymphatic leukemia, and the like. The improbability of the presence of typhoid fever would have been evident immediately upon the examination of the blood, and as a matter of fact in some cases this was the first clue that led to the establishment of the correct diagnosis. I can not too strongly insist on the importance of the presence or absence of leukocytosis in the diagnosis and differential diagnosis of very many conditions, but time and space forbid multiplication of instances.

BACTERIOLOGIC METHODS IN CLINICAL MEDICINE.

Of the importance of bacteriologic methods in clinical medicine I need say but little. It would seem like re-sowing what I am sure must already be an extremely fertile land. I may mention, however, the Gruber-Widal test in the diagnosis of typhoid fever. This is one of the most highly prized adjuvants to our clinical armamentarium within recent years. It is of extreme importance in the recognition of typhoid fever, and is of especial value in doubtful cases, as it was in the cases to which I have just made allusion. But not only in typhoid fever is the test of signal value, but by means of the agglutination and immobilization of the specific bacteria, we are enabled to recognize Malta fever, relapsing fever, cholera, anthrax, tuberculosis, dysentery, plague, etc.

Need I mention the importance of an examination of the sputum in suspected cases of pulmonary tuberculosis? Need I refer to the importance of an early and exact diagnosis—importance alike to the patient, the family, and the community wherein he dwells? Here I might mention what I feel sure will be one of the developments in the near future. We will speak of a pneumococcic, staphylococcic, streptococcic, a Friedlaender bacillus, or an influenza bacillus, infection of the lungs, meninges, etc., as the case may be, rather than of a pneumonia, meningitis, etc. When we are able to recognize clinically the differences in these infections, we may perchance have at our disposal better therapeutic measures—specific remedies. Then will arise the necessity for the examination of the sputum in all cases of pulmonary disease, of the cerebrospinal fluid in all cases of involvement of the cerebrospinal coverings, etc. In passing it is worth while noting that some of the pulmonary complications of typhoid fever have already been traced to the typhoid bacillus.

Of the importance of a bacteriologic examination of the secretions of the throat in all cases of disease of the throat, more especially in cases suspected to be diphtheria, I will say nothing; this is too well and universally recognized to require reiteration on my part. Equally important is an examination of the urethral, vaginal, and uterine discharges, for the gonococcus; of the lochial discharges and uterine scrapings in postpartum infections, for the staphylococcus, streptococcus, etc.; of the urine and feces, for the tubercle bacillus, typhoid bacillus, cholera bacillus, and other organisms, etc. I may mention that in consequence of recent investigations it has been found that the urine as well as the feces contains the typhoid bacillus in a large percentage of cases of typhoid fever. This fact has been made use of in some cases for the purposes of diagnosis, but the especial practical inference is that the urine must be disinfected in all cases of the disease. Were I to mention other laboratory procedures of value in diagnosis, I might cite the bacteriologic examination

of the blood in certain cases, the use of the tuberculin test, the mallein test, radiography, and to these I might add the ophthalmoscope, the laryngoscope, the sphygmograph, etc.

Such laboratory methods of diagnosis should be made use of in all cases in which they are likely to prove of the slightest utility. This strictly interpreted means practically all cases. In hospital work they should be employed as a matter of routine. The necessity of the times, however, is the more universal adoption by the general practitioner of these various aids in clinical diagnosis. This is indicated alike in the interests of the physician, the patient, and the general community. It is to the interest of the physician that he may establish the correct diagnosis at the earliest possible moment, institute the appropriate therapy, and enjoy the mental satisfaction pertaining to work well done; to the patient, that he may reap the personal benefit of the early diagnosis and appropriate treatment; to the community, that in the case of certain infectious diseases the sick man may not prove a source of general infection. I am aware that these procedures add to the already heavy burden of the general practitioner, but they may be mastered by any one having the inclination. In the city as well as in the country a corner of the office may be made to do duty for a laboratory. If the practitioner be too busy to attend to the work himself, he ought to be able to find some one capable of doing it for him. Surely the patient in the country as well as in the city has a right to expect an intelligent interpretation of his symptoms, and in some cases this is not possible without the aid of laboratory methods. Thanks to an enlightened public spirit, in many parts of the country such examinations are made for the physician by the laboratory of the city, county, or state board of health. Thus there is really no excuse for their omission. What I do insist upon, however, is that the physician, be he in the country or the city, in case he feels neither competent nor inclined to make these examinations himself, should at least know when they should be made; and knowing that they should be employed in a certain case, he should see to it that they are made by some one who is competent. There was a time when there was no stethoscope, no microscope, and no clinical thermometer, and doubtless the physicians of those times felt their increasing burdens as each was added to their necessary armamentarium. Each, however, has abundantly proved its necessity, and the same will some day be said of the so-called laboratory methods of diagnosis.

Heretofore diagnosis has concerned itself solely with the detection, proper grouping, and discrimination of symptoms. Now, however, we are commencing to penetrate deeper; we are endeavoring to fathom, and in some cases we have already ascertained, the ultimate causes and nature of diseased processes. Until within a short time our studies were largely confined to the changes occurring in the tissues in disease; now we are learning something of the causes and the manner of the production of these changes. Upon the discovery of bacteria as the causative factors of some diseases, it was considered that they wrought their alterations by inducing asphyxia and consequent necrosis of the tissues by mechanic occlusion of the blood-vessels; later it was thought that they induced changes in the tissues by appropriating to themselves pabulum designed for the nutriment of the tissues. It is still probable that in some cases these are correct interpretations of the phenomena; but we know, however, that in the majority of cases bacteria produce their injurious effects by

reason of the poisons they elaborate. Concerning the exact nature of these poisons we still await positive information; and here is a fertile field for investigation. Some of these poisons, however, have already been determined to be allied to the alkaloids; others resemble modified proteids, and have in consequence been spoken of as toxalbumins; of the nature of others, we know little or nothing.

SELECTIVE ACTION OF TOXINS.

The definite scientific demonstration of the toxic nature of many infectious diseases has resulted in the shedding of diffuse light upon many hitherto obscure problems. I wish here to refer briefly to but one interesting aspect of the question—the selective action of these toxins. It has been demonstrated that the general symptoms of many diseases may be reproduced with extreme accuracy by the introduction into the body of toxins of bacteria—of the toxins freed from the bacteria, or of the toxins in a mixture with dead bacteria. In the selective action of these toxins we find a rational explanation of many of the phenomena of the different diseases. Thus the toxins of the diphtheria, tetanus, and influenza bacilli have a special affinity for the nervous system. That of diphtheria, however, is especially prone to attack the peripheral neuron, especially that supplying the muscles of the throat, internal muscles of the eye, and the heart; that of tetanus implicates especially the higher nerve centers; that of influenza exerts its influence more especially upon the meninges with resultant evidences of cerebrospinal meningitis. Analogy is found in the special affinity of other poisons for various tissues and organs. Thus tobacco exerts its action especially on the heart; alcohol is especially prone to produce paralysis of the extensor muscles of the leg; lead most frequently causes paralysis of the extensor muscles of the wrist and fingers; arsenic is a common cause of peripheral neuritis; and the venom of serpents seems to possess a special faculty for producing hemorrhagic nephritis. Further analogy is found in the special affinity of certain tissues, such as muscle, nerve, elastic tissue, etc., for different stains.

INTERNAL SECRETIONS.

I must here mention, also briefly, another result of the cultivation of the scientific spirit in medicine—the establishment of the doctrine of internal secretions. There are in the body certain tissues called glands, of which the functions until recently were absolutely unknown. Recently it has been shown that many of these possess internal secretions which exert powerful influence not alone in the development of the body and the preservation of health, but the perversion or cessation of which is extremely potent in the causation of disease. The organs to which, with more or less reason, we at present attribute an internal secretion are the thyroid, thymus, adrenal, pituitary, pineal, spleen, pancreas, testicle, ovary, mammary gland and bone-marrow. It will be observed that some of these are possessed of a duct and have an external secretion, whereas others have no duct and have no external secretion. In consequence of strictly scientific investigations we now know that several hitherto obscure symptom-complexes are due to perversion or cessation of the function of one or the other of these organs. One of the most brilliant pages of the history of recent medicine is that which records the investigations concerning the thyroid gland. To the perversion or cessation of the function of this organ we now know is due the disease myxedema. This is a condition first noted by Gull, but

later accurately described by Ord, who, attributing it to disorder of the thyroid, gave it the name by which it is now known. Subsequently the condition was produced accidentally by Kocher, by the extirpation of the gland, and later experimentally in the lower animals by the same means. Finally Murray suggested the internal administration of the gland for the cure of the condition with results brilliant beyond expectation. The same excellent results have since been achieved in the treatment of sporadic cretinism, and we know, in addition, that the extract of the gland is an excellent remedy in the treatment of many cases of obesity. To the perversion or cessation of the function of the adrenal is due Addison's disease, and to that of the pancreas certain cases of diabetes. Though we may hope for it in the future, we have as yet no means of successfully combating either of these diseases. Regarding the functions of the other organs mentioned, we have as yet no definite information. It has been thought, however, that the internal secretion of the testicle and ovary are answerable for the production and maintenance of the masculine and feminine characteristics respectively; that the pituitary and pineal glands are concerned in the development and preservation of symmetry of the body, and that the perversion of their function results in certain forms of giantism and acromegalous disease; and, finally, that the thymus may be in some remote way connected with certain hemorrhagic tendencies. Though much has been learned, much remains to be ascertained; but confidence born of achievements in the past leads us to hope for developments in the future, the nature and range of which it is difficult to prognosticate.

PROPHYLAXIS AND TREATMENT.

In conclusion, I must say a word concerning prophylaxis and the treatment of disease. Regarding the former, I will only say briefly that upon the doctrine of the bacterial origin of disease is founded the modern conception and practice of sanitary science. This which in many respects has already developed to the dignity of a specialty, has resulted not only in promoting the welfare of the community and the prolongation of the life of the individual, but it has saved humanity from many epidemics—from an almost incalculable amount of sickness and very high mortality. I need but refer to the recent occurrence of the plague in New York, San Francisco, and Glasgow. It is certain that but for the developments of preventive medicine the few cases in each city would have resulted in widespread epidemics. The prophylactic treatment of tuberculosis—the modern crusade against tuberculosis—is also one of the most encouraging signs of the times. Of other diseases, the ravages of which modern preventive medicine has curbed in large measure, I might mention typhus fever, typhoid fever, cholera, smallpox, venereal diseases, etc. The future seems to promise that soon that ancient and ubiquitous disease, malaria, will be throttled at its fountain source—the mosquito.

With regard to therapeutics and the practical care of disease, it is certain that the scientific researches of recent years have taught us much. While it must be admitted that the administration of a large proportion of our therapeutic measures is still founded upon empiricism, and that many of our drugs are given with a view to the relief of symptoms and the amelioration of the effects of disease rather than a destruction of their causes, our empiricism is a rational one. In contradistinction to that of former ages it is founded upon common sense, and from it, as have other sciences

from their empiricism, we are gradually deducing many scientific facts. Of late years, as a result of scientific investigation, we have learned the true value of drugs and their limitations. We have come to employ fewer drugs and less complex prescriptions. We no longer consider it necessary to nauseate our patients with shotgun prescriptions in the hope that at least one of the ingredients will possess a special affinity for the disease spot. We have ascertained that in reality drugs play but a not conspicuous part in the cure of disease, that their especial office rightly performed is to assist and guide nature in her efforts to effect a cure, rather than to attempt to abort a disease which in many instances runs a definite and self-limited course.

The physiologic action of each drug having now been worked out scientifically in the laboratory and at the bedside, when in the presence of disease we note an indication for its employment, we administer it confident of its action in accordance with well-established precedent. This is in many respects purely symptomatic treatment. An intelligent symptomatic treatment, though by no means ideal therapy, is not to be disdained. In many instances it is not only the only form of treatment at our disposal, but it is really founded upon a scientific basis. Thus, for instance, if we know that the symptoms of a disease are due to a lack of bone salts, or of iron, or of thyroid secretion, we supply the deficiency with the proper remedy as the case may be; if due to the presence in the body of excrementitious products that should be removed by a diseased organ no longer capable of normal functional activity, we facilitate its elimination by stimulating the other emunctories; if due to a poison introduced from without, we neutralize it within the body or we hasten its removal through the appropriate channels. On the other hand, we are beginning to understand in some degree the mode of action of certain more or less specific remedies the discovery of whose good effects was purely a matter of chance. Of these I might mention quinine in malaria, salicylates in rheumatism, mercury and the iodids in syphilis, the iodids in actinomycosis, the bromids in epilepsy, etc. Of the mode of operation of some of them we, however, as yet know very little.

We have also come to appreciate at their true value certain remedial measures other than drugs. Thus we know that the most important part of the treatment of tuberculosis is an abundance of fresh air and good, nutritious food; we are aware of the value of systematic rest, massage, and electricity in certain nervous disorders, and of the importance of hydrotherapy in various diseases of the nervous as well as of other systems; we know that many affections of the heart are greatly benefited by systematic exercises and baths; and above all we appreciate the paramount importance of regulation of diet in almost all cases of disease. Then we bear in mind the recuperative effects of sleep, and we should remember that physiologic rest of a disordered organ is a great restorer of health.

SERUMTHERAPY.

My last theme is serumtherapy, which may be looked upon as the crowning glory of the cultivation of the scientific spirit of the nineteenth century. Without attempting any discussion of this exceedingly interesting subject, I may allude to the fact that the use of antisera in diphtheria and relapsing fever has been markedly efficient; in tetanus, hydrophobia, and snake bite they have been less efficient though very good; whereas in pneumonia, erysipelas, septicemia,

tuberculosis, dysentery, they have proved rather indifferent, though on the whole promising. But not only in the treatment of disease, but likewise in the prevention, have these serums proved of value. The use of antitoxin in the prophylaxis of diphtheria is now a well-established mode of procedure. Preventive inoculations have also been employed with more or less success in plague, typhoid fever, dysentery, cholera, etc.

It is impossible to foretell what will be the developments in this branch of medicine. That brilliant discoveries are yet to be made can not be doubted; that there will occur improvements in the methods of preparation and administration of those serums that we at present possess is equally certain. That we may yet have a means of curing smallpox as we have of preventing it is to be hoped. That we may prevent and cure yellow fever as well as a common cold are not without the bounds of probability. The past is full of encouragement; the future full of hope.

Original Articles.

THE PRESENT STATUS OF SPINAL SURGERY.*

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In considering the subject of the surgery of the spine, it must be remembered that when I wrote my former papers, in 1891 and 1892, certain propositions were still debatable which have now been distinctly settled, so that we are able to reach much more definite conclusions. In my paper on "Laminectomy for Pott's Disease with Paraplegia," after tabulating 75 cases, I said that personally I could not see any very brilliant future for it. It can be applicable to less than 50 per cent of the cases of Pott's disease, as proved by the statistics of Gibney and Myers, and even in this small number its application is limited again to those cases where the compression has not produced a complete degeneration of the cord. Still, it is not by any means to be relegated to the obsolete class of operations. It has a place, and that place, I am convinced, is destined to play a more important part in the therapeutics of Pott's disease than it has heretofore.

Since then I have operated on 15 patients, all of them unfortunately in advanced stages of tubercular disease. Chipault succeeded in tabulating 101 cases, and I have succeeded, including my own, in tabulating 154.

Although only two of mine were ultimately successful they proved that the operation per se is not dangerous. Not a single patient has died from the effects of interference with the vertebral column, but in every instance death occurred, at a considerable period after the operative measures, from an advancement of the tubercular disease. There would be more hope for these patients could we see them earlier, before general tuberculosis has intervened, or before the pressure upon the spinal cord has produced degenerations which are irremediable by operative or other means. Unfortunately mechanical treatment is persisted in until all chance for the success of operative interference has passed, and until either the septic condition is so grave or the tubercular lesions

have extended so far into other structures that the condition of the patient almost contraindicates any operative procedure. In cases far advanced in Pott's disease, with long-continued pressure or with tubercular lesions in other parts of the body, or with a general and advanced sepsis, the operation can be of very little benefit.

In the other cases, those for instance where the tubercular lesion is distinctly in the posterior portion of the spine, where an abscess has formed, the other organs still being uninvolved, and where it is possible by following up this abscess by careful surgical dissection, provided the undertaking can be done earlier in the disease, we may hope for a better result.

I can not at the present time change the position which I took in 1891, when I said that it is unnecessary to say that no surgeon would undertake an operation of this magnitude where there was any chance of recovery by other means, but there still remains a considerable number of cases that occupy debatable ground, where the chances of recovery without operation are very slight, where continued mechanical treatment yields little or no result, and where an extension of the disease may render the patient hopeless if it does not destroy life. Such patients had better be operated on.

Then, too, there is another class of cases which show only progression of the disease in spite of all care, and where a degeneration is set up threatening the integrity of the cord. These should undoubtedly be operated on and early. The operation should not be undertaken while there are any good chances for recovery without such interference, but should not be postponed so long that an ascending or descending myelitis may destroy the chances of recovery; and the first sign of degeneration of the cord should indicate immediate operation.

Cases of posterior spinal involvement with paraplegia should be operated on, for here the lesion is easily reached. The removal of the involved laminæ and the clearing up of secondary deposits in the bodies or articular processes, or the proper removal of plastic exudation along the cord will place the patient in a far better position than he can be if only mechanical measures are depended on.

If we can prove that the mortality in these cases is small, and that the patients improve after the pressure has been removed, we may then undertake it with considerable confidence; as I have already said, none of my fifteen has died from the effects of the operation. Naturally the region of involvement makes a difference. The same conditions are noted in Pott's disease that are present in laminectomy for other conditions, viz, that the cervical is the least satisfactory, the dorsal the next and the lumbar and sacral regions the best for operative interference. In all of my operative cases for this condition I was surprised to find that the cause of the pressure was usually due to the tubercular debris and granular tissue rather than to any bony pressure, and as this was gradual in its inception, although the paraplegia may have been sudden, the pressure on the cord was seldom very intense, while in frequent instances there was more or less recovery of function. We must still confess, however, in spite of all that has been said on this question, that it will seldom be successful and very seldom indicated. This is due to the fact that in nearly all instances we find that by the time paraplegia has developed there are secondary tubercular deposit that must eventually destroy the patient's life and consequently contraindicate operative interference.

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We have now succeeded in tabulating 154 cases, double the number upon which my former table was based. Of this number, 128 are sufficiently complete to be included in the statistical results. The total number of deaths occurring as the result, or near enough to the time of the operation to be attributable to it, was 21, or 16.45 per cent. The total number of recoveries was 37 or 28 per cent.; of improvement, 16 or 12.5 per cent.; of unimproved, 18 or 14.06 per cent.; or subsequent deaths, 36 or 28.2 per cent.; total, 128 or 100.2 per cent.

In the tabulation of the subsequent deaths I have been perhaps unnecessarily strict. Many who have shown a recovery from the paraplegia or very decided improvement are included in this list. My reason for this is that in the majority of instances these patients died of sepsis or of pulmonary tuberculosis and should not be included if we accept the theory that those patients with advanced sepsis or tubercular disease in other regions than the spine, or with advanced disease of other viscera should not be operated on. They have, therefore, not been counted in the list of recoveries, improvements or non-improvements, but have ruthlessly been classed among the subsequent deaths. One can not but be impressed with the percentage of mortality and recovery when it is considered that these patients are almost without exception in wretched physical condition when the operation is performed. It is also perfectly evident that if the mechanical treatment is stopped as soon as it is evident that the disease is not arrested by it, and before marked sepsis, cystitis or destruction of the cord supervene, the result of the operation must be much improved.

It is also exceedingly important to consider the region involved. Thus we find that in the cervical region, of 18 patients, 5 died immediately following the operation, while an equal number recovered. Only 3 were improved; 1 was not improved and 4 died subsequently. At least 2 of the immediate deaths were the result of hemorrhage following wounding of the vertebral artery when the transverse process and the vertebral foramen were involved. This must, therefore, be carefully considered in operations in this region, as well as paralysis of the phrenics which follows manipulation of the cord in the region of the third or fourth cervical vertebræ.

In the dorsal region, as we should expect, the conditions are somewhat improved. Here we have by far the largest number of cases—103. Of these, 16 died from the effects of operation, 15.54 per cent., as against 27.77 per cent. in the cervical region; 29 recovered, 28.15 per cent., as against 27.77 per cent. in the cervical. The ratio of difference, it will be noticed, is exceedingly slight. Dorsal improvement is 10.67 per cent., as against 16.66 per cent. in the cervical. This is in favor of the cervical region. There was no improvement in 5.55 per cent. in the cervical region, and in 15.54 per cent. in the dorsal, while the percentage of subsequent deaths was 22.22 per cent. in the cervical and 30.09 per cent. in the dorsal. The chief difference, therefore, seems to be in the ratio of deaths, and if care is taken to protect the vertebral artery and the origin of the phrenic nerves in the cervical region, its results should compare much more favorably with those of the dorsal region. There are too few cases in the lumbar region to serve as a basis of comparison.¹

1. For the first seventy-five cases on which these statistics are based, see "Laminectomy for Pott's Paraplegia," by Samuel Lloyd, *Annals of Surgery*, October, 1892. I wish to acknowledge my indebtedness for valuable aid in the preparation of these tables to F. T. Zabriskle, M.D., and to Messrs. E. D. B. Loughran and L. D. Mead.

TABLES OF CASES OF POTT'S PARAPLEGIA.

CASE 76.—Operator, Kraus; 1886. Dorsal region; duration, long time; male, 29; motor and sensory paraplegia, vesical and rectal paresis; resection 10-11 D. arches, carious; no improvement died in 10 weeks. Reference: Paillard Inaugural Dissertation Wurtzburg, 1890, p. 62.

CASE 77.—Operator, Schoenborn; 1887. Cervical region; duration, 2 years; male, 18; paraplegia below neck, inferior cervical kyphosis, anesthesia complete up to false ribs; third and fourth arches removed, fourth arch gave hemorrhage from vertebral artery death from hemorrhage in 15 minutes. Reference: *Ibid.*

CASE 78.—Operator, Richardson; 1889. Cervical region; duration 1 year; male, 22; tumor of neck, paraplegia and slight respiratory trouble; removal of fifth lamina, nothing discovered; respiration difficult; atropin; sensibility markedly improved; died four days from asphyxia; carious fourth and fifth cervical vertebræ, bon point pressing cord completely softened. Reference: *Brooklyn Medical Journal*, 1889, i, 401.

CASE 79.—Operator, Lorenz; 1889. Dorsal region; duration, years; infant; dorsal kyphosis, motor and sensory paraplegia; vesical and rectal paralysis; resection fifth, sixth and seventh dorsal arches; no improvement. Reference: *Wiener Klinik*, 1889, i, 127, Case 164.

CASE 80.—Operator, Gerster; 1889. Premeningeal suppuration fungosities; rapid improvement; recovery. Reference: *N. Y. Medical Journal*, 1890, p. 31.

CASE 81.—Operator, Davies Colley; 1890. Dorsal region; duration, 4 years; female, 4; paraplegia complete; removal second, third, fourth and fifth dorsal arches. Improved in one week cured in four months. Reference: *Chipault, Studies of Spinal Surgery*; Obs. 63 and 65.

CASE 82.—Operator, McCosh, Starr, 1894. Dorsal region; partial anesthesia to touch, temperature and pain in legs, and loss of motion; tenth and eleventh dorsal laminae removed; later, sixth seventh and eighth dorsal, caries of bodies of vertebræ; discharging sinus; death 4 months later. Reference: *Am. Jour. Medical Science*, vol. cix, p. 95.

CASE 83.—Operator, Wheaton; 1890. Dorsal region; male, 24 motor paraplegia; resection sixth, seventh, eighth, ninth and tenth laminae, cord appeared pressed backward; improvement, then collapse and death; post-mortem: fungus mass involving the anterior nerve roots. Reference: *N. W. Lancet*, 1890, p. 288.

CASE 84.—Operator, Eiselberg; 1890. Complete paraplegia trephine; all vertebral muscles involved in tubercular processes death. Reference: *Wiener Med. Woch.*, 1890, col. 2219.

CASE 85.—Operator, Eiselberg; 1890. Paraplegia and vesical paralysis; extirpation large fungous mass; death. Reference: *Ibid.*

CASE 86.—Operator, Eiselberg; 1890. Cervico-dorsal region; paralysis upper extremities; at first improvement; recurrence in 6 months. Reference: *Ibid.*

CASE 87.—Operator, Eiselberg; 1890. Dorsal region; aged 10 years; complete paraplegia, cervical paralysis; removal of eighth and tenth dorsal arches; eight days later fungous mass of pachymeningitis; recovery in 10 months. Reference: *Ibid.*

CASE 88.—Operator, Eiselberg; 1890. Cervical region; cervical kyphosis, subclavicular abscess, partial paralysis of right arm; resection third, fourth and fifth cervical spinous processes; rapid recovery. Reference: *Ibid.*

CASE 89.—Operator, Delorme, 1892. Dorsal region; duration, 11 months; male; progressive paraplegia, bladder and rectal symptoms, kyphosis; laminectomy; improvement, complete return of sensation, but not motion; sudden paraplegia, death from exhaustion; post-mortem, tuberculosis of bodies, no pulmonary or urinary lesions. Reference: *Chipault, op. cit.*, p. 276.

CASE 90.—Operator, Gross; 1891. Dorsal region; duration, 1 year; female, 14; paraplegia, exaggerated reflexes, dorsal kyphosis, anesthesia, paralysis rectum and bladder; removal third, fourth, fifth and sixth laminae; caseous matter size of nut pressing upon cord; improvement at first, increase in pulmonary tuberculosis; result, no improvement. Reference: *Ibid.*, p. 259.

CASE 91.—Operator, Jalaquier; 1890. Cervico-dorsal region; duration, 7 months; male, 13½ years; complete paraplegia, recto-vesical paralysis, anesthesia; resection seventh C. and first D. laminae; great hemorrhage; improvement in motion during first few days, then disappeared; result, no improvement. Reference: *Ibid.*, p. 262.

CASE 92.—Operator, Pique; 1891. Dorso-lumbar region; duration, 9 months; male, 26; complete paraplegia, reflexes exaggerated, anesthesia, paralysis of rectum and bladder; tenth D. and second L. arches removed, pus and caseous material pressing cord; tubercular meningitis; death twelfth day. Reference: *Ibid.*, p. 272.

CASE 93.—Operator, Gardner; 1891. Duration, long time; female; paraplegia; removed two arches; pus and sequestra escaped from bodies; after some days slight return of motion; improvement. Reference: *Australia Med. Jour.*, 1893, p. 121.

CASE 94.—Operator, Jones; 1891. Dorsal region; duration, 5 years; female, 31; complete paraplegia, anesthesia, dorsal kyphosis; removed arches eighth and ninth D., seventh displaced backward, soft membrane covering cord; improvement. Reference: *Med. Record*, 1892, p. 290.

CASE 95.—Operator, Boiffin; 1891. Cervical region; duration, 9 months; male, 17; exaggerated reflexes, head movements difficult; removed third, fourth and fifth C. arches, dura normal; improvement. Reference: *Bull. Chir.*, 1892, p. 157, Case 2.

CASE 96.—Operator, Urban; 1891-92. Dorsal region; duration, 4 years; female, 19; paraplegia, kyphosis, 5-12 dorsal; temporary resection fifth, sixth, seventh, eighth, ninth and tenth arches; cord compressed at seventh, no pulsation below; death third day from syncope. Reference: *Verhand. d. Deutschen Gesell. f. Chir.*, 1892, p. 211.

CASE 97.—Operator, Urban. Dorsal region; duration, 9 months; female, 54; pain in back, paralysis, atrophy of lower limbs and trunk, sensibility to pressure at eighth spinous process; resection third, fourth, fifth, sixth, seventh, eighth, ninth, temporary; cord compressed at eighth, no pulsation below, pulsation did not return till resection of angle of body; death from syncope. Reference: *Ibid.*, p. 216.

CASE 98.—Operator, Guelliot et Moret; 1892. Dorsal region; duration, 1 year; female, 37; complete paraplegia, reflexes normal; resection twelfth dorsal arch, caseous material compressing cord; marked improvement. Reference: *Union Medicale du Nord Est*, 1891, p. 361.

CASE 99.—Operator, Chipault; 1890. Dorsal region; duration, some months; female, 4; abscess superior dorsal region communicating with medullary canal, recession of left eyeball, ptosis; articular process left and arch of first D. bare and rough, post-tubercular meningitis, large mass of fungous material; next day eye symptoms improved and in two days disappeared; recovery. Reference: Chipault, op. cit., p. 245.

CASE 100.—Operator, Roux; 1890. Dorsal region; duration, 1 month; male, 16; partial paralysis of right leg, slight anesthesia below second lumbar vertebra; removal of fifth and sixth arches, pressure by vertebral body; increased paraplegia to complete motor, sensory, rectal and bladder paralysis, wound suppurated; no improvement. Reference: Ibid., p. 246.

CASE 101.—Operator, Roux; 1890. Dorsal region; duration, 3 months; aged 9½ years; complete paraplegia, rectal and bladder symptoms, fluctuating tumor between fifth and sixth dorsal; removal of fourth and fifth arches, granulation tissue in canal; slight improvement. Reference: Ibid., p. 265.

CASE 102.—Operator, Roux; 1891. Dorsal region; duration, 2 years; male, 21; complete paraplegia, rectal and vesical paralysis, no anesthesia, reflexes normal; great hemorrhage, removal 7-8 D. laminae, pus right side of vertebrae from body of 8th; recovery; death from pulmonary tuberculosis one year later. Reference: Ibid., p. 264.

CASE 103.—Operator, Zavaleta. Dorso-lumbar region; duration, 4 months; male, 30 months; some paralysis of lower limbs, reflexes normal, no bladder or rectal symptoms, kyphosis 11th D. to 3rd L.; resection 12th D. and 1st L., dura much involved, tubercular granulations in canal, caries; recovery in two years. Reference: Ibid., p. 273.

CASE 104.—Operators, Zavaleta and Masi; 1892. Dorsal region; duration 1 year; male, 29; sensory-motor paraplegia, vesical and rectal paralysis; resection 7th, 8th, 9th D., no pulsation in dura, pressure due to fungous mass at 8th vertebra, also some sequestra; improvement at first, suppuration and death one month later from suppurative meningitis. Reference: Ibid., p. 274.

CASE 105.—Operators, Zavaleta and Ferrari, 1892. Dorso-lumbar region; duration, 3 months; male, 5½; kyphosis 11th D. to 1st L., ilio-femoral abscess, reflexes exaggerated, no paralysis of rectum or bladder; resection 11-12 D. 1st L., compression of cord by tubercular mass, carious body 1st lumbar, sequestra; suppurative meningitis; death. Reference: Ibid., p. 275.

CASE 106.—Operators, Zavaleta and Masi. Dorsal region; duration, 9 months; male, 3; paraplegia without pain, kyphosis; 7th, 8th, 9th dorsal arches removed, curettage of bodies; pulmonary edema following general sepsis some weeks later; death. Reference: Ibid.

CASE 107.—Operator, Reclus; 1882. Lumbar region; female, 22 months; fluctuating abscess of lumbar region extending to iliac fossa; opening, 3 fractured vertebrae found, small deposits found in a fungous mass, muscles of iliac fossa surrounded by tubercular processes; fistula remained for 6 months; improvement. Reference: Ibid.

CASE 108.—Operator, Reynier; 1882. Dorsal region; female, 30; fistulous tract at 8-9 D. leading to column; incision, resection of laminae 8-9 D., removal of tuberculous material; wound closed; recovery. Reference: Ibid.

CASE 109.—Operator, Ollier; 1891. Sacrococcygeal region; male, 21; pain over coccyx in early life, abscess over sacrum for two years, bone exposed; extirpation of coccyx and posterior wall of sacrum and its lower pieces. Reference: Ibid.

CASE 110.—Operator, Mayer; 1846. Dorsal region; duration, 6 months; female, 28; accident followed by dorsal gibbosity, later complete paraplegia; arch of 7th D. removed and showed marks of compression; recovery of sensation followed by hyperesthesia, convulsive movements; death on 21st day. Reference: Ibid.

CASE 111.—Operator, Maisonneuve, 1860. Lumbar region; male adult; complete paraplegia; resection of several lumbar arches; no improvement. Reference: Ibid.

CASE 112.—Operator, Ollier; 1882. Dorso-lumbar region; duration, 5 months; female, 18; weakness of legs and lessened sensibility, four abscesses in dorsal and lumbar region; incision of dorsal abscess, removal of 7th arch and surrounding tubercular processes, incision lumbar abscess, resection 11th and 12th D., 1st and 2d L., tuberculous process removed; immediate disappearance of all pain, improvement, 3 months later fistula, 6 months later another abscess, 9 months later death, pulmonary tuberculosis. Reference: Ibid.

CASE 113.—Operator, Fornari; 1883. Dorsal region; female, 20; abscess near 7th and 8th dorsal vertebrae; operation by incision and resection of 7th and 8th arches; diffuse spinal pachymeningitis; death 20 hours later. Reference: Raccogliatore Medico, 1884, vol. i, p. 401, Chipault.

CASE 114.—Operator, Southam; 1889-90. Cervical and dorsal regions; duration 1 year; female, 3½; complete paralysis of all extremities; exaggerated reflexes and painful breathing; resection 6th and 7th cervical arches, removed growths, dura not pulsating; three months later resected 4th and 5th cervical and 1st dorsal; improvement after first operation slight; more marked after second; ninth month voluntary motion improved, and in 1892 could walk. Reference: Ibid.

CASE 115.—Operator, Southam. Dorsal region; female, 5; dorsal caries, complete motor paraplegia, incomplete sensation; resection 3d, 4th, 5th D. arches, some pus from corresponding vertebrae, no pulsation of cord; no improvement; death 9th day from pneumonia. Reference: London Lancet, 1890, vol. ii, p. 1300.

CASE 116.—Operator, Cotterell; 1895. Cervical region; duration, old; female, 13; Pupils dilated, paralysis of right arm, scar on neck from removal of glands 5 years before, projection forward of cervical vertebrae felt through pharynx, head fixed, gradually lost power over left arm and both legs; laminae and spines of 4th, 5th and 6th C. vertebrae removed; dura bulged slightly; no evidences of dead bone found; skin and muscles sutured, wound closed by first intention; 2nd day, moved left hand; 6th day, moved left hand and arm; 9th day, moved right hand; 14th day, moved right arm above head; 3 months later, complete power over extremities and sensation returned; stiffness of neck removed under massage; complete recovery. Reference: London Lancet, 1896, I, p. 844.

CASE 117.—Operator, E. Percy Paton; 1895. Dorsal region; duration, 6 months; male, 8½. First noticed weakness in left leg, causing limping, later appeared in both; angular curve in lower dorsal region; thighs flexed so as to touch abdomen; loss of sensation; knee-jerks active, micturition and defecation normal;

later all reflexes disappeared and loss of power over bladder and bowels; temperature very irregular, but no sign of suppuration. Vertical incision made over 7th, 8th and 9th D. spines; bleeding controlled with sponges; 7th and 8th laminae removed; dura covered with layer of granular tissue; pus and caseous material discharged; closed with deep and superficial sutures and small drain left. Rallied from operation; temperature better, general condition improved; only partial improvement in the paralysis; control over micturition and defecation; 3 months later abscess involving left hip joint, most of head of femur gone, caseous material and pus removed; death 11 months after operation. Autopsy: Only region of laminectomy examined; gap where laminae were removed much narrowed, filled with a tough, fibrous tissue; diseased foci found in bodies of several vertebrae. Reference: Ibid., p. 1351.

CASE 118.—Operator, Arthur Neve; 1888. Dorsal region; duration, 6 months; female, 18. Dorsal curvature and paraplegia; both legs much wasted and no voluntary movement; sensations of heat, cold and pain in both legs; general condition good. Removal of 8th and 9th laminae; dura healthy and pulsated; wound closed by primary union. Increased pain at first; in 3 days could move left leg slightly. Result: No improvement; discharged one month after operation. Reference: Ibid., p. 1062.

CASE 119.—Operator, Arthur Neve; 1895. Lumbar region; duration, 2 years; male, 7. Complete motor and sensory paralysis; slight improvement with extension. Laminae of 5th and 6th L. removed, dura healthy and cord pulsated; respiration became embarrassed; iodoform dusted in and wound closed without drain; healed; 10 days later wound opened and 1 ounce of pus escaped; sensation and muscular power completely regained in 6 months, but patient was much emaciated; complete recovery. Reference: Ibid.

CASE 120.—Operator, T. Sinclair Kirk; 1895. Dorsal region; duration, 1 or 2 years; female, 5½. Dorsal curvature, complete anesthesia of lower part of body and legs, bowel and bladder symptoms, had diarrhea, general emaciation. Menard's operation; incision 4 inches long, int. to tips of trans. processes on left side; 4th and 5th trans. proc., at junction with lamina and pedicle, artic., with ribs and portion of ribs laid bare; transverse processes removed, ribs cut and head and neck removed; diseases parts of bodies, i. e., cavity corresponded to body of 5th and part of 4th D.; pleura punctured, but no harm done; wound closed. Two days after operation bowels improved; 4 days after, reflexes and sensation; 7 days after, wound healed; 10 days after, analgesia gone; 16 days after, muscular power returned; great improvement; complete return of sensation and muscular power, but curvature remained. Reference: British Medical Journal, 1896, ii, p. 1442.

CASE 121.—Operator, Halley, 1895. Dorsal region; duration two years; male, 27. Angular curvature at 5th and 6th D.; motor paralysis of lower extremities; no bladder or bowel symptoms. Removed laminae of 5th and 6th D.; 4 weeks later, 7th and 8th. Wound healed by first intention, paralysis entirely gone in 10 days; recurrence and second operation; complete recovery. Reference: Jour. of Nerv. and Mental Diseases, 1896, vol. xxiii, p. 770.

CASE 122.—Operator, Alfred Parkin; 1893. Dorsal region; duration, 6 months; male, 8. Partial paraplegia, partial bladder and bowel symptoms; extension unsuccessful. Removal of 6th to 9th D. laminae; cord flattened, but pulsating; caseous mass anterior to the cord and much dead bone removed; wound closed and drain left in; spine fixed by means of plaster jacket. Three days after operation, knee jerk on right side; 8 days after, on both sides; 3 months after, sat up in bed; general health good; deformity remains; complete recovery. Reference: Brit. Med. Jour., 1893, i, p. 796.

CASE 123.—Operator, Alfred Parkin; 1893. Cervical region; duration, 6 years; male, 9. Partial paraplegia, knee-jerks and ankle clonus absent; 6th and 7th C. spines prominent; extension followed by complete paraplegia; diaphragm did not act in respiration. Sixth C. spine and lamina removed and cord exposed, 4th and 5th reduced to mass of connective tissue; all compression removed, followed by pulsation; diaphragm commenced to act. Day after operation rigidity of limbs less, knee-jerks returned, abdomen moved in respiration; wound healed quickly, all symptoms gone in 2 months. Complete recovery, but death from tubercular meningitis. Autopsy: Caseating glands found in front of bodies of 3rd, 4th and 5th vert.; cord normal; brain showed usual appearance of tubercular meningitis. Reference: Ibid., 1894, ii, p. 699.

CASE 124.—Operator, Alfred Parkin, 1893. Dorsal region; duration, 3 years; female, 8. Kyphosis, lordosis in lumbar region, advanced scoliosis, dorsal and lumbar spines convex to right, head and cervical part to left; rigidity of legs, knee-jerks feeble, sensation unimpaired; extension increased trouble. Spines and laminae of 10th, 11th and 12th D. cut away and caseous material in front of cord removed. Next day knee-jerks returned, rigidity of legs less marked; wound healed leaving small sinus for one month; general condition good; later developed psoas abscess; recovery. Reference: Ibid.

CASE 125.—Operator, Alfred Parkin; 1893. Dorsal region; duration six months; male, 10. Both legs rigid, reflexes present, complete anesthesia and analgesia up to the nipples in front and angle of scapula behind; shooting pains in back; 11th and 12th D. vert. could be moved laterally; their spines and laminae removed and cord bulged into wound, but no caseous material found. Next day could move legs; wound healed quickly, no rise of temperature; all symptoms gone in 4 months; complete recovery. Reference: Ibid.

CASE 126.—Operator, Alfred Parkin; 1893. Cervical region; duration uncertain; male, 3. Seventh C. and 1st D. spines prominent; could not walk well, knee-jerks lost later, other reflexes normal, legs much emaciated, no loss of sensation, respiration only by means of diaphragm. Laminae 6th and 7th C. removed and granulations taken away. Two days later respiratory muscles commenced functioning; all symptoms improved; result, great improvement. Reference: Ibid.

CASE 127.—Operator, Alfred Parkin, 1894. Lumbar region; duration, 2 years; female, 8. Prominent boss in lumbar region; rigidity of legs, but could be drawn up; walked only when supported, knee-jerks absent; bowels and bladder acted involuntarily; sensation in feet and legs impaired. Spines and laminae of 2nd and 3rd L. cut away and caseous material removed from corresponding bodies. Immediate improvement; wound did not heal well, had to be scraped twice; 4 months later, 2 small sinuses; all symptoms improved; psoas abscess developed. Improvement, but general tuberculous tendencies. Reference: Brit. Med. Jour., 1893.

CASE 128.—Operator, Trendelenberg, 1896. Dorsal region; duration, 5 years; male, 11. Sensibility unimpaired, spasmodic paraplegia, bowels normal, reflexes exaggerated. Resection of 7th C. and 1st, 2nd, 3rd D.; dura thickened with granulations. No improvement from operation. Reference: *Verhandlung der Gesell. f. Chir. Kong.*, xxviii.

CASE 129.—Operator, Trendelenberg, 1897. Dorsal region; duration, from early childhood; male, 17. Three years before began to limp; 1 year later, walking difficult, markedly spasmodic; unable to walk for last year; marked curvature to left and deformity of thorax; loss of sensation below umbilicus; spasmodic paraplegia; some movement of toes possible; no bladder or bowel symptoms; reflexes exaggerated. Fifth to 7th D. laminae removed; cord discolored and twisted; lumen of canal narrowed. Loss of power over bladder after operation; later regained; spasmodic contraction of legs; 3 years later could walk; never had an erection since. Recovery. Reference: *Ibid.*

CASE 130.—Operator, Trendelenberg, 1898. Dorsal region; duration, 2 years; female, 14. Sensibility on right side normal, absent below knee on left side; muscular power strong on left side, slightly reduced on right; standing or walking became impossible; bowels normal; left patellar reflex remains, right absent. Eleventh and 12th D. and 1st L. laminae removed; canal narrowed. Rapid disappearance of symptoms. Recovery. Reference: *Ibid.*

CASE 131.—Operator, Trendelenberg, 1898. Dorsal region; duration 3 years; female, 14. Sensibility normal, paralysis of left side, paresis on right to great degree; unable to walk or stand. Ninth and 10th laminae removed, narrowing of canal. Constant improvement; recovery. Reference: *Ibid.*

CASE 132.—Operator, Trendelenberg, 1898. Dorsal region; duration, since early childhood; male, 18. No effect on sensibility, unable to walk, incomplete control over bowels, reflexes increased. Third to 6th dorsal removed, narrowing of canal. No improvement. Reference: *Ibid.*

CASE 133.—Operator, Trendelenberg, 1899. Dorsal region; duration, 4 years; male, 9. Sensibilities intact, spastic paraplegia, slight muscular power over legs, reflexes increased. Seventh to 10th D. laminae removed; caseous material removed from arch of 10th, which was carious. Loss of power over bladder and rectum, later returned; had priapisms; continued improvement. Still under treatment; condition worse than before operation. Reference: *Verhand. der Gesell. f. Chir. Kongress*, xxviii.

CASE 134.—Operator, Trendelenberg, 1898. Dorsal region; duration, 15 years; male, 18. Sensibility, complete anesthesia below crest of ilium; spastic paraplegia and involvement of ilio-psoas muscle; loss of power over bladder, incomplete over rectum; reflexes increased. Removal of laminae, 8th and 9th dorsal; epidural abscess size of cherry. Subsidence of anesthesia, improvement in bladder and bowel symptoms; gradual improvement; recovery. Remarks: Symptoms pointing to another abscess. Reference: *Ibid.*

CASE 135.—Operator, Trendelenberg, 1899. Dorsal region; duration 17 years; male, 36. Sensibilities dulled, paresthesia, weak movements, can walk on crutches; marked spasms, incontinence of urine and feces, bowels same; reflexes increased. Removal laminae 2nd to 4th dorsal, narrowing of canal. Movement of legs rapidly returned; bladder and bowel symptoms much improved; recovery. Still under treatment. Reference: *Ibid.*

CASE 136.—Operator, Ellenwood, 1894. Dorsal region; duration, 10 months; male, 26. Struck by log; had secondary syphilis; complete paraplegia, diagnosed as Pott's disease. Fourth, 5th, 6th and 7th D. arches removed; abscess around right 5th trans. process connecting sequestrum in canal; no drainage. Small sinus; remaining, little improvement. Death from pulmonary tuberculosis. Reference: *Occidental Med. Times*, 1894.

CASE 137.—Operator, Lloyd, 1892. Case 1. D. region; duration, more than 2 years; boy, between 7 and 8 years old. Sharp kyphosis, apex at 7th dorsal; abscess with fistula opening between the 8th and 9th ribs of right side, about 3 inches from median line posteriorly; physical condition bad; sacral bedsores; paraplegia, anesthesia and vesico-rectal paralysis. Incision made along margin 8th rib from sinus toward spine about 2 inches; resection of rib; during dissection along the sinus pleura was opened and fluid evacuated from an encapsulated cavity; large abscess finally opened communicating with bodies of 7th and 8th vertebrae; bone debris, sequestra and granulation tissue scraped away; articular processes of both vertebrae found eroded and transverse process loose. Removal of these portions allowed entrance to vertebral canal and the removal of considerable debris pressing on cord. Gradual improvement in symptoms; anesthesia less marked, control of bladder, then of rectum; motion in flexors and adductors of thighs; then pulmonary involvement and death in 8 months after operation.

CASE 138.—Operator, Lloyd, 1892. Case 2. D. region; duration 1 year; boy, 10 years. Kyphosis at level of 10th dorsal with sinuses along back and psoas abscess of large size; paraplegia, partial anesthesia, some rectal and vesical paralysis, very septic, contractions of thighs and legs. Incision from 8th to 12th dorsal; muscles infiltrated with tubercular tissue; during curettage transverse process, articular process and part of right lamina of 10th vertebra removed; cord compressed by granulation material and a sequestrum from body of 10th laminae. 9th, 10th and 11th vertebrae removed and vertebral canal curetted; pulsation returned in cord. Decided improvement; could soon move legs; had control of bladder and rectum and sensation normal. Contracted measles and died 10 months later while still improving. Still had sinuses communicating with bare bone.

CASE 139.—Operator, Lloyd, 1893. Case 3. L. region; duration 7 months; girl, 7 years. Tubercular tumor with psoas abscess over 2nd lumbar vertebra. Partial paraplegia, vesico-rectal paralysis; great pain in back and legs; sacral bedsores; incision into tumor and curettage, opened spinal canal between laminae of 2nd and 3rd vertebrae close to transverse processes of left side; removal of laminae 1st, 2nd and 3rd L., caries body of 2nd; psoas abscess opened in Scarpa's triangle; this communicated with posterior abscess; drainage. Improvement, but soon showed pulmonary tuberculosis, from which she died within one year.

CASE 140.—Operator, Lloyd, 1893. Case 4. D. region; duration 2 weeks; girl, 7 years. Kyphosis level of 5th D. vertebra; plaster jacket; whooping-cough, sudden paraplegia and anesthesia below umbilicus, vesico-rectal paralysis. Laminectomy 3rd, 4th, 5th and

6th dorsal; compression of cord from displacement of body of 5th vertebra, which was carious and almost destroyed, probably happened during a fit of coughing; no pulsation in cord below this area, even after scraping away the compressing portion. No improvement. Death from respiratory difficulty due to ascending degeneration of cord.

CASE 145.—Operator, Lloyd, 1898. Case 5. C. region; duration 1 year; man, 24 years. Torticollis, posterior pharyngeal abscess, tingling in arms and lower limbs, numbness; no paraplegia, but sense of sluggishness in muscles and weakness; reflexes exaggerated. Incision parallel to post. margin of sterno-cleido-mastoid, right side careful dissection; abscess opened, trans. process and ant. surface 3rd and 4th vert. eroded and bare; necrosis inferior articular process; 3rd opening canal; vertebral artery not injured; small focus granulation tissue about articular process extending slightly into canal. This patient developed tubercular disease about knee, which was operated on 6 months later. At this time all numbness and spinal symptoms had disappeared. He then developed dulness of both pulmonary apices. Sent to mountains and now, June 6, 1900, is well except for a small sinus in neck not communicating with bone.

CASE 146.—Operator, Lloyd, 1893. Case 6. D. region; duration long time; boy, 12 years. Had been paralyzed a long time before coming to hospital. Complete paraplegia and anesthesia below umbilicus. Great pain in back and legs, vesico-rectal paralysis; slight displacement backward of 4th dorsal spine. Laminectomy 2, 3, 4, 5, 6 dorsal; pachymeningitis with great thickening of dura from 2nd to 5th dorsal; leathery mass removed; some hemorrhage, controlled by temporary packing; dura opened in several places, but readily sutured, cord softened. No improvement; death from exhaustion 3 months later.

CASE 147.—Operator, Lloyd, 1893. Case 7. D. region; duration 10 months; girl, 5 years. Paraplegia, anesthesia from point between umbilicus and symphysis; vesico-rectal paralysis; sacral bedsores, also bedsores over heels; reflexes abolished. Laminectomy 5, 6, 7, 8 dorsal; mass grayish granulation material involving intervertebral fat and interspinous ligaments; small carious focus in body of 6th vertebra; severe compression of cord; no return of pulsation, softened. No improvement; gradually increasing paralysis and finally death 4 months later from respiratory failure due to ascending degeneration.

CASE 148.—Operator, Lloyd, 1894. Case 8. D. region; duration some months; boy, 9 years. Very large and sharp kyphosis from 2nd to 9th dorsal; paraplegia, anesthesia below umbilicus, vesico-rectal paralysis; reflexes abolished; contracted thighs, pain in back and limbs, especially on motion. Laminectomy 4th, 5th, 6th and 7th D., cord completely severed between greatly thickened interspinous ligaments of 5th, 6th and 7th spines and body of 6th. No improvement. Death from pyelitis 2 months later.

CASE 149.—Operator, Lloyd, 1894. Case 9. D. region; duration, 6 months; boy, 11 years. Sinus at angle of 7th rib, which was bare; fluid in pleura, fluctuating tumor between sinus and spine; unable to walk; reflexes exaggerated, pain in back, chest and limbs; spastic gait. Incision enlarging sinus backward, resection rib 2 inches, opening pleura, pus evacuated, communication sinus with fluctuating tumor, incision extended; granulations and several sequestra found, 1 being head of rib; piece of rib removed; vertebral canal opened alongside of transverse process; Post. nerve roots injured during exploration. Lamina of 9th vert. removed and some bone debris curetted from around cord. All symptoms due to spinal pressure disappeared immediately; could walk in 2 weeks. Death from exhaustion from large suppurating wound involving pleura 6 weeks later.

CASE 150.—Operator, Lloyd, 1895. Case 10. D. region; duration, 2 years; girl, 7. Paraplegia, anesthesia, vesico-rectal paralysis; reflexes almost if not quite abolished; bedsores, sacrum and heels; pain, back and legs and abdomen; cystitis very marked. Laminectomy 2nd, 3rd and 4th dorsal; tubercular mass involving ligamenta subflava and interspinous ligament between 3rd and 4th spines; transverse process and articular process (superior left) of 3rd vertebra eroded; cord greatly compressed; no pulsation after or before removal of mass. No improvement. Death from pyelitis 5 months after operation.

CASE 151.—Operator, Lloyd, 1894. Case 11. C. region; duration, more than 1 year; girl, 6 years. Paraplegia, anesthesia including arms partially; occasional attacks respiratory difficulty; bedsores, vesico-rectal paralysis, abolition reflexes; tumor over 5th and 6th cervical vertebrae. Laminectomy 5th and 6th cervical; tubercular granulations springing from spines 5 and 6, and eroding left lamina of 5th vert.; compression of cord by pachymeningitis and tubercular granulations and bony debris; pulsation not satisfactory after compression removed. Slight improvement only. Could use arms but not legs. Death from respiratory failure 3 months after operation.

CASE 152.—Operator, Lloyd, 1895. Case 12. D. region; duration, 3 months; girl, 7½ years. Partial paraplegia; reflexes normal; no anesthesia; pulmonary involvement left apex; tumor over 12th dorsal. Laminectomy 11th and 12th dorsal, 1st lumbar; caries arch 12th dorsal and spinous process involving vertebral canal for short distance. Immediate and complete recovery. In few weeks could walk well without aid of any kind. Death 8 months later, pulmonary tuberculosis.

CASE 153.—Operator, Lloyd, 1896. Case 13. D. region; duration, 7 months; boy, 4 years. Complete paraplegia, anesthesia, vesico-rectal paralysis, abolished reflexes; great pain; sharp kyphosis 11th dorsal and 3rd lumbar. Laminectomy 11th and 12th dorsal, 1st and 2nd lumbar; pressure due to tubercular debris, and large sequestrum completely occupying vertebral canal; cord absolutely separated for space of 1½ inches, except for a fibrous band. No improvement.

CASE 154.—Operator, Lloyd, 1898. Case 14. L. region; duration, 2½ years; boy, 5 years. Psoas abscess, sinus at tip of coccyx into rectum and gluteal region. Very painful on pressure in region of 4th lumbar spine; does not attempt to walk; reflexes exaggerated; amyloid liver, spleen also enlarged; marked lumbar lordosis. Incision along lumbar region opens abscess and allows of removal of sequestrum from body and transverse process of 4th lumbar; lamina also eroded and removed; granulations scraped away from cauda and from abscess cavity. Complete recovery of function; can walk well without support.

(To be continued.)

JOINT TUBERCULOSIS.*

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The discussion of tuberculosis of the hard and soft parts has been so general in the past years that it would hardly seem necessary at this date to emphasize the extent or the importance of this infection in the production of bone or joint disease, but the fact still remains that a large proportion of cases of joint tuberculosis are not recognized until the period of actual destruction has taken place. Tuberculosis of the joints, as of the lungs, requires for its arrest a diagnosis at the very beginning of the infection. At this time, while it is a purely local process, arrest and cure are perfectly feasible; in the later stages, destruction of bone or joint or limb or life is probable. It is of the utmost importance, therefore, that a recognition of the earliest signs should be urged upon the general practitioner, so that curative measures may be instituted at the earliest possible moment. Three things are absolutely necessary in order to accomplish this result: 1. The practitioner must first recognize that joint tuberculosis is at the beginning a purely local process; that the focus is small; that local and constitutional symptoms will not present themselves in any positive palpable or visible symptoms so far as the ordinary evidences of acute inflammation are concerned. As a rule, there will be neither heat, nor swelling, nor redness, nor recognizable pain. I do not mean by this that there will not be recognizable symptoms; these are nearly always present, but they are of a different kind, as will be shown later. 2. The practitioner must rid his mind of the idea that joint tuberculosis originates only in the children of tubercular parents. A visibly healthy child, of apparently absolutely healthy ancestry, can, and often does, have local tuberculosis. 3. He must absolutely divest himself of the old idea that all joint pain is rheumatic. This last error is the most difficult of all to remove, as it is so firmly fixed in the minds of the profession and of the laity, and is most pernicious in its results.

As already stated, the evidences of acute inflammation are rarely present. It is a quiet struggle that is going on deep in the recesses of the epiphysis of the bone, but it is a desperate one. The tubercle bacillus has gained a foothold, owing to some local traumatism or temporary constitutional depression that has lowered the individual's resistive power. The attack of the enemy is immediately the signal for phagocytic defense; the invader must be destroyed, or, failing in this, must be walled off and isolated from the system. In a previously healthy individual victory will crown the efforts of these defending cells, if the physician will but lend his aid to prevent that stage beyond hyperemia which we recognize best by the term inflammation. Alas! Too often the surgeon waits for the flame to show itself, when he should have made his diagnosis while there was but the smouldering ember! It is then too late to check disastrous results. It is a discredit to any surgeon to wait for violent or inflammatory symptoms before he makes a diagnosis; both diagnosis and treatment are demanded at the very inception of the invasion. With early diagnosis and early treatment, hundreds of crippling results will be arrested.

After a slight and often unrecognized injury, a child begins to limp. Let no physician imagine that a child

limps "from habit;" a child does not wish to be hampered in its play, and it will limp only from a cause. To find that cause is the duty of the physician; he will not find it by looking for tenderness or pain, although these may be exceptionally present, but first in rigidity of the muscles (muscular spasm), protective rigidity, in the region of the joint affected. The muscles are all placed upon guard, and diminished mobility is the result. Fortunately, Nature at once recognizes the invasion of the enemy, and uses her best efforts to secure the condition most helpful for recovery. Nature puts the part as thoroughly at rest as is possible under existing mechanical conditions by fixing the joints in the best attainable position and preventing motion, but unfortunately in doing this she is compelled to bring the two joint surfaces into more positive apposition. This rigidity can be recognized in the first few days, if the patient is stripped and placed in a horizontal position; a comparison of the position of the limbs and the motions possible at any given joint can then be fairly instituted. With the patient standing, or clothed, any surgeon is liable to error, especially if the joints of the lower extremities are involved. Even for an examination of the shoulder or elbow, patients should be stripped to the waist. I am inclined to attribute a large proportion of errors to insufficient examination. A careful investigation, under these circumstances, will, even in the first few days of the disease, disclose this limitation of motion in some direction. At the knee we will usually find that the hamstring muscles, being the stronger, have carried the knee into a state of flexion, thereby also relieving joint strain; at the hip, the psoas, iliacus and anterior muscles will be found in a state of excessive tension, while the entire periarticular group will also be rigid and on guard. Bringing the pelvis into its proper relation to the vertebræ, by flexion of the sound limb upon the chest, will at once show the deviation of the affected limb from its normal relations to the ilium; or, if the popliteal space is brought down upon the table, the pelvis will be so tilted that a compensatory lordosis of the spine is necessitated. In early examination, movements of the femur may drag the pelvis after it only in one direction, but a few days later all the muscles will be on guard, and it will be noted that the pelvis follows the thigh bone in all directions: adduction, abduction, flexion, rotation, etc.

Pain.—Pain is frequently entirely absent or may exhibit itself by a reflected pain, or by distress along the course of a nerve and at a distant point, as in the knee in hip-joint disease, or down the legs or in the abdomen in spinal caries. The night-cries so frequently present in joint disease are an evidence of deep pain, caused by the sudden resumption of muscular control when any motion of the limb during sleep arouses the muscles to sudden and violent action. The patient, after a scream or cry, will be relieved by the control secured by muscle rigidity, and will sink to sleep only to have the process repeated at irregular intervals. Tenderness may be entirely or partially absent; in fact, is rarely present over a tubercularly diseased vertebra. Rigidity is evidenced when attempts are made either at flexion, extension, lateral bending or rotation, and is a much more reliable sign. Tenderness even at the ankle and wrist in tuberculous cases is often wanting. Induration and thickening, however, are usually present early, and become marked as the disease progresses; comparison with the opposite joint will best discover the amount. Heat or redness is rarely visible.

* Read by title in the Section on Surgery and Anatomy, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

Heredity.—Every individual, and especially every child, is liable to be invaded by tubercle bacilli, no matter how healthy in itself, no matter what the condition of the parents. The child of tuberculous parents is far less able to resist the onslaught of these bacilli, and it was this non-resistance of cells that was recognized by the older pathologists as the "scrofulous" or "tubercular diathesis." Healthy cells, however, may be temporarily rendered non-resistant by disease, general or constitutional, or by injury producing hyperemia or inflammation. During this stage, tubercle bacilli introduced through a slight abrasion, or through the blood, may secure a lodgment; phagocytic action being temporarily reduced may not be able to overcome them, and a foothold is secured in the epiphysis, which is in young children an especially favorable focus owing to its great activity. What we mean by tubercular heredity, therefore, is simply congenital cell non-resistance, and such a child will be continually exposed to the dangers of infection from even trifling traumatic or other causes, while such causes in the truly healthy child would be quietly and successfully repelled. Let it not be forgotten, therefore, that there are seasons and conditions in the strongest child when, through temporarily reduced vitality, a tubercular infection may take place.

Rheumatism.—A large majority of all cases of tubercular hip disease are treated for weeks, even months, sometimes even up to the stage of suppuration, for so-called "rheumatism." The mistake is utterly inexcusable, for rheumatism of a single joint in children ought to be absolutely thrown out of the question, unless positive symptoms are in evidence. The symptoms of true rheumatism are always sufficiently marked to render the diagnosis clear, consequently if every case of joint disease which is unaccompanied by positive indications is viewed from the beginning with the probability of its being tubercular, the greatest benefit to mankind will be secured. I have never seen injury resulting from an error of diagnosis in this direction; I have seen hundreds of most lamentable results from the "rheumatic" mistaken diagnosis. Moreover, the treatment for the more grave disease is never injurious, even granted that the rheumatic element is present. The symptoms of the two conditions differ so widely that only care is necessary for the differentiation.

Treatment.—Diagnosis being assured, the indications for immediate and early treatment are positive. One week of rest at the inception of a tubercular invasion will accomplish more than months at a later period after a tubercular focus is established. A large proportion of the cases of invasion can be warded off if the proper treatment is commenced within the first ten days. The treatment of joint disease should follow certain positive lines; the methods of securing results will differ greatly with individuals, as might be anticipated. Rest of the affected joint; control of muscular action; relief from weight-bearing; abundance of sunshine, fresh air and good food are the fundamental ideas. Mechanically, the chief object is to prevent the addition of hyperemia and inflammatory action to the cell conflict already inaugurated against the invading enemy. Therapeutic and hygienic measures are of the greatest importance. A general definite plan of treatment is all-important; the particular method, or the particular splint, to be employed is not of much consequence.

Conclusions.—1. Diagnose early; treat early. 2. Do not look for positive inflammatory signs as indications of tubercular invasion; the symptoms are entirely dif-

ferent, but are equally positive, if a careful examination is made, muscular rigidity being one of the earliest and most reliable. 3. Discard entirely the existence of rheumatism of a single joint in children.

PERMANENT CATHETERIZATION.*

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Varying opinions are held as to the usefulness of the retained catheter after perineal operations upon the posterior urethra. Most authorities, in discussing external urethrotomy, pass the retention catheter without comment, advocating the use of the short perineal drainage-tube only. By some it is advised that continual catheterization be employed for twenty-four or forty-eight hours, and that at the end of that time intermittent catheterization be begun. A few favor retention of the catheter for a longer period, varying from three to six days. By no writer with whose counsels I am familiar are we taught to leave the catheter in after perineal urethrotomy until the urethral and perineal wounds are firmly healed.

Permanent catheterization for a period as long as twenty days is common practice in hematuria, having its origin in trauma of the prostate, and, as is well known, it is often indicated and employed in certain cases of retention of urine, the patient being placed under such circumstances that regular sterile catheterization can not be practiced. In such cases a permanent catheter, far from causing distress, often affords complete relief from pain and strangury, and even in cases of pronounced infection it often gives excellent service. It relieves tension, diminishes cystitis and renders the subsequent passage of instruments easy by maintaining or even increasing the caliber of the urethra.

The practice of permanent catheterization fell into disrepute before the advent of clean surgery, it having been observed that the continuous presence of the catheter in the bladder and urethra produced congestion at the vesical neck, cystitis and a mechanical urethritis. Abscesses also developed occasionally in the periurethral tissues at the serotal angle, due in all probability to pressure exercised by the instrument.

Inflammation of the bladder may occur during permanent catheterization, as a direct extension of a urethritis or from decomposition of the small quantity of urine which always moistens the intravesical end of the catheter. To prevent this complication we are generally advised to change the catheter often and to flush the urethra twice daily with 1 to 10,000 corrosive chlorid solution, or 1 to 1000 silver nitrate, and to irrigate the bladder as often with 4 per cent. boric acid solution.

It occasionally happens, however, that the membranous and prostatic urethra, after external urethrotomy, particularly along the line of incision, is so sensitive and deformed that the changing of the catheter would be an exceedingly difficult and exquisitely painful procedure. After perineal section involving removal of a portion of the posterior urethra and anastomosis, the passage of the catheter is, as is well understood, extremely difficult of execution.

If, after such an operation, a large soft-rubber catheter can be retained in the urethra, its tip barely projecting into the bladder, until the urethral and perineal

* Presented to the Section on Surgery and Anatomy, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

wounds have completely healed, or firm granulation tissue fills the perineal defect, it will, as can readily be seen, do away with much of the tedious work of after-treatment in the case. The writer has been surprised to discover with what great tolerance the urethral mucosa suffers the presence of a soft-rubber catheter. This tolerance on the part of the mucous membrane seems to be more marked when a catheter of large size is used. The reason for this is not altogether clear. It is possible, however, that when a large catheter is used, the lumen of the urethra being quite filled, and the possibility of movement of the catheter in the urethra being thereby restricted, irritation of the mucosa as the result of friction is not so apt to occur as if smaller instruments were used. Moreover, the very presence of a large catheter in the posterior urethra extending into the bladder doubtless does much to relieve spasm at the vesical neck by mechanically preventing contraction of the cut off muscles. The effect here is perhaps similar to that produced by dilatation of an irritable and contracted sphincter ani.

In a case observed by the writer, after a perineal section for impassible traumatic stricture involving excision of a huge scar, resection of nearly all of the membranous urethra and urethral anastomosis, a No. 26 French scale, soft-rubber catheter was retained in the urethra for seventeen days, and in that time the patient neither suffered loss of sleep nor complained of pain. The temperature never rose above 99.4 F., nor the pulse above 80. As for discharge, there was just enough of mucopurulent character to slightly moisten the meatus, the lips of which were somewhat pouting and red. This patient received, by mouth, three times a day, five grains of salol and five grains of cystogen. The bladder was washed out twice daily with warm 4 per cent. boric acid solution, and once every other day an ounce or more of hot solution of 1 to 5000 potassium permanganate was injected between the catheter and the urethral mucosa. After the sixth day the discharge from the urethra ceased, and the flushing with potassium permanganate was discontinued. It seemed that the mucosa of the urethra had now become quite tolerant of the catheter. The discharge did not reappear. The bowels were not allowed to move during the first two weeks. At the end of this time they were cleaned with Apenta water. When the catheter was removed, healing was quite complete and the subsequent care of the case was easy. In this instance intermittent catheterization was hardly to be considered, and permanent retention of the catheter left nothing to be desired. In another case, one of traumatic stricture with consequent fistula of the membranous urethra of thirteen years' standing, a No. 26 Charrier scale catheter was left in after perineal section and urethrotomy, for twelve days. The perineal wound healed solidly during this time. After removal of the catheter, the membranous urethra was found to be large enough to readily admit the passage of a No. 32 French steel sound. This striking increase in the caliber of the urethra was doubtless due to absorption produced by the permanent dilatation. It has been interesting to the writer to note with what facility sounds several sizes larger than the retained catheter can be introduced after removal of the latter.

In a third case, after operation for the relief of a large suppurating and much operated perineal fistula, the process of repair being slow, a No. 26 French rubber catheter was left in the urethra for sixty-five consecutive days. After the tenth day, pain in the bladder and the discharge from the urethra having ceased, the patient

began to walk about, the urine being caught in a rubber urinal tank strapped to the thigh. Three weeks after the introduction of the catheter this man made a journey into an adjoining state, wearing the instrument without discomfort, returning after four days, none the worse for the trip.

The writer has recently employed permanent catheterization, after perineal lithotomy, in two cases. The catheter was kept in for two weeks in each instance. During this time no attention was paid to the condition of the urethral and vesical mucosæ except in so far as administration by the mouth of salol and cystogen may be interpreted as such attention. Neither urethra nor bladder was flushed at any time. There was no apparent cystitis and no discharge from the urethra, the perineal wounds healing promptly.

The observations in these cases would seem to teach that the danger of mechanical urethritis and cystitis as the result of the presence of a retention catheter has perhaps been somewhat overestimated, that after such a catheter has been in contact with the urethral mucosa for several days there develops a distinct tolerance on the part of the urethra for the instrument, and that large catheters are rather to be chosen for permanent retention than smaller ones. A large catheter is much more easily retained than a small one.

SUGGESTIONS FOR THE RECONSTRUCTION OF SYPHILITIC NOSES.*

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Nasal deformity from syphilitic destruction of bone and cartilage is a very frequent result of the tertiary stage of the disease. The disfigurement varies in extent and character, but is always very noticeable because of the importance of the nose in facial contour. The mental distress of the patient is usually acute, because the disfigurement is associated in the public mind with a loathesome and disgraceful disease. The fact that syphilis may be inherited or be acquired in an innocent manner avails little in the public's estimate of a person carrying ever upon his countenance the well-known mark of sexual impurity. Nearly every other lesion of syphilis may be concealed from public observation, or may at least be attributable to diseases of a less dishonorable nature. The patient with the sunken or distorted nose of syphilis has, however, scarcely any shield to protect him from impertinent scrutiny and the innuendo that his tissues are contaminated with the scourge usually due to unchastity.

These circumstances make the condition one to appeal to the sympathy of the surgeon, whose every effort should be given to the consideration of adequate operative relief.

My attention has been forcibly directed to this surgical problem, because I have recently seen more than one who had in vain applied for relief to the general surgeon and nasal specialist. For years past the correction of deformities of the face has been of increasing interest to me; and I have been more and more gratified at the results obtainable by intelligent operative measures. The literature of this surgical field has become quite voluminous, but it will be found to repay those who take time to study it.

Syphilitic deformities of the nose may be roughly divided, for the present purpose, into: 1, those in which

* Read by title in the Section on Surgery and Anatomy, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

one or both alæ, the lobule, the columella, or other parts of the external nose have been ulcerated away; 2, those in which the internal supports of the cartilaginous nose have been destroyed and the middle of the organ has fallen inward, causing a transverse depression below the nasal bones; and 3, those in which a similar internal destruction has been followed not only by the transverse depression but a cicatricial invagination of an ala, both alæ, or the end of the nose. The more serious cases may be complicated with necrotic perforation



Fig. 1.—Destruction of alæ and lobe of nose, due to syphilis.

of the hard palate, loss of portions of the alveolar process of the upper jaw, cicatricial changes from ulcerative destruction of the soft palate; and also by actual loss of portions of the sunken or retracted external nose. The first group contains the cases which are improved by the comparatively simple plastic procedures; and hence they are not often refused treatment. It is not difficult to make a new ala out of the tissues of the cheek by cutting a flap with its pedicle at the side of the nose, and swinging it around into the gap in the outer wall of

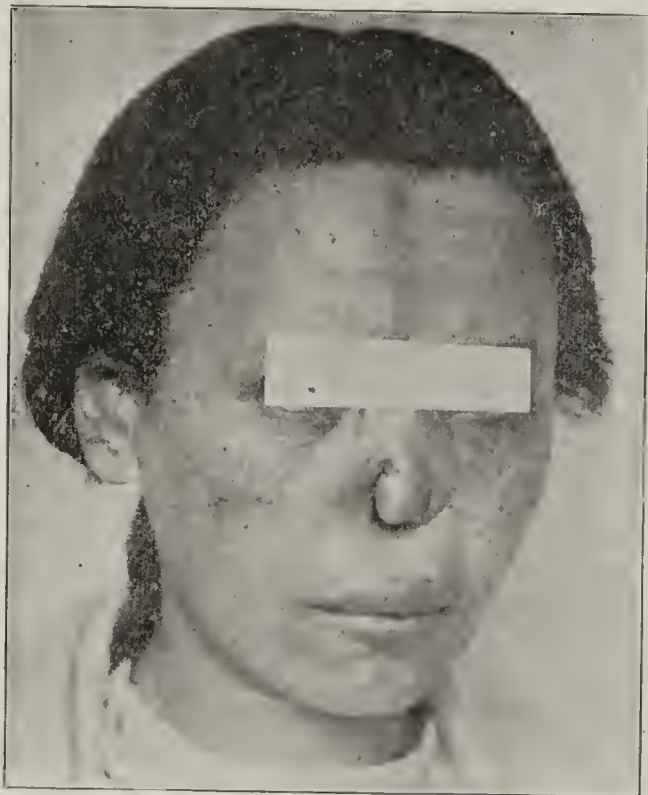


Fig. 2.—Destruction of alæ, columella and portion of hard palate, due to syphilis.

the naris. A columella may be constructed with sufficient ease by cutting a column of skin and muscle from the middle of the upper lip and turning it upward. One operation, supplemented by a little trimming or modelling of the parts at a later date, is usually sufficient to ensure a fair reconstructive result.

The patients who belong to the second and third groups, are those who meet with discouragement when

they apply for surgical relief; and yet much, very much, may be done to lessen the horrid deformity of countenance and to alleviate the despondency due to the consciousness of facial ugliness. I have seen evidence that some members of the medical profession believe that these syphilitic noses should go untouched, because the constitutional taint may militate against healing after operation wounds. This opinion is fallacious. It would not be proper to operate on a nose the seat of active syphilitic inflammation; but, after the active process has ceased, incisions heal as promptly in syphilitics as in healthy persons. I have never seen any more reason to hesitate to cut bone, cartilage and skin in the former than in the latter class of patients.

The simplest form of sunken nose is that in which the organ has caved in, as it were, at the middle of the dorsum. Thus the lobule is thrown upward, the plane of the openings of the nostrils is more or less vertical instead of horizontal, and projection of the cartilaginous nose is greatly reduced. To remedy the deformity, the tip of the nose must be brought downward and forward. This is usually to be done by a free transverse cut across the nose at the point of greatest depression. This incision permits the operator to pull the lobule and alæ downward, until the tip of the nose stands out prominently from the plane of the face, and the nostrils with the intervening columella lie in a horizontal plane. The detachment of the lower part of the organ

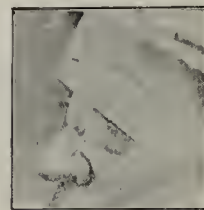


Fig. 3.—Reconstructed nose after syphilitic deformity. This nose was much sunken before operation.

from the nasal bones above and its reposition leave an opening into the nasal chamber extending across the middle of the face. This space must be filled with flaps of tissue sufficiently large not to draw the lower part of the nose upward when healing takes place; and sufficiently rigid to maintain a straight or a nearly straight line along the dorsum or bridge of the nose.

Various methods of operating have been devised. Some surgeons have inserted metallic supports with legs resting on the nasal bones or the frontal bone above, and the superior maxillary bones below. These foreign bodies are not very desirable occupants of reconstructed syphilitic noses. I prefer to build, of superimposed flaps, a thick fibrous wall which will maintain its shape; or else to hold such a reconstructed wall in proper shape by some form of inconspicuous spring attached to a spectacle frame.

Recently I operated on such a case with gratifying result, by turning into the gap two pairs of cheek flaps and bringing down two flaps from the forehead. The first cheek flaps were turned into the gap with the skin surface toward the nasal cavity. Subsequently two flaps were made from the frontal tissue between the eyebrows and rotated downward on top of the cheek flaps. At a still later period two more cheek flaps were cut and rotated on the top of the new portion of nose. Minor operations were done to properly adjust these various masses of borrowed skin and connective tissue and more will be required. The result, however, justifies the time and annoyance to the patient of so many operations. She is now one of my most grateful patients.

In all such nasal reconstructions, the patient should know at the start that six months or a year is not too long a time to devote to the operative relief. Each step must be followed by a period of inactivity to allow cicatricial influences to show their effects. The surgeon must be guided by the experience obtained in each patient, and can not promise exactly when he will operate again or what he will do as the next step.



Fig. 4.—Loss of end of nose from caustic applied by quack doctor. [Case shown to illustrate what can be done in similar cases due to syphilis.]

Some years ago I satisfactorily slipped a triangular flap down from the forehead; and pinched it up into a fair-looking dorsum with an eyeglass spring attached to a pair of spectacles supported by the ears.

Another method which might be employed is that used by Keegan in rhinoplasty for amputated nose. He dissects the tissue from over the nasal bones and



Fig. 5.—Loss of end of nose repaired by flaps from cheeks. [Same case as Fig. 4.]

turns it downward in two flaps, which then lie with their raw surfaces upward. Over these might be placed two flaps made from the cheeks or a frontal flap similar to, but smaller than, that used in making an entire cartilaginous nose. Other suggestions are to bring down a frontal flap after making a groove down the middle of the upper part of the nasal bridge, by splitting the soft tissues in the middle line and drawing them aside;

to make a small frontal or frontonasal flap, perhaps containing periosteum or a thin layer of bone, and thrusting it downward through a transverse button-hole or tunnel made in the tissues covering the lower end of the nasal bones; to detach one of the nasal bones and displace it downward; to chisel loose the nasal bones and pry them forward; to cut the edge of the superior maxillary bone with a chisel and bend it forward.

If there is an opening in the hard palate, an obturator must be made to close it. In this event it might be possible to attach a long lever to the nasal surface of the artificial palate and let it hold up the flaccid new part of the nose. The end of this lever might be provided with a narrow pad to act as a sort of ridge-pole to the nasal roof; and the lever might be provided with a spring joint like that controlling the blade of a pocket knife. The patient could then adjust the obturator in the mouth and push the lever and its pad into position by a probe or hook introduced through the nostril.

Sunken noses not requiring such extensive operative treatment might perhaps be improved by two cheek-flaps turned up and thrust through subcutaneous tunnels extending from the sides of the nose to the middle line. This maneuver would fill up a slight hollow on the dorsum of the nose. It might be utilized also in congenital saddle-back nose, which has a hollow in the dorsum of the organ.

Syphilitic noses in which much tissue has been lost must be treated by rhinoplastic operations, which will bring a sufficient bulk of tissue to give opportunity for modelling. The new tissue may be taken from the forehead, the cheeks, the arm, or the palm of the hand. A large flap from the abdomen or thigh may be attached to a raw surface made on the hand; and afterward be transferred to the face.

After a crude resemblance of the nose has been thus made, minor operations will shape it so as to improve the outline and fashion alæ and columella. The ala may be lined to prevent cicatricial occlusion, by a strip of mucous membrane cut from the inside of the upper lip, and thrust through a button-hole made in the upper part of the lip.

The incisions made in the plastic restorations of syphilitic noses may be free, and usually must be so; but the scars become in time scarcely perceptible. Even if they are evident to close observers, they are much less disfiguring than the lesion for relief of which they were demanded.

Many persons, both in and out of medical circles, believe that syphilitic nasal deformity is incurable. This is an error and should be combatted by practitioners everywhere. Aseptic methods, carefully planned and well-executed operations, and judicious after-treatment hold out the same hope of benefit as in other departments of surgery. The degree of benefit varies only with the complicated character of the problem. Many patients may be very satisfactorily relieved of the greater part of the unsightly deformity; and there are very few who can not have their condition considerably ameliorated. It is sad to meet in one's daily walks so many deformed noses that could readily be improved.

1627 Walnut St.

Benefit Profits.—The *Muenchener Med. Woch.* devotes part of its profits every year to various benevolent organizations for members of the profession in Bavaria. Last year it distributed 4000 marks between the fund for widows and orphans of physicians and three other societies, with 200 marks to the building fund of the local medical society and 200 marks for a memorial to the late Dr. Aub.

THE MEDICAL TREATMENT OF PEPTIC ULCER.*

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The personal experience of any malady is apt to enhance the interest of a physician therein, and should not detract from his knowledge thereof. Thus I have been led to analyze my hospital and private records of cases of peptic ulcer, which, for perhaps fifteen years, I have treated more rigidly than do most physicians.

For diagnostic purposes, cases of peptic ulcer may be divided into three classes: 1. Those which are entirely latent and present either no symptoms at any time or first manifest themselves by hemorrhage or perforation. 2. Those with symptoms of indigestion not easily distinguishable from those of indigestion arising from other cause. 3. Those with diagnostic symptoms. The first class is not of therapeutic importance unless hemorrhage or perforation occurs, throwing them into Class 3. Careful study of the case in all its aspects may in like manner transfer a case from the second to the third class, that to which alone my remarks to-day are applicable—the class in which the diagnosis is reasonably certain.

The salient fact with special therapeutic bearing seems to me the presence of an open ulcer associated with and probably in a measure dependent on hyperacidity. The gastric ulcer is subject to two adverse influences—the irritating acid secretion and the unrest due to the periodical changes in the size of the organ and to the peristalsis. The duodenal ulcer is subject only to the former. In spite of these adverse influences, we know that healing may take place; but it would seem entirely reasonable to suppose that healing may be promoted by rest just as it is in every ulcer of the skin or mucous membrane which is accessible to vision. We have no means of knowing, in any given case, how large or deep an ulcer may be, or whether it is single or multiple. We know that surface ulcers of any depth or size do not heal in two or three days, and if the principle of absolute rest is worth being enforced at all in peptic ulcer, it is worth strict enforcement. Hence, I long ago adopted the arbitrary period of two weeks as a reasonable time to allow for the healing process and a fair average limit of toleration of exclusive rectal feeding. This period has been prolonged in two cases to five weeks, and has been shortened in others to meet the seeming demands of the special case. In a few cases rectal feeding has clearly provoked stomach unrest and vomiting. In some others the period of stomach abstinence has been shortened on account of the refusal of the bowel to retain or absorb in spite of varied coaxings. In most cases all discomfort ceases as soon as the stomach ceases to work, and there is usually no great sense of hunger. If discomfort persists or hunger is importunate, I give small doses— $1/32$ to $1/16$ grain—of morphia once or more during the day. Incidentally I may allude to the happy effect of morphia in checking gastric hypersecretion. To fully realize this one must have himself experienced it.

I ordinarily give a large cleansing enema daily and nutrient enemata every six hours. Formerly I rarely gave more than six ounces of milk, or milk and egg—in either case with a pinch of salt—at a time. Lately, acting on the suggestion of Dr. G. G. Sears, I have found

that in some cases as much as a pint of nourishment can be introduced and absorbed every six hours. For thirst I sometimes allow small quantities of water by the mouth. In other cases I have introduced water into the rectum or under the skin.

My two weeks' starvation treatment of cases of undoubted peptic ulcer was founded on *a priori* reasoning, which must always be checked and dominated by results of actual experience. The able and exhaustive analysis of Greenough¹ and Joslin, of 187 cases of gastric ulcer treated in the wards of the Massachusetts General Hospital from 1888 to 1898, throws important light on peptic ulcer in its various aspects. The subsequent history of 114 of these cases was ascertained. It appears that a larger percentage of cures was obtained in those fed by the mouth than with exclusive rectal feeding. This does not prove that the latter method was harmful, inasmuch as the rectum-fed cases comprised a larger proportion of severe ones, but it seems to show that there is no such advantage in absolute gastric rest as the considerations which led me to adopt it suggested as possible. One important suggestion, however, appears to result from the analysis of my personal cases, made with great care by Dr. W. H. Smith, to whom I wish to express obligation. Of 85 cases Dr. Smith succeeded in getting reports to date in 52. Of 63 cases treated by rectal feeding, the end result is known in 37. Of these 37, 18 were fed exclusively by the rectum less than ten days, and in 7 there has been a recurrence of severe symptoms. Of the 19 cases fed exclusively by the rectum for more than ten days, there has been recurrence in only one. Greenough's and Joslin's results nearly brought me to the point of abandoning my strict treatment. If careful stomach feeding is as safe, it is certainly quicker and pleasanter. But the marked contrast in frequency of recurrence, brought out by Dr. Smith in cases of more or less than ten days of absolute rest, encourages me to persevere until larger figures are at my disposal. As far as present figures go, they are strongly in favor of prolonged rest and are consistent with *a priori* reasoning.

LAVAGE OF THE STOMACH AS A THERAPEUTIC AGENT IN THE TREATMENT OF HABITUAL CONSTIPATION. A PRELIMINARY REPORT.*

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The application of remedial measures to one healthy organ for the relief of diseased conditions in another organ has been practiced from times immemorial. Counterirritation is probably the prototype of all such procedures. Dr. Fenton B. Turck, Chicago, has recently reported the results of his experiments in the treatment of diseases of the intra-abdominal viscera through the colon. The washing of the bowel for the relief of various acute disturbances of the stomach and other organs is a measure used not alone by physicians, but by almost every mother all over the world.

Does the washing of the stomach have any influence upon the relief of intestinal disturbances? The answer

1. Am. Jour. of the Med. Sci., August, 1899; JOURNAL A. M. A., xxxiii, ¶ 6, p. 534.

* Read by title in the Section of Materia Medica, Pharmacy and Therapeutics, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

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is in the affirmative. Lavage of the stomach is indicated as a therapeutic measure in the following intestinal disorders: 1. Constipation due to excessive acidity of the stomach. 2. Constipation due to gastric atony. 3. Diarrhea resulting from excessive production of mucus in the stomach. 4. Obstruction of the intestines from whatever cause: "By lavage we relieve the upper portion of the bowel from the pressure and weight exerted by the contents of the stomach and, having relieved the pressure, the part of the bowel which lies above the constricted portion empties its contents into the stomach and thus lessens still more the general tension."¹ 5. Habitual constipation. The first four indications are self-evident and do not require any extended commentary. The fifth indication, habitual constipation, of which I claim to be the originator, until some one will elaim priority,² requires a few words of explanation. I have "stumbled" upon this discovery. I have noticed in a number of patients who suffered from some gastric trouble accompanied with constipation that, after I had used lavage on them, they reported the following day that they had a natural movement of the bowels, "the first in many years." With the increase of the number of such cases it dawned upon me that there might be some relation between the washing of the stomach and the movement of the bowels. Instead, therefore, of only removing the stomach contents on the second day of the examination, I made it a rule to also wash the stomach in all cases of constipation. The results were surprising. Later, I applied this measure to the treatment of habitual constipation in patients who were free from any gastric disturbances. In a large percentage of such cases the results were highly gratifying.

I am at present studying the physiologic basis of this treatment, and will reserve the report of my conclusions for a future occasion. As a preliminary communication I wish to call the attention of the profession to the following statements: 1. A certain percentage of individuals suffering from habitual constipation are apt to have a spontaneous movement of the bowels the following day after the stomach has been washed for the first time. 2. The majority of such patients will eventually recover the normal function of their bowels, if lavage is continued daily for two or three weeks, and later at greater intervals. 3. The best results are obtained from using cold water, or hot and cold water alternately. 4. The best time for such lavage is one hour before breakfast.

1. Spivak: Med. Treatment of Intestinal Obstruction. JOURNAL A. M. A., May 27, 1899.

2. Since this paper has been presented, there appeared an article by Oswald Ziemssen, entitled "The Stomach-Tube as a Peristaltic" (Berliner Klin. Woch., Aug. 13, 1900), in which the author claims that the daily use of the stomach-tube with lavage is a valuable stimulant to peristalsis, and an efficient means for curing chronic constipation. I am glad that the number of observers has doubled. Notwithstanding the fact that Dr. Ziemssen's article was printed first, yet, since my article was presented in June, 1900, I still claim priority.

Extraordinary Fecundity.—According to the *Medical Age* of March 25, one of the Italian journals has recently recorded an extraordinary case of fecundity of which it guarantees the authenticity. Flavia Granata, who it appears is well known at Rome, has recently given birth to her sixty-second child. This woman is now 59 years old. She was married at 28, and has successively given birth to a daughter, then six sons, then five sons, then four daughters, and then a long series of twins annually, and ended recently by having four sons.

WHAT DRUG STANDARDIZATION MEANS FOR THE PHYSICIAN.*

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BALTIMORE, MD.

In the early decades of this century medicines were very simple, and of the many herbs, roots and barks that were used, few if any had their virtue attributed to any definite chemical that they contained. As early, however, as 1805, Stürner, a German pharmacist, isolated morphin from opium and termed it *sel essentielle opii*. The result of this epoch-making discovery was not to establish drug assaying, as would appear likely, but instead a great interest in the isolation of the alkaloids from drugs and the chemical study of these alkaloids. The leading pharmacists of the day were developing as chemists, and looked upon the problem of alkaloids from the chemical standpoint almost entirely. The problem was to isolate the alkaloid, determine its composition and, if possible, its constitution. Although medical men used the resulting alkaloids in their profession, it did not occur to any of the pharmacists of the time to standardize the drug by determining the amount of alkaloid it contained. Among the great physicians of the early decades of this century there was one, however, who was in advance of his time in this connection, and that was Claude Bernard who, when the *sel essentielle opii* was promulgated as a *fait accompli*, was sufficiently impressed as to its importance to announce that, inasmuch as it appeared that this morphin was the essence or active principle of opium, he predicted that the time would come when, by establishing the amount of these principles in drugs, physicians would be enabled to have at their command drugs whose strength of active principle would be known, and that it would be possible to accurately control the dosage and hence the medicinal effect of most if not all drugs. This was seventy-five years ago. So slow has been the development of this idea of Claude Bernard's, however, that, although alkaloids were known by the dozen during his lifetime, but three drugs in the U. S. Pharmacopeia of 1890 have an established standard of alkaloidal strength, viz.: opium, nux vomica and cinchona.

The cause of this anomalous condition of affairs is to be found in the fact that while pharmacy has during these years developed more as a trade than a science, chemistry entered, decades upon decades ago, the portals of the university and gained upon pharmacy enormously. Chemistry has taken hold of these alkaloids and not only given us their composition, but in almost all cases their atomical anatomy, i. e., their constitution. During all this time pharmacy has labored on, not as a science to any extent, but in colleges of pharmacy as a trade, the object being to turn out as many men as possible who could put up a prescription and pass a state board of pharmacy examination. I venture to assert that had the university opened its portals to pharmacy as it has to chemistry, notably in this country, the great majority of drugs would to-day be possessed of a standard of strength and their chemistry would be generally known.

But few of the many pharmacists who are graduated annually have any time or any desire to spend any time investigating drugs, and as a result the work that is necessary to enlighten us on the chemistry of the potent

* Presented to the Section of Materia Medica, Pharmacy and Therapeutics, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

drugs is not forthcoming. The great trouble has also been that, so great has been the number of knights of the pestle set adrift in this country, with sheepskin in hand and no fixed position in life established, there has been undue competition in the profession of pharmacy, and instead of being able to devote any time to investigation, even if the inclination were present, the entire time of the pharmacist is taken up in devising schemes to get the better of his numerous competitors.

To turn now to the subject proper of this paper, let us consider what the standardization of drugs means for the physician. To-day physicians, in case of the majority of drugs, have no idea of the potency of the ones they are prescribing, and they must, as they do, rely on the good name and intentions of the manufacturer and the dispensing pharmacist. In case of opium, nux vomica and cinchona, they know that when they prescribe preparations of these drugs they can depend on getting the effects of a definite and invariable quantity respectively of morphin, strychnin and quinin. As soon, however, as they touch upon such potent drugs as digitalis, belladonna, henbane, aconite, ergot, cascara sagrada, rhubarb, senna or golden seal, they must take the word for the deed and assume that they are getting a preparation of sufficient strength to produce the desired effect. All that they are justified in assuming is that they are getting the effect of a fair, sound, average sample of the drug, but just how the same will measure up as compared with what they have used for another patient who got it at another pharmacy, they have but little means of knowing.

Let us take for instance digitalis. This is a drug that is almost universally used by physicians, and is also used in emergency cases, when the heart is involved, and prompt and decided therapeutic effect is counted on.

Then consider ergot. We all know how greatly these drugs vary in therapeutic potency and in content of active principle. The pharmacist has no official standard for either, and must use his eye and nose to decide whether the drug he is purchasing is, in his judgment, prime or not. Appearance is, however, no criterion whatever of drug potency, for many and many a time have I assayed beautiful, bright and bold digitalis leaves or ergot grains and found, to my surprise, that they contained far less active principle than did another lot of drug I had before me that was anything but prepossessing in appearance. From the bold, bright drug, an infusion would be made, or a tincture, by the pharmacist, and the therapeutic effect of only 0.15 per cent. digitoxin and 0.12 per cent. digitalin would be produced, while from the unsightly specimen aforesaid the therapeutic effect of 0.38 per cent. digitoxin and 0.25 digitalin would be obtained, i. e., the dull digitalis would produce twice the effect of the beautiful, bright sample, on the heart of the patient. The same may be said of ergot, where, if possible, more trustworthiness and uniformity are desirable, due to the greater emergency nature of the drug than in case of digitalis. One lot of ergot is by no means necessarily equal in content of active principle, and consequently in therapeutic effect, to another, and any fluid extract used in filling physicians' prescriptions in one pharmacy may be as widely different from that obtained in the nearest adjoining pharmacy as 0.05 per cent. differs from 0.35 per cent.

The great disadvantage to the physician lies in the fact that, except in case of opium, nux vomica and cinchona, he has absolutely no assurance that when he

prescribes any preparation of a vegetable drug he will get any trustworthy therapeutic effect from it. In fact, he may expect almost any effect, from none at all to the effect of an overdose; for actual experience in assaying vegetable drugs has shown me that some lots of drugs contain unusually large amounts of active principles, in fact sufficient to make a large normal dose a poisonous one. The mere fact that the actual alkaloidal strength of most galenic preparations of the U. S. P., as they are standing to-day on the shelves of the thousands of pharmacies of this country, is sure to vary within wide limits, and does naturally so vary, ought to cause every physician, who knows what assaying a drug and having a fixed active principle strength for all drugs is, to be very emphatic in insisting that the U. S. Pharmacopeia should set up definite standards for all vegetable drugs that have any therapeutic value at all. As the case now rests, the therapeutics of the vegetable drugs to-day is nothing more than the casting of a die or the flipping of a penny. "Heads," I get a therapeutic effect to speak of; "tails," I get practically no therapeutic effect.

Many manufacturing pharmacists and chemists of this country have set up standards of alkaloidal strength for many of the vegetable drugs, and their preparations of these same drugs may be relied on to produce at least uniform results themselves. They reach a conclusion as to a drug standard of alkaloidal strength, by assaying many typical samples of the drug and using the mean of these assays as a standard, embracing in these figures also the published assays of as many other pharmaceutical chemists of note as they can. While this is better than no standard, inasmuch as all the fluid extracts or tinctures made by that one firm will always be uniform, yet it is far from being what is desirable and necessary. What is wanted is to have a national alkaloidal standard for the drug, and then have all manufacturers and retailers have their preparations of this strength. Then the physician may depend on getting uniform and satisfactory results. It is manifestly impossible for the Revision Committee to establish standards for all vegetable drugs at once, but if they feel that the desire of the medical profession throughout the land is to have standards established, they will see that for all drugs that can be standardized to-day standards will be established in the next edition of the pharmacopeia.

To be specific and no longer deal in generalities, what is meant by a therapeutic standard for a drug, and how can the same be determined? A therapeutic standard of a drug or the preparation of a drug is, in the first place, the adoption of a definite content of that drug in a certain active principle or principles which are known to have the same therapeutic effect as the drug, as for instance 5 per cent. of total alkaloids and 2.8 per cent. quinin for cinchona bark; 13 to 15 per cent. crystallized morphin for powdered opium; 1.5 per cent. total alkaloids for fluid extract of nux vomica; 15 per cent. total alkaloids for extract of nux vomica, etc. In these cases all the fluid extract of nux vomica on the shelves of the pharmacists of this country, that is labelled U. S. P., contains 1.5 per cent. total alkaloids, and all the fluid extracts of cinchona contains 5 per cent. total alkaloids and 2.5 per cent. quinin, etc., and whether a physician's prescription is put up in Atlantic City, N. J., or in San Francisco, the therapeutic effect of these two drugs will be identical. For these three drugs the physician can rest assured that he will get

identical results, practically, wherever his prescriptions calling for these are compounded.

How much more scientific for therapeutics and how much more satisfactory for physicians especially, and for pharmacist and patient as well, would it be if this could be said of all drugs? The chances of a patient complaining that the medicine did not work, or of the physician failing to get prompt results where prompt ones are necessary, due to full therapeutic strength of his medicines, would be reduced to *nil*. This is just exactly what drug standardization means for the physician.

To return to our specific cases, ipecac, golden seal, wild cherry, cascara sagrada, rhubarb, sanguinaria, ergot, digitalis, conium, belladonna, henbane, cannabis indica, aconite, etc., should be similarly standardized so that physicians can be positive that when they prescribe these and put U. S. P. behind them they will always get preparations, from all pharmacies, of identical therapeutic strengths. The exact standard in these drugs is arrived at by determining, from an examination of many samples of sound, prime drug, what the average content of the same in active principle is. If a drug of this active principle strength can be prescribed with safety in the doses given in standard works on therapeutics, and produce all the desired effects of the drug, it can and should be adopted as the therapeutic standard of that drug. Thus, in case of ipecac, 1.75 per cent. of total alkaloids; of golden seal, 2 per cent. hydrastin; of sanguinaria, 1 per cent. sanguinarin; of conium, 0.6 per cent. coniin; of belladonna root, 0.45 per cent. total alkaloids; of colchicum root, 0.5 per cent. colchicin; of aconite root, 0.5 per cent. aconitin, etc., might be accepted as the therapeutic standards of these respective drugs, because experience in assaying typical specimens of them has shown that this is the average content of the specimens that, when dispensed in the usual doses for drugs, will produce the full therapeutic effect thereof. There are some drugs of which the chemistry is not sufficiently advanced to justify us in stating that the therapeutic effect thereof is due to any one or two definite chemical substances, as, for instance, cannabis indica, cotton-root bark, culver's root, burdock root, lobelia, poke root, yellow dock root, squill, senna, senega, stillingia, etc., but it is only a question of time when these drugs will have their chemistry and pharmacology worked up, and we will then know to what constituent or constituents each owes its therapeutic activity.

I would not have you think that this subject is incomplete and unworthy of the attention and confidence of the medical profession until all drugs shall be perfectly known and standardized. The principle I am arguing for is as good, sound and correct if only one drug is standardized as if all were standardized. Naturally, we can not standardize them all at once, or in five or perhaps ten years, but we can hope that we have the encouragement and cooperation of the medical profession in endeavoring to standardize them as rapidly as lies in our power. Especially would I have it clearly stated that, as nothing can be lost to the physician, and immeasurably much gained by the adoption of drug standardization, the members of the medical profession should lend the cause of scientific pharmacy and medicine the great impetus of their favor and encouragement by making it apparent that they favor drug standardization, and are convinced of its advantages to them and to medicine. The convention of pharmacists and physicians that recently met at Washington to appoint

a committee and give the latter instructions as to the revision of the pharmacopeia, was quite decided in its favor of the more general standardization of the vegetable drugs of the pharmacopeia. It appeared to be the unanimous sentiment of the 188 or more delegates from institutions of pharmacy and medicine there assembled, that as many as possible of these vegetable drugs should be standardized, and the committee there elected will no doubt regard the subject of drug standardization as its most important duty. The view of the AMERICAN MEDICAL ASSOCIATION, as expressed by one of its representatives, that physicians would like to have the pharmacopeia contain a liquid and a solid preparation of each vegetable drug in it, and have these respectively in each case represent a like amount of one drug, was not favorably considered by the convention. The idea was to have all the fluid preparations represent, say 100 cubic centimeters 100 grams, i. e., a fluid extract, and then have no tinctures or more dilute preparations of the same drug. Similarly for solid preparations, have all solid extracts represent a uniform amount of the drug, say 100 grams represent 500 grams of the drug, and then have no stronger or weaker solid extracts of the same drug. The objection raised was that it was impracticable, as many drugs can not be made into liquid or solid preparations of the same strength as other drugs can be. This, however, has no bearing on drug standardization, as the latter depends on quantity of active principle, and the former depends on quantity of drug, which necessarily brings with it variation of quantity of active principle.

To sum up, drug standardization means that drugs shall always be uniform in therapeutic strength, and the great advantage of this uniformity to the physician is that he can always depend on obtaining definite and uniform therapeutic effects whenever he prescribes a standardized drug. It removes the element of doubt from the physician's mind, and places him on a sure footing in relation to his patients, while at the same time avoiding for the pharmacist any question as to the reliability of his drugs, and assuring the patient that he is always getting what the physician desired that he should get. Any achievement that thus makes for the advancement and improvement of all the parties in the highly important operation of administering to the ills of humanity must needs be a good achievement, and deserving of the approbation and encouragement of all concerned.

"Christian Scientists" Not Insurable.—In the March issue of the *Cleveland Journal of Medicine*, attention is called to the fact that the fraternal beneficial organization known as the Knights of Honor some months ago ruled that persons believing in the doctrines of so-called "Christian Science" would not thereafter be received into membership. "This action was taken because it was seen to be reasonable not to take any risks upon the lives of persons who refuse to avail themselves of the accumulated knowledge of medical science when they are ill. It is now learned that one of the greatest and most conservative life insurance companies in the world, the Mutual Life Insurance Company of New York, without making any parade of the matter refuses to issue policies upon the lives of 'Christian Scientists.' These facts are not noted to give these organizations credit for doing that which common sense and good business policy suggest, but to show the very fact that, viewed from the commercial standpoint, the 'Christian Scientist' and faith curist are recognized as persons who do not take average care of their lives. For insurance purposes they are being classed along with habitual drinkers and with those who follow hazardous occupations."

A VISIT TO "JESUS HILFE" OR THE LEPROUS HOSPITAL OF JERUSALEM.

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ST. PAUL, MINN.

During a recent visit to Palestine it was my pleasure to inquire into the condition of the lepers of that country and pay a visit to the "Jesus Hilfe" Asylum. Through the courtesy of our American consul, I was most cordially received by the superintendent and physician in charge, Dr. Einsler, and conducted through the institution. Every available opportunity was given me to study the disease with a view of bringing home to the profession of Minnesota, where the affection at present exists, some information as to its prevalence in the Orient, where from time immemorial, so to speak, it has had its home.

Notwithstanding the fact that "Jesus Hilfe" Hospital is one of the best equipped of its kind in the world, and is an imposing stone building surrounded by luxuriantly blooming gardens, the average tourist is content to view it from a distance. In fact, it is somewhat difficult to secure the services of a dragoman who is willing to cross its threshold. The hospital is situated in the German settlement of Jerusalem, on the hillside, in full view from the main road leading to Bethlehem, probably a half hour's drive from Jerusalem, and commands a fine view of the surrounding country.



Fig. 1.—Jesus Hilfe Hospital.

The history of its origin and growth breathes the true missionary spirit, a brief account of which may be interesting.

ORIGIN AND GROWTH OF THE HOSPITAL.

In the year 1865, a Pomeranian baroness, von Keppenbrück, visited Palestine, and being deeply impressed with the wretchedness and misery of the lepers, made a liberal contribution toward the founding of an asylum for them. Working in conjunction with the order of the Evangelical Brotherhood, additional funds were obtained in England. A committee was appointed and a building erected near the Jaffa Gate, where lepers who came of their own volition were admitted. Years later, however, it was found that the building was inadequate to accommodate all who applied for admission, therefore plans were effected to erect the present hospital. Voluntary contributions were received from Germany, England, Switzerland and North America. In 1887 it was completed, and the inmates were transferred to the new building. A few years prior to this, however, the founder of this magnificent charity placed it under

the management of the Brotherhood, and it has since become their absolute property.

MANAGEMENT OF THE HOSPITAL.

The Chapter House of the Brotherhood, under whose control the hospital is, is in the Kingdom of Saxony. They appoint the house parents and four deaconesses who are trained nurses, and publish annually a statement of the disposition of the moneys received. A local committee composed of members of the German Lutheran congregation of Jerusalem has the immediate supervision of the institution. Most gratifying results have been obtained.

THE HOSPITAL INMATES.

Fifty patients can be accommodated and the hospital is sometimes taxed to its utmost capacity. On account of local prejudices, when a shelter was first provided, it was difficult to induce lepers to enter the hospital, but before the old building was abandoned twenty patients were enrolled. Unfortunately these poor creatures can only be carefully nursed and made comfortable until death ends their misery, as a cure for this loathsome disease remains still undiscovered.

Those who become inmates have their sores bandaged daily, are frequently bathed, furnished with comfortable clothing, fresh linen and nourishing food, besides being provided with space in the ward, in which are a bed, an easy chair and combination table and cupboard. They are not compelled to remain in the hospital for

any given time, but as a rule they soon appreciate their improved environment and become attached to those who care for them and contribute to their comfort. They are not permitted to leave the grounds, beg or marry; neither are married lepers admitted. Through the house father they keep in touch with their friends, and at certain times are permitted to receive them. On pleasant days they sit about in the garden or on the roadside outside the entrance gate, amusing themselves playing draughts or other games.

Those having use of their hands and feet assist in the work about the grounds. Reading is a favorite pastime, and being read aloud to is considered a privilege. Mental obtuseness is not of necessity present to the extent that was formerly supposed. They are said to evince a keen interest in any occurrence out of the ordinary routine of every day life in the hospital, such as the return of an attendant after a vacation, and gladly contribute their best to the "welcome home," dancing the fantasia, etc., and for days talking of nothing but the coming event.

LEPROSY IN PALESTINE.

The number of lepers in Palestine is about four hundred, the village of Siloam, southeast of Jerusalem, alone having between thirty and forty. The government designates places for them in which to live, as they are excluded from social and family life. Institutions under Mohammedan jurisdiction accord them full liberty to wander about at will. They sit along the wayside singly or in groups, asking alms. The roads frequented by tourists are their favorite resorts, a large proportion of the Siloam contingency congregating at the foot of the hill leading to the Garden of Gethsemane and the Mount of Olives. Several of the accompanying photographs were taken from these groups. Since 1893 a residence has been set apart for children, the offspring of lepers, in which are a half dozen or more healthy boys and girls. It is hoped that in this way such offspring can be protected against the development and ravages of the disease by good care, proper training and nourishing food. The majority of lepers manage to eke out an existence by begging, and prefer their



Fig. 2.—Deaconesses.

independence and alms to a residence in an asylum. The fact that their condition is aggravated by this mode of life, neglect and filth is self-evident, and beyond the appreciation of the average Oriental, who is content to habitually sleep on a heap of rags or a bundle of straw with perhaps nothing but a stone for a pillow and is oftener without than with a covering, shedding his garments only when in tatters. A beggar society was some years ago founded in Jerusalem among the lepers, with a president at its head, called a "sheik." Every leper who desires to become a member must pay an initiation fee with the promise to beg and contribute a certain portion of his income obtained in this way to the general fund of the society. Individuals who have no money or are too ill to beg are not accepted.

LEPROSY INVESTIGATIONS.

Dr. Einsler, the physician in charge of the hospital, is a Hungarian by birth, and about fifty years of age. For a period of sixteen years he has been identified with the asylum and is enthusiastically in love with his work. He is a keen observer and fully abreast of the

times, devoting himself unceasingly to his laboratory, and prosecuting researches with a view to throw more light on the mooted questions of leprosy. It was my pleasure and privilege to have several personal interviews with Dr. Einsler regarding his long experience with the disease. He spoke of the mental and physical characteristics of lepers, and especially dwelt on the clinical aspects of the disease as it presents itself in Palestine. He holds the view that as yet it is not definitely known how leprosy is propagated, whether through heredity, contagion or infection, but he excludes contagion for the reason that no case has ever come under his observation that would lead him to believe in the theory, basing his opinion at the same time on the fact that people constantly mingle with lepers. Then, too, lepers always have been and are still allowed to wander through the streets or along the highway, transacting business, handling money, fruit, etc. He believes a peculiar susceptibility or predisposition exists primarily, and that heredity or infection plays its part afterward. And still, on this point he is not

satisfied, because as yet the facts in his possession are not fully established, but he hopes that as bacteriologic investigations progress something more definite will eventually be ascertained. The lepra bacillus has been discovered and is now generally recognized as a special micro-organism giving rise to the malady.

I am able to show under the microscope a preparation quite characteristically demonstrating this bacillus, which was mounted in the "Jesus Hilfe" Hospital, the specimen having been taken from a pustular nodule on the face of a patient. Dr. Einsler believes that as soon as cultures are made and inoculations performed our information on the manner of communication will be more definite and the question will become settled. In his laboratory scientific investigations along this line are being made, and before long, he thinks, he will be able to publish tangible conclusions on the subject. In speaking of the usual early manifestations of leprosy, he said that the upper respiratory tract—the mucous membrane of the nose and throat—becomes affected. The turbinated bodies, the cartilages of the nose, the soft palate and the larynx are attacked. It is with considerable interest that I note this observation, because it concerns us who are specially engaged in the treatment of the diseases of the nose and throat.

The forms of leprosy as observed in Palestine are the nodular, nervous, and the mixed.

CLINICAL FEATURES.

The skin and the respiratory mucous membrane become affected. The face, the hands, the forearms, the ankles and the feet not unfrequently evidence the onset of the disorder. The skin is at first dry and glossy, while later appear small lumps or nodules, either in great or small numbers, which increase but little in size and often remain unchanged for years. This condition is called the small nodular variety of leprosy. Then again only a few nodules appear, about the size of a hazlenut. Frequently in this form there is present an intensely red discoloration or inflammation of the skin, resembling erysipelas or inflammation of the lymph vessels. Sometimes this condition is

accompanied by a marked elevation of the body temperature, which continues for several days and is followed by an increase of the number of nodules. The discoloration of the skin does not limit itself to the nodules, but also involves the surrounding integument. It is not unusual for the nodules to degenerate when fever is present, which condition may be accompanied by a diffuse swelling and infiltration of the neighboring tissues.

The broken-down nodules generally heal and cicatrize, but, on the other hand, they may become associated in the necrotic process with others lying in the same region, in this way forming extensive suppurative areas which show no disposition to heal, thus eventually exhausting the vitality of the patient and causing death. It not seldom occurs that the nodular forms of the disease are both present in the same individual; so apparent is this that no trouble is experienced in determining their co-existence. Palpation is invaluable, because not infrequently the sense of touch is the only means by which to determine the presence of the small nodules, while the large ones are visible. There are instances where no nodules exist and nothing is to be seen but circumscribed thickenings of the skin, giving the characteristic appearance of leprous spots. Sometimes, owing to the existence of these circumscribed areas, the sweat glands perish and lose their function, thus giving rise to dryness of the skin. Those parts of the body covered with hair undergo a similar change, the hair bulbs degenerate, followed by dryness, brittleness and dropping out of the hair, eventually leaving behind a smooth, shiny surface. Examples were cited where the eyebrows or even the beard had thus suffered. At no time has it been observed that the hair covering a leprous skin has turned white.

Somewhat in a similar manner as that of the skin, the mucous membrane of the mouth, nose and eyes suffers. Nodules appearing on mucous surfaces are generally paler in color than the tissue adjacent to them. Mucous membrane nodules degenerate more easily than those appearing on the skin, a circumstance which is not quite understood. The fact perhaps is due to the nature of the irritant and the susceptibility of the membrane. Probably the character of the local irritant makes the difference. Yet it can not be disputed that the same morbid process is at work in the mucous membrane as in the skin.

Circumscribed swellings or thickenings are also characteristic of the mucous membrane. When these areas of acute swellings join similarly affected nodules lying in the same region, extension of the morbid process takes place and considerable destruction of tissue results. In grave cases the cartilages of the nose and the soft palate are destroyed. Extensive destruction of the palate usually forms a direct communication between the mouth and nose. The mucous lining of the posterior nares, nasopharynx and larynx may also be invaded by the bacillus of leprosy. When the larynx is affected, hoarseness and sometimes complete loss of voice are produced.

The tongue is not exempt. Frequently nodules appear in great numbers, whereby the tongue becomes thickened, uneven, or fissured. In certain instances the

gums swell and bleed as in scurvy. The teeth loosen, drop out or are easily removed. The eyes not infrequently become involved. The nodules appear on the upper surface or on the edges of the lids. Movement of the lids is interfered with and the fissure between the lids becomes contracted. Nodules seldom appear on the mucous membrane of the lids, while the mucous membrane of the orbit is frequently affected. The cornea is rarely involved. Generally the conjunctivæ are dry and brilliantly white. By and by there takes place a diminution of the luster of the sclerotic coat, which is gradually and surely followed by total blindness. Small nodules form at the edges of the sclerotic coat, forming, as it were, flaps of the mucous membrane.

The disease is not limited to the skin and mucous membrane; the lymph glands may become involved. The glands of the neck swell and inflame. Sometimes glandular suppuration takes place and gives origin to a continued discharge of pus.

Regarding the first stage of the nervous form of



Fig. 3.—*Lepra Leontiasis*.

leprosy not much is known, because the individual seldom comes under the observation of the physician until long after the nervous system has shown signs of disturbance. It is only after the nervous affection has advanced that attention is drawn to it. The beginning period of the nervous form is characterized by spots appearing on the skin, accompanied by fever. Violent pains of the extremities, resembling more or less those of rheumatism, is a frequent symptom.

Extreme sensitiveness of the skin exists. The advanced stage of the nervous form is not marked by a change of the surface of the skin, except that now and then increased pigmentation is apparent and sensation is usually decreased. As the nervous affection progresses, sensitiveness diminishes, especially in the face and the extremities, which condition increases until entire loss of sensation is experienced or anesthesia of the parts is established. But even when anesthesia of the skin is present, the deeper structures are still sensitive to pain. In some cases the peripheral nerves assume spindle-formed thickenings. Amputations some-

times are rendered possible in consequence of the anesthesia and a general anesthetic is not needed. The incision of the skin is unaccompanied by pain, but on the other hand, separation of the deeper layers of tissue is attended by violent pain.



Fig. 4.—Anesthetic Facial Leprosy.

The muscles undergo certain changes. Their tendency is to grow smaller in circumference, but they do not disappear. It is apparent, not true atrophy. The muscles of the face, the hands and the feet undergo

blindness. The muscles of the palms of the hands and of the soles of the feet do not atrophy.

Motility of the fingers and toes diminishes. Owing to the predominating strength of the contracting muscles, the fingers and toes contract or become clutched.

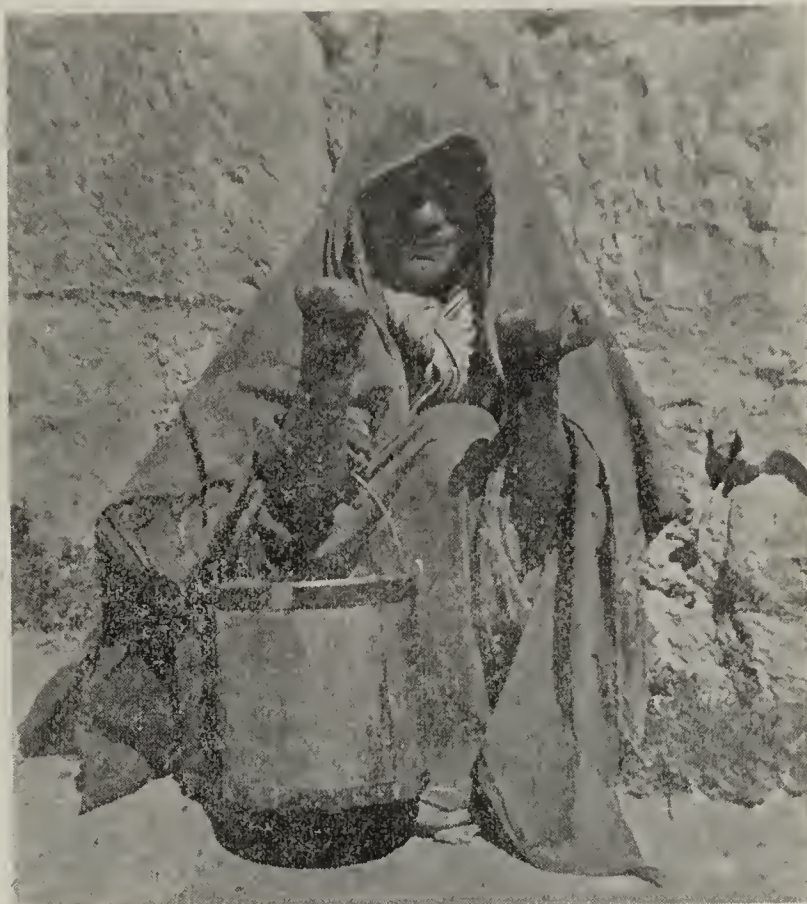


Fig. 6.—A so-called Healed Leper. Natural Process.

In the course of the disease the joints become affected and the loss of a finger or a hand follows. An illustration of this is seen in the photographs. The cause of the natural amputation, as it were, is explained as follows: Channel-like swellings form in the neighborhood of the



Fig. 5.—Lepra Leontiasis.

the atrophic process. The face assumes a peculiar, staring countenance, expression being entirely lost. The eyes can not always be closed, or only partially so, in consequence of which, through mechanical influences, serious trouble may arise, often inducing complete



Fig. 7.—Early Stage of Leprosy of the Face.

joint, which begin externally and gradually extend deeper and deeper until the joint is destroyed and the member drops off, healing and cicatrization ensuing. This method of exfoliation is peculiar to the fingers and toes. Then again, inflammation of the joint, attended

by violent pains and fever, followed by suppuration and necrosis of the bone and final 'dropping off of the limb, is the case, in which instance healing, cicatrization and the formation of a stump take place.

Another form is periostitis of the bone of a finger, hand, toe or foot, whereby tumors, abscesses and sinuses form. By means of a sound, necrosis is usually detected. The suppurative tumor remains open until the diseased bone disappears, healing afterward following. The development of this form of leprosy differs in different individuals. Many of the patients remain apparently the same for years, because the atrophy and contraction of the muscles progress slowly. Therefore such a one goes for many years with contracted fingers and toes. On the other hand, when ulcerative processes are present, exfoliation often is speedily accomplished.

When the toes are severely contracted the patient is compelled to walk on the tips of the toes. In spite of the reduced sensitiveness of the parts, the leper may plead for amputation of the affected member. Accidents sometimes befall a leper suffering from the nerv-

features of leprosy as it exists in Palestine, with the clinical account given by Dr. Hansen, the discoverer of the lepra bacillus, I find the general characteristics of leprosy in northern Europe accord with those peculiar to lepers of the Orient.

Permission was granted to take pictures of some of the inmates whose appearance, condition and history appealed to me as being exceptionally instructive. They convey a quite clear idea of the different forms of leprosy, especially the nodular varieties. With the aid of an interpreter brief histories were developed, an account of which I append.

DESCRIPTION OF ILLUSTRATIONS.

Fig. 1 is a picture of the "Jesus Hilfe" Hospital, giving a good idea of its location and architectural design.

Fig. 2 is representative of the four Moravian deaconesses who so faithfully nurse the lepers of the institution. They are intelligent, and thoroughly devoted to their life-work.

In conversation with the deaconesses in regard to



Fig. 8.—A Leprous Beggar Boy. Mount of Olives in Background.



Fig. 9.—A Group of Lepers Along the Highway.

ous or anesthetic variety of the disease. Incidents were related where the patient when reclining toward heated bodies became severely burned. The accident is often followed by marked sloughing of the parts and the formation of disagreeable cicatrices. Sometimes cases of burning arise where the leper is not conscious of the injury inflicted, the accident being recognized only by some one near the patient, through the detection of the odor of the burning tissue.

TREATMENT OF LEPROSY.

Respecting the treatment of leprosy, no specific is as yet known. All that it is possible to do is to make the patient comfortable. The average duration of life is about forty years. Some lepers live to be quite old, while others succumb to the disorder early. Extinction of the disease can only be brought about by confinement in hospitals and the intervention of marriage.

COMMENTS.

In comparing the results of my personal interview with Dr. Einsler regarding the behavior and clinical

their personal experiences with the lepers, I was deeply impressed by their zealous devotion to the patients and the risk of infection they were taking. But it seems they do not fear infection; they go about among the patients most courageously, performing the duties assigned them. They are in daily contact with the lepers, handling them, washing their clothes and dressing their sores. No case of leprosy has as yet arisen among them. Of the four now in the hospital, one has been employed thirteen years, one ten, one five, and the fourth one year.

Fig. 3 represents a man aged 30 years who has been suffering from leprosy for a period of three years. The disease first made its appearance on the face. One of the early symptoms was pain and unusual dryness of the nose, followed by external redness of the face when exposed to the sun, the discoloration later developing into purplish red. Nodules then appeared, no other part of the body at this time having been affected. The man is not married. So far as he knows leprosy did

not exist in the family, nor does he know how he contracted the disease.

When I saw him the forearms and the lower extremities showed an eruption, the eyes and arms were anesthetic, but motion was not interfered with. The patient weighs 160 pounds, sleeps well, has no appetite and complains of more or less urinary and alimentary dis-

and thickened. The case is typical of nodular leprosy.

Fig. 4 represents a man, also 30 years of age. He is married, but his wife left him on account of his loathsome disease. He has no children, and his wife is not affected. He declares no trace of the disease is to be found in his family. He has been ill for six years and has had sore throat for three.

Unlike the previously described case, this man does not show so characteristically the evidences of leprosy in the face. What is most striking in his condition is the extreme involvement of the upper respiratory tract. His voice is entirely gone and he is enabled only to speak in whispered tones which are imperfectly enunciated and difficult to understand.

The disease of the air-passages is rapidly growing worse. Sleep is much interfered with, owing to impeded respiration. When lying down, he says: "I feel like a dead man." The nose is deformed and obstructed, with pain in the eyes and face. The hearing is unimpaired, his eyes sore, the sight of the right one being affected. The soft palate, on inspection, was found to be entirely destroyed and the larynx was undergoing destructive changes. The right foot is nodular and anesthetic. His arms are affected in the same manner. He complains of poor appetite and intestinal disturbances. The patient is losing ground rapidly and is expected to die soon.

Fig. 5 is representative of a leper, 35 years of age. Leprosy attacked him five years ago, since which time the disease has been running a rather rapid course. It first appeared below the knee of the right leg, and afterward extended up toward the thigh. The second year of the malady the left leg became sim-



Fig. 10.—Advanced Form of Leprosy.

turbance. Two tumors the size of English walnuts presented under the lobes of the ears, the left one being quite visible in the photograph. These tumors appeared one year ago. At the commencement of the disease impaired hearing was noted, but since the affection has become fully established the patient thinks the hearing has improved.

The left eye is affected. The eyelids are nodular, thus causing stiffness and a difficulty in closing them. Complaint is made of obstruction of the nose, which organ at present, externally, is nodular and purplish-red. In consequence of the intensely diffused infiltration and cicatricial tissue, the nose presents a broad and deformed aspect. Nose-bleed and hemorrhages from the mouth and throat are common occurrences. Soon after the first manifestations of the disease, soreness of the mouth and throat was complained of and caused considerable annoyance. At present the voice is very much impaired, complete aphonia sometimes being the case. Deglutition is difficult.

His face is almost black, or of a deep purple hue, covered extensively with nodules varying from the size of a grain of wheat to that of a small hazlenut. The nose, as has been noted, is thick, broad and nodular, while the upper and the lower extremities are covered with eieatriees. The hair, it will be observed, has disappeared from the eyebrows. The left eye shows the existence of an ulcer along the outer canthus. The upper and lower lips are both invaded by the disease, as is shown by their thickness, evidencing extensive infiltration of their structures. The hands and fingers are infiltrated



Fig. 11.—Early Period of Leprosy.

ilarly affected. At first, pain in the legs was a pronounced symptom, while later on anesthesia of the legs became manifest. Now pain and anesthesia seem to alternate. Two and a half years ago the nose became involved, characterized by nose-bleed and expulsion of

ulcerative products. Inspection of the patient, as well as of the photograph, reveals the fact that the nose has suffered materially. Deformity is present in consequence of a total loss of the triangular cartilage of the septum narium, thus giving rise to the depressed or broken-down state of the point of the nose. The man experiences trouble in swallowing and says he has had hemorrhages from the nose and throat. It will be noticed that the skin of the face and of the hands is thickened and infiltrated. Examination of the lower extremities showed the effects of leprosy ulcerations.

Fig. 6 represents a leper beggar whose picture was

is introduced to demonstrate the early faeial manifestations of the disease. Observation of the face shows the period of infiltration and discoloration of the skin without, as yet, nodular formations. Under bright sunlight this man's face turned a bright purplish-red.

Fig. 8 is illustrative of a leprosy beggar boy 8 years old, who stands ready to receive alms, as is indicated by his outstretched hand. He is still in the early stage of leprosy, which is a family complaint, his mother having had it. Evidences of the disease became manifest two years previously, on the face, which on close inspection of the picture reveals the fact.



Fig. 12.—Large Nodular Variety of Leprosy of Face and Hands.

taken outside the city walls, along the roadside. It is a woman, 21 years of age, who had the disease a few years previously. The only parts affected were the fingers and hands. The picture demonstrates, most interestingly, the peculiar behavior of leprosy, and shows conclusively Nature's effort in effecting a cure. The right hand has entirely disappeared, while on the left nothing is left but the thumb. It is a case in which the process of the disease has spent itself, and a temporary cure at least has been effected.

Fig. 7 illustrates a leper 22 years of age. His picture

Fig. 9 presents a group of lepers taken along the roadside. Each of these four has a history peculiar to himself. The one on the extreme left lost his hands twenty years ago. The one on the extreme right became totally blind eight years ago. The two in the middle are not so far advanced. In two of these individuals excessive hemorrhages from the nose occurred on several occasions. They are Moslems and residents of the village of Siloam.

Fig. 10 is a case of marked development of leprosy of the face and fingers. The patient is a woman and,

so far as she remembers, she has had the malady from early childhood. Her age is 25 years. As seen in the illustration, the nose and face bespeak and indicate how destructive the lesions of leprosy may be. The invasion of the nose has been great, much of it already having been destroyed. The face is covered with leprosy nodules, the integument is infiltrated and thickened, which, in combination with the nasal deformity, constitutes a pitiable spectacle of human suffering. The patient is voiceless, both the soft palate and the larynx being very much damaged. The hands and fingers have suffered. Leprosy existed in the family.

13 the face is characteristic of leprosy and illustrates the small nodular form of the disease.

COMMUNICATION OF LEPROSY.

Respecting the communication of leprosy, the following incident, related to me as being authentic, is rather curious and interesting: A physician living in Bogata, Columbia, S. A., after trying in every way to protect his family against leprosy, was very much astonished and grieved to find his wife in the first stage of the disease. After careful investigation to discover how she contracted the malady, he at last thought of the country woman who furnished the family with eggs.



Fig. 13.—Small Nodular Variety of Leprosy of the Face.

Fig. 11 is the picture of a little girl, an inmate of "Jesus Hilfe." The child is 12 years old and has been afflicted for four years. At present there exists a nodular eruption of the arms. In addition to this symptom she suffers from an abnormally enlarged abdomen, which perhaps bears no relationship to the disease in question.

Figs. 12 and 13 are copies of photographs presented to me by the authorities of the hospital. They typically portray the ulcerative form of nodular leprosy. Fig. 12 is interesting. An excellent idea is given of the isolation of the nodules and their degenerated state. In Fig.

Going to her place he insisted upon inspecting the poultry yard. There, in a hole in the sand, was the woman's husband in an advanced stage of leprosy, amusing himself by throwing exfoliations from his body to the chickens, which they devoured greedily.

LEPROSY AND TUBERCULOSIS.

Owing to the fact that leprosy and tuberculosis are so nearly allied in many of their characteristics, for purposes of differentiation, I have microscopic slides of the bacilli of the two affections. The leprosy specimen was obtained from Dr. Einsler and presents, most charac-

teristically, the bacilli. A striking resemblance exists between the bacillus of the two diseases. The bacillus of tuberculosis is rather long and somewhat bent; this is not the case with that of leprosy. Some authorities think lepra bacilli stain much easier than those of tuberculosis, which accounts for the difference; on the other hand, it is claimed this can not be regarded as a distinction. "But the distribution of the bacilli in the tuberculous and leprosy tissue is generally so very different, the tubercle bacilli being usually arranged singly, the lepra bacilli always in large quantities in masses and clumps, that a confusion of the two diseases anatomically can only be possible in exceptional cases."

CONJUGAL TUBERCULOSIS. A STUDY OF CASE TO CASE INFECTION.

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CHICAGO.

The notion of the contagiousness of tuberculosis is largely an *a priori* conception and not based exclusively on clinical evidence. It is only within the past two decades that it has been seriously considered by the medical profession, certainly in most countries, and until Koch's discovery of the tubercle bacillus it was, if held anywhere, at least a quiescent theory. Nowadays no one can reasonably question the fact of its communicability to a certain extent, since there is ample evidence of the fact of its occasional occurrence. The question remains, what is the proportionate danger of such occurrence, and does the incidence of phthisis depend so much on direct infection as on constitutional and hereditary predisposition? There is a tendency, of late very manifest, to magnify the former and correspondingly disparage the influence of the latter, and the hereditary element in the causation of the disorder, bids fair to be repudiated by the profession, or in any case to be comparatively neglected. It appears to the writer, therefore, that it might be worth while to collect what data are available to be at least suggestive as regards this question. If we find that ordinary exposure to tuberculosis is not necessarily or as a rule followed by the disease, it would be a fact well worth noting, and if we also find that heredity seems still strongly in evidence, both facts together would go far to reinstate the formerly held notions of etiology of the disease at the expense of the modern notion of its virulent communicability or contagion. There is some authority still for the opinion that direct transmission of the disorder is rare; Sir H. D. Beevor,¹ in a recent article, concludes from an analysis of the mortality statistics of certain English districts, that the local constancy of phthisis mortality does not indicate the action of such a disturbing factor as case to case infection. He also quotes other authorities who have noticed the same facts, among them Andvord who, from a careful inquiry into the tuberculous mortality of five Swedish towns for ten to sixteen years, concluded that in like places special constancy of lung tuberculosis points to no place among infectious illnesses, a view that Beevor himself endorses.

It seemed to me, therefore, that if some other possibly more direct statistical proof of this view could be had it would be of some value. An inquiry as to the incidence of lung tuberculosis in a class in which any common heredity could be excluded and in which the possibilities of contagion or direct case to case communication of the disease are at a maximum would apparently best furnish facts bearing on the question.

If contact or association could cause the spread of pulmonary tuberculosis, there could be no more favorable conditions found for its transmission than the relations of husband and wife. If one of these is affected it would seem that with the popular teaching as to the contagion of consumption, nothing short of absolute immunity could save the other, the more so since we know that in hardly any case, and in none up to recent years, have there been any special precautions against contagion employed. Therefore, a study of the incidence of tuberculosis in married couples would have some value provided the facts were collected under the proper conditions. The first of these is that any series of cases fairly represents the aggregate experience or observations of the narrator. It is easy to collect exceptional facts that impress themselves upon us, but such are of no value in proving rules; what is wanted is a statement of all cases that conform to certain other requirements of the question. These are that: 1, there should be no question as to the facts, no conjectures as to diagnosis or other points, and 2, the observation should have been sufficiently prolonged to avoid the possible charge of insufficiency and consequent unreliability. It is easy to obtain accounts of apparent infection from husband to wife and vice versa, especially since the discovery of the tuberculosis germ; almost any general practitioner of long experience can report one or two. It is another thing, however, to obtain records of all the cases in one's observation in which one or the other or both have suffered, and to secure at the same time data meeting the above conditions. I have been able to secure thus far the following thirty-two cases, most of them in my own personal acquaintance, and the facts beyond any doubt as regards requirements stated above.

CASE 1.—B. J., of good family history except that his father died young, probably not of tuberculosis, married M. C., of considerable neurotic and tuberculous taint. Three sons were born; the oldest died of tuberculosis at the age of 20; the father died two years later of the same disease, the mother following him a few weeks later, after having been recognized as consumptive for a longer time than her husband. The youngest son died of tuberculosis nineteen years later, and the second son in an epileptic attack still later.

In all of these cases there was no question as to the diagnosis and it seems probable that the husband was infected by the wife, though there was a history of something like a possible lung traumatism that may have had its influence.

CASE 2.—D. J., the youngest son of B. J. and M. C. (see above), married J. L., whose family history so far as known was good, and died of typical tuberculosis some years later, the exciting cause unknown. There were no children. His wife, who nursed him through all his illness, did not contract the disease and after twenty or more years is still living in good health.

CASE 3.—J. W., whose mother and one sister were supposed to have died of consumption, married M. F., whose family history is unknown. She has survived him twenty-one years, in good health. Their children are still living. J. W. died in 1880, of well-marked, typical pulmonary tuberculosis.

CASE 4.—P. C. C., whose family history was unknown, died of typical pulmonary tuberculosis in 1861. His wife, H. C. C., never showed any signs of the disease, and died in 1900 of ailments incident to old age. Five surviving children are all well.

CASE 5.—W. F. J., whose family history was dubious as to ancestral tuberculosis, and with some alcoholism in the ancestry, married M. C., whose family history was supposed to be good. He died of tuberculosis, nearly twenty years before his wife, who died of senile decay at about 80. Of three children, one daughter died of consumption before her father.

CASE 6.—E. F., whose father died of organic brain disease, married G. F., who died of tuberculosis within two years of her marriage. Her husband, who was devoted to her, exhibited

1. British Med. Jour., Aug. 18, 1900.

marked symptoms of the disease and was expected to follow her, but made a good and rapid recovery after her death. He is now, several years later, living and in good health.

CASE 7.—H. F. J., whose mother died at an advanced age—over 60—probably of tuberculosis, married G. S., whose brother died of tuberculous, and who followed him herself from the same disease a few years later. Her husband married again, and died suddenly a number of years later from the effects of alcoholism. He was never suspected of being tuberculous.

CASE 8.—R. L. C., a physician of good heredity so far as known, lost his wife by consumption and was himself apparently far gone with the disease at the time. He had severe hemorrhages, but recovered rapidly after his wife's death, and lived many years.

CASE 9.—W. F. C., another physician, lost his wife over six years ago from tuberculosis. While much depressed by his loss, he showed no signs of the disease so far as known. Her father had been consumptive, carried a lung cavity, recovered by change of climate, and died at an advanced age from another cause. W. F. C. is still living and in good health.

CASE 10.—M. L., whose family history was generally good, died of tuberculosis after a long illness, during which he was cared for by his wife under conditions not specially favorable. She kept her health perfectly and is still living, over fifteen years later.

CASE 11.—H. J. C., whose family history was good, contracted tuberculosis apparently following a rather severe thoracic traumatism. He was constantly nursed by his wife, who was a daughter of M. L. (Case 10), under depressing conditions. At the time of his death she was considerably run down in health, but there was no suspicion of tuberculosis, and she is now, ten years later, in good health.

CASE 12.—T. E. W., a cornet player, whose family history was unknown, died eight years ago of tuberculosis, after a long illness. His sputum was full of bacilli for months. He lived in one room, most of the time sharing his bed with his wife, whose health continued perfect. She is now, after seven years, still living and in good health. Her family history is unknown.

CASE 13.—J. A., with a fair family history—somewhat neurotic in the collateral line—died of tuberculosis, the exciting cause unknown. His wife is unaffected, in robust health many years later. Has married again.

CASE 14.—W. K. A., whose family history was good, married A. M., whose family history was unknown, but supposed to be good. Her death from tuberculosis occurred many years ago; the husband, unaffected, has married again. Two sons are in good health.

CASE 15.—A. B. S., a pharmacist, died after a protracted illness of tuberculosis. He was especially fond of having his children about him during his illness, but neither they nor his wife contracted the disease. All are in good health over six years later.

CASE 16.—W. S., died of tuberculosis after a protracted illness, having been attended by his wife. She continued well and is, I believe, still living after thirty years. Her family history is unknown.

CASE 17.—W. G. C., married C. A., whose family history was unknown. She died of tuberculosis. He is still living and well after many years.

CASE 18.—W. C. R., whose sister was consumptive, died after several years' illness of tuberculosis. His wife, with a good family history, survives him in good health, over seven years.

CASE 19.—A. B., married D. C., whose brother died of phthisis, but who had, as far as direct ancestry was concerned, a good record, both parents living to advanced age, one dying from carcinoma and the other from apoplexy. The stock, however, was neurotic and tuberculous in collateral branches. She died of phthisis; her husband survived her many years in good health and married again.

CASE 20.—C. J., a first cousin once removed of D. C. (Case 19), died of tuberculosis lasting about a year. His wife is in good health seven years later.

CASE 21.—E. G. S., died of tuberculosis. Her husband married again and is living thirty years after his first wife's death.

CASE 22.—P. J. married N. S., whose family history was good. He died of phthisis. The wife is well four years later.

CASE 23.—C. E. W., whose family history was good as far as known, died of tuberculosis. His wife is well over two years later.

CASE 24.—A. H. died of tuberculous, supposed to be started by trauma. His wife remained well, married again, and is still living after many years. One of her family is said to have died of tuberculous meningitis.

CASE 25.—W. F. died of phthisis. He married the sister of the wife of A. H. (Case 24), who died a number of years later from la grippe; no tuberculosis.

CASE 26.—A. V., colored, died of acute tuberculosis. His wife and children are well eight years later.

CASE 27.—R. D., colored, died of phthisis, and his wife is living and well eight years later.

CASE 28.—C. H. died of phthisis. Her husband is living and well five years later.

CASE 29.—H. A. died of phthisis, and his wife is living and well several years later.

CASE 30.—D. died of phthisis. His wife is well over two years later.

CASE 31.—C. J., whose family history was good, married A. P., of a tuberculous family—father, mother and one or more brothers and sisters had died of phthisis. A. P. died of tuberculosis; the only child of the union died young of diphtheria. The husband is well after twenty or more years, and has married again and reared a large family.

CASE 32.—E. F. C., a brother of Case 9, lost his wife from tuberculosis some ten years ago, and is still living, with no signs of the disease.

All of the above thirty-two cases were known to me either personally or through the other members of the families, and all meet the conditions stated above. At least half a dozen more might be added, the facts being reasonably certain, but not so absolutely assured as in those enumerated. There was some possible uncertainty as to the health of the surviving partner a few years after the others, or the history of the fatal disease, though given as pulmonary tuberculosis, left a possible doubt as to the diagnosis. Some of these cases are interesting as regards the facts of hereditary predisposition, but I have thought best not to use them for the foregoing reasons. In all of them, however, the freedom of the survivor from pulmonary tuberculosis for several years was assured.

As before stated, it is easy to get isolated cases of apparent infection of husband or wife, but it is hard to obtain any large number of them in the observation of a single individual. It is also easier still to obtain accounts of cases where this did not occur. There is a difficulty, however, in obtaining the aggregate observations of any one physician on this point, and it is a good deal to ask of them that they should take the trouble to recall and record them. Dr. Norman Bridge, of Los Angeles, Cal., has, however, kindly furnished me with the following list of cases which he has been able to collect and vouch for as meeting the conditions of the inquiry:

1. A. W. K.'s wife died of phthisis, and the husband is well nine years later.
2. P. C. B.'s wife died of phthisis, and he died nine years later of Bright's disease.
3. G.'s husband died of phthisis, but she is well five years later.
4. V.'s wife died of phthisis, and he is well eight years after.
5. T. lost her husband from phthisis, and is well six years later.
6. E.'s wife died of phthisis, yet he is well five years later.
7. N. lost her husband from phthisis, and is well seven years later.
8. F.'s wife died of phthisis, and he developed the disease one or two years later and suicided.
9. F. lost his wife from phthisis, and is well six years later.
10. A. lost his, and is well two years later.
11. W.'s husband died of phthisis, and she is well ten years later.
12. W. also lost her husband therefrom, and is well three years later.
13. J.'s wife died from phthisis, and he is well five years later.
14. F.'s husband died from phthisis, and she is well ten years later.
15. T.'s husband also died from phthisis, and she is well eight years later.
16. E. lost his wife from phthisis, and is well two years later.
17. M. lost his, and is well four years later.
18. C.'s wife died of phthisis, and he is well five years later; has married and buried another wife with phthisis, and is well a year later.
19. B. lost his wife from phthisis, and is well three years afterward.
20. B.'s husband died from phthisis, and she is well seven years later.
21. B.'s died, and she is well ten years later.
22. G. lost her husband from phthisis, and is well ten years afterward.
23. F. lost hers, and is well two years later.
24. S. lost her husband from phthisis, and she is well eight years afterward.
25. N. lost her husband, also from phthisis,

and is well ten years later. 26. D.'s wife died of phthisis, and he is well two years later. 27. B.'s husband died of phthisis, and she died with the same disease two years later. 28. G. lost his wife from phthisis, and is well nine years later, and remarried. 29. Another lost her husband from phthisis, and is well eight years later. 30. M. lost hers from phthisis, and is well ten years later, and remarried. 31. W.'s husband died from phthisis, and she is well nine years after. 32. B. lost her husband from phthisis, and she is well four years later. 33. T.'s husband died from phthisis, and she is well nine years later. 34. A dentist lost his wife from phthisis, and he died three years afterward, also from phthisis.

Taking the whole of the above series together, certain interesting facts are at once manifest: 1. The comparatively small proportion of apparent direct conjugal infection. Out of a total of sixty-six cases we have only five of possible communication from husband to wife, or vice versa, and only three deaths, a proportion of less than one in twenty. This is the more remarkable in that it is far below the ratio of deaths from consumption to the general mortality, which is estimated by some as high as one in seven, and is probably not less than one in nine or ten at the best. It is true that the majority of the survivors of the pairs above enumerated are not dead yet, and some of them may die of consumption, but the present freedom from the disease does not speak for any actively contagious character of tuberculosis.

Another striking feature is the predominant figure of surviving wives. The wife would naturally be supposed to take more chances of contagion than the husband; she is generally the nurse and close attendant of her suffering partner. Here, however, we find 20 wives surviving their husbands, and only 11 husbands surviving wives (excluding No. 1) in my own series and 18 wives to 16 husbands in Dr. Bridge's, while 2 of the 16 died later of phthisis, and none of the wives. It is true that according to the more recent statistics in Great Britain (Newsholme²) the percentage of female mortality from tuberculosis is less than that of males, and the decrease of late years has been much more marked in the former, but this would not be sufficient to account for the condition here presented. So far as the facts appear, considering the probable greater exposure of the wives, they do not prove the extreme contagiousness nor communicability of pulmonary tuberculosis.

The cases of possible infection deserve a few remarks. In Case 1, of my own series, it seems probable that the husband was infected by the wife, or by the wife and the son who died before his parents. Here, however, there is the possibility of a lung traumatism having had some etiologic influence. In Case 8 of the same series, the husband was a physician, who for a time, to my personal knowledge, considered his case hopeless, and yet in spite of all the rational symptoms of phthisis, hemorrhages, etc., he made a good recovery. In Case 6 the symptoms were similar and the recovery even more rapid after the death of the wife. Such cases would appear to support the theories of contagion, but emphasize still more the fact of individual resistance; so soon as the influence of active infectious contact was done away with, the constitutional resistance came into play and the patient recovered. Another curious fact which, however, may be only an accident, is that in both series the cases of infection were exclusively from the wife to the husband. So far as it is indicative of anything it supports the other fact already noticed, of the excess of wives surviving husbands as favoring a lesser predisposition on the part of the female.

There was heredity in ascendants in at least nine of the married couples in my own series of cases, or in about 50 per cent. of those where the family history was known, and in two of these also in descendants. These figures only represent my personal knowledge of the family history, and are not exhaustive. In at least six cases the marriages were childless; in two there was direct ancestral—possible or certain—and in one collateral heredity on the part of the surviving husband or wife.

As already remarked, it is easy to obtain isolated cases of apparent contagion of phthisis, but not a large number from any one physician. Physicians of over thirty or forty years' practice in country towns, where practically every case of the disease during all that time came within their personal knowledge, could give only two or three clearly marked cases of conjugal infection from their experience, and only had a general impression that there might be more were the records available. One or two instances have been reported to me that would seem to indicate a special virulence of the infection or a peculiar coincidence of susceptibility or lack of resistance. The following, reported to me by Dr. N. M. Dodson, of Berlin, Wis., is one of this character. A. of healthy family lost his wife from consumption. In two or three years he developed the disease himself, but in the meantime had married another wife with no consumptive family taint. She also contracted the disease and her death preceded that of her husband. In another case, reported to me by Dr. George H. Simmons, of Chicago, a mother attended her married daughter who died of phthisis, contracted the disease herself, apparently communicated it to her husband and one or more of her children, all dying. In this case, however, there would appear to be a family tendency, possibly on both sides, rendering them particularly liable to the infection.

Though sixty-six cases are but a limited material from which to draw conclusions, yet the fact that they represent the full experience of two observers make the data worthy of consideration. I regret that I could not obtain the experience of other physicians, but I do not feel like blaming a busy practitioner for not caring to take the trouble to go over his notes and recollections, and to verify them; it is a task, as I myself discovered. The facts as given are at least suggestive and, so far as they go, indicate a much greater risk so far as personal danger of acquiring tuberculosis is concerned from having a phthisical parent than from having a tuberculous husband or wife.

KELOID FOLLOWING TRAUMATISM.*

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Keloid, a term first applied by Alibert in the year 1814, to a pathologic condition known as an overgrowth of scar tissue, was so named by reason of its resemblance to a crab. The term is also applied to apparent fibrous outgrowths of the skin of a similar character, formerly believed to be of spontaneous origin, but now the theory is accepted that they are results of lesions in the skin. This is said by some authors to be a somewhat rare disease and affects the colored races more than the white. It is commonest in middle age, but may occur in any age of life. Its favorite sites are the anterior superior sternal region, the shoulders and the neck, but may occur on any part of the body.

2. Elements of Vital Statistics, 1899, p. 237.

* Read at the Annual Meeting of the American Academy of Railway Surgeons, held at St. Paul, Minn., Sept. 5 and 6, 1900.

The so-called keloid of Addison forms contractions of the skin and the fasciæ, thus giving a hide-bound appearance to the part. It rises from no other perceptible causes than cicatrices or other injuries to the skin. Sometimes the growth is imbedded in and on a level with the surface of the skin, but more frequently it is elevated. It is very firm in its consistency and usually remains permanent through life. There has been an attempt by some authors to classify these growths as true and false in accordance with the manner in which their origin seems apparent. But such differentiation is not of clinical value nor is it of any consequence, as it is true that the histologic and anatomic elements are the same in each class.

The growth, in its incipency, appears to be a flattened and firm, though somewhat elastic thickening of cicatricial tissue. It may cover a very small area of the surface of the body or may assume mammoth propor-



KELOID GROWTHS.

tions. The surface of the growth is frequently a bright-red color or a pinkish hue, but sometimes paler than the surrounding skin. It is usually covered by a thin, smooth, and shining layer of epidermis, which is frequently easily detached. It is often painful on pressure, but may be entirely painless. The crests of the angular ridges over the surface of the tumor often have a tendency to ulcerate and bleed readily.

The rapidity of the growth is by no means symmetrical in all cases; sometimes its development is very slow, while in others it arises phenix-like and covers a large portion of the skin in a very short time. In a case of very severe burn or other severe injury the growth may or may not occupy the entire cicatricial surface. It is not uncommon for a growth of this character to make its appearance in the line of coaptation of the flaps after amputation and this form usually presents the appearance of a red, shining nodule, with an irregular surface,

and from the base of the tumor various sized ramifications are seen extending into the healthy skin. This gives the base of the tumor an irregular, serrated, circular appearance. Keloids are most frequently found following wounds that covered over a large area and have healed by granulation with suppuration. The growth occasionally will have a rough, warty and sometimes scaly appearance with the base having a decidedly irregular outline.

The same person may have as high as twenty or thirty growths or may have but one. They are, however, frequently multiple and always non-symmetrical in size. B. Farquhar Curtis, of the New York Post-Graduate School, reports a case of a negress whose entire body was covered with apparently normal cicatricial tissue and presenting some of the usual characteristics of keloid. Hay's reports a similar case.

It has been the observation of the author that both sexes are equally liable to attacks of growths of this kind and an apparent hereditary tendency has been noticed. In fact, families who have predisposing tendency to abnormal growths are often victims of the disease. It may occur in several members of the same family. The disease is not alone confined to the skin, but has been observed on the conjunctiva and even has been known to develop on the tongue as well.

The microscopic examination shows a more or less characteristic differentiation of these tumors with regard to their being of a special kind. They are made up of true cicatricial tissue composed of bundles of interlacing white muscular fibers running horizontally just below the upper surface of the corium. Keloid as a rule is devoid of papillæ, but if they are present they are usually perfect. The growth sometimes, however, infiltrates the corium and destroys the papillæ by pressure from beneath. In keloid which follows in the wake of a large wound, papillæ, sebaceous glands, and hair follicles are not present. The blood-vessels of and even beyond the margin of the growth show definite changes. They are surrounded by round cells which form a part of the adventitia. Fusiform cells are also found in close proximity to the vessels. Warren says that the keloid begins by a growth of round cells in some adventitia of the arterioles of the corium; these cells often becoming fusiform, finally developing into fibers and forming the tumor. Though the tumor may occasionally have a sarcomatous appearance it is not usually hard to differentiate keloid from other tumors of the skin or mucous membrane, as keloid has the characteristic cicatricial appearance, the irregular margins and the claw-like projections from the center of the growth into the healthy skin. Another point of differentiation is the tendency to recur after excision or apparent extirpation. In keloid proper the bundles of white fibrous connective tissue run parallel with the length of the growth.

Surfaces that have been denuded of skin or even deep integument by corrosive acids or alkalies are not uncommonly the sites of these growths. In fact, surface wounds of any description may give rise to the origin of keloid proper. There is no apparent specific reason given for the enlargement of cicatrices, but it is believed to be due in many cases to constant irritation of the surface.

Keloid, when located over a movable point, will often impair the motion of the member. It may encircle the mouth, nostrils, ear, eye, or any orifice of the body, and thus to a greater or less degree, impair the use, if not destroy the function of the member.

Some authors believe the growth to be of micro-parasitic origin.

Treatment.—The treatment of these tumors is very difficult. If complete excision is practical, a cure is imminent, yet the same predisposing tendency may promote the production of the second growth that was present in the first, and there may be a recurrence in the new scar where previous extirpation was apparently complete.

The Thiersch method of skin grafting is often successful in avoiding recurrence if excision has been complete. Scarification is worthy of consideration and in fact is often successful. The following method is commendable: Make parallel incisions over the surface of the growth the full thickness and about four lines apart. The incision should extend a short distance into the healthy skin. Cross incisions should be made likewise. For reasons apparent, in order to facilitate the operation, an ethyl chlorid spray should be used until the growth is completely frozen. Not only does this alleviate the suffering attendant on the operation, but the devitalizing effect of the process of freezing has a tendency to retard cellular activity and thus assist in arresting further development of the growth. The use of cocain for an anodyne is also commendable.

Electrolysis is recommended by Hardaway. This is accomplished by making numerous punctures in the surface of the tumor and also the surrounding skin with the needle. Care must be exercised that an extraordinary amount of electrical application may not set up an irritation and thus produce an increase in development of the growth. Firm or elastic pressure will sometimes tend to produce atrophy and thus lessen the size of the growth.

The constant application of flexible collodion, owing to its power of contractility, is said to be of benefit in reducing the growth.

Complete excision is the most rational treatment when practical, but care should be used that the flaps should be properly coaptated or, if this is not possible, the denuded surface should be thoroughly covered with skin graft.

CASE 1.—A. D., a railway fireman, aged 22, a native of Ohio, of German descent, gave a negative history of specific disease. His health at the time of the accident was good, and his weight about 160 pounds. About January 13, while coaling an engine, as he opened the door the crown sheet gave way and gave vent to a terrific escape of steam from the boiler. He was severely scalded about the head and face, neck, shoulders, anterior surface of the chest, arms and legs. Some of the burns were of the third degree. Following the burn there was a large amount of devitalized tissue detached. About June 1 he passed from my notice with the wounds healed, and his condition fairly good.

About July 1 I casually stopped at his residence and found that on the anterior surface of the right arm a keloid growth had made its appearance. It was irregular in outline, its longest diameter from above downward was about six inches and the shortest diameter $2\frac{1}{2}$ inches from side to side. The growth had the characteristic deep-red color and general appearance of keloid. The keloid did not cover all the surface of the arm that was burned over, but some of the claw-like projections extended into the healthy skin. The growth was firmly set in the skin and subcutaneous tissues, and elevated above the surface, at the highest point near the center about one-half inch. At several points on the crest of the keloid were small granular, ulcerating patches that were ready to bleed on the slightest disturbance. The patient complained of intense itching, especially at night. There was some contraction of the tissues between the shoulder and the elbow, sufficient to hold the arm in a semiflexed position. This I had not noticed

during his convalescence. He complained of a slight pain and some stiffness of the muscles at the site of the growth. The burn in this region, as I remember, had extended down to the muscles. There were several small keloids near the elbow and on the outer surface of the forearm, having the same characteristic color as the one described. They were non-symmetrical in size and form, the largest one being about one-half inch in its longest diameter.

The patient has resumed his employment. The disability produced by the stiffness and contraction caused by the growth is not sufficient to interfere seriously with the use of the member.

CASE 2.—A mulatto girl, aged 15, a domestic, received a severe burn at the age of 12, over the outer and anterior aspect of the shoulder. About one year afterward, in the same region, a keloid developed that measured about three inches from above downward and $2\frac{1}{2}$ inches from side to side. Complete excision of the growth and thorough coaptation of the skin with healing by first intention proved to be successful in eradicating the growth, and there has been no return. There was no history of syphilis.

CASE 3.—Mr. A., a railroad fireman, about 30 years of age, was successfully vaccinated in December, 1899. At the site of the scar a keloid developed, oval in form, with regular outline measuring one inch in the longest diameter from above downward, from side to side three-fourths of an inch. The surface was elevated above the surrounding skin. The growth was a bright-red color and nodular, with small ramifications between the nodules and some extending into the healthy skin. Complete excision of the growth followed by coaptation and primary union was successful in this case and there are no signs of return. Prior to the excision the patient complained of stinging pains and occasionally itching sensations about the growth, especially after a hard day's labor. He also complained of some stiffness of the arm and inactivity of the muscles in the region of the growth.

CASE 4.—Miss B., a ballet dancer, by some means came in contact with a natural gas fire, producing burns of the third degree on the posterior aspect of each leg, covering the entire surface from the hip to the ankle. Shortly after a very tedious healing by granulation, keloid occupied the greater portion of the cicatrices. The stiffness of the muscles, with the impaired motion of the knee-joint produced by the growth, owing to its firmness and contractile power, impaired the use of the members to such a degree as to cause her to abandon her profession. At the posterior surface of the knee-joint the motion of the knee kept up a continuous irritation of the abnormal tissues and there was an occasional fissure developing at this point, until she died with pulmonary tuberculosis three years afterward.

IMMUNITY AGAINST ZYMOTIC DISEASES.

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CHICAGO.

It is not my intention to enter into the minor details of the various theories that have been advanced in regard to the production of immunity; but rather to show how this immunity is probably acquired in the majority of cases aside from a description of the exact chemical changes in the organism itself. A brief consideration of the chief theories and factors, however, may not be out of place.

PHAGOCYTOSIS.

The presence of bacteria within the white blood corpuscles was first noted by Koch in 1878. These bacteria—bacillus of mouse septicemia—according to Koch's statement, penetrated the white blood-corpuscles and multiplied in their interior. Sternberg, in 1884, stated that it was not improbable that the white blood-corpuscles digested or destroyed bacteria. Metschnikoff further elaborated this theory, which is now known under his name. Metsehnikoff divided phagocytes or

devouring cells, into two groups: fixed phagocytes, such as endothelial cells, giant cells of tubercular lesions, etc., and free phagocytes. He did not, however, claim that all leucocytes were phagocytes, but divided the white blood-corpuscles into three classes, of which two, the macrophage and microphage, had the power of taking up and destroying bacteria, while the third, the lymphocytes, did not. While there can be no doubt about the ability of the leucocytes to take up foreign bodies, and bacteria must certainly be included among these, still there are many facts speaking against their power to destroy them. It is probably as Koch supposed in the case of the bacilli of mouse septicemia, namely, that the bacilli enter the blood-corpuscles and multiply in their interior. In gonorrhea and epidemic cerebrospinal meningitis the specific organisms certainly seem to thrive and multiply within the leucocytes. The leucocytosis found in many of the infectious diseases, while probably a defensive arrangement of the organism, evidently acts in a different manner than Metschnikoff supposed. Metschnikoff's theory has been widely discussed and still has many adherents; of late years it has, however, been superseded to a large extent by the interest taken in the defensive power of the blood serum itself.

Alexins.—This name was proposed by Buchner, for certain antiseptic substances found in extravascular blood serum which destroyed bacteria. According to Buchner, these substances are of an albuminoid nature. Hankin proposed the name "defensive proteids," for these. He divided them into two classes: Those found naturally in normal animals, which he called "sozins," and those found in animals that have acquired an artificial immunity, which he called "phylaxins." According to Emmerich and Loew, this antiseptic substance is a proteolytic enzyme or endoenzyme, as they called it. Both these substances—alexins and endoenzymes—are supposed to be non-specific and act on any species of bacteria. While these substances certainly destroy bacteria experimentally it is rather questionable whether they do so to any extent in the living tissues. The experiments of Lubarsch¹ speak strongly against their protecting power. Lubarsch found that while 1 c.c. of the extravenous blood of a rabbit—an animal known to be very susceptible to anthrax—destroyed 29,200 anthrax bacilli, 620 of these bacilli injected intravenously killed the same animal. On the other hand, Lubarsch showed that the dog, an animal very insusceptible to anthrax, even when considerable quantities of the bacilli are injected intravenously, had but a small amount of bactericidal substance in its blood. These experiments show that there is no connection between the natural immunity of an animal and the bactericidal power of its blood. As far as a natural immunity is concerned, we know no more now than we did in 1884, when Grohman² said, in his thesis, that: "In the plasma of the blood the organism possibly possessed a disinfecting medium." We now come to the subject of acquired or specific immunity.

Antitoxin.—That after passing through an attack of an acute infectious disease the animal organism is to a greater or lesser extent rendered immune against an attack of the same disease is a well-known fact. What causes this immunity, on the other hand, is something we know very little about. Experimenters have shown, however, that some substance is formed in the blood plasma that neutralizes the toxin of the specific germ. Just what this substance is or how it is produced in the body is still largely a matter of speculation. To this

immunizing substance the name antitoxin has been given. The experiments of Ogata and others seem to show that it is a globulin. It may, however, be a substance of a different nature that is carried down with the globulin precipitate. Formerly it was believed quite generally that bacteria produced two poisons, one which produced the disease and later another which neutralized the first, both being a sort of secretion of the germ itself. Now, however, we know that while the toxin is a product of the bacterium, the antitoxin or neutralizing substance is formed in some way by the tissues of the invaded animal. As before mentioned, the exact manner in which this substance is formed is not known. Ehrlich, Baumgartner³ and other German authors have, however, built up a very ingenious and plausible theory in regard to its formation, known as the "Seitenketten theory." According to this, we must form in our mind the following picture of a cell: A cell is composed of a nucleus or central group and numerous different atoms or filaments radiating from this nucleus. In order to understand this picture we must think of it not in a histologic, but in a chemical sense, the cell being in this case to be compared with a molecule of a complex organic substance composed of many different atoms. The poison or toxin formed by a given germ has a chemical affinity for a certain filament or atom of the cell and unites with it chemically. Through this union of an atom of the toxin with one of the filaments or atoms of the cell the poison is enabled to act directly upon the central group of atoms or nucleus of the cell. Sickness in a clinical sense depends on the impairment or destruction of the nucleus. If the action of the toxin is very strong the nucleus is destroyed. If, however, the nucleus retains its vitality, it will throw off that atom or filament which has been rendered obnoxious by uniting with the toxin, and replace it by a new one. This is a regenerative process of the cell; now, in regenerative processes as a rule more material is supplied than is needed in repairing the defect, therefore the same thing occurs in the cell. Several new filaments are formed to replace the one that has been discarded; as, however, only one is needed to complete the cell or molecule, those that have been formed in excess of the need will also be thrown off. These latter filaments or atoms floating in the blood constitute the antitoxin. They protect the body because they have a chemical affinity for the toxin. Therefore when the toxin again enters the circulation it enters into chemical combination with these discarded atoms, and in this way its capacity for harming the cells is destroyed. The blood serum of an animal containing such atoms, when injected into another animal, renders the second animal immune, as with the serum are also injected those atoms having the power to combine with the toxin. As this combination of the toxin with the cell atom depends on a certain chemical affinity, the immunity conferred must be specific, as the toxin of any other disease would have no affinity for this particular filament or atom. A different toxin would have an affinity for a different filament or atom out of the many that the cell possesses. This theory, while it shows how the toxin is neutralized, does not explain how the germs themselves are kept from multiplying. The followers of the "Seitenketten theory," just explained, believe themselves, as occurs with their toxin, namely, that the bacterium causes the discarding of a filament or atom having a chemical affinity for it, and that this discarded atom has an affinity for the germ as well as for a ferment-forming body contained in the blood serum.

This ferment-forming body, by uniting with the atom, gives rise to a ferment that in turn destroys the germ. So much for the chemical and histologic factors concerned in the production of immunity.

Let us now consider the matter from another aspect. It is a well-known fact that, during an epidemic of a contagious disease, only a limited number of those who are exposed contract the disease; the remainder for some reason or other appear to be immune. Various factors seem to be concerned in the production of this immunity:

1. *Race Immunity*.—As instances of this might be quoted the comparative immunity possessed by the negro of the South against malaria and yellow fever; and that of the white man against bubonic plague, when compared with the susceptibility of the Mongolian. No satisfactory explanation of this phenomenon is known.

2. *Hereditary Immunity*.—Occasionally persons will be seen in whose family a certain common infectious disease has not occurred for generations, although the members of each generation passed through one or more epidemics of that particular disease and took no special precautions to escape it.

3. *Immunity Conferred by a Previous Attack*.—This has been considered in speaking of the antitoxins.

4. *Age Immunity*.—As is well known, certain of the infectious and contagious diseases attack by preference persons of a certain age. Thus chickenpox and whooping-cough are essentially diseases attacking children during the first decade of their lives, while typhoid fever and epidemic cerebrospinal meningitis are found chiefly in young adults.

5. *Immunity Conferred by Prolonged Residence*.—As examples of this we may cite yellow fever. Persons who have lived all their lives in a yellow fever region are less apt to contract this disease, and when they do contract it the disease usually manifests itself in a milder form than it would in a new comer.

6. *Temperament*.—This and the state of the general health are factors that appear to be connected with the susceptibility of a person to an infectious disease.

THEORY FOR IMMUNITY.

We have now briefly considered the chief facts known to influence susceptibility. In none, however, except in the case where a person has acquired immunity by passing through a previous attack, have we been able to find an explanation as to how immunity is really acquired. I will now take the liberty to present a theory which, although the fundamental facts upon which it is based are well known, presents them in a new light, and may possibly aid in dispelling the mystery surrounding this question. This theory is as follows: The majority of persons acquire immunity against the common infectious diseases through the agency of the specific germs of these diseases. The germs entering the body in quantities too small, or of insufficient virulence to produce a typical attack of the disease, but in sufficient numbers and virulence to form an antitoxin within the body, which protects it against a further invasion, Nature, thus protecting the majority of us in a similar manner against most of the infectious diseases as we now try to protect ourselves artificially against typhoid fever and cholera.

Let us now consider the facts upon which this theory is founded. First of all we must consider the protection against smallpox, afforded by vaccination, being the production of an atypical attack of smallpox which protects against a typical one. Before the introduction of vaccination, however, only a small proportion of the

population were attacked by smallpox. Why did the others escape when, in those days, the entire population was exposed? The only plausible explanation is that enough of the virus was absorbed by those who escaped to produce an anti-body, but not enough to produce typical smallpox. The infection may have shown itself in the form of a slight illness, diagnosed perhaps as a cold or disturbed stomach or something of that sort. It is not even necessary that this immunization took place during the presence of an epidemic of smallpox. The germ of this disease probably can become attenuated to such an extent that it may be widely distributed in a community without there being any cases of what we call smallpox, although it may possess virulence enough to produce an antitoxin against true smallpox. Of course, in speaking of smallpox we can only consider the matter as a hypothesis, as the germ of this disease is not known, but as we know that other germs may be so attenuated as to produce immunity without the production of a typical attack, there is no reason why this should not occur with smallpox. The protection afforded by vaccination at least seems to indicate the possibility of it.

Yellow fever furnishes a good example of the application of the theory mentioned. It is a well-known fact that during an epidemic of this disease in the tropics, almost every new arrival from parts where the disease never prevails contracts it, while only a small percentage of the natives are so afflicted. How are we to explain this state of affairs? The germs are certainly virulent, otherwise the new arrivals would not contract the disease in its typical form. Some will claim the immunity is inherited through some ancestor who has had the disease, while others will speak in rather a vague manner about "acclimatization," without explaining further.

Acclimatization certainly has considerable to do with the production of immunity against yellow fever, and the way it acts is probably as follows. The germ of yellow fever is probably always, or almost always, present in the countries of the Spanish Main and certain other districts, and is also probably widely distributed. But it is not at all times virulent, only becoming so under certain conditions that we do not as yet fully understand. While it is only at certain times and under certain conditions sufficiently virulent to produce typical yellow fever, it is probably at most other times virulent enough to produce an antitoxin in a susceptible person. This production of an antitoxin may give rise to none or only very slight symptoms, just as the artificial immunization against hydrophobia and typhoid fever with attenuated virus gives rise to only a very slight reaction. Bacteriologists will be very apt to take exception to these statements and say: "If the germ of yellow fever is so widely distributed in those regions, it must sometimes be found in apparently healthy individuals and in the bodies of those who have died of other diseases." In all probability this is the case, and I think the finding of Sanarelli's bacillus icteroides in the bodies of persons who have died of other ailments than yellow fever speaks rather in favor of its being the cause of the disease, although Sanarelli's opponents deny this. It is absolutely unreasonable and illogical to suppose, as is now generally done, that the germ of a contagious disease must only be found in the body of a person having a typical case of this disease, and that finding it in other places shows that it can not be the cause of the affection. I believe that a good many of the inhabitants of Cuba carry the germ of yellow fever in the dirt under their finger-nails. It is probably not viru-

lent, at least not enough so to give rise to typical yellow fever, but it is the specific germ nevertheless, and under certain conditions, can become virulent.

The same rule applies to the germs of most contagious diseases. They are not by any means limited to the person having the disease, but are comparatively widely distributed. Let us consider measles in the light of the theory indicated. During an epidemic of measles on the island of Savai, one of the Fiji Islands, described by Davies,⁴ 1000 persons out of a total population of 34,500 died of measles, and not a single inhabitant escaped contracting the disease. This is only one example, as similar ravages have occurred from measles in the Sandwich and other South Sea islands. Again, in Savai the disease had never occurred before and the germs that were introduced came from a typical case. It is significant that not a single native escaped, as this fact shows that the measles' germ had never had its habitat on this island. In this country and in Europe a large percentage of people never contract measles, although practically every one has, at some time or other, been exposed to the contagion. Why is this? Reverting to our theory it is easy to find an explanation. The virus of measles is probably widely distributed and we all come in contact with it, but it is not at all times sufficiently virulent to produce typical measles, however, it is virulent enough that upon entering the body it produces an antitoxin that protects us against a typical attack.

I wish I knew how many of the ephemeral fevers that occur in childhood are in reality an immunizing process against some severe infection in later life. Probably a great number of them would prove to be such. Diphtheria is another contagious disease against which the majority of persons become immune without ever passing through a typical attack of the disease. Hermann, of New York, some time ago made an attack against the specificity of the Klebs-Loeffler bacillus, by claiming that the finding of this germ in apparently normal throats proved that it could not be the cause of diphtheria. There can be no doubt that the Klebs-Loeffler bacillus is sometimes present in normal throats, although not as frequently as Hermann's statistics seem to show. The presence of this germ in healthy throats does not prevent its being the cause of the disease, however. In the majority of these cases it is probably either not sufficiently virulent or not present in sufficient numbers to produce a membrane; but on the other hand it may, and probably often does, produce an antitoxin protecting the organism against a typical attack. Previous to 1892 typhoid bacilli were frequently found in Chicago's drinking water, and probably every native of the city, at some time or other, imbibed some of them; still, only a small percentage contracted typical typhoid. Among the students of Rush Medical College, a considerable number of cases of typhoid fever occurred during this period, but the great majority of them were among new arrivals from outside districts, while of those students who had always lived in Chicago very few were afflicted. How could this be explained? Again reverting to our theory, a plausible answer is that through the entrance, at various times, of small quantities of not very virulent bacilli, most of the natives had been rendered immune very much after the manner in which immunity is conferred artificially through the typhoid vaccinations.

The list of diseases to which this theory would apply could be extended considerably, but I will close the list with a few remarks about scarlet fever; as my best en-

ergies, during the past two years, have been devoted to the study of this disease in its different aspects. During the last two winters we have had an epidemic of scarlet fever extending over the entire city almost uniformly. It is safe to say that there was not a school building or a block of houses in the city in which no case of this disease occurred. It was no uncommon occurrence, especially in the poorer districts, to see children who had this disease, on the street, while scaling was still in progress. The contagion was practically everywhere. Still, not every one exposed contracted typical scarlet fever; the great majority escaped; because most of them had probably been previously rendered immune through a slight infection with the scarlet fever germ, which had not been recognized. Thousands of people have been immunized in a similar manner during the last epidemic, by contracting a scarlatinous sore throat. One of the chief arguments advanced against the specificity of the *diplococcus scarlatinæ*, is the fact that it was frequently found by certain investigators in normal throats and in other places where it seemingly did not belong. It was found in those places during the presence of epidemics of scarlet fever. I do not know how these investigators would have been certain that it was the *diplococcus scarlatinæ* which they found, as it appears that they went entirely by its microscopic appearance when grown on ordinary media; still, even if this were the case, it would not speak very strongly against this germ being the causative factor of scarlet fever, as the contagion was necessarily widely distributed in the city. As I said before, I think the germs of the common contagious diseases are not confined to the person having the disease, but frequently occur in other places, though those found in a patient having the disease are more virulent and therefore more apt to reproduce a typical attack in a susceptible person whose body they enter, while those from other sources would not do so.

Supposing that immunity is conferred in the manner indicated, it would be interesting to discover how the germs enter the body. Probably their mode of entry is similar to that which occurs in a typical attack of a given infectious disease. Thus, to produce immunity against typhoid fever the germs probably multiply in the gastro-intestinal tract. In yellow fever the germs probably enter by inhalation. In scarlet fever and the majority of the infectious diseases of childhood they undoubtedly have their nidus in the nasopharynx.

In this connection it might be well to anticipate a possible objection against this theory. It might be asked why is it "that very young infants seldom contract scarlet fever, diphtheria and some of the other zymotic diseases? They are certainly not protected in the manner mentioned in the theory." It must be admitted that they probably are not, but they are protected in a different manner. I have just stated that infection in childhood usually takes place through the nasopharynx. In very young infants the crypts of the tonsils where bacteria may lodge and the lymphoid tissue that absorbs them or their toxins are developed to only a slight extent; thus the bacteria are deprived of a suitable breeding-place and do not multiply, while even if they did multiply, they or their toxins could not enter the circulation. That this explanation is plausible will be readily seen if we remember how much more apt children with enlarged tonsils are to contract diphtheria, scarlet fever and measles.

By deducing from the facts known about zymotic diseases, I think the following conclusions are justified:

1. In districts where a certain zymotic disease is endemic the germs of this disease are comparatively widely distributed, although in a very much attenuated form. Epidemics are due to these germs becoming virulent either by repeated passage through the animal body, or in some other manner not as yet known. It is only after attaining a certain degree of virulency that they are capable of producing a typical attack in a susceptible person.

2. Immunity or insusceptibility against a given zymotic disease is usually acquired through the activity of the attenuated germ, which, although not capable of producing a typical attack, is still capable of producing an antitoxic body.

3. The presence of pathogenic bacteria in the normal body, described as a "latent infection" by Adami and others, is in accord with the theory formulated. These bacteria are probably an attenuated species, and their office is a beneficial one, as, through their activity, the animal organism is probably saved from a severe infection. The term "latent infection" is, however, a misnomer, since through this latent infection the possibility of an active infection is precluded in most cases.

Before closing I would like to state that a fairly careful search through the literature on immunity failed to show that the theory described had been anticipated by any one, although the idea is perhaps not original with me. Of course I may have overlooked some of the literature. I might also add that my remarks about yellow fever are not made from personal observation, but by deduction from literature on the subject.

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YELLOW FEVER AND ITS TRANSMISSION.

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HAVANA, CUBA.

In an editorial in *THE JOURNAL* of February 23, I notice an allusion to some variances between my own views and those of Drs. Reed, Carroll and Agramonte on the subject of the transmission of yellow fever through the agency of mosquitoes. Lest this difference of opinion should be misunderstood or its purport exaggerated, I beg to make the following statements:

My readiness to accept the incontrovertible demonstration brought forward by those gentlemen as to the transmissibility of yellow fever through the agency of the *Culex* mosquito—wrongly assimilated, it appears, to the *C. fasciatus*—was a foregone conclusion, inasmuch as I had asserted and experimentally demonstrated to my own satisfaction the identical fact twenty years ago. This circumstance did not influence my judgment, however, in any degree, and only added to my admiration of the very perfect manner in which the recent investigation was carried out. I also have always supposed that this particular species of mosquito must be the natural agent of transmission through which the disease is normally propagated in Havana, probably to the exclusion of the other species, since its biologic requirements agree very thoroughly with the usual course of yellow fever epidemics in this city, whereas those of the other species do not. The point, however, has not been experimentally investigated, and it is quite possible that, in other yellow fever centers other species of that genus may be found to assume the rôle assigned to the *Culex* mosquito in Havana.

The most important and original discovery made by Drs. Reed, Carroll and Agramonte, in their interesting investigations, and that which, above all other considerations, entitles them to our warmest praise and congratulation, is the fact which they have brought to light showing that, under certain conditions which they have accurately precised, for the particular season of the year in which they were experimenting, it is possible to contaminate a mosquito through one single bite on a case of yellow fever, so that, after the lapse of a proper interval of days, a bite from the same insect will almost certainly develop a mild attack in the non-immune, whom the insect may thereafter sting, and the contaminated mosquito will retain that faculty during the remainder of its life.

The value of this discovery is, to my mind, inestimable, not only for having enabled the experimenters to produce absolutely convincing proofs of the transmission, but for opening the way toward a very great improvement in my former methods of preventive inoculations, so that we may confidently look forward to a process by which immunity will be safely conferred within a brief space of time to new-comers who may be willing to undergo the comparatively slight inconvenience of a mild experimental attack of the disease.¹

Although this important discovery was made in accordance with precedents derived from certain known facts concerning the malaria infection, it does not follow that the germ of yellow fever must, of necessity, also be an animal parasite. The circumstance that, by allowing a certain interval of time between the contamination of the insect and the inoculation, the efficacy of the latter is undoubtedly enhanced, I had myself surmised, without taking into account that the germ might require to go through any special transformations within the body of the insect; my idea was simply that the prolonged contamination would allow the germ to multiply to such an extent that a more abundant supply would be secured for the salivary and venom glands of the infected mosquito. Regarding the curious fact that the contaminated insect retains the power of reproducing the disease during its life, this is not a privilege appertaining exclusively to animal parasites, since it is also observed with regard to the bacilli of leprosy and of tuberculosis in man.

As a practical demonstration that fomites, in the usual sense of the term, are incapable, per se, of conveying the yellow fever infection, the experiments at Camp Lazear were very significant and most ingeniously devised. The generalization of the principle is, however, only justified by the circumstance that the outcome of those experiments affords a direct corroboration of what actually occurs in nature, experience having repeatedly shown that in localities where the disease appears to be intransmissible—as in the City of Mexico, in Petropolis, and, in 1853, at Memphis, Tenn.—the fomites which should have developed around all the imported cases of yellow fever have been powerless to bring about its pro-

1. The innocuousness of the method would still be grounded upon the same argument which I submitted to Captain-General Blanco, in 1881, when I solicited his permission for my first experiments with contaminated mosquitoes, and which at once appealed to his clear-sighted judgment. "If," I argued, "the mosquito is truly the indispensable agent of transmission which I conceive it to be, the mildest, recognizable attacks of yellow fever that occur in nature must be attributed to the smallest efficient dose of the yellow fever virus that may be introduced into the non-immune, a condition which ought surely to be fulfilled by applying only one mosquito which has only once before stung a yellow-fever patient." The great improvement which results by reason of the recent discovery consists in the facilities which it affords for obtaining direct evidence that the inoculation has been successful.

pagation. The only point, therefore, which remained to be proved was the fact that fomites which might be considered of the worst kind should likewise fail to do so even within the regular yellow fever zone, and that the very men who had been exposed with impunity to their action, would thereafter take the infection through the bite of a contaminated mosquito; all of which the experimenters have demonstrated to perfection.

That not only fomites, but anything that might be considered as a possible receptacle for live mosquitoes, of the infectious kind, should be dealt with in a manner that would ensure the destruction of those insects is a self-evident corollary of the mosquito theory. Precautions should be taken even against the importation of dry eggs of the *Culex* mosquito into places where that insect is not usually found, lest a brood of those insects should develop during the summer season, thereby greatly increasing the difficulty of controlling the propagation of the disease if a case of yellow fever were accidentally introduced.

My objection to some of the conclusions specified in the "additional note"² refers merely to their exclusiveness and to the hard and fast rules which have been set down without sufficient evidence in their support. I have elsewhere alluded to these objections as referring to matters of minor importance, and so they appear to be when compared to the all-important facts for which we are indebted to Drs. Reed, Carroll and Agramonte. From a sanitary point of view, however, they require to be looked into. If it be admitted that after the third day of an attack of yellow fever mosquitoes can no longer be contaminated from the patient, the inference must be that after that period it is quite superfluous to keep mosquitoes away from the patient, and if it were true that the contaminated mosquito can never transmit the infection until twelve or more days have elapsed since its initial contamination, non-immunes might visit with impunity, during their illness, the first cases that occur in a locality previously free from infected mosquitoes. I have, indeed, positive evidence to show that, in the summer season at least, those rules do not always hold true. A fresh mosquito was applied on August 13, 1883, to a hemogastric case of yellow fever whose attack had set in on the 8th; two days later, on the 15th, the same insect was applied to a second case of hemogastric yellow fever attacked on the 10th; finally, on the 17th, the insect was applied to a non-immune whose isolation from other sources of infection had been perfectly satisfactory; nine days later, on the 26th, this person was taken sick with a mild, but well-characterized attack of yellow fever, and subsequently resided over ten years in Havana without ever experiencing any illness which could possibly be referred to the yellow fever infection. This case, however, as well as a few others among my 104 inoculated subjects (1881 to 1900), merely shows that the rules set down by Drs. Reed, Carroll and Agramonte are not so absolute as they have imagined. With this reservation, I have no hesitation in admitting that the general principle which they have discovered and which, in their hands, has given such brilliant results, is the right one to work upon, especially when it is desired to contaminate the insect with only one bite upon a mild case and within the first days of the attack. It is more than likely, indeed, that the average time required for the complete contamination of the mosquitoes will be found to vary at different seasons of the year, and I feel certain that, when this point comes to be investigated, the minimum in summer will *occasionally* be

found reduced to a limit as low as *two days* for the interval between the initial contamination and the date on which the insect may already be in a condition to reproduce a mild attack of the disease; in such cases, too, the period of incubation, according to my personal observations, is apt to extend beyond its usual limits of two to eight days. This circumstance may, perhaps, be accounted for on the supposition that the quantity of virulent germs inoculated in such cases has been so small that a prolonged incubation becomes necessary before their number can reach a figure which is capable of developing the outbreak of an attack. This diversity in the period of incubation might be considered another point of analogy between the yellow fever germ and the malarial parasite. Major Ronald Ross³ himself having declared that "there is a well known period of incubation" (after the bite of the malaria-mosquito) "lasting from two days up to twenty, or even longer—the usual period being one or two weeks."

160 Campanario Street.

SOME TECHNICAL SUPPLEMENTS IN COMPLICATED ENUCLEATIONS.

M. F. WEYMANN, M.D.

ST. JOSEPH, MO.

Every neat operator takes pride in delivering an enucleated eye-ball as clean as a peeled onion, but now and then conditions arise which make this result exceedingly difficult, if not entirely impossible. Among the circumstances interfering with neat work are:

1. Venous stasis and edematous infiltration of the integuments of the lids.—The lower cul-de-sac is then almost effaced and does not hold a speculum, eversion of the inferior lid allowing the wire to slip. A Desmarres retractor is equally unsatisfactory, while a sharp tenaculum is apt to inflict damage. In such cases I have worked with the greatest convenience with the help of sufficiently stout suture threads. One is passed through the upper lid and another through the lower about 3 millimeters from the free border and near the center of the palpebral fissure. The ends of each suture are then tied, both to prevent slipping out and to afford a loop for the finger during retraction.

2. Rupture of the eye-ball or ulcerative perforation of the cornea.—All surgeons are familiar with the folding tendencies of a collapsed bulbus and the consequent liability of such folds to be cut by the scissors. This is especially annoying when one attempts the longest possible resection of the retrobulbar portion of the optic nerve, as the disappearance of a well-distended ball removes the only landmark from which to judge distance posteriorly by the touch of the scissors. I remember my keen mortification in one such case (practically the whole cornea had been carried off by a piece of flying bolt), where I cut the nerve, as I supposed, but delivered the remnant of the ball with a hole at the posterior pole large enough to admit a heavy pencil. To avoid such troublesome annoyances I apply two remedies, namely, *a*, suturing; *b*, intrabulbar injections. Whether ulcerative or traumatic, the perforations are closed by firmly tied stitches placed very near to one another. If the loss of the intraocular contents is only slight, enucleation may begin; but if much collapse exists, I inject normal salt solution. A very fine needle plunged obliquely through an uninjured portion of the tunics of the globe will not allow regurgitation after withdrawal. Occasionally the salt solution will escape on account of inefficient suture closing, either

from the nature of the wound or the fault of the surgeon. In such cases paraffin injections are most valuable. The paraffin should be sterilized by boiling, but not be injected too hot. A few drops of a sterile 1 per cent. cocain solution renders the intrabulbar tissues quite tolerant. It should be remembered, however, that the paraffin syringe used must be kept quite hot and that the lumen of the point should equal at least that of a good-sized lachrymal point, otherwise interminable clogging will discourage the operator.

External canthotomy is practiced by me wherever it seems to hold out any advantages during the work.

Special Article.

ON THE PLAGUE IN SAN FRANCISCO.

Since March 6, 1900, when the first case of plague was recognized in the city of San Francisco, *THE JOURNAL* has called the attention of its readers from time to time to the reports of further cases occurring there and has emphasized over and over again the necessity of more active and intelligent measures of suppression than those which, owing to the unfortunate disputes which have arisen among physicians and politicians in California, could be, under the circumstances, undertaken. Thanks to certain reliable correspondents on the Pacific Slope, we have been kept very fully informed of all that has happened there during the past year, especially of everything connected with the plague situation.

A PANICKY CONDITION.

The findings of the bacteriologists of San Francisco, confirmed as they were by the careful microscopic studies of one of the most skilled bacteriologists in America—Dr. Kinyoun, of the U. S. Marine-Hospital Service—the latter having made his other observations doubly sure by the obtaining of positive results from animal experimentation, led the Board of Health of the city to undertake active measures to wipe out the disease. For a short time San Francisco was in a somewhat panicky condition. The newspapers were alarmists; the general public and most of the physicians had had no personal experience with plague; the immediate dangers were overestimated by nearly everyone; it was believed by many that a general epidemic was imminent—and measures of suppression were resorted to, which, though shown by experience to have been in some respects too severe, in others imperfect or, perhaps, in the light of later knowledge in certain particulars, actually dangerous, were, when the time, place and state of knowledge of the subject are considered, those that the authorities there, or other authorities similarly placed, might naturally have been expected to undertake. The spread of the disease was positively prophesied; a rope was run around the thirteen or fourteen blocks which constitute the Chinatown of San Francisco; the Chinese were forbidden to pass beyond this rope into other parts of the city.

CHINATOWN QUARANTINED.

All sorts of difficulties arose immediately. A large proportion of the Chinese spend the day as servants among the whites, either in private houses or in hotels,

and the quarantine not only deprived these Chinese of employment but also led to a most painful embarrassment of the whites, an embarrassment that can be fully appreciated only by those who are conversant with the high degree of dependence on Chinese service which obtains in San Francisco. The quarantine guard had to be hastily recruited; some of the men appointed were, perforce, unsuited for the positions they held and the city officials were accused, in all probability unjustly, of favoring political ward-healers with billets, the accusers going so far in some quarters as to intimate that the Board of Health had instigated a plague scare partly to permit of the appointment of their political friends to remunerative positions, but more particularly to influence the disposition of several thousands of dollars then under consideration for appropriation. That the quarantine cordon about Chinatown was insufficient to do what was intended, viz.: to keep all the Chinese in Chinatown, there can be no doubt. Our correspondents inform us that despite the measures taken large numbers of Chinese left their quarters daily, appeared at their regular places of service, and returned to Chinatown to sleep at night—irregularities which they attribute partly to numerically insufficient force to man the rope, partly to the corruption of certain members of that force, and partly to the utilization of secret paths of escape over roofs and through underground passages to the world outside. Efforts were made to induce the Chinese to be Haffkinized, but as a rule without avail, even though immunity from quarantine regulations was offered to the inoculated. A murmur arose that the quarantine methods adopted ought really to spread plague if it existed, that the huddling together of all the idle Chinese, day and night, in Chinatown, with but imperfect isolation and disinfection of premises within the district in reality exposed large numbers of individuals unnecessarily to contagion. The Chinese became much disaffected; not only were a great number of them thrown out of employment but the Chinese merchants, dependent in large part upon white visitors to Chinatown for their trade, found themselves suddenly cut off from their income. Above all the great outbreak of disease prophesied did not occur. There were no more deaths in Chinatown than ordinarily; the Chinese ridiculed the idea of the existence of any unusual disease. The diagnosis of plague became doubted because the disease did not spread. Several physicians of the city, among them two or three elderly men of wide reputation, denied that the malady was plague and asserted that the health officers had been misled by certain glandular swellings very common among the Chinese and known to have existed in Chinatown for years.

MEDICAL OFFICERS ABUSED.

Dr. Joseph J. Kinyoun and the city Board of Health became the objects of newspaper venom and abuse. Nothing was too vile to be said of them; the most dishonorable motives were attributed to these men. The upshot of the conditions was that, on the application of Mr. Wong Chung, Secretary of the Chinese Six Companies, and others, an injunction was granted by Judge Morrow which compelled the raising of the quarantine about Chinatown. The Federal quarantine official at

once communicated with the Surgeon-General of the U. S. Marine-Hospital Service, in Washington, stating that plague existed in San Francisco and that the local authorities were not dealing adequately with the situation. He received telegraphic orders to place officials on the outskirts of California to inspect outgoing trains. This measure, together with the tying of the hands of the city Board of Health of San Francisco, led to considerable excitement and confusion.

The attitude of the State Board of Health was interesting to observe: for a time many of its members were convinced of the existence of plague and favored measures of extermination. A reaction set in, the *personel* of the board became much altered through the political machine, the new president of the State Board declared against the existence of plague notwithstanding Dr. Ryfkögel's report in the affirmative.

The failure of Dr. Ryfkögel and Dr. Mouser to find plague bacilli in one of the cases was heralded as proof that plague did not exist, though the examination was made under most unfavorable conditions, and Dr. Ryfkögel himself believed the case in question to have been one of plague, and had absolutely demonstrated, beyond fair contradiction, the presence of typical plague bacilli in other cases. A young bacteriologist, Dr. Pillsbury, first decided that the cases alleged to be plague were not true instances of the disease, but on subsequent examinations became convinced that he was in error. The bacteriologist of the city Board of Health, Dr. Kellogg, isolated the bacillus of bubonic plague in case after case and made recommendations to the board in accordance with his findings. The professors of pathology and bacteriology, both in the University of California and in Cooper Medical College, were asked to attend autopsies and to witness the bacteriologic examinations. Both these gentlemen were convinced that the cases under discussion were really examples of bubonic plague and made statements to that effect.

BUSINESS MEN ACTED WITH WISDOM.

It would be unfair to the commercial interests of California, and the correspondents of THE JOURNAL lay emphasis on this, if it were not stated that the representative business men of San Francisco have in this, as such men do on most occasions, displayed rare common sense, a desire to know the truth in full and to act in the best way suited to advance the interests of the community. A group of these men asked Dr. D.W. Montgomery, a leading practitioner of San Francisco and a man in whose skill and integrity they had confidence, to investigate the situation for them and to advise them. His report stated that true bubonic plague existed and advised that means for its extermination be subscribed. The merchants raised \$30,000 on the spot and placed it at the disposal of the health authorities. Later, when the disease was found not to be spreading rapidly and the public, in large part, doubted the diagnosis, a part of this money was returned to the subscribers.

The whole question now resolved itself into a bitter political fight. The Governor of the state was at war with the Mayor of San Francisco. The newspapers of San Francisco, for political reasons, hailed every opportunity for besmirching the characters and reputations

of the Mayor, his associates and the scientific men who stated that plague existed. In addition some of them at least openly avowed that even if plague existed the best policy to adopt was to deny the fact. The *Sacramento Bee* from the beginning declared that the reports of the bacteriologic examinations should be trusted, and urged that honest confession with proper action would do less harm to the state than suppression of the facts. The Governor of California, it is reported, went so far as to issue a proclamation asserting that plague did not exist. But occasional cases of plague were discovered by the city health authorities, the diagnosis was confirmed by Dr. Kinyoun, and reports were published in THE JOURNAL and regularly sent to Washington where they were published by Surgeon-General Wyman in the weekly reports of the Bureau.

THE FEDERAL INVESTIGATION COMMISSION.

Early in January of this year Surgeon T. H. White, of the U. S. Marine-Hospital Service, reached the Coast and toward the end of the same month a commission appointed by the Secretary of the Treasury to work under orders from Dr. Wyman arrived in San Francisco, as noted in THE JOURNAL at that time. This Commission consisted, as our readers know, of three university professors, Dr. Simon Flexner of the University of Pennsylvania, Dr. F. G. Novy of the University of Michigan, and Dr. L. F. Barker of the University of Chicago. Their academic positions, general reputation, and special knowledge of bubonic plague acquired in China and in India by personal investigations insured a thorough, conscientious and reliable report, and one which would undoubtedly, no matter what its character, be accepted by the world at large. The problem set for the commission was to ascertain the existence or non-existence of plague in San Francisco or in other ports or places in California. News of the coming of the Commission coincided with its arrival, and the Governor of the state telegraphed to the President of the United States protesting against it and urging, if the Commission were actually to go to work, that he might appoint a state representative thereto. This telegram was answered by Secretary Gage, who assured the Governor that the Commission represented the highest authority attainable, that it was independent of the governments, both Federal and local, and that the request for the appointment of a state representative could not be granted. These telegrams, together with an urgent message from the Governor, were sent to the California legislature, then in session, and used to hasten the passage of the three health bills, one appropriating \$100,000 as an emergency fund to be spent by the Governor for the suppression of plague should it arise in the state, a second making it a felony for any one to report the existence of plague in the state before it had been announced by the State Board of Health and a third making it a felony for any one to handle or experiment with germs of plague carelessly within the confines of the state. Through the help of the physicians, the Mayor and the city Board of Health, and particularly the presidents of the various commercial bodies in San Francisco, the members of the Federal Commission got immediately at work. The cooperation of the Chinese was fortunately obtained

through the attorney of the Chinese Six Companies. Proclamations were issued in Chinatown ordering that all cases of illness among the Chinese, no matter what the cause, be reported to the offices of the Six Companies. One or more of the Commissioners, together with the secretary of the Chinese Six Companies, then made daily inspections of all the Chinese sick and dead. During the thirteen days when such inspections were made thirteen deaths occurred, of which six were definitely proved, pathologically and bacteriologically, to have been due to infection with the bacillus of bubonic plague. Three of the patients who died of plague were seen during life, and two of the three were definitely recognized by the inspecting Commission *intra vitam* as instances of true plague infection. One of the cases seen alive—an obscure form of the disease—was not recognized as plague even at the postmortem; it was not until after an animal had been inoculated with a portion of the spleen that the true nature of the case was determined. The six deaths occurred within eight days. The Commission telegraphed an epitome of its findings to the Bureau and subsequently forwarded its full report to Washington. Its members were ordered to communicate the results first to Governor Gage and subsequently to Mayor Phelan, and to a representative of the commercial interests of the city. To the credit of Governor Gage, be it said, he took steps immediately to co-operate on the part of the state with the Federal and city authorities in measures of suppression and extermination. His manner of procedure subsequent to the Commission's report makes it obvious that he has the good of the state at heart and that he regrets the fact that ill-chosen advisers, by their ignorance or malevolence, led him into false paths.

A delegation of prominent citizens representing the governor, the mayor and the business interests immediately proceeded to Washington and made arrangements with the officials of the U. S. Treasury Department that the city and state should take the health matters in hand vigorously and at once, the work to be done under the advice and counsel of Surgeon T. H. White, a Federal officer whose skill and executive ability have more than once successfully stood the test of the emergencies of epidemics. In order that California be not unnecessarily injured by alarmist reports of plague, the delegation urged that the report of the Federal Commissioners be temporarily withheld, and Surgeon-General Wyman appears to have consented to this for the full report has not yet been published, and even the concise statement of the results did not appear in the *Public Health Reports* until April 1—at least a month after the telegraphic report of the Commission was received in Washington.

RIGID MEASURES NOW IN FORCE.

We are informed by our correspondent that the measures for the extermination will include the institution of a plague hospital, a mortuary and a detention camp. There will be daily inspections with rigid isolation of cases and suspects, and removal of contacts to a detention camp until the incubation period is over. Not only will premises in which plague cases and deaths are encountered be thoroughly cleaned and disinfected, but a systematic inspection of Chinatown will be under-

taken, street by street and house by house; rooms insufficiently lighted and ventilated will be condemned and thorough cleansing and, where necessary, disinfecting will be insisted upon. Fortunately the better class of Chinese are most sensible with regard to the affair, and will be advised by their attorney to co-operate with the health authorities, it being understood that no unnecessary measures will be resorted to and that there will be as little interference with the traditions and habits of life of the Chinese as is compatible with the thorough accomplishment of the task. The co-operation of all parties concerned is absolutely essential to the satisfactory completion of the work which has been begun, and the most hopeful feature of the situation thus far is that such co-operation has, thanks to the operations of the Federal Commission, been secured. It will be essential that all sick Chinese be most carefully scrutinized during the period of suppression, and it would seem desirable that every death among the Chinese should, in the light of the findings of the Commission, be regarded as a death from plague until absolutely proved by bacteriologic examination to have been due to some other cause. Surgeon White, in his part of the work, will be assisted by several assistant surgeons of the U. S. Marine-Hospital Service, among others by Dr. G. M. Flint of the University of Chicago, who has had personal experience with the plague both in China and in India.

PLAGUE IN SAN FRANCISCO FOR TWO OR THREE YEARS.

The fact that the members of the Federal Commission found six cases of plague in eight days, and that since they ceased work only one case has been discovered makes it extremely probable, as we have said above, that many cases of plague occur which are not recognized. The number reported for the last year is about thirty; it is safe to assume that the actual number which occurred would amount to three or four times the number discovered. Indeed, judging from the mortality tables, it seems extremely probable that though the first case was discovered in March of last year, plague has existed in San Francisco among the Chinese for at least two or three years—possibly longer.

WHY IT HAS NOT SPREAD.

How are we to explain the fact that the disease has not spread more rapidly? There has certainly been no great outbreak and the disease itself has not occurred in violent enough form to excite any great alarm in the district in which it is occurring. The explanation is not easy, but several significant facts may be mentioned. The climate is not favorable to the spread of plague; there is but little poverty in San Francisco; even among the Chinese there is an absence of the marked destitution to be met with in native cities in China; in California the Chinese are clothed, while in China and in India it is said that the people among whom the disease spreads go bare-footed and usually bare-legged, some of them wearing nothing but a breech-clout. It is possible too that owing to factors with which we are as yet unacquainted, the rats in San Francisco have not become infected; our correspondents state that there has been no evidence as yet of an epidemic among the rats in the city, and, as is well known, prac-

ually every great epidemic among human beings has been preceded by an epidemic among the rats of the place. We might think of the possibility of a low-grade of virulence among the bacilli which are at work in San Francisco, an excusable hypothesis in view of the fact that fulminating cases do not seem to have occurred and that in many of the fatal ones the illness lasted for two or three weeks. The experience is not peculiar to San Francisco, however; precisely the same kind of sneaking epidemic occurred in Calcutta for two years or more before the big outbreak and a similar history attaches to various other places.

SAFETY FOR THE FUTURE LIES IN THOROUGH ERADICATION.

And here lies the importance of the whole situation. Experience has taught us that just such sneaking epidemics as that which now exists in San Francisco can be suddenly and without special warning transformed into violent epidemics of the most fatal and extensive type. The existence of occasional cases of plague in San Francisco is therefore not so much a matter of immediate danger as it is a menace which hovers over the city, the state and the whole of the United States. The people of California and the people of the United States must not be asked to walk about daily under this sword suspended by a hair. The disease, no matter what its present nature, must be stamped out; we wish to sleep well of nights and go about our daily vocations without uneasiness.

CANDOR AND TRUTH.

A word as to truth telling in connection with this matter. The Mayor of San Francisco, the city Health Board, Dr. Kinyoun, the scientific medical men of San Francisco, certain of the newspapers outside of San Francisco and the higher class of business men in that city have not hesitated to say aloud what they believe to be true with regard to the plague situation. They are right in the view that frank confession of the exact conditions will do less harm to their city and state than will subterfuge, or misrepresentation of the facts. It is a calamity, and owing to the ignorance and panicky nature of the masses, a greater one than it ought to be, to have it announced that plague exists in a city. But Americans, above all others, should be strong enough to meet calamities bravely; if Honolulu, Glasgow, Oporto, and Cape Town have been honest and brave about such matters, ought not San Francisco to show equal candor and fortitude? Her best people are undoubtedly doing so. It is a reflection on California that the press of San Francisco has not only not stated the truth, but, ever since the managing editors of the newspapers have been familiarized officially with the contents of the report of the Federal Commissioners, they have misrepresented even editorially with regard to the situation.

SCIENTIFIC MEDICINE ELEVATED BY THE RESULT.

A most important by-product, as it were, of this plague experience in San Francisco, will be the elevation of the position of the really scientific men on the Coast. Instead of being grateful that they had in their midst men of skill and training who could diagnose accurately the conditions existing, the press and many

of the public vilified these men, clamored for their removal, and did all in their power to ruin their positions and reputations. The report of the Federal Commission will tend to make Californians trust their own good men, and will lead them to hesitate in the future before taking the advice of the inexperienced, the charlatan, a corrupted press or the professional politician.

EFFECT ON OTHER CITIES.

The limitation of plague almost entirely to the Chinese population of San Francisco—there were only three plague deaths among the whites of the city during the past year—brings up the question as to the existence of the disease in Portland and other places where large numbers of Chinese live. This matter is of the highest importance in view of the fact that little is known or cared about the diseases which prevail among the Chinese in American cities. The inspections by health authorities are perfunctory and, as a rule, utterly inadequate. Death certificates are often signed simply on external inspection of the corpse, any satisfactory clinical history being available only in the rarest of instances. If recent experiences afford us any guide at all, they indicate that we may no longer refuse to be our brother's keeper; however distasteful an acknowledgment of the relation may be to some of us, it is one which for our own protection we must consent to. We understand that the Surgeon-General of the U. S. Marine-Hospital Service has already taken steps to inquire into this matter.

We have dealt somewhat fully with this subject of plague in San Francisco, for it seems to us one of unusual importance not only to the medical men but to the public generally in America. We believe too that a plain statement of the truth may do much to dispel the alarm that vague suspicions excite. We feel sure that the conditions in California at present are not such as to interfere in the slightest way with travel or commercial life in that state. There is no reason, so experts tell us, why tourists should not visit San Francisco and even San Francisco's Chinatown, just as freely as ever. The trade of the city and state should not be materially damaged by the present conditions. No disturbing quarantine measures are necessary and none will be inaugurated. That the disease may, however, be soon stamped out there, every one will hope; that the work be undertaken promptly, thoroughly, energetically and without dilly-dallying, no matter what the cost, the inhabitants of California and the whole people of the United States must insist.

FICTION AND DRUG HABITS.—The *British Medical Journal* of March 23 takes from the *Academy* the following story, which points its own moral: Professor Wyllie, of Edinburgh, in a recent lecture, related the following case. He was called one day to see a young man. As he was entering the house the patient's sister exclaimed, "Oh, it's all that horrid book!" Inquiry elicited the fact that the patient's favorite reading was "Sherlock Holmes." The young man was in a very low state, and his telltale arm was dotted with hypodermic punctures. His admiration for the most popular of paper detectives had betrayed him into the cocaine habit. How many people have been brought under the baleful spell of opium by reading De Quincey's famous book? Théophile Gautier's "Paradis Artificiels" has also much to answer for.

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THE OPERATIVE TREATMENT OF TYPHOID PERFORATION.

It is a well-recognized fact that there is often a marked want of agreement between the symptoms of a case of typhoid fever and the intensity and extent of the intestinal lesions. The latter, as has now been abundantly shown, may even be entirely wanting. It is, therefore, impossible to predicate in the individual case the occurrence of or the escape from perforation of the bowel and consecutive peritonitis. The latter event, it is believed further, may occur even without the intervention of actual perforation. In some instances perforation has been due to gangrene resulting from vascular occlusion and in others exceptionally also to rupture of other viscera than the intestines, as, for instance, the spleen, the mesenteric glands, the gall-bladder and to abscess of the liver.

Perforative peritonitis is one of the most common fatal complications of typhoid fever. Occasionally it occurs as the first pronounced manifestation in a latent case; or it may develop suddenly in an apparently mild case. Nevertheless, it is usually the accompaniment of cases grave from the outset. The perforation generally is single, although it may be multiple, and, in correspondence with the preferable seat of the typhoid ulceration, it is most commonly situated in the lower portion of the ileum. It is of great importance—particularly from the diagnostic standpoint—to realize that the vermiform appendix may also be the seat of typhoid perforation.

Perforation of the bowel in the course of typhoid fever is most likely to occur during the stage of sloughing of the intestinal lesions, therefore toward the end of the second or the beginning of the third week of the disease. It may, however, occur at a much later period. The ultimate or exciting cause may be distention of the bowel, constipation, excessive peristalsis, vomiting, straining at stool, or other undue muscular exertion.

The frequency with which intestinal perforation occurs in the course of typhoid fever is variable, an average of from 1.5 to 3 per cent. of all cases or from 9 to 12 per cent. of all deaths representing a fair estimate. The distinctive symptoms are sudden abdominal pain with retching and vomiting, and intestinal paresis. The features soon become drawn, the nose sharp, the extremities livid and cold, and the body covered by cold sweat. The pulse becomes frequent, irregular and

small, while the temperature may be but little affected. Death is pretty sure to follow unless relief is afforded by prompt surgical intervention, although it can not be denied that in rare instances adhesive inflammation may prevent extension of the inflammatory process and thus avert a fatal issue. Keen¹ has emphasized the importance of prompt operation in cases of typhoid perforation, expressing the belief that such a course in every case—except the moribund—would result in the saving of at least one-third of the cases and possibly more. He prefers² as the time for operation not that of immediate primary shock, but rather within the second twelve hours.

In an important communication presented at a recent meeting of the Philadelphia County Medical Society, Dr. Wm. Osler³ reports 3 cases of perforation in the course of typhoid fever in which operation was performed, with recovery in 1, while in 1 of the fatal cases death resulted rather from the intensity of the primary disease than from the effects of the perforation, and in the other the patient died in the course of the operation. He adds, further, that of 11 cases of typhoid perforation operated on for him while at the Johns Hopkins Hospital recovery occurred in 5, while, of 5 other cases operated on, recovery ensued in 1. Dr. Osler, in his paper, dwells especially, however, on the necessity for careful and constant observation in order to secure an early diagnosis, at times under most difficult conditions. To this end he has drawn up a schedule of specific instructions to be followed in all cases of typhoid fever in which perforation is suspected and in which special attention is directed to complaint on the part of the patient of abdominal pain, to hiccough, to vomiting, to special acceleration of pulse or respiration, to sweating or signs of collapse. With regard to the pain there should be noted the mode of onset and the situation. The state of the abdomen should be examined with regard to form, respiratory movement, the results of palpation, percussion, and auscultation, and the rectum and the character of the stools. Also the general condition of the patient should be noted, the facies, the pulse, the temperature, the respiration, the presence of sweating, vomiting and hiccough. Finally, the blood-count may yield important information, the leukopenia of an uncomplicated attack of typhoid fever being replaced in the presence of perforation and peritonitis by leukocytosis.

BOVINE AND HUMAN TUBERCULOSIS.

The greater virulence of bovine over human tuberculous infection is well known, but fears are sometimes expressed that the latter may be an exciting cause of the disease in the lower animals, and thus give rise to especially dangerous conditions for the human subject. This vicious circle has been repeatedly reported as

1. Surgical Complications and Sequels of Typhoid Fever: W. B. Saunders, 1898, p. 319.

2. Loc. cit., p. 225.

occurring, though in many of the cases at least no very thorough investigation has been made, the conclusions being purely *post hoc* in their character. It would be presumptuous to say that this infection from man may not occur as stated, but the danger may not be as great as is feared. This would certainly appear to be the case if we are to accept as correct the findings of the pathologist and bacteriologist of the Arkansas Agricultural Experiment Station, Dr. Dinwiddie, as given by him in the December Bulletin (No. 63) of that institution. He sought to elucidate the following points: 1, the degree of insusceptibility and the possibility of inducing a progressive or permanent infection in cattle by the bacilli of human pulmonary phthisis; 2, the nature of the excess of virulence of the bacilli of bovine tuberculosis over that of human origin, whether selective or general, directed toward cattle only or toward other species of domestic animals as well.

Two series of experiments were carried on under similar conditions, consisting in inoculations with cultures obtained from human sputa and from bovine tuberculous lesions respectively. Eight or more animals of each species tested—cattle, sheep and pigs—were inoculated, and this performed with large doses into the most vulnerable regions, viz., the peritoneal cavity and lungs. Cattle inoculated with cultures from human sputa proved very resistant and in no case was there what appeared a progressive or even permanent infection. Only in pigs was it possible to obtain a genuine tuberculosis, in most cases chronic, leading to emaciation; in others generalized, though not necessarily fatal. Sheep were rather more susceptible than cattle, as shown by the more permanent tuberculin reaction and the larger local lesions, but suffered no general impairment of health. With bovine cultures all three species proved highly susceptible; a generalized rapid tuberculosis was the rule. In cats, two of which were tested, the effects were comparatively slight. Dr. Dinwiddie remarks that the susceptibility to inoculation tuberculosis in domestic animals does not correspond to the incidence of the naturally acquired disease, and he thinks other factors of contagion are in a large measure answerable for the great prevalence of tubercular disease among cattle. He is inclined to attribute the greatest importance to the influence of stabling and vitiated air. The animals tested were subjected to the ordinary conditions of cattle in the country. They had access to overhead shelter and were well fed. Massive inoculations of recently-isolated cultures were made into the lungs as well as the peritoneal cavities of calves of different ages, and the animals kept under observation for long periods and subjected to repeated tuberculin tests before their final dissection. These results and conclusions correspond with the experience of the Adirondack Sanitarium, where the cattle were found absolutely free from tubercular taint, notwithstanding the greater chances of contagion from human sources. It is quite possible that occasionally conditions of susceptibility or, as Din-

widdie says, of exceptional virulence of human sputa, may exist that would make it possible for cattle to become tuberculous by contact with tuberculous human beings. But these experiments of Dinwiddie do not indicate any excessive danger of this kind. It is well that they are placed on record and they are a valuable contribution to the sum of knowledge on the subject.

There are a large number of exaggerated statements going about, many of these from medical sources, that may seem to some justifiable in view of the real peril that exists and the need of popular education in regard to it. Their publication, however, is not scientific, and it is just as well to have our attention occasionally called to facts that seem to indicate that some of the expressed views may not be as scientifically accurate as the impression created by their utterance would imply. Tuberculosis is enough of a peril; its real dangers, when stated, are formidable enough; there may, therefore, be some little consolation in occasionally recognizing facts which indicate that in some ways and in some cases the danger of infection may be less serious than some commonly-uttered statements would lead us to suppose.

THE AMERICAN ASSOCIATION OF PATHOLOGISTS AND BACTERIOLOGISTS.

The first annual meeting of this Association took place in Boston, April 5 and 6. According to the program 31 papers and demonstrations were presented, practically all embodying the results of original work in pathology and bacteriology. The requirements for admission include evidence of the accomplishment of creditable research in pathology or bacteriology, and the purpose of the Association is the "advancement of knowledge of disease." There are now in this country three or four associations of national scope with more or less similar aims, namely, the Section of Bacteriology and Chemistry of the American Public Health Association, the Society of American Bacteriologists which meets in conjunction with the American Naturalists, the Section on Pathology and Bacteriology of the AMERICAN MEDICAL ASSOCIATION, and this new Association. There is, therefore, certainly no lack of organizations for the promotion of pathology and bacteriology. Indeed there seems to be a superabundance. Two of these bodies are, however, sections of larger associations, and the Society of American Bacteriologists is exclusively bacteriological, so that the field might be considered open for the new organization, of pathologists and bacteriologists, the members of which probably felt the need of an independent organization.

The formation of organizations of this kind and scope points to healthy activity in the more purely scientific fields of medical study and investigation. But it is hoped that the differentiation and specialization made evident by this banding together of scientific workers may not be carried so far as to eliminate men of this stamp from participation in the societies and associ-

ations patronized by the practitioners of medicine who are particularly benefited by direct contact with teachers and investigators in pathology and bacteriology. And the scientific worker can not afford to isolate himself from association with practitioners who carry into clinical work the results of the laboratory. Healthy, general development of medicine rests upon thorough and sympathetic co-operation of these two groups of men, an important common meeting-place of which should and must be our local, state and national general societies. In a country of such extent as ours it is probably well that there are several associations of the kind here discussed, meeting at various places and at different times of the year. This tends to keep the interests alive in the various sections of the country, and brings it within the easy reach of all to frequently co-operate actively in the important work of medical societies. The AMERICAN MEDICAL ASSOCIATION, the representative one of all medical associations in the United States, ought to receive the hearty co-operation of all engaged in medical work, be it scientific or practical; for only then can the ASSOCIATION best represent the interests of the American medical profession. The Section on Pathology and Bacteriology, recently organized as one of the scientific branches of the ASSOCIATION, ought to receive the support of the best workers in these departments. These Section meetings will be attended by general practitioners who are interested in all that pertains to the highest development of scientific medicine, and to assist these is worthy of the best efforts of those who are working in the special branches.

POST-GRADUATE STUDY.

As ordinarily used post-graduate study means a course of study by means of which the practitioner may catch up, as it were, with the advances medical practice and knowledge have made since he graduated or since the last opportunity presented itself for polishing off the rust and tarnish supposed to form in the brain of the busy practitioner, especially in the country. The number of flourishing post-graduate schools in the large cities of the country indicates that there is a real demand for opportunities of this kind. By taking short practical courses in such institutions, the practitioner from the small towns and the rural districts not only places himself in touch with recent advances, but he gets a much needed and on that account enjoyable rest and diversion. He returns to his post of duty not only with a new medical polish, but the whole man has been revived in a certain measure. All need seasons of rest and recreation, and the man from the country is inclined to seek the city for that purpose, while the city physician more often is inclined to go to the country. This is as it should be. Certainly the interesting and forceful personalities of leading teachers, the medical societies, the libraries, the hospitals, and the clinics of large medical centers must be attractive to the practitioner whose work tends to keep him more or less isolated with but

few opportunities for the inspiration and stimulus that come from personal contact with other workers in the same field. And it can not be denied that the present state of medical education, with its numerous, utterly inadequately equipped, medical schools renders post-graduate study necessary in order that one may learn what he ought to have learned as a medical student. Viewed in this light the post-graduate schools constitute a poor comment upon our system of medical education. Post-graduate study of this sort ought to be rendered unnecessary by rapidly raising the general standard of undergraduate work.

There is, however, another kind of post-graduate study to which Sir Michael Foster has recently called attention.¹ This is the study which fits one for the task "of inquiring after new truths, of grappling not with the known, but with the unknown." It is the duty of every teacher to teach the beginner what is known, to carry on researches of his own, to train those who are no longer beginners in the way of inquiring after new truths, says Foster. This is the highest kind of post-graduate study. We have too few post-graduate students of this kind. The majority of our large hospitals are not yet organized in such a way as to render this kind of study practicable and inviting. They are not furnishing opportunities for training men for research. Undoubtedly the sick are healed and the beginners trained to some extent, but the hospitals are not to any great degree put to that higher scientific use that Foster has in mind.

"FOOLS MAKE A MOCK OF SIN."

That a disreputable resort should find the name Paresis Hall an attraction, assuming that the designation was adopted because of the supposed connection of the disease with the orgies there conducted, seems at first sight a little odd. Nevertheless, such appears to have been the idea in the name of a noted New York dive that has just closed its doors under the stress of police surveillance and regulation. It is not, however, so difficult to appreciate how a little spice of bravado such as this may have suited a certain class of dissolute patrons. Paresis, so far as its causes are known or suspected, is only a remote danger, and the name has just enough of oddity in it to draw. Other specific names a little more familiar would perhaps have the opposite effect. The comment of a religious journal on the case—that "fools make a mock of sin"—applies to physical as well as to moral transgressors, and this is a case in point.

HINDOO ZOOPHILY AND SNAKE-BITES.

According to the government statistics no less than 24,621 persons died as the result of snake-bites in India in the last year covered by the reports. To balance this 94,548 snakes were killed by human agency. This is a remarkable showing and can hardly be explained except by the heathen Hindoo's reverence for

1. The Nineteenth Century and After, 1901, 57-63.

animal life even in its most objectionable forms. A snake is one of the easiest of all animals to kill, a venomous one no more difficult than any other. In this country hundreds of thousands are annually slain at the least estimate and no bounty given, and poisonous varieties are practically exterminated in most thickly settled districts. With all allowance for special difficulties that may exist, the less than one hundred thousand snakes killed in India is a most extraordinary fact. India is the paradise of vegetarians and antivivisectionists, but it is a paradise with altogether too much of the presence of the serpent.

REPORTED CASE OF PLAGUE IN ANN ARBOR, MICH.

An authoritative statement is printed in our news columns in regard to the reported case of bubonic plague in Ann Arbor. This seems to be especially noteworthy as a case of laboratory infection and as the only one thus far occurring in the inland region of our country—that is, assuming it to be a genuine case of plague. Its early recognition and the prompt action in treatment and disinfection should reassure any who have felt any apprehensiveness in regard to the spread of the disease; the experience that has been gained since the Vienna incident shows that the excessive fear of the extension of the disorder is unfounded. The present case, however, indicates the risks that may occur in laboratory work and the precautions that ought to be taken to avoid any possible contagion. While the actual method of the infection is not known, it may easily have occurred from some almost imperceptible and unconscious oversight, perhaps due to a very little lack of full realization of the risks incurred in the daily handling of the cultures. Thus far, however, the proof that this is a case of plague is not positive.

THE ST. PAUL MEETING AND YELLOWSTONE PARK.

The Chairman of the Committee of Arrangements notifies us that arrangements have been completed for an excursion of the members of the AMERICAN MEDICAL ASSOCIATION to Yellowstone Park. The Committee has finally succeeded in persuading the officials to open up the park a week earlier than usual in order to accommodate the ASSOCIATION. A special train will be run from St. Paul to the Yellowstone Park and the railroad officials have promised to do everything in their power to make it satisfactory to all concerned. The rates will be very low, but how low can not at this time be definitely stated. Those who attended the meeting in 1882 will remember with much pleasure a similar excursion that was run at that time, and these will not need to be informed that the one now proposed will be full of enjoyment. Further announcements will be made later. The Yellowstone National Park contains more natural wonders than are to be found anywhere else in the world, and this will be a rare opportunity for our Eastern friends to see what this portion of our Great West possesses.

INTERPRETATION OF WISCONSIN'S LAW.

A Wisconsin judge has, if the press reports are correct, rendered a decision that affects the state medical practice act much in the same way as did that of the Texas

judge who made any diploma without discrimination a qualification in that state. If his words are correctly reported—and the text is given in quotation marks—the only questions are, has the candidate a diploma from an incorporated medical college and was it properly obtained? An incorporated medical college now needs a judicial definition, but we fear the technical turn of the judicial mind would probably see in the seal and signature of the secretary of state all that is required. The Armstrong manufactories were all duly incorporated according to law; a desk and a little ink, parchment and ribbon will meet the other requisites. These being supplied, it matters not whether any other qualifications exist; the holder of the sheepskin, in the alleged words of the judge, “is entitled to practice under the law of the state although he may be a rogue.” “We have got to take the law as it stands.” We are sorry for Wisconsin if this is to be its law, but hope some higher court will see another possible interpretation of the statutes.

SMALLPOX AND VACCINATION IN PORTO RICO.

Letters of inquiry addressed to the Secretary of the Superior Board of Health of Porto Rico, concerning the prevalence of smallpox among the people of the island, have elicited a reply which shows in the most decided way the benefit conferred on the population by the general vaccination instituted and carried out under military auspices in 1899 by the health board, Major J. Van R. Hoff, surgeon, U. S. Army, president. This vaccination was begun in January and ended in June. Since then, until recently, no case of smallpox was reported to the Board. During December, 1900, the occurrence of 2 cases at Mayaguez, and 1 at Sabana Grande was noted. In January, 1901, 12 cases were reported from Ponce, which has continued to be the principal focus of the infection, 67 having been reported in February and 72 in March up to the 26th. The total number of cases in Ponce during this outbreak has been 151. The total number reported from all other places in which smallpox has prevailed is 288, and of this number only one case proved fatal. This alone shows to what extent the susceptibility of the natives to the influence of smallpox has been modified by the general vaccination. In fact the death-rate is so exceedingly low as to suggest a doubt as to the identity of the disease; but in the first place chicken-pox is seldom officially reported as smallpox, and in the second place Dr. W. Fawcett Smith, the present secretary of the Superior Board of Health, certifies to the nature of the cases and remarks that it was interesting to notice the regularity with which the severity of the eruption corresponded with the greater or less perfection of the scars of the previous vaccination.

THE ROLE OF ALCOHOL IN THE CAUSATION OF INSANITY.

That alcohol is not without utility will not be denied by any unprejudiced mind, but that it is likewise a powerful influence for evil can not be disclaimed even by those who advocate most earnestly its legitimate and intelligent employment. Apart from the effects of

acute intoxication the deleterious influence of long-continued indulgence in alcohol is witnessed in chronic visceral changes principally of a degenerative character. In speaking of the increase in the number of cases admitted during the year 1900, to the Royal Edinburgh Asylum, the physician-superintendent, Dr. Clouston, in his annual report was unable to avoid the conclusion that this was due to a large extent to the excessive use of alcoholic stimulants during times of prosperity, attended with brisk trade and high wages. The number of alcoholic insane admitted to the Asylum has increased from an average of 15.5 per cent. in the period between 1874 and 1888 to 21.5 per cent. in the period between 1889 and 1898, and to 22.5 in 1899. Of 472 new cases received during the year 1900, drink was assigned as either the sole or contributory cause in 115, or about one-quarter of all. In the men alone 81, or about one-half, were alcoholic patients. Besides, for every man in whom excessive drinking causes absolute insanity there are 20 in whom it injures the brain, blunts the moral sense and lessens the capacity for work in varying degree. Dr. Clouston makes an earnest plea for legislative or state means for the diminution of alcoholism. He rightly contends that it is an irrational application of the doctrine of liberty to grant to every man the inalienable right to render himself a burden to others and a source of degradation and danger to the community.

"CHRISTIAN SCIENCE" AND LEGAL CONSENTING CAPACITY.

A Detroit newspaper, *To-Day*, recently published, with some comment, an account of a death from influenza under "Christian Scientist" treatment. This called out an indignant protest from a friend who claimed that, as all had been done that the patient and his family desired, it was, as the widow is quoted as expressing it, "nobody's business." The man had a right to die under "Christian Science" if he wished to, and any comments on it were impertinent in this correspondent's opinion. He admits apparently that there is such a thing as "grippe," for he says "Christian Science" has had to "wrestle" with it. The editor, in reply, congratulates the sectaries on the progress this indicates in their recognition of the existence of such a disease, and says if they will cease advertising their alleged successes, he will keep silence on what he considers their failures. It may perhaps be conceded by some, as it is by him, that if a person of full age and legal consenting capacity chooses to follow "Christian Science," even to death, he has a right to do so, but this involves a possible medicolegal question. Has this faith in the non-existence of disease with its consequences as deduced by its believers such a recognized legal standing as to authorize this kind of passive suicide? If so, we should stand quietly by and see a severed artery bleed a man to death while a "Christian Scientist" applied the present or absent treatment of his sect, provided the sufferer demanded it. This is only an extreme logical application of the idea and is well within the bounds of "Christian Science" claims. On the whole, it seems more than doubtful whether fanatical or fatalistic beliefs can legally justify sins of

omission involving human life. Of course, if they are held by a large number of more or less influential individuals, including even judges, it may be difficult to punish or prevent them, but that does not affect the principle.

THE PROPAGATION OF YELLOW FEVER.

In the *Philadelphia Medical Journal* of April 6, Dr. H. R. Carter, of the U. S. Marine-Hospital Service, reviews, with apparent effort at fairness, the objections to the mosquito theory of the propagation of yellow fever. He takes up seriatim what he considers the admitted facts as to the method of infection, noticing at most length those that seem most difficult to reconcile with the Finlay theory. The strongest point he offers against it seems to be the apparent retention of infection in an environment without a chance at reinfection; for example, he cites cases of vessels leaving infected ports and developing yellow fever after lapses of time that preclude the belief in the survival of infected mosquitoes. It is true that their eggs laid above water are capable of germination for long periods, but he thinks that, even were the eggs themselves infected from their parents, it is improbable they could find the proper conditions for their development after such a lapse of time. His recognition of only three possible explanations—1, the prolonged life of the germ-bearing insect beyond the present known limits; 2, the occurrence of unrecognized cases; 3, the survival of infection in their eggs—seems somewhat insufficient. Assuming a parallelism between malarial and yellow fever infection, it is not at all beyond the bounds of belief that there may be a like variability in the duration of the periods of incubation. In fact this is noticed by Finlay in his article in this issue of *THE JOURNAL*, as an analogy with the malarial infection. The mosquito theory of malaria is practically accepted, and there are many facts of delayed appearance of the disease quite as striking as those occurring in yellow fever. These latter, therefore, do not seem to be as important as evidence against the mosquito infection theory as he seems to think, certainly not if we are to utilize the most obvious analogies. Aside from the omission of this possible view of the case, Dr. Carter's summary of the objections seems very fairly stated. Reed and Carroll's experiments have placed the Finlay theory of the propagation of yellow fever in the position of the most probable working hypothesis in our present knowledge of the disease. It is certainly the most hopeful one as regards our future control of it, and it is to be sincerely hoped that it may be fully confirmed by further bacteriological and clinical studies.

SAN FRANCISCO'S PLAGUE.

We present on another page a comprehensive and authoritative résumé of the bubonic plague conditions that have prevailed in San Francisco, our conclusions having been drawn only after a careful review of the various phases of the question, these latter having been presented in detail through *THE JOURNAL*, from time to time, from data furnished us by efficient correspondents on the ground. This "Special Article" summarizes the conditions to date, and merits the careful reading of every medical practitioner.

Medical News.

CALIFORNIA.

Dr. Helen O. Anderson, Los Angeles, is at the head of a movement to establish a hospital for children in that city.

The Oakland College of Medicine and Surgery, incorporated in October last, will be ready to accommodate 500 students in its new building which will be ready for the fall term.

The California Eye and Ear Hospital, San Francisco, established four years ago, has outgrown its present quarters and will erect a new \$20,000 building. Dr. Tenison Deane is president, and Dr. Redmond W. Pavne, secretary.

A serious epidemic of pneumonia recently occurred in Bakersfield, Cal., with more than 200 cases and 80 deaths. There was a suspicion among a few that plague rather than pneumonia should have been the diagnosis, but investigation shows no foundation for such suspicion.

Recording of Certificate Not Essential.—Superior Judge Kerrigan has reversed the decision of the lower court and holds that the defendant, in the case of J. S. Reid vs. A. J. Raisch, must pay the amount sued for with interest from 1897. In the part of the state law which provides for the issuance of a certificate by the State Board, the certificate is declared to be conclusive evidence of the right of the person to whom it is issued to practice in any part of the state. This right is not lost by failure to record the certificate. The provision for having it recorded is in a section of the law apart from the other provision. There is a general provision making a violation of any part of the law a misdemeanor, and Dr. Hopkins might have been prosecuted for not having his certificate recorded, but his right to recover for services would remain good.

DELAWARE.

Dr. Florence Watson has been elected assistant superintendent to succeed Dr. John H. Hammond, resigned, at the State Hospital for the Insane, at Farnhurst.

Smallpox in the State.—Sixteen cases of smallpox have been reported at Concord, 3 at Seaford, 2 at Bethel, 1 near Bridgeville, and 1 near Portsville. On April 4 the State Board of Health of Maryland notified the State Board of Health of Delaware that unless pest-houses were built in Sussex County to care for the cases of smallpox and persons in quarantine persons from this county would not be allowed to cross over into the adjoining counties of Maryland.

GEORGIA.

A health officer was provided for by an ordinance passed by the Atlanta City Council, April 1, despite opposition from the Board of Health.

The University of Georgia Medical Department, Augusta, held its annual commencement exercises April 1, and graduated a class of thirty. Dr. James B. Morgan delivered the doctorate address.

The Atlanta College of Physicians and Surgeons held its third annual commencement, April 2. Hon. Dupont Guerri, Macon, delivered the address of the evening and diplomas were given to a class of 67.

The Atlanta City Council has voted to refuse to allow Dr. Charles F. Benson \$195, and Dr. Thomas D. Longino \$190, for services rendered as members of the Board of Health in connection with smallpox cases.

An electrotherapist of Atlanta, who declined to comply with the law specifying that before practicing medicine in the state an examination must be passed, and who was on trial for practicing medicine without a license, has been acquitted.

ILLINOIS.

Dr. A. David Steele, Chester, has been reappointed physician of Randolph County.

Dr. Henry P. Beirne, Quincy, has been elected alderman of the third ward, in that city.

Dr. Samuel E. Munson has been appointed physician and pathologist to the Springfield Hospital.

An ambulance has been presented to the Ryburn Memorial Hospital, Ottawa, by Messrs. James and J. D. Oliver, South Bend, Ind.

Chicago.

The College of Medicine and Surgery has increased its capital stock from \$10,000 to \$50,000.

Dr. Hezadiah Todd Crabtree has gone to San Francisco to become house physician of the Children's Hospital.

Dr. Ellon S. Smith, Southwick, Mo., who had never been vaccinated, was taken to the Isolation Hospital, April 5, suffering from smallpox.

Dr. Mary H. Thompson's memory is to be perpetuated by a marble bust to be made by Daniel Chester French, the sculptor, and to be placed in the Art Institute.

Mortality of Chicago.—For the week ended April 6, the mortality was at the rate of 13.37 per 1000 per annum, which compares favorably with that of the corresponding week of last year, which was 17.56. Of the 451 deaths, 70 were from pneumonia, 55 from consumption, and 35 from violence. While there were 22 more deaths reported to the health department last week than the week previous, the total number was 121 fewer than for the first week in April, 1900. The record of exceptionally low mortality has now continued unbroken for eleven weeks, during which period there have been 933 fewer deaths than during the corresponding period last year. Only the mortality from such chronic maladies as nephritis, and diseases of the nervous system shows any material increase; while, on the other hand, deaths among the aged, those over 60 years, are but about one-half the number recorded a year ago—77 against 140. Similarly as to infant and child mortality, the total deaths among those under 5 years of age were 117 last week, 127 the week previous and 134 last year. Public health conditions, as indicated by the mortality figures, were never more satisfactory than at present.

INDIANA.

A quarantine has been established at Freelandville, Knox County, by Dr. Lyman M. Beekes, Vincennes County health officer, on account of smallpox.

Dr. George F. Edenharter, superintendent of the Central Hospital for the Insane, Indianapolis, has been re-elected for a third term of four years, by the trustees of the institution.

Smallpox in March.—The State Board of Health reports, for March, 472 cases of smallpox with 3 deaths. It is estimated that 200 of the cases were in Switzerland County; 100 in Lawrence County and 75 in Ohio County.

Osteopaths are asking for license to practice in the state. At the meeting of the Board of Medical Registration and Examination, April 3, at Indianapolis, 25 applications to practice under the new law were received. This law provides that graduates of regularly established osteopathic colleges are entitled to practice their profession, providing they administer no medicine.

IOWA.

Iowa University College of Medicine, Iowa City, held its thirty-first annual commencement on April 4. Hon. A. B. Cummins, Des Moines, delivered the annual address, and a class of thirty-six received diplomas.

Measures against smallpox at Waterloo have been taken by the State Board of Health, which issued an order on April 3 closing schools, the opera house, forbidding the holding of public meetings and requiring general vaccination.

KANSAS.

Stormont Hospital, Topeka, is being rebuilt.

The Smallpox Situation.—Dr. W. B. Swan, secretary of the State Board of Health, reports a decrease of smallpox in the southern part of the state, but in the northern part it is increasing. During March there were 1336 cases, with a mortality of eight. Smallpox has broken out at the Topeka Insane Asylum, and a number of the attendants have resigned. An isolation hospital has been established on the grounds and at present there are three cases. Smallpox is still prevalent in Topeka. Eight new cases were reported April 6. The disease has been prevalent all the winter in Pleasant Valley township, Saline County. There have been about 40 mild cases with no deaths.

KENTUCKY.

Dr. Hugh Edward Prather, as the result of competitive examination, has been appointed interne at the Louisville City Hospital.

Commencement exercises of the Medical Department of the University of Louisville were held March 28, and a class of thirty-five graduated. On the previous day twenty-eight were graduated from the Louisville Medical College.

Quarantine against Tennessee has been proclaimed by the State Board of Health, with a view to stamping out the smallpox which now exists in the border counties and which, it is

claimed, is directly attributable to the unrestrained ingress of negroes from Tennessee.

Dr. Reynolds to Resign.—As a result of serious difficulties in the faculty of the Hospital College of Medicine, Louisville, Dr. Dudley S. Reynolds, professor of diseases of the eye, ear, nose and throat and of medical jurisprudence, will in all probability shortly retire from the faculty. Professor Reynolds is chairman of the judicial council of the Association of American Medical Colleges, and his term as a member of the council expires at the next meeting.

MICHIGAN.

A summer course at the University of Michigan medical department is now under discussion by the faculty.

Mercy Hospital, better known as Emergency Hospital, Iron Mountain, has been closed by order of the bishop of the diocese.

Health in Michigan.—The report of the secretary of the State Board of Health, based on the sickness statistics, shows that in March, 1901, compared with the average in the ten years preceding, scarlet fever, typhoid fever and smallpox were more than usually prevalent; and consumption, intermittent fever, remittent fever, measles, whooping-cough, cerebrospinal meningitis and diphtheria less than usually prevalent.

Dangerous Laws.—The secretary of the State Board of Health, Dr. Henry B. Baker, has petitioned the legislature against the passage of two bills introduced, and recommended by the committee on public health. The first of these proposes to place the entire responsibility for the proper preparation for transportation of "every dead body," including those infected with dangerous diseases, in the hands of the registrars of deaths, who are usually the clerks of cities, villages and townships, and who, as a class, can not be supposed to know one disease from another, nor how to disinfect any dead body. He says that if this bill becomes a law, the interests of no locality can be guarded against this mode of introduction of disease, by any official, not even by a registrar of the locality directly interested; but every locality is then to be at the mercy of any non-professional registrar "at the point of shipment" in any other part of the state, and wholly irresponsible in the locality most interested. The present law places the responsibility for the introduction of corpses infected with dangerous diseases with the health officials of the locality endangered thereby, which is certainly the correct principle. The second bill proposes to amend the law so that corpses infected with dangerous diseases may be sent into any township, city or village in Michigan without the permit of any officer of that township, city or village, and without the permit of any health officer of that place, provided only that "said corpse is accompanied by a removal permit duly issued by the register of deaths at the point of shipment." Dr. Baker understands that this bill is instigated by an undertaker who wants to take or send corpses infected with dangerous diseases into localities without taking the trouble to obtain permission of the health officers of the places to which the infected bodies are sent.

LOUISIANA.

The State Board of Health has appointed Drs. H. L. Balme, D. C. Anderson and T. B. L. Layton marine inspectors.

Charity Hospital Visiting Staff.—At the monthly meeting of the board of administrators, Charity Hospital, April 1, the following visiting staff was appointed to serve during the ensuing six months: Visiting physicians—Drs. W. W. Butterworth, L. G. LeBeuf, A. Nelken, A. Weber, J. M. Soniat, N. Thiberge, J. Laurans, W. H. Seeman, J. A. Storek, P. E. Archinard, E. M. Dupaquier, I. I. Lemann, O. Lereh, G. K. Logan, J. Barnett, J. M. Elliot, C. H. Tebault, Jr., G. S. Bel, G. F. Patton, C. N. Chavigny, L. L. Cazenavette, T. S. Kennedy, E. W. Huhner, and F. Loeber, Jr. Visiting surgeons—Drs. P. Michinard, J. Lazard, J. L. Burthe, J. F. Oechsner, J. B. Guthrie, H. S. Coehran, H. P. Jones, A. S. Yenni, E. H. Walet, C. L. Horton, E. D. Martin, W. M. Perkins, L. Thibaut, S. P. Delaup, J. B. Elliott, Jr., M. H. McGuire, C. J. Miller, S. M. D. Clark, W. E. Parker, E. L. McGehee, H. B. Gessner, M. Souchon, L. Perilliatt, F. W. Parham, F. A. Larue, E. Moss, C. Chasaignae, P. Gelpi and C. A. Borey. Visiting aurists, rhinologists and laryngologists—Drs. E. W. Jones, O. Joachim and J. P. O'Kelley. Visiting oculists—Drs. P. Reiss, E. W. Jones and E. Jowers. Visiting dermatologists—Drs. I. Dyer, R. Hopkins. At the same meeting a bid of \$41,864 for the erection of the Nurses' Home was accepted. This does not include the putting in of washstands, for which a special contract will be made.

MARYLAND.

Baltimore.

Dr. Louis McLane Tiffany is convalescing from an attack of appendicitis.

The building fund of the Maryland University Hospital has been increased nearly \$1000, by the concert given March 23.

Maryland Medical College has bought, for \$14,000, two buildings which it proposes to convert into a hospital as the present one is inadequate to the needs of the institution. The remodeling of the buildings will involve an expense of about \$5000.

Tuberculosis Map.—Assistant Health Commissioner C. Hampson Jones has completed the first tabulated tuberculosis map ever compiled here. It will be distributed among physicians. It shows that there were 1151 deaths last year from tuberculosis of the lungs and larynx; 781 were white, 370 colored, and 1 a Chinaman. The deaths between 20 and 40 years of age were more than half of the total. The death of 142 between 5 and 20—the school age—suggests a far greater number of school children infected. The leading occupations were: housewives, 192; laborers, 114; servants, 63; clerks, 63; merchants, 23; saloonkeepers, 17; drivers, 16; waiters, 16; school children, 16; tailors, 15; sailors, 14; painters, 13; laundresses, 12; carpenters, 10; seamstresses and school teachers, each 9. Typhoid and diphtheria maps are also being prepared. In addition to giving the number of deaths, the age and occupation, they will show the exact location in the city where each death occurred and where the diseases are most prevalent.

MISSOURI.

Barton County has 118 cases of smallpox, 67 of which are at Vernon.

Columbia Medical College, Kansas City, elected the following officers, April 1: Dr. Winn F. Morrow, president; Dr. Philip C. Palmer, vice-president; Dr. A. F. Jones, secretary; Dr. James E. Moses, treasurer, and Dr. John L. Robinson, dean.

University Medical College, Kansas City, elected the following officers, at the annual meeting of the trustees, April 3: Dr. James E. Logan, president; Dr. Samuel C. James, dean; Dr. Jabez N. Jackson, secretary; Dr. Albert H. Cordier, treasurer, and Dr. John Punton, curator.

The annual banquet and conferring of degrees, the last event in the history of Beaumont Hospital Medical College, St. Louis, before its consolidation with the Marion-Sims Medical College, was held March 27. Dr. M. Goldstein delivered the annual address and Dr. Frank J. Lutz, dean of the college, presented diplomas to a graduating class of 48.

NEW JERSEY.

Dr. George B. Philhower has been re-elected president of the Franklin Board of Health, a position which he has held for sixteen years.

Orange Memorial Hospital has appointed Drs. William B. Brooks and G. A. Holdredge, both graduates of Bellevue Hospital Medical College, members of its house staff.

NEW YORK.

The Board of Health of Kingston has ordered all day and Sabbath schools closed on account of the rapid increase of scarlet fever.

The "Christian Science" bill, known as "the Bell bill," has been re-committed to the Committee on Public Health. Assemblyman Henry, chairman of this committee, very pertinently remarked that the "Christian Scientists" had had a great deal to say about the efficacy of prayer, and of the wonderful cures they could effect by absent treatment, but for reasons best known to themselves they had not tried that kind of treatment on the legislature, but had done all their praying in the lobby or assembly chamber.

Incorporation of Inebriates' Home.—A bill has been introduced to incorporate the Inebriates' Home of New York City. It is to be empowered to receive and retain inebriates under rules provided by the State Board of Charities for periods varying from six months to a year. The city is to provide for the maintenance of the home. It is contemplated that those who are unable to pay will be treated free. Drs. William T. Jenkins, A. Campbell White and I. N. Love are said to be among the trustees.

Gift to Loomis Sanatorium.—Mr. J. Pierpont Morgan, before sailing for Europe, purchased the plant of the Liberty Electric Light and Power Company for about \$40,000, and pre-

sented it to the Loomis Sanatorium for Consumptives. The sanatorium uses about 600 lights, and the village of Liberty about 700. This gift will not only enable the sanatorium to secure its lighting at small expense, but the plant will be a source of a steady income. Mr. Morgan had previously presented to the institution its administration building at a cost of \$80,000.

Regulation of Hypnotism.—The senate committee on public health has reported a substitute for the bill of Senator McCabe to regulate the practice and teaching of hypnotism, mesmerism, suggestive therapeutics and other kindred sciences. The substitute relates only to hypnotism and mesmerism, and provides that any person who practices such, is not a duly licensed physician or graduate from some educational institution for the teaching of such sciences duly licensed by the regents of the state, shall be deemed guilty of a misdemeanor.

Abolition of Coroners.—A bill has been introduced into the assembly, by Dr. Nelson H. Henry, of New York City, to abolish coroners, a reform which was contemplated by the Constitutional Convention some years ago, but which has not yet been effected. It is contended that the present coroner system is antiquated and inefficient, involving as it does two functions which are naturally distinct; namely, ascertaining the cause of death, and determining whether or not a crime has been committed. The bill seeks to have the second function referred to the police, and the first, which is purely medical, vested—as in Massachusetts—in a medical examiner of experience and standing. Incidentally the proposed change would effect an annual saving of upwards of \$100,000.

Buffalo.

The University of Buffalo Medical Department will hold its commencement exercises April 27. There are about fifty in the graduating class.

Dinner to Dr. Bissell.—Dr. William G. Bissell, bacteriologist of the health department, has recently conducted a course of lectures and laboratory instruction for graduates in medicine and dentistry, at the University of Buffalo. The members of this class, including many of the prominent physicians of Buffalo, extended to Dr. Bissell a complimentary dinner April 10. Dr. A. H. Briggs and J. H. Thompson of this city, and Dr. Walter Scott, former health officer of Niagara Falls, had the dinner in charge. Dr. Briggs acted as toastmaster.

New York City.

Dr. C. C. Fite, general manager of the Malt-Diastase Company, has resigned, to take effect May 1.

Dr. James T. Burdick, of Brooklyn, has gone to Bath to assume charge of the hospital of the State Soldiers' Home at that place.

Anti-Expectoration Crusade.—An official crusade against persons who expectorate in public conveyances and on the floors of public buildings was recently begun by John B. Sexton, president of the board of health. By Mr. Sexton's orders 180 policemen from the sanitary squad were detailed in plain clothes to ride up and down and across town in each of the five boroughs, to detect and take into custody any one expectorating in the cars. Nineteen arrests were made, and of this number only one offender was discharged. The others were held on from \$100 to \$500 bail for examination, were fined and discharged, or were paroled for examination.

Dr. Jacobi's Semi-Centennial.—On the evening of April 5, at the invitation of Dr. Abraham Jacobi, nearly a hundred of his friends gathered at the New York Academy of Medicine to help him celebrate the semicentennial anniversary of his graduation in medicine. He was graduated from the University of Bonn, Germany, in 1851. Dr. Jacobi was formally introduced by the president of the academy, Dr. Robert F. Weir. He then read a paper entitled "German Text-Books Half a Century Ago; History and Reminiscences." Most of the text-books to which he referred were volumes bearing many annotations in Dr. Jacobi's handwriting, and as they were piled up before him they made an interesting collection. They have been presented to the library of the academy. At the close of the address, a collation was served, and Dr. Jacobi received the congratulations of his many personal friends.

Special Courses.—The New York School of Clinical Medicine is giving, on Friday evenings, to June 7, lectures, including the following topics: "Examination of the Male Urethra by the General Practitioner: Clinical Demonstrations," by Dr. Ferd. C. Valentine; "Medical Questions of the Responsibility of Alcoholics, Opium and other Drug Takers," by Dr. Thomas D. Crothers, Hartford, Conn.; "Complicated Fractures: Diagnosis and Surgical Treatment of Prolapsed Kidney: With Clinical

Demonstrations," by Dr. Augustin H. Goelet; "Treatment of Strangulated Hernia," by Dr. Carl E. Pfister; "Pelvic Trilogy in the Diagnosis of Diseases of Women," by Dr. A. Ernest Gallant; "The Technics of Major and Minor Amputations," by Dr. Robert H. Cowan; "Treatment of Obesity," by Dr. Heinrich Stern; "Diseases of the Stomach: Practical Examinations and Treatment. Demonstrations on Patients," by Dr. Freeman F. Ward, and "Psoriasis and Aene. Effective and Practical Methods of Treatment: Clinical Demonstrations," by Dr. W. R. Inge Dalton.

NORTH CAROLINA.

Dr. Richard H. Lewis, Raleigh, secretary of the State Board of Health, has appeared before the house judiciary committee to protest against the passage of the bill introduced to repeal that section of the law of 1899 requiring a three years' course in medical colleges. The committee reported unfavorably on the bill.

County Sanitary Committee.—Under the new law, Dr. Thomas S. Burbank, Wilmington, has been appointed a member of the committee from that city, and Dr. Lionel H. Love, Wilmington, as representative for New Hanover County. These gentlemen, together with the county commissioners, constitute the committee and are required to meet May 6 and elect a county superintendent of health to serve two years.

OHIO.

Cincinnati.

Dr. Christian R. Holmes has been elected president of the Cincinnati Society of Natural History, and Dr. Arch I. Carson, secretary.

New internes at the German Deaconess hospital are Drs. Byron Sharkey and J. C. McGinnis, of Miami Medical College, Drs. Gustav Haeusser and George A. Buttermiller of the Ohio Medical College are alternates.

Tetanus.—Jacob Tiller, motorman of one of the traction cars, who was struck by a railroad train at a crossing, has died of tetanus. This is the fourth man within a few years wounded and dragged along the cinders of this tract who has died of tetanus. It is significant to note in this connection that every day numerous stock trains going to and from the stockyards pass over these rails.

OREGON.

The University of Oregon medical department, Portland, conferred degrees on a class of eleven April 1. The address to the graduates was delivered by W. D. Fenton.

A bill introduced by Senator Josephi, to establish state and county boards of health, and to provide for quarantine restrictions between counties, has passed the senate.

Health Commissioner Menefee claims that Portland is the healthiest large city in the United States, its mortality for 1900 having been at the rate of 10.05 per 1000.

Williamette University Medical College, Salem, held its annual commencement exercises April 3. Hon. William Kuykendall delivered the charge to the class, and president Willis C. Hawley conferred degrees on a class of five.

PENNSYLVANIA.

The Chester Board of Health, recently reorganized, elected Dr. S. V. Hoopman president, and Frank Innis vice-president.

Reorganization of State Medical Council.—The State Medical Council met for the purpose of reorganization, in Harrisburg, April 2, the following named being elected: President, Dr. Henry Beates, Philadelphia; secretary and treasurer, Dr. H. S. McConnell, New Brighton.

Philadelphia.

Samaritan Hospital has received \$2500 through the will of Mr. George Widener, recently deceased.

Mount Sinai Hospital is to be given a benefit ball, April 13, by the Jewish friends of the institution. The proceeds will be added to the building fund.

Dr. Frederick A. Packard has been elected a member of the board of trustees of the University of Pennsylvania, to fill the vacancy caused by the death of Dr. J. M. Da Costa. Dr. Packard was graduated from the college department in 1882, and from the medical department three years later, at which time he won the Beates prize for the highest general average in final examinations.

The Committee on Appropriations, of the state legislature, visited Jefferson Medical College Hospital, April 1. The trustees have asked for an appropriation of \$300,000 for the

purpose of increasing the facilities of the hospital. The properties between the present institution and the old college building have been acquired and a new maternity building will be erected on this site.

Presentation of Dr. Keen's Portrait.—The presentation of the portrait of Dr. W. W. Keen, by 750 members of the different classes of Jefferson Medical College, to their Alma Mater, occurred in the clinical amphitheater April 4. The presentation speech was made by Dr. J. Chalmers DaCosta, and the address of acceptance by William Potter, president of the board of trustees. The portrait will be hung in the trustees' room in the new college building. It was painted by William M. Chase, of Philadelphia, and is nearly full length in size. It represents Dr. Keen wearing the robes of a Fellow of the Royal College of Surgeons.

Dr. Thomas Bond's Grave Found.—After a period of 108 years, the grave of Dr. Thomas Bond, Jr., of Philadelphia, has been found in the Presbyterian churchyard at Morgantown, W. Va. The brass plate on the coffin bore the inscription: "Hic jacet Thomas Bond, Jr., of Philadelphia. Died July 17, 1793." Dr. Bond was the son of Dr. Thomas Bond, a well-known surgeon. Having studied medicine under his father he went to the front as a surgeon and was with Washington in the retreat through New Jersey, and was at the battle of Princeton. In 1776 he was made assistant surgeon of the First Troop, Philadelphia City Cavalry. In 1781 the Continental Congress appointed him medical purveyor, a commission which he held until 1793, when he contracted typhoid fever, which caused his death. His ashes will be brought to Philadelphia and interred in the cemetery at Fifth and Arch streets, where his father and uncle are buried.

WISCONSIN.

Z. G. Simmons has decided to present the city of Kenosha with a hospital, which will cost \$30,000.

Dr. George W. Koepfel, Milwaukee, has been appointed an interne at the Emergency Hospital, Milwaukee.

Incipient Consumptives will be cared for in a home erected at a cost of \$100,000, if Assemblyman Karel's bill is passed.

GENERAL.

Ann Arbor Plague Case.

In regard to the reported case of plague at Ann Arbor the following authoritative statement may be made. The accounts mentioned refer to Mr. C. B. Hare who has been doing special work in the hygienic laboratory for nearly two years. He was considered a very careful and intelligent worker, and after having had a year's experience in ordinary bacteriologic work he was allowed, last July, to cultivate the plague bacillus for the purpose of making Haffkine's vaccine for the firm of Parke, Davis & Co. Since last summer he has been engaged upon this and similar work, and it is probable that he became infected while thus engaged, although he does not know of any accident whereby he might have been infected. It is but proper to state in this connection that Mr. Hare has been the only student who has ever been allowed to work with the plague bacillus in that laboratory. Although medical students in their practical course work with the other well-known pathogenic bacteria, it has never been deemed advisable to trust a culture of the plague bacillus to even ordinary advanced students.

On Wednesday evening, April 3, Mr. Hare complained of numbness and of backache. His temperature rose during the night to 103 F., and he vomited once toward morning. He was seen that night and on Thursday noon by Dr. Spitzley, who made a provisional diagnosis of pleurisy. Thursday afternoon Drs. Vaughan and Novy learned of the condition of Mr. Hare and at once visited his room. The temperature was still at 103, and, although there was no glandular enlargement, it was deemed best as a precautionary measure to inject Yersin's serum; 20 c.c. of this were injected subcutaneously. Swabs made from the throat gave negative results. Shortly afterward he coughed up two or three bits of thick mucus, slightly streaked with blood, and in this material a few suspicious organisms were found. He was at once removed to the isolation hospital and his room closed up and disinfected with formaldehyde. On arrival at the hospital he was given another injection of serum and this was repeated on Friday morning and also in the afternoon. The temperature began to fall and, since Saturday morning, April 6, it has remained below 100 F. The condition of the patient at the end of the sixth day is very favorable. The early recognition of the case has rendered it possible to take every known precaution to prevent the infection spreading. All persons who have been in contact with

the patient have received injections of Yersin's serum and rigorous disinfection methods are being carried out.

"Rudolf Virchow Fund."—On October 13, 1901, Rudolf Virchow will be 80 years old. When he completed his seventieth year a fund was started in his honor to enable the great master to facilitate scientific research by establishing scholarships, and by encouraging special medical and biological studies. Contributions to that "Rudolf Virchow Fund" were furnished by those in all countries interested in progressive medicine, as a homage to the man whose name is always certain to arouse admiration and enthusiasm. In Berlin a large committee has been formed to call for contributions which are to be added to the original "Rudolf Virchow Fund" so as to increase its efficiency. The committee expresses the opinion that in no better way, and in none more agreeable to the great leader of modern medicine, can his eightieth birthday be celebrated, and asks for the co-operation of all those engaged in the study and practice of scientific medicine all over the globe. A subcommittee has been formed for the purpose of making the American profession acquainted with the intentions of the Berlin Committee, and urges participation in honoring the very man who has done more, these fifty years, than any other to make medicine a science, and international. Subscriptions should be sent to the subcommittee's secretary—who will receipt therefor—Dr. A. Jacobi, 110 West 34th street, New York City. Other members of this subcommittee are: Drs. Charles A. L. Reed, president of the AMERICAN MEDICAL ASSOCIATION, Henry P. Bowditch, president of the Congress of American Physicians and Surgeons; William K. Welch, Johns Hopkins University, and Robert F. Weir, president of the New York Academy of Medicine.

CANADA.

Dr. Francois Martigny, formerly of Montreal, has been appointed assistant surgeon at the Hospital Beau, Paris.

A metrical association is being formed in Quebec, to further the work of introducing and adopting this system in Canada.

Smallpox has broken out near Halifax, N. S., and one death is reported. A general vaccination of that city began on April 7.

All non-vaccinated pupils in the schools of Kingston, Ont., are being dismissed in response to an ultimatum passed by the Board of Education.

Dr. Harold Thomas, Montreal, who has spent the last year studying in Germany, returns to his native city early in May to commence the practice of his profession.

The National Sanitarium Association has secured a building site about three miles from the center of Toronto, for the erection of a building for advanced cases of consumption.

The Ontario government is considering the advisability of erecting isolation hospitals at several lake ports, such as Collingwood, Sault Ste. Marie, Fort William and Port Arthur.

Dr. Price Brown, Toronto, has returned to the city from Asheville, N. C., and New Orleans, La., where he has been all winter in search of health. Dr. Brown returns much improved.

Queen's medical convocation took place on April 10. A pleasing feature was the presentation of the Dean Fowler scholarship, for which subscriptions are steadily being received.

Dr. J. Stafford, who has been associated with the biological department of Toronto University for the past three years, has been appointed lecturer in zoology at McGill University, Montreal.

Dr. W. C. Laidlaw, who has been connected with the Ontario Asylum service for the past five years, has left for Europe, to take a special course in the hospitals of the old land.

Dr. T. J. W. Burgess, superintendent of the Protestant Hospital for the Insane, Quebec, has been granted three months' leave of absence, which he will spend in the old country, recuperating his health.

The Presbyterian Hospital, Atlin, B. C., is progressing. All the work on the building has been done without charge but there is still a small amount owing for materials. There is no other hospital within many miles of Atlin.

Montreal General Hospital.—During March there were 218 patients admitted to the wards of this institution, and 257 discharged. Twenty deaths occurred. There were 3244 prescriptions and minor operations in the out-door departments.

Counter Prescribing.—Recently several druggists were fined for this in Toronto, and appealed to the sessions. The presiding judge has granted their appeal. The conviction was upset because of an irregularity in the form. Four other cases are now before the police magistrate, who states he will convict and keep on convicting along these lines.

New Medical Organization.—An association of practitioners in medicine and surgery has just been formed in the province of Ontario, under charter issued by the Ontario government, having its headquarters in Toronto. Stock can only be held by medical men, and the association will deal with supplies of all kinds. It has a board of nine directors, representing various sections of the province.

Vaccination Statistics.—The Hamilton Board of Education recently sent out circulars in regard to vaccination and in response thereto have received over 7000 replies. The figures show that about 33 per cent. of children attending the schools have been vaccinated. About 600 notified the Board that they object to vaccination. The Board of Education considered the matter and decided to have all those who did not object vaccinated.

Ontario Provincial Hospitals.—There are between fifty and sixty of these institutions in Ontario, and there has been a great increase in the number of patients during the past year. Two new hospitals, those at Sault Ste. Marie and Parry Sound, have been put on the government pay-roll. The number of patients remaining in the various hospitals on October 31, 1900, was 1893. The number admitted during the past year was 27,061; and the total number of patients under treatment during that time 29,761. The number of deaths during the year was 1451. The revenue from all sources, other than the government grants, was \$498,579.17; and the provincial grant for the past year was \$110,000. The average cost per patient per day was \$3½ cents.

Medical Boards.—The Secretary of State for War having approved of medical boards composed of medical officers of the Canadian militia, being assembled to report upon cases of Canadian militiamen for pensions for services in South Africa, has authorized the following boards to investigate and report upon any such cases: In western Ontario, Surgeon-Major, J. N. Piper, London, and Surgeon-Captain, A. N. Hayes, Sarnia; for Toronto, Surgeon-Major Nattress, Surgeon-Major J. E. Elliott and Surgeon-Major J. T. Fotheringham; for Kingston and the East, Surgeon-Major H. R. Duff, Surgeon-Major R. W. Garrett and Surgeon-Major H. R. Abbott; in Quebec, Surgeon-Major J. G. Roy, Surgeon-Major C. W. Wilson and Dr. J. M. Elder, Second Regiment C. A., Montreal.

McGill Medical Faculty Changes.—An important change will come into effect in the Faculty of Medicine of McGill University in September, 1902, which will be an increase in the requirements for medical matriculation. At present McGill has as hard an examination as any of the medical faculties in Canada, but after the date specified, candidates will be required to pass in English, mathematics, and either French, German, Greek, chemistry or physics. They will all be required to show a practical knowledge of chemistry and a sound acquaintance with physics, statics and dynamics. The only optional subjects after that date will be French, German or Greek, of which one will have to be taken. Dr. Ruttan, registrar of the faculty of medicine, states that they want to make McGill the best medical school in the world. Some time ago the course was extended from six to nine months; and more recently a combined arts and medical course was introduced.

Cremation in Quebec.—Some months ago Sir William Macdonald, of Montreal, offered to bear the expense of a crematory if the Mount Royal Cemetery would conduct it thereafter. It was found that for this purpose legislation would be required, so a bill was introduced into the last session of the Quebec legislature, and after a somewhat bitter and stormy discussion on its merits it became a law. The strongest opposition came from the Roman Catholics, but it was pointed out that the purposes of the measure were not to seek power to cremate Catholics but for the erection of a crematory in a Protestant cemetery, at the request of protestants; and even then the legislation would not be compulsory. This law reads: "That the deceased at the time of his death is entitled to be buried in Mount Royal Cemetery and has expressed by his will a wish that his body be cremated." This is the first instance of the principle of cremation becoming law and a legal process in the Dominion of Canada.

Medical Service Legislations.—There is a bill now before the imperial parliament, so the Canadian Militia Department has been advised, which will open the door to Canadian doctors

who may wish to enter either the imperial, naval, military or civil services. The measures will apply to medical men in all British colonies; and provides that where the examinations and courses of study at the leading colonial schools of medicine are in all respects equal to those of the United Kingdom, and subject to the supervision of the General Medical Council, that the medical men from Canada and other colonies of Great Britain may be permitted to serve the empire in these aforesaid services. This measure is said to be the outcome of the South African war, for which several Canadian surgeons of the highest repute offered their services, but they had to be refused owing to the medical law of England, and even a field-hospital from Canada had to be declined for the same reason. It is presumed that after the passage of this act the medical schools of Canada will require to have imperial approval of their examinations and courses of study, providing they wish that their graduates be accorded these privileges in the naval, military and civil services of the British Empire.

LONDON LETTER.

The Struggle Between the Board and Staff of the National Hospital for the Paralyzed and Epileptic.

This controversy, referred to last week (p. 976), at last seems to be approaching a satisfactory termination. The Board, or rather the "secretary-director," who has practically taken the control of the hospital into his own hands, has received a decided check. A special meeting of the governors and subscribers has been held to consider the question of holding an independent inquiry into the allegations of the medical staff as to the diet and condition of the patients, and the administration of the hospital, as a condition precedent to any reconsideration of the demand of the staff for direct representation on the Board, and also to lay down the conditions essential to such inquiry. The Lord Chancellor, who presided, said that the situation was most injurious to the hospital. One of the Board moved a resolution that an inquiry into the accuracy of the allegations of the staff ought to precede the reconsideration of the demand for representation. As an amendment it was then moved "That a full and independent inquiry be at once instituted by the governors into the statement of the medical staff, the facility of communication between the staff and Board, the demand for representation, the position, functions and acts of the secretary-director, and the constitution, rules and management of the hospital generally. The Board so far capitulated by accepting this amendment, which was therefore adopted unanimously. It was finally agreed that the committee of inquiry should consist of at least one physician or surgeon, one eminent lawyer, one business man and one other person, none of them being governors or members of the staff of the hospital. The nomination of this committee and other preliminary arrangements were entrusted to a committee including Sir John Paget, Mr. Jonathan Hutchinson and others.

The British Congress on Tuberculosis.

A preliminary program of this Congress, which will be held in London from July 22 to 26, has been issued:

Section I. State and Municipal.—In this section the following questions will be discussed: *Division I. Statistical.*—What conclusions may be drawn from statistics as to the connection between the mortality from phthisis and the condition contributing to it. In this connection regard will be had to the following points: 1, mortality during the late Queen's reign; 2, geographical distribution; 3, incidence of mortality in particular occupations; 4, age and sex distribution; 5, distribution in several sanitary areas of London; 6, heredity; 7, tabes mesenterica and milk-supply; 8, phthisis and soil; 9, indications for future research. *Divisions II and III. Notification.*—How can voluntary notification of advanced tuberculosis be best encouraged and effected? What is the experience of compulsory notification in New York, Buffalo and Washington? *Influence of Housing and Aggregation:* 1. How can a higher standard be attained of personal cleanliness, and of cleanliness of houses invaded with phthisis? How far are additional lighting and ventilation necessary to ensure a higher standard of bacteriologic cleanliness? How may cleanliness and sufficiency of light and air be secured in factories and workshops, ships, railway carriages, etc. *Division IV. Control of Milk and Meat.*—What changes are requisite for improving cowsheds and health and cleanliness in milch cows? What is the value of the tuberculin test? How may it be used to eradicate tuberculosis? What advantages in the prevention of tuberculosis are secured by sterilized milk, pasteurized milk, and milk obtained from herds free from tuberculosis and kept cool from the time of milking to reaching the consumer? How is the sale of tuberculous meat to be prevented? *Division*

V. *Sanatoria*.—What are the best means of promoting the erection of sanatoria for phthisical patients in which: 1, the curable may have the best chances of recovery; 2, the incurable may have their lives prolonged and cease to be a source of danger to the community. Among those who are expected to take part in this section are Dr. Herman Biggs, of New York City, and M. Mound, director of the French Public Health Service.

Section II. Medical.—Drs. Theodore Williams and Burney Yeo will open a discussion on: "What Influence Has Climate on the Treatment of Consumption and How Far can Cases be Grouped for Treatment in Certain Climates?" There will be a discussion on the "Therapeutic and Diagnostic Value of Tuberculosis," in which Koch is expected to take part.

Section III. Pathological.—A discussion on the "Morphological and Physiological Variations of the Bacillus Tuberculosis and Its Relations to Other Acid-fast Bacilli to the Ray-Fungus and to Other Streptothrices," will be opened by Dr. Moeller, of Berlin. A discussion on the "Tissue Changes and Constitutional Effects of the Various Constituents of Tuberculin" will be opened by Koch. Another on the "Varieties of Tuberculosis," will be opened by Professor Benda, of Berlin, Délépine, of Manchester, and Hamilton, of Aberdeen. There will also be a discussion on "Mixed Infection in Tuberculosis." Dr. Roux and Professor Metchnikoff, of Paris, are expected to take part in the work of this section.

Section IV. Veterinary.—The subjects are diagnosis of tuberculosis in animals, milk and meat supply.

Museum.—There will be a temporary museum illustrating the pathology, treatment and prevention of tuberculosis. It will consist of: 1, pathologic and bacteriologic preparations and specimens illustrating tuberculosis in man and animals; 2, plans and models of hospitals and sanatoria, and charts and documents bearing on the historical, geographical and statistical aspects of the subject.

The Open-Air Treatment of Tuberculosis.

Good results of the open-air treatment of consumption were narrated at the annual meeting of the Manchester Consumption Hospital. Of 141 patients, 121 were discharged improved, 6 remained stationary, and 14 became worse. There was an average gain of 9 lbs. in weight in the patients. The results compare favorably with those of continental public sanatoria from which percentages of 60 to 70 of cures are reported, against the Manchester's 85. The hospital is situated eight miles from the center of Manchester, in the Cheshire village of Bowdon.

The Epidemic of Arsenical Poisoning.

The following finding of the coroner's jury in a case of death from arsenical poisoning in Liverpool fairly apportions the blame: Bostocks' directors (the sugar manufacturers who supplied the whole of the contaminated sugar which caused the epidemic) are not culpably negligent, but to blame for not notifying that the acid was required for food purposes; Nicholson (sulphuric acid manufacturer, who supplied Bostocks with sulphuric acid contaminated with arsenic, which was used in converting starch into sugar) are not culpably liable, but displayed extreme indifference. Bostocks' chemist is negligent but not culpably so. Messrs. Bostocks have become bankrupt in consequence of the epidemic. The claims made by brewers and others for compensation for supplying impure glucose are sixty-seven in number, and amount to \$650,000. On the other hand they have an action against the sulphuric acid manufacturers for \$750,000.

Enucleation of the Tonsils.

At the Medical Society of London, Dr. St. Clair Thomson exhibited two cases showing the desirability, in certain cases, of removing the tonsils by enucleation. The first patient was a woman aged 38. In 1894 she noticed cheesy collections in her tonsils, of offensive taste and fetid odor. For this condition she was under continuous treatment three years. During two years she attended Dr. Thomson's clinic and was actively treated with gargles, paints, lozenges, caustics, the galvanocautery and incisions laying open the crypts. She remained unrelieved. Accordingly, two years ago, the tonsils were enucleated under chloroform and the patient was cured. Some regeneration of lymphoid tissue between the pillars of the fauces had taken place. The patient's voice was not in any way injured and was even improved for singing. The second patient was her son, a boy aged 10½ years. At 4 his tonsils were enlarged and were removed. He was not again troubled with them until after scarlet fever at the age of 6 when they were again enlarged and were removed with the guillotine. A few months later cheesy concretions were noticed in the crypts of the tonsils. Since that time they have increased without

intermission. He was under treatment from September to December last. The chief complaint was of foul breath. The tonsil stumps were deeply imbedded between the faucial pillars. They were riddled with crypts, some of which were one-half inch deep. From these, dirty white fetid cheesy matter was easily extruded. It was impossible to thread these tonsillar stumps into the ring of the guillotine. The tonsils were enucleated under anesthesia, chiefly with a pair of curved scissors and the fingers.

FOREIGN.

The French department of public instruction has officially reaffirmed that the diploma of a technical school does not entitle the holder to admission to the university courses of literature, law or medicine.

Testimonial.—On the occasion of the election of Dr. R. Galvao to the chair of bacteriology at Rio de Janeiro, the *Brazil Médico* gave a luncheon in his honor at the offices of the journal. A superbly bound edition of his work, "Noções de Bacteriologia," with a dedication and the autographs of the guests, was presented to him.

Rumpf's Resignation.—Quite a sensation has been caused in Germany by Professor Rumpf's resignation of his position as director of the great Eppendorfer Hospital at Hamburg, on account of differences with the Oberin or matron of the institution, which were decided by the authorities in favor of the latter. He intends to move to Bonn.

Commemorative Monographs.—Professor von Coler, general staff surgeon to the German army and president of the Prussian Council of Health, celebrated his seventieth birthday recently. His friends, to commemorate the occasion, have collected a number of medical monographs by noted writers, which will be published in turn and known as the Coler Library. Subjects interesting army surgeons are especially numerous in the collection.

Diphtheria in Hospital.—Diphtheria broke out recently at the Paris hospital of la Salpêtrière, in a ward containing 145 epileptic or idiot children. Twelve cases occurred in two days. These were treated by antidiphtheria serum and 7 to 15 c.c. were injected in every inmate of the ward. Only four new cases developed and all were mild, although the first case was promptly fatal.

Medical Students Abroad.—The statistics of the medical students in France, published by the *Semaine Médicale*, show that the total number is 8078, which includes 881 foreigners. The United States furnishes only 4 in 1901, to 5 in 1900; 1 in 1899; 6 in 1898; 10 in 1897; 14 in 1886. Roumania, Bulgaria and Turkey average over 100, and Russia 333. There are 44 students from Central and South America, 38 from Greece and none from China or Japan. The editorial urges the authorities to allow foreign students the privilege of taking their medical course in Paris, instead of being distributed among the provincial universities to prevent overcrowding. "The attractions of Paris, it claims, would bring many more foreigners for the medical course if they were sure they could remain in the capital."

Damages for X-ray.—The Paris lower court has recently condemned a physician to 5000 francs damages and expenses on account of a severe X-ray burn that developed on a patient after three long exposures in the course of three weeks. The *Semaine Méd.* comments that physicians must bear in mind that when they apply these new physical therapeutics they step out of the domain of medicine and pass into the jurisdiction of common law. According to this French decision, a fault or negligence is not necessary—the mere application of physical measures which resulted in injury renders the physician liable to damages. The editorial concludes with the remark that justice, as practiced in the courts, is not partial to the medical corps in these days, and it behooves physicians to be wary.

Progress of the Plague.—For the week ending March 23, 46 cases of plague were admitted to hospital at Cape Town, S. A., and there were 21 deaths, 3 suspects and 394 contacts. According to advices of April 6, it is spreading among Europeans, although in a mild form. Five corpses were found concealed and 12 cases of recent origin were evenly divided between natives and Europeans. The rooms of the Young Women's Christian Association have been closed on account of a case discovered on the premises. This makes the total cases 315, and the deaths 107, including 22 Europeans. In Mauritius, for the week ending March 14, there were 5 new cases and 6 deaths. In Western Australia there are 8 cases of plague in whites—7 adults and 1 child, and 1 among the Chinese.

Government Report of Sydney's Plague.

A government report on the outbreak of plague at Sydney in 1900 has been issued. Between January 19 and August 9

there were 303 cases. Prodromal symptoms were rarely observed. Within a period of from one to twelve hours the patient became severely ill. Rigors, headache, vomiting, flushing of the face, and suffusion of the eyelids were almost constant symptoms, while the temperature ranged from 100 to 102 F. Constipation was the rule, but diarrhea sometimes occurred. In some cases during the early stages the glands were painful. Coma and delirium supervened and lasted to the fifth or sixth day. Improvement then began. On the tenth day, convalescence was initiated and the bubo supplicated. Such was the ordinary course, but in some cases the patients simply complained of feeling ill and died unexpectedly without definite symptoms. The form of the disease was almost exclusively bubonic, but 17 cases were septicemic and one pneumonic. The mortality was 34 per cent. Only 10 of the patients were Chinese, and they showed the high mortality of their race to plague; 8 died. For protective inoculation Haffkine's serum was employed on 10,700 persons, including the members of the various staffs. No illness occurred among the latter, excepting in the case of a scavenger who escaped inoculation. In the inoculated public 13 cases occurred, all of which were slight. Yersin-Roux serum was used in the treatment of 71. It was found to possess antitoxic properties, but was not to be relied on as a curative agent. The disease was not communicable from man to man, and was not conveyed in any important degree by clothing, merchandise or excreta. The infection originated in rats and is presumed to have been conveyed to man by fleas. The best and only defense against epidemic plague is declared to be good sanitation.

Correspondence.

Prof. Osler and the Assistant Surgeon in the Spanish-American War.

LOUISVILLE, KY., March 25, 1901.

To the Editor:—In view of the many adverse criticisms of the diagnostic abilities of the surgeons in charge of the sick during the Spanish-American War, I consider it a duty to show that only an entire misapprehension of the facts could possibly excuse such severe and unjustifiable indictments as exemplified in the following quotation from Dr. Osler's paper on "Medicine in the Nineteenth Century." The quotation, which is only one of many similar in tone, is as follows: "The worst indictment ever brought against the medical schools of this country is contained in a report by Reed, Vaughan and Shakespeare on the prevalence of typhoid fever during the Spanish-American War. Shades of W. W. Gerhard and of Austin Flint! The young doctors to whom we intrusted scores of valuable lives, had practically not gotten beyond the nosology of Rush. Of the total number of 20,000 cases of typhoid fever, only about 50 per cent. were diagnosed by the regimental or hospital surgeons." Then follows a reference to a number of cases, originally recorded as malarial fever, diagnosed as typhoid fever after having been transferred to a civil hospital.

It is easy to take a few cases transferred to a civil hospital, arriving perhaps with hasty diagnoses appended to the transfer slips, and upon careful observation, after a full maturation of the disease, decide that the appended diagnoses were often wrong. But what about those hundreds, indeed thousands, of cases that never reached a civil hospital, that never passed under the keen and careful observation of the great diagnosticians, cases that ran as a rule an atypical course with a lower mortality rate than was reasonable to expect in typhoid fever under camp conditions. Was the element of doubt not sufficient to deter the prudent surgeon from immediately condemning them to the strict regime of undoubted typhoid cases, by putting them at once in that class? Have these critics considered the conditions which made the careful and extended observation of these cases quite impossible?

I submit the following as a summary of the conditions under which we labored; this may enlighten our critics sufficiently to show that our work was, on the whole, as accurate as the conditions permitted. 1. The medical officer—I refer to the volunteer and contract surgeon—in the unfamiliar environments of a large military camp, overwhelmed with a constantly augmented mass of routine work only indirectly con-

cerning the sick, found that the time available for the actual observation of his cases was quite inadequate for satisfactory work.

2. Cases were transferred without history charts, or at best with incomplete and comparatively valueless records. That it was practically impossible to correct this evil is explained by the condition of the hospital corps. In the handling of a large number of cases a doctor requires the assistance of intelligent attendants; yet we found ourselves with a hospital corps, deficient at best, disorganized by sickness and overwork and soon replaced with detachments of men, few of whom had ever seen a clinical thermometer, and who, because of general unfamiliarity with hospital work, demanded the constant attention of the surgeon to prevent their being an absolute menace instead of a meager help. This will explain the confusion of records and neglect of case histories.

3. The surgeon, without reliable histories, did not often remain long enough in charge of a given group of cases to be enabled to make careful personal observations to determine the accurate diagnosis. This was due to the continual redistribution, made necessary by the increasing sick-rate among the troops and the sick leaves granted surgeons themselves, resulting in the constant movement of a large number of junior medical officers to close up, as well as possible, the ever-recurring hiatuses in the service. These officers became often, in fact, medical nomads. In addition to this, there was a necessity of frequent redistribution of the patients on account of overcrowding, the movement of camps, commands, etc. This greatly increased the difficulty of making continued and competent observations.

4. The method of administration of medicines must not be overlooked. Obviously, to facilitate transportation and administration, most drugs were provided in tablet form; many of these tablets proved to be quite insoluble, and from personal observation I am sure that two-thirds of the quinin thus administered could have been recovered unchanged from the stools. Until the general attention was directed to this fact, it is not inconceivable that many atypical cases of typhoid fever were classed with cases of undoubted malarial origin which refused to respond to the administration of quinin; the insolubility of the tablets not being generally known rendering this important test negative.

5. Prodromal symptoms were not to be relied on in the face of the epidemic of "camp-malaise," which may be described as a varying combination of the following symptoms: pains in the back, abdomen and limbs—headaches, diarrheas, and gastric disturbances—physical and mental depressions; with temperature incidental to these symptoms and the frequent complications of acute venereal diseases. The surgeon found it difficult, indeed often impossible, to determine whether or not this train of symptoms was to denote the invasion of typhoid fever or was the result of the enervating camp work, drills, etc.—the penalty for absolute neglect of the simplest requirements of personal hygiene, or for the frequent intemperance in food and drink obtained outside of camp, or, perchance, an expression of the invincible combination of all these forces of morbidity.

6. Besides this train of functional disturbances, obscuring the prodromal symptoms of enteric fever, there existed the graver conditions of aggravated diarrheas and other severe intestinal disorders, combined with fevers of malarial or other origin, which often simulated the various stages of typhoid fever and gave clinical pictures, so anomalous that it became a matter of extreme difficulty to separate the real from the pseudotyphoid cases.

7. Another consideration of importance, though not directly concerning the subject in controversy, is the effect a sweeping diagnosis of typhoid fever would have had on the people in the home states. Every one officially interested was sufficiently aware of the alarming prevalence of this great camp disease to be alive to the necessity of taking every precaution of camp hygiene to check its progress. But a wholesale verdict of typhoid fever would have only served to increase the panic that took possession of those people who thought that there should be no mortality in an army save that inflicted by the bullets of the enemy; and in consequence we would have had

more examples of the deplorable interference due to public hysteria and misdirected sentiment, exemplified by the sending of special trains to convey the sick many hundreds of miles to civil hospitals. Certainly these cases stood a better chance of recovery, left quietly in any field-hospital, than after transportation on long journeys in ill-ventilated and ill-equipped trains with the attendant excitement and shock of removal to and from cars, ambulances, etc.

8. To leave the consideration of those unfortunate, though unavoidable, conditions which are so closely associated with all large military camps in time of war, and in which it is made clear that a careful and scientific study of any but selected cases was quite out of the question, I wish to refer again to the general peculiarities of camp fevers. Personal observation has convinced me that diseases, developing under such unusual conditions and environments, will rarely present the clinical picture seen in the disease in private practice. This may be explained by the marked physical and psychic modifications induced in the patient before the invasion of actual disease, by the changed conditions of nutrition, habitat and activity. These have certainly a strong influence on the metabolic mechanism of the body, producing in those patients observing hygienic precautions and suited for the radical change, a beneficial influence, enhancing vitality and resisting power and modifying favorably the disease; in others, neglectful of hygiene and unsuited for the radical change, assisting the evolution of the gravest and most complicated types. Perhaps this will explain the difference of mortality in the Civil War between the so-called "typhomalarial" fever—about 7 per cent. and the cases classed as typhoid (about 39 per cent.). I venture to suggest that, in the nimble plasmodium of Laveran and the ubiquitous bacillus of Eberth, it is possible we may not have the only bacterial agents capable of producing the symptoms so universally associated with paludal and enteric fevers; although it is undeniable that an enhanced tissue resistance or an attenuation of the specific organism of a disease may adequately account for the striking modifications of a large series of cases originating in military or other camps, and resulting in a great and uniformly reduced mortality.

It was therefore my opinion, and that of most surgeons, that a large number of cases recorded as malarial fever were really typhoid fever of a modified form; they were what the older doctors—those dominated by the nosology of the Civil War—would have called "typhomalarial fever" inasmuch as they failed to conform clinically to either typical typhoid or typical malarial fever, but maintained a middle ground with a low rate of mortality. Bacteriologic investigation in the field was practically out of the question. We refused, therefore, to perpetuate that unjustifiable term "typhomalarial," and used the term "malarial" in filling out the morning sick reports, rarely changing the diagnosis thus recorded unless undoubted symptoms proved this in error. We were justified in this as it was easy enough to point to a group of cases and say, "These are probably modified typhoid cases," yet for the reasons enumerated it would have been practically impossible to say of a single case in such a group, "this is *certainly* typhoid" or "this one is *certainly* a case of malarial fever." Therefore I think it is not to be regretted that we classed such doubtful cases with the malarias and administered antiperiodics, using as far as possible the dietetic precautions observed in typhoid fever, rather than to have classed them with undoubted typhoid cases and withheld quinin or at least a sufficient dosage to have made an impression on the paludal disease. It is to be remembered that most of these camps were in the South and constantly subjected to conditions favorable to the propagation of malarial fevers and the development of grave types.

However, eliminating all consideration of the analogy between these alleged *undiagnosed* cases of typhoid fever and the old Civil War quibble "typhomalarial fever," a consideration of the conditions which I have enumerated will make our work appear highly creditable: especially when we compare our low mortality rate with the best results of private and hospital practice, and more especially with the high rate in the African and other wars. Are not results, after all, the best criterion? Do they not testify that "the young doctors to whom we en-

trusted scores of valuable lives" fulfilled that trust about as well as their imperial medical majesties—our patronizing critics—could have done? I do not wish to be understood as criticizing the higher officers of the army—every one acquainted with the facts is aware that the obstacles and shortcomings were, in a large measure, not to be foreseen; they were the inevitable consequences of organizing and equipping, on short notice, an army so large that the nucleus of trained officers and men, provided by the regular establishment, was but a meager leaven for the vast concourse of volunteers whose experience—when they had any—generally gained in those regimental picnics, called state camps, was entirely inadequate for the serious business of large encampments during actual war. The wonder is that they did so well. The ideal camp provisions that later shaped themselves with a ripper experience and ampler opportunity certainly carried with themselves a vindication of the much maligned officers in command of the various departments concerned.

I am writing this for the edification of those doctors who fail to see an inestimable advantage in their opportunities for the extended examination and careful study of their cases, and who seem to have a confused idea of the difference between a modern health resort and a hastily prepared military camp.

ALEXANDER NETTELROTH, M.D.,
Late Acting Assistant Surgeon, U. S. Army.

Original Papers Used for Advertising.

CHICAGO, March 30, 1901.

To the Editor:—I notice in the advertising columns of THE JOURNAL of March 30, an advertisement which states: "Official Figures Reported to the AMERICAN MEDICAL ASSOCIATION by the Chairman of Section on Pediatrics," and then it goes on to give statistics where 6325 cases of diphtheria were treated with the advertiser's antitoxin, with a mortality of only 4.11 per cent., and 859 cases treated with all other American and foreign serums with a mortality of 7.46 per cent. These figures are taken from an article which is furnished to whoever applies to the manufacturer of the antitoxin referred to, and on the inside of the cover it states that "this is presented with the compliments of the author." I wish to ask if it is possible that this article was written as an advertisement for this particular antitoxin? If this is a fact, is it not a prostitution of the position of a chairman of a Section in the AMERICAN MEDICAL ASSOCIATION? Very truly,

ROBERT H. HARVEY, M.D.

Fatalities of Spinal Cocainization.—P. Reclus states that spinal cocainization now has a record of six deaths in Europe. Goilav and Jonnesco, of Bucharest, have each reported a fatality. In the former's case 1.5 g. of cocain was injected and a leg amputated. Two hours later the temperature rose to 38 and 40 C., pulse 125 and death in twenty hours. Juilliard has also reported a death the second day after an operation for hydrocele and inguinal hernia. The autopsy showed a ruptured aneurysm of the Sylvian artery. The vasoconstriction induced by the cocain may have been a factor in the premature rupture of the aneurysm. Even in Tuffier's case, in which a mitral lesion and acute edema of the lung have been assigned as the cause of death, Reclus queries whether the action of the cocain may not have been a factor in the evolution of the edema. Heumberg has also reported the death of a man of 30 in coma fifteen days after an operation under spinal cocainization. The autopsy disclosed hemorrhage in the cauda equina. In Dumont's case a febrile, tuberculous lad in bad general condition died two days after spinal cocainization, and no direct cause for the death could be discovered at the autopsy unless it were the cocain. This total of six deaths to less than 2000 applications of spinal cocainization, is not an encouraging record, he remarked, in the conclusion of his address to the Paris Académie de Médecine, March 19.

Deaths and Obituaries.

William R. Hall, M.D., major and surgeon, U. S. Army, Jefferson Medical College, Philadelphia, died from osteomyelitis, at Manila, P. I., April 2, after an illness of three weeks, aged 51. He was appointed assistant surgeon in the army in 1875, served in Alaska and the West, was attending surgeon at Washington, D.C., in 1898, chief surgeon at Camp Meade, Pa., and Key West Hospital during the Spanish-American War. He then requested to be assigned to active field duty in the Philippines. In November, 1899, he succeeded Major W. P. Kendall in command of the First reserve hospital in Manila, the largest hospital in the Philippines. During his regime, and largely through his efforts, the hospital was transformed from a huge insanitary and cumbersome institution into one of the best hospitals in the army service. He installed an ice plant, an electric lighting system and a plan of plumbing and drainage.

Edwin C. Baldwin, M.D., University of Maryland, 1844, a member of the AMERICAN MEDICAL ASSOCIATION, for many years a practitioner of Baltimore, some time vice-president of the Maryland Medical and Chirurgical Faculty, and president of the Northeastern Dispensary, died at Dover, N. J., March 25, aged 87.

William Fleet Luckett, M.D., University of Louisville, Ky., 1860, a surgeon in the confederate service during the Civil War, and thereafter a practitioner in Frederick County, Maryland, and since 1885 in Washington, D. C., died at his home in that city, March 30, after an illness of three months, aged 63.

John S. Scofield, M.D., Jefferson Medical College, Philadelphia, 1850, for many years a practitioner in Hillsboro, Texas, a charter member and several times president of Hill County Medical and Surgical Association, died at his residence near Hillsboro, March 23, after a long illness, aged 74.

John Dudgeon, M.D., C.M., Glasgow, Scotland, 1862, died recently at Pekin, China, where he had lived for more than thirty years. He went to China to take charge of the British Legation Hospital at Pekin, and continued in that position for more than twenty years.

Benjamin Franklin Wright Hurdman, M.B., C.M., McGill University, Montreal, 1882; L.R.C.P., L.R.C.S., Edinburgh, Scotland, 1883, formerly a resident of Ottawa, died at his home in Brandon, Manitoba, from pneumonia, March 30.

Joseph S. McCord, M.D., Chicago Medical College, 1872, who practiced for three years after his graduation and then abandoned medicine for the ministry, died at his home in Iowa City, Iowa, March 30, aged 51.

Henry C. Martin, M.D., University of Louisville, Ky., 1882, an early settler of Wichita, Kan., and for many years a practitioner in Harper, Kan., died at his home in that city, March 26, from pneumonia, aged 70.

Alfred S. Spearman, M.D., Jefferson Medical College, Philadelphia, 1852, who had practiced in Milwaukee for nearly half a century, died in Philadelphia, after a surgical operation, April 1; aged 68.

Charles E. Coates, M.D., University of Pennsylvania, Philadelphia, 1850, died at the residence of his son in Abilene, Texas, March 25, suddenly, aged 73. He practiced for many years in Baltimore.

John M. Glasgow, M.D., University of Iowa, Iowa City, 1874, a pioneer physician of South Omaha, Neb., died March 30, from carcinoma of the liver, at St. Joseph's Hospital, Omaha, aged 65.

George Hayward, M.D., Harvard Medical School, 1843, who practiced in Boston until 1875 and then retired on account of ill-health, died at his home in that city, March 30, aged 81 years.

Henry A. Roberts, M.D., Harvard University Medical School, Boston, 1896, died from tuberculosis, at the home of his father in Wakefield Corner, N. H., January 19, aged 32.

E. F. Meacham, M.D., University of Tennessee, Nashville, 1881, who practiced for several years in Nashville, and then retired, died at his home near Nashville, March 24, aged 49.

R. E. Johnson, M.D., aged 35, assistant physician at the State Hospital for the Insane, at Danville, Pa., was stabbed April 3, by an insane patient and died in a few minutes.

James H. Calvin, M.D., University of Wooster, Cleveland, Ohio, 1881, died at his home in Salem, Ohio, March 29, after a long illness caused by a spinal injury in 1892, aged 51.

James R. Nelan, M.D., University of Pennsylvania, Philadelphia, 1877, died suddenly at his residence in East End, Pittsburg, Pa., from heart disease, March 28, aged 50.

James Daton Gallagher, M.D., died April 1, at his home in Steubenville, Ohio, from tuberculosis contracted while an interne at Lakeside Hospital, Cleveland, aged 27.

Henry S. Clemens, M.D., University of Pennsylvania, Philadelphia, 1861, died at his home in Allentown, Pa., of pneumonia, March 28, aged 62.

William R. Warner, M.D., senior member of the firm of William R. Warner and Company, died April 3, from apoplexy, at his home in Philadelphia.

Thomas Couturier Robertson, M.D., University of South Carolina, Charleston, 1872, died at his home in Columbia, S.C., March 21, from pneumonia.

John Powell Hunter, M.D., University of Pennsylvania, Philadelphia, 1893, died at his home in West Chester, Pa., March 27, aged 35.

James T. Krepps, M.D., Jefferson Medical College, 1875, died at his home in Pittsburg, Pa., from cerebral hemorrhage, April, aged 54.

Societies.

Medical Association of the State of Alabama, Selma, April 16, 1901.

Medical Society of the State of California, Sacramento, April 16-18; 1901.

South Carolina Medical Association, Florence, April 17, 1901.

Medical Association of Georgia, Augusta, April 17, 1901.

Louisiana State Medical Society, New Orleans, April 18-20, 1901.

Medical and Chirurgical Faculty of Maryland, Baltimore, April 23-26, 1901.

Texas State Medical Association, Galveston, April 23, 1901.

American Association of Genito-Urinary Surgeons, Old Point Comfort, April 30, 1901.

Association of American Physicians, Washington, D. C., April 30, 1901.

American Gastro-Enterological Association, Washington, D. C., May 1, 1901.

Kansas Medical Society, Pittsburg, May 2-4, 1901.

American Surgical Association, Baltimore, Md., May 7-9, 1901.

American Therapeutic Society, Washington, D. C., May 7-9, 1901.

Nebraska State Medical Society, Lincoln, May 7-9, 1901.

Oklahoma Territory Medical Association, Oklahoma City, May 8, 1901.

Mississippi State Medical Association, Jackson, May 8, 1901.

Washington State Medical Society, Seattle, May 8-9, 1901.

Ohio State Medical Society, Cincinnati, May 8-10, 1901.

Arkansas Medical Society, Hot Springs, May 14-16, 1901.

Medical Association of Montana, Great Falls, May 15-16, 1901.

Michigan State Medical Society, Battle Creek, May 15-16, 1901.

Iowa State Medical Society, Davenport, May 15, 1901.

Indiana State Medical Society, South Bend, May 15-17, 1901.

New Hampshire Medical Society, Concord, May 16-17, 1901.

Medical Association of Missouri, Jefferson City, May 21-23, 1901.

Illinois State Medical Society, Peoria, May 21-23, 1901.

Medical Society of North Carolina, Durham, May 21-23, 1901.

Connecticut Medical Society, Hartford, May 22-23, 1901.

Kentucky State Medical Society, Louisville, May 22-24, 1901.

Medical Society of West Virginia, Grafton, May 22-24, 1901.

American Laryngological, Rhinological and Otological Society, New York City, May 23-25, 1901.

American Pediatric Society, Niagara Falls, N. Y., May 28, 1901.

American Gynecological Association, Chicago, May 28, 1901.

American Climatological Association, Niagara Falls, N. Y., May 30, 1901.

Pawtucket (R. I.) Medical Association.—The sixth annual meeting of this body was held March 21, when Dr. George H. Stanley was elected president; Dr. Charles H. French, vice-president; Dr. Charles A. Glancy, secretary; and Dr. Charles A. Stearns, librarian.

Medical Association of the State of Alabama.—The annual session of this Association will be held in Selma April 16-19, under the presidency of Dr. Russell McWhorter Cunnings.

ham, Ensley. Dr. Samuel G. Gay, Selma, is chairman of the committee of arrangements.

Silver Bow County (Mont.) Medical Association.—At the annual meeting of this organization, held in Butte, Dr. John W. Gunn was elected president; Dr. Donald Campbell, vice-president; Dr. John A. Donovan, secretary; Dr. William L. Renick, corresponding secretary, and Dr. Thomas A. Grigg, treasurer, all of Butte.

Afro-American Medical Association for Harris County (Texas).—On March 29 the colored physicians of Houston met for the purpose of organizing a medical association, and elected the following officers: Dr. John H. Wilkins, president; Dr. Samuel M. Lyons, secretary, and Dr. Fountain L. McDavid, treasurer.

North Central Ohio Medical Society.—The twentieth annual session of the Society was held in Mansfield March 29 and 30, when the following officers were elected: Dr. Arthur M. Duncan, Bucyrus, president; Drs. Josiah S. Hedges, Mansfield, and A. Melville Crane, Marion, vice-presidents; Dr. J. Lilian McBride, Mansfield, secretary, and Dr. S. Edwin Findley, Mansfield, treasurer.

Tri-State Medical Society of Iowa, Illinois and Missouri.—The meeting of this Society, in Keokuk, Iowa, April 3, was marked by the official sanction of the movement to pass legislation preventing the marriage of mental and physical degenerates, and that favoring the unsexing of habitual criminals. The following officers were elected: Dr. John C. Murphy, St. Louis, president; Drs. Bayard Holmes, Chicago, and Ellet O. Sisson, Keokuk, Iowa, vice-presidents; Dr. James F. Percy, Galesburg, Ill., treasurer, and Dr. William B. La Force, Ottumwa, Iowa, secretary.

National Association for the Study of Epilepsy and the Care and Treatment of Epileptics.—The first annual session of this organization will be held in Washington, D. C. May 14 and 15. Many papers of value from European and American students, and full reports of the progress that is being made in the care and treatment of epileptics in this country are promised for this meeting. The president of the Association is Hon. William P. Letchworth, LL.D., Portage, N. Y.; first vice-president, Dr. Frederick Peterson, New York City; secretary, Dr. Wm. P. Spratling, Craig Colony, Sonyea, N. Y., either of whom, on request, will give further information of the coming meeting.

American Gastro-Enterological Association.—The fourth annual meeting of this Association will be held in Washington, D. C. May 1. Among the papers to be read are those by Dr. Max Einhorn, New York, on "Syphilis of the Liver"; Dr. John C. Hemmeter, Baltimore, on "The German Clinics of Today"; Dr. A. L. Benedict, Buffalo, N. Y., on "Etiology of Hepatic Sclerosis"; Dr. Fenton B. Turck, Chicago, on "Experiments in Peristalsis"; Dr. George W. McCaskey, Fort Wayne, Ind., on "Some Clinical Studies in Gastric Secretion," and Dr. Charles D. Spivak, Denver, Colo., "Report of a Case of Cancer of the Cardiac End of the Esophagus at a Distance of two inches from the Incisor Teeth in a Man 5 ft. 3 in. tall."

Ontario Medical Association.—The annual meeting of the Ontario Medical Association will be held in Toronto, June 19 and 20, these dates having been specially arranged so as not to conflict with the meeting of the AMERICAN MEDICAL ASSOCIATION and also with that of the American Association of Railway Surgeons. The president, Dr. Angus McKinnon, of Guelph, has appointed Dr. Henry T. Machell, Toronto, chairman of the Committee on Papers and Business, and Dr. Bruce L. Riordan, of the same place, chairman of the Committee of Arrangements. There will be three leading discussions: "Gastric Ulcer," "Empyema" and "Extra-Uterine Pregnancy." The leading part in the discussions will be assigned to members from outside points, such as Hamilton, Ottawa, Kingston, London, etc.

American Academy of Medicine.—The twenty-sixth annual meeting of the Academy will be held at the Hotel Aberdeen, St. Paul, Minn., June 1, 1901, and continuing through June 3. The principal features of the meeting will be a symposium on "Institutionalism"; and another on "Reciprocity in Medical Licensure." Papers on both topics have been promised, as well as others on different subjects. The address of the president, Dr. S. D. Risley, Philadelphia, will be delivered on the evening of June 1 and the annual social session is to be held on the evening of June 3. Members of the profession are always welcomed to the open sessions of the Academy. The secretary, Dr. Charles McIntire, Easton, Pa., will send the program, when issued, blank applications for fellowship, etc., on request.

CHICAGO MEDICAL EXAMINERS' ASSOCIATION.

Meeting held March 18.

President, Dr. Denslow Lewis, in the chair.

Interstitial Nephritis.

DR. EDWARD F. WELLS read a paper on "The Diagnosis and Prognosis of Chronic Interstitial Nephritis." He stated that middle-aged or older men, who are robust, actively and energetically aggressive, and good liver, are peculiarly apt to develop this malady. These are the successful men of affairs, who often take out large lines of life insurance, and who from many points of view are desirable policy-holders. But it is in this class that the largest and most unexpected losses occur. In private practice they are patients who give their physicians much concern and anxiety. They do not bear the severe acute infections well, and are peculiarly liable to chronic interstitial nephritis. This disease and the associated cardiovascular changes have their beginning at the time when the essential chemico-toxic causative agent appears in the blood in such quantity as to irritate, in the peculiar manner necessary to bring about the characteristic lesion in the capillary endothelia, particularly in the kidney. There may be, therefore, a distinct premonitory stage, and there is certainly a very early stage of the disease in which the lesions are very slight, but these stages must elude observation until we shall have at our hands more definite information as to the essential cause of the malady, together with the means of detecting it in the blood, secretions or excretions, or until certain symptoms which are now of doubtful significance shall have been given a more definite value. Every person, middle-aged or over, should have the urine examined twice a year, and in the case of a robust, active man who is a good liver, and who is engrossed in business, such examination should be made three or four times a year. The prognosis of chronic Bright's disease is in every way bad, as to recovery. However, on an average the prognosis for prolonged life is much better than is ordinarily supposed. Even after uremic symptoms have become manifest, if such patients are surrounded with every device at command, their lives may be prolonged for many years. With all this, physicians must not under-estimate the gravity of such cases or lose sight of the fact that in many instances death occurs within a comparatively short period after the recognition of the affection.

DR. JOHN M. DODSON stated that it is an established fact that certain well-recognized diseases of the kidney and of the vascular system are due to toxic agents circulating in the blood, which normally are eliminated in the urine. The question which the examiner is called upon to determine is not how long the individual is likely to live, but whether he is or is not absolutely healthy at the present time. In regard to uric acid disorders, it is difficult to determine the presence or absence of them in an ordinary examination. The examination of a single specimen of urine is of very little value. The most important features are the total quantity and the total solids. These two factors considered jointly furnish a measure of what the kidneys are doing. In the early stages of the disease the vascular system is of especial importance. Slight disturbances of the heart and blood-vessels are likely to occur early in the group of disorders. He thoroughly agreed with Dr. Wells that the view popularly held by the laity and even among physicians, as to the gravity of prognosis, is a mistaken one, especially with proper treatment, provided the patient is tractable and willing to follow directions. It is not a question of drugs, but of dietetic and hygienic management.

DR. JOHN A. ROBISON said there is one point of importance to the examiner and the insurance company, namely, that they obtain from the family physician a detailed history of each patient in whom they suspect kidney disease. He did not think it would be a breach of confidence on the part of the family physician to give this information, if agreeable to the applicant, and it would also be to the interest of the applicant. There is no applicant for insurance who wishes to be turned down. He would rather be told beforehand that he can not pass, so that he may go to some other company whose rules are not so rigid.

DR. FRANK BILLINGS has long had in mind the following division of chronic interstitial nephritis as he sees it clinically:

1. The classical nephritis which is associated with the anatomical changes in the kidney with the cardiovascular fibrosis so common to the disease and often the fibrosis extending to other organs, such as the liver—a chronic hepatitis.
2. Another set of cases in which the kidney has fibroid changes going on in it probably from the beginning, while the cardiovascular changes are but slight, so slight that a cursory examination would not reveal them.
3. Those cases in which the cardiovascular changes are marked and the kidney but little involved at first, as is evidenced by the excretion of solids. Then another class of cases which occurs, especially in women, and which he has not yet definitely classified. They are cases in which the urine is markedly insufficient and deficient in solids of all kinds and almost classical as far as the relation of the solids go to each other, with diminution in urea, phosphates, in chlorids and sulphates, and low specific gravity. There are no cardiovascular changes, but marked nutritional ones, as shown by the flabby musculature and the secondary anemia. These patients have but little endurance for mental or physical work. They go on for a long time until proper hygienic measures are instituted. Sometimes a small amount of albumin is found with hyaline casts, etc. These are the four classes of cases. The first is easily recognized. The second, in which the kidney is doubtless involved without much vascular change, the essayist had referred to as the insufficient kidney—insufficient not only in solids, but in fluids as well. The urine is not increased in amount because the cardiovascular changes are perhaps coincident with the kidney change. Then comes the third class in which there is insufficient urine both in quantity and quality, but without the cardiovascular changes. He is satisfied that these different classes of cases exist, and that there must be some toxin which differs in each; some difference in the quality or quantity of toxin in the one case affecting the whole cardiovascular system or kidney, and in another affecting chiefly the kidney, selective in character. The cardiovascular system finally reaches a condition in which the whole vascular tone is diminished, because of faulty digestion, assimilation, metabolism, or what-not.

One of the signs indicative of a bad prognosis is hemorrhage. If it occurs in chronic interstitial nephritis, such as a real hemorrhage into the retina or elsewhere in the body, in the skin, etc., the patient will die in two years or less time. He is at the beginning of the end. He has observed albuminuric retinitis in patients for as long as five or six years. In one patient it was present for over seven years, but if there be real hemorrhages, subcutaneous, submucous, into the eye, or stomach, or from the bowel, in any amount, then we may expect death within two years.

DR. DENSLOW LEWIS said that the increase in mortality during middle life in Chicago and other large cities is due, in his judgment, chiefly to a change in the mode of life among business men. The concentration of energy, the accumulation of wealth, the development of club life, with all that implies, produce often errors of digestion and a faulty metabolism which may manifest themselves in kidney lesions. In most cases the advent is insidious and the true condition of affairs can only be recognized by repeated examinations extending over some little time. When it is appreciated that large policies are taken out as a rule by men in middle life, whose actual state of health is not easily determined without very careful investigation, the absurdity of the usual methods is apparent. If physicians are to be consistent, something more is necessary than the determination of the presence or absence of albumin and sugar or the recognition of a few casts.

DR. WELLS, in closing, thought Dr. Robison's plan of inviting the family physician to join in insurance examinations, or to obtain information from him, impractical. The information obtained by the family physician should be inviolate. If he should furnish such information, he would necessarily do so as the advocate of the patient and not as an aid to the insurance company. He believes that the sphygmograph is the most valuable instrument for measuring and recording the tension

and elasticity of the artery. It is certainly much more reliable than the finger, and it will show everything that the finger will, and more. In addition to this, it is a matter of record and can be referred to later. He said cases referred to by Dr. Billings as being rapidly fatal are those which every physician has met. The reason, probably, is that in such cases the heart and vascular system is hypertrophied to such a degree that when it once begins to lose the balance which has only been kept up by extraordinary efforts, the downward course is more rapid than where the balance has been kept up by a very much less cardiac effort. His own experience as to hemorrhages is entirely in accord with that of Dr. Billings.

Methods of Examination for Industrial Insurance.

DR. W. S. ROYCE read a paper on this subject. Industrial insurance was defined as an insurance on healthy individuals, covering all ages for 2 years next birthday to 70 years inclusive, in amount ranging from \$8 to \$1200 per policy, with premiums running five cents a week and multiples thereof up to \$1 collected weekly by the company's agents at the applicant's house, with four weeks of grace in the payment, with proceeds of the insurance payable at death or at the end of the endowment period, and with all claims paid immediately upon proof and with paid-up policies, cash dividends and extended insurance.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting held March 27.

Dr. F. M. Perkins in the chair.

Funnel Chest.

DR. C. A. E. CODMAN read a paper entitled "The Acquired Form of Funnel Chest, with Report of Cases." The speaker has found that many writers regard this condition as a somewhat rare one. Ebstein believes that the funnel-shaped chest may be due to injuries or disease of the osseous system, or that it may arise from certain changes occurring during fetal life. The condition therefore may be either acquired or congenital. Diseases of the respiratory system, such as pneumonia and bronchitis, may play an important part in its development. The reason it does not occur more frequently in rickets is because in this disease all the bones are equally involved in disturbances of nutrition. The treatment is gradual exercise, and respiratory practice. The speaker detailed a series of cases he had treated.

DR. THOMAS J. MAYS spoke of the etiology. As to the mechanism of its production, one should remember that the external chest adapts itself to internal pressure. If there be an adhesion to the sternum, for instance, the chest will be pulled inward.

DR. J. T. RUGH has seen the funnel-shaped chest result from adenoids, also other cases in which there has been an arching forward of the spine due to traction exerted within the chest.

Treatment of Arthritis Deformans.

DR. M. G. TULL reported a "Case of Arthritis Deformans Successfully Treated by the Application of Ice to the Spinal Column." The patient was first admitted to the Orthopedic Hospital for treatment for flat-foot, and at that time was also suffering from deformity of the neck, ankles, fingers and other joints. The flat-foot was partially relieved, but she was discharged as incurable. She was 22 years of age, and stated that when 10 years old she suffered from rheumatism affecting the joints and accompanied by swelling. Some time ago there was so much deformity that braces were applied to the knees and her condition was almost helpless. The treatment consisted in the application of an ice-bag about eighteen inches long down the spinal column, renewed three times during the twenty-four hours. Internally she was given carbonate of guaiacol—5 gr.—three times a day, together with tablets of citrate of lithium. This treatment was continued for some time and a marked improvement in her condition occurred. The ankylosis of the fingers almost disappeared, and she is able to walk and to do general housework.

DR. J. A. SCOTT thought the results obtained were good, but

that arthritis deformans and allied conditions should be more accurately studied and properly classified. As to the cause of rheumatism, he pointed to the findings of certain micro-organisms by different investigators.

DR. A. A. ESHNER referred to a case of arthritis deformans which had been presented before the Society several years ago.

DR. RUGH spoke of cases of this disease in which he tried the hot air treatment for a year, but without any improvement whatever.

Fango-therapy

DR. W. C. HOLLOPETER read a paper on this subject. The speaker had become interested in this from the good results reported from Italy. "Fango" is a kind of mud or clay obtained in certain hot springs in Italy. The material rises to the surface in bubbles of air, which on bursting deposits this soft greyish, or brownish material around the edges of the springs. Chemically it is composed of iron, alkalies, phosphates, carbonic acid gas, etc. The material may be exported in barrels. The material may be laid directly on the body and is easily removed by warm water. As the patient lies upon the bed a hot moist blanket is slipped under him, this being protected by a rubber sheet. Fango is then applied in a layer, and afterward the parts are wrapped up and allowed to remain for half to one hour. The parts are then douched and massage and Swedish movements applied thoroughly. The speaker reported certain cases of arthritis and rheumatism in which this treatment brought about marked amelioration of the symptoms. The treatment is indicated in such conditions as neurasthenia, peripheral neuralgia, etc.

DR. F. SAVARY PEARCE said he had noticed good results from this treatment in cases of neuritis, and it might be of considerable value in patients suffering from uric acid poisoning.

DR. CHARLES W. BURR stated that through the invitation of Dr. Hollopeter he had seen the methods used. He is under the impression that it might be indicated in all those conditions in which a poultice of any kind is indicated. He does not believe that the chemical constituents of fango would have any influence in bringing about the good results. He could see how good results might be obtained by the methods in certain types of neuritis.

Antipneumococcic Serum.

DR. I. NEWTON SNIVELY read a paper on "The Treatment of Croupous Pneumonia by Antipneumococcic Serum." The speaker had written to the various health departments in five of our largest cities, to find out the total number of deaths from pneumonia and tuberculosis—about 4000 more from the former than from the latter disease. In Philadelphia there were 240 more deaths from pneumonia than from tuberculosis. The speaker reviewed the literature on the subject, from the time of the discovery of the pneumococcus by Fraenkel. In about 75 per cent. of the cases the disease is caused by the pneumococcus. A considerable percentage is due to a mixed infection. In this disease the things to be most dreaded are endocarditis and toxemia. If a mixed infection exists, the condition is more or less of a septic one. The speaker detailed a series of cases of croupous pneumonia in which the antipneumococcic serum was used with marked benefit. The usual dose was 20 c.c. given hypodermically, and repeated every three hours. The serum itself appears to be practically harmless. Dr. J. C. Wilson had given as much as 400 c.c. without causing dangerous symptoms. One of his patients was given 360 c.c. within sixty hours. The good results of the remedy will doubtless be obtained in those cases of pneumonia due to the pneumococcus only, and it should be given early. He had collected a series of 113 cases of pneumonia treated by the serum, with 13 deaths.

DR. J. M. FISHER had recently tried antipneumococcic serum in 2 cases of pneumonia, but he could not say that good results had followed.

DR. EDWIN ROSENTHAL uses both antipneumococcic and anti-streptococcic serum in children, with benefit.

DR. W. E. HUGHES referred to some experiments along this line made by Dr. W. S. Carter and himself, years ago. They used human serum from cases of pneumonia. No crises ever took place from the serum so used.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Meeting held March 18.

Dr. Parker Syms, president.

Primary Carcinoma of the Tip of the Appendix.

DR. J. RIDDLE GOFFE presented this specimen, which had been removed from a girl of 17, who had suffered from a chronic appendicitis. The growth appeared to be primary in the appendix. Specimens from the tumor and adjacent structures were exhibited under the microscope.

Operative Treatment of Hemorrhoids.

DR. WILLIAM DUFF BULLARD read a paper on this subject. He said that the only methods of treatment worthy of serious consideration are the injection method, the Whitehead operation, the ligature operation and the clamp and cautery operation. He does not approve of the injection treatment, and consequently has had no personal experience with it. If cleverly done, it gives temporary relief, but is the stock in trade of charlatans. From 5 to 30 drops of the solution are injected at a time, the object being to secure contraction of the blood-vessels and adhesions between the mucous membrane and the submucosa. Sometimes these injections cause the formation of ulcers or fistulæ, or give rise to diffuse inflammation. They have even been charged with causing pyemia and death, but he has been unable to find a well authenticated case of death from this cause. He thinks the Whitehead operation is a difficult one, and liable to be followed by various mishaps, and that, fortunately, its popularity is waning. In the ligature operation the sphincter is first dilated with the fingers and then the first hemorrhoids to be attacked are those lying on the posterior wall close to the anus. Where the attachment of the hemorrhoid is broad, it should be cut loose from the skin and subcutaneous tissue in a line parallel to the long axis of the gut. The patient should be kept in bed until the ligatures have come away, or about one week, the bowel being confined for the first two or three days by the use of an opiate. In doing the clamp and cautery operation, the hemorrhoids are successively seized with the clamp, cut off, and the stump thoroughly seared with a hot iron, care being taken to leave a thick eschar lying in the direction of the long axis of the bowel. Three grasps of the clamp are usually sufficient, but more might be made if thought desirable, provided precaution is taken to see that the eschars lie in the long axis of the gut. The patient is usually out of bed in five days. The speaker is disposed to think there is more danger of recurrence after the use of the ligature than with the clamp and cautery.

DR. JAMES P. TUTTLE said that a rather extensive experience with the injection treatment justified him in asserting that a large number of cases of hemorrhoids, if not too advanced, can be radically cured in this way, although the method is certainly not applicable to all varieties. Many cases of hemorrhoids in the early stages are quite amenable to simple local treatment combined with dietetic and hygienic measures. In these cases, if the sphincter is gradually dilated on alternate days, with a bougie, and the patient directed to use cold applications and injections of such astringents as krameria, the patient will be greatly benefited. Occasionally the injection treatment was followed by the formation of a slough, but this may be said against either the ligature or the clamp and cautery operation. In performing the Whitehead operation the error of removing the tissue too deeply is often made.

DR. JOHN F. ERDMANN said that he had used the injection method in several cases, but there is just as much discomfort attendant on its use as if cocaine had been injected; hence, it would be better to do a more radical operation under local anesthesia. Nor does he approve of the Whitehead operation. He prefers the ligature to the clamp operation, though he has used both. After either, the patient is only required to remain in bed a sufficient length of time to guard against secondary hemorrhage; hence the period of confinement should be the same after both operations. Secondary hemorrhage sometimes follows either of these. The Whitehead operation is more liable to be followed by stricture than are the other two, but this accident might occur after any one of these operations.

DR. GOFFE thought the Whitehead operation had been too harshly criticized. He has found it advantageous, when doing his operation, to make use of four sustaining sutures.

Arteriosclerosis.

DR. ISAAC ADLER read a paper on this topic. He thinks that while Thoma's theory affords a sufficient explanation for the lesions in the larger and largest vessels, it does not adequately account for the alterations observed in the smallest vessels and in the parenchyma. The arteriosclerosis is not confined to the blood-vessels, but manifests itself in the organs and tissues as a hyperplasia at first, and ultimately as a more or less diffused fibrosis. It is by no means a disease of senility, but makes its appearance at all periods of life, even in infancy. Local and general arteriosclerosis are often associated with certain intoxications, e. g., gout. Hereditary predisposition is probably an important factor in the etiology of arteriosclerosis. The clinical recognition of this pathologic process is not always easy. The accentuation of the second aortic sound is pathognomonic, but its absence proves nothing. Hypertrophy and dilatation of the left ventricle of the heart are only present in a limited number of cases, and increased blood pressure is not a constant symptom. The cardiac type often begins in the smallest branches of the coronary arteries. The renal type apparently commences in the interstitial tissue of the kidney, and in the early stages even the examination of the urine leads to no positive results. At a somewhat later stage it is characterized by a urine of low specific gravity, the occasional presence of a trace of albumin and the constant presence of granular casts. Still another class of cases may be denominated cerebral, and it is possible to distinguish clinically a spinal and a gastro-intestinal type. The cases of spinal type in a general way resemble tabes, but lack the progressiveness of that disease. Under the head of gastro-intestinal he would include arteriosclerosis of the liver and pancreas, many cases of arteriosclerosis showing an advanced stage of this process in the pancreas. The most that the physician can hope to accomplish by therapeutic measures is to arrest the process, and fortunately this is within his power, especially in those cases dependent on some form of intoxication. In every case of arteriosclerosis he would urge the systematic and persistent use of the iodids.

DR. C. E. QUIMBY said he believes that anything which affects tissue nutrition may lead to arteriosclerosis by weakening its effective forces. Aortic accentuation means only high arterial tension, and unless it is persistent it is not an indication of arteriosclerosis.

DR. N. E. BRILL referred to a case of arteriosclerosis occurring in a girl of 12. When admitted to the hospital in 1888, there was marked hypertrophy of the heart, the temporal arteries tortuous and the radials hard. The urine contained a trace of albumin and numerous hyaline and granular casts. An infarction had formed in the spleen, and shortly afterward intestinal hemorrhage and death followed. The autopsy revealed an arteriosclerosis of astonishing extent and degree.

DR. LOUIS FAUGÈRES BISHOP remarked that he had found arteriosclerosis exceedingly common and well marked in the negro race.

Association News.

Annual Announcement.

The fifty-second annual session (54th year) of the AMERICAN MEDICAL ASSOCIATION will be held in St. Paul, Minn., on Tuesday, Wednesday, Thursday and Friday, June 4, 5, 6 and 7, commencing on Tuesday at 11 a. m.

DELEGATES.

The delegates shall receive their appointment from permanently organized state medical societies, and such county and district medical societies as are recognized by representation in their respective state societies, from the medical department of the Army, the Navy and the Marine-Hospital Service of the United States, and from oral and dental societies in good standing. *Provided*, however, that no state, county or other auxiliary body sending representatives shall receive into its

membership any one who may, after 1901, have received the degree of Doctor of Medicine on less than four years of graded instruction or an equivalent requirement.

Each delegate shall hold his appointment for one year, and until another is appointed to succeed him, and shall participate in all the business and the affairs of the ASSOCIATION.

Each state, county and district medical society, entitled to representation, shall have the privilege of sending to the ASSOCIATION one delegate for every ten of its regular resident members, and one for every additional fraction of more than half that number. *Provided*, however, that the number of delegates from any affiliated society shall not exceed the ratio of one in ten of the members of such society. The Army and Navy, and the Marine-Hospital Service of the United States shall be entitled to the same proportionate representation as that of affiliated medical societies.

No individual who shall be under sentence of expulsion or suspension from any state or local medical society of which he may have been a member, or whose name shall have been, for non-payment of dues, dropped from the rolls of the same, shall be received as a delegate to this Association, or be allowed any of the privileges of a member, until he shall have been relieved from the said sentence or disability by such state or local society, or shall have paid up all arrears of membership; nor shall any person not a member and supporter of a local medical society, where such a one exists, be eligible to membership in the AMERICAN MEDICAL ASSOCIATION.

No one expelled from this ASSOCIATION shall be received at any time thereafter as a delegate or member, unless by a three-fourths vote of the members present at the meeting to which he is sent, or at which he is proposed.

PERMANENT MEMBERS.

The permanent members shall consist of all those who have served in the capacity of delegates, and of such other members as may receive the appointment by unanimous vote, and shall continue such so long as they remain in good standing in the body from which they were sent as delegates, and comply with the requirements of the By-Laws of the ASSOCIATION. Permanent members shall at all times be entitled to attend the meetings, and participate in the affairs of the ASSOCIATION, so long as they shall continue to conform to its regulations, but without the right of voting.

MEMBERS BY APPLICATION.

Members by application shall consist of such members of the state, county and district medical societies entitled to representation in this association as shall make application for admission, in writing, to the treasurer, and accompany said application with a certificate of good standing, signed by the president and secretary of the society of which they are members, and the annual fee, \$5. They shall have their names on the roll, shall have all the rights and privileges accorded to permanent members, and shall retain their membership on the same terms.

MEMBERS BY INVITATION.

Members by invitation shall consist of distinguished practitioners of foreign countries who may be invited by the officers of Sections or of the ASSOCIATION. They shall hold their connection with this ASSOCIATION until the close of the annual session to which they are invited, and shall be entitled to participate in all of its affairs, as in the case of delegates, but without the right to vote.

RIGHT TO VOTE.

Every member-elect, prior to the permanent organization of the annual meeting, or *before voting on any question*, after the meeting has been organized, *must exhibit his credentials to the proper committee*, and sign these regulations, inscribing his name and address in full, specifying in what capacity he attends, and, if a delegate, the title of the institution from which he has received his appointment.

DELEGATE BADGES.

No one can be registered as a delegate without a certificate as called for by the above clause in the Constitution. Delegates will be furnished with delegate badges on presentation of their credentials.

REGISTRATION AT MEETING.

Each delegate or member, when he registers, is requested to record the name of the Section, if any, that he will attend, and in which he will cast his vote for Section officers.

ADDRESSES IN SECTIONS.

The Chairman of each Section shall prepare an address on the recent advances in the branches belonging to his Section, including such suggestions in regard to improvements or methods of work as he may deem important, and present the same to the Section over which he presides on the first day of its annual session. The reading of such address shall not occupy more than twenty minutes.

LENGTH OF PAPERS.

No paper, the reading of which occupies more than twenty minutes, shall be read before any Section.

ORATIONS.

The following annual orations will be delivered: On Medicine, Dr. N. S. Davis, Jr., Chicago; on Surgery, Dr. John A. Wyeth, New York City; on State Medicine, Dr. Geo. M. Kober, Washington, D. C.

Chairman, Committee of Arrangements, Dr. John F. Fulton, St. Paul, Minn.

PROPOSED AMENDMENTS.

Amendment to the Constitution and By-laws, offered by Dr. D. Benjamin, Camden, N. J.: A committee on statistics shall be annually appointed by the president.

Amendment to the Constitution and By-laws, offered by Drs. Guy Hinsdale, Philadelphia, and L. B. Tuckerman, Cleveland, Ohio: RESOLVED, That Article I, Section VIII, of the By-laws, be changed, so that the Nominating Committee shall include a delegate to be elected by each one of the component Sections.

OFFICERS OF SECTIONS, 1900-1901.

Practice of Medicine—Chairman, J. M. Anders, Philadelphia; Secretary, Wm. Britt Burns, Memphis, Tenn.

Obstetrics and Diseases of Women—Chairman, Henry P. Newman, Chicago; Secretary, C. L. Bonifield, Cincinnati, Ohio.

Surgery and Anatomy—Chairman, A. J. Ochsner, Chicago; Secretary, Martin B. Tinker, Johns Hopkins Hospital, Baltimore, Md.

Hygiene and Sanitary Science—Chairman, Ernest Wende, Buffalo, N. Y.; Secretary, J. N. Hurty, Indianapolis, Ind.

Ophthalmology—Chairman, J. A. Lippincott, Pittsburg, Pa.; Secretary, E. C. Ellett, Memphis, Tenn.

Diseases of Children—Chairman, Samuel W. Kelley, Cleveland, Ohio; Secretary, Wm. E. Darvall, Atlantic City, N. J.

Stomatology—Chairman, R. R. Andrews, Cambridge, Mass.; Secretary, Eugene S. Talbot, Chicago.

Nervous and Mental Diseases—Chairman, H. A. Tomlinson, St. Peter, Minn.; Secretary, F. Savary Pearce, Philadelphia.

Cutaneous Medicine and Surgery—Chairman, W. L. Baum, Chicago; Secretary, R. R. Campbell, Chicago.

Laryngology and Otology—Chairman, John N. Mackenzie, Baltimore; Secretary, George C. Stout, Philadelphia.

Materia Medica, Pharmacy and Therapeutics—Chairman, N. S. Davis, Jr., Chicago; Secretary, J. N. Upshur, Richmond, Va.

Physiology and Dietetics—Chairman, Elmer Lee, New York City; Secretary, R. Harvey Cook, Oxford, Ohio.

Pathology and Bacteriology—Chairman, Ludvig Hektoen, Chicago; Secretary, Frank B. Wynn, Indianapolis, Ind.

Medical Societies Entitled to Representation in the American Medical Association

April 1, 1901.

In accordance with the Constitution, this list is prepared as certified by the secretaries of the State and Territorial medical societies.

ALABAMA.

Alabama State M. S., and all County Societies.

ARIZONA.

Arizona M. A.
Maricopa County M. S.
Pima County M. S.
Yavapai County M. S.

ARKANSAS.

Arkansas State M. S.
Baxter County M. S.

Benton County M. S.

Boone County M. S.

Craighead County M. S.

Crawford County M. S.

Eureka Springs, Carroll County, M. S.

Hempstead County M. S.

Hot Springs M. S.

Independence County M. S.

Jefferson County M. S.

Lee County M. S.

Little Rock M. S.

Phillips County M. S.

Polk County M. S.

Sebastian County M. S.

Washington County M. S.

White County M. S.

CALIFORNIA.

M. S. State of California

Alameda County M. S.

California Acad. of Med.

California Northern District M. S.

El Paso M. S.

Fresno County M. S.

Humboldt County M. S.

Kern County M. S.

Lake County M. S.

Los Angeles County M. S.

Marin County M. S.

Medico-Chirurg. M. S.

Monterey County M. S.

Orange County M. S.

Pasadena M. A.

Placer County M. S.

Pomona Valley M. S.

Riverside County M. S.

San Diego County M. S.

Sacramento S. for Med. Improvement.

San Bernardino County M. A.

San Francisco County M. S.

San Francisco Clin. S.

San Joaquin County M. S.

San Joaquin Valley M. S.

San Louis Obispo and Northern Santa Barbara County M. A.

Santa Barbara County M. S.

Santa Clara County M. S.

Santa Cruz County M. S.

Society of German Physicians of San Francisco

Sonoma County M. S.

Southern California M. S.

Tulare County M. S.

Ventura County M. S.

Yolo County M. S.

Yuba and Sutter Counties M. S.

COLORADO.

Colorado State M. S.

Alumni Ass'n of the Gross M. College.

Denver Clin. S.

Denver Clin. and Path. S.

Denver and Arapahoe M. S.

Denver Med. Col. Alumni Association.

El Paso County M. S.

Lake County M. S.

Las Animas County M. S.

Otero County M. S.

Pueblo County M. S.

Weld County M. S.

CONNECTICUT.

Connecticut State M. S.

Bridgeport M. A.

Danbury M. A.

Fairfield County M. A.

Hartford County M. A.

Hartford M. S.

Litchfield County M. A.

Middlesex County M. A.

New Haven M. A.

New Haven County M. A.

New London County M. A.

Norwich M. A.

Stamford M. S.

Tolland County M. A.

Waterbury M. A.

Windham County M. A.

DISTRICT OF COLUMBIA

Med. Ass'n of D. C.

DELAWARE.

Delaware State M. S.

FLORIDA.

Florida State M. S.

Alachua County M. S.

Duval County M. S.

Hillsborough M. S.

GEORGIA.

Georgia State M. A.

Atlanta Soc. of Med.

Macon M. S.

IDAHO.

Idaho State M. S.

ILLINOIS.

Illinois State M. S.

Adams County M. S.

Æsculapian S. of Wabash Valley.

Alton M. S.

Aurora M. S.

Bellefonte M. S.

Brainard Dist. M. S.

Bond County M. S.

Bureau County M. S.

Cairo M. S.

Capital Dist. M. S.

Central Dist. M. S.

Champaign County M. S.

Chicago Acad. of Med.

Chicago Gynecological S.

Chicago Laryngological Soc.

Chicago M. S.

Chicago Medico-Legal S.

Chicago Neurological S.

Chicago Ophthal. and Otol. S.

Chicago Orthopedic S.

Chicago Pathological S.

Chicago Pediatric Society.

Chicago Physicians' Club.

Chicago Soc. Internal Med.

Chicago Soc. Med. Examiners.

Chicago Therapeutic Society.

Clay County M. S.

Clinton County M. S.

County Hosp. Alumni S.

Crawford County M. S.

Jo. Daviess Co. M. S.

Decatur M. S.

Dewitt County M. S.

Douglas County M. S.

E. St. Louis M. S.

Egyptian M. S.

Fox River Valley M. S.

Fulton County M. S.

Galva Dist. M. S.

Galesburg M. S.

Gallatin County M. S.

Hancock County M. S.

Hardin County M. S.

Iowa and Ill. Cent. Dist. M. S.

Jacksonville Med. Club.

Jefferson Co. M. S.

Jersey County M. S.

Kankakee County M. S.

Lake County M. S.

La Salle County M. S.

Lawrence County M. S.

Macoupin County M. S.

McDonough County M. S.

McHenry Co. M. S.

McLean County M. S.

Med. and Sur. S. of Western Ill.

Military Tract M. A.

Monroe County M. S.

Montgomery Co. M. S.

Morgan County M. S.

Moultrie County M. S.

North Central Illinois M. S.

North Chicago M. S.

Ogle County M. S.

Ottawa City M. S.

Peoria M. S.

Perry County M. S.

Pike Co. M. S.

Pullman Dist. M. S.

Quincy Med. and Lib. Ass'n.

Rock River Valley M. A.

Saline County M. S.
 Sangamon County M. S.
 Scandinavian M. S. Chicago.
 Shelby County M. S.
 Southeastern Illinois M. S.
 Southern Illinois M. S.
 Springfield Med. Club.
 St. Clair County M. S.
 Stephenson County M. S.
 Tri-County M. S.
 Twin City Clin. Ass'n of
 Champaign and Urbana.
 Urbana S. of P. & S.
 Vermillion County M. S.
 Wabash County M. S.
 Warren County M. S.
 Western M. and S. S.
 White County M. S.
 Whiteside County M. S.
 Williamson County M. S.
 Winnebago County M. S.
 Woodford County M. S.
 Will County M. S.

INDIANA.

Indiana State M. S.
 Allen County M. S.
 Bartholomew County M. S.
 Benton County M. S.
 Blackford County M. S.
 Boone County M. S.
 Carroll County M. S.
 Cass County M. S.
 Clark County M. S.
 Clay County M. S.
 Daviess County M. S.
 Dearborn County M. S.
 Decatur County M. S.
 Dekalb County M. S.
 Delaware County M. S.
 Dubois County M. S.
 Elkhart County M. S.
 Fayette County M. S.
 Floyd County M. S.
 Fountain County M. S.
 Franklin County M. S.
 Gibson County M. S.
 Grant County M. S.
 Greene County M. S.
 Hamilton County M. S.
 Hancock County M. S.
 Hendricks County M. S.
 Henry County M. S.
 Howard County M. S.
 Huntington County M. S.
 Jackson County M. S.
 Jay County M. S.
 Jefferson County M. S.
 Jennings County M. S.
 Johnson County M. S.
 Knox County M. S.
 Kosciusko County M. S.
 Lagrange County M. S.
 Lake County M. S.
 Laporte County M. S.
 Lawrence County M. S.
 Madison County M. S.
 Marion County M. S.
 Marshall County M. S.
 Martin County M. S.
 Miami County M. S.
 Monroe County M. S.
 Montgomery County M. S.
 Morgan County M. S.
 Newton County M. S.
 Noble County M. S.
 Orange County M. S.
 Owen County M. S.
 Parke County M. S.
 Perry County M. S.
 Pike County M. S.
 Porter County M. S.
 Posey County M. S.
 Putnam County M. S.
 Rush County M. S.
 Randolph County M. S.
 Ripley County M. S.

Shelby County M. S.
 St. Joseph County M. S.
 Steuben County M. S.
 Sullivan County M. S.
 Switzerland County M. S.
 Tippecanoe County M. S.
 Tipton County M. S.
 Vanderburg County M. S.
 Vigo County M. S.
 Wabash County M. S.
 Warriek County M. S.
 Washington County M. S.
 Wayne County M. J.
 Wells County M. S.
 White County M. S.
 Whitley County M. S.

INDIAN TERRITORY.

Territorial Ass'n.

IOWA.

Iowa State M. S.
 Austin Flint M. S.
 Blackhawk County M. S.
 Boone Valley M. S.
 Botna Valley M. S.
 Buchanan County M. S.
 Buena Vista Co. M. S.
 Cedar Rapids M. S.
 Cedar Valley M. S.
 Central District M. S.
 Cherokee County M. S.
 Clark County M. S.
 Clinton County M. S.
 Council Bluffs M. S.
 Dallas County M. S.
 Decatur Co. M. S.
 Delaware County M. S.
 Des Moines County M. S.
 Des Moines Valley M. S.
 Dubuque M. S.
 Eastern Iowa M. S.
 Fayette County M. S.
 Fort Dodge M. S.
 Fremont County M. S.
 Gate City M. S.
 Guthrie District M. S.
 Hummiston & Shenandoah M. S.
 Iowa Central M. S.
 Iowa Union M. S.
 Iowa and Illinois M. S.
 Jasper County M. S.
 Jefferson County M. S.
 Johnson County M. S.
 Julien M. S.
 Julien Med. & Surg. Ass'n.
 Keokuk County M. S.
 Keokuk M. S.
 Lyon County M. S.
 Marion County M. S.
 Missouri Valley M. S.
 Mitchell County M. S.
 Muscatine M. S.
 North Iowa M. S.
 Northwestern M. A.
 Plymouth County M. S.
 Pocahontas District M. S.
 Polk County M. S.
 Ringgold County M. S.
 Scott County M. S.
 Sioux City M. S.
 Sioux Valley M. S.
 Southeastern Iowa M. S.
 Southwestern Iowa M. S.
 Spirit Lake Med. Association.
 Story County M. S.
 Upper Des Moines M. A.
 Wapello County M. S.
 Wapsie Valley Med. Ass'n.
 Warren County M. S.
 Washington County M. S.
 Winnebago County M. S.
 Worth County M. S.

KANSAS.

Kansas State M. S.
 Bourbon County M. S.
 Golden Belt M. S.

Leavenworth County M. S.
 Lyon Co. M. S.
 South-East Kansas M. S.
 N. W. Kansas M. S.
 Shawnee Co. M. S.
 Wyandotte M. S.

KENTUCKY.

Kentucky State M. S.
 Anderson County M. S.
 Bourbon Co. M. S.
 Boyle County M. S.
 Brashear M. S.
 Breckenridge Co. M. S.
 Carlisle County M. S.
 Carter County M. S.
 Central Kentucky M. S.
 Clark County M. S.
 Fulton County M. S.
 Garrard County M. S.
 Hardin County M. S.
 Henderson County M. S.
 Kentucky Valley County M. S.
 Lexington and Fayette Coun-
 ties M. S.
 Lincoln County M. S.
 Louisville Clinical Society.
 Louisville M. S.
 Marion County M. S.
 Mason County M. S.
 Midland District M. S.
 Muhlenberg County M. S.
 Muldraugh's Hill M. S.
 Nelson County M. S.
 Northeast Kentucky M. S.
 Owensboro M. S.
 Paducah M. and S. S.
 Pulaski County M. S.
 Scott County M. S.
 Southeast Kentucky M. S.
 Southwestern District M. S.
 Union County M. S.

LOUISIANA.

Louisiana State M. S.
 Attakapas M. S.
 Avoyelles M. S.
 Baton Rouge M. S.
 Morehouse M. S.
 N. Louisiana M. S.
 Ouachitta M. S.
 Orleans Parish M. S.
 Shreveport M. S.
 Tensas M. S.
 Warren Stone M. S.

MAINE.

Maine State M. S.

MARYLAND.

Maryland Med. and Chir. Fac-
 ulty (the State Society).
 Baltimore Med. & Surg. A.
 Clinical Society of Maryland.
 Washington County M. S.

MASSACHUSETTS.

Massachusetts M. S.
 Barnstable District M. S.
 Berkshire District M. S.
 Bristol North District M. S.
 Bristol South District M. S.
 Essex North District M. S.
 Essex South District M. S.
 Franklin District M. S.
 Hampshire District M. S.
 Hampden District M. S.
 Middlesex South District M. S.
 Middlesex East District M. S.
 Middlesex North District M. S.
 Norfolk District M. S.
 Norfolk South District M. S.
 Plymouth District M. S.
 Suffolk District M. S.
 Worcester District M. S.
 Worcester North District M. S.

MICHIGAN.

Michigan State M. S.
 Bay County M. S.

Berrien County M. S.
 Calhoun County M. S.
 Cheboygan County M. S.
 Detroit Acad. of Med.
 Detroit Gynecological Society.
 Detroit M. S.
 Grand Rapids Acad. of Med.
 Grand River Valley M. S.
 Kalamazoo Acad. of Med.
 Marshall Acad. of Med.
 Northeastern District M. S.
 Pontiac M. S.
 Upper Peninsula M. S.
 Washtenaw County M. S.
 Wayne County M. S.

MINNESOTA.

Albert Lea District M. S.
 Cannon Valley M. S.
 Crow River Valley M. S.
 Fillmore County M. S.
 Minneapolis Med. Club.
 Minnesota Acad. of Med.
 Minnesota Valley Med. Ass'n.
 Hennepin County M. S.
 Interurban M. S.
 Olmstead County M. S.
 Ramsey County M. S.
 Southern Minnesota M. S.
 South-Western Minn. M. S.
 Steele Co. M. S.
 St. Louis County M. S.
 Wabasha County M. S.
 Winona County M. S.

MISSISSIPPI.

Mississippi State M. S.

MISSOURI.

Missouri M. A.
 Atchison County M. S.
 Andrain Co. M. S.
 Boone County M. S.
 Buchanan County M. S.
 Callaway County M. S.
 Carroll County M. S.
 Cedar County M. S.
 Central Missouri District M. S.
 Chariton County M. S.
 Clay County M. S.
 Dade County M. S.
 Franklin County M. S.
 Grand River District M. S.
 Harrison County M. S.
 Henry County M. S.
 Hodgins M. A.
 Howard County M. S.
 Jackson County M. S.
 Jasper County M. S.
 John McDowell M. A.
 Joplin Academy of Medicine.
 Kansas City Acad. of Med.
 Kansas City District M. S.
 Lafayette County M. S.
 Linton District M. S.
 Lynn County M. A.
 Macon County M. S.
 Med. Society of the City Hospt.
 Alumni.
 Missouri alley M. S.
 Montgomery County M. S.
 North Missouri District M. S.
 Northeast Mo. Dist. M. S.
 Northwest Missouri M. S.
 Pettis County M. S.
 Pike County M. S.
 Putnam County M. S.
 Rolla District M. S.
 Saline County M. S.
 Shelby County M. S.
 Southeast Mo. Dist. M. A.
 Southwest Mo. Dist. M. S.
 Springfield M. S.
 St. Louis Acad. of M. & S. Sci.
 St. Louis M. S. of Missouri.
 St. Charles County M. S.
 St. Joseph M. S.

MONTANA.

Montana M. S.
Park County M. S.
Silver Bow County M. S.

NEBRASKA.

Nebraska State M. S.
Elkhorn Valley M. S.
Lincoln M. S.
Loup Valley District M. S.
Omaha M. S.
Otoe County M. S.
Southeastern Neb. M. S.
York County M. S.

NEVADA.

Nevada State M. S.

NEW HAMPSHIRE.

New Hampshire State M. S.
Carroll District M. S.
Central District M. S.
Cheshire County M. S.
Conn. River Valley M. S.
Manchester M. A.
Nashua M. A.
Rockingham District M. S.
Strafford District M. S.
White Mountain M. S.
White River District M. S.

NEW JERSEY.

New Jersey State M. S.
Atlantic County M. S.
Bergen County M. S.
Burlington County M. S.
Camden County M. S.
Cape May County M. S.
Cumberland County M. S.
Essex County M. S.
Gloucester County M. S.
Hudson County M. S.
Hunterdon County M. S.
Mercer County M. S.
Middlesex County M. S.
Monmouth County M. S.
Morris County M. S.
Passaic County M. S.
Salem County M. S.
Somerset County M. S.
Sussex County M. S.
Union County M. S.
Warren County M. S.

NEW MEXICO.

New Mexico M. S.
Bernalillo County M. S.

NEW YORK.

New York State M. A.
Chautauqua County M. A.
Cortland County M. A.
Erie County M. A.
Genesee County M. A.
Kings County M. A.
New York County M. A.
Oneida County M. A.
Orange County M. A.
Rensselaer County M. A.
Saratoga County M. A.
Sullivan County M. A.
Warren County M. A.
Westchester County M. A.
Wyoming County M. A.

NORTH CAROLINA.

North Carolina State M. S.
Buncombe County M. S.
Charlotte M. S.
Raleigh Acad. of Med.
Rowan County M. S.

NORTH DAKOTA.

North Dakota State M. S.

OHIO.

Ohio State M. S.
Adams County M. S.
Allen County M. S.
Ashland County M. S.
Ashtabula County M. S.
Belmont County M. S.
Brown County M. S.

Butler County M. S.
Central Ohio M. S.
Champaign County M. S.
Cincinnati Acad. of Med.
Clarke County M. S.
Clermont County M. S.
Cleveland M. S.
Clinton County M. S.
Columbus Acad. of Med.
Cuyahoga County M. S.
Darke County M. S.
Defiance County M. S.
Delaware County M. S.
Eastern Ohio M. S.

East Liverpool M. S.
Erie County M. S.
Gallia County M. S.
Greene County M. S.
Hancock County M. S.
Hempstead Mem. Acad.
Highland County M. S.
Holmes County M. S.
Jackson County M. S.
Jefferson County M. S.
Lorain County M. S.
Lucas County M. S.
Mahoning County M. S.
Mansfield Acad. of Med.
Marion County M. S.
Meigs County M. S.
Miami County M. S.
Miami Valley M. S.
Montgomery County M. S.
Morrow County M. S.
Muskingum County M. S.
North Central Ohio M. S.
Northwestern Ohio M. A.
Perry County M. S.
Pike County M. S.
Portage County M. S.
Ross County M. S.
Shelby County M. S.
Springfield Acad. of Med.
Stark County M. S.
Stillwater M. A.
Toledo M. A.
Tuscarawas County M. S.
Union M. A.
Union M. A. of N. E. Ohio.
Warren County M. S.
Washington County M. S.
Wayne County M. S.

OKLAHOMA.

Oklahoma Territorial M. S.

OREGON.

Oregon State M. S.
Portland M. S.
South Oregon M. S.

PENNSYLVANIA.

Pennsylvania State M. S.
Allegheny County M. S.
Armstrong County M. S.
Beaver County M. S.
Bedford County M. S.
Berks County M. S.
Blair County M. S.
Bradford County M. S.
Bucks County M. S.
Butler County M. S.
Cambria County M. S.
Carbon County M. S.
Centre County M. S.
Chester County M. S.
Clarion County M. S.
Clearfield County M. S.
Clinton County M. S.
Columbia County M. S.
Crawford County M. S.
Cumberland County M. S.
Dauphin County M. S.
Delaware County M. S.
Elk County M. S.
Erie County M. S.
Fayette County M. S.
Franklin County M. S.
Greene County M. S.
Huntington County M. S.

Indiana County M. S.
Jefferson County M. S.
Juniata County M. S.
Laekawanna County M. S.
Lancaster County M. S.
Lawrence County M. S.
Lebanon County M. S.
Lehigh County M. S.
Luzerne County M. S.
Lyeomg County M. S.
McKean County M. S.
Mereer County M. S.
Mifflin County M. S.
Montour County M. S.
Montgomery County M. S.
Northampton County M. S.
Perry County M. S.
Potter County M. S.
Philadelphia County M. S.
Schuylkill County M. S.
Somerset County M. S.
Susquehanna County M. S.
Tioga County M. S.
Venango County M. S.
Warren County M. S.
Washington County M. S.
Westmoreland County M. S.
York County M. S.

RHODE ISLAND.

Rhode Island State M. S.

SOUTH CAROLINA.

South Carolina State M. S.
Columbia M. S.
Anderson County M. S.
Greenville County M. S.
Laurens County M. S.
Kershaw County M. A.
Med. Soc. of S. Carolina.
Sumter County M. S.
Union County M. S.

SOUTH DAKOTA.

South Dakota State M. S.
Aberdeen District M. S.
Minnehaha M. S.
Sioux Valley M. S.

TENNESSEE.

Tennessee State M. S.
Bradley County M. S.
Bristol M. S.
Chattanooga M. S.
Dyer County M. S.
Gibson County M. S.
Johnson City M. S.
Knox County M. S.
Madison County M. S.
Marshall County M. S.
Memphis M. S.
Middle Tennessee M. S.
Montgomery County M. S.
Nashville Academy of Med.
Rutherford County M. S.
Sumner County M. S.
Tipton County M. S.
West Tenn. M. & S. Ass'n.

TEXAS.

Austin Academy of Medicine.
Austin District M. S.

Brazos Valley M. A.
Brenham M. S.
Bell County P. & S. Ass'n.
Briggs M. S., Ellis County.
Central Texas M. A.
Corsicana District M. A.
Dallas Med. & Surg. Society.
E. Texas Medico-Chirurgical S.
El Paso County M. S.
Hill County M. & S. Ass'n.
Houston District M. A.
Johnson County M. S.
Kaufman County M. S.
North Texas M. A.
Pan Handle M. A.
Practitioners' Soc. of Dallas.
South Texas M. A.
Waco M. A.
Western Texas M. A.

UTAH.

Utah State M. S.
Salt Lake County M. S.
Utah County M. S.
Salt Lake Acad. Med.
Weber County M. S.
Weber County Acad. of Med.

VERMONT.

Vermont State M. S.

VIRGINIA.

Virginia State M. S.

WASHINGTON.

Washington State M. S.
Kings County M. S.
Pierce County M. S.
Spokane County M. S.
Thurston County M. S.
Whitman County M. S.
Yakima County M. S.

WEST VIRGINIA.

West Virginia State M. S.
Charleston M. and S.
Harrison County M. S.
Huntington M. A.
McDowell County M. S.
Ohio County M. S.

WISCONSIN.

Wisconsin State M. S.
Ashland County M. S.
Barron County M. S.
Brainerd M. S.
Brown County M. S.
Central Wisconsin M. S.
Douglas County M. S.
Fox River Valley M. S.
Inter-County M. S.
La Crosse County M. S.
Manitowoc M. S.
Milwaukee M. S.
Northwestern Wis. M. A.
Sheboygan County M. S.
Waukesha County M. S.
Vernon County M. S.

WYOMING.

Wyoming State M. S.
Medical Ass'n of Hawaii.

Any society omitted should send to the office of the Secretary notice to that effect *accompanied by a certificate from the secretary of the State society that said society is so recognized in accordance with the above quoted law relating to representation.*

Secretaries of affiliated societies are earnestly requested to forward lists of their delegates to the AMERICAN MEDICAL ASSOCIATION as early as possible after appointment.

In order that the Secretary may be enabled to erase from the roll the names of those who have forfeited their membership, the secretaries are, by *special resolution*, requested to send to him, annually a corrected list of the membership of their respective societies.

GEORGE H. SIMMONS,
Secretary American Medical Association.

61 Market Street, Chicago.

To Commemorate Invention of Ophthalmoscope.

At the last meeting of the ophthalmic Section of the AMERICAN MEDICAL ASSOCIATION, the undersigned were appointed a committee to arrange exercises, etc., at the coming meeting in St. Paul, to commemorate the fiftieth anniversary of the invention of the ophthalmoscope. The Committee is preparing an historical exhibit of ophthalmoscopes and is endeavoring to secure such older models as they can borrow. Due credit will be given.—Harry Friedenwald, M.D., 1029 Madison avenue, Baltimore; Casey A. Wood, M.D., Chicago.

New Members.

New members for the month of March, 1901:

- ALABAMA.**
Davie, Judson, Cowikee P. O., Barbour Co.
- CALIFORNIA.**
Payne, Redmond Wellington, San Francisco.
Libby, Arthur A., Pasadena.
Roberts, Wm. Humes, Pasadena.
- CONNECTICUT.**
Roberts, Edw. K., New Haven.
- DELAWARE.**
Stubbs, Ralph P., Wilmington.
- DISTRICT OF COLUMBIA.**
Roman, F. O., Washington.
- ILLINOIS.**
Wells, Clarence A., Quincy.
Johnston, J. Alba, Byron.
Byrne, John H., Chicago.
Coakley, Walter Byron, Chicago.
Mlx. Charles Louis, Chicago.
Saurenhaus, Ernest, Chicago.
Young, Alben, Chicago.
Peterson, Herman D., Chicago.
Lord, Frank H., Plano.
Beard, Leslie A., Polo.
Shreck, J. A., Cameron.
Crocket, Fletcher L., Weston.
Gillett, Philip F., Stillman Valley.
Maley, Wm. H., Galesburg.
Stephens, Robt. F., Toledo.
Johnson, Chas. B., Champaign.
Massie, John G., Belleville.
Fulgham, J. H., Lebanon.
Shaw, Viola E., Pekin.
Bridges, W. T., Stonington.
- INDIANA.**
McKee, Wm. Edwin, Goldsmith.
- IOWA.**
Davis, S. K., Libertyville.
York, N. Albert, Lisbon.
Daly, Jas. Jos., Charles City.
Grossman, D. S., Minburn.
- KANSAS.**
Allen, Arthur E., Utica.
Latta, John Milton, Millerton.
Welch, Wm. E., Pittsburg.
- KENTUCKY.**
Crouch, Hugh T., Cnningham.
- LOUISIANA.**
Lancaster, Nathan A., King, Madison Parish.
Owen, Whyte Glendower, White Castle.
Forman, Alfred Hennen, New Orleans.
- MASSACHUSETTS.**
Murphy, Jos. B., Taunton.
Thomas, Caroline L., Fall River.
Prior, Chas. E., Malden.
Trueman, H. S., Somerville.
- MARYLAND.**
Dorsey, Renben M., Baltimore.
Russell, Wm. Wood, Baltimore.
- MICHIGAN.**
Stewart, Ollver, Port Huron.
Brown, G. Van Amber, McBain.
Hutchings, Willard Hunter, Ann Arbor.
Patterson, P. D., Charlotte.
- MINNESOTA.**
Wrlght, C. O., Luverne.
Steel, Edwin D., Mankato.
Williams, Cornelius, St. Paul.
Johnson, J. Palmer, Owatonna.
Hubert, R. I., St. Cloud.
Peterson, John Richard, Renville.
Heath, Albert C., St. Paul.
Dennis, Warren A., St. Paul.
- Clark, Thos. C., Stillwater.
Gilfillan, Jas. S., St. Paul.
Milligan, W. F., Wabasha.
Frazer, Wm. A., Lyle.
Markoe, Jas. C., St. Paul.
Cross, J. G., Rochester.
Merrill, B. J., Stillwater.
- MISSOURI.**
Hempelmann, Louis H., St. Louis.
Banks, H. L., Hannibal.
Vessells, F. M., Brewer.
Bridges, J. B., Downing.
Rice, F. D., Lucerne.
Clark, Jos. Johnson, St. Louis.
- NEW HAMPSHIRE.**
Nute, W. H., Exeter.
- NEW YORK.**
Hirons, Gardner, New York City.
Hazeltine, Laban, Jamestown.
Grecley, Jane Lincoln, Jamestown.
Stranahan, J. Orley, Rome.
Edwards, John, Gloversville.
Earl, Wm. Petry, Little Falls.
Douglass, J. W., Boonville.
Mnnger, Chas., Knoxboro.
Douglass, Edgar H., Little Falls.
Steers, Wm. H., Brooklyn.
Disbrow, Robt. N., New York City.
Burgheim, Leo., New York City.
Burgess, Maynard G., Herkimer.
Clark, Jos., New York City.
Harding, Wm. L., New York City.
Leuchs, John, New York City.
- NORTH DAKOTA.**
Furness, Gilbert Bird, Mandan.
Critchfield, H. H., Hunter.
- OHIO.**
Hall, Emerson V., Convoy.
Glass, Geo. F., Cleveland.
Wirebaugh, I. V., Prairie Depot.
- OKLAHOMA.**
Bnxtion, L. Haynes, Oklahoma City.
- PENNSYLVANIA.**
Roe, J. I., Wilkesbarre.
Thompson, Mary Irvin, Altoona.
Matlack, Granville T., Wilkesbarre.
Harrison, Wm. H., Easton.
Sprowls, Jesse Addison, Clarks-ville.
Matthews, W. Edgar, Johnstown.
- SOUTH CAROLINA.**
Ferguson, Richard, Columbia.
Whaley, E. Mikell, Columbia.
- SOUTH DAKOTA.**
Carleton, J. W., Sisseton.
- TENNESSEE.**
Raymond, Frank S., Memphis.
Capps, Claudius Mead, Knoxville.
Fort, Rufus E., Nashville.
- TEXAS.**
Frick, Wm. G., Elk.
Rnsh, Richard Henry, DeLean.
Irby, Alfred, Weatherford.
Kennedy, John Wesley, Lewis-ville.
Crook, Lee F., Cresson.
- WEST VIRGINIA.**
Caldwell, Jos. R., West Liberty.
- VIRGINIA.**
Corss, Jas. Kennedy, Newport News.
- WISCONSIN.**
Shearer, Robt. D., Milwaukee.
Fox, Geo. Wm., Milwaukee.
Kleinhans, Francis A., Milwaukee.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and out-lines of treatment will be answered in these columns.]

Antisepsis of the Nasopharynx.

The *Presse Médicale*, quoted in *N. Y. Med. Jour.* for April 6, attributes the following prescriptions to M. Malherbe. They are to be used as anterior douches or by atomization:

- Resolvent and antiseptic:
R. Sodium salicylate22½ gr. |86
Distilled water4500 m. 292
- M.
Resolvent, antiseptic, and astringent:
R. Zinc sulphate4½ gr. |29
Distilled water4500 m. 292
- M.
When there is much pain:
R. Morphin. hydrochlorid.....¼ gr. |048
Distilled water1250 m. 81
- M.
At the same time inhalations are prescribed:
R. Compound tincture of benzoin...1350 gr. 87|75
Chloroform25 drops 1|62
- M. A coffeespoonful in a pint of boiling water.

Treatment of Uremic Coma.

A subscriber writes asking us for a "good plan of treatment in uremic coma."

ANS.—As this condition is due to poisonous substance in the blood the important point to observe in the treatment is to promote elimination. And as the kidneys are crippled we must look to increased action of the bowels and skin as the two other great emunctories through which rapid elimination can be carried on. Consequently diaphoresis and catharsis must be increased. The action of the skin must be increased by means of the hot pack, hot air or vapor baths. In general practice the hot pack is most suitable and most conveniently employed. Place the patient on a couch or bed protected by a rubber sheet after having removed all the clothing. Place blankets in hot water, 110 F., wring them out and wrap one around each limb and one around the body, and over these place a dry blanket and allow the patient to remain at least one hour. During this procedure an ice cap should be placed to the head to prevent cerebral congestion. Injection hypodermically of the normal salt solution into the cellular tissue is of great aid to elimination, as well as to the overworked heart. A pint or even two pints may be slowly injected at one time, and if it is not convenient to administer it hypodermically, large amounts can be slowly injected per rectum.

To meet the second indication, namely elimination by the bowels, free catharsis is most rapidly produced by the use of croton oil; this can be given in one or two minim doses either dropped upon the base of the tongue or administered in a teaspoonful of olive oil. Elaterium in ¼-grain doses administered, as Hirst states, in a little butter with which it is well mixed; or elaterin, its active principle, may be substituted, administered in 1/15 to 1/10 grain doses every hour for three hours will usually produce efficient purging necessary in these cases. The number of doses should not necessarily be limited to three, but should be administered until the desired results are obtained. To give it at longer intervals and in too small doses is of no use, as it does not produce the catharsis desired. H. B. Favill, of Chicago, states there may be physicians who object to such large doses on account of its depressing and exhausting effects, yet a patient who is weakened to the point of being harmed is beyond help anyway. Experience has demonstrated that its value is not mechanical alone but rapidly relieves the toxic condition of the blood as well as the symptoms which the toxicity produces as shown upon the heart and respiration.

Pilocarpin, to produce diaphoresis, is an inappropriate remedy on account of its marked depressant effects upon the

heart. Its use in puerperal eclampsia has no doubt increased the mortality; especially is it non-indicated in the uremia of Bright's disease, for under such conditions the heart muscle is necessarily more or less affected and its cavities dilated.

For the Heart and Circulation.

Where there is such work thrown upon the heart by congestion of the pulmonary circuit, or when the heart begins to succumb to the poisonous effect of the toxins it can be relieved by venesection—which can not as often be resorted to as it should be under such circumstances—and phlebotomy should be done as a preventive measure before marked pulmonary edema comes on. It is frequently the case that nitroglycerin will be a good substitute for venesection, as the principal action of the nitrites is to dilate the peripheral blood vessels, and in that way they greatly reduce the amount of work thrown upon the heart. Too many practitioners have an erroneous idea of the physiological action of the nitrites. They administer them for the purpose of stimulating the heart, at the same time not knowing in what way it stimulates the heart, the action of which is indirect by relieving its load. Alternating with the nitroglycerin, digitalis may be given, if the pulse is feeble, in moderate sized doses providing there is no fatty degeneration of that organ present. The most frequent mistake in the administration of digitalis is in giving it in too large doses. Caffein in uremia makes an excellent heart tonic as well as a diuretic. It can be given hypodermically.

Treatment of Diphtheria.

J. Weichselbaum, in *Merck's Archives*, recommends the use of hydrargyri biniodidum in treatment of diphtheria. He begins by administering a mercurial purgative. He then gives the following preparation internally:

R. Hydrarg. iodidi rubri	gr. i	06
Potassii iodidi	gr. iv	25
Aquæ	℥i	4

Dissolve and add:

Syr. acidi hydrioid q. s. ad.....	℥iv	128
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M. Sig.: Five to ten drops on the tongue every twenty minutes, day and night.

For use in the atomizer as a local application to the fauces:

R. Hydrogeni peroxidi	℥i	32
Aquæ	℥iii	96

M. Sig.: As a spray locally every hour or two. If the patient is old enough let him gargle every hour during day and night.

And internally:

R. Quininae sulphatis.....	gr. xlvi	3	20
Ext. glycyrrhizæ th.	℥i	32	
Aq. cinnamomi q. s. ad	℥iv	128	

M. Sig.: Shake and take a teaspoonful every two hours during day and night.

Treatment of Vaginitis.

R. Resorcin	gr. lxxx	5	
Acidi salicylici	gr. viii		5
Beta naphthol	gr. i		06
Aquæ q. s. ad	℥viii	256	

M. Sig.: Add one tablespoonful to a quart of warm water and use as a douche.

After the administration of the douche insert a tampon saturated with the following solution:

R. Salol	gr. xlv-℥ii	3-8	
Glycerini (neutral)	℥viii	256	

And insert a vaginal suppository containing the following:

R. Acetanilidi	gr. xv	1	
Acidi tannici	gr. viii		5
Ext. hyoseyami	gr. iv		25
Sacch. lactis	℥vi	24	

M. Ft. Suppos. No. i. Sig.: Insert into the vagina.—*Med. News*.

The mucous membrane of the vagina is a good absorbent and it seems that the amount of acetanilid and hyoseyamus is too large. Good effects should be obtained from one-half the dose given in the above formula.

Treatment of Purulent Endometritis.

Dr. Jay G. Roberts, in *Phil. Med. Jour.*, uses the following emulsion in treatment of purulent endometritis:

R. Iodoformi	℥ss	2	
Amyli	gr. xv		1

Mix and add:

Glycerini	℥v	20	
Aquæ	℥iii	12	
Creolini	gr. v		30

M. Stir gradually and heat slightly. Sig.: Inject one teaspoonful slowly, well up into the uterine cavity. The syringe is withdrawn and the cervix plugged with antiseptic cotton. The patient should retain the dorsal position for a few minutes. The injection should be repeated every other day or every third day.

For Painful Dentition.

The *Med. Chir. Centralblatt* contains the following prescription for local application in painful dentition:

R. Acidi citrici	gr. i	06	
Aq. destil. q. s. to dissolve			
Cocainæ hydrochlor	gr. iss	09	
Tinct. vanillæ	℥m. x	66	
Syrupi simplicis	℥v	20	

M. Sig.: To be rubbed on the gums.

Bleeding and Tender Gums.

R. Gelatin	℥ss	2	
Sodii chloridi	gr. viii	5	
Acidi carbol.....	gr. ii	12	
Eucainæ B hydrochlor.....	gr. viii	5	
Cocainæ hydrochlor.....	gr. ii	12	
Aq. destil	℥iiss	112	

M. Sig.: Use as a mouth wash once or twice daily.

Treatment of Anorexia.

Kolb, in *Prog. Medicale*, recommends the following powder containing the bitters quassia and nux vomica:

R. Quassin (crys.).....	gr. 3/100	0018	
Pulv. nucis vomicae	gr. 3/10	018	
Pulv. rhei	gr. iiss	15	

M. Ft. wafer No. i. Sig.: One such powder before each meal.

Treatment of Chronic Eczema and Psoriasis.

R. Creolin	℥ss	2	
Hydrarg. Ammon	gr. x		66
Petrolati	℥i	32	

M. Sig.: Apply locally night and morning.

Local Application for Eczema.

R. Pulv. tragacanthæ	gr. xxv	1	66
Zinci oxidi	℥ii	8	
Alcoholis	℥i	4	
Lanolini	℥i	32	
Aquæ	℥iv	128	

M. Sig.: Apply locally.—*Western Druggist*.

Treatment of Fatty Heart.

Dr. A. Robin, in *Med. Record*, suggests the following pill in treatment of fatty degeneration of the heart:

R. Sodii arsenatis	gr. 1/24	0025	
Potassii iodidi	gr. ¾	05	
Pulv. nucis vom.	gr. 1/8	008	
Pulv. rhei	gr. i	06	
Ext. duleamaræ	gr. iss	09	

M. Ft. pil. No. i. Sig.: One such pill daily.

The extract of duleamara (bittersweet) is not official and its dose seems to be uncertain.

Treatment of Subacute Rheumatism.

R. Sodii salicylatis	℥ss	16	
Potassii iodidi	℥i	4	
Methyl salicylatis	℥i	4	
Ext. cimicifugæ th.	℥ii	8	
Alcoholis	℥ss	16	
Aquæ q. s. ad.....	℥iii	96	

M. Sig.: One teaspoonful three times a day; or:

R. Sodii salicylatis
Potassii iodidi,
Potassii acetatis
Ext. cascarae sagradae
Glycerini āā..... 5ii 8
Aq. cinnamomi 3ss 16
Aq. menthae pip..... 3iii 96
M. Sig.: One teaspoonful every four hours.—*Med. Standard.*

For the Night Sweats of Tuberculosis or Malaria.

R. Acidi salicylici 5i 4
Acidi borici 5i 4
Amyli 5iv 16
Pulv. talei 3iiss 48

Misce. Sig.: To be used locally as a dusting powder.

Nasal Neurosis.

Dr. Samuel B. Dabney states that in women having frequent attacks of sneezing both summer and winter and where examination shows no hypertrophy nor permanent obstruction present, but simply a turgescence of the mucous membrane, he uses the following combination:

R. Acidi arsenosi gr. i 06
Strych. sulphatis gr. 2/3 04
Ext. belladonnae
Zinci phosphidi āā..... gr. iv 25
Ext. gentianae gr. xx 133

M. Ft. pil. No. xx. Sig.: One pill three times a day.

In conjunction with this he uses a menthol preparation locally.

Sterilizing the Clinical Thermometer.

It is too often the case that the general practitioner does not give the proper attention to sterilizing his thermometer. When he enters a sick room he usually asks for a towel moistened with some water and is satisfied with washing the thermometer in water alone.

Dr. Wm. H. Dyer, in *Phil. Med. Jour.*, suggests that a few drops of formalin—40 per cent. solution of formaldehyde—be placed on some cotton in the bottom of the thermometer case, which affords a very effective method of disinfecting and sterilizing the thermometer. The gas is readily liberated from the solution and the thermometer case being air-tight practically prevents the escape of the gas and the evaporation of the liquid. In this way the thermometer is subjected to the germicidal action of the gas. Before placing it in the patient's mouth it should be rinsed in water and dried, as formaldehyde is irritating to the mucous membranes.

Medicolegal.

Conviction on Testimony of Expert Witnesses.—Where a conviction is had upon the testimony of expert witnesses, if the jury has been properly instructed as to the law, the Supreme Court of Oklahoma says, in *Boggs, vs. United States*, that, on appeal it will not invade the province of the jury, to determine the weight and credibility of the witnesses or the degree of credence to be given to their testimony. So, if upon an examination of the entire record it is satisfied that there is evidence in the case which reasonably tends to sustain the findings of the jury, the verdict of the latter will not be disturbed.

Manslaughter by Administration of Poison.—The Supreme Court of Indiana says, in the case of *Hasenfuss vs. State*, that it is possibly true, as insisted by counsel, that it may be difficult to conjecture a case where the crime of manslaughter can be said to be committed by means of administering poison. Nevertheless, it holds valid a verdict of the jury which showed that the jury here discovered such a case notwithstanding the assertion of counsel that none, under any circumstances, could be imagined, or possibly had been controlled, as is sometimes the case, more by the impulses of mercy than by the law and the evidence.

Rules as to Admissibility of Opinions of Experts.—In the case of *Easler vs. Southern Railway Company*, the Supreme Court of South Carolina, without undertaking to review in detail the different cases in that state upon this subject, thus states the rules that have been followed: 1. A witness is competent to give his opinion as an expert when the facts upon which it is based are within his own knowledge. 2. If the facts upon which his opinion is founded are in issue, his testimony is not admissible, except upon a hypothetical state of facts. 3. If the mode in which an injury was inflicted, or the extent thereof, is itself one of the disputed facts in the case, the witness will not be allowed to testify that in his opinion the injury was inflicted in a certain manner or to a certain extent. In such a case he must testify as to a hypothetical state of facts. The province of the expert is to draw inferences from, but not to decide, the facts of the case; and, in order to draw proper inferences from the facts in the case, they must either be within his own knowledge or undisputed; otherwise, he would usurp the powers of the jury.

Appointment of Examiners by Association.—The Supreme Court of Indiana holds, in *Overshiner vs. State*, that the general assembly, in conferring upon the State Dental Association power to appoint three members of the State Board of Dental Examiners, did not transcend its constitutional power, and that appointments to said Board of Examiners by said Association are valid. It was contended, for one thing, that the statute must fail for the reason that the legislature had no constitutional warrant for bestowing police powers upon a private corporation, to be by it exercised upon the citizens of the state. But the supreme court says that it perceives no reason why a corporation, such as the one in question, may not prove itself a repository of power as safe and salutary as an individual. This corporation is composed of practicing dentists, organized for the promotion of scientific knowledge and skill in the practice of the profession of dentistry, and which association thus stands in an intimate and well-informed relation to the subject, and possessed of a peculiar interest in the successful administration of the law. It is difficult to conceive of an appointing power with higher qualifications, or likely to be swayed by more laudable motives; and that it is an organization of persons mutually interested in the enforcement and proper administration of the law surely furnishes no reason for its condemnation.

Liability for Unjustifiable Abandonment of Patient.—The Supreme Court of California says that defendant, in the case of *Lathrop vs. Flood*, was a practicing physician, who was employed to attend a young married woman in her prospective first confinement. At the beginning of her labor, he was sent for and attended. He concluded that the case would be a prolonged one, and went away, visiting the house at intervals. He returned one evening, and, after an examination of his patient, decided that it would be necessary to employ instruments to aid in the delivery of the child, and that the time for the use of such instruments had arrived. He, therefore, ordered the attendant nurse to place the patient in proper position, and inserted the instruments, whereupon the sick woman, in fear, or pain, or both, shrank back, compelling the physician to let go of the instrument or greatly imperil the lives of both mother and child. He made a second effort with like result, and perhaps a third, though that was in controversy. He testified that he warned the woman to be quiet, and explained to her the danger, both to herself and unborn infant, occasioned by her conduct, and finally told her that, if she "did not quit, he would quit." Upon the part of the woman the evidence was that she was suffering excruciating pain, which was increased by the insertion of the instruments; that she screamed, whereupon the doctor said: "You quit your screaming. If you don't quit, I'll quit." Upon the failure of a second or third effort to employ instruments, he abruptly left the house, without a word of explanation or suggestion to any one. This was about midnight. The husband followed him to the street, imploring him to return, and not to leave his wife in that condition, but he refused. After an interval of an hour or more, during which time the patient was left with knowledge

that the physician had abandoned her, and without any medical attendance, the presence of another physician was secured. He found her not so far advanced in parturition as to require the use of instruments until some six or eight hours afterwards, when, by their aid, he delivered her of an infant, which lived about eight minutes. It did not appear that the first physician's treatment of the case up to the time of his abandonment of it was either negligent or unskilful, while it was demonstrated that if either the mother or the child suffered from undue physical injuries inflicted by his treatment that the actuating cause was the conduct of the patient in moving and shrinking while the instruments were actually inserted. The jury returned a verdict for \$2000 damages, and the supreme court says that it can perceive nothing excessive in that, and nothing to indicate that the jury must have been influenced by passion or prejudice. It says that the law has no scales by which to measure with exactness such mental suffering as the woman endured after the doctor's departure and the reflex effect of such mental suffering upon the physical condition. The jury, for the injuries suffered, was instructed that in fixing compensatory damages it was to take into consideration the physical injury and suffering and the mental suffering and humiliation, if any, caused by the physician's negligent act or breach of contract. It is the undoubted law, the court says, that a physician may elect whether or not he will give his services to a case, but, having accepted his employment, and entered upon the discharge of his duties, he is bound to devote to the patient his best skill and attention, and to abandon the case only under one of two conditions: First, where the contract is terminated by the employer, which termination may be made immediate; second, where it is terminated by the physician, which can only be done after due notice, and an ample opportunity afforded to secure the presence of other medical attendance. Much expert testimony was given by physicians in this case to the effect that the relation of confidence between physician and patient is all-important, and that a physician is justified in abandoning a case where that relationship does not exist. This, the court says, is quite true, but the circumstances of abandonment are equally important. He can never be justified in abandoning it as did this defendant. Such conduct evidence a wanton disregard, not only of professional ethics, but of the terms of his actual contract. It was a violation of that contract, and for all damages that resulted he was justly responsible.

Current Medical Literature

Titles marked with an asterisk (*) are noted below.

New York Medical Journal, March 30.

- 1 *Congenital Dislocation of the Shoulder with Report of Two Cases of Dislocation Posteriorly. (Concluded.) Daniel W. Marston.
- 2 Pathology of Intrauterine Death. (Continued.) Nell MacPhatter.
- 3 *Comparative Pathology of the Jews. (To be Concluded.) Maurice Fishberg.
- 4 Causes and Significance of the Obstetric Hemorrhages. J. Clifton Edgar.
- 5 *Tropical Dysenteries. Stephen M. Long.
- 6 A Dressing for Colle's Fracture. Charles L. DeMeritt.
- 7 A Requisite to Increase the Usefulness of Ambulances. Fred-eric Griffith.

Boston Medical and Surgical Journal, March 28.

- 8 *The Embryologic Basis of Pathology. Charles Sedgwick Minot.
- 9 *New Method for Treating Fractures. Leonard F. Hatch.
- 10 Mumps in Pneumonia; Boroglyceride. Charles W. Dulles.
- 11 Brief Summary of Nine Cases of Lobar Pneumonia Treated by Ice Pack. George L. Collins.

Philadelphia Medical Journal, March 30.

- 12 *Atmokaussis: Its Value in the Treatment of Severe and Uncontrollable Uterine Bleedings (Uterine Arteriosclerosis). Samuel W. Bandler.
- 13 *Coexistence of Carcinoma and Fibroma in the Corpus Uteri. W. A. Newman Dorland.
- 14 *Shock in Abdominal Operations. Fenton B. Turck.
- 15 *Practical Modification of the Phenylhydrazin Test for Glycosuria. Robert N. Willson.
- 16 *How to Prevent Stammering. G. Hudson Makuen.

- 17 Bell's Palsy Associated with Complete Anesthesia in the Territory of the Fifth Nerve. James Hendric Lloyd.

Medical Record (N. Y.), March 30.

- 18 *Some Fallacies of Therapeutics. George L. Peabody.
- 19 *Ionization in Its Physiological and Pathological Relations. Martin H. Fischer.
- 20 Creosote in Pneumonia: A Résumé. I. L. Van Zant.
- 21 Orchid Culture in Its Relation to a New Improved, and Completely Effective Method of Disinfection. J. M. W. Kitchen.

St. Louis Medical Review, March 23.

- 22 *Veratrum Viride; its Undeserved Neglect. E. W. Saunders.
- March 30.

- 23 Report of Fatal Heart Complication of a Case of Acute Articular Rheumatism in a Child. Hudson Talbott.
- 24 Emergency Hospital at the Pan-American. Herbert Shaerer.

Medical News (N. Y.), March 30.

- 25 Report of the Committee of the Medical Board of Bellevue Hospital, Appointed January 2, 1901, to Investigate and Report upon Questions Relating to the General Administration of the Hospital.
- 26 *Vaccination, Clinically Considered. Frank S. Fielder.
- 27 The Method of Preparation of Vaccin Virus in the Vaccin Laboratory of the New York City Health Department. J. H. Huddleston.

Cincinnati Lancet-Clinic, March 30.

- 28 Valedictory Address at Fort Wayne College of Medicine. H. V. Sweringen.
- 29 Valedictory Address at Academy of Medicine of Cincinnati. Chas. L. Bonifield.
- 30 Appendicitis. John A. Grafft.
- 31 Oxygen Gas in Opium Poisoning. W. P. Orr.

Pediatrics (N. Y.), March 15.

- 32 *Diphtheria and its Treatment. Charles C. Gidney.
- 33 *Mixed Feeding of Infants. John Zahorsky.
- 34 Bullet in the Foot Located by the X-Ray Operation—Subluxation of the Knee. James M. Holloway.
- 35 *Treatment of Burns in Infancy and Childhood. Charles Warrenne Allen.

American Practitioner and News (Louisville, Ky.), March 1.

- 36 Tumors of Testicle. John R. Wathen.
- 37 Fracture of the Neck of the Femur. Irvin Abell.
- 38 Correction of Deviations of the Cartilaginous Nasal Septum. Thomas C. Evans.

Northwestern Lancet (Minneapolis, Minn.), March 15.

- 39 *A New Treatment for Tuberculosis. O. A. Fliesburg.
- 40 *The Influence of Sex and of Certain Physiologic and Pathologic Changes of the Sexual Organs upon the Eye. Howard McI. Morton.
- 41 *Two Cases of Poisoning by Potassium Iodid. Arthur T. Mann.

Medical and Surgical Monitor (Indianapolis), March 15.

- 42 Premature Burial. Noah E. Aronstam and Louis J. Rosenberg.
- 43 Climate of Florida, and the Diseases that may be Benefited by It. William B. Fletcher.

Kansas City Medical Record, March.

- 44 Follicular Tonsillitis. Geo. A. Hewitt.
- 45 Sleeplessness in Heart Disease and its Treatment. C. C. Gibbes.

Albany Medical Annals, April.

- 46 *Ectopic Pregnancy: Primary Rupture the Opportune Time for Making Diagnosis. George McNaughton.
- 47 *Lack of Uniformity in Prescribing Myopic Glasses. S. Busby Allen.
- 48 *The Early Recognition of Malignant Growths. Edgar A. Vander Veer.

Occidental Medical Times (San Francisco), March.

- 49 Simple Garbage Incinerator and Crematory—On Improved Form of Apparatus for Regenerating Formaldehyde Gas. J. J. Kinyoun.
- 50 What Should Be Done with Chinatown? Douglas W. Montgomery.
- 51 *Bacteriologic Diagnosis of Diphtheria. W. H. Kellogg.
- 52 *Sequelæ of Diphtheria. Wm. Fitch Cheney.
- 53 *Specific Treatment of Diphtheria. George H. Evans.
- 54 Caseous Degeneration of the Mediastinal Glands; Operation. Recovery. W. S. Thorne.

Merck's Archives (N. Y.), March.

- 55 Treatment of Headache. L. Harrison Mettler.
- 56 Use of Ice Per Rectum in Narcotic Poisoning. Willis Cummings.
- 57 Sulphur and its Derivatives. J. H. Jackson.

Indiana Medical Journal (Indianapolis), March.

- 58 Influenza, with Special Reference to Ethmoidal Cells and Middle-Ear Complications. John J. Kyle.
- 59 Post-operative Ventral Hernia. Robert T. Morris.
- 60 Antitoxin in Diphtheria. Edwin Rosenthal.
- 61 *Mechanical Effects of Nasal Obstruction. Frank A. Morrison.

Interstate Medical Journal (St. Louis, Mo.) March.

- 62 Case of Cholelithotomy for the Removal of Impacted Stones. Howard Lilleuthal.
 63 Anchylostomiasis. J. H. Dyer.
 64 Doctrines of Medicine. T. C. Mluor.
 65 *New Methods for the Application of Old Principles in Treatment of Fractures and Deformities of Limbs. James G. Hughes.

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- 66 Pregnancy in Accessory Horn in Uterus Duplex. Erwin Kehrler.
 67 Obstetrical Nursing. Louis F. Bishop.
 68 Ectopic Gestation—Report of Cases. J. E. Gilcreest.
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 69 Ueber die Beziehungen des Hausarztes zu seinen geisteskranken Patienten. George W. Jacoby.
 70 Ueber Sklerema neonatorum. C. Schmitz.
 71 Tuberculose der Tonsillen. Behandlung der Lungen-tuberculose mit electrischem Licht und Sauerstoff. W. Freudenthal.
 72 Ein Aufruf zur Grundung einer Deutschen Lungen-Heilstätte für Gross New York als Zweig der New Yorker und Brooklyner Deutschen Hospitaler. S. A. Knopf.

Archives of Otolary (N. Y.), February.

- 73 On the Hearing of Cerebral Abscesses. Prof. Passow.
 74 *Non-operative Cases of Acute Inflammation of the Mastoid Cells. Gorham Bacon.
 75 Otitis Abscess of the Temporal Lobe. Herman Preysing.
 76 Three Cases Operated upon for Otitic Abscess of the Temporal Lobe, with Fatal Result. F. Ropke.
 77 Report of the Progress in Otolary for the Second Quarter of 1900. A. Hartmaun.

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- 78 Fractures of the Pelvis with Injuries to its Contents. Joseph F. Hobson.
 79 Amyloid Kidney. Alfred S. Maschke.
 80 Spontaneous Rupture of the Uterus at Three Months. N. Stone Scott.
 81 Notes of a Case of Heart Disease. W. J. Scott.
 82 Local Use of Normal Saline Solution. Frederick C. Taylor.
 83 Glioma of Retina. Wm. E. Shackleton.

University of Pennsylvania Medical Bulletin (Philadelphia), March.

- 84 A Series of Twelve Articles on Medical Men Prominent in the Civil and Military Affairs of Revolutionary Times. Francis R. Packard.
 85 *The Treatment of Trifacial Neuralgia, with Report of a Case of Evulsion of the Second and Third Divisions of the Gas-serian Ganglion. J. William White.
 86 *Value of the Tuberculin Test in the Recognition of Latency or Quiescence in Tuberculosis of the Bones and Joints. A Preliminary Report. Charles H. Frazier and Montgomery H. Bliggs.
 87 Digest of Recent Literature upon Perforation of the Intestine in Typhoid Fever. John H. Jopson.

Iowa Medical Journal (Des Moines), March 15.

- 88 Hygiene from a Medical Standpoint. J. C. Shrader.
 89 The Symptomatology and Prophylaxis of Smallpox. N. C. Schlitz.
 90 Some Observations on Smallpox. V. L. Tryuor.

St. Louis Courier of Medicine, March.

- 91 Results Following the Cure of Chronic Defects of the Vesical Function. Eugene Fuller.
 92 Some Recent Researches in Rheumatic Fever, with Remarks on Internal Antisepsis. L. T. Rlesmeyer.
 93 Cilia in the Anterior Chamber. A. E. Ewing.
 94 Selection and Administration of Anesthetics. Alfred Roulet.
 95 Report of a Case of Articular Rheumatism with Fatal Heart Complications in a Child. Hudson Talbott.
 96 Points of Interest Gathered from Eastern Hospitals. Frank G. Nifong.

Archives of Pediatrics (N. Y.), March.

- 97 *Hemorrhage into the Suprarenal Capsule in Still-Born Children and Infants; Report of a Case Showing Rupture of the Sac and Escape of Blood into the Perineal Tissues and the Peritoneal Cavity. (Concluded). S. McC. Hamill.
 98 *The Diagnosis and Treatment of Adenoids by the General Practitioner. Francis Huber.
 99 *Some Observations upon the Temperatures of Apparently Healthy Children; An Experimental Study. W. M. Donald.
 100 Case of Apparent Recovery from a Congenital Abnormality of the Heart. John Thomson.
 101 Tumor of the Cerebellum in a Boy of Seven Years. S. Rush Ketcham and Luther C. Peter.
 102 Report of a Case of Diabetes in an Infant. William E. Young.

American Journal of Surgery and Gynecology (St. Louis, Mo.), March.

- 103 *Surgical and Pathologic Observations on Epityphilitic Abscess. Augustus C. Bernays.
 104 Significance of Hematuria. J. Block.
 105 Operative Treatment of Large Pharyngeal Tumors. J. F. Blinnle.

- 106 *A Case of Intermittent Hydrops of the Knee. Geo. W. Cale, Jr.
 107 Neuroepithelioma (Glioma) of the Retina; and Its Surgical Treatment. James Moores Ball.
 108 *Consideration of the Different Operative Procedures in the Treatment of Retrodisplacements of the Uterus. O. Beverly Campbell.
 109 Removal of a Pregnant Uterus for Infected Placenta Previa Centralls. Emory Lanphear.

Therapeutic Gazette (Detroit, Mich.) March 15.

- 110 *Nitrate of Silver and Other Salts of Silver in the Treatment of Inflammation of the Mucous Membrane of the Upper Respiratory Tract. E. B. Gleason.
 111 *Post-operative Pneumonia Complicated by Empyema, with Remarks on the Proper Treatment of this Condition. Philip Marvel.
 112 *Chloretone in Dusting Powders. E. Hillingsworth Siter.
 113 As to that Important Function of the Blood in Health, Its Alkaline Reaction and the Reduction of Its Alkalinity in Certain Pathologic Conditions. R. Wernlgk.
 114 *Notes on a Case of Pemphigus, Particularly in Connection with the Local Treatment. Arthur Van Harlingen.
 115 Gastric Ulcer: Its Etiology, Symptomatology, and Diagnosis, with Special Reference to Treatment. D. D. Stewart.

Pacific Medical Journal (San Francisco), March.

- 116 Epilepsy. J. R. Curnow.
 117 Necessity for More Thorough Training in Nervous and Mental Diseases in Medical Schools. E. W. King.
 118 Diseases of Digestive Organs. A. W. Perry.
 119 Relation of Drinking Water to Disease. Winslow Anderson.
 120 Culture of American Giuseng. Harlan P. Kelsey.
 121 Opium Poisoning Treated with Permanganate of Potassium, Eustorjio Calderon.

New England Medical Monthly (Danbury, Conn.), March.

- 122 Differentiation of the Impersonal and Personal in Medical Thought and Art. W. B. Konkle.
 123 Amenorrhea and Emmenagogues. J. Alexander Wade.
 124 Treatment of Bronchitis. I. N. Love.
 125 Prophylactic and Curative Action of Urotropin. Dr. Zaudy.
 126 *Treatment of Reflex Neuroses from Disturbed Pelvic Mechanism. Byron Robinson.
 127 Uric Acid Diathesis—Its Treatment. O. L. Suggett.
 128 Laryngo-trachitis Membranosa. Warwick M. Cowgill.
 129 Suggestions, Theoretical, and Clinical, Concerning the Use of Oil as a Reconstructive in the Treatment of Bottle-fed Infants During Convalescence from Wasting Diseases. E. C. Collins.

- 130 Pulmonary Surgery. J. Murray Johnson.
 131 Representative Cases Illustrating the Clinical Value of Cod-Liver Oil in Tubercular Inflammations. H. Y. Ostrander.

Dominion Medical Monthly (Toronto), March.

- 132 Medical Folk Lore in India. R. D. Rudolf.
 133 *The Vicarious Absorption of Oxygen in Pulmonary Obstruction. Perry E. Doolittle.
 134 Carbolic Acid Poisoning: A Medicolegal Case. George Elliott.
 135 A Case of Pyonephrosis. Walter McKeown.

Alabama Medical Journal (Birmingham), March.

- 136 Cesarean Section as an Operation of Election. With the Report on a Case. Lewis C. Morris.
 137 Intubation and Antitoxin. S. L. Ledbetter.
 138 Amputation Above the Knee Under Analgesia from Spinal Subarachnoid Cocainization. Reported by C. A. Fox.

Georgia Journal of Medicine and Surgery (Savannah), March.

- 139 Plea for Early Operation in Ovaritis Followed by Epileptiform Attacks. W. Hutson Ford.
 140 Heroin Hydrochlorid as a Remedy in Coughs. W. E. Fitch.
 141 Movable Kidney. R. L. Payne.

Texas Medical Journal (Austin), March.

- 142 Roberts-Hawley Goat Lymph Compound. Willis P. King.
 143 Catarrhal Fever. J. M. Colley.
 144 Chloretone as a Sedative in Gastric and Cystic Irritability. C. F. Darnell.

Vermont Medical Monthly (Burlington), January.

- 145 *Lobar Pneumonia. W. L. Heath.

AMERICAN.

1. Congenital Shoulder Dislocation.—This article is in substance similar to the article abstracted in THE JOURNAL of April 6, 1901, p. 996.

3. Comparative Pathology of Jews.—Fishberg gives statistics showing the alleged freedom of the Jews from certain diseases such as syphilis, tuberculosis, etc., and their greater longevity over other classes. He also notices their special liabilities to diabetes and nervous and mental diseases.

5. Tropical Dysenteries.—The different forms of dysentery as they appear in the Philippine Islands are described by Long, who recognizes five types: The first, the fulminating catarrh.

rhial dysentery, is the most fatal of them all. The patients usually die in from four to seven or eleven days. The cause is usually ascribed to Shiga's bacillus. The attack occurs suddenly with high temperature, rapid pulse, flushed face, coated tongue, great prostration, immense number of bowel movements, becoming bloody and slimy, abdominal tenderness, vomiting, etc. The mesenteric glands are enlarged, the disease is confined chiefly to the large intestines so that the whole or practically the whole colonic tract seems to be one homogeneous necrotic mass. Treatment has been altogether unavailing. The second type is simply acute dysentery, starting as a diarrhea and often associated with malaria. There is no rise of temperature to speak of, slight abdominal tenderness and some tenesmus. The cases are easy to cure in the beginning, but are liable to become chronic. The third type, generally called the amebic, can be divided into four different classes: The amebic, the trichomonadic, the cercomonadic, and the mixed type. The amebic dysentery is one of the most prevalent, occurs suddenly, without warning, and is hard to cure. The fulminating type excepted, it is the worst of all dysenteries, becoming a mixed type in its chronic stage. It has a tendency to become chronic and is specially prone to cause liver abscesses. It kills either by perforating ulcer or excessive toxemia, by metastatic abscesses, especially in the lungs, and by paralysis of the intestine, or inanition. The trichomonas type is obstinate to treatment and often becomes chronic. The cercomonas type is deadly when associated with streptococcus, and the mixed is fatal on account of its complications. The fourth type of dysentery is the chronic dysentery so-called, though usually a sequel of the acute and amebic forms. The fifth type is gangrenous and diphtheritic, usually fatal from perforation and general peritonitis or toxemia. In these cases the patient passes large shreds of membrane. There is often persistent vomiting and agonizing pain and tenderness. The sequelae of dysentery met with in the Philippines are numerous. The chronic form is followed by gastric disorders, acute constipation, intestinal paralysis, anemia, typhoid, neuritis, liver and kidney disease, abscess, etc. Most liver abscess patients die. The best prophylaxis is to avoid eating or drinking anything which has not been thoroughly disinfected by boiling or cooking. Alcohol is, in Long's opinion, bad for the condition, excepting with caution in the chronic stages of the disease. One thing should be remembered in the tropics, that a purgative is advisable every two weeks if the bowels are sluggish. Exposure to the sun in the hotter part of the day and exposure to the night air should be avoided. Four drugs are mentioned as specially valuable; 80 per cent. of the patients will be cured if these are properly used. One ounce of sulphate of magnesium in one-half a glass of warm water before breakfast, repeating it later in the day if necessary, will cure many cases, or small repeated doses of calomel may fulfill the same purpose. Ipecac will often succeed if given in doses of not less than 40 gr., the patient being put to bed, treated with opium, ice-bags and mustard plasters to the stomach. From 60 to 70 per cent. will be cured by one administration; 10 to 20 per cent. by the second dose, and 20 per cent. will require some other kind of treatment. Another drug is bismuth subnitrate, which he gives in 40 gr. doses, with 5 gr. of Dover's powder every four hours as the case may indicate. He also gives ipecac in 1 to 1.5 gr. doses every hour for two or three days, often with good results, though he prefers his first mentioned method. Drugs given by enemas. Of these he prefers the silver nitrate, 20 gr. to the pint, or quinin for amebic cases. The bowels should be cleansed with a soapsuds enema before administering the medicated injection, and a soft rubber rectal tube with a fountain syringe should be used. Tincture of chlorid of iron, 1 gr. to the pint in hot water may give as good results as nitrate of silver. Normal salt solution, laudanum, and starch water (emata) are also of value. In feeding, some highly nutritious food in small amounts is advisable. Milk should never be given as such, but always diluted with rice or barley water or lime water. Kumyss or allied preparations may be tried, also fresh beef juice, a saline enema now and then and turpentine stupes and massaging of the abdominal region should not be neglected.

8.—This article was noticed editorially in THE JOURNAL of April 6, p. 968.

9. **Fractures.**—The new method of treating fractures is based on the principle, as Hatch puts it, of converting all compound fractures into simple ones, to operate on the single fractures making them compound, and then apply the first principle, making them simple. The technique is the same for both forms, except that in simple fractures there is a point of selection for the incision, while in compound fractures the wound is simply enlarged. Antisepsis must be most complete, thorough scrubbing with soap and water, bichlorid solution, permanganate, and oxalic acid solution, covering all the other parts of the patient with sterile sheets and towels. The extremity should be held in a vertical position for a few minutes, then a rubber constrictor applied, and a sterile posterior and anterior splint of any suitable material fitted. The points of selection for incision are for the tibia along the crest, for the femur along the outer side of the thigh, for the radius behind the supinator longus, for the ulna along the ulnar side of the arm where the bone is most superficial, for the humerus along the outer side of the arm. A good, free incision should be made, as it is important to have plenty of room, and the size of the incision does not complicate the case. All clots and debris should be washed out, removing all shreds of soft tissue and loose pieces of bone. If any sharp points of bone prevent perfect coaptation, remove them. Remove the rubber band, tie all bleeding points, and be sure that the wound is dry. If in case of a compound fracture the periosteum is stripped up, carefully replace it. Secure perfect coaptation. Apply one of the splints before closing the wound, to make sure of holding the fragments in place. Close the wound with catgut sutures without drainage, and lay a thin pad of iodoform gauze over the wound; apply the second splint and bandage quite firmly, as there will not be any swelling like that which occurs after a fracture treated in the usual manner. Remove dressings on the seventh or eighth day and apply a plaster cast or ambulatory splint, according to the requirements of the case. It is safe to discontinue splints at least one week earlier than in fractures treated by former methods. Hatch also reports cases. The author's deductions are that we should not be deterred from operating on fractures by the fear of sepsis, and that operation would be warranted if it did nothing more than relieve the pain and swelling, which it certainly does. It also shortens the repair process at least one week, and reduces the chances of deformity and non-union to a minimum.

12. **Atmokausis.**—The use of steam at a temperature of 100 C. to the interior of the uterus, a method used abroad by Pincus, Dührssen, Snegirjoff and others, has been employed by Bandler who gives the *rationale* of its action; he explains it, analyzes the experiences of various writers, and describes the technique of the method. Dilatation of the cervix is an essential preliminary. Narcosis is not necessary, no pain being felt except when the cervix is involved. As a rule the cervix must not be treated, as it may cause atresia before the complete obliteration of the cavity of the womb and in any case too early cervical atresia should be avoided. On the introduction of two Simons' specula after disinfection of the parts, the posterior lip of the cervix is grasped with the vulsellum forceps, previously boiled. The uterine tube should be marked so that it may be determined how far it is introduced. It is carried up above the internal os as high as necessary. The metal tube which carries the steam then follows, the bulb at its lower end closing the opening at the external end of the uterine tube. During the process of treatment this inner metal catheter is moved occasionally to permit the outflow of liquefied steam and coagulated blood and to prevent too high pressure. The uterus soon contracts under the steam and the tube is slowly and gradually drawn out until, when it reaches the internal os, the entire inner surface of the uterus has been affected. If the cervix is also to be treated the steam is continued while it is withdrawn to the external os. After the treatment rest in bed for ten or fourteen days is necessary. The duration of the steam as a rule is about 15 to 20 seconds in younger women, where no obliteration is desired, and four to eight minutes if total obliteration is intended. The temperature is 100 C. in

the boiler, which probably amounts to about 70 C. in the uterine cavity. There is generally a serous discharge for several days or weeks and no repetition should be done within four weeks, or until after regeneration of the mucous membrane. The contraindications are malignant disease of the endometrium or the presence of retained membranes, and the affections of the tubes and inflammatory conditions which are contraindication to curettage. Bandler thinks that the method is the best we have for the treatment of uterine arterio-sclerosis.

13. Coexistence of Uterine Carcinoma and Fibroma.—From a study of the clinical and histological manifestations of reported cases, Dorland concludes that it is possible for fibroma and carcinoma of the uterus to coexist, and this coexistence may show itself in one of three ways, as follows, in the order of the frequency: 1. Fibromyoma of the corpus uteri with carcinoma of the cervix, the increased vascularity of the uterus and the irritant leucorrhœal discharges attendant upon the benign tumor favoring in those women so predisposed the development of cervical malignancy. 2. Fibromyoma of the corpus uteri with associated adenocarcinoma of the endometrium, the malignant disease not invading the benign tumor, but originating either in the tubular utricular glands or in the included glandular vestiges which may be present. 3. True cancerous degeneration of an adenomyoma, the malignant change originating in glandular vestiges, included in the uterine growth, or the carcinomatous disease invading the benign growth by extension from an endometrial adenocarcinoma through contiguity of tissue. The article concludes with a series of cases from the literature.

14. Shock in Abdominal Operations.—Turek points out that while many facts in regard to shock are mysterious, there are two important factors not yet sufficiently recognized: One is the decreased resistance to infection when shock is present and the second is the increased resistance against infection produced by the internal application of heat in preventing or reducing shock. He gives the details of his experiments to demonstrate the effects of heat in preventing or reducing shock and to determine the changes in the blood during shock. He injected the serum of an animal in this condition into healthy animals, and reproduced the condition in them. He found that animals thus treated were more susceptible to infection, though more experimental work is required to establish this point. In another series of experiments he found that when an animal is stimulated by heat for one hour or more, the heat applied within the splanchnic area by the methods previously described, immunity or resistance against infection was produced. When the serum of such an animal was injected into another there was increased resistance produced or partial immunity to infection.

15. Phenylhydrazin Test.—Williamson modified the phenylhydrazin method by heating equal parts of sodium acetate and phenylhydrazin hydrochlorid, one-half inch of each in the ordinary test-tube, with the urine over a spirit-lamp for two minutes after the solution had reached the boiling point. He then leaves the test-tube for one-half hour to twelve hours to form the deposit. Willson modified Williamson's method by, instead of allowing the solution to cool gradually or stand for hours, putting a drop directly on the slide and examining it under low power (AA Zeiss) of the microscope. In from one-half to two or three minutes, depending upon the temperature of the room, and the quantity of sugar present, if the reagents have been thoroughly mixed and dissolved in the urine before boiling, typical crystals of phenylglucosazone can be seen forming beneath the eye of the observer. The color is a brilliant yellow, contrasting strongly with the brown globules and dark yellow granules that appear in the precipitate. A still further modification is mentioned; he favors the somewhat more slow method of using a small beaker as an improvised water-bath, but this method only lengthens the examination to about ten or twelve minutes. He believes that in this way we can have satisfactory methods available to everybody who possesses a microscope and test-tube, and this modified phenylhydrazin test combines the most valuable qualities and gives the greatest accuracy of any of the tests employed.

16. Stammering.—Makuen points out that stammering is due to faulty mental action, the lack of proper combination of ideas and oral expression. The first indication in the treatment, therefore, is to direct the mental processes into normal channels. We must untangle the somewhat twisted thoughts and the patient should be unconsciously diverted from the all-absorbing subject at hand until he has regained his mental equilibrium, and then led gradually back to the main subject and given a clear conception of exactly what it is he desires to say and shown how to say it in a deliberate and clear manner. It is quite possible to do this, and treatment in the beginning of the trouble will be the most certain cure of stammering. It is after the habit has become fully established that the trouble is serious, children should never be allowed to begin to learn to stammer.

18. Some Therapeutic Fallacies.—The therapeutic fallacies specially noticed by Peabody are the belief in bitters being conducive to appetite, which, he thinks, act from the alcohol, as a rule, and are liable to do evil in this way. The notion of the therapeutic use of the disinfecting power of boric acid and the astringent use of tannic acid, and certain erroneous theories as to the employment of ergot and lithium are also noted. The notion that arsenic acts as a preservative of the body, when given in toxic doses is an important medicolegal fallacy, since decomposition is specially liable to occur in such cases. The belief in a special action of mercury on the liver still may exist. The overuse of the iodids, especially in arthritis deformans, in gout, lead poisoning, etc., the Bergeon treatment of consumption, and gaseous and aerial disinfection, oxygen inhalation, etc., are also mentioned.

19. Ionization.—Fischer's article covers the field of the theory of electrolytic dissociation, and the relation of ions to life phenomena. As regards the latter, he reviews the literature with references largely to the work of Loeb. The theory of ionization, he claims, offers a new field for investigation in the realm of medicine and it will probably produce greater results in the solution of important problems. He has attempted to show the evidences that, in the dealing with the action of dilute solutions of inorganic substance we have to do with the action of their constituent ions. This fact, he thinks, should be borne in mind when we consider the physiologic, pathologic and pharmacologic problems which involve the presence of inorganic substances.

22.—See abstract in THE JOURNAL of March 23, p. 830.

26. Vaccination.—Fielder thoroughly reviews the subject of vaccination, its methods, symptoms, complications, effects, technic, etc. The points emphasized are, in substance, as follows: 1. Complete natural immunity to vaccination is practically unknown. 2. In primary cases, delayed vesiculation, raspberry excrecence, and abortive course means poor virus. 3. There is no need of transmitting syphilis or tuberculosis. Other infections, such as erysipelas, septicemia, etc., are becoming rarer as methods improve. 4. During the second week of vaccination, a large painful areola may be considered normal, if bright red, and if the vesicle be of typical appearance. If the vesicle is irregular, filled with greenish pus, and the areola be a dark livid, purplish hue, there is a mixed infection. 5. Generalized vaccinia, aside from auto-inoculation, is rare; it can be decided by inoculation into another subject, if it appears. 6. The destruction of the vaccinia vesicle does not interfere with the immunity. 7. Immunity is acquired by the time the areola is at its height, that is, eight or ten days after vaccination. 8. Vaccination in a pregnant woman does not protect the child. 9. The fetus *in utero* may have smallpox if the mother has it. A child born while the mother has smallpox is not protected, but has been exposed and will probably develop the disease. 10. The duration of the immunity is very variable, and in the presence of an epidemic is not sufficient. A successful vaccination within five years will probably prevent the contracting of the disease, but will not be a certainty. 11. The duration of immunity to revaccination, which is conferred by vaccination, is extremely variable, and is probably short—two years or under—in a large proportion who have been exposed. 12. The protective power of vaccination is in

direct proportion to its excellence. The completeness is shown in the resulting scars. The quality of the scar is more important than the number. 13. While the quality of the scar is a fair indication of its protective power, it is an untrustworthy guide in deciding whether the individual is susceptible to revaccination. 14. Persons immune to smallpox can often be successfully revaccinated. 15. Vaccination protects against smallpox as fully as an attack of the disease protects against a subsequent attack. 16. Persons who have been successfully revaccinated are much less likely to contract or die of smallpox than persons who have been vaccinated only once. The more successful vaccinations one has had the more sure is the immunity. 17. Revaccination should therefore be considered as important as the primary vaccination, and as systematically practiced. 18. Primary vaccination should be performed in infancy; revaccination at the school age. In the presence of an epidemic, however, revaccination should be performed even when primary vaccination has been comparatively recent. 19. The eruption in revaccination is more likely to follow the type of vaccinoid than that of typical vaccinia. 20. Vaccinoid protects if the vaccin used is of high-grade efficiency; if poor, only partial immunity is conferred. 21. All vaccin virus should be subjected to rigid physiologic tests when using. It should be retested monthly as long as it is on sale. The virus from each animal should be kept by itself and numbered, and be known by that number when issued. 22. Vaccination should be performed only under aseptic precautions. 23. It is not sufficient merely to smear the virus upon the scarified areas, but it should be thoroughly rubbed, scratched or pricked in. 24. Vaccination shields often do more harm than good. 25. Infected cases of vaccination should be cared for by the physician. 26. Remember that the destruction of the vesicle does not impair the protective power of vaccination, and if signs of mixed infection appear, open the vesicle, cleanse the wound and treat it on general surgical principles.

32. **Diphtheria.**—Gidney maintains that the essential treatment for diphtheria is the use of antitoxin. The routine internal treatment has been abandoned. When the pulse shows signs of failure, digitalis, strychnin and alcohol may be of some use. While the treatment merely consists in administration of the antitoxin early and in sufficient dose, there need be little fear of administering an overdose.

33. **Mixed Feeding of Infants.**—The subject of mixed feeding divides itself into two heads: 1. Artificial feeding as adjuvant to nursing. 2. Human milk as an adjuvant to other foods. Besides the conditions mentioned by text-books, a deficiency of the quality of milk secreted and a diminution of solid milk constituents, Zahorsky enumerates others: The excessive amounts of proteids causing colic and indigestion; the very laxative effect of mother's milk and a condition which has been observed several times, that human milk becomes toxic. He mentions the value of artificial feeding with human milk in the following conditions, marasmus, gastroenteric infection, rickets with tetany, and scurvy. In these conditions a little human milk may have a powerful therapeutic effect.

35. **Burns.**—After first noticing the importance of burns and the extent to which they may occur without becoming fatal, Allen remarks on their treatment, especially in infants. While the pain is not usually very great at first, our first efforts are directed to calming the patient and meeting the vital depression and shock to the nervous system. For this aromatic spirits of ammonia in appropriate doses is generally found as efficacious as anything, and unless the child is too young opium properly administered will be of service. For local application he knows of nothing better than a 1 per cent. solution of picric acid for burns of the first and second degree. After the area has been coated once or twice with the solution, a thin layer of absorbent cotton may be applied dry, and after this a layer of impervious tissue and then as much cotton as is required for warmth, protection, etc. At the subsequent dressings all may be removed excepting the layer next the skin, which may be again wet and the dressing applied as before. The danger of outside infection is less, and pain avoided by not disturbing the inmost dressing. Erythematous areas

may be relieved of pain by local baths containing nitrate of potassium or bicarbonate of soda. In deeper and extensive burns a permanent bath offers the best means of securing comfort and warding off a fatal issue. He mentions the old carbon-oil as one of the best known and most extensively use applications. He has been in the habit sometimes of using it with some antiseptic. One important point he thinks, is to refrain from the removal of dressings; if thin layers of gauze, cotton, or cheese-cloth come next the wound, they need not be taken off but may be soaked with the application, whatever it may be. The chances of infection are lessened and mechanical irritation avoided.

39. **Tuberculosis.**—The new treatment recommended by Fliesburg consists in the hypodermic injection of a prescription of which the following is the formula:

R. Iodi puri cryst.	1.50
Phosphori puri	0.25
Thymolis	
Mentholis, āā	2.50
Guaiaecolis	1.25
Ol. morrhuae sterilizat	50.00

Ft. sol. secundum artem. Sig.: Use only hypodermically. For tuberculosis of the lungs, throat, glands and intestines, one to three syringefuls once a day, preferably in the forenoon; for tuberculosis of joints and tendons, inject into foci deeply, and then apply bandage; repeat in four to eight days as necessary.

He reports cases which he thinks show the value of the method.

40. **Influence of Sexual Organs on the Eye.**—Morton calls attention to the eye changes and the symptoms that may occur in connection with puberty, the menopause, etc.; also those caused by the habit of masturbation, and reports cases illustrating them.

41. **Potassium Iodid.**—Two cases are reported by Mann as illustrating the idiosyncrasy to this drug. In one the administration of 10 gr. of potassium iodid three times a day in less than two weeks caused an extraordinary eruption followed by death. In the other a patient taking 180 gr. regularly every twenty-four hours suffered no inconvenience.

46. **Ectopic Pregnancy.**—McNaughton thinks that the diagnosis can be made as easily as that of most other genital diseases of women. It will not often be required before rupture, though it is possible. In 70 cases he made the diagnosis thus in three. He emphasizes the necessity of regular inspection of the vermiform appendix in cases of laparotomy for this condition. His special points are that ectopic pregnancy is not a rare accident; that impregnation usually takes place in the tube; that rupture takes place in most, perhaps all, cases before the eighth week, when presumptive diagnosis is not difficult.

47.—See abstract in THE JOURNAL of March 9, p. 681.

48. **Malignant Growths.**—Van der Veer reviews the statistics of carcinoma and points out its increase, calling attention to the needs of its early recognition, as it is then that the patient can best stand the shock and hemorrhage, and there is greater probability of the thorough removal of the malignant growth. Unsightly scars are also more likely to be avoided. He especially notes the importance of early recognition of malignant growths in the breasts and female genitals, and insists on the importance of the practitioner learning about any previous injury that has occurred. He favors exploratory incision in clearing up the diagnosis in obscure cases; though laparotomy is always dangerous, still it ought to be done where it will confirm the diagnosis.

51.—See abstract in THE JOURNAL of March 16, p. 759.

52.—Ibid., p. 760.

53.—Ibid., p. 759.

61. **Nasal Obstruction.**—In a series of experiments in the physiological laboratory of the Medical College of Indiana, Morrison arranged some special apparatus for investigating this subject, and in substance gives the following summary of his results: With the mouth slightly closed each ventricular

systole causes a distinct but slight change of pressure in the buccal cavity. Quiet respiration through the nose has but little effect. In wide open mouth breathing not exceeding eighteen to twenty efforts per minute no change in pressure occurs. As the orifice of the mouth is slowly contracted, negative pressure is gradually developed in inspiration and increases with the diminution and size of the orifice until it is closed, when it abruptly falls to the normal. If the mouth be opened widely and respiration is increased to thirty-six per minute, marked negative pressure persists in inspiration. In the nose without obstruction and with the mouth closed a very slight negative pressure is developed in inspiration, and a still slighter positive pressure in expiration. In the ear no appreciable change of pressure was noticed. Slow occlusion of one nostril with closed mouth causes rapid increase of the negative mouth pressure, which becomes very marked when a sense of dyspnea leads to respiratory effort. If one resists the feeling of dyspnea and breathes slowly, such increase does not occur. If the mouth be slightly opened negative pressure still persists, but slightly diminished. Repeating aloud some words very rapidly until out of breath, then taking a sudden deep inspiration with one nostril closed develops greatly exaggerated negative mouth pressure. In the nose, occlusion of one nostril causes high negative pressure during inspiration, which is increased if the other nostril is partly occluded. If both nostrils are completely closed no such fluctuation in pressure takes place. This high negative pressure from occlusion of the nostrils is only very slightly relieved by opening the mouth. When sufficient obstruction is produced to lead to mouth breathing or labored attempts at nose breathing fluctuations of pressure take place in the middle ear. In a state of health very little negative pressure or "suction force" is developed in either mouth or nose. No changes occur in the ears. With rapid breathing negative pressure slightly increases in both nose and mouth, but not to an injurious degree. With marked nasal obstruction the negative pressure is found in both nose and mouth, and slightly in the ear, and is increased by any effort leading to exaggerated respiration, such as speaking, singing, muscle exertion, etc. This condition is not relieved entirely by mouth breathing. Early relief from nasal obstruction is demanded. Before the patient becomes a "mouth breather" every inspiration has been acting as a cupping glass upon the nasal and nasopharyngeal membrane and the cupping action is not relieved when the lips are parted to the extent that they are in ordinary mouth breathing.

65.—This article appeared in *THE JOURNAL* of February 16, p. 424.

73. **Cerebral Abscess.**—The case reported by Passow was that of a suicide on whom operation had been made for cerebral abscess seventy days before. At the autopsy it was found that the cavity had filled up and nothing could be seen of the abscess but a barely visible linear scar. The condition of the dural cicatrix was similar to those described by Macewen. The cicatrix itself was about one-third the size of the original abscess, and extended into the cerebrum for not quite 1 cm., but the surrounding brain substance also showed pathologic changes in the nerve cells, and the glia tissue was ill-defined and vascular, with numerous round cells. The nerve cells were irregular in shape, of different sizes, devoid of process and partly of nuclei. There was no sharply drawn line between the normal and abnormal tissues.

74. **Mastoiditis.**—In 40 cases of acute purulent otitis media coming in regular order in the practice of Bacon, operation was required in 10, 2 of these with subsequent operation for sinus thrombosis, one of which terminated fatally. That is to say, in 30 cases the mastoid cells were not opened. Brief descriptions are given of a number of these cases. Treatment was by the use of the artificial leech and Leiter coil, together with free incision in the drumhead and frequent douching of the ear with boric acid or bichlorid solution. He does not say he is opposed to mastoid operation, but since he has used this method of treatment, he has had fewer operations than formerly. It requires considerable experience in aural disease and ability to recognize very early the more serious symptoms which call

for operation, but the aural surgeon should do all in his power to cure his patient without opening the cells.

85. **Trifacial Neuralgia.**—White summarizes his views of the general subject as follows: The essential cause of trifacial neuralgia in any case is usually unknown. It may be a central, peripheral or general constitutional condition. There is a corresponding uncertainty in the treatment. The period of medical treatment should be distinctly limited in severe cases when the attacks succeed each other at short intervals. If unsuccessful, it should not extend beyond six months or a year. It will vary according to the circumstances. Operations on the peripheral nerves should still be done and are likely to be of use when the disease is distinctly limited to either the second or third division of nerves, or when we are confident that it is due to peripheral neuritis. The peripheral operation might even effect a cure of the central form by producing atrophy of the centers, and if very thoroughly done the results are often excellent. In the exceptionally severe cases affecting all the divisions of the nerves and with no immediate relief from medical treatment, the intracranial operation may be considered as the primary operative procedure. As a rule it should be resorted to only after failure of medical treatment and of peripheral operations. The Hartley-Krause operation is the preferred one. The operator may limit his interference to evulsion of the second or third division between the ganglion and foramina, as this has been followed by cure in a number of cases. By thus doing he lessens the risk to the abducens and cavernous sinus, and by leaving the first division untouched diminishes the danger of trophic change in the eye. Any primary and exclusive disease of the first division has never been known. It is quite possible, however, that further observation will show that it is better to remove the entire ganglion with its motor and sensory roots. The author reports a case which inspired him to give the above views.

86. **Tuberculin Test.**—Frazier and Biggs favor the use of the tuberculin test and maintain that when properly employed it is harmless. There are certain cases, however, in which it is apparently somewhat unreliable. Clinical evidences from thousands of cases speak for the reliability of the tuberculin test, though occasional positive reaction will follow injections of tuberculin where tuberculosis can not be or can not be proven to be present. In syphilis, for example, reaction may occur. It is possible that remnants of the disease may still exist, giving rise to reactions where it had not been detected or suspected. Tubercular foci may also be present. The existence of such tubercular foci in the lymphatic system might make the tuberculin test apparently unreliable for the demonstration of the presence or absence of tubercular lesions in other parts.

97. **Hemorrhage into Suprarenal Capsule.**—This concluding installment of Hamill's article is entirely given up to the description of cases, collected from the literature, of the lesion of hemorrhage into the suprarenal capsule in the still-born and in infants.

98. **Adenoids.**—Huber describes the symptoms and consequences of adenoid growths and calls attention to certain points in the diagnosis. He mentions two which jointly offer a ready and easy method. These consist in: 1. The presence of two small hypertrophied lymph nodes, painless and freely movable, at the angle of the lower jaw, one on either side. These are apt to become swollen in catarrhal inflammation of the nose, but return to their normal size unless a mixed infection has taken place. 2. The presence, on oral inspection and examination, of numerous small lymphoid hypertrophies of the mucous membrane of the posterior pharynx with larger masses occasionally present at the level of the soft palate. The appearance is characteristic; the isolated prominences are pearly and translucent, resembling sago grains, projecting above the surface of the pharyngeal mucous membrane; the presence of both signs together justifies the diagnosis of adenoids and renders digital exploration of the nasal pharynx unnecessary. These two signs have been insisted upon and have for some years been taught in the practical course of the Vanderbilt Clinic. The observations are not claimed as original, though

Huber can not at once recall the original source. As regards treatment, the earlier the growths are removed the better. They interfere with normal nasal respiration; the blood is not sufficiently aerated, and the bad results are not local, but general. In very mild cases attention to the general health and the internal administration of syrup of iodid of iron should be advised for a time, but in any case where decided symptoms are associated, the growth should be removed. He prefers to operate without anesthesia. If after a few weeks it is found that the growths have not all been removed, a second operation can be done. The existence of acute otitis media, bronchitis or inflammatory processes in any part of the respiratory tract is a contraindication for operation. The after-treatment consists in instilling warm water into the nares every few hours, with liquid diet, and confinement to the house for a few days. Nasal irrigation, no force being used, is kept up for weeks. Iron, arsenic, strychnia or syrup of iodid of iron is continued for months.

99.—See abstract in *THE JOURNAL*, xxxv, p. 1653.

103.—See abstract in *THE JOURNAL* of January 12, p. 128.

106.—*Ibid.*, xxxv, p. 1047.

108.—*Ibid.*, January 12, p. 126.

110. **Nitrate of Silver.**—Three cases of inflammatory disorder of the upper respiratory tract are reported, which were treated by strong solution of silver nitrate—60 gr. to the ounce—applied on the lateral walls of the fauces. When painted on this portion of the throat Gleason claims that strong solutions of silver nitrate possess a sedative, an astringent, and an antiseptic action, the value of which can not be overestimated.

111. **Postoperative Pneumonia.**—The following questions were suggested to Marvel by cases in his experience: 1. What is the probable percentage of post-operative pneumonia? 2. Should evacuation by aspiration or drainage be recommended before resolution is complete? 3. Does the absence of the characteristic physical signs argue in favor of the inadequacy of the signs to accurately indicate the degree of danger in the disease? As regards the first question, by analysis of the statistics he finds that the percentage given by various writers of postoperative pneumonia differs so much that no percentage rate is determinable, but that an estimate may be stated as ranging between .12 and .33 of 1 per cent., and the fatal cases between .01 and .09 of 1 per cent. In answer to the second question, he does not advise aspiration until the crisis is passed, unless the embarrassment to the circulation and breathing or strong evidence of toxemia makes it imperative. As regards the third, he quotes Andrew H. Smith on the uncertainty of the importance of consolidation, since the toxin formation is still carried on beyond its limits. While the physical signs are of the greatest importance in diagnosing the conditions, he does not think these are always proportionate, nor do they represent the measure of gravity in the case and too much stress can not be laid upon the presence and behavior of toxins and their influence in pneumonia.

112. **Chloretone.**—Siter recommends the use of chloretone in dusting powders for painful granular growths, as producing analgesia and not delaying union or granulation. It can be used in combination with almost any dusting powder. In the cases reported, over thirty in number, it was used in combination with boracic acid. Its effect is solely, he thinks, an anesthetic one and it has no special influence on the progress of the cure.

114. **Local Treatment of Pemphigus.**—Van Harlingen reports a case of pemphigus treated by the internal use of strychnin and quinin, with stimulants and milk diet, and the opening of blebs, the lesions being dressed in a bichlorid solution. His plan, he says, is to open each bleb as widely as possible and later apply a wet dressing of bichlorid of mercury of 1 to 2000 or 1 to 4000, and keep it on for twenty-four to forty-eight hours. This is then removed and ichthyol, either pure or in 20 to 50 per cent. aqueous solution, is applied. After a few days this is changed for a simple zinc oxid paste or ointment or occasionally a eucrophen or iodoform ointment. When the

eruption is very extensive one part may be treated at a time, thus diminishing the danger, which he doubts, of absorption from large surfaces. Other bullar eruptions and pseudopemphigus can also be treated in the same way or at least on this principle.

126.—See abstract in *THE JOURNAL*, xxxv, §120, p. 380.

133. **Oxygen in Pulmonary Obstruction.**—Doolittle recommends the use of hydrogen dioxid in 4 to 1 dilution, in conditions where a considerable proportion of the absorbing pulmonary cells are put out of action, as in extensive pneumonia. By giving this in sufficient quantity by the mouth or rectum, to make up for the deficiency of the oxygen taken in by the lungs, he claims we give the heart a healthy oxygenated blood to work on and relieve the overtasked working air-cells and heart. He reports cases where this has been tried with apparently very good results. While hydrogen dioxid has been recommended internally in small doses as a heart tonic in pneumonia, etc., he has not been able to find any one who has administered it in sufficient quantity and for the purpose of resupplying the deficiency of oxygen. Its administration does not interfere with oxygen inhalation or any other remedy which may be indicated. He thinks its free administration is of value in bronchopneumonia and also in laryngeal diphtheria. In one of his cases he gave a tea-spoonful every five minutes to an infant 3 months old, with the best results.

145.—See abstract in *THE JOURNAL*, xxxv, p. 1296.

FOREIGN.

British Medical Journal, March 23.

Auto-reduction of Hernia "en masse" as a Cause of Abdominal Obstruction. W. J. WALSHAM.—In this communication the author calls attention to a possibility which does not seem to him to have received much attention from the profession. He reports three cases of auto-reduction of hernia *en masse*, which produced symptoms of intestinal obstruction, requiring operation, and he has had seven such cases during the last few years. He therefore thinks the condition not so uncommon. The diagnosis may be attended with considerable difficulty, and he emphasizes the importance of not relying solely upon our observation of the hernial rings, but of obtaining as full a history of the case as possible from the patient. The importance of early diagnosis can hardly be overestimated.

The Lancet, March 23.

Diseases and Disorders of the Heart and Arteries in Middle and Advanced Life. J. MITCHELL BRUCE.—In this second lecture the author reviews the symptoms of tobacco heart, which is characterized especially by irregularity and anxiety without marked alteration of cardiac sounds or enlargement, at least in young persons. In older ones there may be a certain amount of enlargement and a much greater degree of pain and angina, and altogether a more formidable syndrome; in alcoholism, on the other hand, enlargement is the rule. The precordial impulse is usually weak and there is in a certain proportion a slight apex systolic murmur, indicating mitral leakage. Complaints usually are of palpitation, faintness and precordial pain, but angina is rare as compared with tobacco heart. The gouty changes are also noted, irregularity, dyspnea, precordial pain, angina, systolic murmur of the mitral area, etc. He has never met with aortic incompetency from gout. Closely allied to this condition is a disturbed metabolism, characterized by corpulence and glycosuria. He found that out of 12 cases, 9 had systolic aortic murmur, and nearly one-half an ill-developed mitral systolic murmur. The complaints are very similar to those of the gouty as regards pain, but neither palpitation nor faintness was so often mentioned. Other conditions noticed are cardiac strain, which is specially liable to show its effects in advanced life, particularly in persons who attempt to resume the athletic exercises of their youth. Syphilis and nervous strain are also noticed, and he thinks that the profession in general is not alive to the gravity of syphilitic changes in the cardiovascular system. He believes it accounts for a considerable proportion of the more serious cases of heart disease in elderly persons.

Blackwater Fever. J. W. W. STEPHENS.—The writer believes blackwater fever is essentially a malarial infection in which quinin is the most common determining cause of intoxication. Protection from malaria will insure against blackwater fever and his own experience shows that this protection is possible in tropical Africa under all kinds of conditions without the use of quinin, by paying scrupulous attention to clothing and the use of the mosquito net.

The Practitioner, March.

Intermittent Fevers and Blackwater Fever. LOUIS M. SAMBON.—The various intermittent fevers are described by Sambon, who recognizes four types, corresponding to four different species of parasites, viz., quotidian, tertian, quartan and what he calls semi-tertian, using the old Hippocratic term in preference to "estivo-autumnal" now in common use. He reviews the phenomena of the paroxysm and describes the parasites—the hemameba vivax of tertian fever, the hemameba malariae of quartan fever, the hemomenas Laverani of semi-tertian fever, and mentions the somewhat uncertain parasite of quotidian of which our knowledge is still very imperfect. In practice the cases that come under observation are often complicated. We have multiple groups of some species; we have the simple, double, triple or irregular or subcontinuous quartan fever: the simple, double or irregular tertian, and in the semi-tertian and quotidian fevers we have also a multiplicity of parasites so that it is usually difficult to account for the irregular types of fever which may thus arise. Mixed infection with parasites of two or more types are frequently observed, the tertian and quartan for example or the tertian and quartan and semi-tertian. Any other disease may complicate malaria, among them cholera, blackwater fever, siriasis, tuberculosis, etc. Pneumonia is the complication which has given rise to the most discussion, but we now know positively that there is no malarial pneumonia. Malaria may co-exist with typhoid and the semi-tertian form may be strikingly similar to it in its symptoms. In the temperate climates this type of malaria usually occurs at the same season of the year and may come on without chills, the remissions may be slight, there may be great prostration and abdominal symptoms and no parasites found in the peripheral circulation. Typhoid fever has frequently been mistaken for semi-tertian fever. The pernicious attack is an unusually severe attack of the semi-tertian caused by a multiplication of parasites, which accumulate within the capillaries of the brain and meninges and other internal organs. The pernicious is never the first attack and is most frequent in recent affections. The symptoms vary with the localization of the parasite and the resisting powers of the individual. Blackwater fever is discussed by the author at some length, its geographical distribution described, and the various alleged discoveries of its causes—which he does not consider proven—its seasonable prevalence, the predisposing causes, etc. The various theories of its origin are discussed and Sambon evidently does not consider it proven that it has a direct connection with malaria. The quinin theory he rejects, and his own view that it is a specific disease is based somewhat upon the similarity of hemoglobinuric fever of cattle in which Smith and Kilborne have discovered a protozoal parasite, the Piroplasma bigeminum, hence it is quite reasonable to infer that blackwater fever may be due to some protozoan organism. Diagnosis from the semi-tertian is usually not difficult, and in the early stages the presence of characteristic parasites is demonstrative. From yellow fever it is distinguished by the rarity of black vomit, the color of the urine in the early stages and the absence of serum albumin, enlargement of the spleen and liver and its irregular course. A sound prophylaxis can not be established without the knowledge of the cause of the disease, and further study is required. With our present knowledge we can also recommend in a general way the avoidance of low, swampy districts, especially during the hot season after the rains, and protection against mosquito bites. Quinin, he thinks, has no specific action, and in most cases seems injurious. There is no one drug that is of the slightest value. The disease must be treated symptomatically until laboratory experiments have found the specific treat-

ment. We are at present in the same condition in regard to typhoid fever and other infectious disorders. He prefers colonic irrigations to calomel. The patient should be allowed to drink freely, and the food should be liquid; the patient confined to his bed until convalescence is well established. Warm alkaline drinks must be used as an emetic to help to get rid of the great quantity of irritating bile which causes the exhaustive vomiting. When this is persistent, water and food should be administered by the rectum. Sponging with tepid water is advised and as little disturbance as possible. Hot fomentations and turpentine stupes may be applied to the loins to alleviate pain and urinary suppression. Gouzien has employed hypodermic injections of normal salt solution with great success.

The Genus Anopheles. ERNEST E. AUSTEN.—The characteristics of the different genera of mosquitoes are described by the author, and the practical characteristics of the Anopheles discussed. They are the long palpi, as long or longer than the proboscis in both sexes, the blotches on the wings, the peculiar position of the proboscis, it being in the same straight line when resting, a more slender form than the Culex and, in some specimens at least, the characteristic position when resting—inclining the body at a considerable angle from the surface. The real characteristic, however, in this is the position of Culex, which is hump-backed, the proboscis at a decided angle with the body, while in Anopheles they are both in the same line. When the Anopheles rests with the body parallel to the surface it is generally found that one of the legs is missing. The piping note of Anopheles also is said to be lower than that of Culex. The position of the larva in water is also another characteristic, it usually being parallel to the surface; that of Culex is nearly perpendicular. The Culex breeds in all sorts of places—in buckets, tubs, cisterns—but Anopheles prefers natural pools, generally with some vegetation such as algæ, etc. It may breed in sea water. The eggs of Anopheles are found singly on their side instead of being collected as are those of Culex. The number of species of Anopheles at present known is about forty and there are more than ten others that will shortly be described. The genus is found all over the world, though there is no species so generally distributed as is the case with certain species of Culex, which is possibly due to the fact that the latter, breeding in ponds, water tanks, domestic receptacles, is carried by human agency while Anopheles being the wilder and less domestic insect is more restricted.

Annales de l'Institut Pasteur (Paris), February.

Parasitic Theories in Regard to Malignant Neoplasms.

A. BORREL.—The research that has been made in this line is reviewed by Borrel, who observes that possibly there may be several kinds of malignant neoplasms, some due to sporozoa, some to bacteria, others to blastomycetes, etc. The evidence to date is not conclusive in respect to any of the theories that have been advanced. He publishes illustrations showing the progress of certain changes in the cells of these neoplasms which he has observed and followed. They commence with vacuolization and the results of the process deceptively simulate parasitic elements and are possibly the supposed micro-organisms seen by other scientists. He gives comparative cuts showing the close relationship between the process and its results with the process of the evolution of the spermatocyte in the testicle of the guinea-pig. In the latter, the evolution results in the formation of a normal element. In the cancer cell the cause and the result of the process are still a mystery, but the results are large chromatic bodies, producing the impression of a degenerating substance. This atypical evolution of the archoplasm or idiosome of the cancer cell must be borne in mind in the researches for the discovery of the causal agent of cancer.

Origin of Alexins in Normal Serum. O. GENGOU.—Metchnikoff believes that the alexin of the leucocytes is liberated only after the degeneration or death of the corpuscle. Büchner, on the other hand, considers it an actual, vital secretion of the leucocytes. Gengou describes research which shows that the alexin in the dog and rabbit is found almost exclusively in the polynuclear leucocytes.

Bulletin de la Societe des Hopitaux de Paris, February 7.

Grippal Meningitis. H. RENOU.—The author describes a case diagnosed first from the symptoms, as gastric disturbances, then as an infectious rhinopharyngitis with joint symptoms, but the fifth day disclosed a typical cerebrospinal meningitis complicated by indications of diffuse poliomyelitis. The patient recovered under hot baths, revulsion along the spine and early lumbar puncture.

February 14.

Diagnosis of Typhoid Perforation. FERRIER.—The conclusions drawn by Ferrier, from observation of three cases of typhoid perforation, one of which was cured by surgical operation, are as follows: The diagnosis in certain cases can be made only when the patient is able to describe his sensations. The characteristic facies, the agitation, sensitiveness of the abdomen, meteorism and vomiting are often entirely absent. Possibly only a few attenuated symptoms bearing the imprint of peritoneal inflammation may be observed. The spontaneous pains felt by the patient may be moderate. Localized at first, they may extend later throughout the abdomen, and increase under the influence of movements, coughing, or palpation. As the process extends, indications of defense may be noted in the abdomen. In doubtful cases, rectal palpation and the appearance of bladder symptoms may reveal the involvement of the small pelvis. In subjects previously affected with diarrhea, the suppression of alvine discharges is an important sign, also lower temperature with more rapid pulse. In the successful case, the perforation was found on the small intestine 50 cm. from its insertion in the cecum. It was in the center of a blackish, thickened zone, the size of a two-franc piece. It was obliterated with a purse-string suture and a few Lembert stitches; the peritoneum was irrigated with a solution of boric acid and hot salt solution, and the wound was drained. The operation was completed in forty minutes. The bed was warmed, and artificial serum was injected every four hours. Recovery was undisturbed, except for an obstinate hiccup, day and night for several days.

February 21.

Treatment of Syphilis During Pregnancy. GAUCHER.—The prognosis of a pregnancy in a well-treated syphilitic is not so serious as some imagine. The treatment of a syphilitic pregnant woman should consist, according to Gaucher, in an alternating and uninterrupted series of injections of benzoate of mercury and sublimate pills; the number of injections about double that of the pills. For instance, injections for one month of the benzoate in the following formula: benzoate of mercury 60 eg.; benzoate of ammonium 3 gm.; benzoate of cocain 15 eg., and water 60 c.c. A few drops of ammonia are added while hot, to insure the limpidity of the solution. The daily dose is 2 c. c. for one month, substituted then by two pills a day at meals, each containing bichlorid of mercury and extract of opium each 1 eg. and q. s. of pulverized medicinal soap and glycerin. The pills are given for fifteen or twenty days and then all treatment is suspended for ten to fifteen days, when the benzoate is recommenced. The intensity of the treatment should be subordinated to the condition of the renal function, as determined by the toxicity of the urine and the elimination of the mercury. This treatment should be continued until the end of the pregnancy, and the child is usually free from any taint of syphilis. In one young woman, 72 gm. of albumin to the liter were noted, but this condition was speedily corrected by the specific treatment. Instances are numerous in which a secondary nephritis retrogressed under mercurial treatment during pregnancy. Comby does not give potassium iodid to children with inherited syphilis until the third year, preferring mercury alone for the first two years. In several years of experience with this method, Gaucher has always had the pregnancy progress to term. The earlier this treatment is begun after conception or after infection, the more certain are the results for the welfare of the fetus. Pregnant women seem to have a peculiar tolerance for mercury. In case of albuminuria, the tannate of mercury may be used at first, gradually increasing the dose and resorting to the benzoate as constant supervision shows that the permeability of the kidneys is returning to normal.

February 28.

Treatment of Pneumonia with Antidiphtheria Serum. CH. TALAMON.—Fifty patients with pneumonia were treated at the Bichat hospital with antidiphtheria serum. The mortality the year before had been, for persons under 50 years of age, 23.4 per cent., and above 50 years, 60.7 per cent. During 1900, when antidiphtheria serum was being used, the mortality under the age of 50 was 8.3 per cent., and over 50, it was 28.5 per cent. All but 8 of the 50 were addicted to the immoderate use of alcohol; 37 were men. Considered from all points of view, Talamon asserts that this treatment evidently abbreviates the duration of the disease, suppresses or reduces the chances of complications and reduces the mortality by at least 10 per cent. It failed only once on the 25 patients who were treated with the serum before the fifth day, and this was in a woman of 72. Examination of the fatal cases shows good reasons in existing complications or excessive alcoholism for the failure to cure. Almost all the patients above 40 had arteriosclerosis. In case of kidney disease, caution is necessary, but otherwise the injections may be progressively increased. He injected as much as 200 to 260 c.c. in a few days in some cases, and noted no bad effects except a slight exanthem in a few. Two or three injections of 20 c.c. of the serum are usually sufficient in patients under 50, and four or five over this age. One injection may prove sufficient in some cases, while others may require six or seven.

March 14.

Otitis and Cerebrospinal Meningitis. VAQUEZ.—Besides the meningitis that develops locally from direct communication with a focus in the ear, Vaquez and Lermoyez have observed cases and three are described in detail, in which an old, chronic otitis seemed to have been the origin of a generalized cerebrospinal meningitis—a remote infection in which the spinal predominated over the cerebral symptoms.

Centralblatt f. Chirurgie (Leipsic), March 9.

Treatment of Severe Scoliosis. P. BADE.—During the months that a child is wearing a plaster cast, he or she is constantly growing and usually loses more or less flesh during the treatment. The cast is not adjusted to conform to these changing conditions, and consequently the pressure on the hump and the extension are constantly diminishing. Bade remedies this by applying to the cast the principle of Schede's extension apparatus for spondylitis. This enables the extension to be adjusted as required. The pressure on the hump is regulated to correspond, by two plates which together form a pad, inside the cast, over the hump. One fits on the hump, the other against the inner surface of the cast, and a screw connects them and projects externally through the cast. By turning this screw the pressure on the hump can be increased or diminished at will.

Suture Bolts for Median Cicatricial Hernia. A. HAMMESFAHR.—A woman had been operated on eight times, on account of recurring hernia in the cicatrix left from a median laparotomy for ileus in 1894. The recti kept opening outward. Hammesfahr isolated the recti throughout their entire length—both the upper and under surfaces—and with a nearly blunt needle and strong wire, commenced at the outer margin of one and took a series of stitches horizontally across to the outer margin of the other rectus, leaving a short space each side of the inner margins, with the wire on the outside. Both ends of the wire were also brought up outside and twisted together at the median line. By this arrangement every effort of the recti meets this double wire on the outside and is effectively kept under control. He applied the wires at intervals of 3 or 4 cm., from the symphysis to the ensiform process, and the patient was completely cured of the tendency to hernia. He thinks that two of these suture-bolts would be sufficient in ordinary cases. The peritoneum was not opened.

March 16.

Study of Roentgen Plates. K. LUDLOFF.—This communication states that details are brought out more plainly in a Roentgen plate if it is placed over a translucent plate set in the side of a box containing electric lights and reflectors to

throw the light on the plate, the room being otherwise dark. Remarkable relief is obtained if it is viewed through an opera or large magnifying glass.

Improved Technique of Ether Narcosis. W. REINHARD. By injecting atropin forty-five to sixty minutes before an ether narcosis, the secretion of mucus and saliva is reduced to the minimum. Reinhard prefers to combine it with morphin or codein as follows: atropin sulph., 1 eg.; morphin muriat., 20 eg.; aq. dest., 10 gm. One-half to a whole syringeful is injected subcutaneously. The morphin prevents any possible by-effects of the atropin, and the action of the latter on the heart and respiration center in the medulla contributes materially to the success of the narcosis.

Benzin in Surgery. F. FRANKE.—The odor of ether is distasteful to certain persons, and its high price renders a cheaper substitute desirable. Franke states that for many purposes, such as cleansing the field for operating, removing plasters, dissolving salves, etc., benzin is fully equal to ether, while it does not cool the skin to such an extent. Several years' use of it has convinced Franke that for many purposes it is an effective and even a preferable substitute for ether.

Dermatologische Zeitschrift (Berlin), February.

Severe Mercurial Exanthem. A. BERLINER.—A healthy woman, 42 years of age, began to complain of headaches, and when, a few weeks later, a papulous exanthem appeared on the trunk, her physician ordered mercurial inunctions. She used 30 gm. of gray ointment in ten days. An eruption came on the legs after the first inunctions and extended over the entire body and the mucous membrane of the mouth after the mercury was discontinued. There were no indications of lues. In a few weeks the entire body was discolored by minute petechiae, making the patient look like a negro; the skin was swollen and there was much desquamation, with patches of pemphigus blisters, constantly bursting and discharging, with a fetid odor. The patient was placed in the continuous bath, but symptoms of pneumonia developing, with diminishing pulse and apathy, she was replaced in bed and the temperature raised by the constant application of a mechanical sweat-inducing apparatus. The discoloration persisted when she was dismissed, still looking like a mulatto, and patches of pigmentation remained a year later on breast and back. Pyogenic infection through the blisters was probably the cause of the septicemic symptoms, especially of the capillary hemorrhages. No mercury was found in the urine at any time.

Deutsche Med. Wochenschrift (Leipsic), March 14.

Biologic Proof of Derivation of Albumin in Nephritic Urine from the Blood. V. E. MERTENS.—The specific turbidity produced in diluted blood by serum from a prepared rabbit is evidently due to the albumin in the blood. The same specific cloudiness is also induced in nephritic urine. Mertens accepts this fact as proof that the albumin in the urine in these conditions is derived from the blood. Control tests with animals treated with nephritic urine instead of blood, produced the reaction in the same way. Mertens also calls attention to the fact that the serum of young rabbits of a litter born after the rabbit had been prepared with the preliminary injections, also induced the specific reaction the same as the serum of the mother animal.

Destruction of Tubercle Bacilli in Fats. A. GOTTSTEIN AND H. MICHAELIS.—Oils and fats aid in dissolving the waxy envelope of the tubercle bacillus, and consequently these substances are sterilized with comparatively little heat. A number of tests are reported in which five minutes at 87 C. completely sterilized the oil, margarin, etc., tested.

Lipochromes in the Ganglion Cells in Man and Animals. M. ROTHMANN.—Lipochromes appear in the ganglion cells in man about the eighth year, and become more and more numerous with advancing age. They have never been found in animals, but Rothmann shows that this has been due to the fact that the animals examined were all under the age of 8 years. He has succeeded in finding them in horses, monkeys and a dog, corresponding in every respect to those of the same actual, not relative age in man.

Multiform Erythema with Exudation After Chemical Irritation of Urethra. J. HELLER.—Five cases of erythema following chemical irritation of the urethra are described. In one, a healthy man with remote gonorrheal antecedents, the irritation was caused by a transient contact with 20 per cent. solution of creolin. A purulent urethritis followed with an affection of the joints. A typical erythema with exudation appeared when the urethritis was at its height and paralleled it in its course, vanishing with the cessation of the discharge from the urethra. The chemical irritation probably causes a serous exudation from the mucous membrane. The absorption of this serous fluid then leads to autointoxication in predisposed individuals, and in the course of twelve to forty-eight hours, to the multiform erythema. This assumption would explain Still's twenty-six cases of enema rash, in which the erythema appeared twelve to forty-eight hours after a soap enema. The soap must have acted as a chemical irritant.

Genesis of Mastitis Adolescentium. E. FRANCK.—During the last eight years Franck has had two patients, one 15 and the other 16 years of age, with mastitis adolescentium. The breast was hard and sensitive, and resembled the case described by Adler, noticed in *THE JOURNAL* of February 23, p. 533. He does not accept Adler's explanation of the cause, as he found that the mastitis coincided in each of his patients with excessive masturbation, and was probably the result of this intense stimulation of the genital sphere. He limited treatment to a mild salve, and moral suasion to put an end to the masturbation. As the latter was suspended the mastitis retrogressed. He has also noted in other patients who confessed to excessive masturbation, that one or both of the breasts were more or less sensitive to pressure.

Vaginal Hysterolysis. STEFFECK.—By this term Steffeck describes his method of treating pathologic fixation of the uterus, which he has been following with constant success since 1894. The uterus is detached from its posterior adhesions through a posterior colpotomy, and then from the anterior through an anterior colpotomy, concluding with vaginofixation of the organ. The method applies only to directly adherent uteri. Laparotomy is preferable for adhesions from large tumors in the adnexa. He concludes with the statement that on reviewing Landau's record of 200 radical operations he can find only two or three of the cases that might not have been treated by this conservative vaginal hysterolysis. He is surprised that the "authorities have not interfered long ago to put an end to such polypragmaty."

Application of the Uranium Rays to Enhance the Effect of the X-Rays. E. GRUNMACH.—A screen of fine linen is impregnated with a solution of uranium—the source of the Becquerel rays—and suspended between the vacuum tube and the subject at a point where the X-ray must pass through it. The shadows cast on the fluoroscope are much clearer and more distinct, and the contrasts are sharper than by any other technique. The finished actinograms are likewise exceptionally distinct, even with obese subjects.

March 21.

Surgery of the Stomach. W. KOERTE.—Almost all the patients who have been operated on for ulcer have been permanently restored to their normal activity. There is not much danger of recurrence from persisting hyperacidity, according to the experiences to date. We must bear in mind, Koerte adds, that surgical intervention in these cases is not directed so much against the ulcer as against its consequences. The greatest reserve is indicated in case of nervous constriction of the pylorus as these gastric neuroses may resist even surgical intervention. Frequent small hemorrhages from the stomach may indicate an operation, but in cases of extensive, threatening hemorrhage, surgical intervention is the last resort. Perigastric adhesions and perforations of the stomach require operation, the latter within twelve hours. A few patients recover and those who do not were doomed in any event. Dilatation of the stomach from cicatricial stenosis of the pylorus is generally recognized as incurable by medical means. The results of operation have been so good that it should be more extensively practiced, although there is always a liability of

post-operative pneumonia, hemorrhage or embolism. In the 38 operations on account of ulcer and its consequences, which Koerte has performed, the ages ranged from 16 to 61; 28 were more than 30 years old. The first symptoms of the ulcer dated from twenty to thirty years previously in a number, and in only 3 from less than a year. Pains and vomiting were constant symptoms; hematemesis or bloody stools were noted in 18 cases; the stenosis was not accompanied by dilatation in the 3 younger patients. In 4 there was considerable gastropexia. The constriction was usually in the pylorus, once in the upper duodenum, five times in the prepyloric region and twice in the middle of the stomach. The stenosis frequently simulated a tumor and suggested carcinoma. Extensive adhesion of surfaces was noticed in many cases, and also the spread of the ulcer to the pancreas or liver. Hydrochloric acid was increased in amount in 24 cases, absent in 4, traces were found in 3, and lactic acid in 4. Only with the microscope was it possible to differentiate ulcer from carcinoma in a number of instances. Perforation into the abdominal cavity was found in 10, and into the subphrenic space in 6 instances. Resection is possible only in favorable, well-isolated stenoses or ulcers, or on suspicion of carcinoma. It makes greater demands on the strength, but is always preferable under favorable conditions. Circular resection was done 5 times, with 4 recoveries and 1 death. The segmentary resection of an approaching perforation of the anterior wall was done with success in one case. Gastroenterostomy is the normal method in case of stenosis of the pylorus. The mortality was 20.6 per cent. in 28 cases. Another patient died from pericarditis after a complicated operation which included removal of a stenosis of the esophagus. Hacker's technique was constantly followed, no button used, merely a continuous suture in two tiers. Death occurred in two cases from collapse during the operation, once from pneumonia, twice from subsequent hemorrhage from the ulcer and once from a phlegmon in the stomach wall. In one case a peptic ulcer of the jejunum occurred three years after the gastroenterostomy, causing death from perforation. Recent examination of the cured patients showed that they had all been extraordinarily improved from the nutritional point of view and the working capacity was fully restored, although a few still had occasional gastric disturbances. Plastic operation on the pylorus was done but once; the patient recovered. One patient was operated on to arrest extensive and threatening hemorrhage. The operation was extremely difficult, but the hemorrhage was arrested by enclosing the bleeding point in a suture. All went well for a week, when the threads cut through and the patient succumbed to a fresh hemorrhage from the splenic artery. In one case, a young man first noticed symptoms of gastric disturbance three weeks previously. There was absolute motor and secretory insufficiency. Even fluids were not absorbed and could be pumped out unaltered in three or four hours. There was no hydrochloric acid, pepsin nor rennet, but a little lactic acid was evident a few hours after eating. The stomach was scarcely dilated at all, which spoke against atony. On operating, perigastric adhesions were found and the pylorus felt hard and cartilaginous. After gastroenterostomy the patient rapidly recovered his strength and gained twenty pounds in a few weeks.

Differentiation of Stenosis of the Pylorus. BOAS.—Many cases that offer apparently the clinical picture of organic stenosis of the pylorus, yield in a week or two to appropriate medical treatment, lavage of the stomach and dietetic measures. These results prove that the stenosis was spastic instead of organic, and Boas confirms the folly of attempting to operate on such cases. They recover with merely moderate atony remaining. In some cases there may be a relative stenosis, and it is difficult to differentiate these from the condition known as a simple atony. This slight stenosis of the pylorus is much more frequent than had been supposed until recently. There is one sign of slight stenosis which Boas has never known to fail. This consists in a tonic contraction of the fundus wall when the stomach is full, similar to the rigidity noted in the intestine in case of stenosis. Gently massaging the fundus causes a tonic contraction of the fundus wall, which then relaxes and stiffens again under the fingers. The

other clinical signs in such cases may indicate merely atony or gastric insufficiency, but this intermittent rigidity of the fundus wall speaks for slight stenosis of the pylorus.

Experimental Research on the Compensation of Sensory Ataxia. A. BICKEL.—The benefit to be derived from systematic gymnastic exercises in tabes dorsalis is now generally recognized, and Bickel reports a number of experiments which throw some light on the mechanism of compensation. The sensory nerves of both hind legs were divided in dogs. In a few months the ataxia induced by this measure had become fully compensated. Both labyrinths were then extirpated and the ataxia returned as severely as before, and the compensation was never again complete. Extirpation of the labyrinths is never followed by ataxia, under other conditions. In other experiments, after compensation of the ataxia induced by dividing the sensory nerves of both hind legs, a portion of the cortical sensory-motor zone was removed and in this case also the sensory ataxia recurred. These experiences demonstrate that the compensation of the ataxia is not the result of a process of restitution in the limbs whose sensory nerves have been severed, but is due to other organs, especially to the labyrinths and the cortical motor zone. Further research may reveal other portions of the nervous system which co-operate in the production of the compensation, possibly the thalamus opticus, the corpora quadrigemina and cerebellum. Experiments in this line are now in progress.

Neutral Stain for Fats. L. MICHAELIS.—A neutral stain can be derived from azobenzol, which has a peculiar affinity for fats. Analysis of this group of stains shows the close connection between the composition and the staining properties. The most useful representative of this group of neutral stains is scarlet R, which stains every fat and fat alone. The best proportion is a saturated solution in 70 per cent. alcohol.

Mitteilungen a. d. Grenzgeb. der Med. u. Chir. (Jena) VII, 4 and 5.

Appendicitis as Consequence of a General Disease. C. ADRIAN.—Experimental evidence is presented to prove that the appendix shares with the tonsils, the joints, the lymph-glands and the cavities lined with serous membrane, the faculty of attracting bacterial invasion when micro-organisms are circulating in the blood. Attempts to induce inflammation in the appendix by local injections were unsuccessful, but infection of the blood became macroscopically localized in the appendix before any other organs or section of the intestines showed indications of bacterial action, except possibly the sacculus of the vestibule in rabbits. There is undoubtedly in man a connection between ordinary tonsillitis, joint affections and appendicitis. The tonsils or the appendix may be the starting-point of an acute articular rheumatism, or an appendicitis may follow a joint affection, which in turn can be traced to a tonsillitis.

Obliteration of the Portal Vein. F. UMBER.—The patient in the case described was a hard drinker who had always been in good health until two months before his death, when symptoms of congestion in the portal domain developed, with hemorrhages from the alimentary canal and recurring ascites. The autopsy disclosed that the liver was sound, but the lumen of the main portal vein had evidently been obliterated for years. Nature had compensated this obliteration as Talma has accomplished artificially, by establishing extensive collateral circulation. There were adhesions between the omentum, liver, kidney, spleen, intestines and abdominal wall, also between the diaphragm, stomach and liver, etc. This complete compensation of the obliterated vein had kept the liver normal and maintained robust health without disturbance for many years. UMBER concludes that puncture may prove sufficient in case of obliteration of the portal veins, and that the establishment of collateral circulation may be left to Nature.

Maintenance of Tendon Reflexes After Division of Spinal Cord. KAUSCH.—In laminectomy on a young woman, for a tubercular affection of the vertebrae, the spinal cord was completely divided transversely at the sixth to eighth dorsal vertebrae. The tendon reflexes and muscle tonus were at once completely abolished, but returned again, the former in twenty-

our hours and the latter in forty-eight hours, and persisted afterward unmodified. The patient lived five and one-half months; menstruation was normal.

Muenchener Medicinische Wochenschrift, March 19.

Experimental Research on Disinfection of the Hands. PAUL and O. SARWEY.—In the sixth communication on this subject, from the Tübingen clinic, the writers show that any addition to a solution of sublimate which facilitates precipitation diminishes the disinfecting power. They also deplore the contradictory statements of other writers in regard to disinfection of the hands. Ahlfeld, for instance, is convinced that the hot water and alcohol technique affords ample disinfection and that every puerperal affection that appears afterward is of necessity autogenetic. C. L. Schleich trusts so implicitly to the disinfecting power of his marble-dust soap that his professional conscience does not prohibit septic and aseptic operations in varying sequences. The writers state: "We are of the opposite opinion, as any one would be who had witnessed our experiments."

Improved Technique of Manipulative Correction of Luxation of the Hip-Joint. SCHLESINGER.—In severe cases of congenital luxation of the hip-joint so much strength is required to restore the parts to normal position that injury frequently results. This can be entirely avoided by applying a plaster cast. The joint is manipulated and the correction that can be obtained without force is maintained by applying a plaster cast at once. This is removed in three or four days and further correction attempted. It is usually found that the luxation can be completely reduced at the second attempt, but if not, the further correction attained is maintained by a plaster cast applied for a few days more. Success has always invariably crowned the third attempt. Four of the five patients described were between 7 and 14 years of age.

Giornale Accad. di Med. di Turin., January.

Pathogenesis of Aneurysms. A. FABRIS.—From a series of experimental researches conducted by Fabris, the conclusion seems evident that morbid processes on a basis of degenerative and inflammatory changes are much more important factors in the pathogenesis of aneurysms than are the mechanical or traumatic. The laceration of the elastic fibers from a traumatism may enlarge the lumen of the vessel, but restitution proceeds rapidly and each of the coats of the artery becomes regenerated in time, with possibly more or less hypertrophy of the media. The permanent substitution of fibrous tissue after a morbid inflammatory or degenerative process prevents reduction of the lumen, which is thus left permanently and progressively dilated.

February.

Traumatic Tabes Dorsalis. C. NEGRO.—A teacher of gymnastics fell from the parallel bars, on his side, without hitting his head or spine directly. Paresis of the deltoid ensued, but yielded to massage. About four months after the traumatism, typical tabes dorsalis gradually developed. No symptoms of the kind had been noticed before the traumatism and there were no indications of syphilis or of any other infection.

Santonin in the Fulgorant Pains of Tabes. C. NEGRO.—The specific action of santonin on the eye—xanthopsia—suggested to Negro that santonin might have a specific action on the general sensibility and temporarily modify the function of the nervous system. He therefore administered it in a severe case of fulgorant pains in tabes, rebellious to other measures. The pains diminished three hours after the first dose and subsided completely two hours after the second, and did not reappear for twelve or thirteen days. The same experience followed its use again, but this time the pains did not reappear for sixteen days. The results were equally satisfactory in 8 out of 11 other patients to whom he administered the santonin, in doses of 10 cg. followed by 5 cg. five hours later. Two were only transiently benefited and one did not take the full amount. He did not venture to repeat this treatment more than four or five times in the course of two or three months. He is now testing it in neuralgia.

Electrolysis as a Means of Determining the Power of Resistance of the Red Corpuscles. E. BUFFA.—By means of the hemolysimeter devised by Buffa, he is able to determine

the resisting power of the red corpuscles in less time than by other methods—from twelve to fifteen minutes being all that is necessary. He determines the number of corpuscles in the blood before and after electrolysis with a current of 4.5 milliamperes.

Queries and Minor Notes.

STATES RECOGNIZING DIPLOMAS.

BRIDGEPORT, CONN., March 28, 1901.

To the Editor:—I will be greatly obliged to you for a list of the states which recognize a diploma from a reputable medical college, as sufficient to practice medicine therein.

H. W. F.

ANS.—Arkansas, Colorado, Kentucky, Michigan, Nebraska, Nevada, Rhode Island, South Dakota, Wisconsin, Wyoming, Oklahoma and New Mexico. Alaska has no medical regulations whatever. Indiana, Missouri, Kansas, and possibly California and one or two other states have recently passed laws requiring examination: previously a properly certified diploma was sufficient. We do not know how soon these new laws go into effect, possibly not before July. Texas has also passed a new law requiring examination by a state board, which, however, has not yet gone into effect.

PRACTICE IN ILLINOIS—INDIAN AGENCY.

DOVER, KY., April 1, 1901.

To the Editor:—1. Will you give me the laws regulating the practice of medicine in Illinois and Michigan? 2. What procedure and qualifications are necessary to secure an appointment as agency or post physician at one of the Indian or government agencies?

R. A. B.

ANS.—1. In Illinois an examination is required on presentation of a satisfactory diploma. In Michigan, license to practice is given on presentation of a diploma from an institution recognized by the State Medical Examining Board. Only some thirty or forty institutions, thus far, have been placed on the list of those whose graduates are exempted from examination. 2. Write to the Commissioner of Indian Affairs, Washington, D. C.

PRACTICE IN PENNSYLVANIA.

ONAWAY, MICH., April 2, 1901.

To the Editor:—Kindly inform me as to the requirements for practice in Pennsylvania; also whether the certificate of the Michigan state board is recognized.

R. D. H.

ANS.—The requirements for practice in Pennsylvania are a certain degree of preliminary education, including the ordinary high school branches, presentation of a diploma satisfactory to the examining board and the passing of an examination. Pennsylvania does not recognize the Michigan certificates as the latter state does not require an examination in all cases as a qualification for practice.

PRACTICE IN BRITISH COLUMBIA.

EVERETT, MASS.

To the Editor:—Can you inform me as to the requirements necessary to obtain a license to practice medicine in British Columbia, and to whom I would apply for particulars?

ANS.—British licentiates are permitted to practice medicine in the province of British Columbia; all others must take the prescribed examinations. The fee is \$100. Full particulars can be obtained from the registrar of the College of Physicians and Surgeons, Victoria, B. C.

CITY SEWERAGE.

JANESVILLE, WIS., March 29, 1901.

To the Editor:—Kindly inform me where I can find articles or papers on "Why a City Should Have Sewerage," or the question of city sewerage.

J. M.

ANS.—See articles on Habitations, in general works on hygiene, Buck, Murphy and Stephenson, Notter, Harrington, and others. Works on sanitary engineering give accepted views as to sewerage installations in cities.

CARE OF IDIOTS.

RACINE, WIS., April 3, 1901.

To the Editor:—Could you give me information regarding schools for idiots, located in Chicago's vicinity? Do the state schools receive pay patients, and would they give them extra care, etc., in consequence? If you are unable to give me the desired information, could you direct me to the proper source for it?

H. E. J.

ANS.—We know of but one school for idiots near Chicago, and that is the one conducted by Miss Stryker, Wheaton, Ill. The Illinois Asylum for Feeble-Minded Children, at Lincoln, receives only state patients, and this is the case in most of the western states. Patients outside of the state, if there is room for them, are sometimes received for pay, but the institutions are generally quite full. We do not know about special care given to pay patients. An inquiry addressed to the various secretaries of the state boards of charities would doubtless give the desired information.

The Public Service.

Army Changes.

Movements of Army Medical Officers in accordance with orders from the Adjutant-General's Office, Washington, D. C., March 21 to 27, 1901, inclusive:

Ira A. Allen, captain and asst.-surgeon, Vols., leave of absence granted.

Cosam J. Bartlett, acting asst.-surgeon, from the Department of Alaska to San Francisco, Cal., for duty in the Department of California.

Shadworth O. Beasley, major and surgeon, Vols., recently appointed, from San Francisco, Cal., to Manila, P. I., for duty in the Division of the Philippines.

Edward G. Beeson, captain and asst.-surgeon, 39th Infantry, Vols., having tendered his resignation, is honorably discharged from the service of the United States, to take effect March 31, 1901.

William D. Crosby, major and surgeon, U. S. A., in addition to his present duties, will relieve Major H. S. Kilbourne, surgeon U. S. A., of his duties as medical superintendent of the army transport service in New York City, N. Y.

Joseph J. Curry, captain and asst.-surgeon, Vols., leave of absence extended.

Calvin DeWitt, lieut.-col., deputy surgeon-general, U. S. A., from sick leave to duty as a member of the board of medical officers now in session at the Army Medical Museum, Washington, D. C., for the examination of candidates for admission into the Medical Corps of the Army, relieving Col. A. A. Woodhull, assistant surgeon-general, U. S. A.

Joseph C. Garlington, acting asst.-surgeon, from Fort Mott, N. J., to duty at Fort Terry, N. Y.

John J. Gilhuley, acting asst.-surgeon, from Fort Terry, N. Y., to Bridgeport, Conn., for annulment of contract.

Charles W. Hack, captain and asst.-surgeon, Vols., member of a board at Columbus Barracks, Ohio, to examine officers of the army for promotion, subsequently ordered to duty with recruits en route from Columbus Barracks, Ohio, to San Francisco, Cal., and thence to Manila, P. I., for assignment in the Division of the Philippines.

George L. Hicks, Jr., captain and asst.-surgeon, Vols., recently promoted, from lieutenant and asst.-surgeon, 38th Infantry, Vols., is assigned to that regiment.

Henry S. Kilbourne, major and surgeon, U. S. A., from New York City, N. Y., to duty at the Presidio of San Francisco, Cal.

Jullus C. Le Hardy, acting asst.-surgeon, from Savannah, Ga., to duty at Fort Wood, N. Y.

Thomas C. Longino, captain and asst.-surgeon, Vols., recently appointed, from Fort Clark, Tex., to accompany troops via San Francisco, Cal., to Manila, P. I., and for assignment in the Division of the Philippines.

Edward W. Pinkham, lieutenant and asst.-surgeon, U. S. A., from the Division of the Philippines to San Francisco, Cal., reporting, on arrival, by telegraph to the adjutant-general of the army for instructions.

Joseph C. Reifsnider, captain and asst.-surgeon, Vols., recently appointed from West Point, N. Y., to San Francisco, Cal., en route for assignment in the Division of the Philippines.

Samuel L. Steer, lieutenant and asst.-surgeon, U. S. A., from the Division of the Philippines to San Francisco, Cal., reporting on arrival, by telegraph, to the adjutant-general of the army for instructions.

William T. Tanner, captain and asst.-surgeon, Vols., recently appointed, from Fort Wadsworth, N. Y., to accompany the 3d Battalion, 11th Infantry, to Manila, P. I., reporting on arrival for assignment in the Division of the Philippines.

William R. Van Tuyl, captain and asst.-surgeon, Vols., recently appointed, from Fort Thomas, Ky., to San Francisco, Cal., en route for duty in the Division of the Philippines.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending March 30, 1901:

Asst.-Surgeon R. F. Ledbetter, detached from the *Constellation*, April 1, and ordered to the *Chicago*, via the *Dixie*, April 3, as relief of Asst.-Surgeon J. R. Whiting.

Asst.-Surgeon C. A. Crawford, detached from the *Dixie*, March 28, and ordered to the *Constellation*, April 1, as relief of Asst.-Surgeon R. E. Ledbetter.

Asst.-Surgeon J. R. Whiting, detached from the *Chicago*, upon reporting of relief, and ordered to the *Dixie*.

Surgeon G. Pickrell, detached from the Naval Hospital, Mare Island, Cal., and ordered home.

Asst.-Surgeon E. Davis, detached from the Naval Hospital, Mare Island, Cal., with permission to delay en route home.

Asst.-Surgeon R. K. McClanahan, ordered to the Asiatic Station, via the *Solace*, April 12.

Surgeon C. J. Decker, order detaching from the *Monocacy* and ordering to the *Oregon*, revoked; ordered to the *Newark*.

Surgeon P. Leach, order detaching from the *Oregon* and ordering to the *Monocacy* revoked.

Surgeon C. T. Hibbett, detached from the *Newark* and ordered to the Naval Hospital, Cavite, P. I.

P. A. Surgeon R. Spear, detached from the *Isla de Luzon*, and ordered to the *Concord*.

P. A. Surgeon S. G. Evans, detached from the *Concord* and ordered to the *Monocacy*.

Asst.-Surgeon E. J. Grow, detached from the *Glacier* and ordered to the *Isla de Luzon*.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the 14 days ended March 28, 1901:

Surgeon R. D. Murray, granted leave of absence for five days from April 9, 1901.

Surgeon H. W. Austin, detailed as chairman of a board, to be convened from time to time as necessary, for the purpose of re-examining rejected immigrants.

P. A. Surgeon J. M. Eager, upon expiration of leave of absence to proceed to Naples, Italy, for duty, relieving Asst.-Surgeon V. G. Heiser.

Asst.-Surgeon H. S. Mathewson, granted leave of absence for three days from March 27, 1901. To rejoin station at San Juan, Porto Rico. March 27, 1901.

Asst.-Surgeon Taliaferro Clark, granted leave of absence for thirty days on account of sickness.

Asst.-Surgeon C. H. Lavinder, granted leave of absence for ten days from March 28, 1901.

Asst.-Surgeon John McMullen, upon being relieved from duty at Wilmington, N. C., to proceed to the Mullet Key Detention Camp, Florida, and assume command. To report at Washington, D. C., en route to Mullet Key, Florida.

Asst.-Surgeon H. C. Russell, granted leave of absence for eighteen days on account of sickness, from Feb. 21, 1901.

Asst.-Surgeon V. G. Heiser, upon being relieved from duty at Naples, Italy, to proceed to Washington, D. C., and report in person for duty.

Hospital Steward F. S. Goodman, to report to the director of the Hygienic Laboratory, Washington, D. C., for duty.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended March 30, 1901:

SMALLPOX—UNITED STATES AND INSULAR.

California: Los Angeles, March 19, 15 cases; San Francisco, March 2-9, 8 cases.

District of Columbia: Washington, March 18, 16 cases.

Florida: Jacksonville, March 16-23, 2 cases.

Illinois: Anna, December-March 18, 50 cases; Chicago, March 16-23, 10 cases.

Kansas: Wichita, March 16-23, 12 cases.

Kentucky: Lexington, March 16-23, 2 cases.

Louisiana: New Orleans, March 16-23, 14 cases, 2 deaths.

Michigan: March 16-23, Bay City, 2 cases; Detroit, 6 cases.

Minnesota: March 16-23, Minneapolis, 6 cases; Winona, 10 cases.

Nebraska: Omaha, March 9-23, 12 cases.

New Hampshire: Manchester, March 16-23, 3 cases.

New Jersey: Hudson County, March 21, 6 cases; Newark, March 16-23, 1 case.

New York: New York, March 16-23, 41 cases, 6 deaths.

Ohio: Cincinnati, March 15-22, 2 cases; Cleveland, March 16-23, 43 cases, 1 death; Toledo, March 16-23, 1 case.

Pennsylvania: March 16-23, Pittsburgh, 9 cases; Steelton, 6 cases.

South Carolina: Greenville, March 8-16, 2 cases.

Tennessee: March 16-23, Memphis, 26 cases; Nashville, 13 cases.

Utah: Salt Lake City, March 16-23, 40 cases.

West Virginia: Huntington, March 8-16, 12 cases; Wheeling, March 8-23, 2 cases.

Wisconsin: Milwaukee, March 16-23, 2 cases.

Porto Rico: Ponce, March 11, 13 cases.

SMALLPOX—FOREIGN.

Austria: Prague, Feb. 23-March 9, 10 cases; Trieste, March 2-9, 2 cases.

Brazil: Rio de Janeiro, Jan. 1-31, 36 cases.

Belgium: Antwerp, Feb. 23-March 9, 8 cases.

Ceylon: Colombo, Feb. 8-16, 1 case, 1 death.

Ecuador: Guayaquil, Feb. 2-March 2, 14 deaths.

Egypt: Cairo, Feb. 25, 1 death.

France: Paris, March 2-9, 7 deaths; Roubaix, Jan. 1-31, 1 death.

Germany: Leipzig, Feb. 16-23, 1 death.

Great Britain: England, London, March 2-9, 1 case; Newcastle-on-Tyne, March 2-9, 2 cases; Scotland, Edinburgh, Feb. 2-9, 3 cases; Glasgow, March 8-15, 20 deaths.

India: Bombay, Feb. 19-26, 7 deaths; Calcutta, Feb. 8-23, 243 deaths; Karachi, Feb. 10-24, 23 cases, 10 deaths; Madras, Feb. 16-23, 7 deaths.

Japan: Yokohama, Feb. 16-23, 1 case.

Korea: Seoul, Feb. 2-9, prevalent.

Russia: Odessa, Feb. 23-March 9, 20 cases, 3 deaths; Riga, Jan. 1-Dec. 31, 1900, 174 deaths; St. Petersburg, Feb. 23-March 9, 12 cases, 1 death; Warsaw, Feb. 23-March 2, 8 deaths.

Straits Settlements: Singapore, Feb. 8-16, 2 deaths.

Syria: Jaffa, August, 1900-March 6, 1901, 4 cases, 1 death, in German colony; Jerusalem, August, 1900-Feb. 4, 1901, 1600 cases, and 35 or 40 per cent. deaths.

YELLOW FEVER.

Cuba: Havana, March 8-16, 2 cases, 2 deaths.

CHOLERA.

India: Bombay, Feb. 16-23, 6 deaths; Calcutta, Feb. 8-23, 44 deaths; Madras, Feb. 16-22, 2 deaths.

Straits Settlements: Singapore, Feb. 8-16, 4 deaths.

PLAGUE—UNITED STATES.

California: San Francisco, Jan. 6-March 2, 10 cases, 10 deaths.

PLAGUE—FOREIGN.

Africa: Cape Town, Feb. 16-March 4, 55 cases, 11 deaths.

Brazil: Rio de Janeiro, Jan. 1-31, 15 cases, 9 deaths.

China: Hongkong, Feb. 2-9, 2 deaths.

India: Bombay, Feb. 19-26, 1118 deaths; Calcutta, Feb. 8-23, 520 deaths.

Straits Settlements: Singapore, Feb. 4, 1 death.

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Address.

JULES LEMAIRE

THE FIRST TO RECOGNIZE THE TRUE NATURE OF WOUND
INFECTION AND INFLAMMATION, AND THE FIRST
TO USE CARBOLIC ACID IN MEDICINE
AND SURGERY.*

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BALTIMORE, MD.

Motto: "Je ne suis pas de cet avis. Les questions de priorité intéressent la moralité publique, parce qu'elles traitent de la propriété scientifique, plus respectable que toute autre propriété, et qu'il importe extrêmement que l'opinion publique ne s'égare pas sur les véritables auteurs des progrès scientifiques et industriels." (Pasteur, réplique à une attaque de M. de Vergnette-Lamotte, Journal d'Agriculture pratique, 18 juillet, 1872.)

"On voit que l'illustre inventeur ou au moins démonstrateur les ferments vivants ne partage pas l'opinion de notre savant maître et ami, M. Marchal (de Calvi), qui croit que tous les progrès, toutes les découvertes doivent être anonymes dans le nouvel ordre social, et que le sentiment intime d'avoir fait quelque chose de bien doit être la seule récompense des inventeurs et de tous les bienfaiteurs de l'humanité." (Déclat, Traité de l'acide phénique, Paris, 1874, p. 896).

Prat: L'acide phénique à l'Académie des sciences. Réclamation de priorité. Simples réflexions.

"Les questions de priorité, a-t-on dit quelque part, n'ont qu'un intérêt médiocre. Nous ne sommes pas de cet avis. A la vérité, qu'un inventeur s'appelle A ou B, cela est de mince importance pour la science pure; mais il importe au contraire beaucoup, au point de vue de la moralité et de la justice, de rendre à chacun ce qui lui est dû." (La France Médicale, 1865, xii, 86).

"M. Pasteur a fait des expériences nouvelles, j'en ai fait moi-même un assez grand nombre; nous avons suivi chacun une route différente qui nous a conduits à des résultats tels, qu'aujourd'hui la question de la nature des ferments me paraît résolue. Ce que je désire, c'est de préciser les dates, pour qu'il soit possible (si on veut le faire un jour) de rapporter à chacun de nous la part qu'il a prise à la solution de cette importante question." (Lemaire: Paris, Feb. 25, 1862.)

I think that I observe a growing tendency to speak with disdain and with a fine assumption of indifference regarding questions of contemporary priority, and this feeling, as nearly as I can trace it to its source, seems to originate in the innate natural objection of scientific workers to become partisans to any discussion which involves the sacrifice of time in determining its merits, often too lying in a field of research for which they have little inclination, with the additional prospect that the debate may sooner or later become acrimoniously personal.

It is always difficult, in cases of conflicting claims, to form a correct judgment, and the task is sure to be a disagreeable one. While I may be willing to go

to great pains to set my own claims in their proper light before the public, I do not want to be dragged incontinently into the quarrels of other people with whom I have no close personal affiliations.

It is for such reasons, I think, that most questions of priority are vaguely settled on purely national and personal lines, and yet such an attitude is unjust and faulty in the extreme, for all history is but a record of the sequence of events, of acts and discoveries in which questions of priority of one sort or another continually arise, and if the contemporary historian is timid and does not set these things aright, how is he of later date, with less available information, to do justice to his task and utter the naked truth?

Contemporary history is often the only real history after all, for he who writes at a later date, with perhaps pardonable bias, often neglects many of the contributing factors in an event, when with more dramatic than scientific instinct he sets a single lay figure before his readers, to whom he ascribes the credit of a movement due in many instances to a coterie of coworkers.

If our ancestors could but read the historical writings of their posterity, I feel sure that many a bitter cry of injustice would be raised, and many a dissertation be penned to set matters in their true light.

We suffer to-day not so much from an actual falsification of our records as from a theatrical tendency to exaggerate and to distort and to present facts out of due proportion. A great name in this way often has the misfortune of unwittingly crowding out of recognition some others only a little less great also deserving recognition.

HISTORIC GENESIS OF ANTISEPSIS.

With this brief preliminary I shall proceed at once to a consideration of the historical genesis of the antiseptic idea, and I trust that I may now, after a lapse of more than a generation, enter upon this little bit of research untrammelled by national prejudice or the bias of preconceived ideas rooted in our education.

It is a natural impulse and, I think, a good one, to pause after rounding such a cycle of time as is represented by a century, to review our progress and to question our opinions, as well as to set right matters of history and apportion the laurels to their rightful owners; and it is for this reason that I have ventured to present this great question of the discovery of antiseptics.

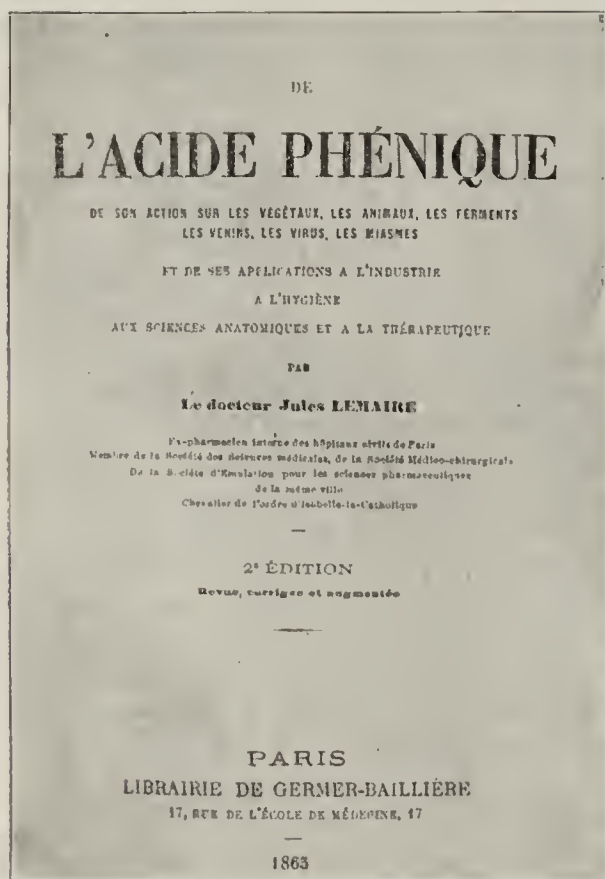
If I were asked what I consider the greatest acquisition of the past century, I should unhesitatingly reply: the introduction of antiseptics into surgery; for what are all the gross material achievements of our race in the way of facilities of transportation and communication, the enormous gains in creature comforts bestowed by the great century of inventions; what is progress of any sort compared with the relief from suffering and the years added to life by the bolder surgery of to-day? They are but as the dust in the balance in comparison

* Delivered before the Cincinnati Academy of Medicine.

to him who rightly appreciates the sacredness of a single human life.

I shall not pause to dwell upon the familiar picture of the enormous differences between the surgery of fifty years ago and that of the end of the century, further than to call to mind that the new principle of antiseptics, aside from restricting active operative surgery in certain fields, such as compound fractures, and opening up a great new surgical domain in the abdomen, has probably multiplied the sum-total of the surgical work done not less than thirty-fold.

Please bear in mind these principles, which shall govern our inquiry: 1. We are about to enter upon a purely historical research. 2. The only indisputable evidence at our command is to be found in printed documents. 3. There are, fortunately, no claims and counter-claims of priority which can not be settled by these documents. 4. It is no discredit to one recognized inventor or discoverer to have been anticipated by another in many of the important details of his invention or discovery, provided he has not profited by such labors without due acknowledgement. 5. As a corollary to



this, we may agree equally to honor, or to honor in different degrees, a number of men whose faithful labors have conspired to bring about any condition beneficial to the human race. 6. In forming such an estimate we must in each individual case take into account the clearness of presentation, the persistence indicative of earnest conviction, the sum-total of publications, as well as what is known of the general course of the man's life in relation to the question in hand. 7. I might add that we can never arrive at the absolute truth in any case.

In the year 1863 Dr. Jules Lemaire, of Paris, published a comprehensive work on phenic (carbolic) acid, which was so widely read that in sixteen months no more copies were left in the bookstores, and there were calls for over two hundred copies within a period of five months; these could not be supplied. This interest Lemaire modestly says was in no way due to his own name, which was but little known, but to the real public interest in the subject. It is sufficient for my present purpose to draw from the second enlarged edition pub-

lished in 1865, some five years after Lemaire's first work, but still nearly two years before any publication upon this subject in any other country. This work is entitled: "De l'acide phénique de son action sur les végétaux, les animaux, les ferments, les venins, les virus, les miasmes et de ses applications à l'industrie, à l'hygiène, aux sciences anatomiques et à la thérapeutique" (2. Edition).

It forms a volume of 754 pages, admirably written and handling the subject in an exhaustive and scientific spirit. The first part—30 pages—is devoted to the history and the uses of coal-tar, from which carbolic acid is derived. Chapter 1 traces the history and properties of carbolic acid already recognized; Chapter 2 is a study of the action of carbolic acid upon vegetables and animals; Chapter 3 is devoted to its action upon fermentation in living and in dead tissues; Chapters 4 and 5, to its practical uses in the destruction of parasites and microphytes; Chapter 6, to its application to hygiene and as a disinfectant; Chapter 7, to its use in the anatomical sciences and as a preservative; Chapter 8, to its therapeutic uses, in preserving wounds and pus from fermentation, in diseases of the skin; its internal use; Chapter 9, to various pharmaceutical formulæ containing carbolic acid. An appendix contains some valuable documents relative to priority.

I shall make no apology, in a matter of such great importance, for reviewing somewhat carefully some of the important contents of several of these chapters, after which, I trust that we may draw the irresistible conclusion that we have here the privilege of doing homage to one of the greatest names in the annals of medical science, and that henceforth the name of Lemaire will be duly invested with that respect and honor which are accorded to the few whom we reckon great benefactors of the race.

We observe at the very outset, as we read the introduction to this work, that a great mind will often discover in a little matter, which has long been a subject of common interest and attention without leading to any conclusion, food for serious reflection, and will ultimately, by the investigation and analysis of ordinary phenomena, evolve laws of far-reaching significance.

Early Investigations in Coal-tar.—Lemaire's fruitful studies began with the use of coal-tar, whose antiseptic and disinfectant properties had been noted as early as 1815, 1833 and 1837. In 1844 Bayard was crowned by the "Société d'Encouragement" for a powder of coal-tar, plaster, sulphate of iron and clay, which he used as a disinfectant for hygienic purposes. In 1857 Boboeuf took out a patent on the separation of the acid oils of coal-tar, by saponification, which he then applied to the same uses for which the plaster mixture had been recommended, only in a more convenient and manageable form. In 1859 Demeaux applied a powder of coal-tar and plaster to the disinfection of wounds and aroused great interest in a report upon its use in the hospitals of Paris and in the army of Italy.

This event and this epoch alone are worthy of the careful study of the student of history, so fully did both the profession and the public realize the importance of any means of limiting the awful ravages of infection so rampant wherever wounds were treated.

The great difficulty with this form of coal-tar was that the solidification of the plaster in the mixture rendered it so difficult to apply; in order to form a coarse powder it needed 97 to 98 parts of the dry excipient, so that the mixture contained not more than 2 or 3 per cent. of coal-tar, the active agent. The use of

such a mixture in wounds was also accompanied by the utmost inconvenience from the solidification of the plaster. The trouble was then that, as far as surgery is concerned, the powder was practically useless, although its disinfecting power was generally recognized. Coal-tar was at that time generally believed to be totally insoluble in water.

Fatty bodies which mixed admirably with coal-tar materially altered its properties, as demonstrated by Lemaire, and its natural solvents, alcohol, ether, acetic acid, and volatile oils, forbid its use on wounds, besides costing too much for use on any extensive scale for disinfecting.

Work of Le Beuf.—One valuable means of utilizing coal-tar, lying within easy reach, had been overlooked, and that was an emulsion of saponized coal-tar. In 1850 Ferdinand Le Beuf, of Bayonne, a pharmacist, whose name ought never to be forgotten, presented to the French Academy of Sciences a work in which he established the fact that: "All substances insoluble in water but soluble in alcohol, upon the addition of saponine to their alcoholic solution at once became minutely divided and form stable emulsions." Le Beuf consulted Lemaire as to whether coal-tar treated in this way still retained its notable properties as a disinfectant, and Lemaire undertook the investigation which led him so far afield and proved so fruitful to science and humanity. This preparation is made by taking bark of quillaya saponaria, 2 kil., alcohol (90 per cent.), 8 liters, heating to the boiling point and filtering. This preparation, called the alcoholic tincture of saponine, is really a tincture of quillaya. The saponized tincture of coal-tar is then made by taking: Coal-tar, 1000 gr.; tincture of quillaya, 2400 gr., letting it stand for eight days in tepid water, being stirred from time to time and finally filtered. Four parts of water added to this last preparation form an immediate and stable emulsion. This mixture, so widely and successfully used by Lemaire, and freely given to the profession, is wonderfully like a preparation in use to-day and known as "creoline"—*verbum sapienti sat*. It is interesting to note and pleasant to comment upon the generosity of Le Beuf¹ in giving full publicity to his formula.

Use of Saponized Coal-tar.—I quote Lemaire's first experience with the new mixture, saponized coal-tar, as it well deserves to become historic. It was in August, 1859; the patient had a large gangrenous wound situated in the gluteal fold. The results of Lemaire's saponized coal-tar application were so extraordinary that he and Le Beuf promptly presented a preliminary note to the Academy, Sept. 8, 1859. On the 20th of the same month Lemaire wrote a second explanatory note enlarging upon the first and presenting new facts, and in this note he says: "I urged all the advantages surgery would enjoy from this preparation"—*Dans cette note, je pressentais tous les avantages que la chirurgie pourrait obtenir de cette préparation*.

The saponized coal-tar was then widely used, and reported upon so favorably that at the request of several surgeons it was authorized for the civil hospitals of Paris, April 25, 1862. The French Academy, taking cognizance of its extensive employment, charged the great surgeon Velpeau to experiment and report upon its use, and it is interesting to note that when the greatest living surgeon came in contact with that which contained *in posse* the greatest discovery of the century, he failed to appreciate the situation, and treated the

matter, if I may read between the lines of his report, with a somewhat impatient disdain, as a rather impertinent intrusion upon his own peculiar prerogatives. Had Velpeau, with simple humility, the noblest characteristic of a great mind, approached the question without bias, bringing to bear upon it his great surgical genius, with his abundant clinical material and powers of investigation, who can tell what would have been the result to French surgery.

Coal-tar and Disinfection.—How curious in the light of all that has been wrought in surgery during the past forty years, does this conclusion of the great master sound: "Whether it is phenic acid, or even rosolic acid, bromolic, or aniline or pisoline of coal-tar which is the disinfectant, it amounts to but little in reality, science will declare it some day"—*Que ce soit l'acide phénique ou bien l'acide rosolique, brunolique, l'aniline, ou la picoline du coal-tar qui désinfecte, peu importe au fond, la science le dira un jour*.²

We find it difficult to realize, even after the lapse of so short a period as one generation, that one of the notable results of the use of saponized coal-tar in the various hospitals was the disappearance of insects, maggots, flies, roaches, and bedbugs. So accustomed had they grown to these pests that some surgeons, at no remote date even, thought it an advantage to let the maggots multiply in a wound.

Granted then, with Lemaire, that coal-tar has such a remarkable effect upon wounds, the next step in his inquiry was to meet the objection that the coal-tar does not disinfect, but simply disguises the odor, by substituting another less disagreeable (Chevreul), and this is his conclusion: "Coal-tar does not disinfect like chlorin and the salts of zinc and of iron, which transform the infected materials by a double decomposition or otherwise into inodorous bodies; it exercises no chemical action whatever on odorous gases, but acts upon the cause which produces these gases, that is to say upon the ferments. The odor is masked at first it is true, but as the cause of the odor is suddenly destroyed by the arrest of fermentation at the moment of the mixture, the odor is no longer produced."

In 1859 and 1860, some animals, in an advanced state of putrefaction, were injected through the arterial system with saponized coal-tar, and as a consequence they became dry and kept perfectly in the open air, without further alteration. He says: "To solve this question I studied the ferments. Numerous experiences in 1860 taught me that saponized coal-tar destroys the microphytes and microzoa, and that these little beings could not develop in its presence." "I found it then necessary to seek some other explanation than that which accords to oxygen the rôle of the ferment in albuminoid materials." "The ferments are living beings, and in this manner all the remarkable facts I have observed can be explained." The action of coal-tar on the wounds has led me to a new theory as to the formation of pus." "I have been able with the coal-tar to arrest and to reproduce at will the formation of pus just as I have been able to arrest and reproduce fermentation and germination." "I affirm that to-day with saponized coal-tar it is possible to enormously reduce the formation of pus and to hinder its putrid changes. To make this result known to men of capacity is to tell them that it will be a great benefaction to humanity. Purulent infection, which I do not confound with resorption, appears

1. Lemaire: Du Coal-tar Saponiné, etc., p. 6. Paris, 1860.

2. Boboeuf: Mémoire adressé à l'Académie des Sciences, sur l'acide phénique, Paris, 1865, p. 10.

to me to be the result of the action of the ferment of pus upon the economy."

Lemaire's next inquiry is whether coal-tar owes its disinfectant property to a single principle in it, and this he answers after numerous experiments with its various constituents, by concluding that the carbolic acid isolated is much more energetic than the coal-tar.

With this remarkable and learned introduction begins the book upon carbolic acid, whose properties as investigated by Lemaire we will now study.

PROPERTIES OF CARBOLIC ACID.

I have not time to dwell upon the interesting history of carbolic acid, a history full of valuable hints as to the place it was destined to occupy in surgery. Lemaire's attention was next directed to the effect of aqueous solutions of carbolic acid upon vegetables, grain and germination, including the molds. He states that a minute quantity of carbolic acid is sufficient to destroy the following: microzoa, spermatozoa, bacteria, vibrios, spirilla, amoebæ, monads, euglenia, paramecia, rotifers, and vorticellæ. He further experimented with lumbricoid worms and earth worms, as well as twenty-five different families of articulates, and slugs and snails and eight different kinds of vertebrates, including fish, frogs, bull-heads, salamanders, sparrows, mice, horses, dogs and man.

Action on the Skin.—He found that when strong acid was applied to the skin of dogs and horses, it caused a dry scar to form, which separated in ten or twelve days. The parts below the scar were slightly moist, but did not suppurate or show any trace of true inflammation. "The result of all I have said is to show that carbolic acid has a very energetic action on the skin; that the pure acid produces a burn of the third degree which is not accompanied by suppuration. These facts give great support to my theories to the formation of pus."

He observed that the action of alcohol is to attenuate that of the acid, and remarked that he carried on his arm the spots which were made two years before, by the acid, while the parts touched with an alcoholic mixture of equal parts showed but faint traces of its action. This result is an important one for practitioners, as they would in this way be able to avoid tattooing their patients. He noted that olive-oil containing 5 per cent. carbolic acid does not prevent the putrefaction of meat.

Carbolic Acid and Ferments.—The next and most important inquiry is that of Chapter 3, as to the action of carbolic acid on ferments, venoms, virus and miasms. Its action on ferments, which form in materials abandoned by life, is shown by several interesting experiments. A fresh egg was dissolved in 200 grams of water and put in a jar coated on the inside with a thin layer of carbolic acid. The jar was covered with parchment and left for two months at a temperature of 18 to 20 C., when the egg was found fresh. Fresh meat was tried in the same way and three experiments out of six succeeded. In one of them the meat kept for six months, and in two others it presented the rosy appearance of fresh meat at the end of eight months. Two sparrows were kept in the same way, and at the end of the month one of them presented no trace of any change—the tissues were as fresh and the feathers as well fixed as on the first day; one of them had a putrid odor which Lemaire said showed there was communication with the air, due to volatilization of the carbolic acid which then disappeared when the organic material began to ferment anew.

By applying the carbolic acid test, Lemaire was then able to distinguish between true fermentations due to living beings and so-called fermentations, such as the hectic, synapic, myrosic and glucosic, which were due purely to chemical changes and remained uninfluenced by the carbolic acid.

Venoms, our learned author decided, after making some experiments, are not analogous to ferments because the action of the venom is immediate, without any period of incubation; venoms are rather chemical agents comparable to diastase and synaptase. A virus, however, of which vaccin may be taken as a type, Lemaire decided to be essentially different from a venom. There can be, he said, no doubt as to the nature of cadaveric virus; it is but the product of fermentation and in consequence contains living organisms. As to those, however, which form during life, he noted these significant facts: there is always a period of incubation, there is development and indefinite multiplication, properties belonging to living ferments. A virus can be kept a long time and still preserve its reproductive character. When inoculated, a virus reproduces itself exactly as the seed of grain reproduces its own species. The conditions most favorable to a virus are also those most favorable to a ferment. All these properties leave no doubt but that the virus is a living organism. And this idea of a pathology due to living organisms—*pathologie animée*—was held two centuries ago by Athanasius Kircher, who held that contagious diseases were propagated by animalcules, worms of species differing with the different maladies.³

In evidence of this new view he cites the fact that vibrios have been found in the pus taken from a chancre, as well as that taken from a balanitis. Micro-organisms have also been found in the pus of a vaginitis. Microphytes have been found in the pus of cancer, by Wagner, and Lemaire himself demonstrated the presence of living structures in the pus of anthrax. Bacteria have been found in the pus of malignant pustule. So we see that independently of the characteristics of living organisms possessed by pus, we can now add that animalcules have been found in it and that the virus containing them produces its usual effects as well as an incalculable number of animalcules.

The infection produces its usual effect since the reproduction and the multiplication of the animalcules is the result. "In my new theory as to the formation of pus, I have compared its globules to those one sees in the yeast of beer, and I have accorded them an analogous rôle. I have demonstrated that the appearance of these globules coincides with certain chemical phenomena, just as in the case of the infusoria in fermentations. After using coal-tar the new pus formed contains nothing more than serum. Since then we find in pus (and when I say pus it is just the same as though I said virus, since the viruses are but a species of pus) microphytes and microzoa, and since these humors always reproduce their own species, and since they have in the bodies of men and animals a period of incubation, of development, and multiply to incalculable proportions, it is impossible not to recognize in these characters the attributes of life."

This is the discovery which overthrew the theories of Liebig, of whom Lemaire says: "If Liebig had been a little less of a chemist it is probable he would have discovered the real nature of the ferments, for albuminous materials are indispensable to spontaneous fermentation."

3. V. Ath. Kircher *Scrutinium physico-medicum contagiosæ luis quæ pestis dicitur*, Romæ, 1658.

The communicated movement also exists. Only in the motor has he deceived himself and *that is life*, and this is the reason why death arrests all."

In conclusion, I can not pause to dwell upon the innumerable uses Lemaire proposed to make of carbolic acid to prevent all kinds of diseases due to fermentation, including all the infectious diseases, miasms and malaria. I have brought before you sufficient to demonstrate that he showed a wonderful grasp of the greatest medical problems of the generation which succeeded his period of activity. His theories regarding all these diseases have been established, and in many cases the specific organisms have been identified. We have, after all, but been walking in the path marked out for us by Lemaire. In surgery he established the great principle of a living septic agent in putrefying and suppurating wounds, and he laid the foundation stone of successful treatment.

Lister's first publication appeared in the *Lancet*, in March, 1867, p. 326, two years later, some seven years after Lemaire's first observations, and was entitled: "On a New Method of Treating Compound Fractures, Abscess, etc., with Observations on the Conditions of Suppuration." These are his closing remarks on this head, under the caption, "The Use of Carbolic Acid to Preserve Wounds and Pus from Fermentation:" "I have dwelt at sufficient length on the changes which solutions of continuity undergo on contact with the air. I will not revert to it. It is sufficient to recall the fact that all these disorders are the work of living ferments. To protect the solution of continuity from fermentation it is sufficient to cover them from the start with compresses constantly soaked with carbolized water. Two parts in a thousand are sufficient, except when the heat is great, then the strength should be five in a thousand. It is necessary to avoid the use of glycerin or fatty bodies as excipients for the carbolic acid."

The furor for carbolic acid culminated in an earnest protest by Franz Pfiffner,⁴ under the title: "Die Carbo-fieber-Pandemie," where he quotes Berger, who uttered these prophetic words: "*Geht man in seinen Aufforderungen zu weit, so laeuft das Mittel Gefahr, ebenso rasch vom Schauplatz der Aerztlichen Thaetigkeit wieder zu verschwinden, wie es so vielen andern Mitteln auf Grund kritikloser Empfehlungen ergangen ist.*" *Diese Goldenen Worte lassen sie mich auch fuer das Carbol in Anspruch nehmen.*

I think the use of carbolic acid administered as a germicide has steadily decreased since the following words were written:—*Meine Herren! Ich waere nun mit meinem Thema, die Ohnmacht einer internen Carboltherapie gegen Infectionskrankheiten darzuthun, zu Ende. Es sei drum nur anhangsweise des Carbols gegen mono- und polyarticulaeren Rheumatismus erwahnt. Kunze hat einige brillante Erfolge von dieser Behandlung notirt. A priori bedaure ich, dass es gerade diese Krankheit sein muss, die dem Carbol zu weiterer Beruehmtheit verhelfen soll. Dieses schwergepruefte Kind unserer Sorgen ist schon durch so manches Mittel curirt worden, dass die neue Entdeckung fast ueberfluessig erscheint. Chinin hat geholfen, Bleizucker hat geholfen, Jodkali, Salpeter, hydropatische Einwicklung, Propylamin—Alles, Alles hat geholfen; Und mit welcher Emphase wurden alle diese Mittel zu ihrer Zeit gepriesen! Alle hat der Orkus wieder verschlungen. Wird es auch dem Carbol so ergehen? Bill hat bereits in dem American Journal berichtet, das er von Carbol bei Rh. acut. nicht den geringsten Erfolg beobachtet habe.*

CONCLUSIONS.

What shall I say in conclusion? Carbolic acid, whether to our loss or to our gain, has almost disappeared from our surgical armamentarium, like Sims's silver wire suture. Had it remained it would have served as a golden thread on which to string such a chaplet of pearls as the names of Le Beuf, Lemaire, Lister, and others in America and Germany, who were closely identified with the evolution of the great underlying principle.

But carbolic acid is gone, and in its place we possess that which is of far more value—a great principle, the antiseptic principle, to be maintained by any efficient means whatever, whether mechanical, or chemical, whether by soap and water and the scrubbing brush, by dint of force, or by an electric current or by steam, boiling water or the corrosive chlorid of mercury, or what not. The smaller mind regrets the universal panacea in a shibboleth, a drug; the broader horizon bounds the principle far wider in its applicability, and available under all conditions, at all times.

Let us, like the great Lemaire, in the midst of the apparently simple things which surround us, ever seek patiently for the great underlying truths, firmly convinced that no fact stands single and isolated, but every phenomenon is but a link in a great chain, or rather a thread in a great network in organic unison with a great whole, and those men are accounted great who with a wider comprehension and a wise induction look past the tiny present fact out toward the infinite, whither they journey so as to bring home to their fellows some of that rich store which lies ready at hand within the reach of every man who has the will to pursue his aim with a single eye.

In this drama, which thus figures in the confines of time as the greatest episode in the history of surgery, and conspires for the first time in the centuries with the cellular pathology of Virchow, to make surgery no less a science than an art; in this drama, I say, two great names are left, as heritages, representatives of nations the greatest of our modern civilization. England, the first to obtain the recognition of the world, holds the name of Lister, who, justly honored by his queen, and venerated by his countrymen, will ever live as her greatest surgeon. With indefatigable zeal, with calm judgment, dispassionate as one who has a great object before him, Lister steadily strode toward his great goal, and there he stands on the pinnacle of success, a hero and an object of emulation to surgeons of every generation.

France also claims a great man, pre-eminent and a model as a scientific investigator. One who without the stimulus of applause and appreciation, but conscious of the greatness of his aim, with wonderful thoroughness and patience in detail caught a small, and to all but him insignificant, clue and traced it until he cleared up and established the greatest facts ever known in medicine or surgery.

What matters the lack of timely recognition, to such a mind, of applause, or of medals bestowed? Who can give honor to such a man? Nay, it is he, who, by his unassuming steadfast devotion to one great aim, has bequeathed us this heritage and honors us who remain with an undying example.

I can not do better than close with Lemaire's⁵ own

4. Correspondenzblatt f. Schweizer Aerzte, Basel, 1875, p. 6.

5. Considérations sur la rôle des Infusoires et des Matières Albuminoides dans la Fermentation, la germination et la fécondation.

words: *J'ai l'espoir que l'Academie voudra bien tenir compte que Je ne suis qu'un simple ouvrier qui apporte des matériaux pour construire un édifice que les architectes plus habiles que moi termineront.*

Original Articles.

TRACHELOPLASTY.

HENRY PARKER NEWMAN, A.M., M.D.

CHICAGO.

The Normal and Pathologic Significance of the Cervix Uteri.—Thirty years of progress and research in medical science have not shaken materially the theory of Montrose Pallen, who, in 1867, in a prize essay read before the AMERICAN MEDICAL ASSOCIATION, enunciated these propositions: 1. Menstruation, irregular in its character, is always coincident with uterine disease. 2. All uterine abnormalities tend to a deformity of the organ, either in its neck or in its body, or in both. "The healthy functioning of any organism necessitates a healthy condition for its performance," and, "no unhealthy cause can produce healthy effects; therefore, from a uterus abnormal can no healthy menstrual flux proceed;" and whereas he later qualified these statements by saying that "irregular menstruation may depend upon systemic causes wherein the uterine disease is but functional and symptomatic," we ourselves know that these are the exceptions and that the great majority of our cases are of the kind that proves the rule. Even when the cause is systemic, too often its persistence leads to a state of chronic functional disturbance of the uterine system, and we have a condition calling for local investigation and treatment.

At the time Pallen wrote, lesions of the cervix uteri, such as lacerations, malformations and stenosis, were among the most prolific causes of gynecic disease, and many operations and instruments were devised for their correction. Since then there has been great advance in gynecology and obstetrics, and in prophylactic medicine, with the result that many of the factors which brought about these conditions of the cervix have been eliminated from modern life, and the pelvic organs of woman have a better outlook during the developmental period of childhood and puberty, and are more judiciously conserved during childbirth and the puerperium. At the same time, there is still to be found in the faulty methods of education, dress and diet, careless midwifery, and the "strenuous life," too much cause for malnutrition, mal-development, infections and traumatism of the genital tract. Take, for example, the cervix, a delicate organ, whose function is to soften and dilate during menstruation and copulation, to undergo easy and natural changes during pregnancy and labor; too often it is found instead contracted and resistant, setting up a barrier to healthy menstruation, becoming a storehouse of infectious germs, and giving rise to a long train of obstinate evils. Even in a uterus which seems to have a fairly free outlet at the cervix, the hyperemia which accompanies the monthly molimen may bring the cervical walls so closely in apposition that the flow is materially retarded and the secretions more or less retained. Retention of the secretions gives rise to an elaborate sequence of allied diseases, such as endometritis, salpingitis, oöphoritis, etc.

Importance of Cervical Function.—When we have under observation the sufferer from chronic metritis,

with her full allotment of general and special ills, her dyspepsia, neuralgia, headache, backache, anemia, nervous symptoms and very natural mental depression, we can not but be convinced of the importance of a function whose disturbance has resulted so disastrously. We realize also that our work should be directed to the one end of re-establishing and maintaining a condition of the tissues which shall permit the regular and normal functioning of this organ.

In the milder cases we may choose between a prolonged course of routine, palliative treatment, and the more radical surgical procedures. In the graver, where there has been extension to the tubes and ovaries, salpingo-oöphorectomy, ovariectomy, or hysterectomy may become necessary to remove the local effects of disease, but not always with hope of bringing back a normal degree of health in a constitution injured and disturbed by long presence of diseased conditions.

Improved Technique in Operating.—In selecting a

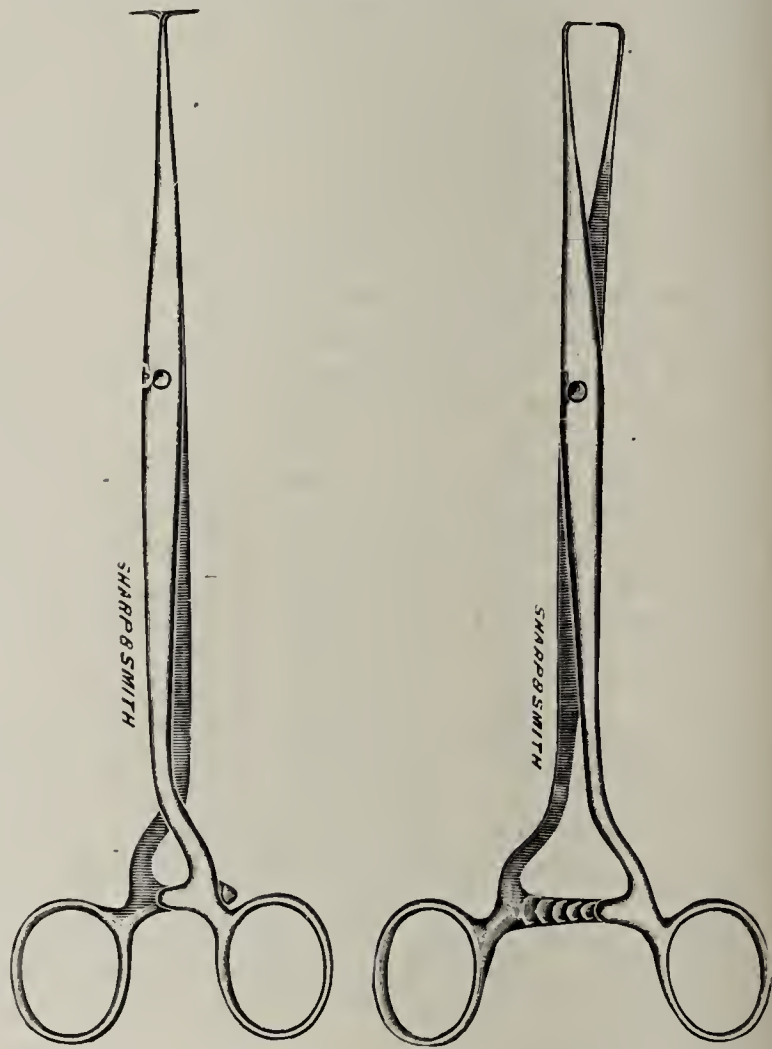


Fig. 1.—The author's tenaculum forceps. The blades can be made to pass each other and point outward without unlocking.

method of surgical repair of the cervix uteri, we should remember that that is most excellent which requires least preparation and after-treatment, and which exacts least in the way of time and patience from patient and physician. And here let me remark that there is a reaction against the tedium of routine local treatment that bids fair, like all reactions, to go almost too far and abrogate it altogether. It is certainly a detriment to the average patient to be subjugated to prolonged topical treatment. It has a tendency to establish the habit of invalidism, and to fix the attention inward, which is not a healthy stimulus to recuperation. I have for some years sought to do operative work of such a character that as much as possible may be accomplished at one sitting, and the patient led to expect prompt recovery and encouraged to consider herself free from bondage to the gynecologic chair. My results have so far been satisfactory. Though my manner of operating differs materially from any so far described it possesses

certain advantages which I hope will commend themselves in comparison with existing modes. We have seen the passing or reconstruction of the older methods within very recent times, but as yet there is no unity in choice of technique, and this lack of agreement perhaps lays us open to the sweeping criticism of Dr. von Randolr, who remarked that "as long as there are twenty-five methods of doing a thing none of them is good." This has only a measure of truth in it for the progress of surgery is marked by the passing of modification after modification of good methods, and the road still leads on to perfection.

Emmet himself—whose brilliant former work seemed so nearly the final achievement—has so far abandoned his famous operation for laceration of the cervix, that he limits its performance to cases which scarcely exist in modern practice, saying that, "with but few exceptions amputation is the proper means to employ . . . for relief of pathologic laceration of the cervix as it is now met with."

There can be no dissenting from this proposition to-day, although it may not be out of place to note some of the views of recent writers on amputation as it is generally performed. Early in the history of the operation Pauly is quoted as saying, "Of all surgical operations, the excision of the neck of the womb has hitherto

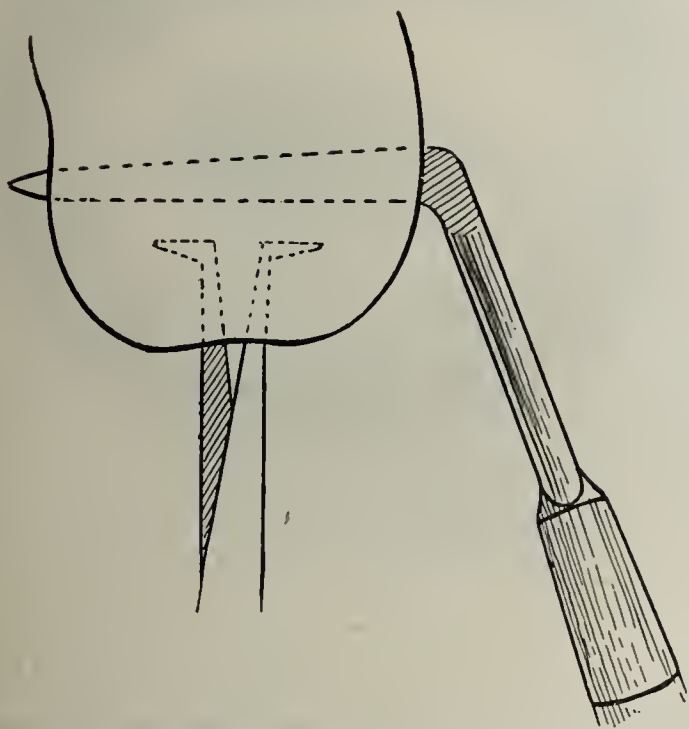


Fig. 2 a.—Cervix transfixed preparatory to making flap: forceps readjusted within cervix.

been the most murderous." Dr. A. Palmer Dudley, of New York, objects to the prevailing technique, that is, the older method of Schroeder, Emmet, Pozzi, and others, on the ground that, "in closing the womb one is very apt to narrow the canal to the extent of obstructing the escape of the normal discharges from the uterus, thereby injuring the woman instead of benefiting her. Many can recall cases in which, before operating for laceration of the cervix they could recognize no disease of the uterine appendages, while afterward disease developed. Why? Simply because in repairing the cervix they closed it, prevented the normal discharge from the uterus, induced continual passive congestion of the endometrium and the disease then traveled up the tubes."

Hegar and Schwartz claim that the Sims method allows blood and serum to collect behind the sutures, and Thornburn considers the use of stitches unnecessary.

The "American Text-Book of Gynecology" says of amputation by the galvanocantery, which is still used by some, that its only commending feature is its blood-

lessness. "Confidence can not be placed in it and it is therefore illegitimate."

The objection to removal of diseased cervical tissue by the curette is that in this organ, whose mucous membrane differs from that of the uterus in essential particulars, chronic inflammation causes a dense, firm tissue with deep glandular involvement which only a sharp curette thoroughly used can remove. Such removal is apt to result in constriction of the canal amounting to a severe stenosis or even atresia unless followed by tedious and objectionable after-treatment.

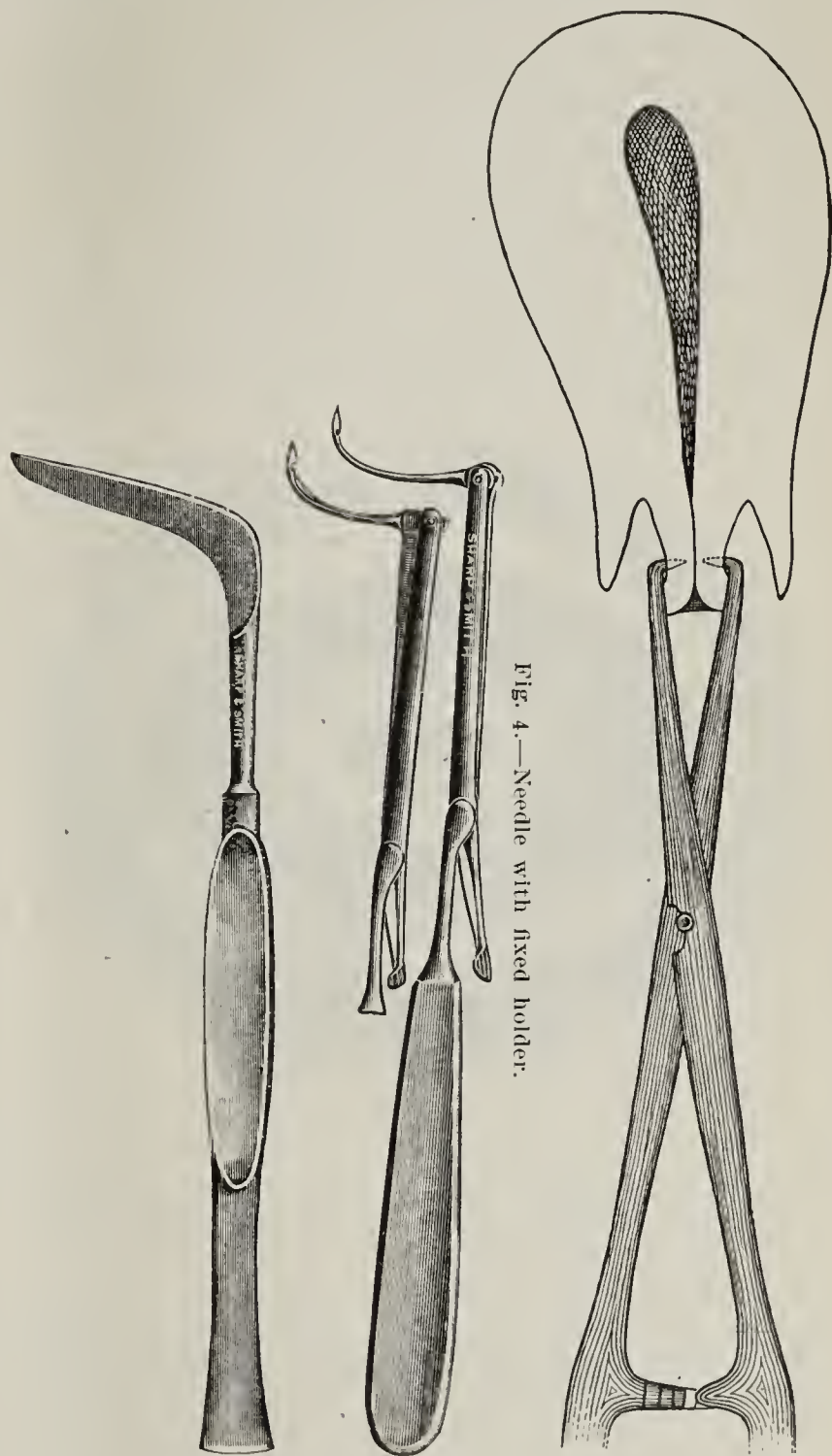


Fig. 2 b.—Right-angled or Tracheloplasty knife.

Fig. 3.—Formation of flaps. Plug of pathological tissue grasped by forceps and ready for excision with curved scissors just above the tenaculum points.

In advocating amputation of the cervix for inflammatory conditions, L. Touvenaint (France) says: "The curette, which gives excellent results in chronic corporeal endometritis, is altogether insufficient in cervical endometritis. The operation [amputation] gives brilliant results, preceded by curetting; we say preceded by curetting because it is rarely the case that inflammation of the cervix has not been propagated to the cavity of the body, and the endometritis become general. . . . Amputation is not done solely for the sake of removing a part of the organ; it possesses also the advantage of

inducing profound modification in the vitality of the entire uterus, so that this undergoes a veritable involution."

The form of amputation which I practice, I prefer to call by a more distinctly descriptive name.

Revival of Term "Tracheloplasty."—Amputation conveys the sense only of the taking away of the diseased organ, whereas the object of ideal operating is the removal of adventitious tissue only, the restoration of anatomic conditions and re-establishment of normal function.

I had called my work tracheloplasty in reference to its nature and intent before I knew that Parvin had once given the same name to the early work of Emmett. As the latter never accepted it and as I find it most aptly fitted to my use, I have adopted it and shall continue to designate by it the following operation:

The Author's Operation.—The patient, being surgically prepared, is placed in the lithotomy position and the cervix drawn down with a vulsellum forceps, bringing the uterus well into view. The cervix is dilated and the uterus curetted if indications for curettage exist. These are, however, so nearly constant as to make it

out about three-fourths of a centimeter within the cervical canal. Two parallel stitches are now placed at each angle of the cervical canal. Silkworm gut is the suture material I commonly use, and the employment of this fixed needle and holder (Fig. 4) renders an otherwise difficult procedure quite easy. The posterior lip is treated in the same manner, except that here it is easier to pass the sutures from within outward, while the reverse is true in sewing the anterior lip. Two sutures are now passed, as in trachelorrhaphy, through the outer angles of the wound, which gape slightly after the turning in of the flap. For nice adjustment of the stitches and for ease in removal I am in the habit of treating them this way: In tying the sutures one end of each is left long and these long ends are grouped by tying them together according to their location. The three anterior sutures form one group, the three posteriors one group, and the two lateral sutures are tied together, a pair on each side, making four groups in all.

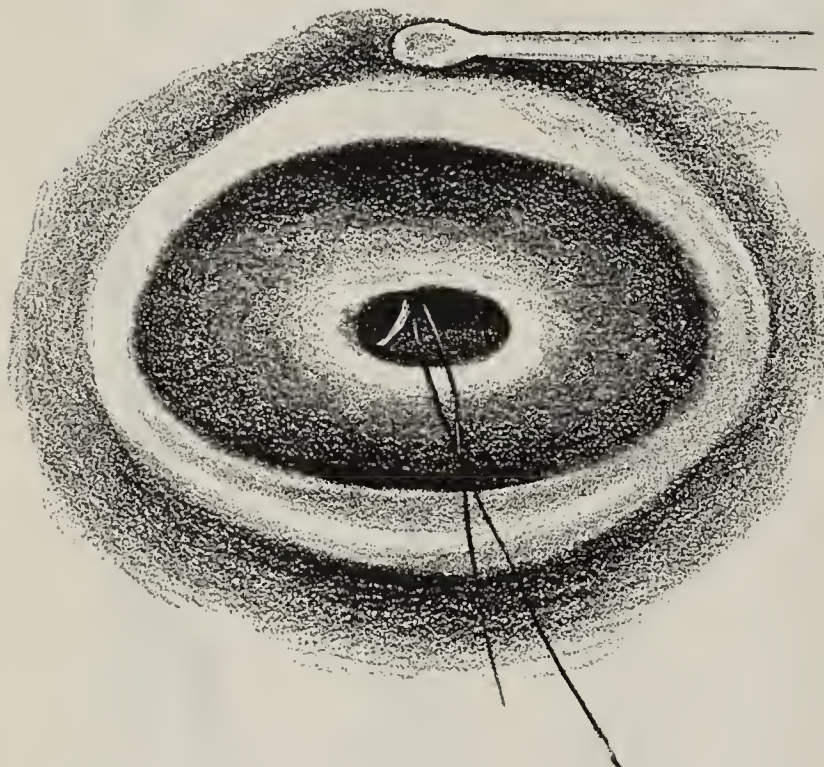


Fig 5.—The plug of the tissue is removed and flaps falling inward are ready for stitching.

practically the rule. The cervix being drawn down with the bullet forceps or a double tenaculum, the blades may be reversed and replaced within the cervix so that their points are directed laterally, from within outward, but I prefer to use the specially devised instrument which you see here. (Fig. 1.) By using it in this manner traction is made upon the inner area of the cervix, leaving the anterior and posterior walls free for making the flaps. The cervix is now transfixes by this special knife (Figs. 2a, 2b), and a clean cut made from above downward, first in the posterior lip. The anterior lip is transfixes in a similar manner about 1 or 1.5 centimeter in front of the other and cut in the same way.

The intervening plug of diseased tissue is now removed by a single cut or two of the curved scissors, the bullet forceps having been changed to a lower position to allow it. (Fig. 3.) The flaps thus made will now fall together and inward so as to assume the appearance of a normal cervix and will require only the simplest suturing to keep them in this position. (Fig. 5.) The first suture is passed through the center of the anterior flap, a centimeter or more from its cut edge, and brought

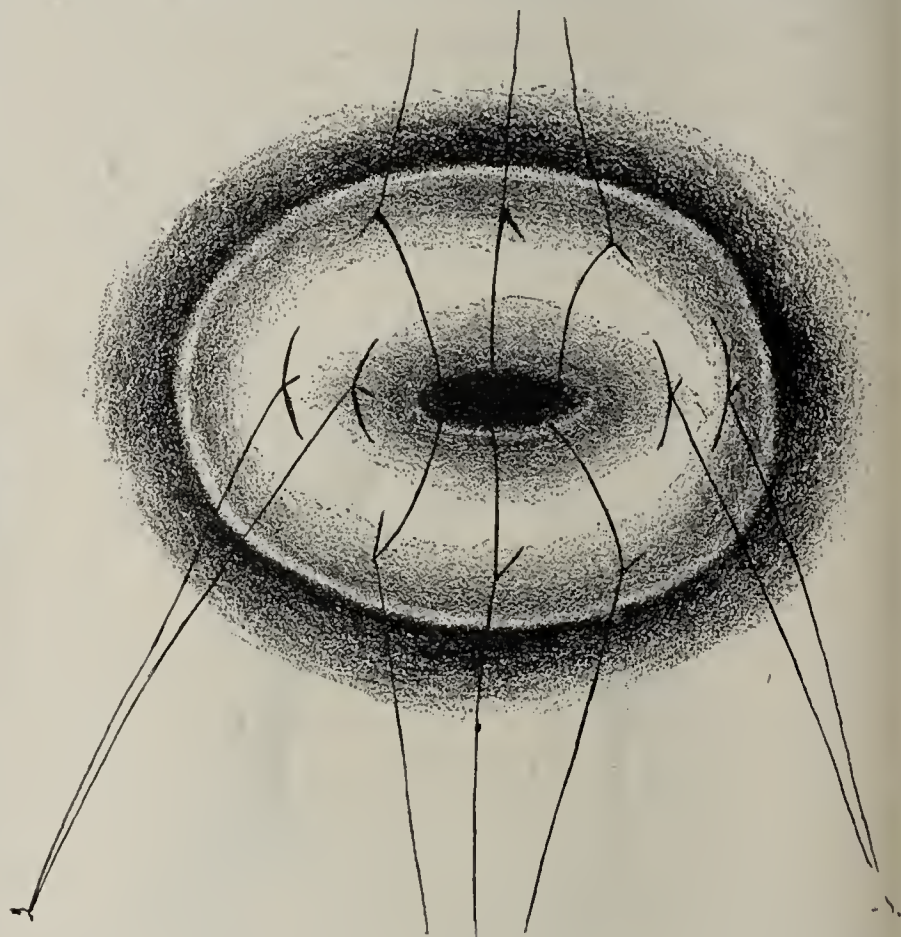


Fig. 6.—Showing stitches in situ and manner of tying in groups.

(Fig. 6.) A uterine tampon of iodoform gauze or wicking is now inserted by means of this forceps and tampon-carrier (Fig. 7), a projecting strand being attached to the vaginal gauze tampon in order that both may be removed without undue disturbance of the parts. If no accessory work is done the usual perineal dressings are applied and the patient put to bed. The external genitals are bathed with antiseptics after micturition, but no douching of vagina or disturbance of tampons is allowed until the second or third day, when the entire tampon is removed and not replaced. Vaginal douches of 1 to 4000 bichlorid are then used twice daily. The sutures are removed at the end of two weeks, when the patient can be up.

The advantages of this method are: 1. Quickness and ease of operating by the knife here presented, the manner of making the flaps transcending in certainty and safety of execution the ordinary methods of excision. 2. Clean, smooth-cut surfaces, obtained without haggling of tissue. 3. The easy approximation of flaps and the avoidance of all hemorrhage beneath them by deep placing of suture and compression of the

flaps. 4. The accurate approximation of mucous membrane to mucous membrane, thus avoiding granulating surfaces, formation of cicatrix and constricting of the canal. (This feature, which also pertains to Schroeder's operation, is of great importance and a decided advantage over trachelorrhaphy, especially where the entire mucous membrane is removed.) 5. The certainty of obtaining a permanently patulous canal and a well-formed cervix with pronounced reduction of the hyper-

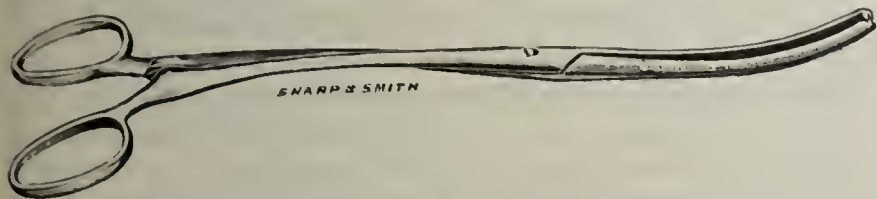


Fig 7.—The author's tissue forceps and uterine tampon carrier.

plastic uterus. 6. The simplicity of the after-treatment.

Finally, plastic gynecological work, to be ultimately successful, should not be done piecemeal. The operation I have described is seldom called for alone. The neglect to do necessary complementary operations brings frequent failures. While tracheloplasty will often correct a simple displacement of the uterus due to inflammatory conditions with increased size and weight by correcting the lesion of the cervix and the accompanying metritis and by stimulating involution, its value may be greatly enhanced by such reinforcing work as shortening the round ligaments or suspensio-uteri where there is dis-



Fig. 8.—Excised cervical tissue.

placement of the uterus; divulsion and curetting when disease has extended to the endometrium above; reparation of the pelvic floor when, through relaxation or trauma in childbed, there is hernial condition of rectum, bladder, vagina or superimposed viscera; even opening of the abdomen for plastic work or resection in pathological conditions of ovaries, tubes, etc.

Any one or all of these accessory operations may be necessary to the restoration of the patient, although the diseased or deformed cervix was the essential, perhaps the sole, etiological factor in her case.

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THE PHYSIOLOGIC CARE OF COLDS.*

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That the condition called a cold is one of repletion, may be readily demonstrated. Among other evidences of this is the fact that treatment based on this theory is uniformly successful. Its acquisition is frequently attributed to some exposure, it may be from lack of wearing apparel, or from atmospheric changes. But a closer examination will show this to be an erroneous conclusion, for on many occasions the observer has been exposed to a great variety of changes without any cold resulting therefrom, when again, under other conditions, with the slightest exposure, in even the hottest weather, one may suffer from the hardest kind of a cold. This results from imperfect elimination, or an inactive condition of the excretory organs. In fact it is the condition of the individual, rather than his exposure. The impurities of the system are being discharged through the mucous membrane, particularly of the head, instead of the proper eliminating organs. Many a time has this condition been brought about by a too-generous dinner. The sudden changing from heat to cold, by going from a warm room to the cold air of outdoors, when a person is debilitated and of feeble reactive powers, frequently produces the condition called a cold. Any overwork or exhaustion of the nervous system places the body in a negative state, so that there is less power of vital resistance to morbid changes. A languid, exhausted feeling is often accompanied by a headache, or inactive stomach and bowels. If the ordinary amount of labor is imposed upon those organs while in that condition, it is necessarily most imperfectly performed. Then is the body poisoned by its own impurities. Too frequently tonics are taken to spur on and still further exhaust an already weakened system.

In looking for the cause of colds, or any other disease, it is well to consider the first cause, rather than the merely exciting or secondary one, which is only incidental to the disturbance. By doing this we can shape our life so as to avoid most of the disasters common to modern civilization. Ignorance of the laws of life, and of man's relation thereto makes of him a slave, while knowledge of these laws gives him freedom to instantly accept and enjoy the fruits of obedience.

The invariable cause of colds come from within, not without. No one takes cold when in a good vigorous state of health, with pure blood coursing through his body, and there is no good reason why any one in ordinary health should have a cold. It may come from insufficient exercise, breathing of foul air, want of wholesome food, excess of food, lack of bathing, etc., but always from some violation of the plain laws of health.

There can be no more prolific cause of colds than highly-seasoned foods, as well as frequent eating. These give no time for the digestive organs to rest, and incite an increased flow of the digestive secretions. Thus larger quantities of nourishment are absorbed than can be properly utilized, and the result is an obstruction, commonly called a "cold," which is simply an effort of the system to expel the useless material. Properly speaking, it is self-poisoning, due to an incapability of the organism to regulate and compensate for the disturbance.

A deficient supply of pure air to the lungs is not only

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a strong predisposing cause of colds, but a prolific source of much graver conditions. Pure air and exercise are necessary to prepare the system for the assimilation of nutriment, for without them there can be no vigorous health. The oxygen of the air we breathe regulates the appetite as well as the nutriment that is built up in the system. The safest and best way to avoid colds is to sleep in a room with the windows wide open, and to remain out of doors every day, no matter what may be the weather, for at least two hours, preferably with some kind of exercise, if no more than walking. One should not sit down to rest while the feet are wet or the clothing damp. A person may go with the clothing wet through to the skin, all day, if he but keep moving. Exercise keeps up the circulation and that prevents taking cold.

The physiologic care of colds is the prevention of their occurrence. The person who does not carry around an oversupply of alimentation in his system, and furthermore secures a purified circulation by strict sanitary cleanliness, thus placing himself in a positive condition, is immune to colds. A starving man can not take cold.

A careful diet would exclude the use of all narcotics, and of all food that is not thoroughly appropriated. An overfed person is worse off than one who is underfed, because the overfed body is taxed to dispose of what can not be appropriated, and when not properly disposed of, remains only to be an element of danger.

Inasmuch as a congested condition of the mucous membrane of the head and throat is always present in case of colds, and the breaking up of this condition is the prime requisite, and as elimination is the most powerful measure of relief, it is a source of gratification that, in the proper use of heat, we have the most powerful eliminating agent that is known. The most convenient and effective form of utilizing heat on the human economy is by the modern Turkish bath. It has been thoroughly tested in thousands of cases, and never known to fail. Its action is so positive that relief follows promptly on its application. At such times there is a determination of blood and nervous energy to the mucous membranes. The action of heat relaxes the tissues, thereby inviting a normal circulation through the congested parts and changing this determination to the surface and extremities, thus restoring the balance to the circulation, and at the same time unloading the system of its impurities through the skin and other natural excretories, instead of the internal mucous membrane.

All the various effects that follow what is called "taking cold," are traceable to the skin's failure to send off waste in the insensible perspiration. The catarrh which shows itself in a discharge from the nostrils is a very clear effect of this failure of the skin. The substance which ought to pass away in insensible perspiration forces its way through the membranes of the nostrils in a thickened state, only because it is not sent off by the chilled and deadened skin. If the skin was doing its work, this effect could not possibly occur.

During a cold the system is struggling to rid itself of impurities through the Schneiderian membrane, where the sense of smell is located. This is naturally very tender and sensitive, and is made more so by the abnormal condition. The Turkish bath enforces a derivative action, and the discharge is largely carried off through the external skin and no longer remains a source of irritation. The normal balance is restored, and if utilized at the outset relief is prompt. The heat

opens the sluice ways of the skin, and the system is quickly unloaded of what has been blocking the outlets, but in the later stages, and when the whole body is burdened with debris, the result of a long infringement of the laws of health, a persevering course of treatment is required. The Turkish bath is equal to this emergency, and may be desirable twice a day. Furthermore this bath is reconstructive, for it not only removes from the blood its used-up material, but hastens on the new supply of invigorated blood, and thus every function of the body is quickened. It also removes the superfluous accumulations of the outer layer of the skin and enables it to complete the perfect work of reconstruction. In cases where pneumonia has developed, its action is most salutary. One of the latest cases was fully restored inside of two weeks from the onset of the disease.

The primary cause of all disease is internal. No disease develops in the body from any accidental or secondary cause without the co-operation of the fundamental one. Health is the harmonious action of all the functions. There is no doubt that the larger amount of disease comes from unsuitable food, producing abnormal conditions of the blood. Too frequently there is a wrong selection of food, and often an imperfect preparation of that which of itself is good.

Inasmuch as people are inclined to cater more to the taste and fancy, rather than to consider the hygienic value of their foods, the result of their feeding is sure to produce a state of inharmony. The blood can not thus be furnished with the proper elements for forming healthy tissue. Man does not live by what he eats, but by what he digests and appropriates. Health is man's normal condition. No ache or pain should trouble any human being until death comes naturally at the end of a long life. If this desideratum is not secured, there is evidently some mistake in the dietetic habits.

Frequently the body is pickled with common salt, which is equivalent to saying it is poisoned by it. The salt dissolved in the blood passes into all the tissues. Osmosis takes place. Through the cell membranes the salt enters the cells and the cell contents pass out. These constituents, freed from the tissues, must be excreted through the kidneys as waste material. Thus degeneration takes place, through the abuse of common salt, and the system is made more susceptible to colds.

The practice of administering quinine to break up a cold is to be condemned, because it debilitates the nervous system and weakens the action of the heart. The same may be said of any alcoholic medicament, because the nervous system is first irritated and afterward depressed by its use. In fact when the system is laboring in an effort to free itself from any obstruction, the presentation of a powerful agent that interferes with elimination is not only uncalled for, but decidedly injurious, because it prevents the natural forces from doing their perfect work.

When people understand that disease is a vital struggle, an effort to protect and defend the organism, that it is not a thing or entity, foreign to the system, but an action of the system itself, which seeks its preservation, not its destruction, they will cease to fear it; they will only fear its cause.

To make a radical cure of a cold, let the patient abstain entirely from food for at least twenty-four hours. Should the bowels be at all inactive, it is desirable that they be thoroughly flushed with warm water. Drink freely of pure water, taking a brisk walk in the open air, and then a Turkish bath. This may well be followed by an oil-rub, sometimes called a Roman bath, which mol-

lifies the skin, making it more flexible and active. He will find a permanent benefit therefrom. The internal pressure will be relieved, and the cure perfected. Necessarily chronic cases need more persevering treatment, but each day will show progress, and only perseverance is needed to triumph ultimately over the morbid action. This fact is important, for it is claimed that 75 per cent. of the inhabitants of New York are constant sufferers from some form of colds. If they were always promptly and properly treated there would be many less cases of la grippe, pneumonia, or even consumption to be cared for. It would be like turning the stream in the right direction at the fountain head. We well know that many victims of la grippe do not regain their normal condition of health for several years afterward.

When the above plan is faithfully carried out, the individual is free from any symptom of disease, rarely finds a handkerchief necessary, or even a need of clearing the throat. The converse may be quickly proved by a short season of greasy and highly-seasoned food, and an extra meal added to the usual supply. The old proverb, "Stuff a cold and starve a fever," is an absurdity, for one suffering with a cold has already an inward fever on hand, and the more he is stuffed the worse he will become. Stuff a cold and you will be sure to have a fever to starve. One authority says that living on fruit for two or three days and drinking freely of hot or cold water, with milk for nourishment, will often cure an ordinary cold. Some persons, by drinking freely of cold water and exercising vigorously, can easily throw off a cold.

All harassing forms of coughing can be avoided by simply obeying the laws of health. The cough is a process of nature to relieve itself of impurities which are then thrown off by the mucous membrane instead of by the usual excretory organs. By purifying the system, by eliminating the impurities through the natural channels, we relieve the determination of the blood and nervous energy to the mucous membrane, and the cough vanishes. By freely drinking of hot water every hour, this happy result can be materially hastened. This is much better than taking the ordinary cough mixtures, which disorder digestion and spoil the appetite. The water should be taken as hot as can be borne, and relieves by promoting the secretions as well as the expectoration.

A simple "cold in the head" may be successfully treated by drawing hot water into the nostrils and then blowing it out, repeating the process several times, until the nose is thoroughly cleaned. This is a simple and effective way of strengthening the membranes. It is both soothing and curative, and may be done morning and evening while washing the face. Whenever hoarseness is apparent, the one remedy is rest. Like other disease, a cold is not a thing which leaves no trace. It should be treated with as much care as would be given to many other diseases. If neglected, it is liable to bring on serious complications. Every period of disease through which a person passes, whatever its nature, is a permanent impairment of the vitality. Therefore, catching cold, or the beginning of any disease, is to be avoided as much as that of losing a valued possession. Lack of attention to such matters causes one to grow old sooner than he otherwise would.

For those in fair health, the practice of cold bathing in the morning is to be commended, particularly if a warm shower precedes the cold, or a short season in a warm room precedes the cold plunge. This is then most invigorating, and helps to tone up the skin to be un-

mindful of external changes of temperature, and the person less liable to take cold. But of all baths, the Turkish ranks at the head. For those who aim at the highest efficiency of bodily vigor, there is nothing more helpful than that of indulging in its sanitary luxuries at least once a week.

Few realize the many advantages of pure water for drinking. We pay a great deal for water that is impregnated with this or that salt, while the more it is impregnated with any foreign substance, the less valuable is it to the human economy. One great desirability of pure water is that it will dissolve, and thus help to eliminate, morbid accumulations from the system, wherever they may be lodged, whether they may be granular, crystalline, or calcareous. This is one of Nature's processes to save the health and life of the body. An eminent physician claims water to be a food, indispensable to all mankind. It certainly makes up the largest part of our bodies, is one of God's best gifts to man, and should be freely indulged in.

The surest safeguard against all disease is a purified and well-balanced circulation in a well-nourished body. The Turkish bath properly used secures the first, and a careful diet, combined with a moderate amount of exercise and out-door life, will secure the second. It is our unnatural, artificial mode of living which gives rise to all disease, or at least to our predisposition to disease.

There must be a certain definite way of living for every species of animal, and certainly for the human race. A transgression from this rightful way must in some manner alter the normal composition as well as the reactive power of the body. A man living on bread and milk differs in appearance, and the condition of his tissues from one whose food is highly seasoned, and who uses alcoholic drinks, together with tea, coffee, and tobacco. These narcotics have enormously assisted in the rapid degeneration of civilized mankind in this latter half of the nineteenth century, nor can we expect to see any great improvement unless the subjects of health and hygiene, the very foundation of life and wisdom, are taught to the rising generation in our schools.

Such an important matter as alimentation, the foundation and mainspring of bodily and mental, individual and social health, deserves the best work of the ablest minds. Physicians may indeed be proud to help in this cause, and thus take their rightful position as leaders in hygienic and medical matters. What is largely needed is a clear insight into the beneficial or harmful action of the habits of daily life upon the body. When physicians are appointed by the state as teachers of hygiene, a new era will be entered upon, and the physiologic care of colds will receive its due meed of attention.

SPONTANEOUS RUPTURE OF THE UTERUS.—Jardine recently reported (*Glasgow Med. Jour.*, April) a case of this rare complication during labor, in a woman aged 32, vii-para. When admitted to the hospital there had been some hemorrhage, but it had ceased. The os admitted two fingers. The head presented in the first position. She was having regular pains, the pulse was good and there was no over-distension of the uterus. Three hours later she had three severe pains in quick succession and collapse. Delivery was made by forceps and the tear in the uterus plugged, but the patient died in a few moments. The rupture extended almost to the fundus on the left side, the vaginal portion evidently having given way during the delivery.

ATROPHY OF THE MUCOUS MEMBRANE OF THE STOMACH.*

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While much has been written upon this disease by different authors, comparatively few cases have been reported, and many of the cases which are reported under this heading are worthless because the diagnosis is made simply upon the absence of free HCl in the stomach contents. It is due to Fenwick¹ who, in 1877, was the first to call attention to this condition of the stomach as an independent disease, particularly as to the question of its being incited, or caused by, and having relation to, pernicious anemia, that we acknowledge our obligations to his efforts. Since that time a large number of authors, Ewald,² Nothnagel,³ Osler,⁴ Kinnicutt,⁵ Einhorn,⁶ and others, have employed themselves in a more exact study of this disease under the different names of atrophy of the mucous membrane of the stomach, achylia gastrica, atrophica gastritis, phthisis ventriculi, catarrhus atrophicus, *anadnie des Magens*, etc. It would occupy too much space at this time to attempt to follow out the evolution and development of this question by the authors mentioned. In my own experience in diseases of the stomach and intestines, it has been impressed upon me that this condition is not so rare as it is commonly supposed to be. I have, therefore, thought it might be of interest to the profession at large to mention a few cases taken at random from a large number of histories, and to give a line of treatment which has been successful in my hands. I have also included a few cases, for comparison, which appeared at first to justify a diagnosis of atrophy, but which proved later to be achlorhydria, or simply achylia without the permanent organic change in the mucous membrane. Most authors have associated this condition with pernicious anemia, which is a fatal disease. This seems to me to be wrong, for, in the first place, as will be seen further on, patients with atrophy may enjoy apparently good health and long life and, in the second place, a positive diagnosis of this condition should not be made until all justifiable means of treatment have been exhausted and repeated examinations fail to show any sign of a return of the stomach secretions.

Clinically one may speak of achylia gastrica where, upon analysis of a test-meal, there is found to be a greater or less disappearance of gastric secretions, but one can only speak of an atrophy of the mucous membrane of the stomach where, after repeated examinations under different conditions and at various periods after the ingestion of food, there is a complete absence of all normal constituents of gastric juice. It is often the case that only the free HCl is absent, and the conclusion is too hastily drawn that we have to deal with a case of atrophy of the mucous membrane, while it is a question of the disappearance not only of the free but also of the combined HCl which concerns us in making a positive diagnosis of atrophy, and it is only where, after a test-breakfast or test-meal the stomach contents are either neutral or quite low in total acidity, namely from four to six, that one can say without further examination that the secretion of gastric juice, and consequently HCl, has completely disappeared. Where simple acidity exists one can suppose without

further examination that he has to deal with an achlorhydria.

I wish to emphasize a point which I brought out in a former article,⁷ and regarding which a false impression seems still to exist in the minds of many practitioners. I refer to the impression that the absence of free HCl is a cardinal sign of malignant disease. This is not the fact at all, as will be seen in the cases I am about to cite, none of which has shown any symptoms whatever of malignant disease. Besides I have seen many, many cases of acute and chronic gastritis in which no free HCl can be demonstrated. On the other hand, I may mention here that I have but recently seen two cases with free HCl, one in fact with a hypersecretion which proved at operation to be carcinoma. My experience corresponds with that of Einhorn, that as a general rule, in cases of atrophy of the mucous membrane of the stomach, there exists a condition of chronic diarrhea, although, as will be seen, there are exceptions to this rule.

CASE 1.—Mrs. C., aged 61, had always been a remarkably healthy and active woman until five years ago, really appearing to be ten years younger than her true age. Her trouble began with attacks of watery diarrhea, without pain, three to five movements a day, but coming so suddenly that she was prevented from going into society, to the theater, etc. The attacks increased in frequency and were brought on by over-fatigue and anxiety; her condition would improve by rest and change of scene, although she was never quite well nor entirely free from her trouble during all those years, and had gradually lost flesh and strength to the extent of 38 pounds actual weight. Her appetite was poor, tongue coated, and when I first saw her she was living on one quart of milk a day, having had her diet restricted by one physician after another until she was afraid to take anything else. She was extremely nervous and had had two or three recent attacks of vomiting and syncope. Examination of the stomach contents one hour after the Ewald-Boas test-breakfast revealed the absence of all stomach secretions; reaction neutral; bread unchanged. The patient was put upon a gradually increasing diet of farinaceous food finely ground and well cooked, white bread and butter, milk, and later eggs, meat and fish were added until the following program was established at the end of the first week:

7 a. m.: A glass of milk with two thin water biscuits and butter, taken in bed. 10 a. m.: Breakfast of two eggs heated through, a cup of weak tea with sugar and milk, and white bread with butter. Between 11 and 12 a drive in the open air. 1 p. m.: Luncheon of broiled lamb chop or chicken, rice, white bread with butter, mashed or baked potatoes, followed by complete rest for one hour. Between 3 and 4, another drive or a short walk in the open air. 4 p. m.: A glass of milk with one raw egg beaten up, or an egg-nog. 7 p. m.: Dinner of chicken soup, a piece of broiled steak or roast beef, bread and butter, baked potato, or rice or hominy. 10 p. m.: A glass of milk with two water-thin biscuits with butter. The rice and hominy were varied with other cereals to suit the taste of the patient, and she was urged to let her meals consist principally of cereals with milk and to eat at least three or four ounces of butter a day.

Improvement was manifest from the first, and during the second week of her treatment she was attending opera four hours long, visiting with her friends, and by the third week was making engagements with her dentist. She was under observation and treatment for about four weeks, and, during that time, had but two slight attacks of her trouble, due to over-fatigue. Five weeks from the beginning of her treatment I received a letter saying that she felt perfectly well, had gained 10 pounds and was enjoying life with an excellent appetite. The treatment of this case was very simple, but the patient had been under the care of a number of physicians who had exhausted the list of astringents and diarrhea mixtures

*Presented to the Section on Physiology and Dietetics, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

without any permanent results, and had finally excluded so many things from her diet as to cause serious loss of flesh and great anxiety on the part of her children and friends.

CASE 2.—Mrs. M., aged 51, whose mother died of carcinoma of the stomach at 57, and a brother of carcinoma of the face, had lost three brothers and sisters with cholera infantum. The patient herself had had considerable trouble with her stomach and bowels for the past twenty years, characterized chiefly by watery diarrhea and vomiting. She had been accustomed, in her younger days, to rich dinners with wines at all hours of the night or day, but of recent years has lived almost exclusively on milk, malted milk, and other prepared semiliquid foods. Solid food in any form causes her pain and immediately brings back her trouble with renewed severity. Opium in large doses has been her chief anchor for several years, and she has taken so much of the drug that the characteristic color of the skin is marked. One year ago she weighed 253 pounds. Her weight at the time of her first visit to me was 175 pounds, showing a rapid wasting of flesh in a comparatively short time, so that the skin hung in loose folds. Chemical examination of the stomach contents one hour after an Ewald-Boas test-meal gave total acidity 12; free HCl, 0; combined HCl, 5; lactic acid, 0; rennet, 0.

In addition to the usual hygienic measures which I prescribe for every patient who is not already living up to them, I advised her to enlarge her diet somewhat cautiously, adding first zoolak, kumyss, malted milk and farinaceous food-stuffs finely ground and well cooked; absolute rest one-half to one hour after each meal; massage three times a week. Improvement began at once, and we began to enlarge the diet list, adding raw or soft-boiled eggs and the well known junket made with milk, eggs and Fairchild's essence of pepsin, any of the cereals except oatmeal, which were finely ground and the outer shell removed, plenty of bread and butter; but the first attempt at giving meat or any irritating substance whatever would immediately cause the return of her trouble. Repeated examinations of the stomach contents at various periods after eating always showed total acidity of from 4 to 20, never any free HCl, never any lactic acid except when milk had been taken with the previous meal. The patient gained in strength and her weight increased during the winter to 194 pounds. Examination of the blood showed the percentage hemoglobin to be 60, with slight change in the size and shape of the red blood-corpuscles. I advised simple regulation of the diet to suit intestinal digestion, regular habits of life, avoidance of all fatigue or nervous strain, and a period of complete rest in the middle of the day, with the simple medication to be mentioned hereafter, and this seemed to meet all requirements.

This, no doubt, like Case 1, was one of real atrophy of the mucous membrane of the stomach, but not incompatible with health under proper regimen, for I have seen the patient but once professionally during the past eighteen months, and that was for an attack of la grippe.

CASE 3.—Mrs. H., aged 41, whose main trouble was characterized by attacks of diarrhea without explainable cause, between which attacks the bowels were usually quite regular, was very rarely constipated. She complained of backache, of being easily exhausted, and had lost considerable in weight during the year. The appearance of the patient and her group of symptoms led me to make an analysis of the stomach contents one hour after the Ewald-Boas test-breakfast, with the following results: quantity in the stomach, 90 c.c.; total acidity, 6; free HCl, 0; rennet, 0; lactic acid, 0. A farinaceous diet with a limited amount of light meats, fish and whites of eggs was prescribed for this patient, with rest in the middle of the day and fresh air.

This case especially brought out how well one may be with this condition of the stomach. With little or no treatment aside from regulation of her daily life, and with very little restriction of diet, she gradually improved and now eats almost everything she fancies, and she feels perfectly well so long as she avoids over-fatigue.

CASE 4.—Miss S., aged 23, came to me in November, 1899, with the history that for two years she had been troubled with looseness of the bowels unfitting her for work, or even social duties, continuing more or less throughout the entire year, but aggravated during the warm weather. She had become very much worried and discouraged over her condition, as she had tried several physicians with no more than temporary relief. Her appetite was good, her habits temperate, physical examination negative; analysis of the stomach contents one hour after a test-breakfast of a roll and a glass and a half of water resulted as follows: Total quantity of chyme, 135 c.c.; mucus present in moderate amount; chyme in good state of digestion: total acidity 30; free HCl, 0. Four hours after a test-meal consisting of two soft-boiled eggs, a cup of coffee (half milk), one roll and a glass of water, total quantity of chyme 150 c.c.; total acidity 32; HCl, 0. Starch digestion had reached the stage of maltose. The patient was put on a farinaceous diet, ordered to take a cool sponge bath every morning, exercise at least once a day in the open air—short of fatigue—and to put her mind at rest as to her trouble, since it was not dangerous and she would soon be all right. The patient improved immediately, began to gain in weight, and I have since received assurances from her by mail that she is perfectly well.

CASE 5.—Mr. P., aged 47, gave a history of gastric disturbance extending over a period of years characterized by excessive flatulency coming on some time after eating and associated with severe frontal headaches; appetite good; bowels very constipated; tongue coated with a white fur; habits temperate but sedentary. Physical examination was negative. One hour after an Ewald-Boas test-breakfast, the stomach contained 135 c.c.; considerable mucus; total acidity, 6; free HCl, 0; rennet, 0; starch digestion, maltose. The urine was of high specific gravity with a large amount of urates and uric acid.

The patient was put upon a farinaceous diet, milk and Celestin viely between meals, with a cold sponge bath every morning and outdoor exercise. Improvement began immediately, the patient taking up golf for his outdoor exercise. He was very faithful and regular in his treatment, and in a reasonable time was able to partake of a very general diet, although chemical analyses of the stomach contents showed, from time to time, a low total acidity and no free HCl, but he enjoyed his food and his daily life and a general sense of well-being.

The essential points in this case, which I wish to bring out most prominently, are: 1; contrary to the general rule in this class of cases this man was troubled with constipation, the rule being that these patients suffer from diarrhea; 2, and most remarkable, after one year of faithful and almost continuous treatment, except for a vacation trip now and then, taken as a diversion, the total acidity increased, free HCl and the rennet ferment reappeared, and there was also improvement in the motor power of the stomach. A recent analysis of the stomach contents one hour after a test-meal showed the quantity of chyme to be 50 c. c.; total acidity 40; free HCl, 20. This patient now comes to my office only occasionally for lavage or electricity, as circumstances indicate after some transgression in diet, or following some unusual nervous strain.

TREATMENT.

As to the indications for the treatment of these cases, first comes the regulation of the daily life, baths, exercise—active or passive—and rest. These I have already alluded to, but I wish to refer again to the diet, which is most important of all in the successful treatment of this affection. As has already been seen, we must depend on farinaceous food, and the patients must be urged to ingest larger quantities than they will feel inclined to take, for they should not be starved. While I do not believe in assisting any healthy organ of the body in doing its physiologic normal work, there are times when an extra amount of work is or must be

thrown upon certain organs, and we are obliged in such cases to furnish some assistance to those organs or our patient will suffer in health. As in hyperopia, to borrow an illustration from ophthalmology, we must advise convex lenses to relieve the extra strain, so in the cases under discussion we must in reason look for some diastatic ferment to aid the intestines in the additional work thrown upon them. I have tried many of these ferments, of which the market is to-day full, but will in this article illustrate but one in which the laboratory experiments have been borne out in actual practice with my patients. To test the accuracy of my conclusions I made a number of experiments in the laboratory with a view of ascertaining what action the actual gastric juices have upon starchy digestion. The result of these experiments was the demonstration of the fact that taka-diastase will act upon and digest starch in the presence even of gastric juice of hyperacidity. Past records in medical chemistry show the difficulty of measuring quantitatively the digestive power of any diastatic enzyme on starchy food. This difficulty is due to the fact that so far all known methods for the determination of sugar are of such complicated nature that even expert chemists can carry out only a few tests in the course of a single day. Hence, while this determination of the digestive powers of saliva and artificial or natural enzymes or diastatic preparations could not be made use of for medical or clinical purposes, I have found a very simple yet sufficiently accurate method of determining the digestive power of these diastatic agents. This method can be carried out easily by practicing physicians, and it has the advantage of requiring only a few minutes. It is based upon the fact that the products of conversion or digestion formed by the action of saliva and other diastatic substances upon starchy food have the power of decolorizing or absorbing the color of iodine compounds after different stages of digestion of the starch. When diastatic bodies are allowed to act upon cooked starchy foods, the first stage of digestion is their conversion into soluble starch, which conversion is indicated by the formation of the blue soluble color on the addition of iodine solution, while the original cooked starch forms an insoluble blue compound with iodine. The further action of the diastatic bodies upon the soluble starch is the formation of dextrin, which is indicated by a reddish-brown color when iodine is added. Between the foregoing two stages of digestion there intervenes a stage when the soluble starch and dextrin are mixed in various quantities, which are indicated by different grades of purplish color showing the different mixtures of soluble starch and dextrin. When the digestion goes still further it reaches a condition where the product of digestion forms a colorless compound with iodine, such as different kinds of acrodextrins and different forms of sugar. That is to say, during the course of digestion at its early stage, the iodine forms a product of different colors, and while it advances and completes the digestion this iodine coloring compound is changed into a compound which will give no color when mixed with iodine.

I have also found that if this non-coloring or acro-compound of iodine and starch be added to the coloring compound of iodine and starch, the former absorbs the color of the latter, or bleaches it, making the mixture colorless.

I wish now to describe this process—based on the application of these facts—for determining the digestive power of the saliva, or other artificial or natural diastatic substances. In this process there are four glasses.

The first contains water, to which we add some cooked starch. The second also contains plain water, which will represent a neutral medium, to which we add some cooked starch and taka-diastase. The third glass contains gastric juice without free HCl and a low total acidity—this is the condition always found in the cases under discussion. In the fourth glass we have gastric juice of a very high acidity with an excessive secretion of free HCl; to both of these latter we also add cooked starch and taka-diastase. I have chosen this last specimen to illustrate that taka-diastase will work in an acid medium, although it works much better in a neutral medium or one of low acidity. We now take four test-tubes, in each tube we put 20 minims from each of our four glasses. To each I now add two drops of a solution of iodine. In the first tube we find the blue color characteristic of iodine and starch. The second tube exhibits a purplish color, as do also the third and fourth. Now, why does tube No. 1 show a different color from the other three? If we examine the constituents, we find that the three latter contain an element, namely taka-diastase, that is not present in the first tube. Now, in order to determine quantitatively the degree of the digestion, we go back to the four original glasses. Add a quantity of the contents of the first glass to the first test-tube, and we observe that the blue color is increased; no matter how much we add there will be no change in this solution, showing conclusively that there has been no starch digestion. In like manner add some of the contents of the second, third and fourth glasses to the second, third and fourth test-tubes, and in just the proportion that starch digestion has proceeded we find a disappearance of the blue, showing the approach of the digestion toward the end product, which is maltose. You will observe that the taka-diastase has acted most completely in the neutral medium, but exceedingly well in the gastric juice of low acidity, and fairly well in the gastric juice of hyperacidity; and we all know that this latter is fatal to the ptyalin ferment of the saliva.

In addition to the foregoing treatment of these cases we must give at first some mild astringent which will be at the same time a disinfectant and tonic to the intestines. For this purpose my two favorite drugs are tannigen and tannalbin.

As we frequently find also, in this condition, more or less anemia, I use some form of iron which will not disturb digestion, usually some one of the preparations of peptomanganate of iron. I am often asked by physicians taking a course with me why I do not use dilute HCl and pepsin more often in these cases. I may say that I have often tried it but have obtained no results either in laboratory experiments or in practice which justify its continued use. If ever a case seemed to demand these drugs, Case 2 was an ideal one, but trial quickly proved their uselessness, for they only increased the disturbance and had to be abandoned immediately. When there is much mucus I use lavage and an intragastric spray of nitrate of silver solution, 1 to 1000. In all these cases I use intragastric electricity—galvanism—often without benefit; in fact, there can be no benefit if we have a true atrophy to deal with, but as has been seen in Case 5, which seemed at first to be a true case of atrophy, the secretions were fully restored after a long course of electric treatment, proving the benefit of this agent.

I could go on and cite many more cases equally interesting, but these will suffice to show the importance: 1, of making careful examinations and analyses of all the secretions, including the gastric juice of patients

suffering with chronic disturbances of the stomach and bowels; and 2, of careful, persevering and persistent treatment, with the full assurance of success in the long run to the satisfaction of both the patient and the physician. In no other organ of the body is an analysis more important or helpful to an exact diagnosis, and consequently in the successful treatment, than in disturbances of the digestion. I will conclude with a quotation from Prof. C. Gerhardt: "*Die Frucht der Heilung waechst am Baume der Erkenntniss. Ohne Diagnostik, keine vernuenftige Therapie. Erst untersuchen, dann urtheilen, dann helfen.*"

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SOME NOTES ON TWO CASES OF VOLUNTARY LARYNGEAL WHISTLING.*

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PHILADELPHIA.

The first case that I shall speak of was a student at the Medico-Chirurgical College, and referred to me by Dr. Gleason, of Philadelphia, who also exhibited him before the Section on Laryngology and Otology at the College of Physicians, Philadelphia, where the case aroused considerable interest and discussion. The patient could whistle a tune with his mouth open as in the position for saying "ah." Owing to the absence of good light for laryngoscopic examination, the general opinion of the majority of those present was that the whistle was made in the pharynx, somewhere in the region of the palatal pillars; but that seemed to me impossible, because the pillars were not approximated sufficiently to make an aperture small enough for the production of such a sound.

At Dr. Gleason's suggestion, an appointment was made with the young man at my office, where, with a little careful manipulation, he was trained to so control his laryngeal and pharyngeal muscles as to give me a fairly good view of the larynx during the emission of the sound; and I found that the lips of the superior opening of the larynx were pursed in the same way that the lips of the mouth are pursed in whistling, and the physiology of this interesting phenomenon was made clear to me and I was able afterward to demonstrate it to others. The aryepiglottic folds were used as the lips of the mouth are used in whistling, and, so far as I could determine, no other parts of the larynx were employed.

Since studying this case, my attention has been called to the fact that a somewhat similar one was reported in 1881, by Dr. J. O. Roe, and published in the proceedings of the American Laryngological Association. In this case, however, according to Dr. Roe's description, the whistle was made in an entirely different manner. "The ventricular bands were approximated and puckered up, leaving an elliptical opening in the center through which the vocal cords could be seen, with their thin edges vibrating. . . . Thus it

could be distinctly seen that the fundamental tones of the laryngeal whistle were produced by the vibration of the edges of the vocal cords." In my case there was no reason to suppose that the vocal cords had any more to do with the whistle than they have to do with the ordinary lip whistle, and the fundamental tone was made by the vibration of the "puckered up" aryepiglottic folds.

My other case is a man who imitates birds, and who can produce three, and at times four, distinct notes at one and the same time. He can whistle somewhere down in the region of the larynx, but not with the mouth open, as in the former case, and therefore the musculature can not be studied by laryngoscopy. Although he is an exceedingly clever man, he does not know at all how he makes these curious sounds, and so far as I know, we have no adequate artificial aids to their study. The subject is especially interesting as showing the possibility of the development of voluntary laryngeal muscle action, which formed the topic of my paper read before this Section at Columbus, in 1899.

SOME ANOMALIES OF THE EAR DUE TO ERRORS IN DEVELOPMENT.*

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PHILADELPHIA.

The earliest sign of the ear in the embryo appears about the third week, and is the anlage of the complex labyrinth. It begins as an ectodermic thickening just above the first gill-cleft (hyo-mandibular). Later there is a depression of this thickened area—the auditory pit—which grows deeper and deeper, its edges finally uniting and thus forming the otic vesicle. The otic vesicle being surrounded only by mesodermic tissue is in close proximity to the after-brain and in close relation to the acoustico-facial ganglion. By repeated evaginations, invaginations, unequal growths and foldings,

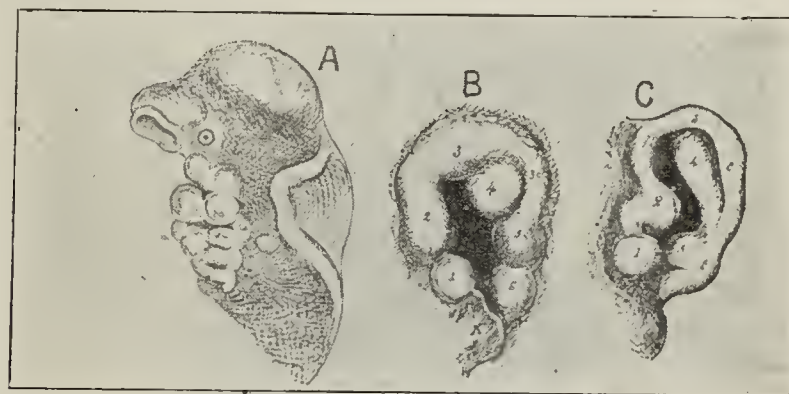


FIGURE 1.

the complex membranous labyrinth is developed, the otic vesicle proper representing the epithelial lining of the entire labyrinth; those of its cells found in the region of the distribution of the nerve of special sense—the maculae acusticae and cristae acusticae and the organ of Corti—become highly specialized, the rest of the cells remaining as simple columnar epithelium. While these changes in shape and character are taking place in the otic vesicle the surrounding mesoderm is being formed into the cartilaginous ear capsule; and from the embryonic mesoderm between the capsule and the epithelial labyrinth is formed the fibrous portion of the membranous labyrinth closely adhering to the epithelial labyrinth and the internal periosteum of the

* Read by Title in the Section on Laryngology and Otology, at the Fifty-first Annual Meeting of the American Medical Association held at Atlantic City, N. J., June 5-8, 1900.

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bony canal while the tissue between these two layers liquefies and forms the perilymph. The cartilaginous capsule and surrounding structures are ossified later on and form the petrous portion of the temporal bone.

The middle and external ears are derived from the inner and outer portions of the hyomandibular cleft.

The membrana tympani is the remains of the membrane separating the inner from the outer cleft. The dorsal segment of the inner cleft—evagination of the

the ossiculæ, but they remain outside of the entodermic epithelium which lines the tympanic cavity. The external meatus is occluded by concretion of its epithelium until after birth. The cerumen glands appear at the age of five months.

The Ossicles.—The malleus and incus are derived



FIGURE 2.

primitive pharyngeal cavity—is formed into the tube and the tubo-tympanic cavity by the coalescence of its edges. This is the anlage of the Eustachian tube and its dorsal or blind extremity enlarging forms the middle ear, while its inner end opens into the pharynx just behind the soft palate.

The external auditory meatus is formed from the posterior part of the first external gill-cleft and is the only part of this cleft which is not obliterated by coalescence.



FIGURE 3.

At three months the meatus is obliterated by a solid block of epithelium, the fundus being separated from the small middle ear by the "closing plate," which becomes the tympanic membrane. In the connective tissue between the vestibule and the fundus of the external canal is the malleus or upper end of Meckel's cartilage. The tissue atrophying brings the membrana tympani around



FIGURE 4.

from the cartilage of the first visceral arch near its dorsal extremity.

The stapes is formed from the connective tissue near the foramen ovale and has no relation to the cartilages in the arches.

The Auricle.—The auricle is formed around the posterior free margin of the first cleft and is first evidenced by six mesodermic tubercles covered by ectodermic cells which appear around this region. The cartilage and other connective tissues of the auricle are derived from the mesoderm, while the epithelium is derived from the ectoderm.

Figure 2 is from a lad aged 16, without other defects



FIGURE 5.

in his development. The little nodule anterior to the tragus was probably formed by an auxiliary nodule on the mandibular arch. It is apparently composed of cartilage, fibrous tissue, and skin, and could be removed without any unpleasant sequelæ.

Figure 3 is taken from a drawing made for me by my friend Dr. J. M. Taylor, from the ear of an Italian

woman, aged about 30 years, who was otherwise normal and in whose immediate ancestors there were no defects of development, nor were there any in her four children. In this case there were probably four nodules.

Figure 4 represents a case occurring in the practice of Dr. B. Alex. Randall. There was probably a failure of development of tubercles 2, 3 and 4, with failure of coalescence of 5 and 6.

Figure 5, taken from Gould and Pyle's "Anomalies," and originally from the London *Lancet*, shows what

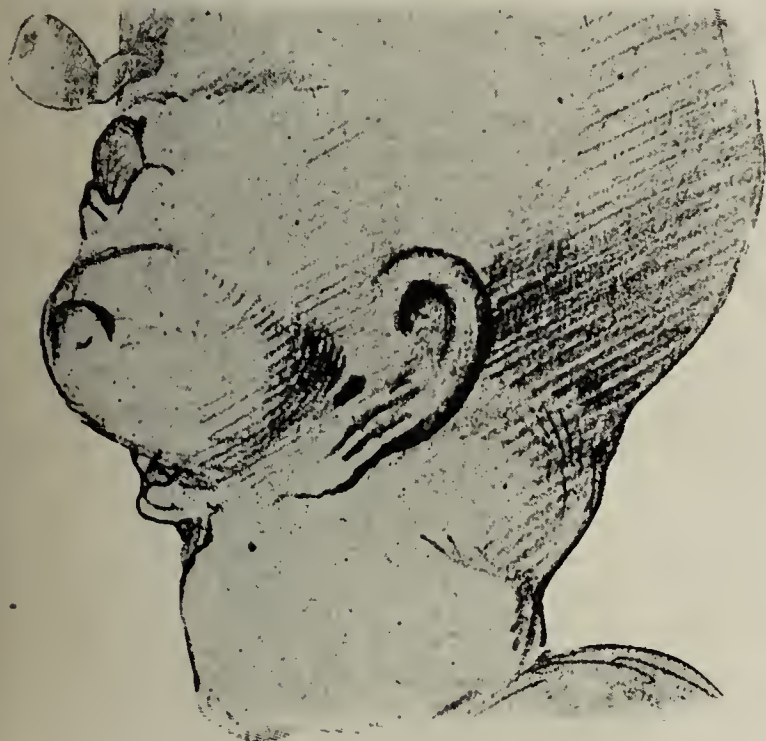


FIGURE 6.

was probably an auxiliary set of tubercles—about second cleft.

Figure 6 is taken from a newborn infant which had no external nose; it had no eyes except a rudimentary one in center of forehead from which a horn projected. Other defects were present. In this case tubercles 1, 2, 5 and 6 failed to develop.

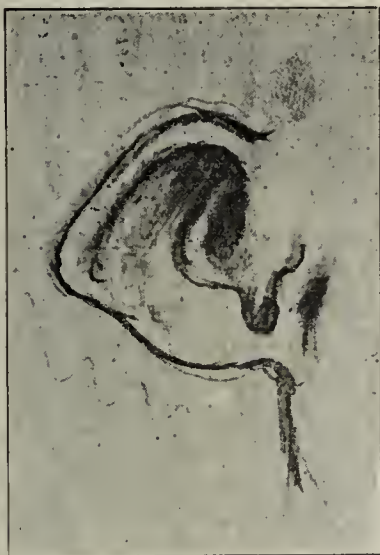


FIGURE 7.

Figure 7 was taken from an infant that lived ten days, in which there were many other defects. It had hypospadias and a very small, but well-formed scrotum, and there existed a deformity like an auxiliary anus just at point of saerum. It had cleft palate, embryonic nose, large fontanelles, etc. In this case tubercles 2, 3 and 6 were not developed; there was an auxiliary meatus due to failure of closure of walls of the hyo-mandibular cleft.

Gould and Pyle in their book of "Anomalies" have

collected a number of malformations of the ear, among them being bilateral absence of the external ear, which, though rare in the human species, is constant in a species of sheep found in China. An interesting case collected by them was one of absence of the external meatus and the Eustachian tube in each side in which there was but little loss of hearing. Werner in 50,000 children found 33 with supernumerary auricles in front of the tragus.

In 1000 children in the Home for Feeble-Minded Children, at Elwyn, Pa., I found no abnormalities of the auricles, excepting peculiarities of shape and size; one of these auricles in the case of an adult measured $3\frac{1}{2}$ inches longitudinally and $1\frac{3}{4}$ inches transversely.

As a rule, supernumerary auricles are pre-auricular, usually unilateral, and can be removed without unpleasant sequelæ.

Another striking case reported by Moxhay,¹ was that in which a mother who was said to have been frightened by a boy with horrible contractions of the neck gave birth to a child which had on the right side two perfect ears and three rudimentary auricles, while on the left side it had two rudimentary auricles.

CARE AND USE OF INSTRUMENTS.*

ALLEN DE VILBISS, M.D.

TOLEDO, OHIO.

It is not my purpose to enter into a discussion of, or repeat what has been said and written on this subject, but to present a few thoughts that will indicate a way to care for and acquire the use of instruments along a line that will give the operator the kind of knowledge that will enable him to cope with exigencies that may arise.

We should remember, after an operation, to put the instruments where they are perfectly dry and will remain so, to prevent rusting, and where the edges will be kept from being dulled by contact.

Before an operation it is essential that the instrument should be sharp and clean. Boiling is unquestionably the best way to put them in this condition. The cutting edges are not spoiled by the heat, as is believed by some, but by a deposit of material upon the edge of the knife, the same as that in a kettle or boiler. This can be demonstrated by trying the edges of knives after boiling in condensed steam and in hydrant water. Where distilled water can not be obtained, when a keen edge is desired, a sterilized Arkansas or India stone should be at hand; the knife passed over it a few times will remove the deposit. "But," says the doctor "I would be as liable to dull the knife as to sharpen it." I presume this is true, through no actual fault of his own, but on account of not having been taught the A, B, C, of actual surgery. Had he been compelled to sharpen his saw, cut his wood and make his fire at home, hone his razor, and shave himself, while getting knowledge he would, at the time, have acquired the skill which is so essential to operative work. No person should be allowed to practice surgery without first having learned a mechanical trade; this would give him the skill as well as developed hands and arms, the very thing so essential in many operative procedures, a necessity so often not found in many classic scholars. A hand that has been allowed to develop to maturity, gloved without use, can never be of material service for actual work. Pancoast and many of our best surgeons

1. Brit. Med. Jour., 1870.

* Read by Title in the Section on Laryngology and Otology, at the Fifty-first Annual Meeting of the American Medical Association held at Atlantic City, N. J., June 5-8, 1900.

workmanlike manner, and not be able to acquire the proper use of his hand, to give the saw-teeth that keen edge so necessary for quick and painless work, by a were good mechanics prior to entering on their surgical work. The handling of tools in one line of work prepares the individual to skilfully handle them in another.

The idea is absurd that a person can possess the skill necessary to remove a spur from a septum nasi, in a stroke or two of a file or stone. Every college should have a teacher qualified to instruct the student who intends to do surgical work, in a course that will develop the fact whether he has inborn mechanical ability; if not, to advise him to have the surgical section cut out of his diploma and be relieved from building monuments for himself, in memory of a deficiency of native ingenuity and acquired skill. If, on the other hand, it is found he has been born right for mechanical work, give him a chance and, with proper starting-points, success will follow and he will be a blessing to humanity.

As we pass along to the practical part of our work, after acquiring the theoretical side, we can then appreciate the necessity of possessing hands that are educated to execute that which we theoretically know, and there is no better plan to educate the hands to follow the directions of the will, than by using them for the purpose of honing a razor, bistoury, drill and the various cutting instruments used for surgical work. The sense of touch is made keen by feeling the edge of the instrument with the palmar surface of the finger, to see if it is sharp, with the end of the nail to see if it is nicked, or carrying it at the proper angle along the upper surface of the thumb nail, to see if it is honed at the same angle on both sides.

By observing the following rules, instruments can always be kept sharp and ready for use, also time and money can be saved; and time should be valuable to all and, in our overcrowded profession, when so many have not enough money to pay their bills and procure the necessities of life, the amount saved will find a place.

When honing a knife it should be pulled from heel to point, the cutting edge leading at an angle of about 45 degrees. The reason for this is, that should there be a particle of hard substance on the stone, it will nick the cutting edge if one carries the blade with pressure along the stone with the back leading, and a knife edge is made up of a series of saw-teeth, as seen by the microscope, and will cut best by having the diamond points inclined toward the heel of the blade; and they will be properly made if honed as above described. To make myself the more clearly understood, remember that when honing a knife it should always be drawn from heel to point toward the cutting edge. When stropping a knife, it should be drawn from heel to point from the cutting edge. The movements of honing and stropping are exactly the reverse of each other. We may know the knife is sharp by the sticky feeling when the finger or thumb is drawn along it. A nick that would not ordinarily be seen can be detected by drawing the edge of the knife along the end of the nail. To remove a nick from the edge of a knife, it may be used on a coarse stone first, until the nick is cut out, and afterward on a fine stone. Steel will accumulate on the stone. To remove it, put oil on and rub clean with a cloth. I like the India oil-stone better than any other, because it cuts keener and is made of different grades, coarse, medium and fine; it can be used with oil or water and may be sterilized by boiling. It is not an expensive stone, as a large one with a coarse and fine side costs only 65 cents; the

pencil point, 50 cents, and the triangular, 35 cents. They are sold in hardware stores.

We can care for knives, scissors and saws easier by having them nickel-plated, but they should not be for efficient use. Nickel does not become a part of, but only adheres to, the steel, and when a knife is made sharp or filed after it is plated, there will be a free edge left and it will peel off. It is almost impossible to give a plated saw the clearance it should have and a sharp side edge. A saw to be used on a hard bone, like an eburnated spur of the septum nasi, should have teeth no deeper than a fine one, but should be wider apart to prevent the bone from filling the interspaces of the teeth, thus preventing it from cutting. A fine-tooth saw with a short stroke will easily cut an epiphysis, but will not cut without clogging the dense bone to which it is attached.

Many a good instrument, for want of proper selection, skill to use it, or put it in shape to be used, has been retired in disgrace. There is no excuse for lack of skill in this direction, so long as the number of physicians remain in the same proportion to the work to be done and the plentiful supply of green bones of different shape and density that may be procured from butcher-shops.

Progress is rapid in surgery, especially in our important branch of it. So marked is it that we can no longer walk, but must run in order to keep pace with the advance that is being made. We must be ready to meet any change that presents itself. The instruments to be used to-day may have to be discarded to-morrow for a device to suit a better way. Who would think of heating a laryngeal or rhinoscopic mirror, when white, hard soap rubbed on it and then cleaned off with a dry napkin will leave a film of the soap sufficient to prevent the condensation of moisture from the breath upon it, answering the same purpose as heating it, and will last for several observations while heating will only last for one, and may ruin the mirror. Who would think of using a Belocq's caunula for plugging in a case of epistaxis when a soft catheter, a kitetail plug or cauterizing the bleeding point would answer the purpose as well and cause less pain to the patient and less trouble to the operator. Simplicity of construction aids in easy use.

I remember removing a sand-burr, several years ago, from a physician's larynx, by means of a skein of silk thread securely fastened to a curved probang and, by the aid of a laryngeal mirror, carried down below the burr, then pressed toward it, when withdrawing, the burr followed. This was done after trying many times to remove it with a forceps, also having the aid of an inventor with his laryngeal forceps, with failure as a result. I received a letter from a physician shortly after his return home, stating that a boy attempted to show how he got the sand-burr in his larynx and was so successful that he put one in his own and that he removed it with a probang and skein of silk thread, at first trial.

MEDIASTINOTOMY.—At the Paris Surgical Society, Ricard recently reported an operation through the sternum on a woman on whom tracheotomy had been performed, and the cannula allowed to drop into the trachea. After vain attempts to pass it through the tracheal opening, he made a large opening in the sternum opposite the bifurcation of the trachea, bringing the right bronchus into view, but it was necessary to stop here; the patient died from gangrene of the lung.

SURGICAL DIAGNOSIS OF ABDOMINAL TUMORS.*

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The importance of this subject appeals to all of us and therefore no apology is needed for engrossing your attention. That diagnosis should precede operation is such a rational assumption that it has almost a natural claim upon all operators, and this claim should, whenever possible, be respected. That it does not always receive the attention and consideration it merits, will be generally conceded, and that failure in diagnosis frequently leads to unnecessary operative work and occasionally to unfortunate results, clinical records sufficiently prove. It is not possible within the space allotted to this paper to do anything more than merely sketch the most urgent necessities of this great field of surgical effort, and to invite attention to certain lines of thought which should occupy the mind of every abdominal surgeon. In doing this it will be a privilege to suggest a few new thoughts while reviewing many old ones, in the hope and to the end that they may aid, in however small the degree, in bringing us nearer the time when exploratory incision may be less frequently used than at present seems necessary, and when more confidence may be placed in the diagnostic touch of the operator who would work in the abdominal cavity.

DIAGNOSIS OF ABDOMINAL TUMORS.

In the diagnosis of abdominal tumors several requirements must be fulfilled before the diagnostician can possibly hope for even approximately accurate results, and for the purposes of this paper I have arbitrarily placed these requirements in the following order: 1. A knowledge of the shape and boundary of the cavity itself. 2. A knowledge of the normal location, physical outlines and physiologic functions of the organs of this cavity. 3. A reasonably comprehensive knowledge of those tumors which frequently, as well as those which infrequently, affect these organs. 4. Familiarity with the recognized methods of examination coupled with system and exactness of procedure. 5. A developed faculty capable of exhibiting co-ordinate and harmonious action on the part of the physical and mental being of the examiner.

The first of these conditions I will simply refer to in a general way, by assuming that the word abdominal includes the term pelvic, and that the two cavities are to be regarded as one field, the boundary of which is the peritoneum. Without a very clear conception and bright mental picture of this cavity, no mind is capable of properly dealing with the multiple and complex conditions which may be found within. Before attempting to examine the contents, we must first thoroughly understand the outlines and limits of the cavity itself. In referring to the second requirement, it is perhaps superfluous for me to say that in order for us to be able to make out pathology, it is absolutely necessary that we be familiar with histology; in order that we may be able to define abnormalities, we must be sure of the normal outlines; in order that we may be able to establish disease, we must be conscious of the definition of health. All this implies and includes an anatomical, physiological and topographical knowledge, not alone of

the organ suspected of disease, but of all the organs of the abdominal cavity, for the intimate anatomical and physiological relations existing between these organs necessarily imply and predicate the influence of one upon another, both in health and disease. We can readily understand how the normal functions of these organs must of necessity influence not alone their own physical outlines, but the physical outlines of the organs in their immediate vicinity. A distended stomach, bladder or bowel surely affects the anatomical relation of its neighboring organs, and not infrequently disturbs their physiological functions. A greatly enlarged organ disarranges the entire anatomical plan of the abdominal cavity. Therefore, before searching for tumors, let us satisfy ourselves as to the existing conditions of the normal contents of the cavity.

KNOWLEDGE OF GROWTHS WHICH ARE DISPOSED TO AFFECT DIFFERENT ORGANS.

With a comprehensive knowledge of the cavity, its normal and natural contents, we are in a position and prepared to recognize the evidences of abnormal growths which may present themselves. This knowledge, attained through a physical examination of the subject, is largely limited to a determination of the shape, size, location and probable consistency of the tumor, leaving us still very far from the ultimate and desired information. If, however, we now add to this information a knowledge of the growths likely to be met with in connection with any organ, coupled with the ability to eliminate growths not likely to be met with, we have done very much toward bridging the space between the known and the unknown. Thus, if the tumor be connected with the stomach, especially with the pyloric end, we are warranted in suspecting carcinoma and in eliminating all benign growths.

If the tumor be connected with the liver, our thoughts naturally go to the possibility of an enlarged gall-bladder. If the liver itself be enlarged, we naturally think of cirrhosis, or primary carcinoma, abscess, etc., but we would not think of associating fibroma or myoma with the condition under examination. If the growth be found associated with the ovaries, tubes or uterus, almost instinctively we are forced toward the idea of cysts, infected tubes or fibroids, seldom giving the possibility of malignancy more than a passing thought. We must now carefully weigh the evidence obtained through the physical examination, modify it by our own knowledge of the probabilities in each case, and draw conclusions in accordance with sound reasoning, based on reasonably certain premises. Very frequently the surgeon will be greatly mystified by the apparently contradictory evidence obtained, and he will be at a loss for conclusions. This is unavoidable as, for illustration, an enlarged spleen may be due to simple hypertrophy, cysts, malignant disease, leucocythemia or ague cake, any one of which may be responsible for the physical signs present, but usually there will be found in connection with each case, something either in its general or special history or in the shape or consistency of the tumor which will guide the diagnostician aright if he but possesses the necessary patience and perseverance. True, many cases will defy diagnosis even when handled by the expert, but this is to be expected, and when such cases are seen, the surgeon must do the best he can. As an instance of this sort, I would cite a case which fell into my hands some three years ago.

A young man complained that for a number of years he had been troubled by the occasional presence of a

* Read before the Section on Abdominal Surgery, at the Third Pan-American Medical Congress, held in Havana, Cuba, Feb. 4-7, 1901.

tumor in the right hypochondriac region. The tumor varied in size, being much larger at times than at others, caused considerable uneasiness when present and usually disappeared in from two to three days after its appearance. The young man's physician had observed the tumor, made a careful examination and, in the absence of any other probable theory, made the diagnosis of enlargement of the gall-bladder, due to some obstruction in the cystic duct, interfering with the free escape of the normal secretions of the sac. Upon my first examination no evidence of tumor could be found. The patient was advised to remain in the hospital until the recurrence of the enlargement, which came on the sixth day after he had presented himself for examination. Immediately beneath the liver, and apparently growing from it, an oblong tumor was easily outlined, seemingly about 6 inches in length and 2 in diameter. It was uniformly smooth on the surface and gave to the touch, on pressure, a sense of bogginess. It remained for three days and then, as usual, disappeared. During its stay several attempts were made to isolate this apparent growth from the liver, without success. After its disappearance an incision was made directly down upon the region where the tumor had been, when the unusual condition of the bowel to the length of about 2 inches was found adherent to the under surface of the liver, probably congenital in history. This looping up of the bowel at times acted as an obstruction to the free passage of the bowel contents, thus creating a tumor which disappeared as soon as the contents finally succeeded in passing. This is but one of the many unlooked for conditions we are called upon to deal with, and we know of no rule or advice that is likely to help us, except perhaps common sense.

METHODS OF EXAMINATION COMBINED WITH SYSTEM AND ACCURACY OF OBSERVATION.

With the foregoing conditions satisfied, the surgeon is in a position to proceed with his examination and, to the end that his conclusions may be reliable and correct, he must follow some systematized method and be reasonably accurate in his observations. Surgeons too often take things for granted and develop conclusions without first having established the proper premises. Such conclusions must necessarily often be faulty, and *any* practice based on them must be unsatisfactory.

We have found that attention paid to the following subdivisions will lead the surgeon to satisfactory conclusions and reasonably accurate diagnosis: 1. History of case. 2. General appearances of the patient. 3. Special appearances of the abdomen.

The history of the case very frequently suggests the character of the growth, but this suggestion must not be relied on as a sufficient basis for diagnosis, but rather may be utilized as a guide in leading us to the nature of the disease. The patient's description of his first consciousness of the disease, the time of development, the character of the pain, if any, the organ most particularly affected, the general effect on the system, etc., are all pregnant with suggestions as to the nature of the tumor, but we must never forget that they are but suggestions. The general appearances of the patient must not be overlooked or omitted. It is a fact well established and recognized that certain abdominal growths produce well-defined facial expressions as well as characteristic hues of the skin—the facial puffiness of enlarged liver, the facial bogginess of ascites produced by the influence of any general encroachment

on the heart, the cyanotic countenance, the cachexia of carcinoma and the jaundiced condition produced by interference with the biliary circulation are among the many of which we must take cognizance.

SPECIAL APPEARANCES OF THE ABDOMEN.

In the diagnosis of abdominal tumor, the diagnostician must not content himself with the outline and size of the growth, but should earnestly endeavor to determine and satisfy himself from what part of the body it has sprung, and its possible or probable influence on neighboring or adjacent organs. He will thus be enabled to clear up and account for all the symptoms exhibited in the case, and consequently will have removed all doubt as to the diagnosis. To do this, patience, perseverance and gentleness are necessary. With the patient before us in the proper position, our first inquiry should be directed to the general outline of the abdomen. In this inquiry must be included the condition of the abdominal wall—the absence or presence of any special thickening—and, when such thickening is found, its probable cause must be considered; the presence or absence of any special indication of tumors lying beneath the wall. In this connection it must not be forgotten that the absence of external indications of abdominal tumor is no evidence that such a tumor does not exist, and on the other hand we are often deceived by appearances which seem to point conclusively to abdominal tumor, but which, on later being traced to their real sources, are easily accounted for.

Our next information must come through the sense of touch, and in this we should encourage and practice the greatest gentleness; even were it not true that serious consequences occasionally follow undue and unnecessary pressure in examination, there could still be found no excuse for avoidable clumsiness and unwarranted roughness, especially when we can secure better results by gentler means.

By careful, gentle and uniform pressure over the abdominal wall, the tumor, if present, will soon be located; if large, its nature will with little difficulty soon be found out—in short, it is that developed power which enables one to remain unconscious of the intervening wall between the hand and the part being examined, thereby permitting a more careful and reliable conclusion as to the existing conditions. It is the faculty which enables the gynecologist to use the uterus as a connecting medium between his hand and some growth in the abdomen, to determine the nature, size and consistency of this growth. It is the faculty which aids us in approximating the size, shape and, oftentimes, the consistency of any growth with which we are dealing. Words can not describe it; reading can not develop it; thought will not acquire it. It is the one faculty which must of necessity come to us through patient and persistent effort, and the close study of those niceties which go to make up the good diagnostician.

ANESTHETICS IN EXAMINATION.

The value of anesthetics in the examination of the abdomen, except in rare cases, is not well established. We easily recognize the advantages they afford, but we also recognize the disadvantages and dangers attending their use. They remove, it is true, the muscular resistance of the patient, but in doing so they have also removed the evidences of sensitiveness and the pain of diseased organs, which are often the surgeons' only guide to conclusions. To this we must add the usual dangers, however small, connected with the use of anes-

thetics, and the special possibility of doing harm, through our manipulations to unconscious patients, which might be avoided or prevented were we dealing with the conscious, sensitive and resisting subject. Failing in our first effort to complete the diagnosis, or to satisfy ourselves as to the true nature of the case, we must repeat the examination and exhaust every means before we admit failure.

When all efforts along these lines have proved unavailing, we are then—but not till then—warranted in subjecting the patient to the very useful, though oftentimes unnecessary, exploratory incision.

In conclusion, I desire to say that this paper has not been written upon the presumption that it would instruct, but rather on the assumption that as “constant dropping wears the stone,” it may be regarded as at least a drop in the removal of those obstacles which lie between us and correct abdominal diagnosis, and which have exposed us to the doubtful compliment paid us by European surgeons, of being good operators but poor diagnosticians.

A CONTRIBUTION TO THE STUDY OF MOUNTAIN FEVER.*

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ROCK SPRINGS, WYO.

I find in the arid plateaus of the Rocky Mountains three types of fever that predominate during the summer and fall. These more prevalent forms of febrile disturbances are familiarly known as malaria, typhoid and mountain fever. It is true that malarial fever is found to exist throughout the entire year, but it is more prevalent during spring, summer and autumn. We are not yet prepared to say that mountain fever is or is not a modified type of typhoid or malarial fever. Whether or not it is a relative to these diseases, the writer is satisfied that it has enough distinctive features, peculiar to itself, to warrant it in being worthy of separate consideration.

It is not the purpose of the writer in this contribution to attempt to defend the so-called “mountain fever” against those who may disclaim its existence. As a member of the medical profession, I feel it is my duty to record the clinical facts as they present themselves, regardless of my own or any one else’s personal prejudice for or against it, with a view of determining, as far as possible, its symptomatology, etiology and pathology.

“Mountain fever” is characterized chiefly by a sudden attack of malaise, followed by a chill, a sharp rise and fall of temperature, often to unusual extremes; occipital headache with pain shooting down the back, but seldom accompanied with loss of consciousness or associated with epistaxis. There is some gastro-intestinal irritation which seems to be confined more particularly to the stomach and transverse colon. There is rarely enteric hemorrhage or vomiting, and it is only occasionally associated with tympanites.

Usually between the tenth and fifteenth day a peculiar eruption appears which extends over the upper extremities, the anterior and posterior portion of the chest, the abdomen, the back, the hips, the thighs and, not infrequently, the legs. The eruption first consists

in a small bright red spot between the size of a pin-head and a split pea, and under the finger feels like a small grain of shot in the skin, which is slightly raised at the point of discoloration and is neither vesicular nor pustular. In from three to five days it begins to fade and turn from a red to a dirty brown color. The shotty feeling gradually disappears, the discoloration slowly subsides, and in from seven to ten days more it disappears entirely, this generally marking the initiation of the convalescence, which requires from ten to twenty days longer, making the usual course of the disease range from thirty to fifty days.

I have met cases which to all intents and purposes appeared to be “mountain fever” in which this eruption did not appear, but where the prevailing symptoms indicated this form of fever. Likewise, there is an occasional case where we have epistaxis, but in the majority it does not appear, while hemorrhage from the bowels is practically unknown in this form of continued fever.

Nervousness resembling paralysis agitans is more or less marked according to the severity of the case, and usually lingers well into convalescence. The tongue is coated with a grayish, yellowish fur, but rarely becomes dry and brown, and sordes is seldom present.

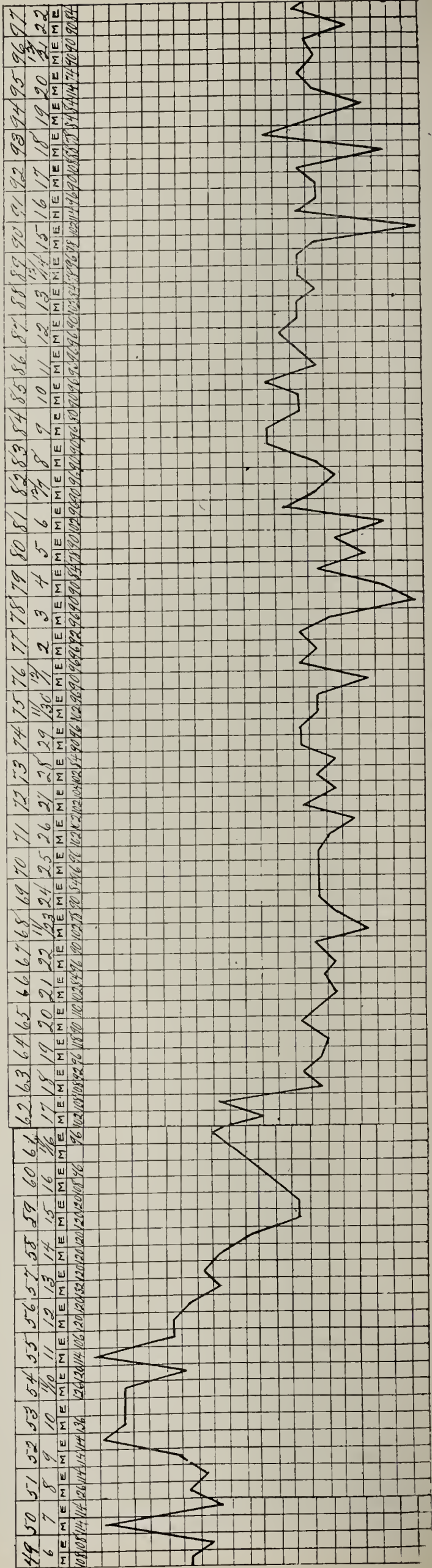
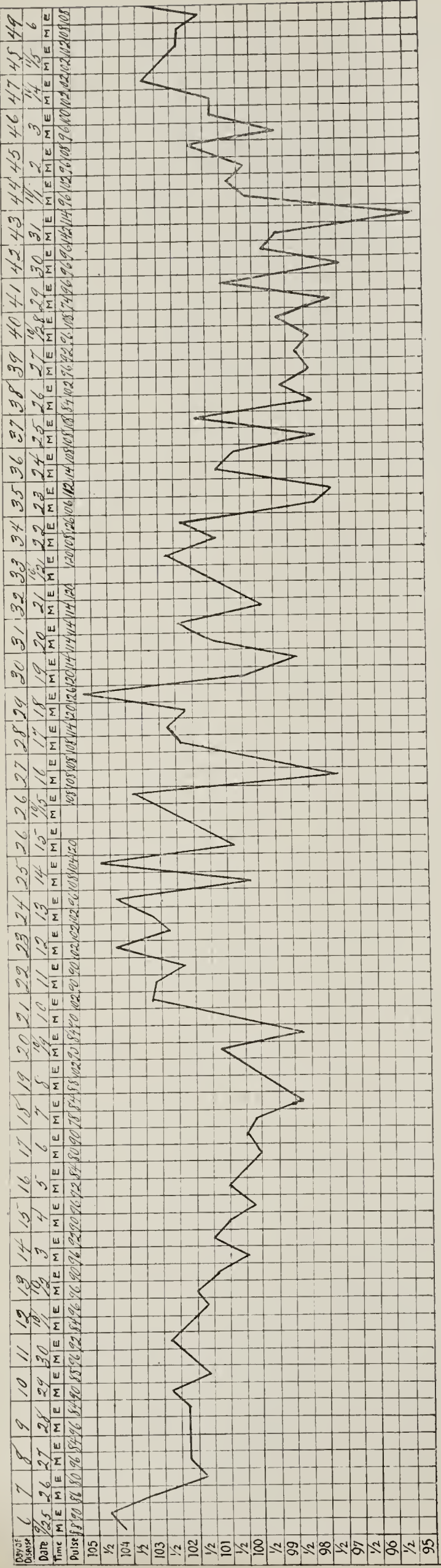
ETIOLOGY.—The cause of mountain fever is not at all well understood, and it is to be hoped that in the near future continued and impartial investigations will lead to a definite conclusion as to its true cause and real place in the rôle of diseases.

In this connection, through the courtesy of Dr. Geo. M. Sternberg, Surgeon-General of the United States Army, there were twenty examinations made of the blood of patients being treated in the Wyoming General Hospital in which the diagnosis was that of “mountain fever.” Of these cases, which ranged over a period of two years, 12 gave negative reactions with Widal’s test and 7 positive. During the same period there were 13 examinations made of cases being treated in the same hospital, diagnosed as typhoid fever, in which there were 2 negative and 11 positive reactions. While these examinations are not yet conclusive, they are sufficiently so to show that there is certainly a difference as to the causes producing typhoid and “mountain fever,” and while it is possible to mistake the one for the other, at the same time the distinction between the two is sufficient to make them, as a rule, easily differentiated the one from the other.

Knowing, therefore, that typhoid fever is the result of infection with Eberth’s and Gaffky’s bacillus, and the fact that out of 13 cases examined during a period of nearly two years, all but 2 gave a positive reaction, while of 20 cases of “mountain fever” treated during the same period, all but 7 gave negative reactions, would lead us to believe at least that mountain fever was not produced by the same cause as typhoid. Fortunately for the patients, but unfortunately for the study of the disease, “mountain fever” has not been found to be a fatal disease, the writer never having seen a fatal result in over one hundred cases which have come under his observation during the past three years.

PATHOLOGY.—For reasons already mentioned, in speaking of the etiology, the pathology is not at all well understood. It seems to be a disease which effects the stomach and transverse colon, and is particularly marked in the nervous system, producing a condition that simulates paralysis agitans as compared with sub-sultus tendinis of typhoid. To further aid in the study of this disease I beg leave to submit for inspection the following clinical charts, showing the range in tem-

* Read before the Fourth Annual Meeting of the Wyoming State Medical Society, held at Cheyenne, Wyo., Oct. 9 and 10, 1900.



Case 572.—Typhoid fever. Positive reaction.

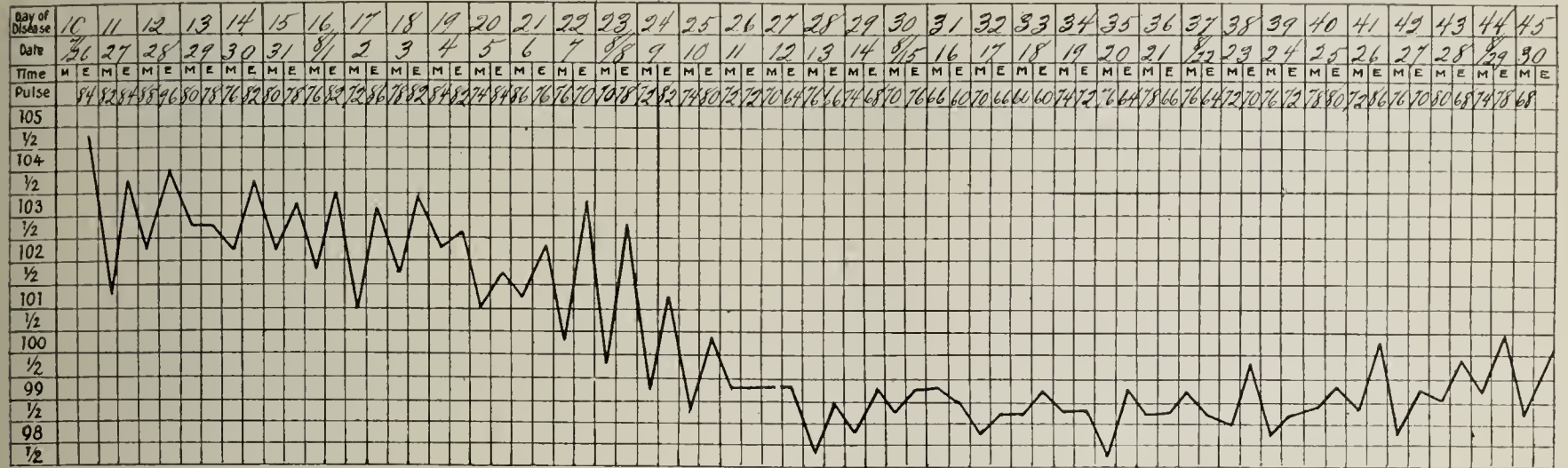
perature in mountain fever as compared with typhoid. These charts have not been made from selected cases, but are simply what might be considered fairly representative cases of each of the two diseases, in which have been included the more difficult as well as some of the milder forms of each.

Case 572 shows a positive reaction with Widal's test. This was an unusually malignant case of typhoid fever, covering a period of 102 days, with a range of temperature varying from 105 to 95 F., a difference of 10 degrees in the extremes,

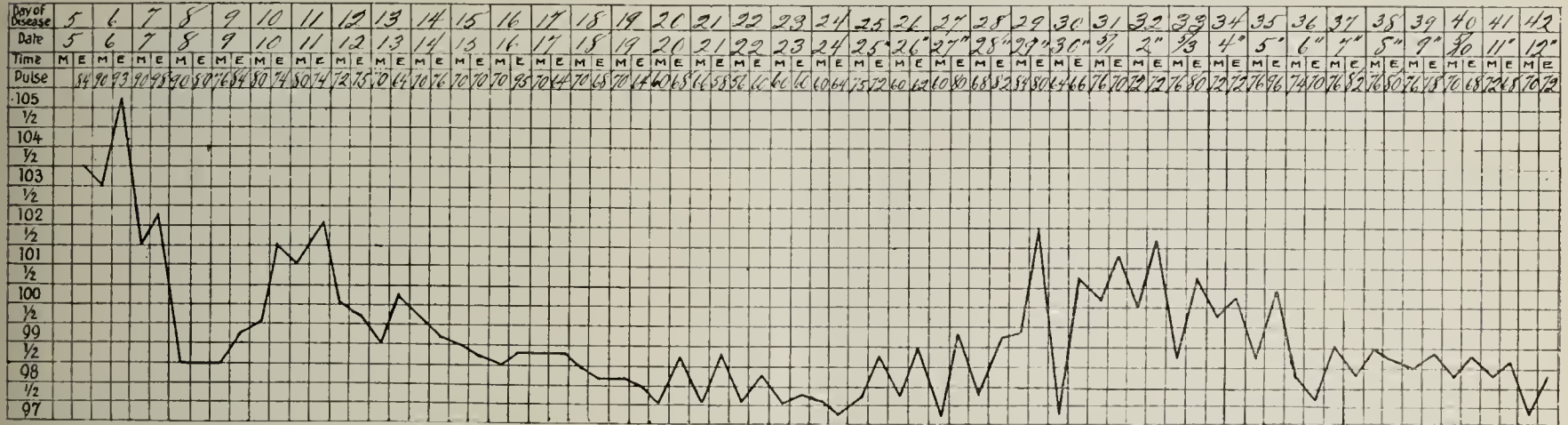
In these four cases of typhoid fever we have the following extremes of temperature: Case 572, 10 degrees; case 413, 7.5 degrees; case 874, 6.5 degrees; case 608, 6 degrees, or an average of 7.25 degrees F.

In reviewing the cases of "mountain fever" we find that:

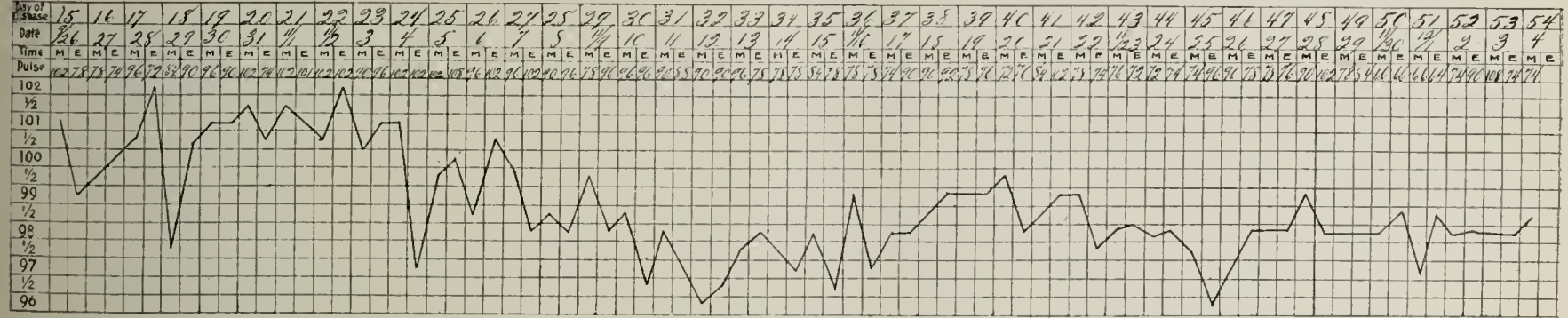
Case 902 gave a negative reaction with Widal's test, and ran a course of only eighteen days, but had a variation of temperature ranging from 103 to 97 F., being an extreme of 6 degrees followed with recovery.



Case 874.—Typhoid fever.



Case 413.—Typhoid fever.



Case 608.—Typhoid fever.

with numerous severe hemorrhages, finally followed by recovery.

Case 874 shows a positive reaction with Widal's test, ran a course of forty-five days with a range of temperature varying from 104.5 to 98 F., a difference of 6.5 degrees between the extremes, terminating with recovery.

Case 413 gave a positive reaction and only ran a course of forty-five days, showing a range of temperature varying from 104.5 to 97 F., a difference of 7.5 degrees between the extremes, terminating with recovery.

In case 608 no test was made. This case, however, ran a course of fifty-four days with a variation of temperature ranging from 102 to 96 F., a difference of 6 degrees in the extremes, and was followed by recovery.

Case 441 gave a negative reaction, ran a course of forty-three days, and had a range of temperature varying from 103 to 97 F., a difference in extremes of 6 degrees and was followed with recovery.

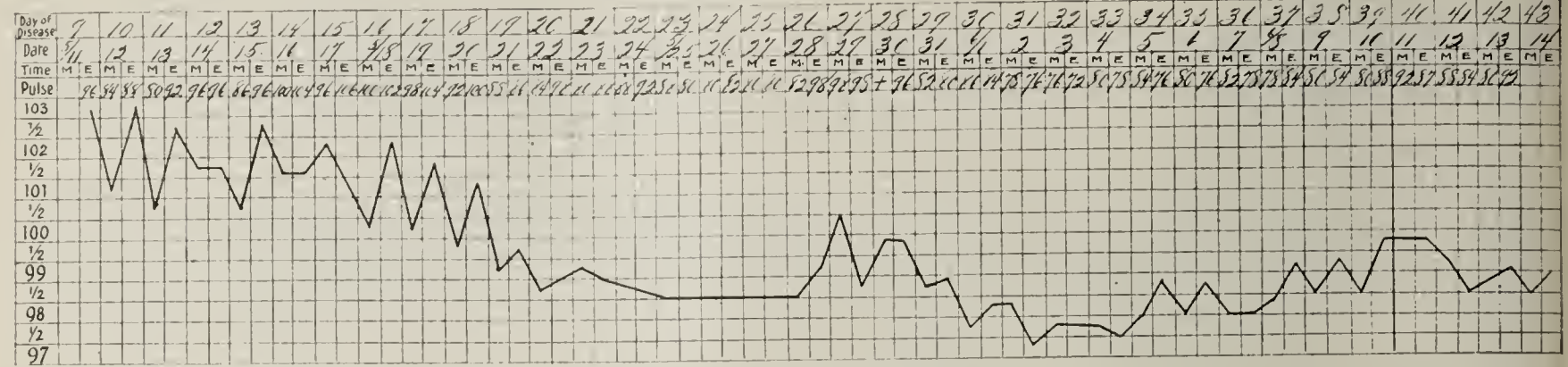
Case 573 gave a positive reaction, ran a course or thirty-four days and showed a variation of temperature ranging from 103.5 to 95 F., a difference in the extremes of 8.5 degrees making a good recovery. This case, according to Widal's test, should have been diagnosed typhoid fever, but owing to the sharp and decisive range of temperature was considered "mountain fever" by the writer, as it lacked the roof-cone ascending and descending temperature.

In case 556 no test was made. This case ranged over a period of twenty-eight days and showed an extreme of temperature

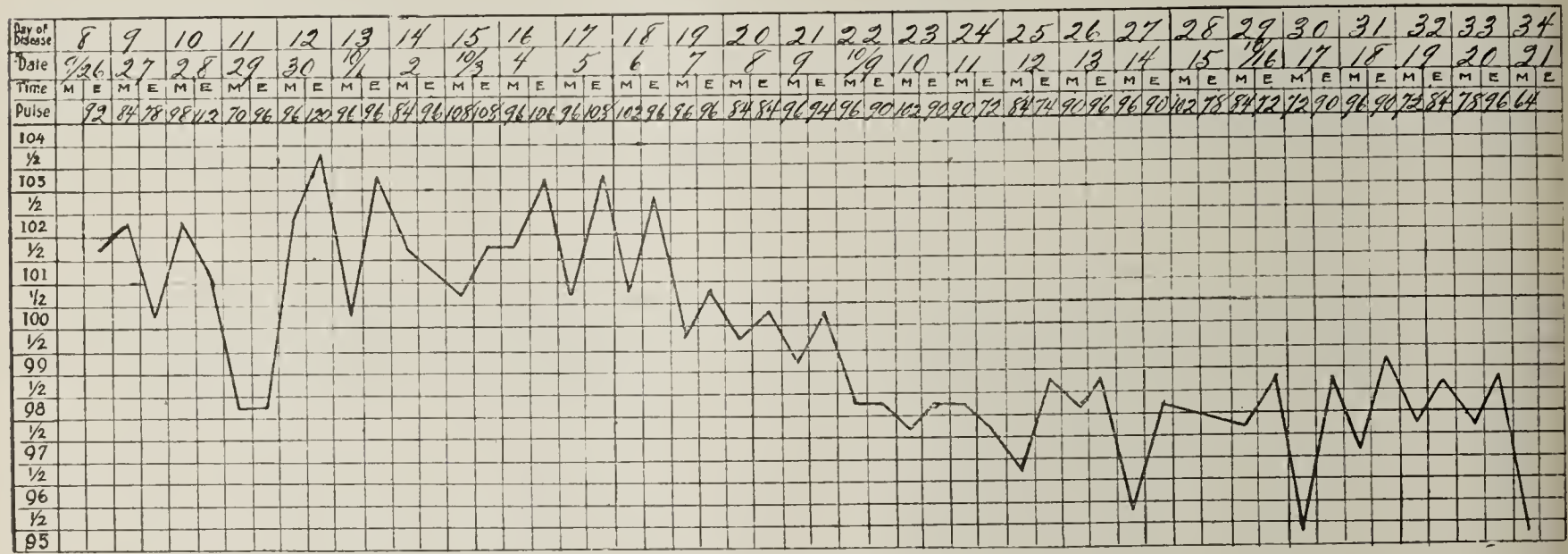
ranging from 106 to 96, a difference in the extremes of 9 degrees, and was followed with recovery.

In observing these temperatures it will be clearly evident that there is a sharper and more irregular rise and fall of temperature in the so-called "mountain fever"

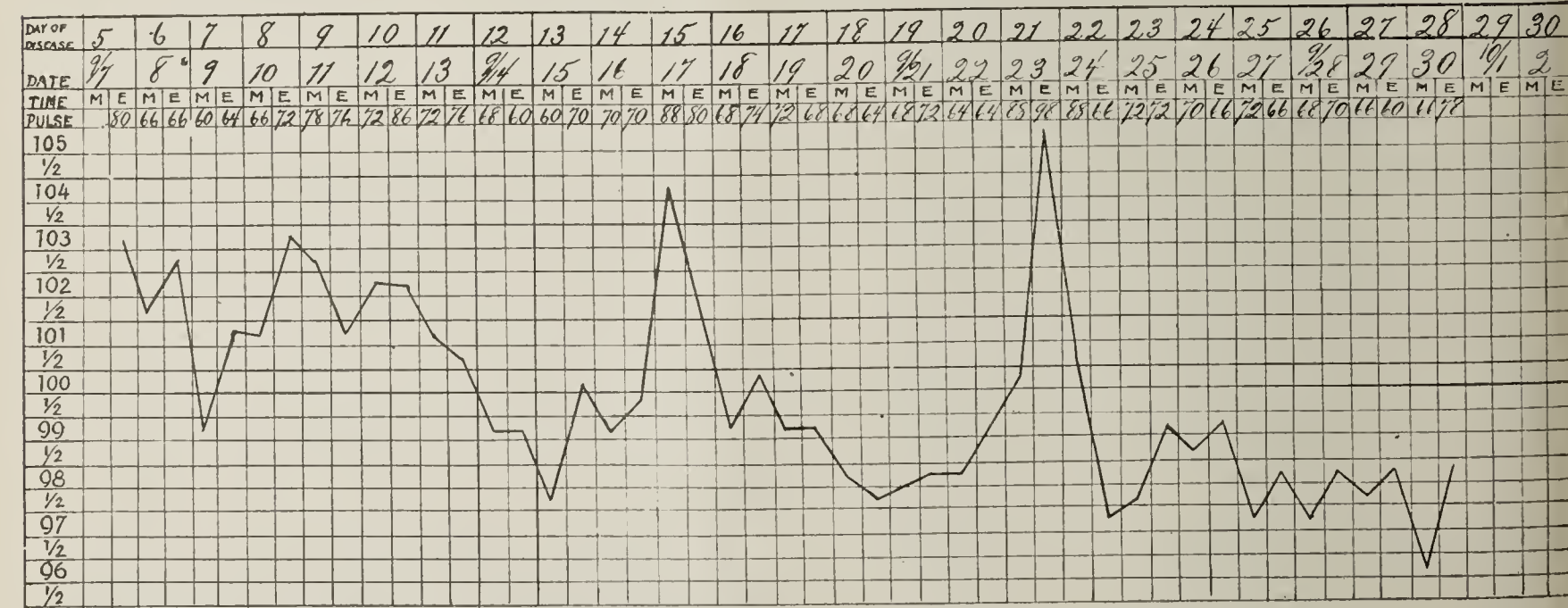
While the average variation of temperature in these cases is practically the same, it extends over an average of sixty days in four cases of typhoid fever and only over an average of thirty days in the same number of cases of "mountain fever," thus making the variation



Case 441.—Mountain fever.



Case 573.—Mountain fever.



Case 556.—Mountain fever.

than in typhoid, the latter having a more gradual ascent in the majority of cases until it reaches the climax, when it takes a more gradual descent until resolution is established.

In these four cases of "mountain fever" we have the following extremes of temperature: Case 902, 6 degrees; case 441, 6 degrees; case 573, 7.5 degrees; case 556, 9 degrees, or an average of 7.3 degrees F.

more abrupt when we consider the number of days the patient was sick with "mountain fever" compared with those of typhoid.

I herewith submit a tabulated report of forty examinations of the blood of thirty-two patients, made under the direction of Surgeon-General George M. Sternberg, and extending over a period of nearly two years. It is as follows:

REPORT OF WIDAL'S TEST IN ORDER OF DATE, MADE AT THE SURGEON-GENERAL'S OFFICE, WASHINGTON, D. C., OF SAMPLES OF BLOOD SUBMITTED BY R. HARVEY REED, M.D., OF PATIENTS UNDER HIS CARE AT THE WYOMING GENERAL HOSPITAL, ROCK SPRINGS, WYOMING.

Case Number.	Date Blood Was Drawn.	Diagnosis Made Prior to Widal's Test.	Reaction.
379	3-5-99	Mountain fever	Negative
413	4-6-98	Typhoid fever	Positive
427-a	4-27-98	Mountain fever	Negative
427-b	5-17-98	Mountain fever	Negative
441	5-17-98	Mountain fever	Negative
472	6-21-98	*Malarial fever	Negative
520	8-15-98	*Varicocele	Slight Agglutination
526	8-17-98	Mountain fever	Negative
500-a	8-26-98	*Malarial fever	Negative
500 b	8-26-98	*Malarial fever	Negative
572	9-30-98	Typhoid fever	Positive
573	9-30-98	Mountain fever	Positive
576-a	9-30-98	Mountain fever	Incomplete
577	9-30 98	Mountain fever	Negative
580	9-30-98	*Gastralgia	Positive
576-b	10-17-98	Mountain fever	Positive
583	10-17-98	Mountain fever	Positive
596	10-17-98	Typhoid fever	Positive
597	10-17-98	Typhoid fever	Positive
661	12-13-98	Mountain fever	Negative
783-a	5-16-99	Mountain fever	Negative
783-b	5-16-99	Mountain fever	Negative
823	6-1-99	*Acute bronchitis	Negative
845	6-30-99	Mountain fever	Negative
851-a	6-30-99	Mountain fever	Positive
851-b	6-30-99	Mountain fever	Positive
853	6-30-99	Typhoid fever	Negative
874	7-29-99	Typhoid fever	Positive
887	8-18-99	*Remittent fever	Positive
899	8-29-99	Mountain fever	Positive
902	9-2-99	Mountain fever	Negative
905	9-2-99	Mountain fever	Negative
930-a	9-29-99	Typhoid fever	Positive
931-a	9-29-99	Typhoid fever	Positive
930-b	10-7-99	Typhoid fever	Negative
931-b	10-7-99	Typhoid fever	Positive
930-c	10-16-99	Typhoid fever	Positive
948	10-16-99	Typhoid fever	Positive
964	10-29-99	Mountain fever	Positive
967	10-29-99	Typhoid fever	Positive

Of these forty examinations in thirty-two cases I submit the following table of comparisons:

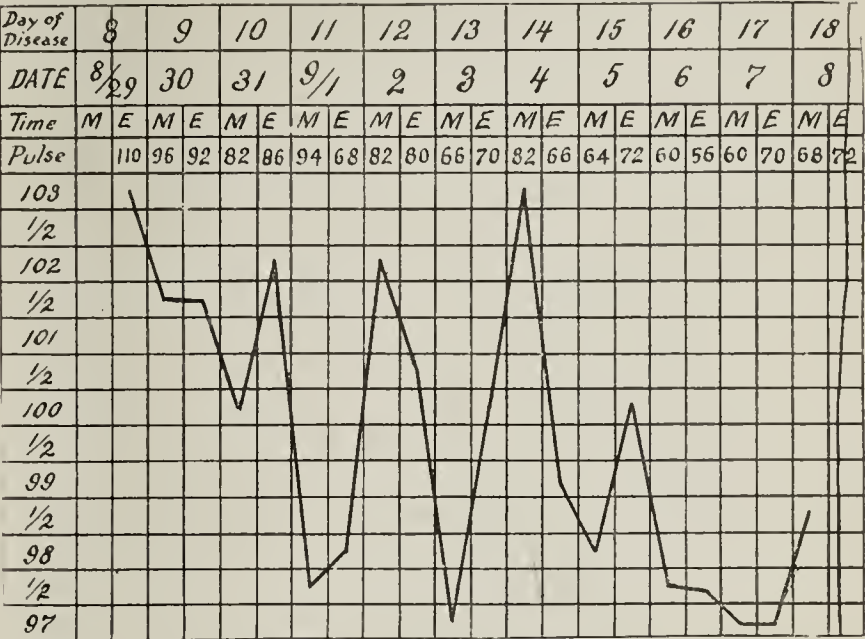
Name of Disease.	Negative.	Positive.	Incomplete.	Total.
Mountain fever.....	12	7	1	20
Typhoid fever.....	2	11	0	13
Malarial fever.....	3	0	0	3
Varicocele.....	0	0	Slight agglutination	1
Gastralgia	0	1	0	1
Acute bronchitis	1	0	0	1
Remittent fever	0	1	0	1
				—
				40

By this table it will be seen that 84.6 per cent. of the cases of typhoid fever when tested showed a positive reaction, while only 15.3 per cent. showed a negative reaction. On the contrary, of the so-called "mountain fever," 60 per cent. gave a negative reaction and 35 per cent. a positive, and 5 per cent. an incomplete reaction. It is also interesting to note that the case of gastralgia gave a positive reaction as well as the one of remittent fever, while the case of varicocele showed a slight agglutination.

In concluding this contribution to the study of "mountain fever" there is apparently a marked difference between typhoid and "mountain fever" in a few particulars, of which the following is probably the most

*Note—The blood from the three cases of malarial fever, one each of varicocele, gastralgia, acute bronchitis and remittent fever were purposely sent to ascertain the result of Widal's test in diseases other than typhoid fever.

marked: 1. In the reaction with Widal's test a large majority of cases show a positive reaction in typhoid fever, while in mountain fever the majority of tests show a negative reaction. 2. The mortality is much greater in typhoid than in "mountain fever." 3. The average duration of the disease is greater in typhoid than in "mountain fever." 4. The cause of "mountain fever" does not seem to be due to the presence of the Eberth and Gaffky bacillus. 5. The rise and fall of temperature in "mountain fever" is more abrupt than



Case 902.—Mountain fever.

that of typhoid. 6. Tympanites is nearly always present in typhoid and seldom present in "mountain fever." 7. Epistaxis is common in typhoid, but rare in "mountain fever." 8. Enteric hemorrhage is seldom met with in "mountain fever," but common in typhoid. 9. The eruption in typhoid fever is usually confined to the abdomen, is not raised and disappears readily on pressure, returning promptly when the pressure is relieved, while the eruption in "mountain fever" covers almost the entire body, is raised and has a shotty feeling under the finger, and does not disappear on pressure.

From these few differential points which the writer has observed in the study of these diseases, which have occurred in the same community, which have been treated side by side in the same hospital or cared for at their homes, while they belong to the same type of disease, both being continued fevers, both usually occurring in the summer and autumn, yet, he is compelled to look on them as being at least different conditions of the same, if not entirely distinct, maladies produced by separate and distinct causes.

A STUDY IN THE HEMATOLOGY OF NEURASTHENIA.*

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The title neurasthenia would seem to cover a pathologic condition far more widespread than the term itself might indicate. There is scarcely an organ or tissue in the body which does not show more or less deviation from the normal.

In taking up its hematology, facts appear which of themselves are confusing and contradictory. One of the first symptoms noticeable in neurasthenia is the evident anemia or, if not anemia, hemic change. In an able and suggestive article published in the *Medical Record*,

* Read before the Chicago Neurological Society, Dec. 20, 1900.

June 25, 1898, Mary Putnam Jacobi points out that many neurasthenics, and also patients evidently anemic, have a very high blood count, and gives the history and count of several patients where the reds were over 5,500,000. One patient, a palid neurasthenic, had a red count of 6,660,000; whites, 37,777. Following suggestions of Dr. S. Weir Mitchell, Dr. J. K. Mitchell has made a very careful and exhaustive study of many neurasthenics, finding a large per cent. of them evidently anemic, and yet with a blood count either normal or supranormal. Such observers as Mitchell, Oliver, Cabot and Cheron Vigoroux have noticed and noted the changeableness of the red count owing to variation in the condition of the blood drop after massage, static electricity, etc.

It is curious that it never occurred to these careful observers to put together the results obtained by the various means of blood examination. No tissue of the body is so changeable or so changing as the blood, and before any fair conclusions can be drawn certain facts of its condition must be obtained, as: 1, its specific gravity; 2, its chemical composition; 3, rate of flow and caliber of vessels, including vasomotor control, as the red and white corpuscles do not move with the same velocity, the white tending to lag and stick against the blood-vessel wall; 4, temperature of the part furnishing blood for examination; 5, number of reds and number of whites; 6, hemoglobin value in color; 7, bulk value of corpuscular elements as determined by the hematokrit; 8, biochemic activity of the cell as manifested by its ability to take up acid or alkaline staining reagents; 9, the age of the corpuscular elements, a point not practically discoverable clinically, but bearing largely on the condition of the patient and possibly discoverable by *a priori* reasoning, as I purpose showing subsequently; 10, its bacteriology.

In experimental work done by Drs. John Holdam and J. Lorrain Smith¹ to determine the different oxygen capacities of red blood corpuscles, several data were obtained which aid in discovering the age of corpuscles. When blood is centrifugated, the heaviest corpuscles naturally are thrown to the periphery. These observers took specimens from this heavy outer layer of corpuscles and found that they had an increase of 20 per cent. of oxygen-carrying capacity over the layer near the center of centrifugation. The size of corpuscles, according to their statements, in no way influenced oxygen-carrying capacity. A still more interesting point was the fact that blood drawn from animals previously bled had a higher oxygen capacity than that obtained before such bleeding. While such facts were noted, the evident conclusion was not drawn, namely, that the heavy corpuscles were the new ones and the light corpuscles with enfeebled oxygen-carrying capacity were old.

Premising so much, I turn to observations made first in the examination of choreics and afterward carried on in neurasthenics. Patients coming into the examining-room from an outside temperature below freezing showed for some time a marked decrease in the solid constituents of the blood, amounting not infrequently to 10 per cent. by bulk, as shown by the hematokrit over readings obtained in former examination; not only this, but apparently an increase in the proportion of reds over whites. When the patient was thoroughly warmed this discrepancy disappeared. Patients examined after Franklinization showed a decided increase in the bulk of solids and number of reds over readings obtained before the electricity was used. Immersing the hand of a

well-warmed patient into cold water rapidly lowered the bulk of reds in circulation. From many examinations made, both in health and disease, it was found that cold uniformly lowered the bulk of solids in peripheral blood and increased the apparent quantity of reds over whites. On the other hand, warmth restored the balance, and massage and electricity uniformly raised the bulk of solids above normal for the individual, thus giving a sway from the abscissa line 0 normal, to from 2 to 10 per cent. below to 2 to 10 per cent. above. A natural deduction would be that some attention should be given and allowance made in the blood count in patients with cold, clammy hands and extremities. The small size of blood-vessels and the vasomotor constriction seen in some neurasthenics may account for part of the apparent hemic disturbance. Furthermore, change of atmospheric pressure materially changes the number of reds, as might be expected. A marked increase in the quantity of solids in the blood from a finger was always obtained by rotating the arm rapidly. Removal of a patient to an altitude causes reds to appear in greater number in peripheral vessels, so that the remarkable gain noted at times in the hemic condition of patients taken to altitudes may be and probably is factitious, due to the altitude and not to an actual increase in the number of reds in the general circuit.

Going back to the study of the red blood column, as shown in the hematokrit, and studying it more in detail, there seem to be three areas in it in normal blood: a heavy one found at the periphery, a middle-weight area in the center, and a lighter-weight area at the proximal end of the clot.

I find that blood taken from these three areas varies much in its capacity to take up acid stains. The heavy blood from the periphery stains deeply and quickly and evenly with the acid stains. The middle area stains fairly well with acid stains and blood from the proximal end of the tube but slightly. There are certain other features of the blood from this last area which attract attention. The corpuscle itself is exceedingly lean, oftentimes almost dumbbell-shaped when on edge, and does not stain evenly. The cytoplasm is apparently pushed to an outside rim with the cell wall collapsed and touching in the center, the cell contents having lost almost all biochemic activity.

Putting the findings together, namely, that in normal blood we have circulating red cells of very uneven value and that some of them are heavy and stain well, that in an animal bled and allowed to recuperate we have a great preponderance of heavy red cells staining deeply, and that in both instances the heavy cells have a greater oxygen-carrying capacity, the conclusion would seem inevitable that these heavy cells are new or recently formed.

Applying these facts, and conclusions legitimately drawn from these facts, to findings in the examination of the blood of neurasthenics, it would appear possible to reconcile many statements apparently diametrically opposed. In all cases coming under my observation there seems to be some hemic disturbance, no matter whether the case has as a basis an autotoxemia, a toxemia as a sequel of preceding disease, or is apparently purely acquired or is of distinctly hereditary type. Each type may have some particular prominent symptom, a sexual one or gastric one, but be the type or special symptom what it may, if the disease persists any length of time there presently appears a condition of blood fairly constant and typical of the disease. The reds may or may not be reduced in count, at times may be even above

1. Jour. of Phys., 1894, p. 465, etc.

count, but the individual erythrocyte has undergone a change so that it resembles the cells in normal blood, which I have called, for want of a better name, old cells. In many cells the cytoplasm in stained specimens seems pushed out to the periphery to such an extent that the cell becomes dumbbell-shaped instead of the normal lenticular or biscuit shape. As a result the cells pack together closely and show a marked diminution in volume by the hematokrit. The oxygen-carrying capacity is lowered, and in consequence the hemoglobin is deficient in color test. The blood in neurasthenia then would seem to be poor in oxygen-carrying capacity and not only this, but, owing to the poor vasomotor control, the peripheral blood at least varies much in its character. Time and again I have noticed the blood issuing from a puncture, not well mixed so that serum came first and then, apparently, a mass of corpuscles. Such findings lead at once to speculation. Certainly many cases of neurasthenia have some form of toxemia as an underlying cause. The value of all means of hemogenesis is at once apparent and, if it were necessary, further proof is furnished for the value of massage, electricity and overfeeding.

INTUBATION OF THE LARYNX, WITH PERSONAL REMINISCENCES.*

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March 20, 1885, it was my privilege to present a paper on the intubation of the larynx to the Chicago Medical Society, and to illustrate the operation on the cadaver. Through the courtesy of Dr. Joseph O'Dwyer, of New York, now deceased, who was experimenting with this operation in the hospitals of that city, I was provided with the crude and primitive instruments then in use.

My first operation was performed April 19, 1885, on a child 2 years old, choking to death with diphtheritic croup. My assistants were an old lady, who held the patient on her lap, and a boy 12 years old, who held the gag and steadied the head. I had never seen the operation done, yet, with these poor and untrained assistants, the tube was successfully introduced on the third attempt, giving prompt and immediate relief. This was the first intubation performed west of New York City, and probably the first ever done in private practice. Previous to this time the mortality of diphtheritic croup, without surgical interference, was almost 100 per cent. It was the most fatal and the most dreaded of all diseases of childhood. Occasionally a patient would struggle through the disease, but it was a rare event. I well remember having been called to a boy, 10 or 12 years old, who was choking to death with this disease. He was rolling and tossing about the bed, purple, gasping for breath, and clutching at the throat in a vain attempt to find relief. I begged, implored and argued with the mother, an Irish dame, for permission to open the trachea to give the poor lad relief. She obstinately refused, saying: "I would rather see me byc die than have his wind pipe cut." This statement illustrates the prejudice that prevailed against tracheotomy.

I took my departure, after prescribing an emetic, not being willing to stand idly by, with hands tied, to see the boy strangle to death. A few days later I learned that

he was well. In his last violent effort for life he succeeded in expelling a membranous cast of the larynx and trachea and recovered. Those of us who practiced medicine in those days, know full well that such recoveries were very rare, almost like "angels' visits." When tracheotomy was performed the mortality was somewhat reduced. It was generally estimated that in well-selected cases it amounted to about 75 per cent., but in private practice I had saved but one out of twenty operations, and of 300 operated on in Chicago, the recoveries had been only 9 per cent., a mortality of 91 per cent. Confronted by these facts and this fearful mortality, I felt justified in taking any risk, however great, in the hope that better results might be attained.

My first case terminated fatally. My second operation was performed April 23, 1885. The tube, which was one of the early ones, with a very small rim at the top dropped through the glottis, and I lost not only my tube, but my patient as well. This incident led to the enlargement of the head and a similar accident has never since occurred.

My third operation was on July 16, and likewise, resulted fatally. My patients troubled me greatly by coughing up the tubes every few hours, necessitating their frequent reintroduction. Dr. O'Dwyer, with whom I was keeping up a brisk and most kindly correspondence, suggested a shoulder on the tube, to overcome this difficulty. I therefore, had the tubes made with a projecting shoulder, about three-quarters of an inch below the head; this was subsequently modified by the bulge or swelling in the center of the tube, with which all are familiar, and which to a certain extent overcomes this objection.

My fourth operation was done Sept. 15, 1885, and was successful. The child wore the tube five days. This, as far as I know, was the first patient in private practice to recover, and was a great encouragement, not only to myself, but to Dr. O'Dwyer, as we were both becoming disheartened. By November, 1885, I was able to report eleven cases to the Chicago Medical Society, with four recoveries. From this time on cases multiplied rapidly, as did also my trials and tribulations. Demands came from all parts of Chicago and its suburbs for the operation, and life became a burden.

I recall, among others, a case to which I was called in great haste and at much inconvenience, only to be informed on arrival that the father had decided not to allow an operation. The boy, 5 or 6 years old, was in great distress, suffering all the agonies of slow strangulation. I insisted on the operation in no uncertain terms, and finally the father inquired how much I would charge. I told him it did not matter; would relieve the boy first and talk about the fee later, but he insisted on knowing and when I said I would not charge more than \$25 he said: "If you want to do the operation so bad go ahead and do it. If he gets well I will pay you \$25, but if he dies you have got to pay me \$25." This was a new proposition, but I agreed, and in less time than it takes to tell it the child was relieved; however, the patient subsequently died from the extension of the disease. In another case the father disputed a bill of \$25, informing me that all I did was to "run a tube down the child's neck, and that he could have done it himself; it was nothing but robbery" and I could have \$5 or nothing. Feeling that this was a small sum for a life-saving operation, it was declined.

In another case the father declined to pay a small fee after two weeks of the most faithful attendance because, as he said, "a brass tube was used, which poisoned

* An address, delivered on request, before the Denver and Arapahoe County Medical Society, Dec. 11, 1900.

the child and caused its death." About this time the coroner was called to investigate one of my cases. It was said that I put plugs in the childrens' throats, and that was what killed them. One of my liveliest experiences occurred about this time. I was called one night to remove a tube from a desperate case of diphtheria, on which I had operated a few days before. It was in the dead of night and in one of the tough districts of the city. The patient was desperately ill, and the only hope seemed to be in removing the tube, and while this was quickly and easily done, yet the child suddenly expired in the arms of the assistant from paralysis of the heart. Nothing could convince the father that I had not killed the child, and a hasty retreat was in order. I was followed by a shower of bricks and stones and, with the irate father at my heels, fleetness of foot was all that saved me. During these days my life was frequently threatened by hard, ignorant and tough characters, and it was necessary to go armed, not knowing but that these threats might be carried out any dark night. It appeared to me about time to quit, for in payment for my time and strength and discomfort and risks I rarely received anything but abuse and threats of dire vengeance. Had the city been a smaller one my reputation would have been ruined, but fortunately my patients were so widely scattered that I was still able to hold my own. Dr. O'Dwyer, writing me at this time, said: "I do not know which to admire most, the skill required in doing the operation or the courage in introducing it into private practice." Many and many a time I have said that I would not do the operation again, but this resolve would be no sooner made than there would come an urgent call from some physician who would not be refused, and so the resolve would be broken. An occasional life saved, occasional evidences of the deepest and greatest appreciation and the consciousness that more lives were being saved than by any other known means, enabled me to keep up the work when, otherwise, strength and courage would have failed. I had other trials as well, for it was only natural that any innovation should meet with the disapprobation of many conservative members of our profession. Many a heated discussion occurred over the subject of intubation, as I reported my cases from time to time. The most bitter debate was at the meeting of the AMERICAN MEDICAL ASSOCIATION, held in Chicago in 1887. One of my staunchest and truest friends was Dr. Charles Warrington Earle, now deceased, whose magnificent ability, voice and physique many will remember, and whose watchword in every fight was, "Come on boys." He was one of the early converts to the utility of intubation and its superiority over tracheotomy. He never did the operation, but in every debate his voice was raised in its favor. As a result of the bitter discussion over this subject, at the meeting referred to, a committee was appointed, consisting of Larrabee, of Kentucky, and Jones, of Illinois, to visit my patients and report the results of their investigation through *THE JOURNAL*. After seeing some of the patients who had recovered, others wearing the tubes and operations on others, a most enthusiastic report was made in favor of intubation.¹ Since then there has been but little opposition to the operation. I am convinced that it is a difficult one and that there are but few who can perform it well without long and careful training. To me it has never been difficult, excepting in two instances, and this after a very large

experience. In these it was due to subglottic infiltration, and in one tracheotomy was required, while in the other the tube finally crowded through after great difficulty. Dr. O'Dwyer met with the same experience in one or two cases. It is a condition that must be very rare, as in several hundred I have met with but these two.

In my brief experience I have seen the mortality of diphtheritic croup almost 100 per cent. without surgical interference. With tracheotomy I have seen it reduced to 75 to 90 per cent.; with the introduction of intubation, to 60 to 75 per cent.; and finally, with intubation supplemented by antitoxin, I have seen this great mortality reduced to almost nothing. It is now sometimes asked if intubation is not unnecessary when we have a specific remedy in antitoxin. It is true that many operations are unnecessary when antitoxin is given early and repeatedly in large doses. It is true that it at once arrests the progress of the disease, but it is also true that many are neglected and not seen by the physician until the larynx has been invaded and the only possible hope is in an immediate operation. Many again commence as a laryngeal diphtheria and death may occur from suffocation before we can get the specific effect of antitoxin. While it prevents further extension of the disease, it does not immediately cause the destruction or disappearance of the obstructing membrane already present. I well remember a case in point, and a most exciting race for life, in which death for once was defeated, although by a narrow margin. One night I received a message from a doctor some miles distant, informing me that his patient, a boy 5 years old, was in a dying condition from diphtheritic croup, although he had given antitoxin. He implored me to make all possible haste, as it was doubtful if the boy could live over a few minutes. He said he would keep up artificial respiration and endeavor to keep him alive until I could arrive. Hurrying thither, I found the little spark of life still fluttering, although the child was purple, unconscious and in the last convulsive death agony. The jaws were pried apart and the gag inserted with great difficulty, but the tube was quickly placed and the child revived, and is living and well to-day.

In my first 100 cases there were but 27 recoveries; in the second, 34; in the third, 40; in the fourth, 38, and in the fifth, 39, while of my last 70 operations, in connection with antitoxin, there have been but 4 deaths, a mortality of less than 6 per cent. in a disease that formerly was dreaded above all others. With this experience I feel justified in saying most emphatically that any medical man who does not use antitoxin in the treatment of diphtheritic croup is guilty of malpractice, and he who openly opposes its use should be considered a menace to society, for "there are none so blind as those who will not see and none so deaf as those who will not hear."

I can not close without again paying my tribute of honor to the memory of Dr. Joseph O'Dwyer. His name will ever appear among the honored ones in the history of medicine. I have seen the mortality of diphtheritic croup reduced from almost 100 per cent. without operation to almost nothing with intubation supplemented by antitoxin.

For the distressing annoyance caused by the itching and tingling of chilblains, Chaffee applies tincture of iodine directly to the affected parts for two or three nights, which gives quick and complete relief.

1. The discussion and report will be found in *THE JOURNAL* A. M. A., of July 30, 1887.

SOME POINTS IN THE DIAGNOSIS OF GALL-STONES.*

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Repeated attacks of colic with the pain in the right hypochondrium, accompanied by nausea and vomiting and followed in a few hours by a slight jaundice, leave little doubt as to the existence of gall-stones. In the majority of cases it is on a history of such attacks with the finding of the calculi in the feces that the diagnosis is made.

But the stones are not always so frank in making known their presence. They manifest themselves by irregular symptoms, they simulate other diseases, and other diseases simulate them, so that it is true, as Hoppe-Seyler says, that if the uncomplicated, regular cholelithiasis is difficult to recognize, much more difficult is it to recognize the irregular and complicated form of the disease.¹ It is to some of the symptoms most likely to be misinterpreted and to some diseases liable wrongly to be regarded as gall-stones that I wish to direct attention.

Pain.—It is well known that the pain of gall-stone colic may not be limited to the right hypochondrium. A favorite spot for its reflection—by way of the phrenic nerve and the cervical plexus—is to the right shoulder and close to the angle of the right scapula. It may be referred to the back and make one think of renal colic, may even shoot downward and toward the genitalia, or be located to the left of the median line, in which condition Mayo Robson has found pyloric adhesions.² But the point of reference of the pain that causes many mistakes in diagnosis is one which is frequently complained of by patients and frequently described in articles on the subject, viz., the epigastrium. Recurrent attacks of nausea and vomiting, because they come on a few hours after meals and because there is complaint of pain in the region of the stomach, are repeatedly called gastric neuralgia or acute gastric indigestion, and a slight subsequent jaundice is overlooked or is passed by as a simple accompanying catarrhal jaundice. Attacks of “gastric neuralgia” recurring at irregular intervals, the attacks coming on several hours after meals and especially at night should arouse the suspicion of gall-stones and cause the sclera and urine to be examined for evidence of icterus and the stools for acholia and stones.

Icterus.—Not counting the cases of hepatic colic in which jaundice is overlooked because it is slight, or is not sought for, there are many in which no evidence of icterus is to be discovered, even by the most searching scrutiny of the skin, sclera and urine, and at no time are the feces pale because of absent bile-pigment. These cases often prove confusing and errors are made because of the lack of icterus, which has rightly been considered one of the most important diagnostic aids but which is so frequently absent that it can not be regarded as in any sense pathognomonic or even as an essential factor in diagnosis. In reality, aside from the finding of stones in the feces there is no symptom or sign that is pathognomonic. The diagnosis is one of probability and is made by the symptom-complex.

Jaundice may be lacking after colic because the stone, even though in motion, may drop back into the gall-bladder, or from near the narrow choledochus opening back into the wider portion of the common duct and

not enough swelling result to produce the obstructive jaundice. Or small or smooth stones may pass quickly and leave so little local damage and swelling that there is no stagnation of bile. Wolff³ saw icterus in only one-half of his cases, though, in all, gall-stones were found in the stools. And Fürbringer⁴ in three-quarters of his cases failed to find jaundice. Angular or faceted stones may even lodge in the common duct and, because of their shape, leave enough space for the escape of bile, so that the feces are still bile-tinged and no discoloration of the skin, mucous membrane or urine occurs.

These are conditions in which stones moving from the gall-bladder through the cystic into the common duct, and perhaps escaping therefrom, may still leave no trace of their existence in the biliary tint of the skin or urine. But there is a large class of cases of biliary colic in which inflammation plays an important, if not the sole, part. Riedel in particular has called attention to them. These are cases of stone in the gall-bladder where an acute inflammation or the lighting up of a dormant inflammation occurs, the condition being one therefore of cholecystitis and cholangitis, at least a portion of cystic duct being inflamed. The bacteria producing it may have entered from the intestine and primarily have caused the formation of the stone through the inflammation excited, or they may have entered later and have lain quiet so long as conditions were not particularly favorable for their development, or, perhaps, so long as there was good drainage through the cystic duct. But for some reason, at a given time, be it increase in numbers or virulence of the microbes, or movement of the stone to the mouth of the bladder-duct, there is an acute inflammation of the gall-bladder, swelling of its mucosa and that of the cystic duct; the outlet is therefore occluded. Pain, nausea and vomiting are present, and in addition there is tenderness over the gall-bladder; this in many instances may be made out as distinctly enlarged, being distended with the retained bile and inflammatory mucoserous, or mucopurulent exudate. The temperature, if carefully taken, will be found slightly elevated, from one to two or three degrees, above the normal, and may so remain for a few days, as may the local tenderness and swelling. Some of these cases are complicated by a slight, local peritonitis, repeated attacks resulting in adhesions and thickenings about the gall-bladder. The important fact, the misleading fact as it would appear from experience, is that there is no jaundice. The probable diagnosis must be made without its presence, upon the history of previous attacks, the location of the pain, especially over the region of the gall-bladder, its radiation, tenderness over the region of the gall-bladder, the enlargement of the viscus and the slight temperature. No definite statements can as yet be made as to the value of the direction of radiation of the pain as an aid toward locating the stone. It has seemed in some cases, and also from observations made while probing biliary fistulæ, as though pain referred to the right scapular region might mean stone in the cystic duct. The importance of early recognition of gall-bladder stones before chronic inflammatory or ulcerative changes in the bladder and its immediate neighborhood have taken place, or the stone has, perhaps, become lodged in the common duct is self-evident, rendering surgical interference possible at a time when the operation is easier and safer and brings about great results in the way of avoiding unfortunate complications and sequelæ of calculi.

* Read at the meeting of the North Central Ohio Medical Society, Mansfield, Ohio, Sept. 28, 1900.

Fever.—Since the bacterial era fever in connection with gall-stones has been generally looked on as an evidence of microbic invasion of the biliary tract or of neighboring organs, e. g., the liver, that have been secondarily involved. I wish to make brief reference merely to the fever commonly known, after Charcot, as the hepatic intermittent fever. This is associated with stone or stones in the common duct. Pus or bacteria that can be cultivated, and naked-eye changes in the mucosa are frequently absent. The exact nature of the fever, whether microbic, toxic or both, is still uncertain. It has been compared to urethral fever. In many cases there is jaundice that persists for months or years. At irregular periods chill, fever, sweating, pain in the right hypochondrium, often vomiting, occur, and the jaundice for a time deepens. The freedom with which some of the stones change their position in the duct and the manner in which they intermittently occlude the duodenal opening of the common duct producing jaundice, or of the cystic duct leading to atrophy of the gall-bladder, has been clearly shown by Fenger, in his article on "Stones in the Common Duct and their Surgical Treatment, with Remarks on the Ball-Valve Action of Floating Choledochus Stone."⁵

If in every such case of intermittent hepatic fever there is this periodic closure of the exit of the choledochus, the paroxysm would seemingly be due to retention and absorption of some yet unrecognized toxic material. Osler,⁶ who early called attention to this from of gall-stone manifestation, lays, as it seems to me, a little too much stress on the permanence of the jaundice and its invariable appearance after the attack of chill, fever and colic. If in some cases there is an incomplete occlusion, the obstruction may be so slight as to lead to no persistent jaundice. At the time of the paroxysm there is more complete obstruction, but it may be of such short duration that stagnation of the bile and absorption by the lymphatics does not take place to an appreciable extent, and no jaundice appears. That this absence of icterus for long periods, and even after attacks of chill, fever and colic, is not only theoretically the fact but is actually so, is proved by histories of some of Fenger's cases. And I have in two instances seen no jaundice appear after chill, fever, sweat and pain, though, because gall-stones were suspected, the patients, who were under observation in a hospital, were most carefully watched for evidences of the slightest trace of icterus, which ultimately appeared, but was intermittent. And right here I would emphasize the importance, in doubtful cases, of putting the patient in the hospital and keeping him under observation for days or weeks, if necessary, so that the course of the fever, the evidence of icterus in the skin, stools or urine may be properly judged. In both the cases above referred to, it was in this way and this alone that a correct diagnosis was made, as shown by the removal of solitary choledochus stones. The diagnosis in the cases with permanent jaundice or jaundice plainly perceptible after each attack is comparatively easy. The same chill, fever and sweat have been observed in obstruction from pressure, e. g., from carcinoma, hence caution has to be observed in making too positive an ante-operation diagnosis.

Association with Carcinoma.—In the adult and aged particularly, the association of gall-stones and carcinoma is so common as to be regarded as more than accidental. While the question as to which is the primary trouble is not positively settled, the preponderance of evidence is in favor of the view that the gall-stone is

in most cases the primary disease, the carcinoma arising in the gall-bladder or bile-duct at the point of irritation by the stone. The possibility of carcinoma being found along with the calculus should make one circumspect as to his diagnosis and prognosis, particularly when with advanced age there is an unusually rapid loss of weight and strength, with anemia, and increasing size of the liver that is in these cases so often the seat of secondary growths by direct extension or metastasis. Palpable and perhaps nodular masses in the region of the gall-bladder, when associated with cachexia, would arouse suspicion of a neoplasm. Yet inflammatory exudates and thickening of tissue will readily deceive. In fact, even with the abdomen opened, the surgeon is often in doubt as to whether the hard and thickened tissue in the neighborhood of the stone is inflammatory or neoplastic.

Riedel's Tongue-Shaped Process.—A projection of the lower, i. e., anterior border of the liver as a tongue-shaped process has been described by Riedel as found in many cases of gall-bladder stone where there is pericystic thickening. This tongue-like projection is oftenest seen in women with the corset-liver and gall-stone. In its physical properties it is not unlike a tumor of the gall-bladder, the right kidney or the large intestine. If its possible existence is remembered it can frequently be recognized by its shape, its edge, its location, its respiratory mobility, its situation above and in front of colon, as well as by the positive signs and symptoms in the previous history pointing to gall-stones and the absence of symptoms indicating renal or intestinal new-growths. Extremely confusing is the condition in which Riedel's process is crossed by the adherent intestine. The projection is then separated from the bulk of the liver by an area of tympany, especially noticeable with the colon distended with air, and it is not to be wondered at that the process is often regarded as a kidney or as a new growth of the intestine or omentum. Eichhorst, as well as others, speaks particularly of the difficulty of diagnosis in such cases. One such I have seen trip up one of the acutest diagnosticians of Europe.

Relation of Typhoid Fever to Gall-Stone.—The relation between typhoid fever and cholelithiasis is in some cases so close that a history of typhoid a few months or years before adds a probability to a diagnosis of gall-stones. The researches of Chiari⁷ and others show the great frequency with which typhoid bacilli are found in the gall-bladder and the bile of patients dying of typhoid, there being in some cases naked-eye evidence of cholecystitis. Recent observations have confirmed these statements, and have shown bacilli in bile many months after the subsidence of the fever. The changes they produce in the mucous membrane of the gall-bladder are those favoring the shedding of the epithelium and the increase in the amount of cholesterol, i. e., Naunyn's requirements for the production of calculi are met. Typhoid bacilli have been found in the nuclei of stones; stones have shown themselves by symptoms soon after attacks of typhoid, and autopsies on patients dying several months or a few years after typhoid fever have, in not a few instances, shown gall-stones with typhoid bacilli in the gall-bladder. There seems little reason to doubt that gall-stone formation is favored by the presence of typhoid germs in the gall-bladder, and that they are frequently present in that situation during typhoid. The value, therefore, of inquiry into the history for typhoid is clear.

Conditions that Simulate Gall-Stones.—Thus far I have spoken only of points concerning diagnosis where

gall-stones are actually present. I wish now to call attention to a few conditions that may simulate gall-stones and thus lead to error in diagnosis. Ulcer of the stomach, neuralgia of the stomach, renal, intestinal and lead colic are all so freely discussed in text-book articles, and so quickly occur to the mind of one examining a patient with suspected gall-stones, that I will not refer to them further, but take up briefly a few diseases that I have found confusing to myself and others. Theoretically, some of them ought not to confuse. But practice and theory are here, as in many other situations, not always in harmony. Some of these conditions if once thought of will be readily recognized. But one of our great troubles in diagnosis is that our attention is easily attracted by some striking feature of a case toward some particular disease of which it may be a prominent symptom. We are apt to forget that this same symptom may be a minor or exceptional manifestation of some other disease that will be overlooked unless it accidentally comes to our mind, or unless it thrusts itself forward by other symptoms revealed during a thorough routine examination.

To illustrate this point, let me cite the case of a man whom I saw in my ward at the Cook County Hospital, suffering severe pain which he referred chiefly to the epigastrium. In response to my inquiry as to what was the cause of the pain, he replied that it was gall-stones, that he had been operated on for them several months before, had had relief for a few months, but now the same periodic pains had returned and he was sure some stones had been overlooked or others had formed. He had the operation-scar to confirm his statements. My first thought was that the man was right, for stones can be readily overlooked at an operation and recurrences are by no means unknown.⁸ But the points to which the pain radiated, into the arms and thighs, made me examine more closely, and I found the ear-marks of tabes—loss of knee-jerk, Romberg's symptom, Argyll-Robertson pupil, etc., and his epigastric pains were but the gastric crises of that disease. I have no reason to question the statement made by the surgeon to the patient, that he removed gallstones but I narrowly escaped wrongly consigning the patient to the surgical ward and to an unnecessary second operation.

Angina Pectoris.—I have once or twice been puzzled to differentiate between gall-stones and angina. The pain of gall-stones may, as has been said, be referred to the left side and may even appear in the breast, and anginal pain may involve the epigastrium. In general, however, the thickened condition of the arteries, the enlargement of the heart, the distinct precordial location of the pain with its radiation to the neck and left arm, the violent, grasping, vise-like nature of the pain with the sense of impending death, the absence of later jaundice, etc., make a diagnosis a simple matter.

Senile Pneumonia.—The pain of pleurisy, especially when it involves the lower right side and the diaphragm, is often referred to the abdomen. With pneumonia there may be vomiting, and not infrequently icterus, the latter perhaps from an accompanying catarrhal jaundice. A patient, therefore, with acute epigastric and right hypochondriac pain, nausea and vomiting, chill and fever and subsequent jaundice, resembles in many respects a case of gall-stones. This was first impressed on me by the case of a physician of about 60 years, who called me to see him after he had been ill and treating himself for two days. He told me he thought he had gall-stones and cholecystitis, for he had

sharp pain in the region of the gall-bladder, with fever and jaundice. The condition was, however, one of right lower lobe pneumonia of the senile type, with comparatively slight cough and expectoration.

Localized Peritonitis.—Acute peritonitis or exacerbation of a chronic peritonitis may, if in the region of the gall-bladder, make one think seriously of gall-stones. A man of about 23, who a few years before had passed through an attack of typhoid fever, had been annoyed for ten months with what at first he regarded as indigestion. At irregular intervals, on four or five occasions, he had suffered from poor appetite for a day or two, coated tongue, then severe pain in the epigastrium and right hypochondrium, vomiting and fever. These attacks had gradually subsided, leaving him rather weak, with some soreness just below the right costal arch. His last attack had been quite severe and his physician thought it was due to gall-stones. Jaundice had been doubtful. The history led me to suspect gall-stones with cholecystitis and extension of inflammation to the neighboring peritoneum, for there was in the neighborhood of the gall-bladder, after the acute symptoms had subsided, a resistance and tenderness, though for days no temperature. This diagnosis was concurred in by another physician and by the surgeon who operated. We found an extensive tuberculous peritonitis, but no gall-stones. Recovery from the operation—a simple opening and loosening of adhesions—was followed in the course of several weeks by a great improvement in local and constitutional symptoms and a gain of twenty-five pounds in weight. The patient is still living and reports himself well over a year from the time of operation. Appendicitis, intestinal obstruction, hemorrhagic pancreatitis may resemble gall-stones with inflammation of the gall-bladder or neighboring peritoneum. Of the difficulty of differentiating between gall-stones and intestinal obstruction a case recorded by Fenger⁹ is a good example where an operation done for suspected intestinal obstruction revealed no obstruction, but a distended gall-bladder, yielding on opening, a large number of calculi, the symptoms of ileus disappearing after the removal of the stones.

Hernia of the linea alba, Dietl's crisis in floating kidney, hysteria, malaria with neuralgic pain and jaundice, might be mentioned as conditions occasionally simulating gall-stones, and I must call attention to the not infrequent association of cholelithiasis and other diseases. I have already mentioned typhoid fever and carcinoma of the gall-bladder. Diabetes, gout, obesity and renal calculi are many times found with gall-stones; and, accidentally, any disease may occur in a patient who has gall-stones, as in the case of tabes I have cited.

I have aimed in this rather cursory manner to refer only to a few points, especially those I have found puzzling to myself or others, and have made no effort to go into the details of diagnosis of gall-stones with the numerous possible complications and sequelæ.

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8. Fenger: Chicago Medical Recorder, April, 1898, p. 310.

THE PRESENT STATUS OF SPINAL SURGERY.*

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(Continued from page 1014.)

TUMORS.

This field of surgical activity only dates back to 1887. Gowers and Horsley were the first to undertake any operation for intravertebral tumor, but since then many other surgeons have had satisfactory results. It is true that tumors involving the spine had been operated on earlier, but they were favorable cases where there was an extravertebral manifestation. Of the 58 reported by Gowers and Horsley, all the patients died except the one operated on by Mr. Horsley, yet 80 per cent. of these could have been completely relieved by operation, and those which were hopeless might have been benefited if the pressure had been removed. The careful studies made by Starr, Mills and Gowers and many other observers have enabled the surgeon to do brilliant work in this class of cases. There can be no question of what one would do in a case of extravertebral tumor producing pressure on the cord, and with the present status of laminectomy there is no reason why any intravertebral tumor should not be attacked with every confidence of an improvement in the patient's condition. It is hardly necessary for us to attempt a tabulation or a classification of the tumors which may involve this region of the body. This has already been carefully done and can be found in almost any of the standard text-books. The question with us is a simple one. Given the probable existence of compression of the cord, not amenable to medical treatment, surgical intervention should be the rule. The neurologist now localizes these regions so accurately that there is little difficulty in determining the point of the spine to be attacked, and as most of these tumors are small, owing to the confined space in which they develop, the area of the vertebral column which is to be removed is of very small moment. Chipault collected 22 cases of operations on spinal tumors, and Keen added 3 more; 11 of these patients recovered, 11 died, and the result in 3 is uncertain. I have been able to collect 51; of these 16 recovered, 4 improved, 2 were unimproved, and 5 died immediately and 23 some time after the operation.

In the cases reported by Keen I find that he includes my own case of fracture of the third lumbar vertebra, in which the compression was due to callus. If these are to be regarded as cases of tumor, I have had several instances, both in the Pott's and fracture classes, where I have operated that might be tabulated. While the conditions are identical, I do not feel that these cases should be classified among tumors, and have therefore not included them in my tabulation. I have operated on one case of hydatids (see table, Case 51) of the back with compression of the cord. In this case the diagnosis of an inoperable sarcoma had been made. When I first saw the patient my intention was simply to relieve the pressure on the cord, by resewing that portion of the growth which involved the vertebral canal, in order to relieve the compression and the pain. On more careful examination, after the patient entered the hospital, I concluded that I was dealing with a multilocular cystic

condition and made a puncture, which at once revealed the presence of the hydatids. A complete operation was therefore undertaken with a complete recovery. At the time that I presented this case before the surgical section of the New York Academy of Medicine, Nov. 9, 1896, I expressed the opinion that the man would ultimately recover. Not long after that he returned to his business as a traveling salesman, and was able to go about with ease. Unfortunately, however, he was killed by a railroad accident about six months later. In this case the compression was between the eighth and ninth dorsal vertebrae.

TABLE OF GROWTHS, REGION AND FREQUENCY.

The following table gives the different growths that have been recorded, as well as the region and frequency of their occurrence.

Kind.	Number.	Intradural.	Extradural.	Unclassified.	Intra-Vertebral.	Extra-Vertebral.	Cervical.	Dorsal.	Lumbar.	Sacral.	Recovered.	Improved.	No Improve-ment.	Death from Operation.	Subsequent death.
Cancer	12	1	2	1	1	1	1	1	1	1	1	1	1	1	1
Abscess	15	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Sarcoma	15	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Myxosarcoma	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Echinococcus.	8	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Myxoma	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Connective tissue mass	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Unclassified.	10	4	4	1	1	1	1	1	1	1	1	1	1	1	1
Lymphangeoma	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Psammoma	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Chondro-sarcoma	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Osteo-sarcoma	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Lipoma	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Enchondroma	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

A glance at this table immediately explains the large number of deaths recorded, but not due to operative interference. For instance, 2 of these were due to carcinoma, 2 to abscess, 9 to sarcoma, 5 to echinococci, 2 were unclassified, 1 was due to psammoma, 1 to an osteo-sarcoma, and 1 to a lipoma. It is at once evident that a complete and radical cure was impossible in many of these, and yet no one who has witnessed the sufferings that these patients have to bear and the relief they receive when the pressure is removed, will say that the operation was unjustifiable. Only 8 per cent. have died as a direct result of the operation itself. In the 23 dying some time after the operation, there was marked relief, as a rule, from the intense pain and general discomfort, and it may be considered an established fact that the patient was more comfortable and died a less horrible death than would have been the case without the operation. The recoveries here are 31.37 per cent. with only 9.80 per cent. immediate or operative deaths. Undoubtedly earlier diagnosis and a consequent earlier operation will improve these results.

TUMORS.

CASE 1.—Operator, Lecat, 1751. Lumbar region; extravertebral carcinoma; male. After a traumatism, tumor appeared which destroyed the spinous processes of the 4 upper lumbar vertebrae and the medullary sheath. Removal. Death after 2 days. Reference: Chipault, Chir. Medullaire, p. 350.

CASE 2.—Operator, Reydellet, 1819. Lumbar region; extradural hydatid cyst; female, 26. Complete anesthesia of lower limbs. difficulty in defecation, right leg became paralyzed. Tumor opened and hydatids enucleated, cord exposed. Death. Reference: Idem.

CASE 3.—Operator, Johnson, 1856. Duration, born so; sacral region; extradural, extravertebral lipoma; male, 10 months. Child born with an opening in the sacral region; 3 weeks later an ulcer appeared situated on a small tumor. The ulcer healed, but the tumor increased in size. Convulsive movements of the right leg were noticed. One tumor enucleated, another found with pedicle passing into vertebral canal. This also enucleated. Improved. Reference: Idem.

CASE 4.—Operator, Gerster, 1878. Dorsal region; extradural at first; intravertebral sarcoma. Paraplegia. Removal of greater part. Dura was destroyed at many points. Escape of large amount of cerebrospinal fluid. Sensibility and motion improved. Death. Reference: Idem.

CASE 5.—Operator, Bazy, 1886-91. Duration, 18 months; lumbar region; both extra- and intradural and extra- and intravertebral hydatids; female, 45 years. Gradual weakening of the lower limbs with accompanying pain, and also in lumbar region. Incontinence of urine, incomplete paraplegia specially marked on right

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side; projection in the lumbar region, fluctuating. Right lamina of 4th was found destroyed, cavity into the body of the vertebra. Dura had been perforated and hydatids found therein, which were washed out with boric solution; rubber drain. Pain in lower limbs; large amount of cerebrospinal fluid escaped. Death 15 days later. Reference: *Idem*.

CASE 6.—Operator Bazy, 1886-91. Cervical region; intradural cysts; male adult. Atrophy of the muscles of the scapula led to the diagnosis of compression at the 4th C. Removal of 4th and 5th C. arches. Dura opened and cyst found under pia. Reference: *Idem*.

CASE 7.—Operator, Wright, 1888. Duration, 20 years; cervical region; intravertebral fibrosarcoma; male, 38. Tumor on left side of neck, which gradually increased in size, weakness in the left arm, then left leg, right arm, right leg; reflexes exaggerated. Tumor encapsulated. Prolongation into the 3rd foramen. Another tumor found, both in contact with brachial plexus. Improvement. Reference: *Idem*.

CASE 8.—Operator, Abbe, 1889. Dorsal region; extradural, intravertebral. Eighth and 10th arches removed. Improvement. Reference: *N. Y. Medical Record*, Feb. 9, 1889.

CASE 9.—Operator, Sonnenberg, 1889. Dorsal region; extradural, extravertebral sarcoma. Removal of whole tumor impossible. Death in 6 weeks. Reference: *Verhand. d. Deutsch. Gesell. f. Chir.*, April, 1889.

CASE 10.—Operator, Abbe, 1890. Dorsal region; extradural sarcoma; male, 42. Eighth and 9th dorsal arches removed. Death on 9th day. Reference: *N. Y. Medical Record*, 1890, p. 85.

CASE 11.—Operator, Horsley, 1890. Intradural; male, 52. Complete paraplegia. Four arches removed. Death from shock. Reference: *International Congress*, Berlin, 1890.

CASE 12.—Operator, Kelly, 1890. Dorsal region; intradural. Recovery. Reference: *Southern Med. Record*, vol. xx.

CASE 13.—Operator, Bardeleben, 1889. Dorsal region; extradural, extravertebral and intravertebral enchondroma; male, 65. Tumor size of nut, 7 cm. from spine at bottom of scapula. Slow in growth. Paraplegia and vesical paralysis. Removed, seen to pass into canal between 7th and 8th dorsal. Death. Reference: *Chlapault, Chir. Medullaire*.

CASE 14.—Operator, Leaquer, 1890. Duration, 2 years; dorso-sacral region; extradural lymph-angioma; male, 19. Pain in sacral region most intense at night; pain on pressure; slight lumbar kyphosis, slight atrophy of quadriceps, diminution of tendon reflexes, rectal and vesical paresis. Posterior wall of sacrum opened, tumor taken from middle of sacrum. Improvement. Reference: *Idem*, p. 357.

CASE 15.—Operator, Fenger, 1891. Dorsal region; extradural, intravertebral; sarcoma. Male, 38. Complete anesthesia of trunk and lower extremities. Removal of 4th and 5th dorsal arches. Death on 5th day from septicemia. Reference: *Am. Jour. Med. Sc.*, vol. ciii, p. 405.

CASE 16.—Operator, Lane. Duration, 3 years. Dorsal; extradural, intravertebral; boy. Fell and struck side 12 months ago; felt pain; 1 month later found projection on back. Wore Sayres jacket 3 months. Six months ago lost power in legs, sensation decreased, occasional incontinence, knee and ankle clonus marked, plantar reflex absent. Arch of 4th, 5th, 6th and 7th D. removed. Abscess anterior to cord. It contained cheesy matter and large pieces of necrosed bone. Cavity filled with iodoform; drain for 36 days. Movement and sensation increased, then movement almost disappeared. Second operation showed more caseous matter; very slight improvement. Reference: *Brit. Med. Journal*, 1891, p. 1227.

CASE 17.—Operators, Ramsou and Anderson. Duration, 32 months; dorsal region; extradural intravertebral hydatid cyst; male, 42. Had had gonorrhea and was alcoholic; gnawing pain in back and down legs, which suddenly left at the end of 4 weeks and returned occasionally during next 4 months; it then returned and legs were stiff, weak and numb. Lost sexual power, knee-jerks absent, no ankle clonus. Finally, loss of sensation and motion of lower limbs; bedsores. Arches of 11th and 12th D., 1st and 2nd L. removed; forceps used; dura not sutured. Death. Post-mortem examination showed 2 cavities in the right erector spine muscle containing grey pultaceous matter. Tumor in canal at 10th D. not connected with the others. Reference: *Brit. Med. Journal*, 1891, vol. ii, p. 1144.

CASE 18.—Operators, Davies and Colley, 1892. Duration, 7 years; dorsal region; extradural extravertebral sarcoma; female, 23. Shooting pains in back and chest; 1 month ago lost sensation in lower limbs; had incontinence of urine and feces and then lost power of motion. Is well nourished and healthy. Large boss opposite 4th and 5th D., projection hard; no pain, knee-jerk, plantar reflex and ankle clonus present. Smooth whitish growth, in right vertebral groove, attached to the right 5th and 6th D. laminae. These were removed. Dura healthy, but cord compressed and soft. Drain used. Complete recovery. Reference: *Trans. of Clin. Soc.*, London, 1891-2, xxv.

CASE 19.—Operator, Temolin, 1892. Duration, since birth; lumbar region; intradural lipoma; female, 11 months. At birth there was a small tumor about size of hazel nut in lumbar region; gradually increased in size. Tumor removed; pedicle going into canal closed with catgut sutures. Respiration ceased momentarily while pulling on pedicle. Reference: *Chlapault, op. cit.*, p. 359.

CASE 20.—Operator, Rehn, 1891. Duration, 2 years; sacral region; extradural intravertebral lymphangioma; male, 19. Severe pains in sacral region; 1 year later, complete anesthesia and paraplegia of lower limbs; patellar reflex present, bladder and rectum normal; pain on pressure and constant boring sensation over sacrum. Later, rectal and vesical paralysis; tendon reflexes absent. Sacral canal opened up to 5th L. Marked improvement. Reference: *Neurol. Centralbl.*, 1891, p. 193.

CASE 21.—Operator, Zavaleta. Duration, 4 months; lumbar region; extra- and intradural and extra- and intravertebral lipoma; aged 6 months. Child otherwise normal. Firm, irreducible tumor at 4th L. Pedicle penetrated canal between 4th and 5th arches, through dura; was dissected away from arachnoid; dura closed. Death 2½ months later. Reference: *Chlapault, op. cit.*, p. 346.

CASE 22.—Operator, Lichthen, 1890. Dorsal region; intradural psammoma. Death after two days. Reference: *Deut. Med. Woch.*, 1891, p. 1386.

CASE 23.—Operator, Lichthen, 1890. Dorsal region; psammoma. Improvement. Reference: *Idem*.

CASE 24.—Operators, Ransom and Thompson. Dorsal region; extradural sarcoma. Death on 6th day. Reference: *Am. Jour. of Med. Sci.*, cix, p. 634.

CASE 25.—Operators, Ransom and Anderson, 1892. Dorsal region; hydatid cyst. Operation too low down; cyst not found. Death 3 days later. Reference: *Brit. Med. Jour.*, 1892, ii, p. 1144.

CASE 26.—Operators, Capanoto and Pescarolo, 1892. Dorsal region; intradural myxo-sarcoma. Improvement after 5 months. Reference: *La Reforma Med.*, 1892, p. 543.

CASE 27.—Operator, Szekeres, 1893. Duration, 12 years; dorsal region; extradural extravertebral echinococcus; male, 32. Swelling over spine for 12 years; pain disappeared with application of cold; complete paraplegia and anesthesia in lower limbs. Recovery. Reference: *Pester, Chir. Presse*, 1894, p. 43.

CASE 28.—Operator, Lamphear, 1892. Duration, 17 months; dorsal region; extradural intravertebral; female, 47. Had dizzy spells in 1886. Two years before operation, slight loss of motion and spasmodic contraction in lower limbs; 17 months before operation, intense pain and paraplegia in legs, anesthesia to diaphragm, bladder and rectum involved; two months later had slight control over legs for a short time, which was soon lost; large bedsores. Bedsores covered with collodion and excised. Arches of 12th D., 1st, 2nd and 3rd L. removed with saw and chisel. Hard, almond-sized tumor on periosteum. Lamina of 2nd D. soft; granulation-like tissue pressing into canal. Death through carelessness of nurse. Reference: *Medicine*, vol. ii, 1896, p. 25.

CASE 29.—Operator, Horsley. Dorsal region; extradural echinococcus. Recovery. Reference: *Chir. Jour.*, London, 1896-7, p. 97.

CASE 30.—Operator, Ignatoff. Dorsal region; extradural chondrosarcoma; female, 35. Improved. Reference: *Vayenno Med. Jour.*, 1896.

CASE 31.—Operator, Curtis, 1893. Duration, 6 months; extravertebral cancer; female, 35. Breast amputated for tumor. Pain and stiffness on left side and shoulder, anesthesia of forearm, pharynx and conjunctiva; knee reflex increased; complete anesthesia and paraplegia below umbilicus; rectal and vesical paralysis; kyphosis at middorsal region. Sixth D. arch removed. Death 16 days later. Reference: *N. Y. Med. Record*, vol. liii, p. 346.

CASE 32.—Operator, Rogers, 1897. Duration, 7 months; dorsal region; extravertebral tumor; male, 28. Submitted to long exposure. Pain in thorax increased for 4 months; no motion without pain. Slight recovery, then sensation of something "moving down inner side of legs." No pain. Six months later could not stand or void urine; lost motion of lower extremities; T. 102, P. 110; anorexia, vomiting, pain; 1st D. spine sensitive to pressure; knee-jerks increased, especially left; ankle clonus slight on right, decided on left. Diagnosis, "tumor of spine." Removal of 4th and 5th dorsal arches; extended afterward; 4th and 5th D. completely disorganized, the transverse processes being separated at their bases. Lesions too extensive for removal. Death 9 days after. Reference: *Phila. Med. Journal*, 1898, vol. i, p. 332.

CASE 33.—Operators, Eskridge and Freeman, 1897. Duration 1 year; D. region; intradural tumor. Paralysis, motion and sensation varied, sometimes absent; superficial reflexes absent; pain in back. On admission T. 100 F., P. 96, resp. 22; paralysis of bladder and rectum; sensation further impaired. Laminae of 4th and 5th dorsal removed. An almond-shaped tumor of the arachnoid. Complete recovery. Reference: *Idem*, vol. ii, 1898, p. 1236.

CASE 34.—Operators, Quesnel and Garten, 1896. Duration, 2 years; dorsal region; intravertebral sarcoma; male, 28. Mother neurasthenic and lame; patient healthy. Fell 3 meters, struck on back, was unconscious; worked next day. Well 1 year, then had bladder trouble and weakness in legs; symptoms increased; in bed last few months. At time of operation paraplegia and anesthesia of lower limbs, bladder and rectum; pulse normal; left plant. reflex stronger; no ankle clonus; sensation absent below 11th D. After Urban, 5th to 9th arches removed; slight pulsation appeared. Death in 6 days. Post-mortem examination showed meningitis basilaris. Reference: *Neurol. Centralbl.*, 1898, p. 482.

CASE 35.—Operator, Thompson, 1893. Duration, 20 months; dorsal region; extradural intravertebral sarcoma; male, 50. Pains in epigastrium and over dorsal spines; 3 weeks later weakness and pain in legs; knee-jerks exaggerated, no ankle clonus; 4 days later double ankle clonus and anesthesia in front of thighs; lost power in lower limbs; 3 weeks later sensation lost near 8th and 9th D. spines and anterior ends of corresponding ribs. Trephine used; 7th, 8th, 9th and 10th D. arches removed; cord normal. Death 6 days later. Reference: *Brit. Med. Journal*, 1894, p. 395.

CASE 36.—Operators, Burns and Credal. Duration, 22 months; intradural; female, 24. Severe pains in back extending afterward to legs and abdomen; one year later weakness in right foot, with slight paralysis; one year later left leg also affected; fibrosarcoma in right ear; bladder disturbance, patellar reflex weak. All symptoms became worse. No tumor found, no pulsation of cord. Death. Reference: *Archiv. Psychiatr.*, xxvii, p. 97.

CASE 37.—Operator, Burns, 1894. Dorsal region; extradural sarcoma. Sudden death within 24 hours. Reference: *Neurol. Centralblatt*, 1894, p. 389.

CASE 38.—Operator, Burns. Dorso-lumbo-sacral region; sarcoma. Tumor not found. Death after 14 months. Reference: *Idem*, p. 281.

CASE 39.—Operators, Saenger and Krause, 1894. Dorsal region; extradural sarcoma. Tumor removed. Death on 4th day. Reference: *Munich Med. Woch.*, 1894.

CASE 40.—Operators, Horsley and Gowers, 1888. Dorsal region; intradural myxoma. Removal of 4th and 5th D. arches. Recovery. Reference: *Starr, Am. Jour. Med. Sci.*, ciii.

CASE 41.—Operator, MacEwen, 1888. Dorsal region; extradural connective tissue mass. Removal of 5th to 7th D. arches. Recovery. Reference: *Idem*.

CASE 42.—Operator, MacEwen, 1888. Dorsal region; extradural connective tissue mass. Tumor removed. Recovery. Reference: *Idem*.

CASE 43.—Operator, Barclay, 1894. Duration, 29 months; cervico-dorsal region; extradural endothelioma; male, 28. Fell from bicycle. Partial paralysis of all limbs; gradual increase of paraplegia and anesthesia; knee and ankle clonus and plantar reflexes present; upper abdominal reflex absent; no control over bladder. Fourth, 5th, 6th and 7th C. arches removed. Death from hemorrhage. Reference: *Brain*, xviii, p. 256, 1895.

CASE 44.—Operator, McCosh, 1894. Dorsal region; extradural sarcoma. Progressive anesthesia reaching to 7th intercostal space behind, ensiform in front. Third, 4th, 5th and 6th D. arches removed. Death 17 days later, supposedly from sarcomata in viscera. Reference: *Am. Jour. Med. Sci.*, cix, p. 618, 1895.

CASE 46.—Operators, McBurney and Starr. Dorsal region. Com-

plete anesthesia and paraplegia in lower limbs. Arches of 9th, 10th and 11th D. removed; tumor removed. Partial recovery; recurrence and death later. Reference: *Idem*, p. 626.

CASE 47.—Operator, Warren, 1898. Duration, 16 months; dorsal region; intradural; female, 52. Severe pains over lower ribs; six months later weakness and pain in left leg, pain on moving head and opening mouth; knee-jerk exaggerated, ankle clonus present. At time of operation could not stand alone nor control bladder; lost sensation in lower limbs, especially right. Eleventh and 12th D. arches removed. Tumor size of an olive in pia; dura stitched with silk; gauze drain. Good recovery. Reference *Am. Jour. Med. Science*, vol. cxviii, 1899.

CASES 48 and 49.—Case 1, operator, Keen, 1891; Case 2, operator, Warren. Duration, Case 1, 11 years; Case 2, 17 years. Dorsal region; intradural; cord seemed like sarcomatous tissue. Male, 34. Great pain, then gradual loss of sensation and motion for 9 years; finally complete paralysis of motion and sensation, bladder and rectum involved. Chills (not malarial) 4 years after pain in back. Case 1, operation, arches of 7th, 8th and 9th D. removed. Complete recovery. Case 2, operation, same location. Complete recovery. Reference: *Idem*.

CASE 50.—Operator, Elliott. Duration, 3 years; upper cervical region; extradural sarcoma. Male, 24. Fell from ladder; neck injured twice later. Gradual paralysis below neck of all muscles except diaphragm. Posterior surface of axis eroded. Sarcomatous tissue removed. Fair recovery. Reference: *Idem*.

CASE 51.—Operator, Lloyd, 1896. Duration, 9 years; dorsal region; extradural intravertebral echinococcus; male, 57. History of slight rheumatic attacks in back for 5 years, then severe pain in lumbar region when standing. Two years later small tumor at right of lumbar spine, gradually increasing until a series of cysts extended from left side of upper margin of sacrum and over to right side and upward to middle of scapula. Another cyst, size of fetal head, extended retroperitoneally into abdomen. Twelve years later paraplegia began and became almost complete in 1 year. Tactile, pain and temperature senses decidedly impaired as high as crests of ilia. Exaggeration of patellar reflexes. No reaction of degeneration; vesical paralysis; girdle pain; crepitation over tumor peculiar to echinococcus cysts; dyspnea, anemia. Laminae of 8th and 9th dorsal on right side partially removed during extirpation of large number of cysts. Complete recovery. Reference: *Am. Med. Surg. Bull.*, Dec. 5, 1896.

FRACTURES.

Thanks to the work that has been done by the neurologists, we are able to get a better idea of those cases of fracture of the spine which are amenable to operative interference, although as yet we must confess that the rules advanced can not be absolutely applied to any definite case. One must consider the region of the spine involved before attempting a prognosis. The recoveries from operative interference in the cervical region have been very few; the mortality is much greater than in such interference in other regions. The functional results are by no means so satisfactory as when the lower dorsal or lumbar regions are involved. The type of fracture also naturally affects the prognosis. An indirect fracture, i. e., one with bending of the spine accompanied by fracture-dislocation of one or more vertebrae and with the symptoms of complete separation or degeneration of the cord, as evidenced by the rapid appearance of bed-sores, not due to the direct pressure, and to the complete paraplegia and anesthesia, including the paresis of the rectum and of the bladder and with obliteration of the reflexes, would naturally contraindicate operative interference. There can be no hope of restoring function to a destroyed spinal cord in these cases. The injury has been sufficient to pulpify the cord and that area of softening is usually of considerable extent and produces complete obliteration of all nervous control below the segment affected. As there is no known way of grafting new cord or removing destroyed portions of it, or of grafting posterior nerve roots into the cord below, as suggested by Dana, it is a waste of time and an unnecessary cruelty to the patient to submit him to any operative interference.

In the other class of cases, however, where the patient has recovered sufficiently from the immediate shock, where the cord shows that it has not been completely destroyed by the recovery of more or less of the sensation or motion or exaggeration of one or several reflexes, by the continued healthy condition of the skin, even though atrophy be present, operative interference may result in great benefit to the patient.

Keen has said that 20 per cent. of fractures of the spine are simple fractures, that 20 per cent. are simple

dislocations, while 60 per cent. are both fracture and dislocation.

Fracture dislocations of the vertebra nearly always produce more or less injury to the cord, and Chipault does not believe in the generally-accepted idea that the spine in these cases springs forward so as to bruise and destroy the cord, and then immediately on the removal of the force producing the lesion, springs back again into, or nearly into, place. Thorburn, however, believes this cause to be exceedingly common and much more so in the cervical region than elsewhere.

Naturally a serious injury to the cord—in this way—in addition to producing degeneration of the involved segment is rapidly followed by inflammatory softening, so that we frequently find, as these cases recover from the immediate shock of the injury, that we have an increasing paraplegia and anesthesia. The bodies of the vertebrae are more frequently fractured than the arches, and, naturally, when this occurs the cord may be destroyed by the displaced fragments of the body, but fractures of the spinous processes or of the arches do occur without any injury to the cord itself. In this latter set of cases no treatment may be necessary other than the rest in bed, and possibly the application of a plaster jacket or other spinal assistant, but it should be remembered that occasionally where the arches are fractured without injury to the cord the paraplegia may begin at a later date and may be due to the formation of callus on the inner side of the lamina, as in the case I reported in my former paper, or to inflammatory exudation.

The question of localization of injuries of the spine has been thoroughly considered by Thorburn, Keen, and others, and it is not necessary for us to repeat what is already thoroughly outlined. It is, however, important that we should in all cases of fracture of the spine that may come to operative treatment observe the difference between the effects of total and partial injuries of the cord as shown by the reflexes. Bastian, Bowlby, Thorburn, and Herter have studied these phenomena. Their conclusions may be briefly stated, that in complete transverse destructive lesions of the cord there will invariably be complete paraplegia below the level of the injury, complete anesthesia below the level of the distribution of the injured nerves, and complete and permanent obliteration of the knee-jerk and deep reflexes of both sides, but if the transverse lesion of the cord is only partial, the paralysis and anesthesia will be incomplete, while the deep reflexes may remain normal or be exaggerated, and the bladder and rectum follow the same general rule as the deep reflexes. Keen says that if immediately after the accident the knee-jerk on both sides is absent and remains so, operation is contraindicated. He adds that there is no question that as a general rule the persistent absence of the reflexes, especially of the knee-jerks, is an evidence that the cord has been so completely destroyed that operation would be unwise, and yet he adds, there are a few happy exceptions to the rule. In this connection he reports a case of Schede's, one of Hammond and Phelps', and one of his own. In this last case, one of dorso-lumbar dislocation, the knee-jerks had been absent for eighteen months, but returned within a week after the operation. He considers that Schede's success was owing to the early date of the operation, sixteen hours after the accident.

Had this rule of not operating in the absence of the knee-jerks been followed in these cases, the patient would undoubtedly have remained permanently

paralyzed, while in every instance they regained more or less complete function. This has also been illustrated in the case of mine, operated on within the past few days. Here complete paraplegia and anesthesia below the fifth lumbar segment, according to Starr's classification, were present at the time of the injury. The deep reflexes were also obliterated. Six weeks later the patient had recovered slight power in the adductor muscles of the right side, and had some control over the rectum and bladder. The day following the operation hyperesthesia was present on the right side over a large portion of the formerly anesthetic area, while the adductor power had moderately increased; and forty-eight hours later he had begun to recover his reflexes and was markedly hyperesthetic on both sides. This, then, can not be taken as an absolute rule, and I feel inclined to differ with Keen in the conclusion that the obliteration of the deep reflexes is an absolute contraindication to operation. It is important for us to decide whether the lesion is a complete degeneration of the cord or whether it is a simple compression of that organ. In the former case it is useless to operate; in the latter it becomes necessary to consider at what time the operation can best be performed.

In my former paper I said that if operation is undertaken at once there is danger of interference where a spontaneous cure would result if the patient were left alone, or where a complete destruction of the cord renders operative interference useless. If, however, operation be delayed too long, and a compression be allowed to continue, a degeneration may result which would be as serious as though the functions of the cord had been destroyed by the original injury. Lauenstein said that if, after the lapse of six or ten weeks, there is incontinence of urine with cystitis or incontinence of feces, and especially if there has also developed a spreading of bed-sores, but little is to be hoped from the efforts of Nature. Horsley insisted that operation should be undertaken early, and this was my own opinion as expressed at that time, provided the symptoms present indicated interference with the functions of the cord. In other cases I should wait until the shock following the injury had been overcome, watching the patient's condition carefully, however, and at the slightest indication of any symptoms pointing to an extension of the interference with the action of the spinal cord, whether that interference be due to hemorrhage or to compression from depression, callus or to the exudation of lymph, I should operate at once. Chipault says, in this connection, that in all traumatism of the cord there are three serious lesions: 1. A zone consisting of that portion of the cord which is directly destroyed, which may be of greater or less extent, and which undergoes complete necrosis following the destruction of the nervous elements; this degeneration is complete. 2. A zone above and below the former, in which the nervous elements are injured but not absolutely destroyed. Within two or three days the nerve cells are increased in size and their protoplasm becomes granular, the cylinder axes form a sort of chaplet, the myelin is broken into segments. This beginning of degeneration close to the injured part can be determined by noting the involvement of the motor and sensory centers immediately above the site of the injury. If the cause of compression is removed, both cylinder axes and myelin may undergo a certain amount of regeneration by the ninth day. If the cause of the compression persist or the injury is sufficiently grave, the destruction of the cord of this zone is permanent and is followed by

sclerosis. 3. Secondary degeneration sets in at a very early date; this is due not to the direct injury but probably to the separation of the nervous elements from the trophic centers. The degeneration extends above and below the site of the lesion, and begins as early as the fourth day, and continuing to extend for many months it follows the general trend of the Wallerian degeneration; from the site of the lesion downward the motor fibers degenerate and the sensory proceed in the reverse direction. The early date at which these lesions have been recognized, especially by animal experimentation, as well as by clinical experience, shows that if intervention is undertaken at all, with any hope of amelioration, the earlier it is done the better.

In this connection, however, it is important to take into account the general results following fractures of the spine treated without operation, and the same statistics that I used in my former paper will illustrate this point. Thus, Gurlt reported 217 deaths out of 270 fractures, or over 80 per cent.; while Burrill, from the tables of the Boston City Hospital, cited 82 cases with 64 deaths, or 79 per cent., and of the 22 per cent. of recoveries, only 11 per cent. were satisfactory, the other 11 per cent. being completely disabled. These statistics also show that in the fatal cases the greater number of deaths occurred within a few days. It is, therefore, evident that if we operate immediately after the injury we will have failures that should not be charged against the operation itself, and if possible we should wait before operating until the question can be settled whether the patient will overcome the shock or succumb directly to the effects of the injury.

There is another objection to immediate operation. In so-called concussion of the spine, there may be a certain amount of anesthesia and paralysis. The recovery, however, will be complete, or at least so nearly so that no appreciable lesion can be made out. Immediate operations in these cases would be unnecessary, as they would have recovered spontaneously had they been left alone for a sufficient length of time. It is impossible, too, in the first few hours, to determine with any degree of certainty, how severe the injury really is, nor can we absolutely localize the injury to the cord. In my opinion, therefore, we should wait until this period of shock has passed and until it is evident that there will be no spontaneous recovery complete enough to render life bearable. If after this period has passed, the patient still continues to improve, no operative interference should be considered, but as soon as the symptoms begin to show retrograde phenomena or seem to have reached the end of the improvement, operation should be undertaken.

(To be continued.)

SPINAL COCAINIZATION FREE FROM ALL DANGERS.—Bier announces in a private letter to Reclus, published in the *Presse Médicale* of April 3, that he has worked out a technique of spinal cocaineization which is "exempt from dangers." He was to make it public at the German Medical Congress that convened at Berlin April 11. After a few attempts and a personal experience with spinal cocaineization on himself, he warned against the methods in vogue at present as mentioned in *THE JOURNAL* at the time. Folet reports, in the *Echo Médical* of March 31, another death in progressive collapse five days after spinal cocaineization. No analgesia was induced and the operation was postponed for two days and performed under chloroform. The patient was a man of 50, in satisfactory condition.

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A NEW FORENSIC METHOD OF DIFFERENTIATING HUMAN AND ANIMAL BLOOD.

The difficulty in determining the character of stains resembling blood, and, when they are recognized as such, in deciding whether they are derived from human beings or lower animals, is often a matter of the highest importance, particularly from the medicolegal standpoint. Under favorable conditions, when the stains are not too old, it can be determined that they are due to blood, by spectroscopic examination and by the development of hematin crystals, and their source can sometimes be established from the physical characteristics of the cells contained, more especially with regard to their size and form and the presence or absence of nuclei. Inasmuch as life may hang in the balance in accordance with the decision, the need of more trustworthy procedure must be only too obvious.

It has been discovered that the blood of an animal to which has been added blood from another species contains specific substances that cause agglutination and solution of the red cells of the latter, but have no influence upon the blood from any other source. It was next found that the employment of other fluids in the same way yielded corresponding results. In pursuing this line of investigation Wassermann and Schütze¹ started out to determine whether the substances thus formed are strictly specific, that is active only with regard to the albuminous fluids employed for injection. They found that the serum obtained after the injection of cow's milk contains substances capable of coagulating the casein of cow's milk, but not of the milk of other animals, and vice versa. It then suggested itself that this biologic method might be employed for the special differentiation of various proteid substances.

Accordingly, rabbits were treated with defibrinized human blood, but it was found necessary for a considerable number of well-preserved red blood-corpuscles to be present in the suspected material to be examined in order that a reaction should be discerned. For this reason cell-free blood-serum was then employed. Accordingly, rabbits were given five or six subcutaneous injections of 10 c.c. each of cell-free human blood-serum at intervals of about two days. Some six days after the last injection the animal was bled, and the blood placed upon ice to permit of separation of the serum. If, now, to a dilution of human blood-serum with physio-

logic salt-solution or to a dilute solution of human blood with distilled water, .5 c.c. of the rabbit's blood-serum were added, a distinct cloudy precipitate took place at once at room-temperature, becoming more marked at a temperature of 37 degrees in the thermostat. On the other hand, no turbidity whatever developed on addition of serum to diluted blood from any of the animals with which one ordinarily comes in contact—twenty-three different animals being examined for this purpose—with the single exception of the monkey, and in this animal the reaction was less prompt and less marked than in man. So much having been determined for fresh blood, the same tests were applied to blood dried on various articles, after the lapse of three months, with the same results.

The reaction may, therefore, be considered specific, and it should prove of great value, especially for medicolegal purposes. If the diluted blood is turbid before addition of the serum it should be filtered until it becomes absolutely clear. Further, no cloudiness was induced with the blood-serum from a rabbit not previously treated with human blood-serum. In actual practice it is advisable to divide the solution of the suspected blood into two equal parts, one of which is exposed to the action of the blood-serum of a previously treated rabbit and the other to that of a rabbit not so treated. Besides, the blood-serum of the prepared animal might be added to a dilution of blood from another animal. The development of the reaction in the first and not in the other two would be positive evidence that the suspected substance is really derived from human blood.

It is pointed out that the blood for the objects of the test could be obtained from the application of leeches or other form of bleeding for therapeutic purposes, or by expression from the placenta after parturition. Further, it may be found that a similar end can be attained by the use of considerable amounts of human pleural or abdominal effusion. Observations of an entirely analogous character to those here recited are reported also by Uhlenbluth.²

THE HISTOPATHOLOGY OF THE PANCREAS; ESPECIALLY IN ITS RELATIONS TO DIABETES.

The pancreas is an acinar gland, but its structure is not as simple as indicated by this statement. As shown first by Langerhans, in 1869, there are also peculiar, round groups of small cells distinct from the acini, penetrated by wide, tortuous capillaries, and without connection with the pancreatic ducts. These bodies are present in all vertebrates from an early embryonal period. In honor of their discoverer these bodies are referred to as the islands of Langerhans. Studied by Kühne and Lea, Lewaschew, Laguesse, and Schafer, their nature and function have remained obscure. Recently their behavior under pathologic conditions of the pancreas has commenced to attract attention.

1. Berliner Klin. Woch., No. 7, 1901, p. 187.

2. Deutsche Med. Woch., Feb. 7, 1901.

Ssobolew¹ has made a brief preliminary statement concerning these bodies under abnormal conditions with especial reference to diabetes, and Opie,² in an important series of papers dealing with the histology and pathology of the pancreas, brings out much of interest in regard to the islands of Langerhans. Opie found that in the tail of the cat's pancreas each lobule contains in the center one of these bodies. In the human pancreas the arrangement is much more irregular, though the bodies are several times more numerous in the pancreas than elsewhere. In the chronic interstitial pancreatitis of congenital syphilis, in which there is a very extensive interlobular and interacinar production of new fibrous tissue, the islands seem to maintain their integrity, as shown in instances examined by Opie, Condon, and others. Opie distinguishes two types of chronic pancreatitis in the fully developed organ, based largely upon the distribution of the fibrous tissue, namely the interlobular and interacinar. In the first, in which the tissue between the lobules is especially affected by the sclerotic process, the islands of Langerhans remain intact except in the most advanced areas. Ssobolew notes the long persistence of the islands in atrophy of the pancreas from ligation of the duct. Among other anatomic factors that may explain this resistance may be mentioned the fact that the islands do not communicate with the lumen of the ducts, and are thus not directly involved when there is obstruction or infection of the ducts. In the interacinar form of chronic pancreatitis there is new fibrous tissue produced within the lobules, and in this form there is proliferation of interstitial tissue within the islands of Langerhans as well.

Now as to the relations of changes in the islands of Langerhans to diabetes mellitus of pancreatic origin, it may be noted that Opie found demonstrable lesions in the islands in four cases of this kind examined: one was an advanced interlobular, sclerotic pancreatitis with altered islands, two were chronic interacinar inflammations, and one—the fourth—was associated with a remarkable hyaline change of the islands so that intact islands were no longer discoverable; the hyaline areas were nearly a millimeter in diameter and visible to the naked eye. Ssobolew states that he found no trace of the islands in the pancreas of two diabetics. While far-reaching deductions are out of question without more and greatly extended observations, the last case of Opie's, diabetes with hyaline islands, is an interesting one indeed, because here the lesion is confined so closely to the bodies that conditions are produced almost answering the requirements of experimental excision, which is impossible.

These observations, taken in conjunction with the intimate relations of the cells of the islands to rich capillary networks, show that there is nothing radically unreasonable in the as yet largely theoretic suggestion

that the islands of Langerhans have an internal secretion the suspension of which leads to diabetes mellitus.

RUPTURE OF THE DUCTUS ARTERIOSUS.

During intrauterine life, when the functions of the fetus are largely performed by its parent, blood from the mother passes through the umbilical vein, the hepatic veins and the inferior vena cava to the right auricle and ventricle. Some of the blood of the right auricle passes through the imperforate interauricular septum into the left auricle and thence into the left ventricle. The left auricle receives comparatively little blood from the lungs through the pulmonary veins. From the right ventricle the blood is sent into the pulmonary artery, but inasmuch as the lungs of the embryo are not actively engaged in their function of pneumatosis the greater portion of this blood is diverted through the ductus arteriosus into the aorta, which receives comparatively little blood from the pulmonary vein, through the left auricle and ventricle. With the entrance of the child upon extrauterine existence the lungs expand and the blood is sent to them through the pulmonary artery in increased amount, and therefore through the ductus arteriosus in lessened amount. After being aerated in the lungs, the blood is returned in increased amount to the left auricle through the pulmonary veins. The necessity for the communication between the auricles and between the pulmonary artery and the aorta being removed, they gradually close under ordinary conditions, although exceptionally one or the other remains patulous for a varying length of time and perhaps even throughout a long life.

It has been shown that the entrance of the ductus arteriosus into the aorta is controlled by a sort of valve-like arrangement, and that while it is possible to inject the duct with gelatin or plaster under ordinary pressure through the aorta in a backward direction, this is not possible in the forward direction. If, however, the pressure is increased beyond a certain degree the restraining influence of the valve will be overcome and the injection material will enter the duct also under the latter condition. Under ordinary circumstances, thus, the flow of blood through the ductus arteriosus ceases soon after birth, and with the cessation of its usefulness the duct gradually loses its elasticity and finally undergoes obliteration. Under extraordinary circumstances, however, as in two cases recently reported by Roeder,¹ the pressure in the aorta may be so greatly increased that the duct is ruptured; and the suggestion is made that such a condition—if not actual rupture, at least, laceration of intima or media of the duct—might be found more commonly than reports would show, if it were carefully looked for. The cases of Roeder are believed to be the first of the kind recorded in the literature. The mother of each child was healthy and presented no evidence of syphilis. One was a primipara, 25 years old, and had been illegitimately

1. *Centralb. f. Path.*, 1901, xi, 202-3.

2. *Jour. Exp. Med.*, 1901, iv, 397-428; *Jour. A. M. A.*, 72, 54, p. 1146.

1. *Berliner Klin. Woch.*, 1901, No. 3, p. 72.

pregnant. The other was the wife of a laborer and had previously borne two healthy children. In both cases pregnancy and parturition had been normal and the umbilical wound had healed without complication. The one child was a male, had presented by the sacrum and had died on the third day. It was feeble and jaundiced and exhibited considerable dyspnea with small mucous râles. Postmortem examination disclosed the presence of bronchitis, general stasis, multiple rupture of the ductus arteriosus, laceration of the intima of the pulmonary artery near the duct, marked gastric catarrh with erosions, uric-acid infarction of the kidney, and respiratory furrows in the liver. The second child was a female and was found dead on the fourth day. She presented an enlarged thyroid gland and marked acceleration of breathing with numerous râles. Postmortem examination disclosed extensive hemorrhage into the middle lobe of each lung, rupture and a dissecting aneurysm of the ductus arteriosus, bronchitis, congenital goiter, uric-acid infarction of both kidneys, gastrointestinal catarrh and edema and hyperemia of the brain. The question is raised whether, in the first of these cases, the slight lesion in the duct, that may be supposed to have occurred as a result of increased pressure in the aorta in connection with the sacral presentation, might have led to no ill result had not the aspiration of mucus and amniotic liquor given rise to the development of bronchitis, with interference in the evolution of the lungs, and further increase in the blood-pressure. In the second case the question naturally suggests itself as to the part played by the enlarged thyroid gland in causing circulatory disturbances by compression of the trachea and large veins. In each case no histologic abnormality of the walls of the ruptured vessel was found on microscopic examination.

PROFUSE HEMATEMESIS WITHOUT LESION OF THE STOMACH.

Blood in small amount may escape from vessels without solution in continuity as a result of increased blood-pressure or from changes in their walls induced by mechanical, chemical or thermal influences. Free hemorrhage, on the other hand, can, it is believed, occur only when a blood-vessel is opened. Occasionally, however, cases are seen in which the escape of blood is so considerable as to justify the inference of a vascular lesion, which postmortem examination may fail to disclose, and for which we are as yet without a satisfactory explanation. Such bleeding may take the form of gastrorrhagia and hematemesis, and enterorrhagia and hematuria. It is possible that in some cases the actual source of hemorrhage has been overlooked, while in others careful histological examination might disclose unsuspected disease of the vessels.

A case of profuse hematemesis simulating gastric ulcer with perforation, terminating fatally, and in which no lesion was found after death has recently been reported by H. G. Chapman.¹ The patient, after

vomiting and bringing up a "basin full of blood" came under observation on account of weakness and vomiting. She was anemic and complained of epigastric pain made worse by eating. The temperature was normal, the pulse accelerated, respiration easy. There was tenderness over the upper part of the abdomen and some retraction and rigidity. Food by the mouth could not be retained, and nutrient enemata were therefore given. After the patient had been under observation for two weeks she was suddenly seized with pain, which grew severe and was followed by vomiting. The abdomen became slightly distended and the abdominal muscles markedly rigid, with complete loss of hepatic percussion-dulness. The patient was collapsed and perspiring freely. Her pulse was 120, of small volume and low tension. Perforation was diagnosed and celiotomy undertaken. The stomach was brought entirely out of the wound but no abnormality could be found. Further search failed to disclose perforation of the bowel, ruptured tubal gestation, perforation of the appendix or the gall-bladder, and the peritoneum was quite clean and free from inflammation. The wound was closed and saline and brandy enemata given, but the patient failed to rally, and commenced to vomit brown-colored, coffee-ground material in the course of a few hours. Stimulants, cardinals and infusions were also employed, but death took place on the third day after operation.

On postmortem examination the stomach contained some dark-brown fluid, with a few clots, but careful search from the esophagus to the sigmoid flexure failed to disclose any ulcer or abrasion. The liver and spleen were normal, and the lungs exhibited no pathologic condition. The aorta was the seat of slight degenerative change. The capsules of the kidneys were slightly adherent, but the cortex of these organs was wide and regular. The opinion expressed by the pathologist is that a specific arteritis was present and that the hemorrhage had resulted from the rupture of a small vessel into the stomach.

A PHYSICIAN NOT OBLIGED TO ANSWER CALL.

Some time ago we noticed the starting of a suit against a physician of Indiana for damages for refusing to respond to a call for his services. The plaintiff's complaint was based on the theory that under the state laws of Indiana, the defendant, having been duly licensed, was obliged to meet demands for his services when it was in his power to do so. The defendant physician, through his counsel, demurred to each paragraph of the complaint, holding that the facts did not constitute a cause for action against him. The demurrer was sustained in the circuit court and an appeal taken by the plaintiff to the supreme court, which has just rendered its decision that the medical practice act is a preventive, not a compulsive measure. This decision will be found in our medicolegal department this

1. *Intercolonial Med. Jour. of Australasia*, 1901, No. 2, p. 369.

week. In obtaining a state license to practice medicine, it says, it is not required and the license does not engage that the recipient will practice at all, or that he will practice on any other terms than he may choose to accept. In other words, the physician is his own master and not a public slave, at the beck and call of whoever may demand his professional care.

Without discussing the merits or demerits of the special case involved, the principle established by the decision is the only rational one and it is well that it has been authoritatively settled in a community where such a suit could be seriously maintained. It is strange that the belief can anywhere be held that a professional man who draws no compensation from the state or community should be considered a public, or quasi public, servant simply because the law demands of him certain qualifications before permitting him to earn his living in his chosen way. That would be adding to the burdens of the already overburdened practitioner with a vengeance. The fact is, the public has often very little sense of justice as regards the medical profession, notwithstanding its dependence upon it in times of trouble. Good evidence of this is given in the newspaper comments on the present case, some of which are magnificent examples of Pharisaic virtue, feeling acutely for others' sins and utterly unconscious of their own.

We would not be understood in the least as ignoring the moral obligations of the physician to attend cases in need—no physician worthy of the name would be wilfully guilty of violating them, and it is safe to say that there is no class in the community that lives up to them more. In the present instance we are informed that some of the *ex parte* statements sent out, on which some of the criticisms were based, were falsehoods, and this materially alters certain aspects of the case. However this may be, there is no right nor justice in falsely assuming a legal obligation that may be made to embarrass the physicians where no moral obligations exist. The decision, while it is the only rational one, may serve as a useful precedent and as a preventive of future similar misconceptions of law and justice.

THE WORKING OF THE TENNESSEE MEDICAL LAW.

At the recent state medical examination in Tennessee there were thirteen applicants from outside the state, ten of whom passed, and 150 from Tennessee colleges, all of whom were passed without examination. This shows the effect of recent legislation exempting Tennessee graduates, but this is not all; a number of new schools were reported and at least one had already its graduate applying for a license. Besides medical schools of varying pretensions there were magnetic schools whose output had also to be licensed under the law. The state has now over two thousand medical students in its institutions, of all classes, and bids fair to become overrun with its own legalized graduates before the idiotic legislation responsible for present conditions can

be repealed. There are possibilities almost as bad as being a dumping-ground from outside sources, and Tennessee seems likely to experience them.

ANTIVIVISECTION IN MASSACHUSETTS.

A number of eminently and otherwise respectable individuals in Massachusetts have recently been pushing, in the legislature, certain bills against physiologic experimentation as at present practiced in that commonwealth. All the stock arguments were employed to advance the bills, together with the usual misrepresentations that are regularly sent out by them in their Boston publications. Massachusetts, however, is a rather compact community, and the legislators sensibly concluded that personal knowledge of what was directly under their eyes was a better basis for law making than hysterical sentimentalism. They have, therefore, inspected for themselves, and while we have not yet learned the result, it is hinted by the eastern papers that the indications are not favorable to the antivivisectionists. In any case we have the assurance that the facts have been presented to the legislative committee by men fully competent to demonstrate the utility of physiologic experimentation and its humanity in the highest sense of the word. If they decide wrongly it will be with the full responsibility of knowledge on the subject.

RESPIRATORY CHEMISM OF TUBERCULOSIS.

The studies of the respiratory chemistry in phthisis, by MM. Robin and Binet, a résumé of which is given elsewhere in this issue of THE JOURNAL, are striking in several respects. In the first place it is a research along a comparatively new line in the study of tuberculosis, and the facts developed are significant. They open up a wide field for conjectures; the research seems incomplete and suggestive rather than satisfying in most respects. The most important point thus far established is the diagnostic one; if we are to be able to foretell a predisposition not otherwise revealed, it is a step in advance. Why one descendant of tuberculous parents, without any evidence of bacterial infection, should show these anomalies of pulmonary gas exchange and another not is not readily explainable, and the authors' suggestion of a special soil in these cases is perhaps the one most allowable. The fact also that the conditions in arthritis are the reverse in this respect from those in tuberculosis are significant in connection with the apparent observed incompatibility of the two conditions. Robin and Binet's work, though as yet incomplete, is apparently one of the important recent contributions to the literature of pulmonary tuberculosis. It need hardly be said that it does not make out, as some of the lay press has reported it, that a surplus of oxygen is a cause of pulmonary phthisis, but, if its findings and views are to be accepted, it justifies pathologically the name "consumption" that has always been the popular designation of the disease.

INTERNATIONAL CATALOGUE OF SCIENTIFIC LITERATURE.

It is a common failing of mankind to long for what it has not and to be unappreciative of what it possesses. No medical man whose studies necessitate reference to

the literature of his subject can have failed, many times and deeply, to regret the dissolution of the *Index Medicus*. It is true that the deficiency resulting therefrom has been made good in part by the publication of various indices and digests, but it must be admitted that none, or even all of these together, represent the completeness that gave especial value to the *Index Medicus*. The latest endeavor in this direction consists in the formation, under the auspices of the Royal Society, of an international catalogue of scientific literature, as the result of several international conferences in the course of the last few years. The work of cataloguing has already been begun and is in active progress; and it is hoped that all papers published after January 1 of the present year will be indexed, both according to subject and according to author. Each participating nation is to be responsible for the indexing of the papers published in that country, and a central bureau is to collect, coordinate and publish the results of the labors of the various national bureaus. The perfection and the success of the work can be materially contributed to by the cooperation of medical authors, in sending to the respective bureaus separate copies, or full titles, with notes and place and date, of their publications; and, also index-slips indicating under two or three main headings the subjects treated. Such a bureau has already been opened in London for Great Britain, but we have not as yet seen any notice of the establishment of an American bureau, and we are without details as to the exact mode and form of publication and distribution. The plan appears to be entirely feasible, and it is most heartily deserving of success. It should receive the unstinted support of the medical profession the world over, as the utility of such a catalogue is not to be overestimated.

EXPERIMENTAL LUMBAR PUNCTURE TO PROVE TUBERCLE BACILLI PRESENT.

It is well known that in the fluid obtained by lumbar puncture in cases of tuberculous meningitis, tubercle bacilli are often missed in cover-glass preparations and in cultures. The inoculation experiment is more positive in its results, but these results are only obtained after several weeks have elapsed, at which time the patient may be dead. More rapid, yet just as certain, inoculation methods have been sought, and to this end there has been practiced direct injection of the fluid into the cerebral subarachnoidean space through a trephined opening. Results have been uncertain and traumatic damage to the meninges and brain not inconsiderable. Recently Hellendall¹ has tried, by means of lumbar puncture, the injection into the spinal subarachnoidean space of the guinea-pig, of fluid from cases of tuberculous meningitis, hoping in this manner to excite a tuberculous meningitis, with symptoms and macroscopic anatomical changes developing more rapidly than where the injection of the suspected fluid is in the peritoneal cavity. This case will enable an earlier diagnosis to be made. To his surprise, however, meningitic symptoms did not appear. Instead, by way of the lymph-channels, the retroperitoneal lymph-glands became tuberculous and there was general diffuse tuber-

culosis of the liver, spleen, lungs, etc., as after injections into the peritoneal cavity, death occurring in from four to eight weeks. On Hellendall's own showing the lumbar puncture in the guinea-pig is not easy of accomplishment, considerable uncertainty always being felt as to whether the point of the needle is in the subarachnoidean space. While, therefore, tubercle bacilli may find the soil and environment more favorable for growth in this locality than in the peritoneum, so that a smaller quantity of the suspected fluid may suffice, the advantage, where a sufficient amount of fluid can be obtained by lumbar puncture from the suspected case, will still remain with the peritoneum.

MALPIGHI, SWAMMERDAM AND LEEUWENHOEK.

We hear so much of the superiority of modern methods of investigation, of modern research and modern discoveries that we are apt to forget that there is a great debt owing some of the investigators of decades and even centuries ago. Not only did these men labor earnestly and carefully, but they often inculcated correct methods, and made many positive and permanent additions to knowledge. One is surprised to find, in reading Laennec, not only what acute clinical observations he made and how he correlated these with the results of painstaking autopsy findings, but how he, the pioneer in auscultation, worked out the subject in such a manner that comparatively little has been added to it in three-quarters of a century. Too little credit is given to the earlier workers; the thought of the present is constantly taken up with the wonderful discoveries of the recent past and the earnest search for the truths of the future. It is fitting, therefore, that our attention occasionally be directed backward. Prof. W. A. Locy has done this in an interesting article on Malpighi, Swammerdam and Leeuwenhoek.¹ It must excite the admiration of all who read to learn how much was accomplished by these seventeenth century enthusiasts. The Italian not only left his name on a layer of the skin and certain structures in the spleen and kidney, and not only did he make important observations on the structure of the heart, the lung and glandular structures, "but he was the first to insist on the analogies of structure between organs throughout the animal kingdom, and to make extensive practical use of the idea that discoveries on simpler animals can be utilized in interpreting the similar structures in the higher ones." His monograph on the structure and metamorphosis of the silkworm, his work on the anatomy of plants and his labors in embryology stamp him as a skilled naturalist imbued with the true scientific spirit. And the same spirit is seen in the Hollanders, Swammerdam and Leeuwenhoek. The work of the former, especially his "Anatomy and Metamorphosis of Insects," is declared to be, in its descriptions, a model of accuracy and completeness. Leeuwenhoek, with his crude microscopes, yet careful observations of histologic structure in plants, man and the lower animals, contributed much to the stock of knowledge and aided in establishing scientific methods in place of the mystic and fantastic theorizing then in vogue. When we think of the limited opportunities, the poverty in suitable instruments, the sim-

1. Deutsch. Med. Woch., March 28, 1901.

1. Popular Science Monthly, April, 1901.

plicity of histologic technique, and the preconceived notions of anatomy and physiology tending to lead one astray toward theory and away from fact, the wonder is that they wrought so well and accomplished so much. It is good for us to pause occasionally and consider whether, after all, with our added facilities and advantages for work, we are so superior in methods, in scientific spirit and, relatively speaking, in results, to some of these master minds of long ago.

Medical News.

CALIFORNIA.

Walter E. Garry, Ph.D., has been elected professor of physiology in Cooper Medical College, San Francisco.

A new hospital is to be built in West Redding, by Dr. John M. Read, and will accommodate ten or more patients. The building will cost about \$4000.

The French Hospital, San Francisco, at its annual meeting elected Drs. Luke H. F. J. Marson, F. R. Orelia and Joseph E. Artigues, members of its staff.

The State Board of Medical Examiners has filed its answer in the suit brought by a graduate of the Pacific Coast Regular College of Medicine to compel the issuance of a license to practice. The answer sets forth that the college did not meet the minimum standard of requirements for recognized colleges of medicine, and that the refusal to accept and recognize its diplomas was taken after an investigation and due deliberation, in which no prejudice or malice entered.

COLORADO.

The Jefferson medical bill, which contains an amendment providing that "Christian Scientists" shall not be permitted to treat infections or contagious diseases, has passed the senate.

"Dr." A. C. Burroughs, Ouray, has been deprived of his license to practice, by the State Board of Medical Examiners which held that his affidavit of ten years' practice was false, and that he was a "healer" and not a physician.

An Industrial Sanatorium for the relief of consumptives has been incorporated in Denver, by Dr. A. Mansfield Holmes and others. The plan provides for the erection of a sanatorium about twenty miles from Denver, which is to be conducted as an industrial colony. It is expected that the large amount of money required will be raised by the "cottage endowment plan." By utilizing the labor of patients it is expected that nearly all of the work of the institution will be performed, the entire sanatorium supplied with provisions, and a great variety of remunerative industries carried on.

GEORGIA.

The State Board of Medical Examiners, at its session in Augusta, April 3, examined sixty-nine applicants for license to practice medicine in the state.

Georgia Pasteur Institute and Laboratory.—The board of governors held its first semi-annual meeting in Atlanta, April 12. The report of the physician-in-charge, Dr. James N. Brawner, showed that since December 1, 11 patients had been treated, 8 of whom were bitten by rabid dogs, as proved by inoculation of rabbits. All the patients improved under treatment and were dismissed as cured. Dr. Claude A. Smith, the secretary and pathologist, made a satisfactory report of work done in his department.

IDAHO.

An epidemic of smallpox prevails at Samaria, where sixty cases are reported with, it is said, no effort being made to quarantine the infected houses.

C. K. Ah Fong, Boise, who filed a petition asking the district court to review the action of the State Board of Medical Examiners in refusing to issue him a license to practice medicine, has won his suit and the board has been instructed to issue a license to Dr. Ah Fong.

The State Board of Medical Examiners, at its recent meeting in Boise, examined eleven candidates, to seven of whom it issued licenses to practice. It also passed a resolution urging on regular practitioners the necessity of creating by voluntary contributions a fund for the prosecution of illegal and irregular practitioners.

ILLINOIS.

Report of Births and Deaths.—A bill has been introduced in the senate and referred to the committee on judiciary which provides for the report of births within thirty days, and a payment of 25 cents for each report, and for the report of deaths, a similar payment; it regulates interment or other disposal of dead bodies, and prescribes a penalty for non-compliance with the provisions of the act.

State Colony for Epileptics.—Two sites are contending for the location of the state colony for epileptics, to be founded if the bill now before the legislature becomes a law; one at Grand Detour about 100 miles from Chicago, and the other at Elsau, 270 miles from Chicago, and 230 miles from the center of population of the state. The project will involve an initial expenditure of about \$250,000.

Chicago.

Low Mortality.—Another week of remarkably low mortality is reported by the health department, the total deaths, 445, being 6 fewer than reported during the previous week and 113 fewer than in the corresponding week a year ago. Thus far this year there have been 1046 fewer deaths than in the first fifteen weeks of 1900—a decrease of more than one-eighth, or 13 per cent. The deaths for the week numbered 445, a death-rate of 13.16 per 1000, per annum. Of these 148 were due to diseases of the respiratory system and 30 to violence. Influenza, which was at its height in the middle of last April, continues steadily to decline—only 3 deaths being referred to this cause last week and 27 in the corresponding week of 1900. To the subsidence of this mischievous malady is attributed the continued low death-rate among the aged and the decrease of pneumonia deaths—93 deaths of those over 60 last week, 142 last year; 67 deaths from pneumonia last week, 127 last year.

The Smallpox Situation.—The unusual character of the smallpox epidemic continues to attract the attention of sanitarians and health officers. Since the beginning of the year 12,344 cases of the disease have been reported to the Marine-Hospital Service as against only 7410 last year, an increase of nearly five thousand cases, or 66.5 per cent. On the other hand, only 180 deaths are reported this year against 391 last year, a decrease of 72.4 per cent. in the mortality rate. It is probable that some share of the increased number of cases reported this year is due to more careful diagnosis; the disease has been so mild and the mortality so insignificant throughout this epidemic that cases frequently escaped recognition in the early period. In this city, for example, there has been but one death from the disease since the first case detected, Nov. 30, 1900. The experience in New York City, however, shows that smallpox is still to be dreaded by the unvaccinated. Between December 1, last year, and March 23, 1901, out of a total of 474 cases there were 70 deaths—a mortality rate of nearly 15 per cent. In this city the lesson of neglected vaccination, although not so deadly, is still sufficiently striking. There have been 175 cases of smallpox found in Chicago between Nov. 30, 1900, and April 13, 1901, the period of the present epidemic: of this number 143 had never been vaccinated. Of the remaining 32 cases, 30 were adults showing faint, poor or irregular scars claimed to be evidence of attempted vaccination in infancy or early childhood—the most recent being 23 years old. Only two out of the 171 cases exhibited typical scars of successful vaccination. Of these one was 35 years old—"vaccinated when a child," revaccination attempted three years ago, without results; vaccin lymph probably inert. The other was 40 years old, also successfully vaccinated in childhood, but never revaccinated. These are the only two cases out of the total 175 on whom vaccination was ever successfully attempted, and the most recent of these was more than thirty years ago. This shows conclusively that successful vaccination in childhood, and successful revaccination after, are the only sure safeguards against smallpox.

INDIANA.

St. Edward's Hospital.—A permit has been issued by the city of New Albany to the Sisters of St. Francis to erect a hospital at Seventh and Spring Streets.

The Central College of Physicians and Surgeons, Indianapolis, held its thirty-second annual commencement, April 4, and issued diplomas to a class of 22. Prof. A. J. Banker, Columbus, delivered an address on "Medicine as a Profession vs. Medicine as a Business."

The Medical College of Indiana held its thirty-first annual commencement exercises at Indianapolis, April 8. President Gobin of De Pauw University delivered the address of the evening on "The Physician as a Publicist." Degrees were conferred on a class of forty-six, six of whom were women.

Rare heroism was displayed by Margaret Wallman and Kate Nolan, nurses at the Woman's department of the insane hospital at Mount Jackson, near Indianapolis. When the building caught fire, April 10, these nurses succeeded in removing all the patients uninjured, but in this work the rescuers were severely scorched. The fire caused a property loss of about \$1500.

Smallpox.—During March 472 cases were reported with 5 deaths. In Switzerland County, 220 cases, and in Lawrence county 101. The disease is generally mild, but not a few are more or less severe. In all new localities invaded, the uninformed physicians fail to recognize the disease, but what is worse, usually cling to their erroneous diagnosis and so make it hard to apply preventive measures.

State Board of Health Report.—This, for March, shows 3272 deaths, a mortality of 15.3 per 1000 per annum, slightly higher than that for March, 1900—15 per 1000. Tuberculosis caused 373 deaths; influenza, 174; pneumonia, 603; and violence, 114. In cities, 1164 deaths occurred, and in rural districts, 2108. The diseases which decreased in area of prevalence during March were: bronchitis, influenza, pneumonia, tonsillitis, diphtheria, typhoid fever, and inflammation of the bowels. Those increasing in area of prevalence were: rheumatism, measles, intermittent fever, diarrheal troubles, whooping-cough.

IOWA.

Dr. Carl Teske has been elected health officer of Sioux City, on the seventieth ballot.

Keokuk Medical College held its commencement exercises April 9, and conferred degrees on a class of 51. Prof. William C. Howell delivered the doctorate address.

KENTUCKY.

Dr. Joseph M. Mathews, Louisville, will deliver the doctorate address before the graduating class of the medical department of the University of Illinois.

Dr. Henry E. Tuley read a paper entitled "Some Rambling Thoughts on Infant Feeding," at the regular monthly meeting of the Lexington and Fayette County Medical Society, April 10.

General vaccination has been ordered in Lexington. Dr. Frank O. Young, president of the board of health, has appointed Drs. W. S. Van Meter, Joseph E. Riley, Charles L. Wheeler and Thomas Lewis as assistants, each to have a section of the city to vaccinate.

The Louisville Medico-Chirurgical Society will hold a special meeting May 27, at which Dr. Hobart A. Hare, Jefferson Medical College, Philadelphia, will read a paper. Arrangements are being perfected for the Clinical Society, the Surgical Society and the regular medical profession to be present.

Resignation.—In the issue of THE JOURNAL for April 13, mention was made of the differences between the faculty of the Hospital College of Medicine and Prof. Dudley S. Reynolds, of Louisville. We have been asked to state that no dissensions exist in the faculty, although the resignation of Dr. Reynolds was requested, and he is not now a member of that body.

MARYLAND.

Vaccin physicians have been appointed as follows: Drs. George F. Chambers, Philip Briscoe, Abram J. Williams and Elsworth H. Hanman, for Colvert County.

Smallpox.—The Maryland State Board of Health will establish a quarantine against Sussex County, Del., unless the authorities of that county take prompt measures to control the epidemic prevailing there. These measures as laid down by the board will include: the isolation of those affected or exposed in a pest camp, or hospital or a place of detention under medical and police surveillance; general vaccination; disinfection of houses and destruction of articles that can not be disinfected; daily official reports to be furnished to the health officers of the adjoining counties of Maryland, and the appropriation of enough money to cover the cost of this work. If a satisfactory reply is not promptly received, notices will be sent to the railroads not to sell tickets from Sussex County to Maryland. The board is considering the propriety of proceeding against the authorities of Somerset County, the only county in Maryland that has not complied with the law requiring local health boards. The smallpox situation in the state was as follows on April 14: 1 case each in Montgomery, Garrett and Caroline counties, 5 each in Allegheny and Wicomico counties, and 2 in Dorchester County. At Seaford, Del., between March 16 and April 9, 65 cases were treated.

Baltimore.

Dr. and Mrs. William Green sailed for Italy April 13, and will spend the summer abroad.

The Alumni Association of Baltimore University School of Medicine has elected Dr. N. Van Wirth Wright, president.

Two lots have been purchased on the corner of Fayette and Calhoun streets by the Maryland Medical College, to be used for a hospital.

Instruction of Epileptics.—The superintendent of schools has drawn the attention of the school board to the necessity of making provision for the instruction of epileptics who are barred from the schools. He proposes that a school room be set apart for such children.

Prof. Alexander C. Abbott, of the University of Pennsylvania, will deliver the annual address at the meeting of the Alumni Association of the University of Maryland School of Medicine, May 2, his subject being: "Some Advances that have been Made in Preventive Medicine."

The Robert Garrett Free Hospitals for Children have issued the 1900 report. To the city institution 262 cases were admitted. During the summer cases are treated at the sanitarium at Mt. Airy. The charity was established in 1888 by Mrs. Robert Garrett, and is under charge of Dr. Walter B. Platt.

Baltimore University School of Medicine held its commencement exercises, April 11. There were thirty-one graduates, among them two women, one being the head nurse at the hospital. Thomas A. Magness, of Maryland, and Daniel A. Shay, New York, were the prize winners, and William J. Kavanaugh, of Brooklyn, valedictorian.

MICHIGAN.

Dr. Allen D. McLean, Detroit, has received an appointment as captain and assistant surgeon of volunteers.

An amendment to the medical bill has been proposed, providing that physicians who have practiced in the state for five years may be registered regardless of their qualifications.

Kalamazoo courts have issued a peremptory injunction requiring the local school authorities to admit unvaccinated to the schools, the children of a mental healer who objects to vaccination on the grounds of religious belief.

Mortality for March.—The total number of deaths reported during the month was 3488, corresponding to a death-rate of 17.2 per 1000 per annum. This is an increase of 343 over the number for the preceding month, and of 355 over the number returned for March, 1900. There were 673 deaths of infants under 1 year of age, 203 of children aged 1 to 4 years, and 1024 deaths of persons aged 65 years and over. Important causes of deaths were as follows: tuberculosis, 251; typhoid fever, 45; diphtheria, 35; scarlet fever, 44; pneumonia, 489; influenza, 320; carcinoma, 112; violence, 126. There were 3 deaths from smallpox during the month.

MINNESOTA.

Dr. William H. Rowe, St. James, has been appointed a member of the State Board of Health.

Mayor Albert A. Ames, Minneapolis, has been appointed surgeon-general of the National Guard of the state.

For refusing to be vaccinated, a Minneapolis man was fined \$10, on April 2, and the fine was not remitted as in the previous cases.

Dr. Arthur B. Ancker, St. Paul, has been unanimously re-elected physician of St. Paul and of Ramsey County, and superintendent of the City and County Hospital.

MISSOURI.

Barnes Medical College, St. Louis, held its annual commencement exercises, April 12.

Dr. Robert D. Haire, Clinton, fell while going down stairs, at Shell City, April 2, and sustained a comminuted fracture of the right leg.

St. Louis College of Physicians and Surgeons held its commencement exercises April 9. Prof. Albert Fulton delivered the faculty address.

A physician in charge at the Kansas City post-office is provided for by the appropriation bill just passed. The duties of the office will be light and the salary \$1200 a year.

The verdict against Weltmer, the "magnetic healer" of Nevada, for \$7500 damages for injuries received by Mrs. Longan, while receiving treatment by one of his operatives, has been confirmed by the circuit court.

MONTANA.

The State Board of Health, at its meeting in Helena, April 1, elected Dr. William Treacy, Helena, president, and Dr. Albert F. Longeway, Great Falls, secretary.

The Board of Medical Examiners, at its meeting April 4, examined four candidates for license to practice medicine, and elected Dr. John A. Sweet, Great Falls, president; Dr. William C. Riddell, Helena, secretary, and Dr. George H. Barbour, Helena, treasurer.

NEW JERSEY.

The Board of Health of Northampton has issued instructions commanding all persons to undergo vaccination by April 15.

Christ Hospital, Jersey City, is to receive \$10,000 on the death of the daughter, and of the executor of the will of Mrs. Edna J. McPherson, widow of the senator from New Jersey.

Dr. Alexander W. Rogers, Paterson, after more than sixty years practice has decided to lighten his duties and has resigned from the Medical Board of the General Hospital, of which he had been a member since its origin.

NEW YORK.

An epidemic of smallpox is reported in an orphan asylum at Albany.

A training school for nurses has been inaugurated at the German Hospital, Buffalo.

Sanatorium for Consumptives.—The committee has reported Senator Davis's bill providing for the erection of a sanatorium for consumptives, in the Adirondacks, with the amendment that the \$20,000 for furnishing must be taken out of the appropriation of \$100,000.

Society for the Prevention of Consumption.—This society has been formed in Buffalo, and Dr. Benjamin Long made chairman of a committee to effect an organization. Dr. Bissell, city bacteriologist, was made secretary of the committee. It will be a society similar in scope to the Laennec Society of Baltimore.

Divided Examinations.—A bill has been introduced providing that the regents of the University of the State of New York may, in their discretion, divide the examinations required for a license to practice medicine, permitting a candidate to take the examinations in anatomy, physiology and hygiene and chemistry at the end of two years of study, instead of requiring, as by the present law, the examinations in these subjects to be taken with the others at the end of the four years' course.

New York City.

Dr. William E. Young, formerly in charge of the hospitals on Randall's Island, has been appointed superintendent of the insane pavilion at Bellevue Hospital.

New Cases of Smallpox.—Three cases were discovered in the New York Foundling Hospital, and so far this month there has been an average of 7 a day. In January the average was less than 3 cases, and in March it was 6. Since the commencement, on November 5 last, there have been altogether 590 cases, with 89 deaths, or a mortality of about 15 per cent.

Obstacle to Nurses Home.—A friend of the Presbyterian Hospital having given \$300,000 for the erection of a nurses' home, steps were at once taken to carry out the provisions of the gift. But an obstacle has already been met in the shape of a temporary injunction issued on the application of a neighboring property owner. The contention is that the deed of the property contains a clause restricting the buildings to be erected to those which shall not be "noxious and offensive to the neighboring inhabitants," and some of the property owners seem to think that such a home will be offensive to the neighbors.

Burning of South Hospital.—The advantages of a properly conducted fire drill were well exemplified when the old South Hospital on Randall's Island took fire on the night of April 10. Ninety-four inmates, all boys between 6 and 14 years, were awakened by the familiar sound of the fire gong, and almost mechanically they jumped out of bed, pulled on their trousers and gathered up their other clothes as they had been taught to do. In less than two minutes they had formed in line and were out of the building. The building is nearly seventy years old. It was nearly destroyed before the arrival of the city fire apparatus.

Tenement House Legislation.—Governor Odell has signed the four tenement house bills, thus putting on a firm footing a movement which should do much toward improving the condition of the tenement dwellers in New York City. The defini-

tion of a tenement, i. e., any building in which three or more families reside, has not been changed. The greatest evils of the present system arise from the lack of proper sanitary supervision. Under the new law, it will be the duty of the Board of Health to inspect each tenement house in the city at least twice before 1902. In the past the responsibility for the enforcement of tenement house laws has been divided among the health, building, police and fire departments. The present bill creates a tenement-house commissioner, to be appointed by the mayor, and hold office at the latter's pleasure. His salary will be \$7500, and he will be under bonds for \$20,000 for the faithful performance of his duties. The principal reforms contemplated by this new law are furnishing more air and light to the dwellers in tenements, the doing away with dark interior rooms, securing proper sanitary appliances for each family, proper protection against fire and the enforcement of the laws in regard to such houses. A novel feature of the law is that it fixes what shall be the minimum size of rooms, i. e., they must have at least 120 square feet of floor area.

PENNSYLVANIA.

Dr. William B. Ulrich has been elected a member of the board of managers of the Chester Hospital.

Smallpox in the State.—An epidemic is now prevalent in the eastern part of Mercer County; 25 cases had occurred with one death up to April 9, all of which had developed during one week. A shotgun quarantine is being maintained until the State Board of Health takes charge of affairs. At Sandy Lane there are 20 cases of smallpox now under quarantine, with 1 death. At Steelton the disease is on the increase and 5 new cases have occurred, making a total of 40 in this locality. Under the advice of Dr. Benjamin Lee, secretary of the State Board of Health, all public meetings will be discontinued. Considerable excitement occurred at Greensburg on April 9, on the recognition of a case of smallpox on the public streets. The man was followed home and is now under quarantine. In Steelton, April 11, the health authorities, on recognizing 2 cases of smallpox, attempted to remove the patients to a hospital, where they met with resistance on the part of the father, who absolutely refused to permit the removal of the children. The Board of Health may carry the matter into the courts. At Bradford, on the same day, citizens set fire to an abandoned school-house near the city in order to prevent the health authorities from converting it into an isolation hospital for the care of smallpox.

Philadelphia.

Dr. L. Webster Fox has been appointed a member of the board of managers of the Orthopedic Hospital.

Through the will of Hannah H. Toland, \$2000 has been left the Ladies' Executive Committee of the Presbyterian Hospital, and \$5000 to the Germantown Hospital and Dispensary.

A portrait of the late Dr. William Pepper has been presented to the American Philosophical Society. The presentation speech was made by Dr. Horace Howard Furness on behalf of the donors.

"Hospitalism" has again shown its manner of doing business here during the past week, where it is claimed that the rivalry existing between certain of these institutions has become so great that a real competition for cases has begun. It is claimed that a children's hospital has been receiving adult accident cases, and that a protest was made by other hospitals. It is now announced that the above hospital will receive no more such adult cases.

Medical Inspection of Schools.—Drs. Charles A. E. Codman and J. H. McKee, representing the Association of School Medical Inspectors of this city recently appeared before the committee on hygiene of the board of education to consult relative to the powers of the school medical inspectors, which is at present very limited. The present regulations governing this matter are insufficient since they have not the power to exclude children suffering from certain diseases. The complaint has been made that the principals in some of the schools are not in harmony with school medical inspection and do not like to be bothered with it. The work of the inspectors is voluntary, with small hopes of receiving compensation.

GENERAL.

Plague at Ann Arbor.—The young man whom we reported last week as probably suffering with plague contracted while conducting experiments is still in an isolation hospital, doing finely, and out of danger. The disease is of the pneumonic type. There are no new cases, and as every precaution has been taken there is no fear of any.

Wyoming State Hospital.—Owing to the extensive mining interests it has been necessary for the state to add another wing to the hospital at Rock Springs, Wyo., which is now about completed. When finished there will be accommodation for about eighty patients. Building of a nurses' dormitory and other buildings has also been authorized by the legislature.

CANADA.

Dr. J. F. W. Ross, Toronto, has returned from Havana, Cuba.

Dr. John Marquis, Brantford, has been appointed surgeon to the Ontario Institute for the Blind.

Dr. James Third, professor of medicine at Queen's University, was seized with an attack of apoplexy recently and is not expected to recover.

Dr. Robert Bell has succeeded the late Dr. G. M. Dawson as head of the Canadian Geological Survey. Dr. Bell took his medical degree in 1878, at McGill.

Dr. V. H. Moore, Brockville, has been appointed a member of the corporation of the Royal College of Physicians and Surgeons, Kingston, in place of Dr. Lavell, deceased.

Nova Scotia expended, during the past year, on public charities, \$132,100, an increase of \$3,900 over the previous year. The excess was due to improvements at the Mount Hope Hospital Asylum.

Cigarette smoking is a prevailing habit among the school-boys of Halifax, N. S.; inquiry has elicited the fact that 2500 have used tobacco at some time during school life, and that over 1000 use it occasionally now.

The Ontario Teachers' Association, at the recent meeting in Toronto, decided to ask the Minister of Education to substitute the teaching of physiology in the public schools of the province for hygiene, with simple lessons on food, drink, diet, clothing, light, ventilation, exercise, narcotics and stimulants.

Personals.—Dr. Adam H. Wright, professor of obstetrics in Toronto University, has about recovered from a prolonged attack of blood-poisoning received through attending a charity case at the Burnside Lying-in Hospital. He will leave shortly for the Mediterranean, accompanied by Dr. W. P. Caven, associate professor of clinical medicine, and Dr. J. T. Fotheringham, professor of therapeutics at Trinity Medical College.

Victoria General Hospital, Halifax.—A bill has been introduced into the Nova Scotia legislature to correct the evil of allowing patients to remain in the general hospital after having been cured of their maladies, this having become common practice in that institution. The bill provides that hereafter, if the patients are not removed after a reasonable time, the superintendent shall notify the clerk of the municipality or town from which a patient came, and if after such notice the patient shall not be removed, the superintendent is at liberty to place the patient in the poor-house at the cost of said municipality or town.

Concerning the Prevalence of Heart Failure.—A leading Montreal daily newspaper notices, editorially, that there have been a great number of sudden deaths throughout Canada during the past year, and that in the great majority of cases there has been no inquiry into their cause. La grippe, it is suggested, may have had something to do with this, and this disease has brought evils in its train in the way of a host of patent "cures," which, along with cures for headaches, etc., have come to be considered not above suspicion. In this connection, it is pointed out to coroners that it would be within their duty to institute closer inquiries in connection with every sudden death, for the purposes of ascertaining whether the deceased had been using these new remedies.

Concerning the Universities.—While Toronto University is anxious that it be the only provincial or state-aided university, and is declaiming against Queen's receiving any government aid, the government, at the tail-end of the session of the legislature, brings down a supplementary estimate which casts a deep gloom over the friends of Toronto University, while Queen's is jubilant over its good fortune, and will profit to the extent of \$22,500 annually for the next five years. Queen's University is full of corporate life. The graduating class, which numbers seventy students, has contributed \$50 each toward the founding of a fellowship which will increase the facilities for the prosecution of post-graduate work in that institution. The amounts can be paid when it suits the convenience of the subscriber, in the meantime he paying the interest alone. A Chinese laundryman of Kingston contributed \$50.

The Barbers' Laws in Quebec.—The Barbers' Association has been the means of doing a great deal of good in Montreal

and the province of Quebec since its formation. The jurisdiction of the Association is only in cities having a population of 5000 or over; and under the provincial law a man can not work in a factory during the day and run a barber shop at night and on Sundays. This law, as it now stands, compels barbers to take out a license or else go out of business; and the rules of the Association make it obligatory on the part of customers having any skin or scalp diseases, to have their own razors, soap, brushes, etc. Antiseptic measures are carried out in all of these barber shops; and the Association has submitted to the Board of Health of the Province, an antiseptic cabinet which has been approved of, and hot water is required by law to be constantly in all of these shops. The public in Quebec province does not run the same risk as formerly since the adoption of the provincial law.

Chinese Sanitation in Victoria, B. C.—There is a commission at present sitting in Victoria, B. C., inquiring into the question of Chinese labor; and before that body Dr. O. M. Jones, the medical health officer, appeared to give evidence as to the health and sanitation of Celestial quarters in Victoria. He states that lately there has been much improvement from new buildings, but that the Chinese neither regard nor observe the well-known laws of sanitation. He considers them a slight menace to public health, especially as there is always smallpox in the Chinese ports, although, personally, they are very careful to be vaccinated. The medical health officer has attended about five cases of leprosy. The Chinese took every precaution to conceal cases of leprosy, but there has not been recorded a distinct case of leprosy originating among children of white people. Once there was an outbreak of mumps among the clerks of the city banks, and Dr. Jones attributed it at the time to handling Chinese money, as there was then an epidemic of mumps among the Chinese. As to calling in physicians when sick, many of them, especially the wealthy class, get white physicians when sick. Dr. Jones said he would not advise medical supervision of the Chinese hospital, other than occasional inspection, which is now being carried out by the city medical health officer.

FOREIGN.

The Scalpel, edited by Dr. Thomas Dolin, Halifax, Eng., has discontinued publication on account of the incompatibility of editorial work with the demands of a large practice.

League Against Syphilis.—A society has been formed at Paris, officially entitled the "League against Syphilis," with Fournier as the president. The annual dues are \$2. The membership is open to physicians and other persons interested in the campaign against syphilis, including women. The board is composed of eighteen prominent physicians.

Deaths in the Profession Abroad.—O. von Weiss, privat docent of obstetrics and gynecology at Vienna, in charge of the pioneer hospital in Bosnia. . . . A. M. Berger, a prominent ophthalmologist of Munich. . . . S. Asch, of Breslau, said to be the original of L'Arrongés "Doctor Claus." . . . V. Maccherano, professor of surgery at Palermo. . . . E. Sacchi, privat docent at Geneva.

Attempted Bribery.—The mayor of Marseilles, France, and his assistant, are physicians. The latter was approached by a young doctor who offered him \$200 if he would annul a certain competitive examination for the post of surgeon of the hospitals in which the young physician had been defeated. He was arrested for attempted bribery, and he has been condemned by the courts to three months' imprisonment.

Medal for Brouardel.—The students and friends of Professor Brouardel, dean of the Paris faculty of medicine and the great medico-legal authority, have opened a subscription to present him with a gold medal on the occasion of his promotion to be grand officer in the Legion of Honor. A copy of the medal will be sent to every person who subscribes \$5. The medal is to be the work of Roty. Twenty-five francs and the visiting card of the subscriber should be sent to Dr. Pupin, secretary of the Faculté de Médecine, before July 1.

Progress of the Plague.—For the week ending March 30 there were in Capetown 60 fresh cases of plague and twenty-two deaths. The total number of cases since the beginning of the outbreak are 287 and the deaths 99; of the latter, 19 occurred in Europeans. On April 1 there were under observation 630 persons ill with the disease or as "suspects" or "contacts." Corpses of natives are occasionally found, which shows that cases of the disease are being concealed. In all India during the week ending March 9, there were 7879 deaths from the disease, an increase of 952 over the previous week, and the highest number ever recorded in one week. In Bombay City

the deaths were 1196, in the Bombay presidency exclusive of the city, 754. In Bengal, exclusive of the metropolis, there were 4525 deaths, an increase of 459 over the previous week. In Calcutta the deaths have also increased to 557. In Mauritius, for the week ending March 28, two cases of plague both fatal were reported. Advices from New South Wales report that plague made its appearance in the large cities of Australia a little over a month ago, and while American ports are in close shipping connection with Australian ports by regular mail boats to San Francisco and Vancouver, sailing vessels to Oregon and Washington, and steamers to New York City, the period necessitated for the trip covers the quarantine time and the only danger would be from the cargoes. One case was reported there on a transport arriving from Cape Town, and a few days later, after the cargo was removed, another appeared. There was one case in Colmslie, the quarantine station and the largest city in Queensland. Sporadic cases are reported from several towns and 1 new case in Sydney, and 2 in Perth, as late as March 15, the date of our correspondent's advice.

Mr. Arthur Coppen Jones, whose death on March 8 is announced in the *British Medical Journal*, though not a medical man, was one whose services to medical science deserve recognition here. He is best known to the profession for his researches in bacteriology, and especially in connection with the morphology of the tubercle germ, which he suggested is a fungus rather than a bacterium. He was a prominent authority in this department of microscopic botany, and the value of his work generally recognized. His death, which occurred at the early age of 35, was due to tuberculosis from which he had suffered, first as a pulmonary involvement which became quiescent, but later appeared in the form of vesical tuberculosis.

Prof. Joseph Von Fodor, whose death is announced from Hungary, was one of the most prominent sanitarians of eastern Europe. He was born July 16, 1843, studied medicine at Budapest, Vienna, and Munich, and was connected with the University of Budapest from very shortly after his graduation. His regular appointment as ordinary professor of state medicine in the University of Klausenburg, occurred in 1882, and two years later he was called to the newly-founded chair of hygiene at Budapest, where he has been an active worker ever since, leading in his special department. Besides the honors given him at home, the degree of LL.D. was conferred on him by the University of Cambridge in 1891, and he was corresponding member of many foreign scientific societies. At home he was dean of the faculty of medicine in his own university, and in 1894 rector. He was ministerial councillor of the Hungarian government and one of the presidents of the Superior Health Council of Hungary. Among his numerous writings, many having received prizes and been recognized otherwise, his chief work was "Hygienic Researches on the Air, Soil and Water," in two volumes, published in 1881 and 1882. He was also the author of a text-book on hygiene for schools, which appeared in 1887. As a teacher, he was one of the most successful. His personality was said to be most amiable, and, as the *British Medical Journal* says, in his premature death at the early age of 58, the world has suffered a real loss.

LONDON LETTER.

The Microbe of Rheumatic Fever.

At the Chelsea Clinical Society, Drs. F. G. Poynton and A. Paine read a paper on the "Infectivity of Acute Rheumatism," with especial reference to chronic types of the disease. They said that acute rheumatism is a definite disease with definite peculiarities. Therefore, if one microbe is constantly present which, when isolated, produces identical lesions in animals, probably it is specific. From 14 cases of rheumatic fever they isolated a diplococcus which grew in liquid media in streptococcal chains and on solid media in staphylococcal masses. Triboulet before and Wasserman and Malkoff during the time the authors were working had also isolated a diplococcus from cases of acute rheumatism. The authors isolated the organism three times from the blood of patients suffering from rheumatic pericarditis, twice from the throat, four times from the pericardium, twice from the urine, three times from the cardiac valves, and once from a rheumatic nodule. In the rabbit, by inoculation, they had produced lesions identical with those found in man.

Myasthenia Gravis.

At the Edinburgh Medico-Chirurgical Society, Dr. E. Bramwell has pointed out the necessity of every practitioner being

acquainted with this recently recognized disease, since it is often mistaken for hysteria, is often fatal, and in some cases can be recovered from, under appropriate treatment. He described the case of an unmarried woman, aged 23, who had previously enjoyed good health. Ten weeks before he saw her, without apparent cause, she gradually developed difficulty in speaking, swallowing and chewing, and weakness of the muscles of the eye, palate, neck and arms. In the morning she was usually free from symptoms, but as the day went on weakness in the muscles developed. The use of any of these muscles induced temporary paresis and a feeling of fatigue. There was no atrophy, and the deep reflexes were brisk. Absence of weakness in the legs and of ptosis was an unusual feature in the case. In making a diagnosis, attention should be paid to the following points: 1, the presence of muscular weakness often slight and unassociated with atrophy; 2, the facility with which the muscles become exhausted by voluntary effort (myasthenic state) and by faradism (myasthenic reaction); 3, absence of sensory symptoms apart from the fatigue caused by exhaustion, of sphincter trouble, and of mental disturbance. The prognosis is uncertain. Most cases are characterized by temporary improvements and relapses. Of 60 collected cases, 23 were fatal. In the majority death was due to dyspnea. Since exertion and excitement increase the symptoms they must as far as possible be avoided. All solid food should be minced in order to spare the muscles of mastication and to avoid the risk of choking.

The Company of Barbers and the Royal College of Surgeons.

With mediæval ceremony the Honorary Freedom of the Barbers' Company has been conferred on Sir William MacCormac. The quaint charge was read in the presence of the assembly, the members of the court and recipient standing, while those below the ranks of an assistant and the visitors remained seated. A banquet followed. This is a very ancient institution among the barbers. As far back as 1388 the Master certified that it was the practice once a year to assemble in feast and that there was an ordinance that none of the brotherhood should pay more than 14 pence each toward the feast. Sir William MacCormac expressed his appreciation for the distinction conferred on him by the venerable company. The Guild of Barbers is of such ancient foundation that its earliest records can not be traced. In the thirteenth century, before its final development into a trade guild it was partly religious in character and partly social. The barbers used to assist the monks to perform operations. In 1462, in the reign of Edward IV, they obtained a charter of incorporation and became a city company, "the better to protect the King's lieges from going the way of all flesh through the ignorance and negligence of various unskillful barbers and other practitioners of surgery." From remote time there was also a "Surgeons Guild," small in number and poor, and chiefly consisting of military surgeons. They became merged into the Barbers Company in 1540 and remained united until they separated in 1745 and were constituted a Company of Surgeons, a movement attended by many quarrels. From this body was evolved the present College of Surgeons, incorporated in 1800. The election of the president of the College of Surgeons to the honorary freedom of the Barbers' Company constitutes the first official link between the two societies since their separation.

The Nature of Yaws.

At the Polyclinic, Mr. Morgan Finucane, assistant medical officer of Fiji, recently read a very remarkable paper on yaws. He maintained, in the most uncompromising manner, that the disease is syphilis. This view has long been held by Mr. Jonathan Hutchinson, in opposition to all the colonial surgeons who have observed the disease. Mr. Hutchinson had not till quite recently himself observed a single case of what is asserted to be yaws. He based his views on the published descriptions and portraits of the disease, which show complete similarity to syphilis—a primary stage of a local lesion which can originate in contagion, a secondary general eruption, tertiary manifestations of bone disease, and amenability to mercury and iodid of potassium. The frambesial or mulberry-like type of eruption Mr. Hutchinson attributes to the influence of race and climate. Yaws is simply the parent form of syphilis, which was introduced into Europe at the time of Columbus. Mr. Hutchinson's arguments, though enforced with his usual dialectic skill and command of facts and his unrivalled knowledge of syphilis, have always failed to convince the colonial surgeons who have observed yaws in its native haunts. His great argument is: If yaws is distinct, how is it that a chronic disease which is so widely scattered over different parts of the world never comes to Europe? Because when it does it is always recognized as syphilis. Hence the great importance of Mr. Finu-

cane's view, formed after an intimate acquaintance with Fijian yaws for seven years, that the disease is "modified syphilis allied to though not identical with the syphilis of Europe." He thinks that the syphilitic poison was introduced into the Fijian race—probably from Tonga—by early voyagers to the South Sea in the latter part of the eighteenth century, and there took on an epidemic character. In Scotland a disease named sibbens or sirvens, which was epidemic as late as the last century, is recognized by many authorities as syphilis. Coko or Fijian yaws is epidemic in Fiji and scarcely any native escapes the disease. It is usually contracted in infancy—between the ages of 6 months and 2 years—by actual contact with yaws-sores or it is possibly conveyed by flies. The commonest sites are the angles of the mouth and nose and the anal and vaginal margins. A few large isolated sores of a papular character like a mulberry appear. On mucous membranes the sore in no way differs from a syphilitic condyloma. Successive crops of minute roseolar papules, soon becoming vesicular, are formed. If the child survives he lapses into an anemic stage, pigmented scars being left. A stage of health then follows. From the age of 8 or 9 to 30 there is a "late stage" of the disease. Circular punched-out ulcers are formed, especially on the legs. The general health becomes again affected, and anemia sets in. Periosteal nodes on the legs, ribs, forearms, face and forehead are common. In severe cases the whole shaft of a long bone is involved in periostitis, producing deformities which are common among the Fijians. They have a special name for the deformity: "*A tamata sele-van*" from the shape of the bone resembling the curve of a cutlass. It is interesting, in this connection, that the French speak of the sabre-shaped tibia of syphilis. Serpiginous ulceration of the mucous membranes may occur, producing hideous deformity. There may be deep ulcerations on the body and limbs, rhagades of the hands and feet, and palmar and plantar psoriasis. Abortion is very common in Fijian women and is principally due to yaws. Extensive ulceration of the nose and throat, with bone destruction, may take place. When the Indian coolie or Europeans contract yaws the disease is not distinguishable from syphilis. Evidences of hereditary syphilis are rare, perhaps because severely syphilized children are still-born. But typical cases showing Hutchinson's teeth, Parrot's nodes, etc., are occasionally seen. Syphilis and yaws appear to be mutually protective against one another. Mr. Finucane has never been able to obtain a history of previous syphilis in an Indian who contracted yaws, nor of one who contracted yaws suffering subsequently from syphilis. Syphilis as seen in Europeans is extremely common in the Indian coolies of Fiji. Fijian plantation laborers frequently have intercourse with Indian coolie women, among whom syphilis is common, yet Mr. Finucane has never seen or heard of a primary sore in a Fijian. He suggested that as the colonial office is now sending out malaria commissions it should not overlook the subject of yaws, and that a commission of skilled dermatologists should be sent out to settle the question of the nature of the disease and the means of mitigating it.

Association News.

Hotel Accommodation at the St. Paul Meeting.—St. Paul will be able to care for the visiting physicians at the meeting of the AMERICAN MEDICAL ASSOCIATION without trouble, and we can assure all who attend comfortable and convenient quarters. The headquarters of the ASSOCIATION will be at the Ryan Hotel, a large and excellently equipped hostelry, with well-lighted and roomy apartments, modern plumbing, tasteful furnishings, and a cuisine which will satisfy the taste of the most exacting. Spacious quarters have been set aside for the officers of the ASSOCIATION, and the beautiful lobby will prove a favorite meeting place for the members. In the adjoining building, the Ryan Annex, space has been provided for the bureau of registration, exhibits, and assembly rooms for the pathological and other Sections. Within half a block is the Metropolitan Opera House, where the general meetings will be held, and the assembly rooms of the various sections will be within a radius of four blocks of the hotel. Street-cars on all lines pass the door at intervals of from two to five minutes, by means of which all parts of the city will be accessible. The Aberdeen Hotel is a beautiful hostelry of modern construction, situated in the residence district, three-quarters of a mile from the Ryan, and easily accessible by street-cars which run at

intervals of three minutes. It is beautifully furnished, the rooms large and commodious and the cuisine unsurpassed by any hotel in the country. The Aberdeen is especially desirable for those members who expect to bring ladies with them, as it is free from the objection of the noise and dust of the center of the city, and is convenient to the homes which will be thrown open by the hospitality of the ladies of St. Paul. It is expected that this hotel will be largely occupied by those members who will bring their families with them. The Merchants' Hotel is situated within two blocks of the Ryan and will accommodate several hundred guests. It has been refitted and refurnished throughout and is in every way desirable. It is famous for its hospitality and will be found to be comfortable and attractive in every respect. The Windsor and the Metropolitan hotels are large modern ones, conducted either on the American or European plan, and will accommodate about 400 guests each. They are situated in the business center of the city, convenient to all assembly halls and street-cars. The rooms are comfortable, beautifully furnished and their table service is unsurpassed. As auxiliary to the above list are the Clarendon, Colonnade and the Astoria hotels, which are comfortable, and in every way desirable, although the rates are somewhat less than at the larger hotels. It is expected that many members will take quarters by preference at these hotels, as they are much quieter and more free from the turmoil of convention time than other more crowded hostels. In addition, the Minnesota Club and other similar institutions will throw open their doors for the accommodation of guests. At all the hotels many reservations have already been made and the choice rooms are being picked out by those who write early for accommodations. No favoritism is being shown, and the old rule, "first come, first served," will be observed in the reservation of rooms. In regard to rates at hotels, an arrangement has been made that in no case shall the charges be more than the customary and usual rates. It is to be observed, however, that as it will be necessary to accommodate a large number of people, it will be impossible to give to one person quarters that usually accommodate two people without charging him the rate for two. Any one desiring a room which has two beds will be required to pay for two persons, but can, without extra charge, share his quarters with a friend and thus lessen the expense. It is expected that there will be at St. Paul more people than can be accommodated at the hotels without overcrowding, and the Committee has arranged that many private houses will be opened to receive such guests. At the depot and hotels members of the Committee will be stationed with a corps of messenger boys and when comfortable quarters can not otherwise be secured, the guest will be sent in company with a messenger to comfortable rooms in the residence portion of the city. By this arrangement no one will have to wait for accommodations, but every guest who can not be accommodated at the hotels will be at once shown to pleasant and comfortable rooms in the various apartment houses and homes of the city. It is desired by the Committee that such of the members as intend to come to St. Paul shall write without delay to the Chairman of the Committee on Hotels, Dr. Arthur Sweeney, stating the number of persons in the party and the character of accommodation desired. By this method definite reservations of rooms can be made, the details of price and location settled, and on the arrival the physician thus provided for can be shown to his room without delay. In addition to the above-named hotels St. Paul's sister city, Minneapolis, taking thirty to forty minutes by electric cars, has many magnificent hotels.—J. FULTON, Chairman of Committee of Arrangements.

The St. Paul Meeting.—The Committee of Arrangements reports that it has arranged for the entertainment of the ASSOCIATION members in a manner that will be pleasant to all. On Tuesday evening the customary Section banquets will take place, and these will be as attractive as possible. On Wednesday evening there will be an out-door promenade concert on Summit Avenue, one of the most beautiful residence streets in the world, and which will be quite generally illuminated. A number of private receptions will be given and the entertainment as a whole will be a very attractive one. Later in the

same evening a "smoker" will be given at the Ryan Hotel. On Thursday evening a ball and promenade will be given on the grounds of the University of Minnesota, with dancing in the Armory. The grounds of the university will be illuminated and various buildings be thrown open. Special cars will be provided for taking the guests from St. Paul to Minneapolis and return. On Friday evening the special train for the Yellowstone Park will leave. There is a large general committee of the ladies of St. Paul who have arranged for a number of entertainments and excursions to take place during the mornings and afternoons of the meeting, but the details have not yet been definitely decided. The weather in St. Paul is always fine during the first week in June, and there is every reason to believe that everything possible will be done for the convenience and pleasure of all who attend the meeting.

To Commemorate Invention of Ophthalmoscope.—At the last meeting of the ophthalmic Section of the AMERICAN MEDICAL ASSOCIATION, the undersigned were appointed a committee to arrange exercises, etc., at the coming meeting in St. Paul, to commemorate the fiftieth anniversary of the invention of the ophthalmoscope. The Committee is preparing an historical exhibit of ophthalmoscopes and is endeavoring to secure such older models as they can borrow. Due credit will be given.—Harry Friedenwald, M.D., 1029 Madison avenue, Baltimore; Casey A. Wood, M.D., Chicago.

Election of Delegates.—The Medical Society of Northampton County, Pa., at its annual meeting, elected the following delegates to the AMERICAN MEDICAL ASSOCIATION: Dr. Albert A. Seem, Bangor; Dr. John C. Keeler, Windgap; Dr. William H. Dudley, Easton; Dr. Henry D. Miehler, Easton; Dr. E. Wallace Richards, Easton; Dr. Samuel S. Appel, Easton; Dr. Charles McIntire, Easton, and Dr. William P. Walker, South Bethlehem.

Minnesota State Medical Society.—Through an oversight the Minnesota State Medical Society was omitted from the list of affiliated societies published last week.

Section Programs for the St. Paul Meeting.

Section on Obstetrics and Diseases of Women.

Progress in Gynecology and Obstetrics. Henry P. Newman, Chicago.

Indication for Vagino-abdominal Hysterectomy. Rufus B. Hall, Cincinnati, Ohio.

Electrothermic Hemostasis in Abdominal and Pelvic Surgery. A. J. Downes, Philadelphia.

The Advantages and Disadvantages of Drainage After Abdominal Surgery. Hunter Robb, Cleveland, Ohio.

The Uses and Abuses of Morphine in Abdominal Surgery. L. H. Dunning, Indianapolis, Ind.

Bladder and Ureteral Surgery. Howard Kelly, Baltimore, Md.

The Relative Merits of the Different Methods of Uretro-ureteral Anastomosis. J. Wesley Bovée, Washington, D. C.

Results, Immediate and Remote, of Conservative Surgery. A. Goldspohn, Chicago.

Fibroid. Thomas S. Cullen, Baltimore, Md.

The Complication and Degeneration of Fibroid Tumors, as Bearing on Treatment of These Growths. Chas. P. Noble, Philadelphia.

How Shall We Deal with Uterine Myomata. E. E. Montgomery, Philadelphia.

Contributing Factors in the Production of Peritonitis. J. D. Clark, Philadelphia.

Enterostomy in the Treatment of Diffused Peritonitis. W. E. B. Davis, Birmingham, Ala.

A Case of Streptococcus Infection Following Labor; Operation; Recovery. W. H. Humiston, Cleveland, Ohio.

Carcinoma of the Uterus. J. M. Baldy, Philadelphia.

The Accidents and Complications of Pelvic Surgery and Their Treatment. John B. Deaver, Philadelphia.

Treatment of Posterior Displacement of the Uterus. Augustin H. Goelet, New York City.

Surgical Treatment of Retroversion of the Uterus. Franklin H. Martin, Chicago.

A New Operation for Retrodisplacement of the Uterus. Emil Ries, Chicago.

Atresia Hymenalis. O. Thienhaus, Milwaukee, Wis.

Causes of the Increasing Sterility of American Women. George J. Engelmann, Boston.

Treatment of Incomplete and Inevitable Abortion. J. Clarence Webster, Chicago.

Position of Patient During Delivery. W. D. Porter, Cincinnati, Ohio.

Asepsis in Midwifery. E. Gustave Zinke, Cincinnati, Ohio.

The Indication and Contraindications for the Use of the Curette in Obstetric Practice. Henry D. Fry, Washington, D. C.

Puerperal Asepsis. John F. Moran, Washington, D. C.

Obstetrics as a Specialty. Joseph Price, Philadelphia.

The Advantage of Drill upon the Manikin. Eliza H. Root, Chicago.

Cesarean Section as a Method of Treatment for Placenta Previa. W. J. Gillette, Toledo, Ohio.

Pregnancy Following Vento-suspension of the Uterus, Reuben Peterson, Chicago.

Puerperal Eclampsia; Its Etiology and Treatment. T. J. Beattie, Kansas City, Mo.

Section on Nervous and Mental Diseases.

Titles for additional papers sufficient to complete the program up to thirty, according to the Constitution of the ASSOCIATION, with short abstracts, should be sent to the Secretary before May 1, 1901.

This program is not in the order in which it will finally appear, although the endeavor will be to place the papers in the order of reception as far as consistent with the proper arrangement of the list.

Any members desiring to attend the banquet of this Section, on the second evening of the meeting, will confer a favor by reporting early to the Secretary, 1407 Locust St., Philadelphia.

Chairman's Address. H. A. Tomlinson, St. Peter, Minn.

SYMPOSIUM ON SYPHILIS OF THE BRAIN.

(This symposium is arranged with especial reference to the needs of the general practitioner.)

Nervous Manifestations. Hugh T. Patrick, Chicago.

Mental Manifestations. Richard Dewey, Wauwatosa, Wis.

General Pathology of Nervous Syphilis. F. W. Langdon, Cincinnati, Ohio.

The Specific and Non-specific Lesions Resulting from Syphilis, and Their Influence upon Diagnosis, Prognosis and Treatment. J. T. Eskridge, Denver, Colo.

Etiology of Paretic Dementia. Frank P. Norbury, Jacksonville, Ill.

Symptomatology of Cerebral Hemorrhage. F. Savary Pearce, Philadelphia.

Treatment of Cerebral Hemorrhage. D. R. Brower, Chicago.

The Virile or Genesiac Reflex as Pudic Nerve Innervation Phenomena. C. H. Hughes, St. Louis, Mo.

A Case of Alexia Caused by a Bullet Wound with Successful Location and Removal of the Latter. G. W. McCaskey, Fort Wayne, Ind.

What Can Be Done for the Epileptic in a Medical Way. R. H. Porter, Chicago.

The Treatment of the Acute Psychoses in Private Practice. C. Eugene Riggs, St. Paul, Minn.

Title to be announced. A. J. Pressey, Cleveland, Ohio.

Title to be announced. Curran Pope, Louisville, Ky.

Treatment of Neurasthenia. J. G. Biller, Cherokee, Iowa.

Title to be announced. Henry Waldo Coe, Portland, Ore.

Three Cases of Paralysis of the Serratus Magnus (Posterior Thoracic Nerve)—Alar Scapula. Augustus A. Eshner, Philadelphia.

Mirror Writing and Inverted Vision. Albert B. Hale and Sidney Kuh, Chicago.

Fear as an Element of Nervous Diseases and Its Treatment. John Punton, Kansas City, Mo.

A Case of Localized Amnesia with Remarks Thereon. Edward E. Mayer, Pittsburg, Pa.

Incipient Amyotrophic Latent Sclerosis with Recovery. Persistent Brachial Neuralgia from the Hypodermic Needle. Leo. M. Crafts, Minneapolis, Minn.

Injuries, Feigned and Real, with Their Differentiation and Medical Aspect. Lambert Ott, Philadelphia.

Space Neuroses. John E. Purdon, Turlock, Cal.

Section on Stomatology.

Chairman's Address. R. R. Andrews, Cambridge, Mass.

SYMPOSIUM ON STATE BOARDS OF DENTAL EXAMINERS IN THEIR RELATION TO THE PROFESSION AND THE COLLEGES.

Methods of Appointment: 1. By State Universities—New York. 2. By State Boards of State Officials ex-officio, Nebraska. 3. By Governors on Recommendation of the Profession. William Carr, New York City.

Revenue for conducting the Work of the Boards of Examiners: 1. By Taxation of the People. 2. By Fees from Examination of Candidates. 3. By Taxation of the Profession. George L. Parmele, Hartford, Conn., and V. E. Turner, Raleigh, N. C.

The Dental College Standard: 1. Is it What it Should Be? 2. If Not, What Improvements Should Be Made? 3. How May the Requirements be Improved? Charles Chittenden, Madison, Wis. Licensing: 1. By Examination. 2. By Diploma. J. A. Libby, Pittsburg, Pa.

SYMPOSIUM ON DEGENERACY OF THE PULP.

Preliminary Work. Eugene S. Talbot, Chicago.
Literature of the Pulp. Vida A. Latham, Rogers Park, Ill.
Cutting, Staining and Mounting. Martha Anderson, Moline, Ill.
Local Anesthesia. A. H. Peck, Chicago.
A Remedy for Certain Injustice Both to the Insured and the Company. W. E. Walker, Pass Christian, Miss.
Periods of Stress and their Dental Marks. Jas. G. Kiernan, Chicago.
Surgical Treatment of Cleft Palate. G. V. I. Brown, Milwaukee, Wis.
Infectious Diseases. Alice Steeves, Chicago.
Simple Gingivitis. Geo. T. Carpenter, Chicago.
Military Dental Practice, Its Modifications and Limitations. Henry D. Hatch, New York City.
The Tongue as a Breeding Place for Bacteria. M. H. Fletcher, Cincinnati, Ohio.
Pathology of the Alveolar Process. Eugene S. Talbot, Chicago.
Tuberculosis of the Alveolar Process and Surrounding Tissues and a Few Methods of Differential Diagnosis. V. A. Gudex, Milwaukee, Wis.

Married.

NELSON H. HENRY, M.D., to Mrs. Sarah Sloan, both of New York City.

WADE THRASHER, M.D., to Miss Olive Schmuck, both of Cincinnati, April 3.

EDWARD H. ABBOTT, M.D., to Miss Ethelyn Wells, both of Elgin, Ill., April 3.

P. C. BARNARD, M.D., to Miss Aggie Leslie, both of Indianapolis, Ind., April 5.

GEORGE W. HARRINGTON, M.D., to Miss Lizzie Williams, both of Hazleton, Pa., April 9.

H. E. McLENNAN, M.D., Bay Mills, Mich., to Miss Camilla Knaggs, Bay City, Mich., April 3.

JOHN B. REYNOLDS, M.D., St. Joseph, Mo. to Miss Lula Moore, Platte City, Neb., April 10.

JOSEPH S. DEMAREE, M.D., Mackville, Ky., to Miss Eva Hatchett, Springfield, Ky., April 2.

EDWARD VERNON SILVER, M.D., to Miss Bessie M. Larson, both of Salt Lake City, Utah, April 3.

MARTIN A. ROBINSON, M.D., Victor, Colo., to Miss Aurora Catlett Horn, Hernando, Miss., April 18.

JOHN HERBERT CLAIBORNE, JR., M.D., to Miss Marie Louise Claiborne, both of New York City, at New Orleans, April 16.

GEORGE G. WENRICH, M.D., Grand View Sanatorium, Wernersville, Pa., to Miss Anna May Coar, New York City, March 6.

Deaths and Obituaries.

William Jay Youmans, M.D., New York University, 1865, died at his home in Mt. Vernon, N. Y., April 10, aged 62 years. After instruction under Professor Huxley he returned from Europe and finally settled in Minnesota, where he passed three years in the practice of medicine. After coming to New York he devoted most of his life to the *Popular Science Monthly*, of which, after the death of his brother, Dr. E. L. Youmans, he became chief editor. His preferences were always in the direction of chemistry and natural science.

John H. Grove, M.D., University of Pennsylvania, Philadelphia, 1849, died April 6, in Philadelphia, where for many years he had been connected with St. Agnes and St. Mary's hospitals. He was made a brevet lieutenant colonel for distinguished service in the Union military hospitals during the Civil War. He was a member of the AMERICAN MEDICAL AS-

SOCIATION, Association of Military Surgeons of the United States, and of local medical societies.

Albert Edgar Summers, M.D., Jefferson Medical College, Philadelphia, 1848, died at Charleston, W. Va., April 1, from pneumonia, after a short illness, aged 57. He was a private pupil of Dr. Goss, had charge of a Union army hospital at Charleston during the Civil War, and had been both speaker of the House of Delegates and president of the Senate of the state.

John Ferguson, M.D., College of Physicians and Surgeons, New York, 1855, who had practiced in Manchester, N. H., for forty years, with the exception of the period of the Civil War, when he was surgeon-major of the Tenth New Hampshire Volunteers, died at his home in Manchester, April 6, from paresis, after an illness of two years, aged 71.

William F. McClelland, M.D., Jefferson Medical College, Philadelphia, 1859, who had lived in Denver since 1862, and who was a pioneer in the study of the climatic influence of Colorado on pulmonary disease, died at his home in Denver, April 12, aged 80.

James C. Larsh, M.D., University of Maryland, Baltimore, 1842, died in Baltimore, April 3, from paralysis, aged 80. For forty years he practiced at Reisterstown, retiring and moving to Baltimore about eighteen years ago.

John Ambrose McKinley, M.D., Northwestern University Medical School, Chicago, 1894, died from tuberculosis, at El Paso, Texas, where he had gone in search of health, March 8, after an illness of one year.

George L. Gurney, M.D., Medical School of Maine, Brunswick, 1879, died at his home in St. Paul, Minn., April 6, aged 47 years.

Merritt H. Chandler, M.D., University of Vermont, Burlington, 1869, died at his home in Woodstock, Vt., April 6, after an illness of three months, from Bright's disease, aged 56.

John R. Kirkland, M.D., University of Pennsylvania, Philadelphia, 1859, died from angina pectoris after an illness of five days, at his residence in Meridian, Miss., April 5, aged 66.

Columbus C. Wright, M.D., Ohio Medical University, Columbus, 1897, died April 6, at his home in Columbus, from pulmonary tuberculosis, after a long illness, aged 24.

Charles H. Dana, M.D., Jefferson Medical College, Philadelphia, 1851, of Tunkhannock, Pa., died after a long invalidism from paralysis, at Bartow, Fla., March 25.

Wilson A. Smith, M.D., University of Cincinnati, Ohio, 1888, died at his home, in Middlebourne, W. Va., March 23, from consumption, after a long illness.

T. S. Stewart, M.D., retired, one of the oldest and most esteemed citizens of Marietta, Ga., died at that place, April 4, after a short illness, aged 84.

W. B. Harlan, M.D., University of Louisville, 1853, died at his home near Danville, Ky., April 6, after an illness of several months, aged 72.

Louis T. Dawson, M.D., University of Tennessee, Nashville, 1886, died at his home in Cub Run, Ky., March 29, from typhoid fever, aged 36.

George Perry Jones, M.D., University of Maryland, Baltimore, 1865, died from apoplexy at his home in East Newmarket, Md., April 2, aged 55.

Albert E. Kelley, M.D., New York University, 1891, a practitioner of South Butler, N. Y., died at Newark, N. Y., April 2, after a short illness.

Vincenzo Centaro, M.D., University of Naples, Italy, 1880, who had practiced medicine in Chicago for about eight years, died April 15, from congestion of the brain.

Henry H. De Beck, M.D., University of Vermont, Burlington, 1881, died after a long illness at his home in Winn, Maine, March 23.

Colon C. Watson, M.D., Rush Medical College, 1878, died at his home in Crystal Lake, Ill., March 20, aged 45.

William P. Smith, M.D., Rush Medical College, Chicago, died April 5, after an illness of five years, aged 50.

Miscellany.

Report of Special Commission on the Plague in San Francisco.

No.	Name.	Age, Sex and Color.	Place of Death.	Date of Death, 1900.
1	Wing Chut King. . . .	41, M., Mong.	1001 Dupont. . . .	March 6.
2	Chu Gan.	22, " "	723 Sacramento. . . .	" 15.
3	Ng Ach Ging.	37, " "	905 Dupont.	" 17.
4	Lee Sun King.	47, " "	Oncida Place.	" 18.
5	Law An.	38, " "	St. Louis Alley. . . .	April 24.
6	Lim Fa Muey.	16, F., "	739 Clay Street. . . .	May 11.
7	Chu Sam.	38, M., "	717 Jackson.	" 11.
8	Chin Moon.	16, F., "	730½ Commercial*. . .	" 13.
9	Herr Woon Jock. . . .	53, M., "	740 Pacific.	" 14.
10	Dang Hong.	40, " "	706 Pacific.	" 29.
11	Chen Kney Kim. . . .	49, " "	819 Clay.	June 2.
12	Jay Man Tong.	60, " "	759 Clay.	" 9.
13	Lee Wing Tong. . . .	40, " "	767 Clay*.	July 6.
14	William Murphy. . . .	34, " White	427 Dupont*.	August 11.
15	Ham Tan.	29, " Mong.	900 Dupont.	" 15.
16	Lea Do Hen.	50, " "	710½ Dupont.	October 5.
17	Chun Yen.	37, " "	767 Clay.	" 10.
18	Taik Dong Leong. . . .	39, " "	705 Clay.	" 14.
19	Young Moon Li Chee. .	30, F., "	802 Dupont.	" 31.
20	Young Wah Noui. . . .	9, " "	802 Dupont.	November 1.
21	Anne Roede.	28, " White	Pacific Hospital*. . .	" 3.
22	Lec Ho.	30, M., Mong.	844 Washington. . . .	December 7.
23	Chun Wey Lung. . . .	60, " "	720 Jackson (1901). .	January 6.
24	Leam Wing Low. . . .	59, " "	833½ Clay.	" 15.
25	Angela Colombo. . . .	" White	5 Lafayette Place*. .	" 15.
(Following observed by Commission.)				
26	Chun Ah Chou.	44, M., Mong.	814 Washington. . . .	February 5.
27	Lum Hong Yuen.	37, " "	28 Ross Alley.	" 6.
28	Wong Chi Lin.	50, " "	15½ Waverly.	" 7.
29	Tom Shom.	51, " "	814 Washington. . . .	" 10.
30	Ng Ah Back.	45, " "	St. Louis Alley. . . .	" 11.
31	Foong Ah Feng.	12, F., "	747 Sacramento St. .	" 12.

To SURGEON-GENERAL WYMAN, MARINE-HOSPITAL BUREAU,
Department of the Treasury, Washington, D. C.

Sir:—The special Commission appointed by the Honorable, the Secretary of the Treasury, for the purpose of ascertaining the existence or non-existence of bubonic plague in San Francisco, or other ports or places in the state of California under instructions furnished by the Surgeon-General of the United States Marine-Hospital Service begs leave to submit the following report:

In accordance with instructions received, the members of the Commission proceeded as early as possible to San Francisco, one of them (Dr. Barker) arriving on Friday, Jan. 25, 1901, the other two (Dr. Flexner and Dr. Novy) on Sunday, January 27.

The first formal meeting of the Commission was held at the Occidental Hotel shortly after the arrival of all the members. At this meeting it was decided, in accordance with your instructions, to call and pay our respects to the Honorable, the Governor of the state, to place ourselves in communication with the local authorities in order to obtain facilities for the examination of the sick and dead in Chinatown, or elsewhere should suspected cases arise, and to arrange for a laboratory in which pathological and bacteriological examinations could be undertaken.

Owing to the miscarriage of a letter sent to the Commission by the Honorable, the Governor of the State, the call of your Commissioners upon him was delayed until Saturday, February 16. On this date, however, they had the privilege of paying their respects to the Governor and of informing him of their orders. The Governor received your Commissioners most courteously and stated that the authorities in California desired to facilitate by every means in their power the investigation concerned.

A call was also made upon the mayor of the city of San Francisco and upon the President of the City Board of Health, both of whom offered to aid in any way possible to them the work of your Commissioners. The City Board of Health supplied the Commission with a map of Chinatown, on which were charted the location of cases which the Board had examined and regarded as plague.

During the first fifteen days of our visit, a bureau was opened in the Occidental Hotel; the Commission met at 11 o'clock daily, and it was announced in the press that its members would be glad to confer with any one who had information to give with regard to the existence or non-existence of plague in the city. In addition, letters were sent to a

* Particular places of death of following numbers was as follows: No. 8, Pacific Hospital, Stockton and Chestnut Streets; No. 13, City and County Hospital; No. 14, City and County Hospital; No. 21, Children's Hospital, 3700 California Street. No. 25, City and County Hospital.

number of physicians in town requesting an interview. The majority of those written to responded; opinions were divided, some of the physicians being confident that plague existed, others being sure that the disease was not here. The establishment of this bureau proved to be of great service, not so much in affording us information about plague, as in putting us into relation with the medical and business interests of the city. Through it, a plan of work became easy to formulate; through it we learned how to gain access to the sick and dead Chinese and how to proceed without exciting the opposition or suspicion of those among whom we were to work.

The representatives of the principal commercial interests of the city of San Francisco, including the Merchants Association, the Manufacturers and Producers Association, the Board of Trade, the Pacific Coast Jobbers and Manufacturers Association, the Chamber of Commerce, the Pacific Mail Steamship Company, and the Southern Pacific Railway called upon the Commission, welcomed them to California and offered their aid. Through the courtesy of Colonel Mendel, Room 161 of the City Hall, previously used as a license office, was put at the disposal of the Commission. It was fitted out as a laboratory, the outfit being purchased new in San Francisco.

INSPECTIONS OF THE CHINESE SICK AND DEAD.

The attorney of the Chinese Consolidated Benevolent Associations (ordinarily known as the Chinese Six Companies) advised the Chinese to co-operate with the Commission. As a result, proclamations were issued ordering the Chinese to report all cases of sickness and death, no matter what the cause, to the offices of the Chinese Six Companies in order that daily inspections might be made. Mr. Wong Chong, the secretary of the Six Companies, accompanied a member of the Commission (Barker) daily to each house whence a report had been made, aided in finding the cases, acted as interpreter, and assisted in obtaining the necessary histories. It is believed by the members of the Commission that the Chinese Six Companies acted in good faith and that they made every attempt to give access to the sick. Certain cases of sickness, it is true, were not reported and were not known of until the dead bodies were found, but this, it is believed, was due to negligence on the part of the Chinese concerned rather than to any attempt at concealment.

The daily inspections of the sick and dead permitted of observations relative to the mode of life of the people in the fourteen blocks of San Francisco which makes up "Chinatown." These observations were extended by special trips of inspection under the guidance of officers of the city detective force and by numerous independent trips of inspection made by your Commissioners.

The dwellings of the poorer classes of Chinese were found to be here, as they seem to be everywhere, shockingly unsanitary. In places there is marked overcrowding; the rooms are small, they are often entirely devoid of light or means of ventilation, and nearly always insufficiently lighted and ventilated; many of them are filthy; some of them, especially those situated in basements, are damp and emit a foul stench. These faults in sanitation are not confined to the tenement houses of the Chinese; on the contrary, in the rear of, or over or under some of the more pretentious business buildings are to be found sleeping and living apartments which are most objectionable from a sanitary point of view.

The Chinese in San Francisco are, however, in many respects much better off than are their countrymen in great native centers like Canton or even than those in a city like Hongkong. There is almost an entire absence of the utter destitution met with among so many of the Chinese in Asia; the Chinese in San Francisco are, on the whole, very well fed, for wages are high and food is abundant and cheap. They are also well clothed as a rule and particular emphasis is to be laid upon the fact that the Chinese here wear shoes, stockings and trousers, since it is believed by many that the bare legs and feet of the Chinese in Hongkong and Canton had much to do with the frequency of infection with plague in those places.

A large percentage of the Chinese in San Francisco, it is said, smoke opium. There are a number of Chinese prostitutes, but inspection of the quarters occupied by the latter would indicate that the rooms in which they live are on the whole more wholesome as regards air space, light, ventilation and cleanliness than those of the other inhabitants of the district.

On Wednesday, Feb. 6, 1901, systematic daily rounds of visits were made by one of the Commissioners in company with Mr. Wong Chung to the rooms of the sick as reported each day to the offices of the Chinese Six Companies. Rapid clinical examinations were made and notes kept of the results.

A number of the cases met with were obviously instances of advanced tuberculosis; others were affected with various chronic diseases, such cases being of no interest for the investigation was made only once. When patients were found who presented symptoms which were suggestive of plague a careful examination was made; in doubtful cases, the first visit was followed by others and the progress of the illness carefully watched. These regular visits of daily inspection were maintained until Feb. 16, 1901, during which period a sufficient number of instances had been observed to permit your Commissioners to conclude beyond possible doubt that cases of bubonic plague were occurring among the Chinese.

Inspections of the dead in Chinatown were made also daily by the same member of the Commission, beginning Feb. 5, 1901. Access to the dead was gained in two ways. In the first place the assistant city physician, Dr. F. P. Wilson, makes the rounds of the undertaking establishments in Chinatown each forenoon. He inspects the bodies of the dead and where necessary advises a pathological and bacteriological examination by Dr. Kellogg, the bacteriologist of the City Board of Health. Permission was obtained from these gentlemen for the making of simultaneous and independent inspections and of pathological and bacteriological examinations by the Commission.

A second mode of access to the dead was that afforded by the reports made by the Chinese directly to the offices of the Six Companies. By this mode, it was in some instances possible to learn of the death of individuals and to make inspections of bodies before the city officials were informed of them.

(To be continued.)

Societies.

COMING MEETINGS.

Medical and Chirurgical Faculty of Maryland, Baltimore, April 23-26, 1901.

Texas State Medical Association, Galveston, April 23, 1901.

American Association of Genito-Urinary Surgeons, Old Point Comfort, April 30, 1901.

Association of American Physicians, Washington, D. C., April 30, 1901.

American Gastro-Enterological Association, Washington, D. C., May 1, 1901.

Kansas Medical Society, Pittsburg, May 1-3, 1901.

American Surgical Association, Baltimore, Md., May 7-9, 1901.

American Therapeutic Society, Washington, D. C., May 7-9, 1901.

Nebraska State Medical Society, Lincoln, May 7-9, 1901.

Oklahoma Territory Medical Association, Oklahoma City, May 8, 1901.

Mississippi State Medical Association, Jackson, May 8, 1901.

Washington State Medical Society, Seattle, May 8-9, 1901.

Ohio State Medical Society, Cincinnati, May 8-10, 1901.

Arkansas Medical Society, Hot Springs, May 14-16, 1901.

Medical Association of Montana, Great Falls, May 15-16, 1901.

Michigan State Medical Society, Battle Creek, May 15-16, 1901.

Iowa State Medical Society, Davenport, May 15, 1901.

Indiana State Medical Society, South Bend, May 15-17, 1901.

New Hampshire Medical Society, Concord, May 16-17, 1901.

Medical Association of Missouri, Jefferson City, May 21-23, 1901.

Illinois State Medical Society, Peoria, May 21-23, 1901.

Medical Society of North Carolina, Durham, May 21-23, 1901.

Connecticut Medical Society, Hartford, May 22-23, 1901.

Kentucky State Medical Society, Louisville, May 22-24, 1901.

Medical Society of West Virginia, Grafton, May 22-24, 1901.

American Laryngological, Rhinological and Otological Society, New York City, May 23-25, 1901.

American Pediatric Society, Niagara Falls, N. Y., May 28, 1901.

American Gynecological Association, Chicago, May 28, 1901.

American Climatological Association, Niagara Falls, N. Y., May 30, 1901.

German Dermatological Congress.—This Congress will meet in Breslau, May 28-30.

Gloucester (Mass.) Medical Club.—At the annual meeting of this Club, April 4, Dr. Edward S. Eveleth was elected president and Dr. Percy C. Procter, secretary and treasurer.

Pennsylvania Society for the Prevention of Tuberculosis.—At the annual meeting of this Society, held on April 10, in Philadelphia, Dr. Guy Hinsdale was elected president, and Dr. Alex. Heron Davisson, secretary.

Paducah (Ky.) Medical and Surgical Society.—This Society held its meeting for the annual election of officers, April 3, and elected Dr. Charles H. Brothers, president; Dr. Delia Caldwell, secretary, and Dr. Horace T. Rivers, treasurer.

Everett (Mass.) Medical Society.—The annual meeting of this Society was held March 27, and Dr. E. Cazneau Newton

elected president; Dr. George E. Whitehill, vice president, and Dr. Belle D. Curtis, secretary and treasurer.

San Diego County (Cal.) Medical Society.—At the annual meeting of this Society, April 5, Dr. George Cleary was elected president; Dr. Eugene St. Clair Beadles, vice-president, and Dr. Thomas L. Magee, secretary and treasurer.

Upper Des Moines Medical Association.—At the semi-annual meeting of this Association, at Estherville, March 23, Dr. Edmund D. Putnam, Lake Park, was elected secretary, vice Dr. Charles S. Shultz, of the same place, resigned.

American Climatological Association.—The eighteenth annual meeting of this Association will be held in Niagara Falls, N. Y., May 30, 31 and June 1, under the presidency of Dr. Robert H. Babcock, Chicago.

Louisiana State Medical Society.—The twenty-second annual meeting of this Society will be held at the medical department of Tulane University, New Orleans, April 18 to 20, president Frederick W. Parham in the chair.

Medical Society of the State of West Virginia.—The thirty-fourth annual meeting of this Society will be held in Grafton, May 22 to 24. Dr. G. A. Aschman, Wheeling, secretary, requests that titles of papers be sent to him before April 30.

Nashville (Tenn.) Academy of Medicine.—The annual meeting of the Academy took place April 2, and the following officers were elected: Dr. William D. Haggard, president; Dr. Carl C. Warden, vice president, and Dr. Deering J. Roberts, secretary.

Kansas Medical Society.—The thirty-fifth annual meeting of this Society will be held at Pittsburg, May 1 to 3, under the presidency of Dr. J. W. Porter, of that city. The physicians of the city will tender a banquet to the Society, May 3, at the close of the evening session.

Clinton County (Iowa) Medical Society.—At the quarterly meeting of this Society, held at Clinton, April 2, delegates were appointed to the state medical society, and Dr. F. A. Hohenschuh, Clinton, was elected secretary to succeed Dr. David T. Nicoll, removed to Clarence.

West Tennessee Medical and Surgical Association.—This association will hold its tenth annual session at Jackson, Tenn., May 2 and 3, instead of the usual time, the last of May. The change is made on account of the nearness of the time of the meeting of the AMERICAN MEDICAL ASSOCIATION.

Whatcom County (Wash.) Medical Association.—The physicians of the county met at Whatcom, March 30, and organized this association, with the following officers: Dr. Hays A. Compton, Fairhaven, president; Dr. Euclid Vanzandt, New Whatcom, vice-president, and Dr. Joseph F. Cross, New Whatcom, treasurer.

McLean County (Ill.) Medical Society.—At the annual meeting of this Society, at Bloomington, April 4, the following officers were re-elected: Dr. Charles E. Chapin, Bloomington, president; Dr. William R. Shinn, Chenoa, vice-president; Dr. Franklin C. Vandervort, Bloomington, secretary, and Dr. Ernest Reedy, treasurer.

International Association of Railway Surgeons of the United States, Canada and Mexico.—The executive board of this Association has decided that the next annual convention shall be held in Milwaukee, Wis., June 10 to 12. The local committee of arrangements consists of Drs. Harry A. Sifton, Solon Marks and William Mackie.

Cuyahoga County (Ohio) Medical Society.—The annual meeting of this Society occurred at Cleveland, April 4. The election of officers resulted in the choice of Dr. Carl A. Hamann, president; Drs. Charles C. Stuart and Leroy S. Chadwick, vice-presidents; Dr. Frederick C. Herriek, secretary, and Dr. Charles G. Foote, treasurer, all of Cleveland.

Canadian Medical Association.—The annual meeting of the Canadian Medical Association will be held in Winnipeg, Manitoba, August 28-31, under the presidency of Dr. Henry H. Chown, of that city. Special arrangements have been secured from the Canadian Pacific Railway for trips there and to other parts of the northwest as well as to the Pacific Coast.

Howard County (Ind.) Medical Society.—This Society, at its annual meeting, held in Kokomo, April 4, elected Dr. S. Roseoe Chancellor, Kokomo, president; Dr. Daniel C. Peters, Greentown, vice-president; Dr. William Harrison, Kokomo, secretary, and Dr. J. McLeon Moulder, Kokomo, treasurer. Delegates to the state society and the AMERICAN MEDICAL ASSOCIATION were also elected.

Medical Society of the State of North Carolina.—The annual meeting of this Society will be held in Durham, May

21 to 23, under the presidency of Dr. Julian M. Baker, Tarboro. Dr. Earle Grady, Tryon, will deliver the oration, and Dr. Robert S. Primrose, Newbern, the essay. The annual discussion will be led by Dr. David A. Stanton, High Point. Dr. Albert G. Carr, Durham, is chairman of the committee of arrangements.

Southern Idaho Medical Association.—The quarterly meeting of this body was held in Boise, April 4. The retiring president, Dr. Robert L. Nourse, Hailey, addressed the Society on "How Can We Best Secure the Enforcement of the Medical Laws of Idaho?" Dr. Lucien P. McCalla, Boise, was elected president; Dr. Ed. E. Maxey, Caldwell, vice-president, and Dr. Hubert A. Castle, Pocatello, secretary.

Tennessee State Medical Society.—At the sixty-eighth annual meeting of this Society, at Nashville, April 10, the following officers were elected: Dr. Deering J. Roberts, Nashville, president; Drs. James B. Murfree, Jr., Murfreesboro, L. A. Yarbrough, Covington, and William B. St. John, Bristol, vice-presidents; Dr. A. Bennett Cooke, Nashville, secretary, and Dr. William C. Bilbro, Murfreesboro, treasurer. Memphis was selected as the next place of meeting.

Medical Association of the District of Columbia.—The annual meeting of this Association was held in Washington, April 2. The following officers were elected: Dr. H. L. E. Johnson, president; Drs. George C. Ober and William H. Fox, vice-presidents; Dr. Monte Griffith, secretary, and Dr. Frank Leech, treasurer, all of Washington. Delegates were also elected to the AMERICAN MEDICAL ASSOCIATION, and Dr. G. Wythe Cooke was designated to confer with the ASSOCIATION on state organization.

Hornellsville (N. Y.) Medical and Surgical Association.—The annual meeting and dinner of this Association occurred at the Steuben Sanatorium, April 1. Dr. Charles O. Green was elected president; Dr. Charles M. Brasted, vice-president, and Dr. Ray G. Lawrence, secretary and treasurer. After the president's address, Dr. William S. Ely, Rochester, read a paper entitled "Some of the Certainties and Uncertainties in Medicine," and Dr. Floyd S. Crego, Buffalo, discussed "Some of the Improvements in Medicine and Their Relation to Nervous Diseases."

New London County (Conn.) Medical Society.—The one hundred and tenth annual meeting of this Society was held at Norwich, April 4. The Society adopted a resolution that it supports and urges the passage, with such modifications as may seem best, of the bill known as "An act to establish a state hospital in some suitable location for the treatment of incipient pulmonary tuberculosis and making an appropriation therefor." It also elected delegates to the AMERICAN MEDICAL ASSOCIATION and the following officers: Dr. Charles B. Graves, New London, president; Dr. Newton P. Smith, Norwich, vice-president, and Dr. Carlisle F. Farrin, New London, clerk.

Colorado Medical Library Association.—The eighth annual meeting of this Society was held at Denver, March 20. The secretary, Dr. Carroll E. Edson, reported that 770 volumes had been added to the library, and that donations had been received from the Denver and Arapahoe Medical Society, of \$150; and from Dr. John Boice, of 200 bound volumes of periodicals. The president, Dr. Henry Sewall, spoke on the needs of the library. Dr. Leonard Freeman was appointed to consult with the authorities of the County Hospital regarding some arrangements whereby the resources of the Hospital for medical literature might be made available for the Association, and whether a fee on attendance on clinics could be collected from medical students, said fee to be applied to the purchase of medical journals. The election of officers resulted as follows: Dr. Charles D. Spivak, president; Dr. Edward Jackson, secretary and treasurer, and C. R. Dudley, librarian.

Association of American Medical Colleges.—The next regular meeting of this Association will be held at the Hotel Ryan, St. Paul, Minn., June 3, under the presidency of Dr. Albert R. Baker, Cleveland, Ohio. It will consist of an educational and a business session. The educational session will be opened at 2 p. m., by the president's address, followed by several papers of medical pedagogic interest. To this session all persons interested in medical education are invited. The representatives and associates of the Association of Southern Medical Colleges have received a special invitation. The members of the Confederation of State Examining and Licensing Boards are also invited. There will also be an exhibition of work done in medical colleges. At 8 p. m., the business session will be held and the amendments to the Constitution, proposed by several colleges, considered. The report of the judicial council, the election of members and the election of officers for the succeeding year will close the program.

CINCINNATI ACADEMY OF MEDICINE.

Meeting held March 25.

President Dr. N. P. Dandridge in the chair.

A Case of Cerebral Abscess.

DR. E. W. MITCHELL reported that on January 27 he was called to see a well-developed and well-nourished boy of 13, who, three years ago, had suffered from a fracture of the right frontal bone which had been trephined and from which he had made an uneventful recovery. He had had no headaches since, was intelligent, and there could be said to have been no brain or mental symptoms up to the time of this last sickness. For two or three days previous to the time Dr. Mitchell saw him, he had complained of a cold, but this did not prevent him from taking part in the games and exercises of his friends. On the morning of the 27th, he complained of headache and pain at the root of the nose. He gradually grew worse during the day, developing fever and soreness of the throat. Dr. Mitchell saw him at 10 p. m., and found him unconscious, temperature 103, pulse 96, full and strong, respirations 30, pupils slightly contracted but reacting normally to light, heart normal, lungs normal except for some coarse mucous râles, pharynx congested and tonsils swollen; his bowels had moved twice during the day and he had vomited several times. He could be aroused slightly, responding to questions only in monosyllables, and again relapsing into stupor. The next morning he responded somewhat more readily to direct questions; temperature was 101, pulse 92; he had had a spasm at midnight and another at 5 a. m., the convulsions being general but most marked on the right side. After the second convulsion he had roused up sufficiently to answer questions. Kernig's sign was not satisfactorily obtained on account of voluntary resistance. He had no convulsions during that day, but remained in a slight stupor; toward evening a slight squint of the left eye was noted. On the morning of the third day slight opisthotonos was first noted; temperature 101, pulse 100; he had tossed restlessly in bed all night, but had no convulsions; some twitching of the right hand, arm and hand and great hyperesthesia were present; he did not answer questions, took nourishment well, and there was no vomiting. Kernig's sign was *present*. A positive diagnosis of meningitis was now made, but before operation could be performed, he was seized suddenly with a convulsion and died.

Autopsy.—This showed a depressed sear on the right frontal bone, corresponding to a depression on the inner table, quite healthy in appearance. The inner surface of bone was so smooth and so nearly normal in appearance that only by close inspection could the site of the trephining be discovered. By holding the bone between the eye and the light the outlines of the button could be nicely seen. From the lower margin of the button a very fine line extended downward for about three-fourths of an inch, probably indicating the line of the old fracture. The dura was normal except for greatly distended blood-vessels. The pia over the right frontal and anterior half of the parietal lobe was covered by a layer of greenish-yellow lymph. In the superior frontal lobe was an abscess about as large as a navy bean and about an inch below the surface. The tissues between the abscess and the surface were softened and broken down. The central abscess cavity had the appearance of having a lining membrane. It would seem probable that at the time of the injury a small abscess had formed here, had become encysted, and had for three years produced no symptoms. Finally exposure and exertion had broken the limiting membrane, causing infection of the surrounding brain tissue and perforation to the surface where the fatal meningitis was excited.

Scarlatina with Meningeal Symptoms.

DR. W. D. HAINES reported this case. A child, 2 years old, well developed and well nourished, had had an attack of pneumonia complicated with acute purulent otitis media, in March, 1900, and a slight purulent discharge from the right ear had continued up to the present time. The child was taken sick about 11 a. m. January 27, with vomiting. He saw her first about 2 p. m., and found her face flushed, breathing hurried

and of a peculiar intermitting type, pulse rapid, temperature 103, fancies injected, the tongue red and dry and a glandular enlargement of the neck. She was continually putting her fingers in her right ear. The fever remained in the vicinity of 103 or 104 for the next four days, but no rash appeared. She slept and ate fairly well. At about this time a few deeply injected macules about the size of a millet seed dotted the skin covering the anterior aspect of the knee-joint. The urine was loaded with albumin and phosphates and grave uremic symptoms began to make their appearance (third day). On the morning of the fifth day a faint rash appeared. The duration of the rash was one day and followed by extensive desquamation, considering the very slight manifestation of the rash. With the desquamation the temperature began to subside, then started to rise rapidly in the next twenty-four hours, reaching 106. This was undoubtedly due to an acute follicular tonsillitis. Respirations now increased to 40 a minute and the pulse to 160. On the seventh day ptosis of the right eye appeared, with contraction of the pupil; on the left side was noted a divergent squint. There was slight tendency to opisthotonos. Large rose-colored spots appeared on the skin covering the face, hands, neck and anterior surface of the body, especially marked and persistent on the skin of the neck. Slight pressure on the skin at any point caused a hyperemic blush which remained several minutes. The child was restless, crying much of the time, sleeping but little and taking but small quantities of nourishment; the urine, however, became more abundant and less albuminous. For a week the hyperemic patches continued to fade and to reappear. The discharge from the ear, which had ceased with the onset of the attack, reappeared, and *immediate improvement was manifested*: the paralysis began clearing, the temperature fell, respiration and pulse approached the normal, the urine cleared, and all that now remains are the stains of the maculopapular eruption.

Mastoid Disease with Unusual Symptoms.

DR. J. A. THOMPSON reported the case of a girl of 13 who had been in failing health for a number of days. For several weeks she had been under the care of her physician, during which time there had been slight fever, and the case was regarded as one of atypical typhoid. The only localizing symptom during that time was an earache increasing in intensity, with the pain much worse at night. The pain was in the mastoid process. A slight chronic eczema behind the ear made it difficult to say when redness and swelling due to mastoid inflammation first appeared. On November 21, 1900, he had been called and found marked swelling and tenderness over the mastoid and pain radiating over the whole temporal and parietal region. There was no evidence of any disease in the tympanic cavity. The drum was not even reddened. On November 26 there was pus in the attic and a paracentesis was made, evacuating a small amount. The paracentesis wound healed rapidly and the discharge from the middle ear ceased in a few days. There was at this time a decrease in the pain and fever. A few days later there was a spontaneous perforation of the drum in the posterior inferior quadrant, following but a few hours of pain; this was followed by a very profuse purulent discharge. The swelling and tenderness over the mastoid promptly subsided, and on December 14 she was able to come to the office for treatment. The perforation closed once but opened after about twenty-four hours. On December 20 her symptoms became rapidly worse, especially the pain, swelling and tenderness over the mastoid. On December 28 the mastoid was opened and found filled with pus, granulation tissue and polypi. This was entirely removed and the opening continued until the mastoid antrum was opened, thus securing good drainage from the middle ear. On removing the dressings (fourth day) the drum was found to have healed. The patient was discharged from the hospital at the end of two weeks, and healing was complete on the forty-eighth day. Hearing distance for the watch in diseased ear is 12/24. The uncommon features were grave disease in the mastoid cells weeks before the tympanic cavity was involved, improvement in the general and local symptoms while extensive destruction of the bone was in progress, and death of the bone wholly out of proportion to the general or local symptoms, with a rapid healing of the wound

without any of the complications and delays that usually attend extensive operations on necrotic bone.

Alopecia Areata and Nasal Epithelioma.

DR. M. L. HEIDINGSFELD presented two dermatologic cases, one of alopecia areata in a young boy, the other a case of epithelioma of the nose in a man about 60 years of age, which had been apparently cured by local applications of arsenious acid in the form of a paste. The diagnosis of this case had been confirmed by microscopic examination.

Strangulated Umbilical Hernia; Operation; Recovery.

DR. A. W. JOHNSTONE reported the case of a large fleshy woman, 64 years of age, with hernia apparently strangulated one day before operation was instituted. The omentum and intestines were found gangrenous. All the gangrenous portions were removed and the fresh ends approximated by means of the Murphy button. Recovery was uneventful. He reported the case on account of the long time elapsing before the passing of the button; it had been inserted on Dec. 27, 1900, and was passed March 11.

Fibroid of the Uterus.

DR. J. A. JOHNSTON reported on Miss F., aged 42, who had pelvic trouble for two years. Examination revealed a tumor filling the pelvis, and the uterus could be outlined above the symphysis pubis on the anterior superior surface of the growth; the cervix uteri was posterior and against the symphysis pubis. On Feb. 13, 1901, the abdomen was opened and the uterus and growth found as above detailed. It was impossible to lift the growth out of the pelvis, or indeed move it until it had been completely cut away from its attachments—the cervix was left. The symptoms of this case, the essayist said, were not severe, and therefore it did not demand immediate operation on that account alone; but the form, position, and relation of the growth to the uterus, ureters, rectum, and bladder did not augur well for the future. The mass was 4 inches in the anteroposterior diameter, $4\frac{1}{2}$ in the transverse, and $5\frac{1}{2}$ long; the diameters of the pelvis at the superior inlet, conjugate, oblique and transverse, being respectively $4\frac{1}{4}$, 5 and $5\frac{1}{2}$ inches, would not allow much more room for the fibroid to expand. There was the ever-present danger of pressure upon the ureters and attendant damage to the kidneys. Furthermore, a few months' additional growth might have wedged it so tightly in the pelvis as to greatly increase the risk of operation.

Acute Osteomyelitis of the Hip.

DR. A. H. FREIBERG reported on a male, aged 22, of good family history and splendid physique, who was taken ill suddenly, about two months before first seen by the essayist. The onset of the disease was very sudden, with severe chill and great pain in the left groin and hip, high fever and great prostration. This was soon followed by marked swelling and pronounced sepsis. The nature of the disease being recognized, a long incision was made over the upper posterior third of the thigh, and a great quantity of pus was evacuated, followed in a short time by spontaneous dislocation of the hip. About one week after this the essayist was asked to see the patient. He was found extremely septic and debilitated, with fever and a pulse of 118. There was typical dislocation onto the dorsum ilii, the left foot being supported on the right. The whole limb was swollen and the knee somewhat painful to pressure. Attempt at reduction under chloroform anesthesia failed, the patient taking the anesthetic badly, so provision was hastily made for more free drainage. The limb had been shifted to a better position by the manipulation, the foot now looking directly forward. An extension was applied but had to be removed on account of an effusion into the right knee. This subsided gradually and the patient began slowly to improve. Denuded bone could, however, be felt on probing the sinus at the posterior aspect of the hip. About two months later the hip was opened by the Langenbeck incision and the head of the femur removed, the patient then making an uneventful recovery. Examination of the bone showed superficial destruction of the bone at the uppermost part of the neck. At the juncture of the head and neck the cartilage had been lifted off by the

suppurative process. The ligamentum teres had been destroyed. Small lamellar sequestra were found free in the joint.

Typhoid Fever; Pregnancy; Miscarriage at Seven and a Half Months; Typhoid in the Infant; Death; Autopsy.

DR. MARK A. BROWN reported this case in a woman of 19, well developed and well nourished, who first came under observation on Nov. 23, 1899. Her principal complaints were fever and headache. She stated that as near as she could remember her illness began on November 14, with headache, pains in various parts of the body, loss of appetite and general weakness. Previous to her illness she had nursed her sister, who had passed through a six weeks' course of typhoid. She had menstruated last on April 8, 1899. Examination of the heart and lungs was negative. The abdomen showed a pregnancy at about the seventh month, and the spleen was enlarged to percussion. Examination of the urine was entirely negative—dialysis reaction not made. Temperature was 103.2, pulse 92, respirations 20. The Widal reaction was obtained in twenty minutes. On the next day she was delivered of a small female child. Her average temperature on that date was 103. November 27, the Widal reaction was obtained in ten minutes, on December 1 in ten, and on December 8 convalescence seemed to be established, but the Widal reaction was complete when the slide was placed under the microscope. The temperature now began to ascend and, on December 25, there was a note that she had passed through a typical relapse of typhoid, with spots and enlarged spleen. She was discharged on January 25, well.

Infant.—Its temperature was 101 when born, and rose steadily until above 103, remaining in this neighborhood about two weeks, then falling gradually to the normal in the same step-ladder manner that is so frequently seen in the adult. Two days after the normal temperature had been reached, the child, who had been getting weaker and weaker with each succeeding day, died, apparently of inanition. On December 2, the ninth day of its birth, the Widal reaction was made on the infant's blood, and partial reaction secured in thirty minutes, complete in forty-five. The serum reaction was made every two or three days on the baby's blood, and always with a positive result and in almost every case under the time limit. The note on December 9 states: "Widal made on blood obtained from the child gave complete clumping and agglutination in *ten minutes*." The child did not seem to be especially discommoded by its illness, taking nourishment—not the breast, no attempt of course being made at that—very willingly. No spots developed; the spleen was palpable, the stools slightly yellowish and loose. There was no tympanites nor did the child appear to be in any particular pain at any time.

Autopsy.—The heart and lungs were normal. The spleen was considerably enlarged and very soft. Enlarged mesenteric glands were also found. Involving a large part of the ileum, particularly at the lower part, were found healed ulcers, presenting the "shaven-beard appearance" so common in adults. Indeed, the whole condition differed in no way from a typhoid of an adult in a similar stage of the disease, while the course of the disease seemed to bear out the statement that typhoid in the young runs a very mild course. I believe that if this had been a full-time child it would have survived; for a time it looked as if it were going to live in spite of the obstacles that were thrown in its way.

Osteomyelitis of Vertebrae.

DR. CHARLES E. CALDWELL reported a case of osteomyelitis of the vertebrae, with interesting pressure symptoms. He had made a laminectomy but without any marked improvement. On autopsy a small abscess cavity was found within half an inch of his incision. The specimen was presented.

Tumor of the Sclera.

DR. JOHN W. MURPHY presented a young negro girl, with a small tumor distinctly under the conjunctivæ and apparently in connection with the sclera, situated midway between the sclerocorneal junction and the inner canthus of the left eye. Ophthalmoscopic examination was entirely negative. He was unable to state the exact nature of the growth.

JOHNS HOPKINS HOSPITAL MEDICAL SOCIETY.

Meeting held April 1.

Dr. Wm. H. Welch, President, in the chair.

Hemorrhage in Operation for Chronic Jaundice.

DR. WILLIAM OSLER related several cases in which operation was performed for the removal of gall-stones producing jaundice in which severe and even fatal hemorrhage had followed. There is usually a retardation of coagulation time of blood, this requiring fourteen or fifteen minutes instead of about $3\frac{1}{2}$, the normal time. The calcium chlorid lessens the coagulation time which may fall to normal. Subcutaneous injections of gelatin have the same effect. In two cases, however, the coagulation time was normal; there was severe hemorrhage.

Typhoid Spine.

DR. OSLER also exhibited a robust, healthy looking man, with a good color, who had been admitted November 6, on the twelfth day of an attack of typhoid fever, and had been discharged January 12, his illness having lasted fifty-seven days. He has recently returned, complaining of great stiffness in the back, extreme pain in attempting to sit up, tenderness in the sacrolumbar region, and a markedly nervous state. His general condition is good, there is no swelling, no signs of spondylitis, no change in reflexes, no paralysis. All the patients get well. The markedly hysterical features lead to the belief that in the great majority it is a pure neurosis. This man had had the Paquelin applied every two days, and wet packs.

Intestinal Dystripsy: Classification and Pathogenesis.

DR. J. C. HEMMETER proposes this name as a substitute for intestinal dyspepsia, trypsin being the most important enzyme in intestinal digestion. For these cases, which are due to disturbances in the function of the liver or biliary apparatus, he suggests the term "hepatic dystripsy," and for pancreatic disturbances, "pancreatic dystripsy." The functions of the intestine are secretion, absorption and peristalsis. Many dystrysias affect two, sometimes three, of these. Dr. H. suggests the following classification of dystrysias: 1, those due to pathologic-anatomic alterations; 2, absence or deficiency of the intestinal digestive secretions; 3, those due to qualitative or quantitative irregularities in the diet; 4, those due to abnormal bacterial activity; 5, those due to abnormal gastric chemistry; 6, those of nervous origin; 7, those caused by abnormal substances or irritants reaching the intestine from the blood; 8, those due to the action of intestinal parasites (exclusive of bacteria), worms; 9, those due to hyperperistalsis.

Gastric dyspepsia occurring in a dilated or prolapsed stomach is frequently mistaken for intestinal indigestion.

Is there any way in which we can study the alterations of the intestinal secretions? There are but two ways in which progress can be hoped for: 1, duodenal test-meal analysis; 2, examination of the stools. The first seems at present to be confronted with insurmountable difficulties, but it is a method to which we are surely coming, for it constitutes the only reliable means for obtaining information regarding the chemico-processes of the duodenum. An apparatus was shown designed for the intubation of the duodenum. It consisted of a flexible rubber tube through which a spiral wire is passed in order to prevent kinking. The second method requires careful quantitative analysis of the stools, after weighed amounts of proteids, carbohydrates and fats have been ingested, not only for the purpose of determining the residual undigested amount of each of these substances, but also for determining the amount of proteolytic, amylolytic, and eventually also of adipolytic ferments present in the feces. To accomplish this Dr. H. exhibited his stool sieve, designed to be attached to the tap so as to allow water to flow through the contents, removing offensive material, but retaining in the sediment everything essential for examination. This obviates one of the greatest drawbacks to such analyses.

With reference to the agency of bacteria in digestion, Dr. H. says the evidence so far obtained suggests that the presence of micro-organisms is essential to the most perfect functioning of the digestive process in the gastro-intestinal canal. In the treatment, however, of that dystripsy due to bacterial activity, he does not place too much dependence on

the so-called intestinal antiseptics. He gets along without them in the great majority of cases, and has seen very evil results follow the use of irritative antiseptics. He gives the utmost care to the diet, that it be easily digestible, thoroughly sterilized and moderate in quantity. Next to diet, the most effective means for combatting bacterial activity and autointoxication is lavage of the stomach and colon. Generally nothing is needed, but sterile water. If there is no HCl in the stomach, it is administered.

DR. WM. OSLER prefers the term "intestinal indigestion" to "dyspepsia," and with reference to the agency of bacteria in causing intestinal indigestion pointed out that this latter condition is not found in typhoid fever, although bacteria are abundant.

Fetal Transmission of Typhoid.

DR. FRANK W. LYNCH reported two cases of typhoid fever in pregnancy, with interruption of pregnancy in both cases. In the first case, from the four-months' fetus, aborted during the second febrile week, he cultivated the typhoid organism, from the fetal blood and organs. The same organism was also grown from the uterine lochia, but not from the maternal blood. The placenta showed numerous microscopic hemorrhages. Sections from the placenta and fetal organs were negative for bacilli. The Widal with the mother's blood was positive (1 to 50); the child's blood was absolutely negative (1 to 10). In the second case, the child, premature at the thirty-sixth week, was born on the fortieth febrile day. It lived for seventy days, dying finally of inanition. Although it presented an unusual skin eruption at birth, rather strongly suggestive of rose spots, placental transmission could not be proven. Cultures from the blood, taken at autopsy, developed the colon bacillus. The Widal from the child was negative in 1 to 10 dilution on the first, thirty-sixth and seventieth days. The mother's blood gave a Widal positive in dilutions of 1 to 50. Cultures from the placenta were sterile for two days. The placenta was normal, both macroscopically and microscopically. In the 1079 cases of typhoid to January 1, in the Johns Hopkins Hospital, there have been 289 in the female, and but 5 cases of typhoid during pregnancy. This is a percentage of 1.7, which is somewhat smaller than that given by Goltdammer and Martinet. From the literature Dr. Lynch collected sixteen cases of placental transmission of typhoid, and about the same number of cases where such transmission could not be proven. The absence of the Widal reaction, in the case where placental transmission was proven, is a unique observation, as there are no observations as to this point.

CHICAGO NEUROLOGICAL SOCIETY.

Dr. Hugh T. Patrick, president.

Raynaud's Disease.

DR. H. N. MOYER presented a case of this affection, the third he had seen; they all presented marked differences. The patient was 13 years of age, of Norwegian descent, tall, with light complexion, mentally bright, very fond of reading, of an emotional nature and had had several hysterical attacks, and nearly all the ordinary children's diseases. The family history was not specially significant. Her mother was of nervous temperament. She has four brothers living and in good health. It is stated that her grandmother had a finger that used to turn white for a short time. When first seen by Dr. Moyer, Feb. 9, 1901, several fingers were white and painful, but one more so than the others. While under observation, the fingers became red, again turned white and then assumed a bluish tint, changing color constantly. The hands were cold but sensation was not impaired. The patient stated that she first felt numbness and tingling in the left little finger and it turned white, that occurring about five days before she was seen. The heart, lungs, and nervous system, with the exception of the local symptoms in the hands, were quite normal. The girl was seen in consultation with Dr. Zeltner, whose first impression was that the finger had been frozen, but the rapid alterations of color soon showed that this explanation was incorrect. When the finger first turned white, she had no pain, but at the time she came under observation there were distinct painful paroxysms of about one-half hour's duration, which came on three

or four times a day. When first seen the fingers of each hand, three in number, were distinctly cyanotic, the little finger of the left hand more than the others.

At present, the middle finger of the left hand and the fourth of the right are most affected. The tips of the fingers are very tender to the touch. In the center of the pulp of the middle finger, the skin appears to be raised and white, with a reddish zone around it, much resembling a small blister. Apparently, gangrene has set in in this finger. There has been no change in the nails and they continue to grow. The patient has been treated with galvanism every day. The hands are immersed in water, connected with a positive pole and the negative is applied at the nape of the neck. Several times a day the patient is instructed to raise the hands for a few minutes. A thick cotton dressing is applied to the hands when she goes out of doors, and she has the additional protection of a muff. The paroxysms of pain were best relieved by a 10 per cent. solution of menthol in alcohol. Chloroform liniment was applied, but with no effect. The patient claims that she gets more relief from applications of very cold water; warm increases the pain. Internally she was given the suprarenal gland, with no effect; later, quinin and strychnin with marked improvement.

Optic Atrophy in a Child.

DR. HUGH T. PATRICK presented a patient with this affection—a boy of 12 years, first seen Sept. 18, 1900, through the kindness of Dr. F. A. Phillips. The father had died insane, probably of general paresis. The first child was 15 years of age and perfectly well; the second pregnancy terminated with a miscarriage at about four months, and the patient was born at full term about two years later. The following child was born three years after the patient and presented some evidence of inherited lues, while the last child was afflicted with various skin diseases until several years old. Soon after the patient's birth he developed snuffles, which continued for several years. The mother stated that he had never been strong on his legs, and walked "as if his shoe hurt him." Otherwise his development was normal with the exception of occasional nocturnal enuresis which still continued, the urine sometimes slowly dribbling away. For the last three years he had been subject to attacks of vomiting which always occurred in the morning and were followed by sleep, after which he seemed perfectly well. During the last year these attacks had begun with a pain in the head, and had been more frequent, and after an attack the scalp would be tender for a day or two. They were apparently migrainous in character. Vision had begun to fail only a few months before, and at the time of examination, as determined by Dr. Phillips, was R 15/200, L 20/200, and there was simply atrophy of both optic nerves. The right pupil was slightly larger than the left; both were somewhat irregular and responded to accommodation, but not to light. Sensation and muscular power were normal, there was very slight incoordination of both upper and lower extremities and slight intention tremor of the hands. The deep reflexes were normal, and there was no ulnar analgesia, but pressure on the ulnar nerve seemed to be rather less painful than normal. The teeth, while not the typical Hutchinson type, were considered to indicate congenital syphilis. Since September, the boy had become totally blind, the other symptoms remaining about the same. On account of the brisk knee-jerks, the diagnosis of precocious tabes would be rather venturesome, but the case was considered to be of that type; that is, to be classed with the late degenerative diseases caused by syphilis, such as tabes and general paresis.

Antrum Infection and Sigmoid Thrombosis.

DR. BAYARD HOLMES presented the clinical history and post-mortem specimens of a case of antrum infection and sigmoid thrombosis without present middle-ear disease, presenting the symptoms of facial neuralgia and none of the ordinary symptoms of disease in the petrosa; retropharyngeal gravity abscess, general sinus thrombosis without much impairment of cerebration. The case was reported owing to the difficulty presented in the diagnosis. There were few psychic symptoms and the various neuralgias and peripheral nerve lesions gave no very definite pointings for cerebral localization. A rough synopsis of the case was given as follows: Rigor and high

temperature, beginning without apparent cause, neuralgia of the right fifth nerve for ten days, typhoid or septic condition resembling sinus thrombosis for six weeks, abscess appearing suddenly in the posterior right pharynx, six weeks later discharge from the right ear, paralysis of the right leg, death, autopsy, antrum and general mastoid disease, sigmoid and general sinus thrombosis, extending into the cortex of the left hemisphere.

The patient was a physician in active practice, the father of a large family of perfectly healthy children. He had himself suffered from no disease except malaria and gout. He came in one day after light exercise out doors complaining of a chilly sensation, had a terrible rigor which lasted over an hour, followed by a temperature of 104 and pain through the back and legs. Headache was not a symptom at the beginning, but appeared at the end of forty-eight hours. Four or five days afterward a distinct neuralgia manifested itself over the distribution of the right fifth nerve. A suppurative pharyngitis made its appearance, was opened and drained thoroughly with continued irrigation. The pain and tenderness over the whole right side of the head continued to be excruciating. A most careful search was made for a local source of infection in the antrum of Highmore and in the mastoid sinuses. A diagnosis seemed to rest between a neuralgia with malaria and an osteomyelitis of uncertain origin at the base of the skull, possibly from one of the sinuses of the nose. The case, while slowly improving, continued with various fluctuations. There was no adenitis over the mastoids or about the neck.

Each of the nostrils, orbits and ears was separately and carefully examined. Disease was looked for unsuccessfully in both frontal and maxillary sinuses. The mastoids were separately examined and the ear drums inspected, but no symptoms of disease discovered. After a time the patient complained of little chills at intervals, and vomited without apparent reason so far as the condition of the stomach and the vomited matter was concerned. Posterior rhinoscopy showed nothing abnormal. Transillumination of the face showed the two sides alike, not well lighted, this probably due to either thick cheeks or small antra. There was nothing abnormal by the anterior rhinoscopy. Both ears were examined perfunctionally with everything apparently normal and hearing good, and no pain nor tenderness in the region of the ear.

Without any warning and without any apparent local disease, there was discharged from the right ear in the course of a night at least two drams of dark pus which came through a perforated drum head and gave some relief to pain and nervousness. Afterward, commencing paralysis, and following the paralysis, a convulsion took place. A diagnosis was made of a localized lesion, probably abscess, in the neighborhood of the motor cortical area for the right leg and foot, secondary to suppuration in the pharynx. An exploratory operation was undertaken to relieve the local symptoms, but the trephine disclosed nothing definite. The patient did well after the operation and the wound healed completely. Shortly after, the patient died from exhaustion.

The postmortem findings were as follows: The skull-cap was moderately adherent over the longitudinal sinus. There were some flakes of pus on the convexity of the dura over the anterior portion of the sinus. The left hemisphere showed several punctate extravasations about the needle wounds of the trephine operation. The dura was only slightly adherent over the upper border of the left hemisphere with light fibrous exudate. The blood-vessels of the dura and pia were thrombosed over at least 6 cm. of the upper surface of the left hemisphere nearest the longitudinal sinus. The cut surfaces of the cortex itself had a dull greenish white appearance. The longitudinal sinuses were filled with a suppurating thrombus. There were a number of flakes of suppurating fibrin along the lateral walls of the sinus. Both lateral and both sigmoid sinuses were full of pus and blood, the right distinctly fluid. The dura over the right petrosa was adherent on the posterior surface. The jugular veins in the neck were not examined. No indications of infection were found in the lungs, the heart or in the abdominal organs. The right temporal bone was removed for more careful study, and with it portions of the surrounding bones. There was no sign of disease in the external auditory

meatus, but the petrosa showed a honeycombing from erosion. If we attempt, in the light of the autopsy, to analyze the symptoms in the case and refer each to its pathologic source, we must first assume an early forgotten or overlooked middle-ear disease, perhaps as early as childhood or babyhood. There can be little doubt that the antrum was the primary focus of the infection. There is nothing in the pathological findings which would explain the facial neuralgia.

From a study of this case it seems reasonable to make the following conclusions: 1. Mastoid antrum disease is the appendicitis of the head. 2. In every case of infection within the head, where some other source of the infection can not be demonstrated, the mastoid antra should be explored. 3. The facial neuralgia is not explainable by the pathologic findings. 4. The excellent mental condition even up to the last seems hardly consistent with the obliteration of both jugulars and the suppuration in the great sinuses of the dura.

NEW YORK ACADEMY OF MEDICINE.

Meeting of the Section on Medicine, held March 19.

Dr. E. Franklin Smith, chairman.

Points Connected with the General Etiology and Pathogenesis of Diabetes Mellitus.

DR. HEINRICH STERN, in a paper on this topic, gave the results of his study of the mortality statistics of New York City for the period from 1889 to 1899 inclusive. It was from two to 2½ times more frequent in the male than in the female. Hebrews were specially liable to diabetes, but the Irish also showed some predisposition. This racial influence he attributes largely to the breeding in and in still so common in both of these races. Diabetes is not a disease of the rich alone, as some seem to think, for, of the 102 males dying from diabetes in one year, 66 were working people living in tenements. The author distinguished clinically five varieties, viz.: 1. Alimentary glycosuria; 2, hematogenic glycosuria; 3, neurogenic glycosuria; 4, common or hepatogenic diabetes, and 5, diabetes deterioration. The speaker said that many writers distinguish only two forms, a mild and a severe, and look upon them as differing in degree only. Seegen was the first to recognize two distinct and independent clinical types, and Dr. Stern added a third—the diabetic deterioration. This last form he considers a manifestation of a specific plasmogenetic process.

Diagnosis and Prognosis of Diabetes.

DR. HENRY S. STARK contributed a paper on this subject. He said that neither an acute nor a chronic glycosuria is sufficient for a diagnosis of diabetes mellitus; the glycosuria must be accompanied by polydipsia or polyuria with a deterioration of the general health. The cases most likely to be overlooked are those in which the quantity of glucose in the urine is small and the specific gravity low. Among the important symptoms of diabetes mellitus are extreme and persistent fatigue after only moderate physical exertion, acid saliva with a reddened tongue, premature grayness or sexual weakness, diminution of the patellar reflex, muscular cramps in the legs and muscular weariness. The fermentation test is the nearest approach to the ideal clinical test for glucose in the urine, and for the relative quantitative determination Fehling's test still holds its own. No one test should be considered sufficient: there should always be a control test. With proper diet and management many diabetics will live for ten or fifteen years. The prognosis depends on the age, the power of assimilating carbohydrates, early diagnosis, the condition of life, stage of the urine, and the existence of complications. Diabetes is always fatal in children. The quantity of urea excreted affords the best guide to the amount of tissue destruction. In the mild form are to be found those cases in which the glucose disappears when carbohydrates are excluded from the diet, while the severe type embraces cases in which the glucose does not disappear even under these conditions.

Diabetes in Children.

DR. HENRY DWIGHT CHAPIN made some remarks on this subject. He said that diabetes is very rare in children, but Ger-

hardt collected 111 cases, the ages varying from 11 months to 16 years. Dr. Chapin has only seen two cases, both exhibiting rapid emaciation and running a rapidly fatal course.

The Nervous System in Diabetes.

DR. PEARCE BAILEY, in his paper on this subject, said that all experimental glycosuria is temporary, and the evidence in favor of the nervous system as the origin of diabetes seems to be weakened rather than strengthened by modern research. Permanent glycosuria following experiments on the pancreas has been observed only when the pancreas has had its connections with the nervous system completely severed. He has found diabetes most commonly as a complication in general paresis, multiple sclerosis, tabes, myelitis, neurasthenia, paralysis agitans and hysteria. Neuritis is so common in diabetes that the urine should be tested for sugar in every case of neuritis.

Cutaneous Complications in Diabetes.

DR. S. SHERWELL, in his paper, said that the most common cutaneous manifestations observed in connection with diabetes mellitus are generalized scleroderma, eczemas of various kinds, erythematous lesions, such as erysipelas and gangrene, dermatitis herpetiformis and xanthoma diabeticorum. He is also disposed to include blastomycetic dermatitis. Furuncles of the neck and gluteal region are also frequently observed in diabetics. The eczematous lesions are best treated by promoting cleanliness and using some antiparasitic lotion, such as a 1 to 1000 solution of bichlorid of mercury.

Ocular Manifestations in Diabetes.

DR. NEIL J. HEPBURN mentioned the following in this connection: cataract, retinitis, oculomotor paralyses, iritis, paralysis of accommodation, keratitis, hemianopsia, glaucoma and detachment of the retina.

Diabetes Mellitus in Surgery.

DR. ROBERT T. MORRIS, in a paper on this phase of the subject, said that the modern surgeon does not fear to operate on a diabetic as did those of earlier days, though he recognizes the proneness to infection, the irritability of the kidneys and the possibility of the occurrence of gangrene. The speaker attributed the interference with the healing process to the abnormally dry state of the tissues resulting from the abstraction of moisture from them by the sugar-laden blood. The blood, under these circumstances, is also a good culture-medium for bacteria. Because of the state of the kidneys, the selection of the anesthetic is of importance; he personally prefers nitrous oxid in these cases as a preliminary to ether.

Treatment of Diabetes Mellitus.

DR. ABRAHAM MAYER presented this communication. He said that it is a great mistake to entirely exclude the carbohydrates from the diet, except for the purposes of diagnosis or at the commencement of treatment. Milk forms an important part of the diet of his diabetic patients, because they can often assimilate a large quantity of lactose without detriment. The food should be adjusted to the sex and weight of the patient, and he takes into consideration the laboriousness of the occupation. In neurasthenic diabetics he has often found opium act like quite a specific. He commences with a half grain three times daily, gradually increasing the dose to three times this quantity, it being understood that diabetics exhibit a special tolerance for this drug. He also uses Fowler's solution of arsenic, and of the bromid of arsenic in doses of 1/30 to 1/10 gr. three times a day. The patient should be protected from worry and nervous shocks. Phthisis is a very common complication of diabetes.

Glycosuria and Diabetes Mellitus in Relation to Life Insurance.

DR. E. H. BARTLEY, in his paper on this topic, said it is generally admitted that an appreciable quantity of sugar is present in normal urine, and the question arises as to when glycosuria should be considered as synonymous with diabetes mellitus. His view is that when a trace of sugar sufficient to be detected by Trommer's, Fehling's or Nylander's test is present in the urine, a second specimen of urine should be exam-

ined before accepting or rejecting the applicant for life insurance. There is no known chemical test for differentiating between a temporary glycosuria, possibly resulting from an indiscretion in diet, and true diabetes, but some hint of the true condition can be had by estimating the total solids in the urine for twenty-four hours. This can be done approximately by multiplying the last two figures of the specific gravity by the number of ounces voided. The normal quantity is about 1000 grains. As it is ordinarily impossible, however, to secure the total quantity of urine for the twenty-four hours, another method is to have the applicant remain in the office for one hour. Ordinarily about two ounces of urine can be voided in this time, but in diabetics this quantity will often reach three to seven ounces. Some allowance should also be made for the time of day.

DR. ANDREW H. SMITH called attention to the fact that diabetes mellitus is about five times more frequent among locomotive engineers than among average people. He attributes this to the intense mental concentration demanded by their occupation.

DR. A. ROSE spoke briefly of the treatment of diabetes by the use of baths of carbonic acid gas.

DR. JAMES K. CROOK said that almost all observers conceded that the liver is hyperemic in diabetes, and that this is due to a loss of tone in the vasomotor system. It is moreover known that anything which will cause a dilatation of the superficial capillaries, and hence a diminution of the quantity of blood in the liver will cause a lessening of the quantity of sugar in the urine. These and other facts seemed to indicate a close connection between the nervous system and the development of glycosuria. On the other hand, it has been shown that most diseases of the nervous system are not ordinarily associated with diabetes.

DR. STARK said that fully one-third of the cases of diabetes have both albumin and sugar in the urine, but this is of no special significance unless there are other indications of nephritis.

DR. MAYER said that he had not found albuminuria so common among his diabetics, and he would not look upon it so lightly, as he thinks it indicates that there has been a destruction of the epithelium covering the Malpighian tuft.

DR. BARTLEY took the same position regarding the prognostic import of albumin in the urine of diabetics.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment will be answered in these columns.]

Epilepsy.

A correspondent asks advice on the following case: The patient is a boy about 6 years of age, who commenced having spasms about eighteen months ago. At first these were very light and occurred about once a month, but have gradually become more and more frequent until now fifteen or twenty occur each day and they last from one to five minutes. At first these attacks came on at night; now they occur both night and day and commence with a choking sensation. When the patient is in bed he rises up to a sitting posture, holds his breath, foams at the mouth, but never cries during, before or after an attack. After the attacks he will go to sleep almost instantly, and says the attacks do not hurt him, but that it feels like there is something in his throat. Appetite is good, but not excessive, digestion and general health fairly good. He was circumcised some time ago. Increasing doses of bromid continued about a month, made symptoms worse. He was then put on santalin and calomel, as there was a suspicion that worms was the cause of the trouble. Our correspondent asks for diagnosis and treatment.

Ans.—The child probably has epilepsy. As regards treatment. The diet should be regulated. He should be allowed to

eat soft-boiled eggs, tender meats, bread, butter and potatoes. The elimination should be carefully looked into. The urine should be repeatedly examined for albumin or sugar, the amount of elimination by the kidneys should be calculated from a 24-hour product; and the amount of urea should be estimated. The child may have a nephritis as the cause of the disturbance, in which case the bromids would not be indicated. The teeth should be examined, the bowels properly regulated and hepatic stimulants administered if necessary. The entire trouble may be based on a toxemia, and if so by observing the above points, the attacks will be diminished.

For the bowels and liver, give small doses of hydrargyri chloridum mite at proper intervals. Mercury in this form and in small doses not only produces catharsis, but is a general glandular stimulant. Dilute nitro-muriatic acid in five-minim doses will stimulate the hepatic secretion. It should be given two or three times daily. If the kidneys are not eliminating properly the child may be given diuretics. The cause of the trouble should be ascertained, if possible, for it must be remembered that a great many remedies which are able to do good will, when not properly applied, have the same power to do harm.

AS TO THE TREATMENT OF THE ATTACKS.

The bromids are certainly the best agents, given in doses of as many grains as corresponds to the age of the child. This dose should be repeated three times a day and given immediately after eating. Toulonse and Ricket, of Paris, suggest withdrawing the chlorids from the diet in the endeavor to make the bromids more effective, thus making the system more subjective to their action. Boracic acid has been given in some cases with success when the bromids have failed to obtain the proper results.

Solanum Carolinense (horse nettle) is a powerful sedative, and has given splendid satisfaction in controlling the convulsions of epilepsy. It may be given in the form of fluid extract in doses of 8 to 10 minims three times a day. Acetanilid in small doses or monobromated camphor each have been of use in epilepsy. The following prescriptions are recommended, the dose to be varied according to the age of the child.

R. Potassii bromidi	gr. vii	44
Tinct. belladonnæ	m. x	66
Spts. ammon. arom.....	m. x	66
Syrupi aurantii	℥ss	2
Aquæ q. s. ad.....	℥ss	16

M. Sig.: At one dose: to be repeated three times a day for a child 8 years of age.

Or,		
R. Potassii bromidi.....	gr. v	30
Sodii bicarb.....	gr. v	30
Pulv. rhei	gr. ss	63
Spts. chloroformi.....	m.v	30
Aquæ q. s. ad.....	℥ss	16

M. Sig.: At one dose, repeated three times a day for a child of 8 years.

The Administration of Digitalis.

Hale White recommends the following formula:

R. Tinct. digitalis.....	℥iss	6
Tinct. nucis vomicæ	m.xlv	3
Caffeinæ	gr. xxv	1 66
Iodii salicylatis.....	gr. xii	75
Syrupi aurantii	℥ss	16
Aquæ q. s. ad.....	℥v	160

M. Sig.: Two tablespoonfuls three times a day in water.

His object in giving this prescription is evidently to obtain the combined tonic effect on the heart and the diuretic effect of the caffeine.

Treatment of Herpes Zoster (Shingles).

For herpes zoster, always begin the treatment by administering a saline purge. Keep the painful region dry by using the following dusting powder:

R. Pulv. amyli.....	℥ii	64
Pulv. camphoræ.....	gr. xxx	2
Pulv. opii.....	gr. xv	1
Zinci oxidi.....	℥iv	16

M. Sig.: Apply locally as a powder, and

FOR THE NEURALGIA:

R. Ext. stramonii		
Ext. hyoscyami, āā.....	gr. 1/5	012
Ext. belladonnæ.....	gr. 1/10	006
M. Ft. pil. No. i.	Sig.: One such four times daily.	
Or,		
R. Thiol		
Aq. destil. āā.....	℥i	32
M. Sig.:	Apply locally.— <i>Encyc. Pract. Med.</i>	

Treatment of Neurasthenia.

Gray, in *Med. News*, states that the treatment of this disease consists in the removal of the cause, if possible. A certain amount of rest, both physical and mental, should be insisted upon; the administration of tonics and electricity should be carried out. The patient should lie in bed from ten to twelve hours out of the twenty-four, and avoid fatigue when he is up. Iron, quinin and strychnin are the agents most generally useful, where there is anemia, conjoined with large amount of meat and beef tea and an abundance of fresh air. In the non-anemic cases the best tonic is strychnia, from 1/50 to 1/30 grain three times a day.

Fecal Impactions.

As treatment when the impaction is located in the lower rectum, it can always be softened and evacuated by frequent copious enemata of warm soap suds containing oil and glycerin. Gant, in *N. Y. Med. Jour.*, recommends the following:

R. Soap suds.....	Oi	512
Castor oil	℥i	32
Glycerin	℥ii	64

M. Sig.: Inject into rectum every two hours and retain as long as possible.

Treatment of Burns.

Armstrong, in *Med. Sentinel*, states, in treatment of burns of second degree, that water or solutions containing water are bad; vaselin does not act suitably; the application of rough gauze to the surface is not proper. He cuts away every portion of the bleb and takes care that no margin is left under which any trouble may arise. He applies oleum ricini 95 per cent., and balsamum Peruvianum 5 per cent.; then he covers with oil silk, which may be perforated. Some cases may improve more in the later stages by resorting to the use of dry boric acid dressings.

An Ointment for Corns.

R. Acidi salicylici.....	℥ss	2
Resini	℥i	4
Adipis	℥ii	8
Olei amyg. duleis.....	℥i	4

M. Sig.: Trim the corn and apply this ointment placed upon a piece of cloth.

Tinea Circinata.

R. Sulphuris precip.....	gr. xlv	2 66
Hydrarg. ammon.....	gr. xv	1
Thymol.	gr. iv	25
Unguenti simplicis q. s. ad.....	℥ii	64

M. Sig.: Apply locally night and morning. This is applicable in ringworm occurring in children.

Treatment of Neuropathic Alopecia.

The following prescriptions are given by Brocq.

R. Acidi acetici glacial	m. xii	75
Tinct. cantharidis.....	℥i	4
Spts. rosmarini.....	℥i	4
Tinct. tritici.....	℥ii	8
Spts. camphoræ	℥ii	8

M. Sig.: Apply locally.

Or,

R. Aq. ammoniæ	m. xxiv	1 66
Tinct. pyrethri		
Tinct. jaborandi āā.....	℥i	4
Olei terebenthinæ	℥i	4
Alcoholis.	℥vi	24

M. Sig.: Apply locally.

For Perspiring Feet.

The following rules have been laid down to prevent excessive perspiration of the feet: Wear low shoes, wool stockings, and dust the feet over twice a day with iodol. The following may be used as a wash:

R. Liq. plumbi diaacet.....	3ii	8
Acidi earbol.....	3ii	8
Aq. q. s. ad.....	3ii	64

M. Sig.: One tablespoonful to be mixed with a pint of warm water and wash the feet every morning and dry with a soft towel.

Treatment of Gonorrhea.

R. Plumbi acetatis.....	gr. xv	1
Zinci sulphatis.....	gr. xii	75
Ext. kramerie flv.....	3ii	8
Tinet. opii.....	3ss	16
Aq. q. s. ad.....	3vi	192

M. Sig.: Use as an injection twice daily.

To Remove Plaster-of-Paris Casts.

The *Med. Times* gives the following method of removing casts: Mark a line, with a lead pencil, on the cast. Along this line apply a little cotton or a thin layer of cotton-wool and soak the same with peroxid of hydrogen, the wool being about 1/2-inch wide. In a short time the plaster will be soft enough to be cut through with an ordinary knife or a pair of scissors. Vinegar or bichlorid solution may be used instead of the peroxid of hydrogen.

Administration of Oleum Morrhuæ to Children.

Sheffield suggests the following as a palatable form of administering oleum morrhuae to children:

R. Olei morrhuae.....	3ii	64
Ext. malt.	3ss	16
Syr. calcii hypophos.....	3ss	16
Glyeerini	3ii	8
Pulv. acacie	3ii	8
Aq. cinnamomi q. s. ad	3iv	128

M. Sig.: One to two teaspoonfuls after each meal.

Astringents in Diarrhea of Children.

In cases where astringents are indicated, he recommends the following:

R. Bismuthi subnitratiss	3i	4
Mistura cretæ comp.	3iii	12
Glyeerini	3iv	8
Mist. acacie.....	3iss	48
Aq. menth. pip. q. s. ad.....	3ii	64

M. Sig.: One teaspoonful every two hours until the diarrhea is checked.

Night Terrors.

Huber, in *Pediatrics*, states that he would omit ghost stories, goblins, giants, thrilling literature, exciting games, and avoid dark, poorly ventilated rooms. Heavy indigestible meals at night and the use of tea, coffee or alcohol in any form favor the occurrence. The mode of life of the patient must be studied, the habits investigated and taxation of the nervous system avoided. Tonics and hematinics should be given to the pale anemic children, and sometimes the bromids or other nerve sedatives to neuropathic children.

Medicolegal.

Sworn Certificate of Physician Indispensable.—The Supreme Judicial Court of Massachusetts holds, in the case of *Audette vs. L'Union St. Joseph*, that, in that state, when a by-law of a benefit association requires the production of a sworn certificate of a physician before any sick member shall receive benefits, the certificate is indispensable, and it is no excuse that the attending physician refuses to make one on account of conscientious scruples against taking an oath. Such a case, it says, comes within the rule that where one engages for the act of a stranger he must procure the act to be done, and the refusal of the stranger, without the interference of the other party, is no excuse.

State May Prohibit the Sale of Alum Baking Powders.

—The Supreme Court of Missouri, Division No. 2, holds constitutional, in the case of *State vs. Layton*, the act of May 11, 1899, making it a misdemeanor "for any person or corporation doing business in this state to manufacture, sell, or offer to sell, any article, compound or preparation for the purpose of being used, or which is intended to be used, in the preparation of food, in which article, compound or preparation there is any . . . alum." It points out that as early as the thirty-seventh year of the reign of George III., the British parliament absolutely prohibited the use of alum in the making of bread; that, irrespective of the statute, it was held indictable to use it in large quantities; and that such seems still to be the statute law of England. And, in view of the sharp conflict of testimony as to the noxious or innocuous character of alum baking powders, it says that it can not take judicial notice that these powders are a perfectly innocuous preparation. As to the test, when the constitutionality of an act of the legislature is assailed as invading the right of the citizen to use his faculties in the production of an article for sale for food or drink, it says that, if it be an article so universally conceded to be wholesome and innocuous that the court may take judicial notice of it, the legislature, under the constitution, has no right to absolutely prohibit it; but if there is a dispute as to the fact of its wholesomeness for food or drink, then the legislature can either regulate or prohibit it.

No Liability for Refusal to Answer Emergency Call.

In the case of *Hurley, administrator vs. Eddingfield*, an action brought by the former to recover \$10,000 damages for the alleged wrongfully causing the death of his intestate, the Supreme Court of Indiana says that the material facts alleged by the plaintiff may be summarized somewhat as follows: At and for years before the death of the intestate the defendant was a practicing physician at a certain place in that state, duly licensed under the laws of the state. He held himself out to the public as a general practitioner of medicine. He had been the intestate's family physician. The intestate became dangerously ill and sent for him. The messenger informed him of the intestate's violent sickness, tendered him his fee for his services, and stated to him that no other physician was procurable in time and that the intestate relied on him for attention. No other physician was procurable in time to be of any use, and the intestate did rely on the defendant for medical assistance. Without any reason whatever, the defendant refused to render aid to the intestate. No other patients were requiring the defendant's immediate service, and he could have gone to the relief of the intestate if he had been willing to do so. Death ensued, without the intestate's fault, and wholly from the defendant's wrongful act. The defendant demurred to this complaint. The circuit court sustained his demurrer, and the supreme court now affirms the judgment of the lower court, holding that there was no error in its ruling on the demurrer. The supreme court says that the alleged wrongful act was the defendant's refusal to enter into a contract of employment. Counsel did not contend that, before the enactment of the law regulating the practice of medicine, physicians were bound to render professional service to every one who applied. The act regulating the practice of medicine provides for a board of examiners, standards of qualification, examinations, licenses to those found qualified, and penalties for practicing without license. The act is a preventative, not a compulsory measure. In obtaining the state's license (permission) to practice medicine, the state does not require, and the licensee does not engage, that he will practice at all or on other terms than he may choose to accept. Counsel's analogies, drawn from the obligations to the public on the part of innkeepers, common carriers, and the like, the supreme court adds, are beside the mark.

Verification of X-ray Pictures.—The Supreme Judicial Court of Massachusetts holds, in the personal injury case of *De Forge vs. the New York, New Haven and Hartford Railroad Company*, that, while a picture produced by an x-ray can not be verified as a true representation of the subject in the same way

that a picture made by a camera can be, yet it should be admitted in evidence if properly taken. For example, in this case, after the plaintiff had put in evidence *x*-ray pictures of his two feet, the defendant company offered the glass plate from which his pictures were taken, and other pictures printed from the same plate. The photographer who took the plaintiff's pictures testified that he did not know much about the *x*-ray; while the person who took the pictures for the company was a physician of high standing, who had taken, as he testified in the neighborhood of a hundred *x*-ray pictures, and had seen the majority of them developed. Now, the evidence of verification the court considers was stronger in the case of the company's pictures than in the case of the plaintiff's, and, on this evidence, it says that it does not deem it possible that the judge could have excluded the plate or the company's pictures on the ground that they were not duly verified. As to the assertion that he might have excluded them in the exercise of the discretion vested in him, the court answers that it is in the matter of verification or authentication that the judge has discretion. It says that it can see no reason why the plate from which the pictures put in evidence by the plaintiff was printed should not have been admitted. It was produced by the photographer who made the pictures. It was not enough to render it inadmissible that it had on it the letters "R" and "L," which had been put on it after the pictures put in evidence by the plaintiff had been printed, these letters in no way obscuring the portion of the left foot in controversy and being certainly no more objectionable than the words "left" and "right" written in lead pencil under the toes of the plaintiff's pictures of his two feet, respectively. Moreover, if it were true, which it does not find to be the case, that there was some doubt as to the manner in which the plate was made, the court suggests that the exclusion should not have stopped with it, but that the plaintiff's pictures should not have been admitted. And it holds that it was clearly competent for the company to introduce evidence to show that the plaintiff's pictures showing an enlargement of one of the feet, and from which a witness for the plaintiff discovered a fracture, did not represent the left foot, as the evidence for the plaintiff indicated, but the right, and for this purpose to show the difference between an ordinary photograph and one taken by an *x*-ray. Wherefore, the court is of the opinion that the rights of the company were violated in the exclusion of the evidence it offered, and that the glass plate, the pictures taken by the company, and the evidence offered by it and excluded should have been admitted.

Manslaughter—Dying Declarations—Physician's Duty.—It was contended, in the case of the State of Washington vs. Power, a physician, that inasmuch as the statute makes it a substantive offense, punishable as such, for any person to administer drugs to or use instruments upon a pregnant woman for the purpose of procuring her miscarriage, such acts must be punished in the way the statute points out, under an indictment or information charging one or more of these specific acts alone, and can not, therefore, be the unlawful acts which were intended to be included within the statute defining the crime of involuntary manslaughter. The Supreme Court of Washington, however, does not think this contention sound. It says that it will be noticed that the statute prescribes a punishment for doing these specific acts, without regard to the effect such acts may have upon the person operated upon. The crime is completed when the prohibited acts are committed, and their effect is not made a material inquiry. And, as the legislature has made the acts punishable as acts, without reference to their consequences, it declares that it can not think it was intended to exempt a person causing the death of another by these means from being informed against and punished under the general statutes relating to unlawful homicides. Objection was also made in this case to the state being allowed to introduce statements made by the deceased some two days previous to her death as dying declarations. The answer of the supreme court on this point is that the rule requiring it to be shown that the declarations were made while the declarant was *in extremis* does not require that it be shown that they were made while the declarant was literally breathing her last.

The rule is satisfied when it is shown that the declarant died in the course of the illness from which she was suffering at the time they were made, and that the illness from which she was suffering was the direct and proximate result of the original injury which the declarations tend to illustrate. Finally, it was urged that error had been committed in giving the jury the following instruction: "When a physician undertakes to attend an sick person, the law imposes upon him the duty of directing the sanitary conditions surrounding the patient, of prescribing the proper medicines and the times and manner of taking, and whatever other appliances and operations necessary to the restoration of health. As to the question whether or not the deceased was improperly treated in these respects, you are to find from all the evidence in the case; and, if you have a reasonable doubt from the evidence as to whether or not the deceased was improperly treated in these respects, then you must find the defendant not guilty." But it will be noticed, the supreme court says, that no attempt was made, in this instruction, to define the degree of care and skill required of a physician. This was done in the preceding instruction, which is not quoted in the opinion, and, while it is true that the word "gross" was not used, yet the jury were told that they could not find the defendant guilty unless they found that his neglect was willful and felonious. The charge as a whole, the court holds, was a clear and concise statement of the law applicable to the case, and could not have misled the jury.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Medical News (N. Y.); April 6.

- 1 *Advertising in the Profession. G. Frank Lydston.
- 2 *Resection of the Cervical Sympathetic. Howard J. Williams.
- 3 *The Question of Drainage in Appendicitis. A. M. Pond.
- 4 *New Methods in Charity, with Better Results at Less Cost. Wm. P. Spratling.

Boston Medical and Surgical Journal, April 4.

- 5 *Diseases of the Myocardium. Henry Jackson.
- 6 *The Condition of the Myocardium as Affecting Cardiac Murmurs. H. D. Arnold.
- 7 A Further Note on the Treatment of Epidermoid Cancer. Francis H. Williams.
- 8 Report of Cases from the Second Surgical Service of the Children's Hospital, Boston. (Congenital Paraplegia, Etc.) H. L. Burrell, R. W. Lovett, and J. E. Goldthwait.

Philadelphia Medical Journal, April 6.

- 9 *The Prophylaxis of Venereal Diseases. Prince A. Morrow.
- 10 *On Certain Disorders of Sleep. Charles A. Dana.
- 11 *General Metabolism in Diabetes Mellitus. David L. Edsall.
- 12 *A Preliminary Communication of a Study of the Brains of Two Distinguished Physicians, Father and Son. Edward Anthony Spitzka.
- 13 Santiago as a Yellow Fever Center. L. C. Carr.
- 14 *A Correlation of Some Facts in the Propagation of Yellow Fever, with the Theory of its Conveyance by the Culex Fasciatus. H. R. Carter.
- 15 Suprarenal Capsule—Its Use in Rhinological Operations. Charles C. Royce.
- 16 A Clavicle Crutch. Carter S. Cole.
- 17 A New Tenaculum. R. C. Coffey.

New York Medical Journal, April 6.

- 18 *The Active Principles of Digitalis Leaves. Joseph W. England.
- 19 *Comparative Pathology of the Jews. (Concluded.) Maurice Fishberg.
- 20 Pathology of Intrauterine Death. (Continued.) Neil MacPhatter.
- 21 *Rectal Feeding in Throat Diseases. A. C. Bardes.
- 22 Medical Aspect of Christian Science. W. M. Polk.

Medical Record (N. Y.), April 6.

- 23 *Relation of the Public to the Medical Profession. D. B. St. John Roosa.
- 24 *The Importance of Aseptic Vaccination, with Remarks on Vaccination in General. Wilhelm Karl Kubin.
- 25 *The Field for Ethyl Chlorid Narcosis. Martin W. Ware.
- 26 *On the Diagnosis and Prognosis of Diabetes Mellitus. Henry S. Stark.

Cincinnati Lancet-Clinic, April 6.

- 27 *Deformities or Defects in Development from Adenoids. John A. Thompson.
- 28 Gamma of the Sternum. Mark A. Brown.

St. Louis Medical Review, April 6.

- 29 Substitute Infant Feeding by Laboratory Milk. John Zahorsky.
 30 *Surgical Management of General Peritonitis, Resulting from Perforating Appendicitis. John Young Brown.
 31 *The Cure and Prevention of Scarlet Fever by the Use of Diphtheria Antitoxin. C. H. Dalton.

American Medicine (Philadelphia), April 6.

- 32 Medical Aspects of Carcinoma of the Breast, with a Note on the Spontaneous Disappearance of Secondary Growths. (To be continued.) William Osler.
 33 Mortality of Operation for Obstructive Jaundice. (To be continued.) John B. Deaver.
 34 *Phelps' Operation for Clubfoot with a Report of 1650 Operations. (To be continued.) A. M. Phelps.
 35 An Obscure Case of Hysteria with Associated Right Mydriasis and Amblyopia and Left Myosis. (To be continued.) H. A. Hare.
 36 *Carcinoma of Pylorus. Frank Billings.
 37 *Puerperal Sepsis: Its Prevention and Methods of Treatment. E. E. Montgomery.
 38 On the Anatomy of the Renal Vessels and Pelvis of the Kidney in Relation to Digital Exploration of that Organ in the Operation of Nephrotomy. William Keiller.
 39 A Rare Form of Extrauterine Pregnancy. Brice W. Goldsborough and Thomas S. Cullen.
 40 *The Early Diagnosis of Insanity. Carlos F. MacDonald.
 41 Dust as a Factor in Diseases of the Upper Respiratory Passages. (To be continued.) W. Scheppegreil.

Bulletin of the Johns Hopkins Hospital (Baltimore), February.

- 42 *Preliminary Note of a Case of Infection with Balantidium Coli (Stein). Richard P. Strong and W. E. Musgrave.
 43 Hyperextension as an Essential in the Correction of the Deformity of Pott's Disease, with the Presentation of Original Methods. R. Tunstall Taylor.
 44 *Two Examples of Bence Jones' Albumosuria Associated with Multiple Myeloma. Louis P. Hamburger.
 45 Report of a Case of Fulminating Hemorrhagic Infection Due to an Organism of the Bacillus Mucosus Capsulatus Group. George Blumer and Arthur T. Laird.

Louisville Monthly Journal of Medicine and Surgery, April.

- 46 Practical Consideration of Acute Suppurative Inflammation of the Middle Ear and Mastoid. J. Morrison Ray.
 47 Diseases of the Sigmoid Colon. William V. Laws.
 48 Traumatic Injuries of the Skull. R. C. McChord.
 49 Infantile Malaria. William Britt Burns.
 50 Malignant Tumor of the Omentum. C. E. Speidel.

Journal of Experimental Medicine (N. Y.), March 25.

- 51 *Malarial Parasitology. James Ewing.
 52 *The Nerves of the Capillaries, with Remarks on Nerve endings in Muscle. Chr. Sihler.
 53 *The Influence of Bile on Metabolism. Elliott P. Joslin.
 54 *The Relation of Diabetes Mellitus to Lesions of the Pancreas. Hyaline Degeneration of the Islands of Langerhans. Eugene L. Opie.

Pennsylvania Medical Journal (Pittsburg), March.

- 55 *Report of Three Cases Bearing on the Subject of Ovarian Hydrocele. Reed Burns.
 56 A Plea for the Earlier Recognition of Squint in Children by the Family Physician and the Earlier Application of the Methods of Treatment. C. A. Veasey.
 57 Nausea and Vomiting in Pregnancy. John M. Batten.
 58 Surgical Intervention in Purulent Discharges from the Ear. Joseph E. Willetts.

St. Louis Medical and Surgical Journal, April.

- 59 Deformations on American (Incan) Pottery Not Evidence of Pre-Columbian Leprosy. Albert S. Ashmead.
 60 About Carbon Dioxid. Enno Sander.

Archives of Ophthalmology (New Rochelle, N. Y.), March.

- 61 The Equivalent Refractive Index of the Lens in Accommodation. W. N. Suter.
 62 Exenteration of the Orbit for Malignant Disease with Immediate Application of Thiersch Skin flaps Throughout the Entire Orbital Wound. Harry Friedenwald.
 63 *Different Methods in Which Glioma of the Retina Invades and Affects the Optic Nerve. E. F. Snyderacker.
 64 *On Ulcus Rodens Corneae. Prof. Schmidt-Rimpler.
 65 *Experimental Investigations on the Effect of Posterior Sclerotomy. Theodor Tobler.
 66 *Clinical Contribution to the Subject of Unilateral Nystagmus. Otto Neustätter.
 67 Contribution to Ophthalmoplegia Interna, with Special Reference to Reflex Iridoplegia. George Levinsohn.

Clinical Review (Chicago), April.

- 68 Surgical Clinic. (Osteomyelitis, Lymphoma, Etc.) N. Senn.
 69 Clinical Lectures upon the Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.

American Journal of Obstetrics, March.

- 70 *Preferable Technique of Closing the Incision in Abdominal Section and Herniotomy. J. Wesley Bovée.

- 71 *The Use of the Spray in the Local Treatment of Gynecologic Diseases. James C. Wood.
 72 Interstitial Pregnancy. Louis J. Ladinski.
 73 Glue Casts for Teaching Primary Repair of Perineal Injuries. Robert L. Dickinson.
 74 A Few Observations on Cystitis with Presentation of a Cystoscope. J. M. Baidy.
 75 A Report of Two Cases of Cesarean Section Under Positive Indications, with Terminations in Recovery. Daniel H. Williams.
 76 Dry Labor: Report of a Case with a Peculiar History. L. W. Atlee.
 77 Dermoid and Other Cysts of the Ovary. (To be continued.) Samuel W. Bandler.

Mississippi Medical Record (Vicksburg), April.

- 78 Cerebral and Meningeal Manifestations of Malaria. W. A. Carnes.
 79 The midwife. B. L. Culley.

Annals of Surgery (Philadelphia), April.

- 80 *Conservative Operations for Renal Retention. Christian Fenger.
 81 *The Appendix in Relation to the Psoas Muscle in Three Hundred Male and One Hundred and Eighteen Female Adult Autopsies. Trauma of the Psoas Muscle Produces Appendicitis. Byron Robinson.
 82 *The Value of the Roentgen Method of Diagnosis in Detecting and Excluding Renal and Ureteral Calculi. Charles Lester Leonard.
 83 *Ileus Due to Vascular Obstruction. L. L. McArthur.
 84 Ileus Due to Mechanical Obstruction of the Fecal Current. D. A. K. Steele.
 85 Ileus Caused by Neoplasms. A. J. Ochsner.
 86 Fissure of the Head of the Radius. Carl Beck.
 87 Excision of the Cervical Sympathetic Ganglia for Exophthalmic Goiter. J. Shelton Horsley.

Medical Dial (Minneapolis, Minn.), April.

- 88 Radical Cure of Femoral Hernia. Knut Hoegh.
 89 Chlorotone in General Practice. Harry F. Thompson.
 90 Quinin as an Antipyretic. J. Hobart Egbert.

Love's Medical Mirror (St. Louis), March.

- 91 *Fatty Degeneration of the Heart. Thomas G. Satterthwaite.
 92 A Report of Two Cases of Knee-Joint Trouble Occurring in Infants. F. B. Hall.
 93 "Acute-Purpura Hemorrhagica with Autopsy." F. W. Gavin.
 94 *The Cure and Prevention of Scarlet Fever by the Use of Diphtheria Antitoxin. H. C. Dalton.
 95 Persistent Suprapubic Vesical Fistula Treated by Means of Bottini's Operation. Willy Meyer.

New Orleans Medical and Surgical Journal, April.

- 96 Relation of a Case of Cardiac Embolus Following Forceps Delivery; Death Fifteen Days Later. L. G. Lebeuf.
 97 Case of Supra-vaginal Amputation of the Uterus for Fibroids Complicating Pregnancy. C. Jeff Miller.
 98 Ankylosis of the Temporo-Maxillary Articulations with Osteoclasia and Formation of New Joints. Paul A. McIlhenny.
 99 Three Cases of Ocular Disease. M. Feingold.
 100 Suprarenal Liquid with Chlorotone in Rhinology. Chas. F. Sauter.

Medical Council (Philadelphia), April.

- 101 Disorders of the Sexual Function in Man. (To be continued.) A. H. P. Leuf.
 102 Hemorrhoids: Etiology, Pathology and Treatment. Charles F. Hope.
 103 An Unusual Case of Eclampsia. Wm. B. Kenworthy.
 104 A Case of Erythema Scariatinaforma. Ralph Browning.
 105 Curing Common Colds. Quick Cure of La Grippe. B. F. Underwood.
 106 Injection Method for the Relief and Cure of Hernia. C. Fletcher Souder.
 107 Vesico-vaginal Fistula. Spontaneously Closed After Vaginitis. W. O. Bunnell.
 108 On Suggestive Therapies, Magnetic Healing, and Osteopathy. T. H. Line.
 109 Poisoning by Hyoscin Hydrobromate. A. G. Servoss.
 110 *Pneuma-Massage. Chas. B. Morrell.

Southern Practitioner (Nashville, Tenn.), April.

- 111 Charge to the Graduating Class of the Medical Department of the University of Tennessee. Perry Bromberg.
 112 Use of Bromids in Hysteria, Delirium, Etc. J. S. Murphy.
 113 Laparotomy for Pus in the Pelvis Under Anesthesia from Intraspinal Injection of Cocain—A Clinical Lecture. Wm. D. Haggard, Jr.

Medical Examiner and Practitioner (N. Y.), March.

- 114 *Under Average Risks. E. Poels.
 115 *Mitral Stenosis. J. Mora Moss.
 116 *The Significance of Arteriosclerosis in Life Insurance Examinations. S. Mahillon.
 117 *Deaths by Lightning. S. W. Abbott.
 118 *Cremation as a Life Insurance Problem. Frederick L. Hoffman.

- 119 Wheeling for Health and Not for Records. F. S. Grant.
- 120 Acute Parenchymatous Nephritis Engrafted on an Old Granular Kidney—Uremia from Suppression of Urine—Coincident Venesection and Normal Saline Transfusion. Talbot Jones.
- 121 Treatment of Lobar Pneumonia in Children. C. Eugene Lack.
- 122 Some of the Advantages of the Local Examiner Making and Sending Direct Examinations. B. Roscoe Gary.
- 123 Should the Medical Examiner Return His Report of an Applicant for Life Insurance to the Agent. John H. Duncan.

Southern California Practitioner (Los Angeles), March.

- 124 Physical Effect of Alcohol. W. V. Whitmore.
- 125 A Case of Contracted Pelvis. F. O. Yost.
- 126 Mutual Obligation of the Medical Profession and the Public. Geo. L. Cole.
- 127 Treatment of Incised Wounds. Albert Soiland.
- 128 Percentage Artificial Feeding. Kate Wilde.
- 129 Care of Chronic Cases in Sanatoria. W. Jarvis Barlow.

Southern Medical Journal (La Grange, N. C.), March.

- 130 Some Practical Points in the Study of Typhoid Fever. Geo. W. Lecato.
- 131 Clinical Aspect of Pneumonia. J. W. P. Smithwick.
- 132 Visiting the Sick. D. S. Merrill.
- 133 Skin Grafting: A Report of Two Cases. J. W. P. Smithwick.

Carolina Medical Journal (Charlotte, N. C.), March.

- 134 *Moot Questions in Abdominal Surgery. H. A. Royster.
- 135 Pneumonia. I. W. Faison.
- 136 *Notes on Heroin and Heroin Hydrochlor. T. W. Keown.
- 137 Importance of Dilating the Pupil in Treating Inflammatory Diseases of the Eye. W. H. Wakefield.

Charlotte Medical Journal, March.

- 138 *Moot Questions in Abdominal Surgery. H. A. Royster.
- 139 *To Cut or Crush in Stone of the Urinary Bladder. Stuart McGuire.
- 140 A Case of Severe Mastoid Neuralgia. John Dunn.
- 141 *Have We a New Treatment for General Septic Infection? Van Telburg-Hofman.
- 142 One Day's Experience in General Practice. I. A. McSwain.
- 143 Has Cod Liver Oil a Place in Pediatric Therapeutics? Henry Y. Ostrander.
- 144 Lithemia. Addison E. Jones.
- 145 The New Century. T. B. Greenley.
- 146 Toleration and Intolerance. T. Beath.

New England Medical Monthly (Danbury, Conn.), April.

- 147 Report of State Hygiene. Granville P. Conn.
- 148 Case of Extreme Anemiasis. T. J. Biggs.
- 149 On the External and Internal Employment of Argentamine. Dr. Bergel.
- 150 Prevalence and Treatment of Gout. Charles W. McIntyre.
- 151 Abuse of the Curette. Augustin H. Goelet.

AMERICAN.

1. **Medical Advertising.**—In this article Lydston holds that advertising is a necessity in the medical profession as in others, and notices the way in which the Code of Ethics is circumvented if not often openly violated by professional men. He notices the multiplication of medical colleges which are coming to make it a distinction not to be a professor, and remarks that while teachers often pose as philanthropists selfish advertising is the most probable cause of their action. He maintains that the unwritten law of the medical profession, that its members must keep themselves in the background, has been one of the greatest stumbling blocks to professional advancement and the influence of physicians would be greatly increased if it were ignored. Medical men should take a hand in public affairs and make themselves prominent in politics and other matters, and should not object to legitimate notice. This, however, does not include self puffs or courting newspaper notoriety in medical matters, inviting reporters to clinics, etc., or publishing alleged new discoveries from undigested and insufficient research. He says careful, conscientious work and good results are the best advertisements, but in order to get these we must have patients.

2. **Resection of the Cervical Sympathetic.**—After reporting a case of resection of the cervical sympathetic for glaucoma, Williams reviews the history of the operation and mentions its indications. He says sympathectomy is indicated in glaucoma simplex, inflammatory glaucoma where iridectomy has failed, hemorrhagic glaucoma early in the disease; and it should be tried in absolute glaucoma with pain in preference to enucleation. In unilateral trouble the ganglion of the corresponding side should be excised. While sympathectomy may not be curative in every case of glaucoma, the results thus

far have been sufficiently satisfactory to make it a desirable procedure in this much-dreaded disease. The operation in other conditions such as Graves's disease, etc., is noted, but the author thinks that its use in epilepsy is practically a failure, judging from reported experience. The bad effects reported in animals from cervical resection do not appear to occur in human subjects.

3. **Drainage in Appendicitis.**—The question of drainage in appendicitis is noticed and Pond thinks that the peritoneum is capable of disposing of large quantities of pus if equally distributed over the peritoneal area. What is needed is some agent which will put pus and pus-forming elements into solution. The requisites of such are sterility, the power of holding the pus, blood, etc., in a homogeneous solution, and that it should be a stimulant to absorption. Hot normal saline solution meets all these requirements, and he mentions also as adjuvants, increased hepatic activity and posture. Elevation of the foot of the bed sometimes a few inches tends to gravitate the fluids toward the diaphragm and leads to absorption. Six cases are reported illustrating these ideas, and while he says that these may not be of much statistical value they prove we can do without drainage in appendicitis. The general trend of surgery at the present time is to do without drainage, which is only essential in surgery of certain glands, ducts and cysts to remove irritating fluids, as in cases involving the stomach, spleen, pancreas, liver, gall-bladder and urinary bladder. The old maxim, "when in doubt, drain," is about, he thinks, to be revised to read, "when in doubt do not drain."

4. **Charity Methods.**—Spratling's summary of his article is given in the following propositions: 1. Prevent insanity, epilepsy, imbecility, idiocy and feeble-mindedness, as far as possible, by making it impossible for persons so afflicted to marry. 2. Build less expensive structures in which defective and dependent state charges shall live. 3. Maintain at less cost the cases that are chronic and incurable, and maintain at greater cost, to stimulate recovery, those that probably can be cured. 4. Give those that ought to have it an education that they can use, either in the institution that cares for them, that the cost of their maintenance can be lessened, or in the outer world, when they leave the institution, after the state has done its work well and turned them back into the great business current, as nearly normal men and women as science and art can recreate them.

5. **Myocardial Diseases.**—Cases and the associated conditions of the clinical picture of heart disease are noticed by Jackson; those for instance due to obstruction of circulation, embolism or thrombosis of the coronary arteries, inflammatory processes, atrophy, tumors, hypertrophy and dilatation which may be caused by valvular disease, diseases of the heart wall including chronic myocarditis and new growths, and from causes outside of the heart by pericardial adhesions, kidney and lung disorders, systemic poisonings, and overwork, as also from some causes as yet unknown or obscure. In arteriosclerosis we find as a rule much greater enlargement of the heart than in valvular disease.

6. **Cardiac Murmurs.**—The origin of cardiac murmurs from valvular disease has been over-estimated. Arnold discusses the subject at length. He thinks that mitral regurgitation may occur without any valvular disease whatever, and is inclined to believe that all the anemic murmurs of the left side of the heart are really due to mitral regurgitation. When any murmur exists it is of importance to investigate the myocardium. We may find it due to an entirely remediable condition of the cardiac muscle instead of an incurable valvular disease, hence the importance of investigating for other signs than murmurs alone.

9. **Venereal Diseases.**—The medical aspects of the social evil in New York are discussed by Morrow who notices the extent of its consequences and gives the noteworthy points. He has investigated the origin of syphilis in the syphilitic women in his hospital service during the past year. Fully 90 per cent. were married and, excluding all cases where there was suspected irregularity, there were 70 per cent. who appeared to

be cases of conjugal infection. The innocent victims of venereal diseases are not confined to marital relations; there are many other possibilities which he enumerates. He does not believe the regulation of the social evil according to the European methods is ever going to be practicable in this country. The methods he suggests are the hospital care of every case possible and a campaign of education.

10. Sleep Disorders.—Sleep is a period during which the brain rests from its consequent activities, empties itself of the products accumulated by this activity, and builds itself up for future work. Excessive sleep, Dana thinks, is like a flux in which too much is carried away, while insomnia is a constipation in which morbid products are retained. Insomnia is in itself often an overrated symptom. The majority of people can get along with perhaps one-half to one-third their usual amount of sleep if they rest quietly in bed, and, therefore, a certain loss of sleep is not necessarily damaging. He gives illustrations of the varieties of insomnia, morning insomnia from 3 o'clock on, connected with degenerative changes in the brain, worry or something of that sort, insomnia from motor shocks, epileptoid disturbances which the author does not consider is connected with genuine epilepsy. This, he thinks, is simply due to circulatory changes taking place in a rather over-tired, excitable cortex. The other symptoms of psychic shocks, apprehension, sensory shocks, etc., in neurasthenic cases, waking vertigo, migrainous seizures in sleep, paresthesia, painful dreams, epileptoid conditions, sleep-walking, etc., are also mentioned. Most of these symptoms occur in connection with such underlying conditions as neurasthenia, lithemia, arteriosclerosis, cardiac weakness, and a few can be ascribed to digestive disorders and a few perhaps to abortive forms of epilepsy. The treatment consists in attention to the underlying conditions, heart and general tonics, antilithemic remedies, attention to the general health; moderate exercise and fresh air are perhaps the best hypnotics. The safest medicinal agent, if any is to be used, is single small doses of bromid persistently kept up.

11. Diabetes.—The theory of diabetes and the general metabolic changes taking place in this disorder are discussed at length by Edsall, who is inclined to think that the cause of the disease is either through a loss of the normal power of destroying sugar or from a lack of normal power of producing glycogen and thereby controlling the amount of sugar supplied to the blood. Either of these theories will satisfactorily explain the condition. Apparently the imperfect glycogen production theory is the one most favored by the author. He quotes the experiments of Sachs, who found that extirpation of the liver in frogs did not alter the power of these animals to assimilate glucose but produced a strong tendency to alimentary levulosuria.

12. The Brains of the Seguins.—Spitzka's article gives a comparison of the brains of two distinguished physicians, the Seguins, father and son, and points out special features of each and those that are common to both, correlating these with their traits as exhibited during life. In each the left insula was markedly developed over the right, the left occipital index was smaller than the right and the left frontal larger. These and a number of other facts give strong evidence, he thinks, of direct hereditary transmission, but there was a curious fact of the reproduction of unilateral asymmetrical peculiarities of one side in the father's brain and on the other in the son's. The great development of the insula is striking and, according to Spitzka's view, seems to be connected with the special speech development and general power of expression exhibited by both possessors of the brains.

14.—This article is noticed editorially in *THE JOURNAL* of April 13.

18. Digitalis.—England questions the assertion made by Solomon, that digitoxin is the chief active principle of digitalis, on the ground of its slowness of action. While the fat free tincture made by him produces physiologic effects in from fifteen to sixty minutes, it takes from six to thirty-six hours to produce them with digitoxin.

19. Comparative Pathology of Jews.—In his concluding article Fishberg sums up the facts by stating that the death rates of the Jews are relatively and absolutely lower than those of other races. Their marriage and birth rates are smaller, but their low death rate causes a more rapid increase. They are especially free from many of the infectious diseases such as epidemic cholera, smallpox, and tuberculosis, and from syphilis and alcoholism with their consequences. On the other hand, they are especially liable to diabetes, functional neuroses and psychoses, though not to organic nervous diseases. The great majority of cases of amaurotic idiocy occur in Jewish children, and insanity is from two to five times more common than among the Christian population. Color-blindness, trachoma, glaucoma, hemorrhoids, hernias, varicose veins, etc., are very frequent among the Jews. Not all these peculiarities are due to ethnic, or racial characteristics of anatomy or physiology, but to the history and habits of life, and they are readily lost when the Jew adopts the customs and habits of those around him.

21. Rectal Feeding.—Bardes recommends rectal feeding in throat affections, reporting cases to show its success. Its advantages are, he thinks, non-irritation of the throat, avoidance of struggling in children, shortening of the progress of the disease, absence of the danger of food entering the larynx, the possibility of giving just such food and stimulation as desired, and the food is not bolted, as it is when swallowing is painful.

23. The Relation of the Public to the Profession.—Roosa's paper is a review of the advances that have been made in medical education and medical science generally in the past century.

24. Aseptic Vaccination.—The value of vaccination and the possible untoward complications are noticed by Kubin, who gives an extended series of cases obtained from the literature, by correspondence and by personal observation. He describes his method of aseptic vaccination, i. e., thoroughly scrubbing with soap, washing with alcohol and ether and again with sterilized water; then after scarifying and rubbing in the virus, he covers the wound with an aseptic gauze compress, fastening it with strips of adhesive plaster. His aseptic shield, which can be applied over the site of the vaccination, is also described. In conclusion he suggests laws for compulsory vaccination and revaccination, and special teachings as to the methods in medical schools and instruction in public schools on the importance of vaccination.

25. See abstract in *THE JOURNAL* of February 2, p. 343.

26. Diabetes.—The symptoms of diabetes and its method of diagnosis are first noticed. Stark considers the use of the yeast fermentation test and especially the differential density test of Roberts as the best for office work. The reduction tests by copper and bismuth have a certain negative value, that is, they prove that the urine which does not react is free from sugar, though they do not absolutely prove its presence. In quantitative estimation he specially mentions Rudisch's saccharometer. As regards prognosis a number of conditions must be taken into account: the age, power of assimilation of carbohydrates, early recognition of the disease, complications, the condition in life, state of the urine and power to assimilate fats and nitrogenous foods. All cases arrange themselves into one of three types from the prognostic standpoint: 1, the mild type where glucose disappears with gradual decrease of carbohydrates; 2, the intermediate type where it only disappears after complete exclusion of carbohydrates; 3, the severe type where this exclusion is unavailing.

27. Deformities Due to Adenoids.—These conditions are illustrated and described by Thompson, who accounts for them in a general way, assuming the defect to be caused by the lack of development due to important functions. He shows how the nose, mouth, thorax, ear, etc., may be thus impaired or deformed.

30.—See abstract in *THE JOURNAL* of April 6, p. 986.

31. Diphtheria Antitoxin in Scarlatina.—Some two years ago Dalton accidentally discovered that diphtheria antitoxin

was an excellent remedy in scarlet fever, and later investigations, he claims, have proven that it is equally efficient as a preventative. He has tried it in so many cases that he classes it as a sovereign remedy. He has used it in twenty-five or thirty cases since his first one, has immunized the other children in the family and has had no mortality whatever. He has been impressed by the mild form assumed after the use of antitoxin in a number of cases after running a severe course. See also title 94.

34. Clubfoot.—Phelps argues against trusting orthopedic measures in the treatment of clubfoot, excepting when employed early in life, and then favors simply the use of the hands. The method that he proposes is given as follows: 1. Exclude all cases which, by manipulation or force, can immediately or in a reasonable length of time, says a few weeks, be cured; then the following rule should be followed: 2. Cut the contracted parts as they first offer resistance, cutting in the order of those parts which first contracted when the deformity was produced, beginning with the tendo Achillis open. 3. The shortened inner side of the foot and short skin indicates the operation. The operator will then proceed, after strong manipulation or force is applied with a clubfoot machine or with the hands, to divide subcutaneously, first the tendo Achillis. If the skin is not short, subcutaneous tenotomy in the sole of the foot will usually suffice. If the skin is short an open incision about one-fourth the distance across the foot should be made, beginning directly in front of the inner malleolus, and carrying down to the inner side of the astragalus. Through this incision the following tissues can be cut, if they offer strong resistance, in the order given: Tenotomy of tibialis posticus; division of abductor pollicis; division of plantar fascia through the wound; division of flexor brevis muscle; division of long flexors; division of deltoid ligament, all its branches; peroneus longus—posterior ligament. 4. Linear osteotomy through the neck of the astragalus. 5. Resection of a wedged piece of bone from the body of the os calcis, the point meeting the linear osteotomy through the neck of the astragalus. The foot will now swing to a straight position. (This paper is to be continued.)

36. Pyloric Carcinoma.—The case reported by Billings, which was successfully operated on, was in a young man, aged 28, and interesting otherwise by the presence of much HCl in the stomach, in excess of what is usually the amount in this disease and the fact that perforation occurred with an opening the size of a lead pencil without producing serious disturbance or discomfort. The operation was hastily made at night, but recovery was good, though subsequent involvement of other abdominal organs has apparently occurred.

37. Puerperal Sepsis.—The prevention of puerperal sepsis by proper aseptic precautions on the part of the physician and the nurse before, during, and after labor is insisted on by Montgomery and the treatment recommended by him summarized as follows: 1. Prevention by the exercise of the most careful asepsis and antisepsis. 2. The accurate study of each puerperal case to recognize the cause of high temperature and eliminate other factors than sepsis. 3. The maintenance of the vital forces and the promotion of elimination by the administration of diet and remedies to meet indications. 4. The employment of serum injections when streptococcal infection can be recognized or justifiably inferred. 5. Resort to operative procedures must be governed by the local manifestations. Curettement is rarely justifiable in pure sepsis. Peritonitis or localized cellular inflammation in the pelvis should indicate vaginal incision and drainage. Hysterectomy is indicated whenever the uterus can be recognized as the seat of localized collections. When the ovary or tube only is involved, it should be removed. The recognition of a pus collection should indicate its evacuation or the extirpation of the organ in which it is situated. 6. The continuance of symptoms of sepsis when local manifestations are not recognized will justify incision to determine the presence of secondary sources of infection.

40. Insanity.—Insanity is a relative condition and MacDonald, therefore, dwells on the importance of comparing the patient with his normal self, when making the diagnosis. The

various symptoms are mentioned, both physical and mental, and he remarks that the range of normal mental action is so wide that a person ought not to be called insane unless there is a prolonged departure from his normal mental self. The diagnosis from severe physical illness should be carefully made, as meningitis, delirium tremens, etc., have sometimes led to mistakes. The two most frequent prodromes are insomnia and constipation. The importance of relieving these, especially the insomnia when associated with any mental symptoms whatever, is insisted upon.

42. Balantidium Coli (Stein).—Strong and Musgrave report a case which came under their observation suffering from diarrhea, constantly becoming aggravated and finally uncontrollable, and extreme emaciation, relative increase in eosinophiles in the blood and the presence of flagellate infusoria in the stools. At the necropsy there was considerable evidence of inflammation in the jejunum and ileum, shallow ulcerations, presence of *Balantidium coli* in the intestinal coats and lymph follicles, etc. Although certain authors have expressed the belief that the parasite is only an accidental and unimportant complication, the writers agree with Henschen as to its pathologic importance and consider it the exciting cause of the conditions found.

44. Bence Jones's Albumosuria.—In the first case reported the urinary reaction was acid; the urine was pale and of low specific gravity, gave a wide range of Heller's test and heavy precipitates when heated, clearing up on boiling and on the addition of acetic acid. A precipitate appeared with nitric acid, which dissolved again on boiling and reappeared with cooling; proteid contents of .27 per cent. and biuret reaction in cases where found. The examination of the urine sufficed to make the probable diagnosis of myeloma. The patient suffered from tenderness of the bones, nausea, loss of weight, etc. In the second case the urine was in a general way similar to the first, the proteid contents still greater, and there were some hyaline casts present. Hamburger gives the history of Bence Jones's albumosuria and describes the myelomata which have been found in the cases. He reports in full also the history of Kahler's case as illustrating the disease. He knows of but one other condition which can be diagnosed from urinary examination, and that is the widespread destruction of liver substance characterized by the presence of leucin and tyrosin in the urine.

51. Malarial Parasitology.—Ewing's article reviews the technique of examination of the general morphology of the parasites of malaria, and discusses the question of plurality of species in the estivo-autumnal group, studying specially their structure. He describes a form of conjugation of the tertian organism, and concludes by saying that whatever theory will finally be established regarding the variety of human malarial parasites, the evidence would seem to justify the opinion of Kruse, Canalis, Babes, Celli, Danilewsky, and others who regard the existence of several species as not yet proven, and find not only in malarial parasitology, but especially from comparative biology, that the phenomena of the disease are more easily reconciled with the existence of a single polymorphous species. He thinks that in many ways the knowledge of this would be furthered by adherence to a unicist theory as a practical working basis.

52. Nerves of the Capillaries.—The conclusions of Sihler's article in substance are as follows: 1. The endings of the motor nerves in striped muscle remain on the outside of the sarcolemma. Aside from the surfaces of contact of muscle and nerve fiber, the end fibers are covered down to their tips with the sheath of Schwann and provided with nuclei. The precise condition of things at the places of contact of nerve and muscles is as yet an unsolved problem. 2. The ivy-like or festooned arrangement of motor nerves in the frog's muscle has been misinterpreted. Properly interpreted it demonstrates that the nerve fibers which influence the muscle fibers are not naked and that they need not be end fibers. Mere contact between muscle fiber and nerve fiber is all that is needed. 3. The sheath of Henle in the frog and in the smaller muscle fibers of the snake is open, permitting escape of the cerebrospinal fluid. 4. In

other animals Henle's sheath extends over the end fibers of the motor nerves and cells lining it envelop the end fibers. The so-called *Sohlensubstanz* of Kühne is derived from the cells of Henle's sheath. 5. The terminal fibers in smooth muscle form a network entwining the bundles. The author considers it improbable that each plain muscle fiber has a special nerve fibril. 6. In muscular tissue fine non-medullated nerves, probably belonging to the centrifugal, vasomotor system, proceed from fasciculi of motor nerves, and can be traced directly to a network surrounding the capillaries. "From this network fine, nucleated, nerve fibers pass to the walls of the capillaries to which they are closely united. 7. The nerves supplying the capillaries connect also with sensory nerves, these nerves surrounding the larger arteries and veins. 8. The branches of the chorda tympani in the submaxillary gland terminate on the capillaries, not in the gland cells. 9. In muscular and glandular tissues—and perhaps throughout the body—there is a vast peripheral nervous plexus. These nerves of the capillaries, which may perhaps be regarded as nutritive nerves, regulate the production and transudation of lymph and are concerned in glandular secretion. These can be called into activity by peripheral and central nervous influences and from the sympathetic ganglia and influence, through their connection with these vasomotor nerves on the vessels, the blood supply of a part.

53. **Bile and Metabolism.**—The conclusions of Joslin's article are that bile increases the digestion of fat when given in pill form. The percentage of fat lost in the stools of the patient (who had a biliary fistula allowing collection of bile) was 63 per cent. in the first and 57 per cent. in the third periods of the experiment when bile was not given. This corresponds closely with Muller's results in human beings and dogs with complete obstruction of the common duct. Under bile medication the stools contain 23 per cent. less than found in the first period, and 17 per cent. less than in the third, representing the actual diminution in the amount lost in the stools. In other words the average digestion of fat in the periods without bile was 40 per cent. and with bile 60 per cent. 2. The digestion of nitrogenous food is improved by the use of bile pills when the fat is excessive in the stools. Instead of the average 15 per cent. being lost, 7 per cent. escaped digestion during the four days the patient took bile. This is perhaps accounted for by the better digestion of fat at this time allowing the proteid elements to be more thoroughly exposed to digestive juices. 3. Ox bile is a cholagogue. The amount of bile-solids secreted in the bile period was 47 per cent. greater than in the period before and after. This confirms the work of other investigators. 4. The effect of bile on the bowels was not remarkable, yet they moved more satisfactorily. In dogs diarrhea was usually produced. Pfaff finds it variable in patients; in some it is laxative, in others it has the opposite effect. 5. It is observed that the urea and nitrogen was excreted in greater amount in the bile period than in either of the others. No definite conclusions, however, can be drawn, because more nitrogen was ingested during the four days and the salol given may have been a factor. 6. The urine was increased more than 50 per cent. during the bile period, and the amount was about the same as when the bile was taking its natural course. Von Noorden has recorded a similar increase following removal of the obstruction in acute catarrhal jaundice. The salol coating on the bile pills, which amounted to 1.25 grams, was not sufficient to account for this fact.

54. **The Islands of Langerhans.**—In a previous number of this journal Opie described the alterations in these structures in the various forms of chronic interstitial pancreatitis and discussed the relations of these lesions to diabetes. He has recently had the opportunity of studying the specimens from a case of diabetes in which the causal relation between these bodies and the disease was more clearly demonstrable. These were the seat of a degeneration which had left unaltered the secreting parenchyma of the gland. The history of the case, with microscopic findings and the staining reactions, is discussed in detail, and it forms a very striking illustration of the connection of these bodies with the disease found in them, and supports the inference from preceding cases since here only

the islands of Langerhans were involved. The conclusion is justified that these structures influence carbohydrate metabolism and what has been learned concerning the relation of the pancreas to diabetes is the relation of the islands of Langerhans to the disease.

55.—**Ovarian Hydrocele.**—Three cases bearing on the question of ovarian hydrocele are reported by Burns. The anatomical conditions are described. He thinks that they support the view of J. Bland Sutton that the so-called tubo-ovarian cysts are cases in which the ovary and distal end of the tube have been shut in by adhesions into an unusually deep ovarian fossa and the space so formed and its connecting tube have become distended with fluid. They are not strictly ovarian hydroceles, but this term is used, nor are they tubo-ovarian cysts. In operating, if we find the condition the better course is, he thinks, to throw a ligature around the tissues containing the ovarian artery on the pelvic side and another around the artery and tubes close to the uterus, then split the tissues over the ovary and remove it and the tube. Mass ligatures around the ligament containing the ovary are hazardous, being liable to include the ureter.

63. **Retinal Glioma.**—The methods of invasion of glioma of the retina, as described by Snodacker, are stated as follows: 1. The commonest method of invasion is for the tumor cells to force their way through the interspaces of the lamina cribrosa, into the nerve-fiber bundles, to follow these backward, invading them and substituting glioma cells in their place. 2. The perivascular spaces of the central vessels also afford a means of ingress for the tumor cells. The tumor pushes its way in alongside the vessels, and then the cells radiate outward in the stroma of the nerve exactly as the anatomy of the parts would lead us to expect, for the septa are connected with the vessel sheaths, radiating outward and forming the sustentacular framework of the nerve. 3. The cells, after infiltrating the nerve-fibers through the lamina cribrosa, invade the pial sheath, fill the intervaginal sheath, run backward and reinvade the nerve, mainly along the septa. 4. The cells invade the choroid, then follow the course of the posterior ciliary vessels and nerves. In this manner they may invade the dural sheath in one of two ways; they may force their way between the fiber bundles of the sclera and thence into the dural sheath and intervaginal space, or they may make their way into the retrobulbar space and from here invade the dural sheath. 5. The glioma cells follow the course of the venae vorticosae and from here follow the lymph channels into the supravaginal space and infiltrate the nerve sheaths. 6. Tumor perforates the ball and invades the nerve from the orbit.

64. **Ulcus Rodens Corneae.**—This rather rare condition is described by Schmidt-Rimpler who reports a case. The disease commences as a narrow extended ulcer along the corneal margin. It differs entirely from ulcer serpens which usually begins at the center and progresses toward the periphery. It might be more readily confounded with shallow marginal ulcers seen in old people, but the periphery does not heal with new formation of vessels and thickening of the tissues while the ulcer extends centrally. Moreover, these ulcers have not the undermined gray margin and they are more transparent. There is a particular form of marginal ulcer, which he has called in his text-book chronic peripheric furrow keratitis, which might be confounded in the beginning with ulcer rodens and is the probable cause of some cases reported cured of the latter, but it never extends centrally as does ulcer rodens. The etiology of rodent ulcer is uncertain. He rejects the view of Ahlstrom and others that it may be due to anesthesia of the corneal nerves. The most rational treatment, he thinks, is cauterization and scraping, and possibly covering the ulcer with conjunctiva, though one can not always expect good results.

65. **Posterior Sclerotomy.**—Tobler's conclusions are summed up as follows: 1. The meridional sclerotomy gapes more and bleeds less than the equatorial and hence is preferable to the latter. 2. In the living eye a posterior sclerotomy does not give rise to a current from the subconjunctival space into the interior of the eye, but this occurs in the dead eye. 3.

After a posterior sclerotomy a centrifugal current arises, passing from the interior of the eye through the section into the subconjunctival space. 4. The liquid which escapes through the wound is watery and contents salt. 5. The wound may be expected to close by the eighth day, under normal circumstances.

66. Unilateral Nystagmus.—The cases reported by Neustaetter show that unilateral nystagmus may appear in all varieties assumed by the bilateral nystagmus, and he is of the opinion that it is not to be distinguished as regards its nature from this. The transference of nystagmus from one eye to the other indicates in his mind that we should consider it indicating nothing more than a modified bilateral nystagmus.

70. Closure of Incision in Abdominal Section.—Bovee describes his technique in closing incisions in abdominal sections and herniotomy, which is essentially the use of abdominal sutures in tiers somewhat on the plan of Marey's method elaborated. He found kangaroo tendon and catgut to be the best. Thorough asepsis is practiced and five or six tiers at least are employed. The dressing is composed of several thicknesses of gauze soaked in flexible collodion in all but the upper and lower layers. A well-fitting bandage over all completes the dressing, which is undisturbed for twelve to fifteen days. The advantages which he claims for it are that it leaves no injured tissue to slough, produces firm and rapid union, dressing is cheap and comfortable, and needs no changing, the exposure to infection is almost *nil*, the bandages afford proper support to the abdominal wall, and the resulting scar is excellent. He has used his method forty-five times without a single bad result, and in five years he has seen but one hernia result from the use of this method with a somewhat less perfect technique during most of the time.

71. The Spray in the Local Treatment of Gonorrheal Diseases.—Wood has been dissatisfied with the swab and tampon processes, and has experimented with the spray in local treatment. He calls attention to its advantages

80.—This article was abstracted in THE JOURNAL of March 16, p. 773.

81. Relation of the Appendix to the Psoas Muscle.—Robinson describes the relation of the appendix to the psoas muscle in 118 autopsies on females and 300 on males, giving an elaborate summary of the conditions.

82. Skiagraph Detection of Calculi.—From an examination of 136 cases of calculi, the detection of 19 cases of ureteral and 17 cases of renal calculi, Leonard concludes that both negative and positive diagnoses by the Roentgen method are accurate and valuable; that the ureteral calculus is more common than has been supposed, amounting to about 50 per cent. of all, and that the non-operative treatment without negative diagnosis by this method is irrational. It is precise, but accurate reading of the results are necessary. In case of small calculi low down in the ureter non-operative treatment can be permitted. Negative diagnosis does not preclude exploratory nephrectomy, but it makes unnecessary the actual incision into the kidney in search for calculi. Dilatation of ureter with bougies, as has been practiced in the female, may be employed in the male, by utilizing a suprapubic cystotomy wound to guide the instrument.

83. Ileus from Vascular Obstruction.—McArthur describes a case of ileus due to cutting off of the circulation of the coats of the bowels. He gives the four most constant symptoms of ileus caused by mesenteric embolism or thrombosis: 1. Blood seen either in the washings from the bowel, in bowel movements and in the vomitus, unaccompanied by the tumor of intussusception. 2. Colicky-like pains, associated with pains in the back and lumbar region. 3. Early collapse if the embolism has been sudden or extensive. 4. Cardiac disturbance, arrhythmia, great frequency, albuminuria.

91. Fatty Degeneration of the Heart.—Fatty degeneration of the heart, according to Satterthwaite, is a common affection, though it is not to be classed as a disease *sui generis*. It is rather a process attending lack of compensation in valvular disease, and also occurring in other conditions. It is caused

by fevers, toxemia, dyscrasias, mechanical injuries, disorders of nutrition and may be a physiologic process of senility or after parturition. He divides it into three stages, early, intermediate, fatal, each being distinguished by certain clinical signs. In the early stage the prognosis is best for complete recovery. In the intermediate it is not good for complete arrest, but the patient may be so far improved as to enjoy a higher degree of health for an indefinite period. In the third or final stage the prognosis is always unfavorable.

94.—See also ¶31.

110. Pneuma-Massage.—The method of pneuma-massage is described. The apparatus consists of a small motor, massage pump and a set of cups. The pump has three valvular actions: 1. Pressure, which forces a column of air against the part, like the tapping of a hammer; it has an almost human touch of great delicacy. 2. An alternating current that gives a vibratory effect, shaking the skin up and down from 250 to 10,000 times per minute, depending on the speed of the motor. 3. That of suction or dry cupping. The extent and duration of the vacuum is under the control of the operator, who can constantly relieve the pressure by raising his finger even when the motor is at its maximum speed.

114. Under Average Risks.—Poels remarks on the ignorance of the experience of American physicians by European practitioners, and asks for co-operation in changing this. He thinks that insurance companies may possibly do injustice by too rigid rules and thinks we have striking examples among those now issued as impaired or under-average lives, of the feasibility of the plan of using a more liberal policy in regard to admission to insurance. He asks whether certain cardiac diseases are now to be regarded as proof of sudden or premature death? Shall the non-fatality of heredity be forever denied? Are we not now in possession of data showing the comparative harmlessness of certain hereditary tendencies or personal defects? He believes that many risks are unjustly declined by insurance companies, causing financial loss to them, and resentment on the part of the examined.

115. Mitral Stenosis.—After describing the etiologic factors, diagnosis, etc., Moss notices three points in the investigation of the heart which should be attended to in every examination: "1. Remembering that the thrill and murmur are often perceptible in a very limited area only, auscultation should be practiced not alone over the area for the four valves, but over the whole precordia as well. 2. Palpation should be made not only at the apex, but to the right of it also. 3. Percussion should always look for extension of the area of cardiac dulness upward and to the right. In employing these three procedures as a matter of routine, cases will be discovered that might otherwise escape detection." He also calls special attention to a sure and rapid method of determining any abnormality in the vertical extent of cardiac dulness which, so far as he knows, is original with Dr. J. Wilson Shiels, of San Francisco. "It consists in placing the third, second and first fingers of the left hand upon the third, fourth and fifth interspaces respectively. The divergence of the fingers will usually be found to correspond so well with the divergence of the ribs that the fingers will lie evenly in the spaces. Now striking the fingers from above downward, we normally obtain three notes of distinctly different quality, due respectively to lung tissue alone, to heart and lung, and to heart alone. Any variation from the normal will at once attract attention, and its cause may be sought by the usual methods."

116. Arteriosclerosis.—The significance of arteriosclerosis to life risks is discussed by Mahillon, who thinks that in the majority of cases its existence with antecedent heredity or history is a matter of serious importance and, with a history of gouty or rheumatic diathesis added, makes the gravest risks. The habits of the patient should always be taken into consideration, especially those who drink, the occupation, such as the liquor and tobacco business especially. All gouty and rheumatic applicants for insurance, who have passed their 40th year and have rigid arteries or disorders of the heart function, history of angina pectoris or who use tobacco to excess should

be rejected. Where indications of arteriosclerosis are only slight and heredity is good, the heart and kidneys free from lesions and the habits in all respects exceptionally good, the cases may be accepted.

117. Deaths by Lightning.—Abbott finds that in Massachusetts, during the last fifty-seven years, there have been 185 deaths from lightning. A lightning stroke is not always fatal and many persons have been injured only. The majority of the victims were men, i. e., 129. The greatest number occurred in the summer months. In about one-half, death occurred in persons from 15 to 40 years of age and only 4 were in children under 5 years of age. This is due to males and young adults taking the greatest risks. He finds also, by examining the census reports, that death by lightning is more frequent in states which lie along the base of the Rockies, and in heavily timbered regions of the Northwest, than in the North Atlantic Coast region.

118. Cremation.—Hoffman pleads for precautions before giving permits for cremation, and especial care on the part of physicians in giving a certificate of the cause of death where cremation is to be performed.

134.—This article has appeared elsewhere. See *THE JOURNAL* of April 6, title 41, p. 991.

136. Heroin.—After giving his experience with the drug Keown says that the properties of heroin and heroin hydrochlorid are sedative and analgesic, hypnotic and antispasmodic, and it is much to be preferred to morphia, because it leaves no depression, is not followed by nausea, whether taken before or after meals, while heroin hydrochlorid agrees very well with all stomachs.

138.—This article has appeared elsewhere. See *THE JOURNAL* of April 6, title 41, p. 991.

139.—*Ibid.*, ¶38, p. 994.

141.—*Ibid.*, ¶39, p. 994.

FOREIGN.

British Medical Journal, March 30.

Some Clinical Aspects of Chronic Bright's Disease.

ALFRED G. BARRS.—The pathologic distinctions of the different forms of Bright's disease are not specially valued for clinical purposes by Barrs. The real question is, in his opinion, whether the condition is chronic or acute. Statements as to the prevalence and duration of life in the different forms of renal diseases are likewise considered of no weight in determining the dangers and management of any given case. The indications for treatment and prognosis depend entirely on the effects the disease has had and is having on the general health and vital functions, and are determined by conditions existing at the moment. As regards the etiology, he doubts the causative relation of acute Bright's disease to the chronic forms. Acute cases usually end in recovery or death. The average chronic case arises without any history of what could be regarded as an acute attack. As to how they arise is one of the most difficult questions to answer—the natural suggestion would be infection. He does not even credit alcohol as being a common cause and, as regards gout, he considers the relation quite as often the reverse, gout being the result of renal disease. The recognition of chronic renal disease is not always easy and only one point is of value, viz., albuminuria. He has never seen a case of albuminuric retinitis, the only distinguishing sign which could be presented, without the co-existing presence of albumin in the urine. The statement that chronic Bright's disease can exist without albuminuria he believes arose entirely in the postmortem room; it can not be diagnosed during life. While the presence of albumin is of the greatest importance, its quantitative estimation is of no value whatever and the estimation of urea is likewise unimportant. Urines of low specific gravity without albumin are said to indicate chronic Bright's disease, but this is not a reliable indication, and as regards tube-casts, he thinks no urine that does not contain albumin need be searched for them. The cardiovascular changes are not so uniformly inevitable or so common as ordinarily supposed, and recognizable high blood tension is not the rule. The danger is in the falling, not in the increas-

ing, blood pressure in chronic renal disease. Arteriosclerosis altogether independent of renal affections is a more common cause of cardiac hypertrophy than Bright's disease, and vascular disease of this nature is probably a cause as well as result of renal disorders. It is also the real cause of cerebral hemorrhage that is so often attributed to kidney trouble. The really fatal symptom of Bright's disease is toxemia. As regards the diet, he objects to the purely milk diet. He thinks it has no marked advantages, and his rule is that if the bowels and kidneys are moving freely the patient may live on such ordinary mixtures of diet, including meat, as he has appetite for and as are digested. The distinctions we draw between the different kinds of meat, in treating cases of gout, are in his opinion ridiculous. Alcohol may be avoided if cardiac failure does not require it. As to the drugs, he has no great faith in anything except the systematic use of purgatives for the general treatment, and beyond that no drugs are necessary except for the special symptoms as they arise. Barrs does not place much reliance on the so-called vicarious action of organs. Diuretics, such as digitalis, may be of use, but almost as frequently fail. Diaphoretic drugs like pilocarpin are sometimes unpleasant not to say dangerous in their effects. Hot baths, and hot-air baths which are directly under our control will do all that can reasonably be done. Nervous and respiratory disturbances of the more severe degree of renal toxemia will tax our therapeutic resources to the utmost. They generally also indicate portending death. The old practical rule that opium and morphin should not be given is still one to be considered in most cases, but there are respiratory and mental disturbances in which morphin alone relieves and for which it may be given with safety. He thinks in a certain kind of wakeful, painful, non-soporific form of uremia morphin is of the greatest value, and if care is exercised can be used without harm. The contraindication is that which common sense would suggest, viz., the presence of any tendency to coma.

On Generalized Infection in Gonorrhea. **ARTHUR H. WARD.**—The proposition offered in this paper is that the gonococcus produces an irritating toxin which is the direct cause of all the symptoms of the disease. In all cases it is absorbed into the system and causes systemic degeneration of varying severity. Gonorrhea, is therefore, a general toxic affection, while the microbes which form the toxins are generally localized on or around a mucous tract. The microbial invasion may extend to organs connecting with the infected tract, or may penetrate into the tissues either by direct invasion as by infection or penetration through the uterus, through the Fallopian tubes or by processes of growth through the affected mucosa. The absorbed toxins paralyze the leucocytes and prevent their action on the microbes. Having reached the circulation, the gonococcus may invade the heart or be carried into the peripheral capillaries. Invasion is favored by too energetic measures directed to local infection, since they depress the local powers of resistance and, by abrading or lacerating the mucous surface, may practically open a door to invasion. The general treatment must vary according to the general conditions, and will differ as these are referred to toxemia alone or to toxemia complicated by metastases. Local treatment is always required and should be without violence of any kind. These ideas are amplified to some extent. The existence of the toxin has been demonstrated by De Christmas and others. The larger the areas of microbial growth, the greater the quantity of toxins that may be developed and absorbed, and Ward holds that local inflammation is the direct evidence of toxic absorption. In prolonged gonorrhea severe general toxemia may occur in persons debilitated by drink and other causes. In the female the interior of the body may be invaded by direct extension through the uterus and Fallopian tubes. Ward thinks that diffuse peritonitis may be due to this cause, though it is either rare or unrecognized. The lymphatics, glands and the general circulation may be invaded and severe symptoms are produced when the heart is involved. As regards the treatment of metastases of gonococcus by drugs, the author says the less said about it perhaps the better. Internal treatment by a drug of the germicide class is probably indicated. Quinin holds out

the best hope of relief, though if it fails it is well to try mercury, arsenic or salicylates. When, on the other hand, toxic degeneration is threatening, a careful treatment directed to oxidation and elimination, such as potassium iodid internally, large quantities of water, baths, exercises, change of air, etc., will be of most service. He also calls special attention to the dangers of too energetic measures addressed to local infection, and gives an illustrative case in which there was a general infection due, he thinks, to a too active treatment in the acute stage. It pointed out to him the danger of favoring the generalization of gonococci by too energetic measures, causing abrasions or injury of the mucous surface. Since that he has not allowed any instrument to be passed in the acute stage, nor has he employed high pressure injections or abortive antiseptics.

On the Treatment of Glycosuria and Diabetes Mellitus with Sodium Salicylate. R. T. WILLIAMSON.—Sodium salicylate has been strongly recommended for diabetes, by Ebstein of Göttingen, though it has apparently not been much prescribed in England. Williamson has been testing it recently on a patient, covering a period of twenty-two weeks, during which time he estimated the sugar excretion, with results that seemed to him proof that sodium salicylate had in this case a definite influence in greatly diminishing the sugar excreted. He has also tried it in nineteen other cases, but as only one of these was in the hospital, the results are less reliable. In most cases the diet was restricted at the same time the sodium salicylate was given. A brief statement of some of the cases is recorded. He says he does not think it advisable to give sodium salicylate if serious complications are present or if the patient appears to be losing ground rapidly, because the drug has a bad reputation with some and a fatal termination during the treatment might be attributed to it. He says it is not a specific and it does not usually have a marked effect on the severe forms, but in certain mild cases it is indicated. It is not suitable in all cases, and when administered needs to be carefully watched and fairly large doses are usually necessary to produce decided results. The natural sodium salicylate is more satisfactory than the common artificial preparation. It is best to commence with 10 gr. doses three to four times a day, and increase it up to 15 gr. four or five times a day, watching carefully for any toxic symptoms. In the severe forms, though sodium salicylate does not usually cause much change in the sugar excretion, the patient sometimes gains in weight and improves in general condition.

Journal of Tropical Medicine, March 15.

Some Notes on Blackwater Fever, More Especially in Regard to Its Causation and Treatment. R. U. MOFFAT.—The author rejects the quinin theory from his own experience, and also the idea that blackwater fever is a specific disease or condition independent of malaria. His opinion is: "Blackwater fever is a complication of malaria only produced when the blood glands have lost their normal regenerating power, either through the influence of malaria or any other constitutional cause. It is then caused by a chill acting on the surface of the body when the malarial parasites are in active development some hours before their sporulation. The effect of the chill is to cause a determination of the parasites to the deeper organs at a time when they should be in the peripheral circulation, and as a result sporulation takes place prematurely and there is a sudden death of all parasitic-bearing corpuscles." The latter part of his theory, dealing with the manner in which the chill acts, is pure speculation, he admits, though there are facts to support it. In regard to the main point, the influence of a chill at a certain stage, his opinion is based on such practical experience so often repeated that it is impossible to regard it as coincidence. In one case he had examined the blood immediately before the attack and found it swarming with parasites. The next morning after the attack he could not find a trace of them. For some reason the parasites disappear directly hemoglobinuria ensues whether quinin be given or not. He thinks the brood, the sporulation of which produces blackwater fever, aborts at once and the condition tends to spontaneous cure. He has been careful to avoid leaving his bed until the temperature is normal in case

of malaria, and therefore has generally escaped blackwater fever. In one case where medical duties made him violate this rule his fears were realized; the chilling of the body surface brought on the disease. For the treatment, he believes quinin, 5 gr. three times a day, is a good prophylactic. If malaria develops in spite of this the greatest care should be taken to avoid chills. The patient should go to bed at once if possible. The question whether we shall or shall not give quinin arises. He has himself given it with so much success that he dare not take the risk of experimenting without it. Owing to the gastric irritability the quinin, and in fact all medicaments, must be administered hypodermically or per rectum. He prefers the former because we require the rectum for the purpose of alimentation in these cases, and to favor elimination of free hemoglobinuria as quickly as possible, and prevent blocking of the kidney tubules, he encourages the patient to drink freely of bland liquids to flush the kidneys. It is true that vomiting is produced, but still a certain amount of fluid is absorbed and the vomiting would occur anyway, and it is good to have something to vomit. He offers his theory of the disorder as a provisional working one which in his opinion best meets the requirements.

Annales de Dermatologie (Paris), February.

Study of True Pemphigus. C. AUDRY.—A typical case of pure, chronic pemphigus was made the subject of special research in respect to the alterations in skin, blood and urine. The leucocytosis, the adenopathy and marked disturbance in the urinary interchanges, demonstrate that nothing in the organism escapes altogether the action of the still-unknown poison which causes the disease. The blister may develop between the horny layer and the granular layers, or between the rete mucosum and the basal cylinder layer. It may likewise cause the total denudation of the papillæ by lifting up the epithelium or by secondary destruction of the epithelial elements which cover the papillæ. Small collections may also originate in the rete Malpighii. All these various forms were observed in this case, but the relative integrity of the subepithelial connective tissue was remarkable and also the absolute and paradoxical integrity of the prickle cells. These facts suggest that the epithelial and cutaneous lesions are secondary, and derived from some more general cause. The blister can develop only in case of pre-existing alterations in the epidermis, and it has no more significance in pemphigus than râles in pneumonia.

Antagonism Between the Skin and Buccal Mucosa in Syphilis. A. RENAULT.—In a large number of cases, fully 75 per cent., the cutaneous manifestations of secondary syphilis are not accompanied by lesions in the bucco-pharyngeal mucous membrane. A dozen cases are described as illustration of this antagonism, and Renault observes that we are justified in promising patients with a confluent, papulous syphilide, that the lips, tongue and throat will not be affected. The facts also demonstrate that inveterate smokers need not at once stop smoking, but may break off gradually—smoking is always deleterious in secondary syphilis, immediate total suppression is not necessary under these circumstances.

"A Woman Who Has Borne a Child to a Syphilitic Husband Is Necessarily Syphilized."—Besnier advanced this proposition at a meeting of the French Society of Dermatology, acknowledging that it was an exaggerated statement, but insisting that it is true in many more cases than is generally recognized, especially in those in which the husband's infection dates from only two or three years. The necessity of collecting data on the subject was emphasized, in order to discover the laws governing the phenomena in question.

Radiodermatitis or Actinocutitis from the X-Rays. BARTHELEMY.—A case of injury from X-rays is described, a sclerodermization of great extent, the skin smooth, white, elastic, thick, with occasional purpuric patches and absence of the usual glands or cells. It is peculiar from the fact that the first signs of injury did not appear until five months after the last exposure to the rays. Barthélemy is now engaged on a monograph containing the reports of ten unpublished cases of cutaneous lesions produced by the application of the X-rays

as a revulsive measure in cases of salpingitis or perimetritis. New tubes and particularly vulnerable portions of the integument should be avoided, he observes, and it is still premature to introduce radiotherapy into current practice. Accidents are liable to occur when least anticipated in spite of all precautions. The physician, however, should not be held responsible any more than for a death during chloroform narcosis, when all the rules of science have been complied with.

Archives Generales de Medecine (Paris), March.

Plants in the Transmission of Malaria. VICENTE.—The mosquito is not the only insect which transmits and inoculates malaria, according to Vicente. He has observed cases in which the transmitting agent seemed to be the plant lice that infest oleanders, palms and certain other house plants. He is convinced that the pollen of plants floating in the air may also transmit the germs, and that the parasite of malaria loses its virulence in time, but reacquires it when restored to a marsh or to conditions approximating a marsh, such as are afforded by the dirt, moisture and heat of house plants. Insects and pollen may be the intermediate conveyance to and from the marsh. He has previously reported a strange house epidemic of malarial infection, in the midst of Paris, traced directly to a large oleander, and which broke out afresh whenever the plant was brought into the house.

Bulletin de l'Academie de Medecine (Paris), March 12.

Helminths as a Cause of Appendicitis. E. METCHNIKOFF.—Physicians make a great mistake, Metchnikoff asserts, in not examining the feces as a routine measure, as they examine the blood and urine. He relates four instances in detail in which recurrent appendicitis apparently necessitated operation, but investigation of the feces at the last moment disclosed the presence of eggs of intestinal worms. Vermifuge treatment promptly cured the patient and there has been no recurrence during the years since. Helminths explain the occurrence of "familial appendicitis," and also the cases of supposed appendicitis in which the appendix is found normal. He concludes that no physician should neglect to examine the feces in cases of suspected appendicitis, and to administer santonin if ascarides are found and thymol in case of the trichoecephalus. Persons inclined to appendicitis should refrain from eating raw vegetables or fruits or drinking impure water. The feces of children should be examined from time to time and vermifuges given as needed. These measures would cure many cases of appendicitis, attenuate the gravity of others and diminish the frequency of the affection. The trichoecephalus burrows its head in the mucosa and may mechanically induce irritation. One male worm of this kind might induce appendicitis and yet no eggs be found in the feces.

March 19.

The Conditions and the Diagnosis of the Soil on Which Pulmonary Tuberculosis Develops. A. ROBIN and M. BINET.—In 1300 tests of the chemistry of respiration in 392 persons, it was found that in all but 8 per cent. of the 162 tuberculous patients included, the exchanges of gases in respiration were far more active than in healthy persons. Even in this small proportion, the exception to the rule was but transient in the majority. The results of the researches are tabulated and the averages show that in chronic tuberculosis the carbon dioxid exhaled per minute and per kilogram of body weight, is in women 86 per cent. more than in normal conditions, and in men 64 per cent. The total oxygen consumed increases in women by 100.5 per cent., and in men by 70 per cent. The oxygen not utilized in producing carbon dioxid and which is absorbed by the tissues, increases in women by 162.8 per cent. and in men by 94.8 per cent. The lung ventilation increases by 110 per cent. in women, and by 80.5 per cent. in men. This remarkable increase in the exchanges of gases exists also in the acute forms of tuberculosis and its importance in the diagnosis can not be overestimated. As the disease progresses and the lung capacity and the proportion of gases exchanged diminish, the ventilation increases in proportion and thus the excessive activity of the exchanges is maintained to the very last. As the disease yields to treatment and the patient is recovering, this peculiar chemistry of the respiration becomes less and less pronounced. Extrapulmonary manifestations of tubereu-

losis are accompanied by an exaggeration of the respiratory exchange of gases, but the lung capacity and the proportions of gases remain approximately normal. In tubercular meningitis and peritonitis, on the contrary, all these elements remain normal, and in lupus they are slightly subnormal. In order to determine the value of this exaggeration of the chemistry of the respiration as a diagnostic and differentiating measure, Robin and Binet have studied the exchanges in the respiration in forty other affections. Their research has extended over seven years, and the results show that although there is a certain resemblance between the chemistry of the respiration of a few other affections and that of tuberculosis, yet they all differ in some point sufficiently to distinguish them. In a persisting pleurisy, for instance, in which tubercular infection seems almost certain from the symptoms and the course, if the exchanges of gases and the amount of oxygen absorbed by the tissues are not exaggerated, the idea of tuberculosis can be definitely excluded, and the complete recovery in time confirms the diagnosis. The affections in which the chemistry of respiration approximates most closely that of tuberculosis, are la grippe, simple pleurisy, exophthalmic goiter and diabetes. It seems from these investigations that the descendants of consumptives must be classified in two groups: Those in whom the respiratory exchanges are normal and those in whom they are exaggerated. The former escape tubercular infection, but the latter are predisposed to the disease. In arthritism and serofula, on the contrary, the respiratory exchanges of gases are usually below normal, which suggests an explanation for the familiar antagonism between these affections and tuberculosis. If, by studying the chemistry of the respiration, we are able to recognize tuberculosis in its incipient stages and even the predisposition to it, then the predisposed soil can be artificially modified. The greed of the tissues for oxygen can be artificially supplied, and the oxygen provided with some combustible other than the tissues. These measures, supplemented by the "mineralization of the tissues," which Robin has been advocating as an important measure in the struggle against tuberculosis, advance the campaign against tuberculosis, he believes, into a new and most promising phase in which by modifying the functional and nutritional aberrations which are necessary for the development of the tubercle bacillus, we can transform the predisposed into a refractory soil. These peculiar modifications in the chemistry of the respiration in tuberculosis contradict all the current medical or popular ideas in regard to it. The typical characteristics are, as we have seen, in the modified respiratory capacity, the percentages of the gases exchanged in the exhaled air, the ventilation, the volume of carbon dioxid exhaled and the oxygen consumed or fastened by the tissues in a given time in proportion to the weight of the subject.

Gazette Medicale Belge (Liege), March 21.

The Sclerogenic Method of Treating Hemorrhoids. JULIE.—Instead of removing hemorrhoidal nodules with the thermocautery or bistoury, Julie, a French army surgeon, injects zinc chlorid. Three cases thus treated are described in detail. By the tenth to the fifteenth day there was not a trace of the large and distressing nodules left. He injects a half syringe, more or less, in each nodule the size of a walnut. His formula is 50 cg. of zinc chlorid to 20 cg. of cocaine hydrochlorate and 20 gm. of water. The circulation is so sluggish in hemorrhoidal tumors that he thinks there is no danger of embolism from the injections.

Journal de Medecine de Paris, March 3.

Influence of Medication on the Milk.—Houselot has recently presented a thesis on the subject of the drugs which pass from the nurse to the nursing. Atropin, digitalis, ergot and sodium salicylate pass into the milk, but in such minute quantities, he states, that they can be prescribed to the nurse without inconvenience. Mercury and potassium iodid are very uncertain in this respect, and in case of hereditary syphilis it is much better to administer them to the infant directly. Arsenic passes so readily into the milk that arsenical medication should never be given a nursing woman. Quinin also is found in the milk if ingested fasting. Consequently it should be administered at meals and the milk accumulated about three hours afterward should be artificially withdrawn and not given

to the infant. With these precautions quinin can be given with impunity to nursing women. Opium should be substituted by antipyrin, which does not pass into the milk like the former. A prescription much used in Paris to promote the secretion of milk is as follows: Aqueous extract of galega, 10 gm.; calcium hydrochlorophosphate, 10 gm.; tincture of fennel, 10 gm.; essence of cumin, 15 gtt.; syrup, 400 gm.; dose, four table-spoonfuls a day.

Presse Medicale (Paris), March 13.

The Diet in Hyperchlorhydria. G. LISSIER.—In mild cases of hyperchlorhydria or in the intervals of intermittent hyperchlorhydria, the diet should contain little nitrogenized substances, as the latter, and especially meat, stimulate the production of the gastric secretions to the maximum. But when the hyperchlorhydria is accompanied by distress and pain, then a nitrogenous diet is indicated, as albuminoid elements are readily digested, and although the gastric secretion may be stimulated, the hydrochloric acid combines with the elements of the food and very little remains uncombined. Eggs stimulate the secretions less than meat, and milk least of all. Milk also binds the hydrochloric acid most effectively. Fats have an inhibiting effect on the gastric secretions, and the prolonged use of considerable butter and cream, for instance, has a permanent effect in diminishing the hyperchlorhydria. In a case described by Strauss, a patient ingested 350 gm. of fats a day, and only 25 gm., or 7 per cent., could be discovered in the feces, and more than half of this was in the form of fatty acids or saponified.

Serums in Therapeutics. VIDAL.—With the exception of antidiphtheria serum, none of the serums have yet answered the expectations aroused by the premature application to man of laboratory experiences. None of them seems to act directly on the microbe nor on its toxins; their action is apparently limited to the cells of the organism which they assist in the struggle against the microbial enemy. It is a general tonic, rather than a specific action. Gillet recommends injecting antidiphtheria serum at once and in sufficient dose without waiting for the result of bacteriologic examination, except in very mild cases. Hallion states that injection of artificial serum can not be considered a rinsing-out of the blood and tissues as there is no parallelism between the quantity of the urine afterward and the specific gravity of the substances eliminated in it. The toxins of diphtheria at least, are not eliminated in the urine after injection of artificial serum. Lesions of the kidneys, heart, lungs, or arteries may contraindicate its use. Baraduc injects a saline solution from a syringe that holds three grams, with a weak faradic current passing through the fluid. By this combination a smaller amount of fluid answers the desired purpose. As several cases of tetanus have occurred in Reynier's service he had a preventive injection of antitetanus serum made on a young man before an operation for hernia. In spite of this, the tetanus developed the same as in the rest, although mild at present. Vlaeff's anticancer serum continues to produce good results in his hands, but others are skeptical.

March 23.

Immunity to Smallpox. J. COURMONT.—In an epidemic of 729 cases of smallpox at Lyons last year, the vaccin pustule and the variola developed simultaneously in 16 cases. In 24 the patients bore signs of numerous successful vaccinations, as much as six in fifty years in one patient. Three of these patients had had smallpox—ten, twenty or thirty-five years previously—and had each been successfully vaccinated two or three times. Courmont concludes that in some persons the immunity conferred is transient. Hence the greater the readiness of the response to vaccination, the more frequently one should be revaccinated. He advocates compulsory revaccination at 20 years of age. He noted that abortion or childbirth rendered the prognosis of smallpox much more serious. Only 8 survived out of 16 pregnant patients who were delivered. Five others left the hospital in good health before the termination of the pregnancy. None of the children were born with external evidences of infection, but 3 died in a few hours. Two survived without showing any signs of smallpox or vaccination. In the others, smallpox developed from the sixth to the seventh day and proved fatal.

Revue Mensuelle des Maladies de l'Enfance (Paris), March.

Alterations in Liver and Kidneys in Gastro-Enteritis. E. LESNÉ.—In acute cases of gastro-enteritis the liver and kidneys are attacked simultaneously by the toxins generated, and the liver yields after a period of hyperfunction. In sub-acute and chronic cases, the liver cells become gradually and progressively affected. As the liver fails to transform the poisons that reach it, they pass on with the products of the disintegration of the liver cells and are eliminated by the kidneys. This gradually entails degeneration of the renal parenchyma and allows but little urine to filter through. The urinary poisons are thus retained in the blood and affect in turn the liver and other tissues. The liver and kidneys have thus a reciprocal, injurious action on each other, which, with the superposed autointoxication, is the key to the syndrome characteristic of protracted gastro-enteritis in nurslings, and explains the slowness of recovery. Lesné succeeded in producing experimentally, by infection or intoxication with the colon bacillus, lesions in the kidneys and liver which closely resembled those observed in infants who had died from gastro-enteritis. If guinea-pigs, however, are fed with the intestinal contents from such cases, the animals become affected with a disease which closely resembles clinical gastro-enteritis, and presents the typical kidney and liver lesions. The pathogenesis of the disease is therefore probably complex, and the action of the colon bacillus is evidently re-enforced by other factors.

Semaine Medicale (Paris), March 13.

Pathogenesis and Treatment of Obesity. DEBOVE.—If the surplus of food ingested, over what is actually required to sustain the body, were not consumed by oxidation and other processes to a certain extent, the body would keep on increasing in size indefinitely. The fact that this does not occur in normal conditions suggests that there must be some regulating apparatus which presides over the destruction of substances ingested in excess, and moderates combustion during periods of fasting, to maintain the nutritional balance. This regulating apparatus must belong to the nervous system and consequently its abnormal functioning, which permits the development of obesity, is a disturbance in the nervous system. The treatment of obesity should be based on this conception. The will should be cultivated to substitute the missing automatic regulating nervous apparatus. The amount of food taken should be less than the actual needs of the organism. The food should be restricted to articles which satisfy hunger without supplying many calories, such as raw or cooked vegetables, fruits, milk, etc. The patient should not eat at the table with the family, and sanitarium treatment is very desirable at first. Debove does not restrict the amount of fluids ingested, neither does he advise physical exercise. He finds that much exercise is liable to have an unfavorable effect by inducing an extra appetite. Thyroid treatment benefits obesity only in cases of latent myxedema, and he has known instances of fatal aggravation of existing heart troubles from its use. He has been remarkably successful in the treatment of obesity by the method outlined above—an unconsciously insufficient diet and training of the will-power. One of his cases was described in THE JOURNAL, April 7, 1900, p. 870, and another typical case is reported in detail in this communication, in which the weight decreased from 235 to 178 pounds in less than five months, with restoration of health and virility. It is useless, he adds, to treat patients who do not really want to be cured.

March 20.

Echinococcus Cysts of the Liver in Children. BROCA.—Since 1892 Broca has operated on thirteen children to remove echinococcus cysts in the liver. From his experience he urgently warns against puncturing, either as a diagnostic or therapeutic measure. He remarks that every spherical tumor in the hypochondrium in children can be assumed to be a hydatid cyst. The hydatid fremitus is an inconstant sign. He noted it in one case which proved to have no daughter cysts and in which the sac was distended with fluid alone, and again in others packed with daughter cysts. An echinococcus cyst is probable when the liver is unusually large, uniform and slightly

uneven at one or two points, the subcutaneous veins over it gorged, and especially, in case of emaciation. Spontaneous suppuration of the cyst is rare in children. Extreme precautions must be taken in operating, to prevent the escape of a single drop of the fluid into the tissues. Cases are numerous in which the cyst has been grafted elsewhere from neglect of this precaution. Until last year he treated these patients by fastening the pocket to the abdominal wall, i. e., by marsupialization, and his little patients all recovered except two cases in which the cysts were disseminated so extensively that there was no hope of a successful termination. This method has many advantages but it requires three to six months for complete recovery, and consequently he has recently adopted capitonnage, and is much pleased with the results. His last patient was a girl of 13. The cyst was the size of a fetal head. The lining membrane shelled out in one piece after the cyst had been emptied and wiped dry with compresses. The cavity was closed with three catgut stitches in the fibrous membrane, and the cyst wall with a Lembert suture. The temperature ranged between 38 and 39 C. for some time afterward, although the recovery was otherwise undisturbed except for an occasional tenderness on pressure of the region and slight pain in the right shoulder. As these symptoms, although attenuated, had not entirely ceased by the end of four months, Broca re-opened the abdomen. Not a trace of the cyst was to be found. The aspect of the liver was normal and nothing pathologic could be discovered except a few very insignificant filaments of adhesions between the liver and the abdominal wall. These were detached and the child regained complete health in a few days, with no further disturbances. Bouglé has recently published a case in which two cysts were treated simultaneously by capitonnage with excellent results. Whatever the method of treatment followed, it is possible that another cyst may develop later, and require a second operation as occurred in one of Broca's earliest cases.

March 27.

Acquired Lesions of the Aorta in Children. MARFAN.—Lesions of the aortic orifice and of the aorta are extremely rare in children. Marfan has recently had three cases at one time in his service, and study of their characteristics and analysis of others on record, show that there are two kinds of chronic, acquired lesions of this nature, the rheumatic and the atheromatous type. There are four varieties of the first group: 1. Pure aortic insufficiency, which seems to create less disturbance in children than in adults. 2. Aortic insufficiency associated with aortitis. The latter may be limited to the valve or may involve the inner coat of the artery or even be accompanied by cylindrical dilatation, indicated by a double souffle at the base. Sternal pains may be experienced but without distress or irradiation. The most frequent symptom is suffocation or paroxysms resembling those of asthma. There may be sudden dyspnea, with pallor and vomiting, but the paroxysm passes away in a few seconds. There is no true angina pectoris before puberty. Hemiplegia and aphasia may also occur as symptoms of embolism in the brain. 3. The lesions of the aorta are accompanied by a lesion of the mitral orifice. This is comparatively frequent and almost always grave. It usually causes extreme dyspnea and asystolia. 4. The aortic lesions are accompanied by pericardial adhesion with recurring asystolia. The atheromatous type is rare. Marfan reviews the seven cases on record. They include a case of aneurysm of the abdominal aorta in a fetus and one of ossification of the temporal artery in a child of fifteen months. In Sannés' case, atheroma of the aorta and valves was found at the autopsy of a boy of 13½, with an incipient aneurysm and insufficiency of the semilunar valves. The only symptom observed in one case of pure, isolated atheromatous aortitis was a neuralgia of the phrenic nerve, but as puberty approaches, this tolerance will probably cease. The lesion may lead to an actual aneurysm or become complicated by fatal asystolia. The treatment in the rheumatic group should be a vigorous salicylic medication. In the well-compensated cases all kinds of physical or mental fatigue should be avoided, also too frequent or too abundant meals and ingestion of much fluid. The seashore and water

cures and an altitude above 1200 feet should be forbidden. The cardiac erethism should be soothed with opium and the alkaline bromids, and no digitalis should be administered. In the cases with asystolia and pericardial adhesion on the other hand, digitalis and its substitutes should be administered during the phases of asthenia. In case of aortitis this treatment should be supplemented by the iodids and repeated revulsion of the preaortic region.

Berliner Klinische Wochenschrift, March 11.

Treatment of Epithelioma with Arsenious Acid. O. LASSAR.—The three patients whom Lassar reported in 1893 as cured of epithelioma of the face, by means of Asiatic pills, he now states have had no recurrence since. One is 74 years of age. He took 1000 pills in all, a total of one gram of arsenious acid. Recent photographs accompany the communication.

Prognosis of Carcinoma of the Pylorus After Gastro-Enterostomy. H. STRAUSS.—The average life of patients with carcinoma of the pylorus is six to nine months after palliative operation. In the case described the patient survived 3½ years and succumbed to pneumonia. He was a man of 35, and at the operation a carcinoma was found the size of a small apple, with numerous metastatic nodules. After antecolic gastro-enterostomy he was relieved from all disturbance for nearly two years. Vomiting then occurred occasionally, but not enough to interfere with his duties as hotel-keeper. Symptoms of stenosis of the pylorus had been noticed before the operation for 1½ years, and hydrochloric acid was found uncombined in the stomach contents, suggesting that the carcinoma had been derived from an ulcer. In carcinomata of this character Strauss has been impressed with the number of the metastatic nodules in young patients, the free occurrence of uncombined hydrochloric acid or the large amount in combination, and also by the excellent digestion in spite of the lack of free acid. Erythrodextrin is always present and there is no lactic acid fermentation, notwithstanding the extreme stagnation. His experience also confirms Harnpeln's assertion that an effusion in the left pleura is an aid to the diagnosis of carcinoma of the stomach. Three of his patients were under 25; the records of the Pathologic Institute show that in 9.5 per cent. of the 245 cases of carcinoma of the stomach the patients were less than 36 years of age, and in 21.2 per cent. less than 41 years old. In 411 cases of carcinoma elsewhere than in the stomach, 5.8 per cent. were under 36 and 12.4 per cent. under 41. Other statistics that have been published confirm this relative frequency of gastric carcinoma in persons under 36.

Dermatologisches Centralblatt (Berlin), February.

Pruritus and Tuberculosis. S. BEHRMANN.—When general pruritus can not be referred to any other cause, it is reasonable to suspect that it may be a manifestation of tuberculosis, due to the elimination of the toxic metabolic products of the tubercle bacillus through the skin. Proceeding on this assumption Behrmann has administered creosote internally and externally in cases of general pruritus, even in the absence of other visible tubercular manifestations, and reports encouraging success from it. He also calls attention to the residence as a possible factor in pruritus either by infection from germ-laden walls or floors. He knows of a house in his practice in which the tenants of the first floor invariably became affected with pneumonia and many of them with tuberculosis. He is inclined to attribute epidemic icterus to similar house or barracks contagion, and suggests that the dwelling should be investigated in all cases of otherwise inexplicable and rebellious pruritus.

Mitteilungen a. d. Grenzgeb. d. Med. und Chir. (Jena), vii, 4 and 5.

Experiences with Empyema. G. PERTHES.—For several years a Bunsen water-faucet pump has been used at the Leipzig clinic in the aspiration of the fluid of an empyema, in connection with a manometer and receiving jar. Twenty-five out of 32 patients have been treated in this way and the lesion healed in an average of forty-eight days. Twelve were recent cases and no fistula developed, but the healing was not complete for seventy-eight days on an average. Pneumococci were found

in the pus in 6 and streptococci in 4 cases. The lung unfolded within a few days after the aspirating apparatus was applied, before the secretion had dried up. In diagnosing old cases, Perthes determines the size of a cavity by radiography or by measuring the amount of fluid it will hold. The only danger is in case of a fistulous opening into the bronchi. This can be surmised if the patient has expectorated a large amount of pus on separate occasions, or coughs when lying in a certain position. Blood in the sputa after thoracotomy also indicates a fistula. If coughing is induced when the cavity is filled with an aseptic fluid a fistula is probable and it is certain if a colored fluid is used and the stain is noticed in the sputa. Even in case of a fistula, if the inflow of fluid is arrested at the first coughing spell, Perthes does not consider the measure harmful. If the level of the fluid in the aspirating jar keeps falling, a fistula is also probable. It can be located by having the patient inhale cigarette smoke, and can be radiographed by passing a tube filled with mercury through it. Five of the old, chronic cases were completely cured, two much improved and another cured after a second operation for a recurrence. In one case the empyema dated from an abortion three months previously. The infection was due to the staphylococcus and the patient was cured in a month. In 4 of the 32 cases the lesion was evidently the result of embolism of the pulmonary artery. Pleuropulmonary fistulae are not so rare, he thinks, as is generally accepted. A certain proportion are transient, as the fistula heals or becomes occluded by the pressure of the lung against the wall of the thorax. In one case an acute empyema persisted for seven months. The aspiration was continued for 243 days with two interruptions. The cavity was reduced in capacity from 2000 to 50 c.c. The general health remained good all the time, but whenever the aspiration was suspended, the lung retracted again.

Wiener Klinische Rundschau, March 10.

Carcinoma in Suprarenal Capsules without Symptoms.

A. SCHITTENHELM.—There seems to be only one other case on record similar to the one described. An artisan, 55 years of age, had always been in good health until three months before his death. At the autopsy a medullary carcinoma was found in both suprarenal capsules, with metastases in numerous organs. There was no abnormal pigmentation of the skin, and no disturbances in the alimentary canal. The pulse was normal, and until five days before death, the cachexia and vague pains in the back, which had been noted for three months, were the only symptoms.

March 17.

Intoxication from Tin Chlorid in Stockings. A. JOLLES.

—A young woman noticed disturbances in motility and sensibility in the lower extremities, simultaneously with yellow stains on her feet after wearing a pair of fine, yellow, silk stockings. A few weeks later more intense disturbances were noted, approximating ataxia, corresponding to the wearing of the stockings, which were found to be heavily impregnated with tin chlorid. The urine showed albumoses, serum albumin and globulin in considerable amounts, and gave the tin reaction for two months after the stockings had been worn. The intoxication with tin had evidently increased the destruction of the red and white corpuscles. Jolles warns that silk, especially in light shades, should not be worn next the skin, as it is frequently impregnated with 25 per cent. of its weight with the tin chlorid to increase the "body" of the silk. The patient in question has recovered her health except for certain hysteric symptoms which still persist.

Therapeutische Monatshefte (Berlin), March.

External Application of Salicylic Acid in Grippal Affections.

L. BOURGET.—La grippe seems to have a predilection for the mucous membranes, similar to that of rheumatism for the serous membranes. Bourget has been very successful in treating rheumatism by the application of salicylic acid rubbed into the skin, and he now reports that the same method is equally applicable to the treatment of grippal affections. The liniment is rubbed into the chest and back, and then the patient is covered closely to the skin. The heat of the bed favors absorption and evaporation, and the patient is instructed

to inhale the fumes occasionally. The salicylic acid appears in the urine in twenty to thirty minutes. The formula is: salicylic acid, 4 parts; methyl salicylate, 10; oil of eucalyptus and oil of nutmeg, each 5; oil of sage, 3; camphorated oil, 30; spirit of juniper, 120. He has been so successful with this treatment that he now applies it as a routine measure in all affections of the respiratory organs a few hours after the patient enters the hospital.

Importance of Carbon Dioxid in the Treatment of Tuberculosis. H. WEBER.—Fifty-two cases of advanced tuberculosis have been treated by Weber on a new principle, and the results have been so encouraging that he now describes it for the benefit of others. It is based on the principle that a tubercular process can not progress in the presence of much carbon dioxid, as there seems to be an antagonism between tuberculosis and the dioxid. Consequently if the formation of carbon dioxid in the organism can be multiplied, the tubercular process will be checked in its development. After numerous tests Weber found that levulose is a substance which materially enhances the production of carbon dioxid. He orders it in the daily dose of 50 to 100 gm. a day, which can be ingested for months without injury, in the form of an inexpensive syrup. In certain cases he supplements the levulose with a specially prepared fluid paraffin, which he calls "anti-phthisicum," and injects 10 gr. once or twice a day. He affirms that in this principle of inducing an extra formation of carbon dioxid in the organism, we have a means of conquering tuberculosis as certain in its effects as salicylic acid is in rheumatism. Out of his 52 patients, 32 were cured, 14 much improved and 6 died.

Gazetta Degli Ospedali (Milan), March 24.

Round Ulcer of the Stomach and Hysteria. G. BIGI.—

Round ulcer of the stomach is pre-eminently a dystrophic affection. Hysteria is a general pathologic process which is capable of producing trophic disturbances, multiple or localized in the skin or in an internal organ. Bigi describes a case in which he witnessed the development of a round ulcer in a person predisposed to hysteria. The hemorrhages that occur under the vasomotor influence of hysteria are liable to appear in the gastric mucosa as well as elsewhere. Such lesions on the skin have a tendency to necrobiosis and probably the same tendency exists in a gastric lesion. The gastric juice then interferes to maintain the lesion as a permanent ulcer. Consequently, when a hysteric subject exhibits evidences of gastric disturbance, pain, vomiting and hematemesis, treatment is indicated that will prevent the transformation of the lesion into an ulcer.

Semana Medica (Buenos Ayres), February 21.

Tuberculosis in the Argentine Republic. E. R. CONI.—

The deaths from tuberculosis have diminished from 12.2 per cent. between 1868 and 1878 to 10 per cent. during the last decade. Coni, who is chief of the National Board of Health, attributes this favorable showing in regard to tuberculosis to the mild, equable climate in the more populated portions, which resembles that of the shores of the Mediterranean; to the small number of inhabitants in proportion to the extent of the country, to the absence of tuberculosis among the native cattle and to the fact that as meat is so cheap it is the main article of diet among the poorer classes. The crossing of races in the republic, he adds, has originated a new race, exceptionally vigorous, whose development is favored by the conditions of climate, life and hygienic dwellings. Alcoholism is not so prevalent as in other countries in Europe and America.

New Patents.

Patents of interest to physicians, etc., March 19 and 26:

- 670,394. Vaginal syringe. Elizabeth C. Ashmead, Philadelphia, Pa.
- 669,976. Uterine drainage tube. James J. Bowker, Laotto, Ind.
- 670,199. Massage apparatus. Johannes Eckardt, Sr., Stuttgart, Germany.
- 670,372. Producing casein products. John A. Justs, Syracuse, N. Y.
- 670,237. Means for humidifying the air of rooms. Paul Kestner, Lille, France.

- 670,006. Electric exercising machine. Nelson H. Raymond, Buffalo, N. Y.
 670,084. Inhaler. John B. Sloane, Detroit, Mich.
 34,238. Design, inhaler. Elmore J. Worst, Ashland, Ohio.
 670,530. Hernial truss support. Wm. F. Brownell, New London, Wis.
 670,663. Combined hydrometer and syringe. Theodore D. Bunce, New York City.
 670,706. Exercising machine. Emil R. Ernst, New York City.
 670,494. Atomizer. Charles H. Guibor, Topeka, Kan.
 670,878. Water bag. Daniel Hogan, New York City and C. W. Meinecke, Jersey City, N. J.
 670,428. Suspensory bandage. James R. Jarrell, Smyrna, Del.
 670,713. Antiseptic broom. Oscar S. Kulman, Savannah, Ga.
 670,792. Soda fountain. Fisher H. Lippincott, Philadelphia, Pa.
 670,793. Soda fountain. Fisher H. Lippincott, Philadelphia, Pa.
 670,684. Artificial hand. Albert C. Mueller, Wansau, Wis.
 670,814. Abdominal bandage. Emma A. Richmond, Medford, Mass.
 670,688. Massage apparatus. Joseph A. Riviere, Paris, France.
 670,545. Portable steam or vapor bath apparatus. Moses Rostovsky, San Francisco, Cal.
 670,689. Waterproof casein and producing same. Albrecht Schmidt, Berlin, Germany.
 34,275. Design, knee member for artificial legs. Geo. W. Farrier, Milwaukee, Wis.
 34,274. Design, water-bag. Christian W. Meinecke, Jersey City, N. J.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., March 28 to April 3, 1901, inclusive:

Ira A. Allen, captain and asst.-surgeon, Vols., recently appointed, from duty at the Army and Navy General Hospital, Hot Springs, Ark., to San Francisco, Cal., en route to Manila, P. I., for service in the Division of the Philippines.

Aaron H. Appel, major and surgeon, U. S. A., from Jackson Barracks, La., to San Francisco, Cal., en route to the Division of the Philippines.

Gny G. Bailey, captain and asst.-surgeon, Vols., recently appointed and now in San Francisco, Cal., to duty in the Division of the Philippines.

Charles N. Barney, acting asst.-surgeon, member of a board at Fort Monroe, Va., to examine enlisted men for commissions.

William Bowen, major and surgeon, Vols., recently appointed and now in San Francisco, Cal., to proceed to Manila, P. I., for duty in the Division of the Philippines.

Frederick A. W. Conn, captain and asst.-surgeon, Vols., recently appointed, from Philadelphia, Pa., to the Division of the Philippines, via San Francisco, Cal.

George W. Daywalt, captain and asst.-surgeon, Vols., recently appointed, and now in San Francisco, Cal., to duty in the Division of the Philippines.

Henry C. Fisher, major and surgeon, Vols. (captain and asst.-surgeon, U. S. A.), from the Division of the Philippines to duty at Jackson Barracks, La.

Henry L. Gilchrist, lieutenant and asst.-surgeon, U. S. A., from the Division of the Philippines to San Francisco, Cal., reporting by telegraph, on his arrival, to the Adjutant-General of the Army for further orders.

Charles R. Gill, captain and asst.-surgeon, Vols., recently appointed, from Fort Wood to Fort Totten, N. Y., to accompany a battalion of engineers to Manila, P. I., via San Francisco, Cal., and for assignment in the Division of the Philippines.

Frederick Hadra, major and surgeon, Vols., recently appointed, and now in San Francisco, to proceed to Manila, P. I., for assignment.

Frederick M. Hartsock, lieutenant and asst.-surgeon, U. S. A., from Fort Warren, Mass., to San Francisco, Cal., en route to the Division of the Philippines.

Edward F. Horr, captain and asst.-surgeon, Vols., recently appointed, from Manzanillo, Cuba, as soon as his services can be spared from the Department of Cuba, to San Francisco, Cal., en route for service in the Division of the Philippines.

Francis J. Ives, major and surgeon, U. S. A., relieved from further duty with the United States forces in China to proceed to Fort Sheridan, Ill., for post duty.

Frederick C. Jackson, captain and asst.-surgeon, Vols., recently appointed, and now in San Francisco, Cal., to proceed to Manila, P. I., for duty in the Division of the Philippines.

Thomas W. Jackson, captain and asst.-surgeon, Vols., recently appointed and now in San Francisco, Cal., to proceed to Manila, P. I., for assignment.

N. M. James, acting asst.-surgeon, leave of absence from the Department of Cuba extended.

William F. James, captain and asst.-surgeon, Vols., recently appointed and now in San Francisco, Cal., to proceed to Manila, P. I., for assignment.

Henry Lippincott, lieutenant-col., deputy surgeon-general, U. S. A., from Denver, Colo., to Governor's Island, N. Y., for duty as chief surgeon, Department of the East.

Paul H. Liddington, acting asst.-surgeon, from duty on the transport, *Kilpatrick*, to Omaha, Neb., for annulment of contract.

George W. Mathews, major and surgeon, Vols., (lieutenant and asst.-surgeon, U. S. A.), from the Division of the Philippines to duty at Fort Warren, Mass.

Edward B. Moseley, major and surgeon, U. S. A., former orders assigning him to duty at Fort Sheridan, Ill., revoked; on expiration of his present leave of absence he will proceed to Denver, Colo., for duty as chief surgeon, Department of the Colorado.

Edward L. Munson, captain and asst.-surgeon, U. S. A., from duty at Washington Barracks, D. C., to Buffalo, N. Y., to assume charge of the exhibit of the Medical Department of the Army at the Pan-American Exposition to be held there.

Robert M. O'Reilly, lieutenant-col., deputy surgeon-general, U. S. A.,

member of a board at Fort Monroe, Va., to examine enlisted men candidates for commission as second lieutenants in the army.

Francis J. Pursell, captain and asst.-surgeon, Vols., recently appointed and now in San Francisco, Cal., to proceed to the Division of the Philippines for assignment.

Julius M. Wheate, captain and asst.-surgeon, Vols., recently appointed, to proceed, on expiration of his present leave of absence, to San Francisco, Cal., en route for service in the Division of the Philippines.

Francis A. Winter, major and surgeon, 37th U. S. Vol. Infantry (captain and asst.-surgeon, U. S. A.), from the Division of the Philippines to San Francisco, Cal., where he will report to the Adjutant-General of the Army for instructions.

W. Hoepfner Winterberg, captain and asst.-surgeon, Vols., recently appointed from Fort Mason to San Francisco, Cal., en route for assignment in the Division of the Philippines.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ended April 6, 1901:

Dr. A. E. Peck, appointed asst.-surgeon from March 24, 1901. Medical Director W. K. Scofield, placed on retired list, April 28, 1901.

Surgeon G. Pickrell, granted sick leave for three months, from April 2.

Asst.-Surgeon E. M. Blackwell, detached from *Abarenda*, upon reporting of relief, and home to wait orders.

Asst.-Surgeon R. C. Marcour, detached from Havana Naval Station and ordered to *Abarenda* after temporary duty on *Philadelphia*, May 4.

Asst.-Surgeon E. Davis, granted sick leave for three months. Medical Director G. F. Winslow, detached from Boston Navy Yard, April 18, and ordered home to wait orders.

Medical Director E. Bogert, retired, ordered to the Boston Navy Yard, April 18th.

P. A. Surgeon E. R. Stitt, commissioned Surgeon from June 7, 1900.

Pharmacist J. Cowan, detached from *Glacier* and ordered to the *Manila* and to additional duty at the Naval Hospital, Cavite.

Surgeon G. F. Stokes, detached from the *New Orleans* and ordered to the *Solace* upon her arrival on the Asiatic Station.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended April 6, 1901:

SMALLPOX—UNITED STATES AND INSULAR.

California: Los Angeles, March 16-23, 3 cases; San Francisco, March 16-23, 10 cases.

Delaware: Seaford, March 20, 53 cases.

District of Columbia: Washington, March 23-30, 8 cases.

Florida: Jacksonville, March 23-30, 7 cases.

Illinois: Chicago, March 23-30, 13 cases.

Indiana: Muncie, March 1-31, 23 cases.

Iowa: Clinton, March 23-30, 1 case.

Kansas: Wichita, March 23-30, 14 cases.

Kentucky: Lexington, March 23-30, 3 cases.

New Jersey: Jersey City, March 23-31, 5 cases.

New York: New York, March 23-30, 41 cases, 10 deaths.

Ohio: Ashtabula, March 23-30, 1 case; Cincinnati, March 22-29, 4 cases; Cleveland, March 23-30, 42 cases, 1 death.

Pennsylvania: March 23-30, McKeesport, 4 cases; Pittsburg, 2 cases, 1 death; Steelton, 3 cases.

Tennessee: March 23-30, Memphis, 24 cases; Nashville, 11 cases.

Utah: Salt Lake City, March 23-30, 33 cases, 2 deaths.

Louisiana: New Orleans, March 23-30, 13 cases, 2 deaths.

Maine: Portland, March 23-30, 1 case.

Massachusetts: Boston, March 23-30, 1 case; Springfield, March 16-23, 1 case.

Michigan: March 23-30, Bay City, 3 cases; Detroit, 4 cases; Grand Rapids, 1 case.

Minnesota: March 23-30, Minneapolis, 11 cases; Winona, 4 cases.

Nebraska: Omaha, March 23-30, 9 cases.

New Hampshire: Manchester, March 23-30, 3 cases.

West Virginia: Wheeling, March 23-30, 3 cases.

Wisconsin: Milwaukee, March 23-30, 2 cases.

Porto Rico: Ponce, March 18, 4 cases.

SMALLPOX—FOREIGN.

Austria: Prague, March 2-9, 7 cases.

Belgium: Ghent, March 8-16, 1 death.

Brazil: Rio de Janeiro, Feb. 1-15, 6 deaths.

China: Hongkong, Feb. 9-16, 1 case, 1 death.

France: Paris, March 8-16, 11 deaths; Rheims, March 3-10, 1 death.

Great Britain: England—London, March 14-21, 1 case; Southampton, March 8-16, 1 case. Scotland—Glasgow, March 16-22 24 deaths.

Greece: Athens, March 3-10, 4 cases, 1 death.

India: Bombay, Feb. 26-March 5, 7 deaths; Calcutta, Feb. 23-March 2, 113 deaths; Karachi, Feb. 24-March 3, 26 cases, 5 deaths; Madras, Feb. 23-March 1, 6 deaths.

Italy: Naples, March 13, general.

Mexico: Progreso, March 1-15, 20 cases.

Russia: Moscow, March 2-9, 11 cases, 3 deaths; St. Petersburg, March 9-16, 10 cases, 2 deaths; Warsaw, March 1-8, 3 deaths.

Spain: Malaga, March 1-15, 2 deaths; Valencia, March 1-14, 1 death.

YELLOW FEVER.

Brazil: Rio de Janeiro, Feb. 1-15, 22 deaths.

CHOLERA.

India: Bombay, Feb. 26-March 5, 13 deaths; Calcutta, Feb. 23-March 2, 24 deaths; Madras, Feb. 23-March 1, 4 deaths.

PLAGUE.

Brazil: Rio de Janeiro, Feb. 1-15, 5 cases 3 deaths.

China: Hongkong, Feb. 2-16, 5 cases, 5 deaths.

India: Bombay, Feb. 26-March 5, 1253 deaths; Calcutta, Feb. 23-March 2, 405 deaths; Karachi, Feb. 11-March 3, 113 cases, 82 deaths; Madras, Feb. 23-March 1, 1 death.

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Original Articles.

NOTES ON ADRENALIN AND ADRENALIN CHLORID.*

E. FLETCHER INGALS, M.D.

CHICAGO.

During the first week of January, a well-known manufacturing house sent me some of the active principle extracted from suprarenal glands, in powder known as adrenalin, and in several solutions varying from 1 to 1000 to 1 to 10,000 of the chlorid of adrenalin in distilled water or in normal salt solution. I experimented with this on numerous cases, and kept careful records until I became satisfied of its activity. In Cases 1, 2, 3, 4, 6, 9, 11, 12 and 17, I applied a very small quantity of a spray of one part of chlorid of adrenalin to 10,000 parts of water to the nasal cavities, with the effect of blanching the mucous membrane quickly, and in most cases of causing contraction of the swollen tissues in the same way that they are contracted by applications of cocain. The first solution that I used was made with distilled water, and in Cases 2, 3, 4 and 9, it caused smarting, which in one case was intense. I wrote to the firm about this, and they suggested that I employ, instead, the solution of adrenalin in normal salt solution. After using this there was no more smarting excepting in two or three instances where I was led to believe that a little formalin remained on the end of the atomizer, which had been washed in a strong solution of formalin after being used in another case; indeed, the smarting in some of the previous cases may have been due to this cause, for it is my custom always, after using an atomizer, to wash it thoroughly, then dip it in a strong solution of formalin and put it away without wiping.

Dr. S. A. Friedberg, one of my assistants, used the same solution in several cases, and reported that he thought its effects were considerably less than those obtained from a solution made by macerating and filtering 30 grains of the desiccated adrenals to the ounce of water. This preparation I have used with much satisfaction for a couple of years. It is fairly stable, lasting from two to four months without material change. The formula is as follows: Adrenals, \mathfrak{z} i; boric acid, grs. xvi; aqua cinnamomi, \mathfrak{z} iv; aqua camphoræ (hot), \mathfrak{z} i; glycerin, \mathfrak{z} i; aqua dist. (hot), q. s. ad \mathfrak{z} ii.

In Cases 5, 7, 8, 10, 13, 15, 26 and 27, I used a powder containing 1.5 per cent. each of biborate of soda and bicarbonate of soda and 3 per cent. of the light carbonate of magnesia with one part of adrenalin to 5000 of sugar-of-milk. I found that when the nasal cavities were stopped by swelling of the turbinated

bodies, this powder cleared them out quickly, and in most instances they remained open for a considerable length of time, but in Cases 7, 26 and 27 the nose stopped up again within a few minutes, whereas, when sprayed with the solution made with 30 grains of the desiccated adrenal glands to the ounce of water, it would remain open for several hours. In Case 15, it was found that the powder, which was used daily for about three weeks, would usually open the nose quickly, and this would remain for several hours, but it seemed to cause some insomnia. I have used a similar powder mixed in various proportions with mildly astringent or antiseptic powders, in several nasal cases, with the effect of opening the nares when obstructed by swelling, and diminishing the secretions decidedly.

In Case 28 the patient had suffered from epistaxis almost daily for several weeks. I gave her a solution of adrenalin, 1 to 10,000 parts of water, to be used as a spray three or four times daily. As the result, she has had no nose bleed for over three weeks.

In Cases 29 and 30 I used the solution of adrenalin with 8 grains of boric acid to 5000 parts of water, as a spray in the nasal cavities, with the effect of opening the cavities immediately, when they were closed by swelling, and keeping them free for several hours. I have used the same spray in several other similar cases with good results, but did not keep accurate memoranda.

In Case 14—a patient who was under my care for nasal trouble—the conjunctiva became very much congested from over-use of the eyes. I gave him a solution of one part of the adrenalin to 10,000 parts of normal salt solution. This was dropped into the eye with the effect of blanching it completely within three or four minutes. At the end of five hours the congestion was about three-quarters as bad as it had been before; more of the solution was dropped in with the same effect as previously. The pupil was not at all affected. The disagreeable feeling of the eyes immediately disappeared. One hour later congestion was about one-half as bad as it had been when the solution was first dropped in. Another application was made with the effect of blanching it promptly. In this case the remedy was used several times afterward, and the conjunctivitis speedily disappeared, the patient in the meantime being able to use his eyes with little discomfort. There was no smarting from this application.

In Case 19 there was congestion and swelling of the conjunctiva and lids, such as the same patient had experienced several times in the beginning of attacks of hay-fever. In this case one or two drops of the 1 to 5000 solution of adrenalin in normal salt solution were employed, with the effect of removing the congestion in two or three minutes. About three hours later the congestion had reappeared and another application was made, blanching it at once. The swelling of the lower lid was also considerably reduced by these two

* Read before the Chicago Laryngological and Climatological Society, Feb. 28, 1901.

applications. The uncomfortable smarting sensation, which was associated with the congestion and swelling, was relieved within a very few minutes after the application. About four hours after the second application the congestion began to reappear and another application was made in the evening. The next morning there was still a little redness and swelling of the lower lid, but no congestion nor swelling of the conjunctiva. A couple of applications were made this day and by night the conditions were normal.

In Case 20 a small amount of formalin was accidentally sprayed into the eye with the atomizer, which contained one part of adrenalin to 10,000 parts of normal salt solution; very great smarting and intense congestion speedily followed, but was relieved in three or four minutes by dropping into the eye 2 or 3 minims of a 1 to 10,000 normal salt solution. About six hours later the eye again felt badly and I applied to it a minim of 1 part in 5000 normal salt solution; blanching occurred in a minute. The next morning the eye was still somewhat congested, though much improved, and the inflammation was practically aborted, though the solution was applied two or three times during that day, and the eye was then perfectly well.

Case 16 showed congestion of the upper part of the larynx—above the cords—of about 25 per cent. I applied a solution of 1 to 10,000; this reduced the congestion about one-tenth within three minutes.

In Case 22 I applied a similar solution once to a congested larynx and reduced the congestion about three-quarters.

In Case 23—chronic laryngitis with a congestion of about 20 per cent.—I applied a 1 to 10,000 in normal salt solution two or three times. In the course of five minutes the congestion had been considerably reduced, but the throat had closed so that it could not be applied very thoroughly to every part, and only the parts actually touched by the spray were found to be blanched, while those it had not touched were of the same degree of congestion as before. From the parts that had been touched, about one-half of the congestion had been removed. In several other cases it was noted that the blanching process did not extend at all beyond the part actually touched.

Case 18, acute laryngitis with edema of the glottis, occurred in a patient of Dr. O. T. Freer, whom he referred to me at the Presbyterian Hospital. There was great swelling and redness of the epiglottis, with difficult respiration which seemed likely to necessitate a speedy tracheotomy. I directed the interne, Dr. Smith, to apply to the larynx, every three or four hours, a spray of one part of adrenalin to 10,000 normal salt solution. This was done with the effect of giving the patient speedy relief. He said that he felt as though the parts had been contracted. In addition to this treatment the patient was given $\frac{1}{4}$ gr. of nitrate of pilocarpin, which caused free salivation and profuse sweating. This was repeated twice a day for two days, therefore we can not tell just what the influence of the adrenal was; however, its immediate effects were good, as demonstrated several times. The patient made a speedy recovery.

In Case 25 the fauces were congested about 20 per cent., and I applied a spray of 1 to 10,000, but at the end of five minutes the blanching was hardly perceptible.

In Case 24, one of acute coryza, the nose was sprayed four or five times with a 1 to 10,000 normal salt solution, resulting in a speedy cure.

In Case 26, chronic laryngotracheitis with acute ex-

acerbation, the cords were congested about 25 per cent. In this case I applied a 1 to 1000 in normal salt solution, which speedily reduced the congestion about three-fifths. The patient said he felt a drawing or astringent sensation in the throat; there was no smarting, and he seemed decidedly improved. The throat felt very much better for the next eighteen hours. A few hours later, when I saw him, the congestion appeared about as great as on the previous day. I made the same application again, with an air-pressure of about 40 pounds, but after waiting several minutes I found that there was no apparent blanching of the mucous membrane, and the patient did not feel the astringent or drawing sensations which he had noticed the day previously. Concluding that the failure arose from using too great force, I made two applications of the same solution, with 15 pounds of pressure about five minutes apart, and five minutes afterward found that at least four-fifths of the congestion had been removed. The patient said that the larynx felt very much better.

In Case 31, of subacute laryngitis with marked congestion, I applied a solution of 1 to 5000 in normal salt solution containing also 8 grains of boric acid to the ounce. It gave the patient very great relief, and for several hours he found his voice much better. The next day the larynx was much improved and a similar application was made. The following day he was practically well.

I have used this solution several times in preparing for operations in the nose, and have found that 1 to 5000 acts with about the same rapidity and intensity as the solution made with 30 grains of the desiccated adrenal glands to an ounce of water. In solutions of 1 to 5000 in normal salt solution, which were opened frequently, I found that a fungus formed at the bottom within a few days, but this has not yet appeared at the end of several weeks, in solutions made with 1 part of adrenalin to 5000 of liquid containing 8 grains of boric acid, 2 drams of cinnamon water, 2 drams of camphor water and 4 drams of distilled water. From the experiments thus far made, I am satisfied that this remedy will be of great value in the treatment of acute inflammatory affections of the nasal cavities either in sprays of about 1 to 5000, or in powders of from 1 to 5000 to 1 to 2500 of sugar-of-milk. These may be used several times daily, and we may confidently expect that in the majority of cases they will promptly remove the congestion and swelling, and that they will keep down the swelling for two or three hours or more. In acute coryza and in hay-fever, I have reason to believe we will get great relief from a solution of gr. $\frac{1}{10}$ of adrenalin chlorid in camphor water or in equal parts of camphor water and distilled water with about 8 gr. of boric acid to the ounce. In epistaxis from various causes, a similar solution used several times a day will undoubtedly be productive of very great benefit, and in many cases it will speedily effect a cure. In acute inflammation of the fauces, it is probable that solutions of 1 to 1000 would have good effects, but the weaker solutions, such as were used in the nares, are of little value. In acute and subacute rhinopharyngitis, from the experience already obtained, I have reason to believe that great benefit will be found from using a spray of 1 to 5000 four or five times a day. In several cases in which I have already used this remedy in chronic rhinitis, the secretions have been markedly checked, though I can not tell what the result will be. In acute or subacute laryngitis, I believe that a solution of 1 to 1000, applied with moderate force, will give very great relief, and it

appears to me probable that, when applied to acutely congested cords, in vocalists, it will reduce the swelling and congestion so thoroughly that the voice may be used for two or three hours with comparative ease, and possibly with normal efficiency.

HYPOSPADIAS.

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SURGEON TO ST. MARY'S HOSPITAL.
ROCHESTER, MINN.

Hypospadias of some degree is one of the most common malformations of man. According to Rennes, Kaufman and others this deformity occurs in one of every 350 males.

There are several theories as to the cause of this condition. Some claim that from atresia of the urethra there is fetal retention of urine and finally a giving way of the urethra, or that the same result is caused by a delay in the development of the glandular urethra. The most probable is that of Reichel, who states that hypospadias is merely an arrest of development and the

some degree of incontinence and many are compelled to pass the urine in a sitting posture from the difficulty of directing the stream. In many cases the urethral opening is so small that there is difficulty in evacuating the bladder. The penis, from imperfect development of the corpus spongiosum, may be deformed, curving downward and at times adherent to the scrotum, perfect erections or coitus being impossible; and the majority of even the balanic type of cases are sexually impotent. It is a matter of interest in this connection that several aboriginal tribes of Africa and Australia make a fistula or slit in the urethra to prevent impregnation.

Operations.—There are several methods of operation for the relief of hypospadias, which Van Hook classifies according to the principles involved: 1. The method of simple canalization. 2. That by denudation and suture. 3. That by the use of penile flaps. 4. That by taking flaps from the abdomen or scrotum. 5. That by the combination of these fundamental methods. To these must be added a sixth: That by mobilization and dislocation of the urethra.



Fig. 1.—Duplay and Bouisson.

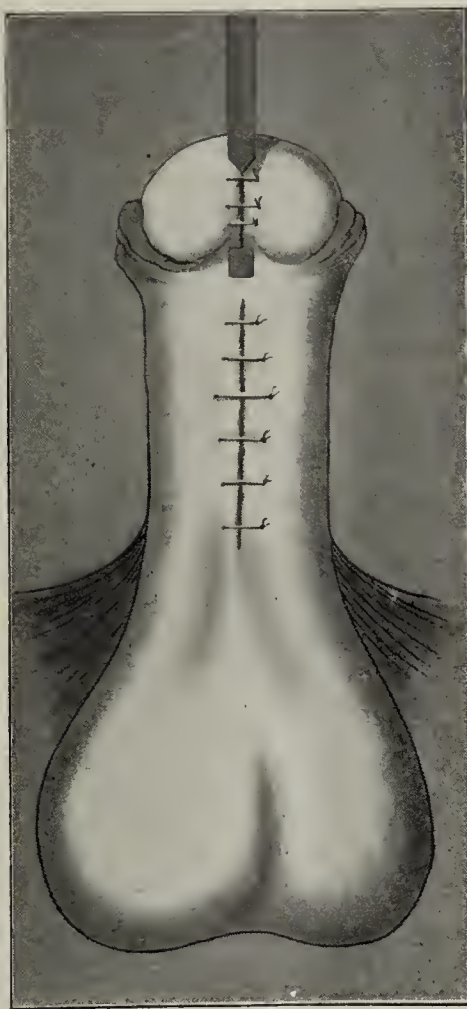


Fig. 2.—Duplay and Bouisson.

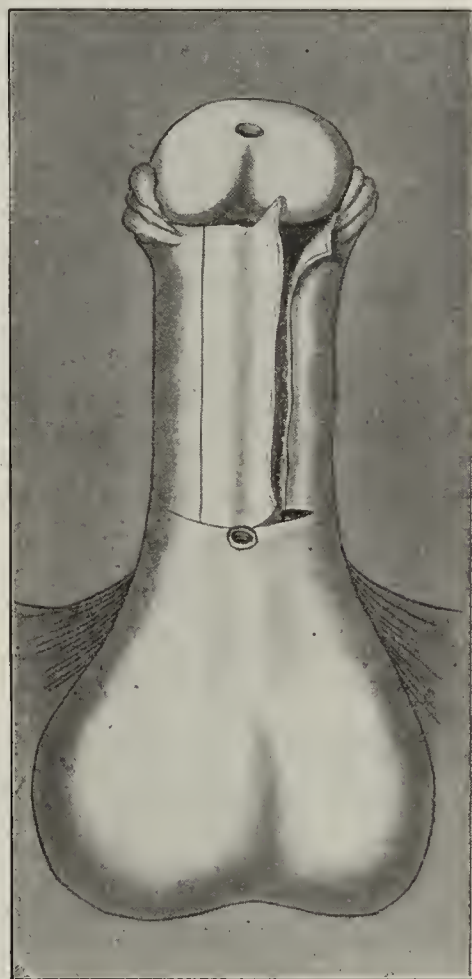


Fig. 3.—Duplay.

degree of deformity is an indication of the period of intrauterine life at which it occurred. Perineal openings develop in the sixth or seventh and glandular from the twelfth to the sixteenth week.

The more common variety is the glandular or balanic, in which the urethral opening is situated back of a broad, flattened and curved glans, the frenum being absent. The penile type of hypospadias opens at some point between the scrotum and glandis corona. The scrotal variety is presented by those cases with the urethral opening at the junction of the penis and scrotum, called peno-scrotal or in the extreme cases perineo-scrotal in which the scrotum is divided.

There is no malformation which may be the cause of more mental suffering and physical discomfort than the one under consideration, the trouble being none the less from its secret nature. A limited number have

The operation of Dieffenbach, first made in 1838, consisted in piercing the glans penis from its summit to the normal urethra, and allowing a canula to remain in position until the canal became lined with epithelium, the previous opening of the urethra being closed. This operation was abandoned from the difficulty of maintaining the lumen of the canal when formed. Dieffenbach was also a pioneer in the operation by denudation and suture. The flap operation of Duplay has until recently been the one most commonly employed. The first step was Bouisson's principle (Fig. 1), to straighten the penis by transverse incision at the point of greatest curvature and, after straightening the organ, to close the lozenge-shaped defects by skin-grafts or sliding flaps. (Fig. 2.) The age of choice for this operation is 4 years.

The second step is the formation of the new urethra

over a catheter to a point in front of the hypospadiæ opening. This is done by an incision on each side of the urethral groove, leaving a strip about one-half an inch wide which is dissected one-fourth its breadth toward the median line from each side and folded over the catheter. (Fig. 3.) Transverse incisions are made

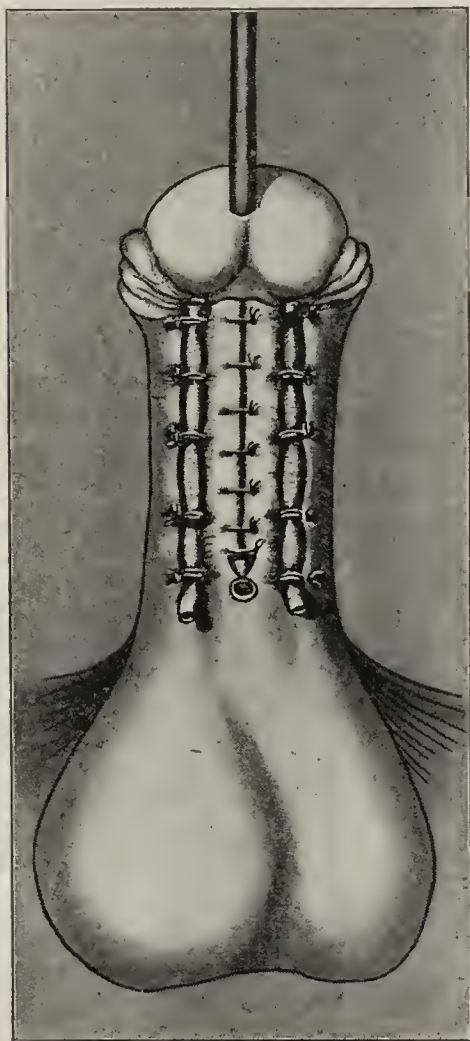


Fig. 4.—Duplay and Thiersch.

at the ends of the urethral incisions and the outer flaps dissected freely and closed over the catheter and new urethra by quill suture and accurate coaptation of the skin margins. (Fig. 4.) The lateral flaps were

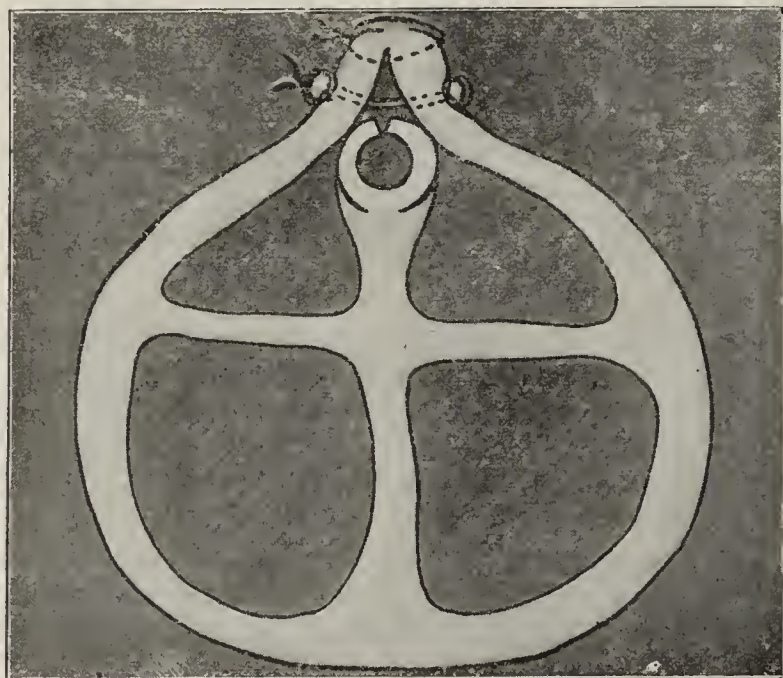


Fig. 5.—Duplay and Thiersch.

devised by Thiersch, Duplay making use of a flap of prepuce to cover the defect and new urethra. The glandular urethra is often constructed at the first operation. The age of choice being 5 or 6 years. (Fig. 5.)

The third step is the union of the two urethras, done by freshening the openings and accurate suturing; this

operation is best made at the age of puberty, to secure the aid of the patient in after care. Thiersch devised the method of double penile skin flaps, the base of one being near the urethral groove, the other on the opposite of the penis. (Fig. 6.) Flaps are dissected up and one turned skin side in, to form the urethra, the other drawn over the urethra and sutured to the opposite side of the penis. (Fig. 7.) Thiersch also deserves credit for temporarily deflecting the urine by a button

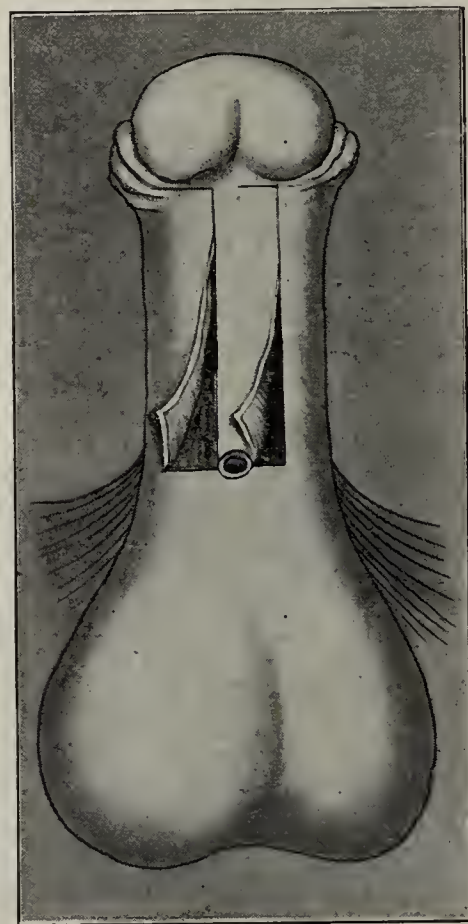


Fig. 6.—Thiersch.

hole in the perineal urethra, which he used in epispadias.

In the Wood method (Fig. 8), a large button-hole is made in the center of the prepuce near its attachment



Fig. 7.—Thiersch.

and the glans drawn through the opening, leaving the prepuce underneath the glans. A skin flap with its base close to the urethral opening is turned up from the serotum. (Fig. 9.) Two narrow strips are denuded from either side of the urethral groove and the serotal flap sutured to these. The serotal defect is closed by

sutures and the flap is covered by the prepucce which is unfolded for this purpose.

Beck, in his peno-serotal cases, utilizes the Duplay method (Figs. 10 and 11) and covers the new urethra with a scrotal flap like the Wood operation by twisting the pedicle to turn the skin surface out. (Fig. 12.)

hypospadias by Landerer and Bidder, who denuded strips on the under side of the penis (Fig. 13) and sutured to incisions in the scrotum (Fig. 14), then, when healing was firm, dissection of the penis with its new canal from the serotum and skin grafting or turning the skin margins over the defects in surface cover-

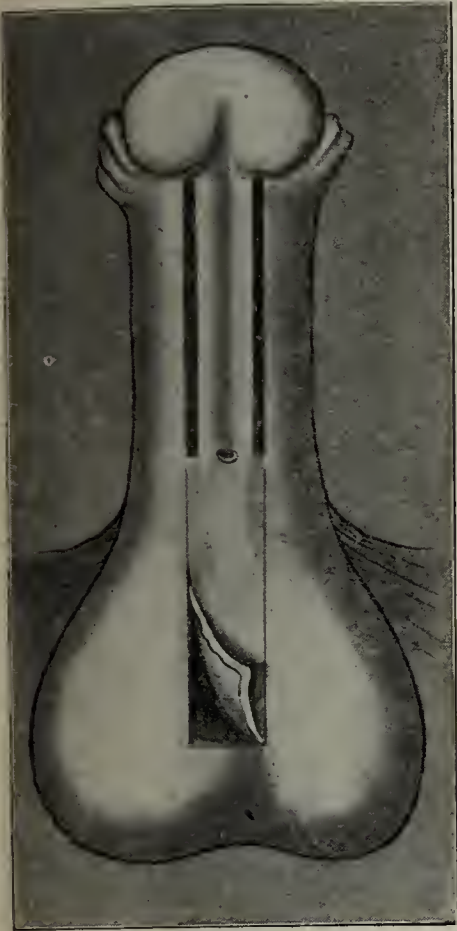


Fig. 8.—Wood

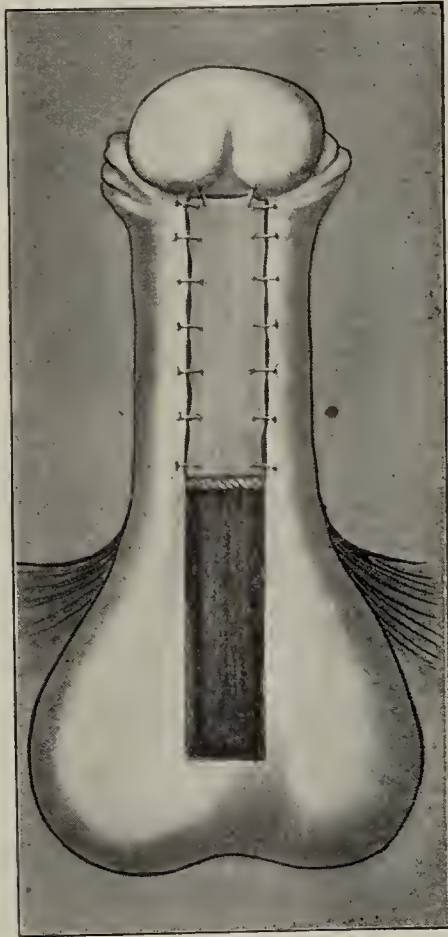


Fig. 9.—Wood.

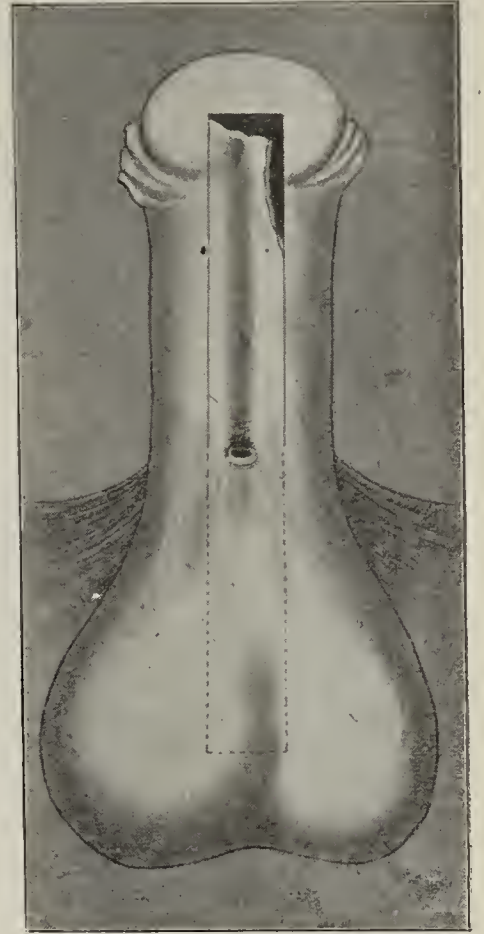


Fig. 10.—Duplay, Wood and Beck.

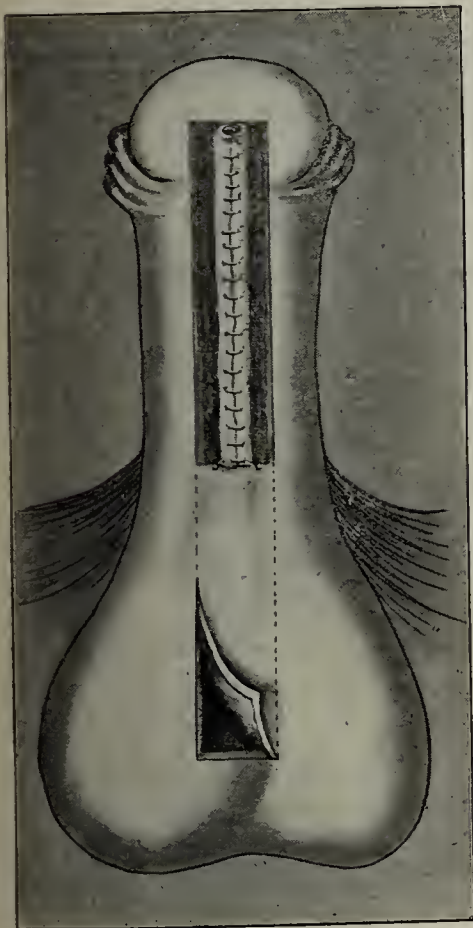


Fig. 11.—Duplay and Beck.

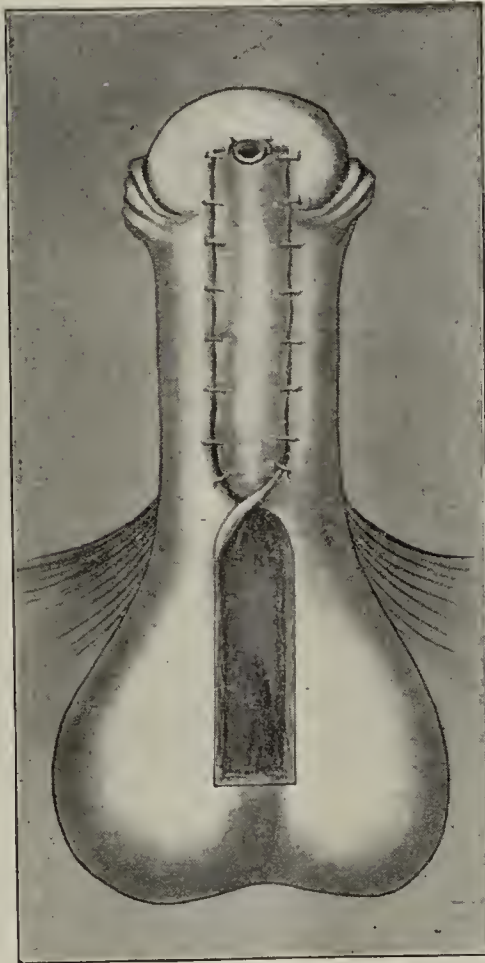


Fig. 12.—Beck.

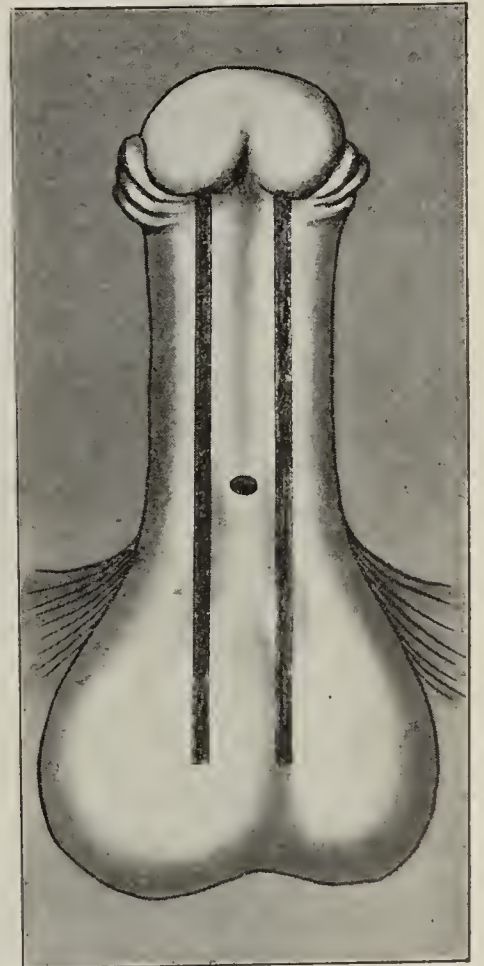


Fig. 13.—Rosenberger, Landerer and Bidder.

Rosenberger's operation for epispadias is made by incisions and denuding strips each side of the urethra, which are continuous with and sutured to similar denuded surfaces upon the abdomen, and later the organ with attached skin is separated from the abdomen and the denuded skin grafted. This method was so commonly successful that the principle was utilized in

ing. This operation leaves considerable deformity, but has fewer failures than many of the earlier ones.

Causes of Failures.—There are several causes of the frequent failures experienced by all operators in this class of surgery. The field of operation is difficult to render sterile. Flaps are made too small and closed under tension; dressings become soaked with urine.

The bladder is drained by a catheter fixed in the canal and, after the third day, there is the straining of an irritable bladder which frequently expels the catheter, or forces out urine along side of the instrument. Frequent erections are also a cause of much discomfort. In a considerable number of hypospadiac cases operated on in Czerny's clinic, about 35 per cent. of them were uncured from the patients' lack of persistence in having repeated operations, and 29 per cent. of the operations

double its length when flaccid, the corpus spongiosum and urethral walls containing much elastic tissue. The Beck operation consists in completely mobilizing sufficient urethra to extend to the position in which it is

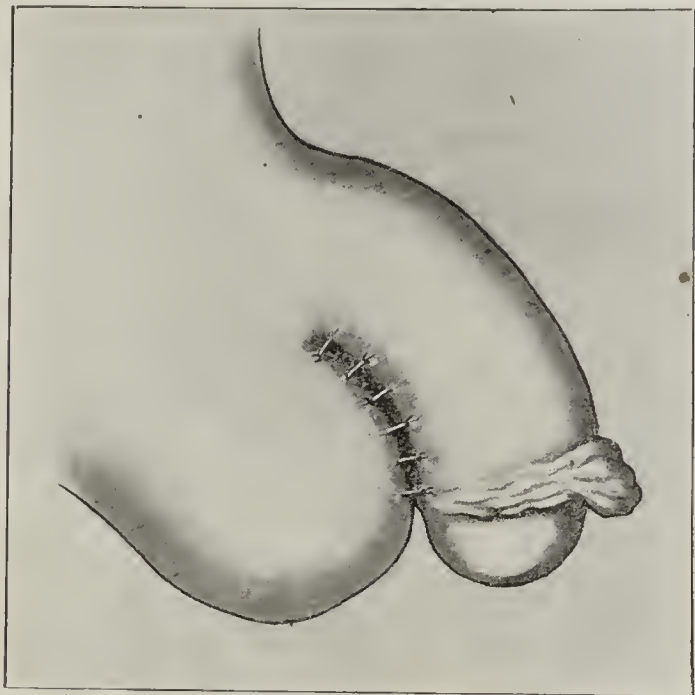


Fig. 14.—Rosenberger, Landerer and Bidder.

were failures from failures of previous operations, not counting cases healed with minute fistulae requiring cautery or caustic for their closure. Dr. Carl Beck of



Fig. 16.—Beck.

wished to place the meatus. (Fig. 15.) The urethral site on the glans is freshened and made of sufficient

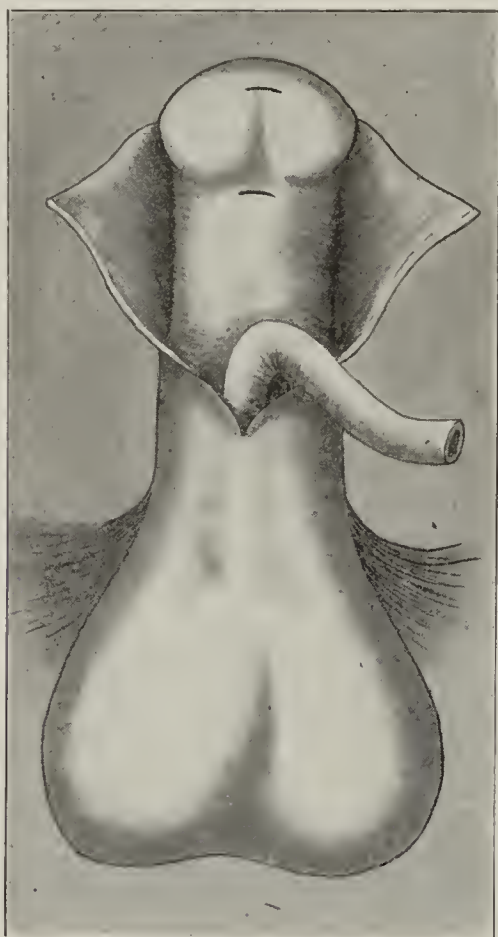


Fig. 15.—Beck.

New York, in 1897, and shortly afterward Professor Von Hacker in Europe, devised a new operation for the relief of the balanic type of hypospadias and for the penile cases with an opening near the glans. The distensibility and extensibility of the organ with all its structures furnished a basis for the operation. It is well known that the penis in a state of erection is nearly

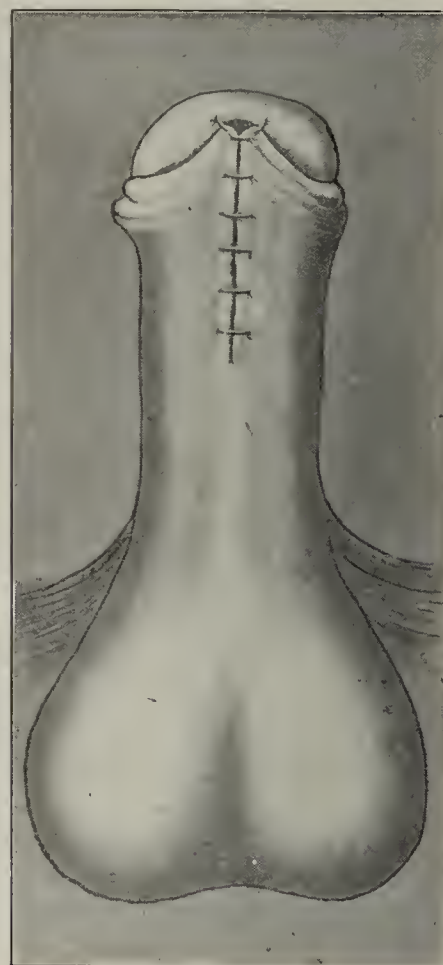


Fig. 17.—Beck.

depth to close the glans over the tube of urethra. (Fig. 16.) The urethra is exposed by an incision well back along the penis and is freed from its bed and its opening sutured to the glans. The incision is closed by sutures which also serve to build a frenum by attaching the freshened prepuce to the base of the glans penis. (Fig. 17.) When there is a shallow groove

and little deformity, the glans may be tunneled with a narrow bistoury or trocar and the tube of urethra drawn through and sutured to the opening on the surface of the glans. (Fig. 18.) The advantages of the method are many. The total length of urethra is normal in its mucous membrane. There is no catheter needed, patients pass urine freely during the healing process, and the wound pursues a normal course of repair free from urinary contamination.

The operation may be performed in cases of mild degree at a very early age. Dr. Beck has operated successfully on one infant of 5 months. While this operation is probably the best one possible for a certain class of these malformations, it must be combined with some other method to make it useful in relieving most of the penile, peno-scrotal and perineo-scrotal cases.

The 1899 report of the Heidelberg clinic presents

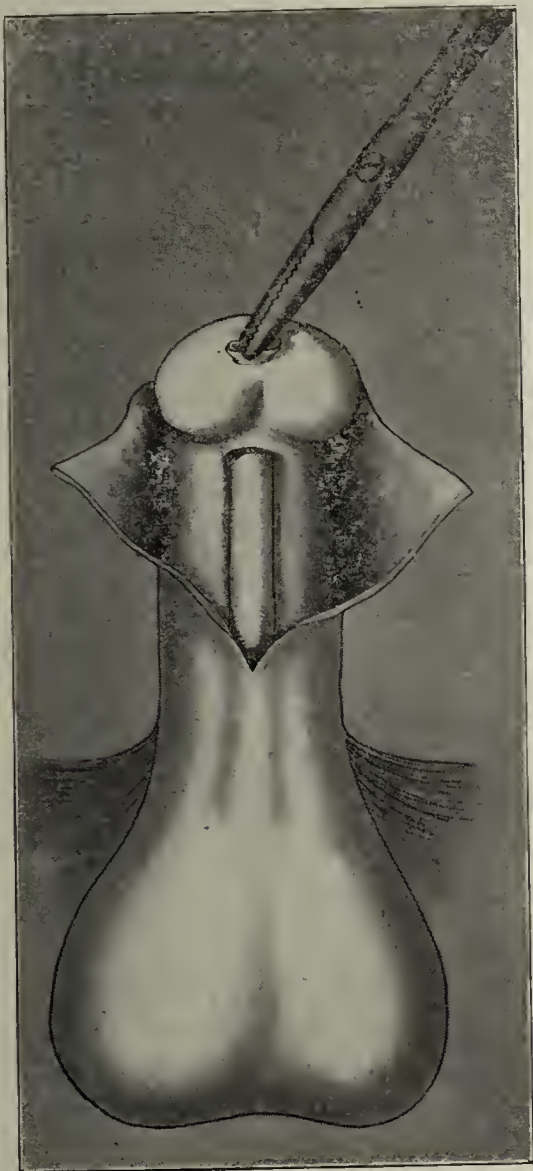


Fig. 18.—Beck.

three cases of hypospadias treated by the Beck method, in all of which the retraction of the dislocated urethra curved the glans downward and the meatus delivered its stream below as previous to operation, thus giving theoretical but not practical relief. According to a later report from this clinic, with a total of seven cases, better results had been achieved. Dr. A. J. Ochsner, to a great extent, relieves this downward contraction resulting from the Beck operation, by tunneling the glans at a higher point and bringing the urethra through it, locating the meatus above the apex of the organ. Bardenhauer has been credited with the tunneling by trocar instead of knife, but this was done by Dieffenbach in 1838. Any surgeon who has had experience in this class of surgery feels the necessity of having at his command several methods of procedure, and is well pleased if he can restore the functions of the organ as a whole, regardless of cosmetics, by means of one or a

part of several operations. The prepuce in cases of hypospadias is usually redundant and situated on the dorsal surface, overhanging the glans like a hood. The skin of the penis is noted for its thinness, having no adipose tissue, also for its looseness of attachment and elasticity. Where it is folded upon itself at its cervical attachment its character very nearly resembles mucous membrane. For the past four years we have utilized this membrane to build the tube of urethra in such cases as could not be relieved by the operation of Beck used alone. The principle of a urethra of prepuce was devised by Van Hook.

The prepuce is extended as for circumcision and two incisions are made, about 1 inch apart, extending from its free border to its attachment at the penile cervix; the prepuce is unfolded, forming a loop of thin skin about $2\frac{1}{2}$ inches in length. Should this not be considered sufficient to reach from its attachment to the hypospadiac opening, the two incisions are extended back along the dorsum of the penis until sufficient tissue is obtained, when the two incisions are connected by a transverse one, and the flap of skin lifted but left attached to the cervix by the inner surface. Several

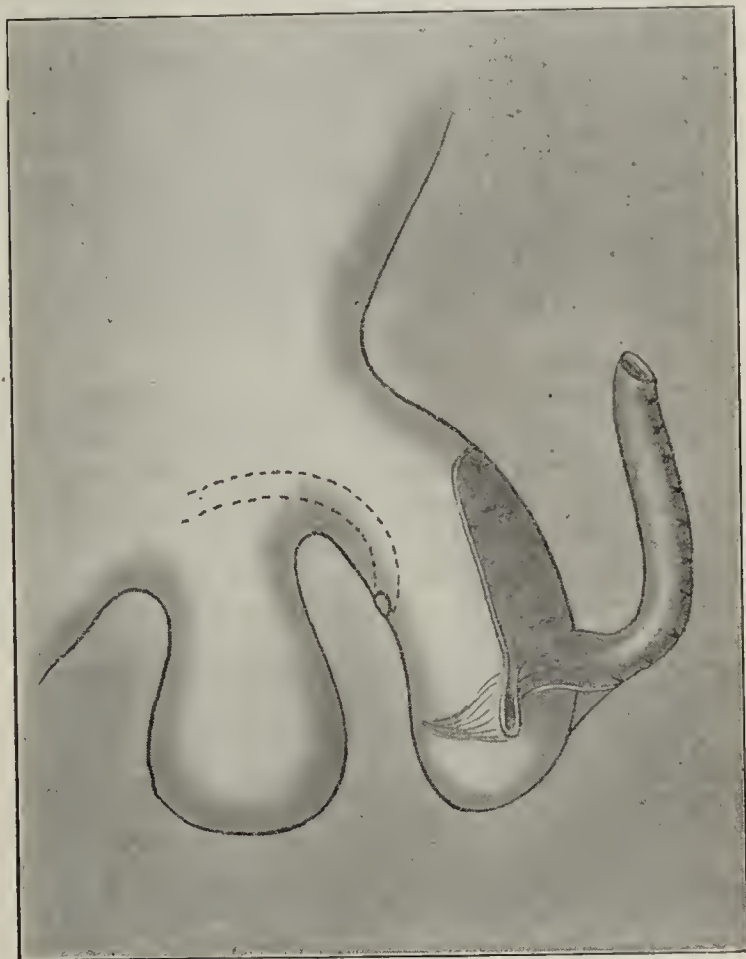


Fig. 19.

sutures now close the lateral integument of the penis over the denuded area. (Fig. 19.)

The pediculated flap of prepuce is constructed into a tube with its skin or outer surface inside, by means of a number of catgut sutures. The penis is tunneled by means of a narrow bistoury or medium trocar and canula, through the glans, above its groove, along the penis to a point beneath the hypospadiac opening, when it is made to emerge at one side of, but close to, the urethra; the tube of prepuce is drawn through the tunnel and sutured where it enters the glans and also where it emerges. (Fig. 20.) At the end of ten days the flap of pedicle is cut through close to the new meatus. The second operation, made at a later period, consists of a perineal opening into the urethra and insertion of a Jacobs' self-retaining female catheter; this is the least irritating and can be left as long as needed, usually from five to eight days. An incision

at the termination of the two urethras now admits of accurate coaptation by sutures, or the normal urethra may be mobilized (Beck method) to a sufficient extent to admit of its insertion into the caliber of the new urethra, where it is held by sutures and the external

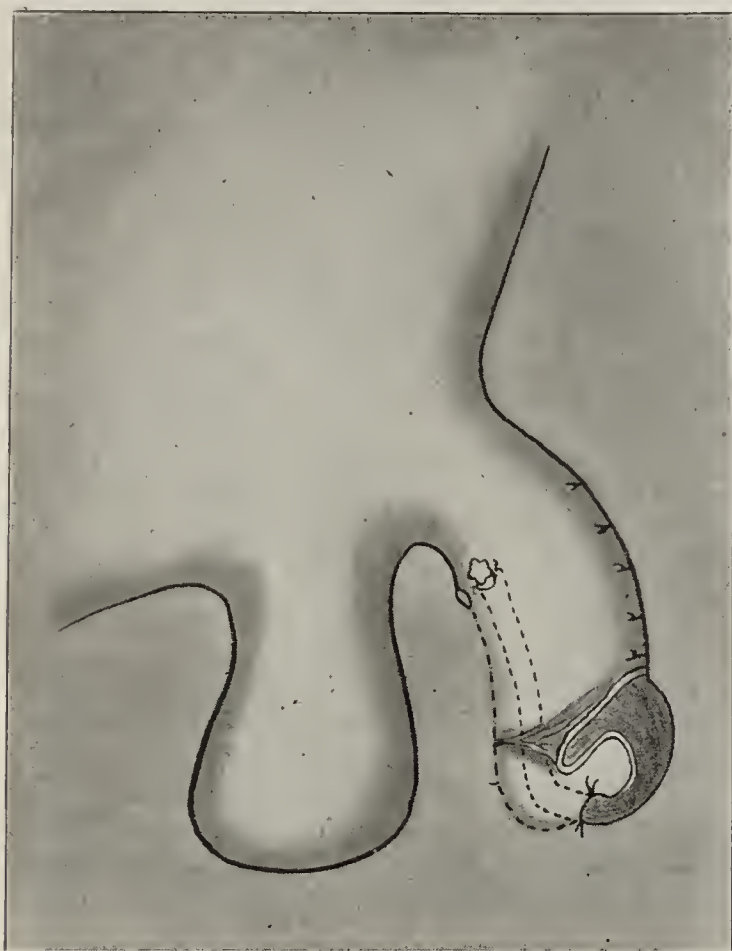


Fig. 20.

parts closed over this. (Fig. 21.) Occasionally a little urine escapes into the urethra and the entire canal is best drained by passing several silkworm strands of horsehair through the urethra and out alongside the catheter in the perineal opening. When union of the canals is complete the drains are removed and the perineal drainage will usually close itself in a few

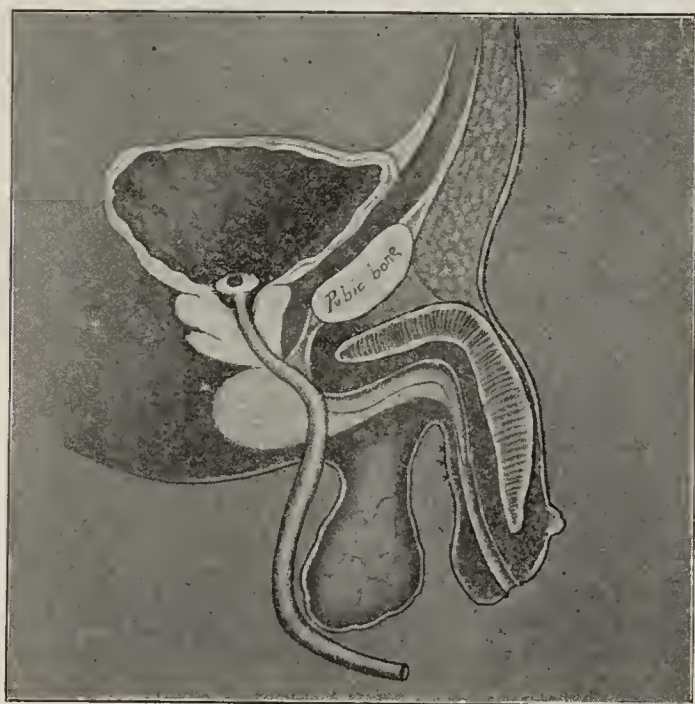


Fig. 21.

days. Horsehair and fine catgut have proved the best suture material for this form of plastic work.

The advantages of this combined operation are: 1, a urethral tube of thin elastic skin nearly approaching mucous membrane, yet having no hair surface to occasion later complications; 2, a perineal drain for the bladder, with a self-retaining Jacobs' female catheter;

3, a silkworm drain for the urethra; and 4, in being a method capable of application to the worst types of hypospadiac cases.

I report four cases of hypospadias cured by various methods:

CASE 1.—(St. Mary's Hospital Reports for 1897.) A boy of 4 years, penile type, was given two operations, the first a Duplay, with partial success; the second a Thiersch, with a good urethra.

CASE 2.—(St. Mary's Hospital Reports for 1898.) An adult, with the balanic type, was given two Thiersch operations, with a nearly perfect result.

CASE 3.—(St. Mary's Hospital Reports for 1900.) A boy 6 years of age, of the perineo-scrotal type with divided scrotum, at the first operation had two inches of urethra constructed from the prepuce and skin of the dorsum of the penis; at the second, bladder drainage, a Nélaton catheter in the perineum, but union at the juncture of the urethras failed. Urine passed by the catheter; bladder tenesmus. The third operation gave bladder drainage by means of Jacobs' self-retaining female catheter through the perineum, for eight days; silkworm strands in the urethra for drainage. Cure.

CASE 4.—(St. Mary's Hospital Reports for 1900.) A boy 8 years of age, the peno-scrotal type, was given two operations. The first was construction of $1\frac{3}{4}$ inches of urethra of prepuce and skin from the dorsum of the penis; the second, bladder drainage, self-retaining Jacobs' female catheter through the perineum and union of the two urethras. Urethral drainage was by silkworm gut strands. Cure.

THE POLLUTION OF STREAMS AND THE PURIFICATION OF PUBLIC WATER SUPPLIES.*

COMPARATIVE EFFICIENCY OF SLOW SAND AND MECHANICAL FILTERS.

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WASHINGTON, D. C.

COMPOSITION OF RIVER WATER.

River water is a mixture of spring, ground, rain and surface water, but as the water-courses are the natural drainage channels of the country, it is not surprising that the wastes of human life and occupation should also find their way into the streams. It is for this reason that rivers, after passing through cultivated valleys with cities, towns, and villages or settlements on their banks, often contain a dangerous amount of mineral and organic matter. Rivers are always purer near their source; the amount of impurities increase as we descend the stream. Thus, for example, the Mississippi River at Minneapolis contains only 18.6 total solids per 100,000, while the same river at St. Louis contains 244.3 per 100,000.

RIVER POLLUTION.

The sanitarian recognizes two principal forms of pollution, viz.: The amount of mineral matter, and, second, the character and amount of organic matter contained in the water. The amount of mineral matter depends largely upon the geological formation of the country and the erosive powers of the streams, but water containing 50 parts per 100,000 or 30 grains of solid matter per gallon is unfit for drinking purposes on account of its irritating effects upon the gastrointestinal tract. Beyond this, however, it is of no special significance, unless the water also contains metallic poisons or objectionable chemicals.

In regard to the Potomac River, which may serve as

* Presented to the Section on Hygiene and Sanitary Science, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

a type of American rivers for our discussion, we know, for instance, that certain pulp mills, tanneries and manufacturing establishments discharge chemicals and various refuse; one paper mill alone discharges over 100,000 gallons of liquid into the river each day heavily laden with sulphuric and tannic acids.

These gross forms of pollution, although at times so great as to prove destructive to game fish, are of less interest to sanitarians than pollution with organic matter, especially sewage contamination derived from the towns and settlements within the Potomac drainage basin, which covers 11,043 square miles, with an estimated population of 491,813 people, or about 44.5 per square mile.¹ Among the larger towns may be mentioned Cumberland, Frederick, Hagerstown, Harpers Ferry, Staunton, but as none of them are sewered, whatever contamination they produce is derived from surface drainage.

CHEMICAL ANALYSES.

Notwithstanding these numerous sources of pollution, the Potomac River, according to the chemical analyses, compares very favorably as regards purity with other American rivers.

The following are the results tabulated for comparison by Colonel Miller and based upon 72 analyses of the Potomac water as delivered from the faucet in the laboratory of the health office, from July, 1897, to Jan. 31, 1900, and daily analyses made by Mr. R. S. Weston, between July 1, 1899, and Jan. 20, 1900:

	Total Solids.	Free ammonia.	Alb. ammonia.	Nitrites.	Nitrates.	Chlorine.	Required oxygen.
Health office	126.7	0.0008	0.111	Trace.	0.639	3.78	2.56
Robert S. Weston. . .	139 0	013	.105	0 002	.73	2.60	4 50
Mason's safe limit. .	150-300	.01-.12	.10-.23	.0135-.003	.42	3 10	5-7.

BACTERIOLOGICAL ANALYSES

Now, let us inquire into the results of the bacteriological examinations of this water which have been made by various competent authorities at the Army Medical Muscum, and by Kinyoun and Sprague, of the Marine-Hospital laboratory, during the past ten years. The latter also examined samples at or near all the important towns from the head waters of the Potomac and Shenandoah rivers, and may be said to accurately represent the bacteriological condition of the entire river. Intestinal organisms were found in over 90 per cent. of the samples. The number of bacteria varied from 150 to 20,000 per cubic centimeter, with an average of something over 1000. The more recent examinations, conducted under the supervision of Colonel Miller from July, 1899, to March, 1900, show a minimum per cubic centimeter of 48 in July and a maximum of 51,000 for January, 1900, with an average of 3761 per cubic centimeter. Of the specimens taken on about two hundred different days, 50 per cent., or one-half, revealed the presence of the bacillus coli communis.

TURBIDITY AND BACTERIA.

This exhaustive study also confirmed the conclusions of Theobald Smith and others, that turbidity of the Potomac water is always accompanied by a larger amount of organic matter and germs, and that fecal bacteria and turbidity are coincident, simply because the same showers that bring along large sections of pulverized river banks also wash through the towns, barnyards, cesspools, and outhouses before finding their way into the creeks and river.

SIGIFICANCE OF INTESTINAL BACTERIA.

The presence of intestinal bacteria is satisfactory evidence of pollution by fecal matter of man or animals and strongly point to the possibility of infection with typhoid bacilli.

Mr. Davis, of the Geological Survey, estimates that the sewage from the vicinity of Cumberland, a distance of about 134 miles, requires from two to four days to reach Washington aqueduct. We also know that typhoid bacilli retain their vitality for a number of days in ordinary water, and could therefore infect consumers of water in Washington.

TYPHOID FEVER AND WATER-BORNE DISEASES.

My suspicions that typhoid fever germs may thus travel all the way from Cumberland were confirmed as early as the winter of 1889-90, by studying the effects of the typhoid fever epidemic at Cumberland upon the prevalence of the disease in Washington.

The records of the health office show that during this epidemic, from December, 1889, to April, 1890, the deaths from typhoid fever amounted to 74, as compared with 42 for the corresponding months of the previous year. Indeed, we had almost double the number of typhoid deaths during these months than for any similar period either before or since this epidemic.

Cumberland had about 45 deaths and 485 cases. Wahsington had 74 deaths and about 740 cases, and yet the starting-point of all was the excreta of one patient washed into a little run which empties into the Potomac about 300 feet above the pumping station of the water-supply for Cumberland. In the face of this fact and the almost constant presence of intestinal bacteria, I have no hesitation in declaring that the excessive typhoid fever rate of the national capital is largely due to contaminated Potomac water. We know the germs must be there, whether the bacteriologists find them or not, because the people who drank the water were taken sick, while the non-consumers remained exempt.

What has been said of the Potomac River is equally applicable to the Ohio, Mississippi, Merrimac, Connecticut, Missouri and other American rivers, because they are the sewers and at the same time the source of water-supply for nearly all the cities located upon their banks, and these cities, as shown by the statistics collected by the Marine-Hospital Service, show, moreover, a marked prevalence of typhoid fever, thus confirming what has been observed over and over again that this disease, as also cholera, dysentery and diarrheal diseases, can be carried from one town or city to another by means of a water-course. About three years ago Surgeon-General Wyman estimated, from statistics received in his office, that every year there are no fewer than 45,000 deaths caused by typhoid fever alone throughout the United States. This number has now reached, very likely, 50,000, and, based upon an estimated mortality of 10 per cent., it is within reason to assume a yearly prevalence of 500,000 cases of this disease.

The average duration of a case is not less than thirty days. If we calculate that only \$1 per day is expended for care, treatment and loss of work and that the value of a human life is \$5000, we have a total loss in the United States every year of \$400,000,000 from one of the so-called preventable diseases. Reduce the prevalence of this single disease one-half, which has been accomplished in Europe and can be done here, and the question as to what public sanitation has accomplished will be answered from an economic point of view.

We would not think of establishing a vicious circle

1. See Colonel Miller's report, Senate Doc. 259, p. 9.

TABLE NO. 1.—DISPOSAL OF SEWAGE BY LAND TREATMENT.

Name of place, town or city.	Popu-lation.	When es- tablished.	Number of acres.	Remarks.
Far Rockaway, N. Y.	2,288	1895	...	Broad irrigation.
Hemlock Lake, N. Y.	1,000	1896	...	Pail system.
Vassar College, N. Y.	...	1895	Sev- eral	Broad irrigation.
Atlantic City, N. J.	13,000 to 150,000	...	...	{ Filtration [not efficient]; no attempts to raise crops.
East Orange, N. J.	13,282	1888	...	Chemical treatment supple- mented by filtration; no attempts to raise crops.
Essex Falls, N. J.	...	1897	...	Filtration.
Freehold, N. J.	2,932	1893	16	Broad irrigation; 16 acres in Hungarian grass.
Lawrenceville School, N. J.	...	1893	...	Broad irrigation; intermittent filtration.
Morris Plains Asylum, N. J.	...	1897	...	Sedimentation and subsurface irrigation.
Plainfield, N. J.	13,000	1895	...	Broad and intermittent filtra- tion [corn crops].
Princeton College, N. J.	...	...	4	Broad and intermitten't filtrati'n.
Summit, N. J.	3,502	1892	26	Broad and intermitten't filtrati'n.
Westfield, N. J.	3,000	1897	12	Broad and intermittent filtra- tion and broad irrigation.
Altoona, Pa.	30,337	1867	70	Irrigation; corn crops.
Norristown Insane Asylum, Pa.	1,500	1885	...	Broad irrigation; 5 crops of grass annually.
Wayne	997	1891	11	Broad irrigation; 5 crops of grass annually.
Weston State Insane Asylum.	...	1891	27	Chemical percipitation sup- plied by broad irrigation.
Paris, Texas	8,254	1897	10	Intermittent filtration; alfalfa crops.
San Antonio, Texas	36,673	1895	530	Irrigati'n; contemplate farmi'g.
Fostoria, Ohio	2,070	1895	...	Land purification.
Oberlin, Ohio	4,376	1893	15	Broad irrigation.
Pullman, Ill.	11,000	1881	1,500	Sewage farm yields a net profit of \$8.10 per acre.
Rochester Insane Asylum, Minn.	1,050	1890	...	Chemical percipitation, supple- mented by intermit filtration.
Hastings, Neb.	13,584	1892	20	Sewage farm.
Colorado Springs	11,140	1889	35	Sewage farm; 15 acres in alfalfa, 10 acres vegetable.
Trinidad, Colo.	5,523	1892	...	Sewage farm; blue grass.
Helena, Mont.	13,134	1889	40	Sewage farm; vegetables and nursery stock.
Salt Lake City, Utah.	44,843	1896	183	Sewage farm; 80 acres in culti- vation.
Phœnix, Ariz.	3,153	...	160	Sewage farm; garden truck.
Fresno, Cal.	10,818	1890	80	Sewage farm; garden truck.
Los Angles, Cal.	50,395	1895	2,200	Sewage farm; grain, orchard, alfalfa, vegetable.
Pasadena, Cal.	4,882	1893	300	Sewage farm; grain, orchard, alfalfa, vegetable.
Redding, Cal.	1,821	1889	100	Sewage farm; corn, potatoes, vegetable.
San Luis Obispo, Cal.	2,995	1888	...	Broad irrigation.
Santa Rosa, Cal.	5,220	1889	18	Farm for vegetables.
Augusta, Me., State Insane Asylum.	...	1872	Few..	Produces hay and garden crops.
Concord, N. H., State Insane Asylum.	...	1872	Few..	Pumped to the irrigated area for crops.
Amherst, Mass.	4,512	1881	...	Settling banks and absorption ditches; 3 heavy crops of hay raised annually.
Brockton, Mass.	27,294	1894	30	Crops of peas, beans, tomatoes, corn, cabbage, etc.
Gardner, Mass.	8,424	1891	2	Intermitt'nt filtrati'n; no farm.
Greenfield, Mass.	5,252	1882	...	Meadow irrigation.
Lenox, Mass.	2,889	1876	1½	Subsurface and surface irriga- tion; no farm.
Marlboro, Mass.	13,805	1893	37	11 acres used for farm purposes.
Concord Reforma- tory, Mass.	...	...	...	Irrigation; grass and corn crops
Medfield, Mass.	1,493	1886	1	Sedimentation and upward fil- tration.
Natick, Mass.	9,818	1896	12	Filtration.
Norfolk County Jail, Mass.	...	...	...	Land disposal plant; no details.
N. Brookfield, Mass.	8,747	1893	20	Broad irrigation; good crops.
Pegan Brook, Mass.	...	...	4	Filtration.
Waltham School, Mass.	...	...	...	Intermitt'nt subsurf. irrigati'n.
Sherborn Prison, Mass.	...	...	...	Subsurface irrigation.
South Framington, Mass.	...	...	...	Indian corn, crops standing sold for \$30 to \$40 per acre.
Wellesley College, Mass.	500	1893	1.55	Intermittent filtration.
Westboro, Mass.	5,195	1892	33	One-half of the land classed as swamp and meadow.
Worcester Insanc Asylum.	...	...	30-40	About 14 acres used for farming purposes.
Central Falls, R. I.	20,355	1892	35	Filtration.
Pawtucket, R. I.	32,577	1893	4	Filtration.
Cranston State Insti- tute, R. I.	...	1895	500	Irrigation.
Bristol, Conn.	7,382	1893	80	Broad irrigation and intermit- tent filtration; 6 acres in use.
Danbury, Conn.	16,552	1897	...	Intermittent filtration.
Lake Wauremaug, Conn.	...	...	...	Dry-earth system and fluid waste by filtration.
Litchfield, Conn.	3,304	1890	4	Irrigation.
Meriden, Conn.	21,652	1891	150	Broad irrigati'n intermittent fil- trat'n; no attempt at farmi'g.

TABLE NO. 2.—DISPOSAL OF SEWAGE BY CHEMICAL AND
PATENTED PROCESSES.

Name of place, town or city.	Popu-lation.	When es- tablished.	Remarks.
Rockingham Co'ty poor farm, New Hampshire.	1,000	1895	Collecting tanks; sludge utilized for compost; patented process owned by the Glover Company.
Mystic Valley, Mass	...	1887	By chemical precipitation.
Worcester, Mass.	98,678	1890	Chemical purification works.
Danbury, Conn.	16,552	1897	Wolf's disinfecting process with sodium hypochlorite; recently purchased land for intermit- tent filtration.
Brewsters, N. Y.	...	1893	Electrical treatment, simply a process of disinfection by sodi- um chloride; hypochlorite pro- duced by electrolysis.
Brooklyn, Twenty- sixth Ward, N. Y.	...	...	Chemical purification: J. J. Power's patent.
Chatauqua Assem- bly, N. Y.	(a)	1893	Chemical precipitation.
New Rochelle, N. Y.	8,217	1894	Chemical purification.
Bath Soldiers' and Sailors' Home, New York.	1,500	...	Chemical purification; Power's patent.
Batavia State Insti- tution for the Blind, New York.	...	1891	Chemical purification.
Long Branch, N. J.	7,000-8,000 80,000-100,000	1886	{ Chemical precipitation and me- chanical separation.
Reading, Pa.	58,661	1895	Proprietary process.
Alliance, Ohio	6,707	1899	Chemical purification.
Canton, Ohio.	26,189	1893	Chemical purification.
Wayne County Poor Farm.	...	1896	Chemical precipitation.

a Several Thousand.

TABLE 3.—SHOWING THE AVERAGE NUMBER OF DEATHS FROM
TYPHOID FEVER PER ANNUM BEFORE AND AFTER FILTRATION.

SAND FILTERS.					
Name of town.	Average number of deaths from typhoid fever per annum be- fore filtration.	Average number of deaths from typhoid fever after filtrati'n.	Reduction, Per cent.	Number of years upon which statistics are based before and after filtration.	Remarks.
Lawrence, Mass.	52	13.8	73.5	5	Filter established September, 1893.
Ashland, Wis.	39	4.5	88.5	2	Filter established September, 1895.
Hamilton, N. Y.	0.66	0.33	50	3	Filter established in 1896.
Mount Vernon, N. Y.	3.4	1.8	47	5	Filter established in 1894.
	95.06	20.43	78.5	...	
MECHANICAL FILTERS.					
Macon, Ga.	10.5	7	33	4	Filter established in 1893.
Atlanta, Ga.	61	46	25	3	Filter established in 1881.
Oakland, Cal.	19	17	11	5	Filter established (Hyatt) 1892.
Reading, Mass.	4	1	75	1	Filter established (Warren), July, 1896.
Terre Haute, Ind.	21.6	15	31	5	Filter established (Natural filter). July, 1890.
Elmira, N. Y.	10	11	Increase. 10	1	Filter established April, 1898.
Newcastle, Pa.	13	28	115	1	Filter established (New York), April, 1897.
Lexington, Ky.	18	64.2	256	4	Filter established Junc. 1895.
	157.1	189.2	Increase. 20.43%	...	

between our mouths and the drainage of our houses and stables and yet praetieally we have suffered this to be done upon the erroneous assumption that rivers purify themselves. While a eertain degree of purification is possible by natural means, such as dilution with unpol-luted water, deposition of suspended matter, the agency of aquatic animals and plants, the baeteria of nitrifica-

ion, the destructive influence of sunlight upon micro-organisms, and the chemical affinity of certain bodies, I am glad that biologists have about come to the conclusion that "no river is long enough to purify itself."

What has been said of typhoid fever is equally true of other water-borne diseases like cholera, dysentery, cholera morbus, diarrheal diseases, and the transmission of the eggs of intestinal and other parasites, because the germs or eggs of these diseases are present in the intestinal tract and presumably also in sewage-contaminated water. Thus, for example, the cholera epidemic of Hamburg in August, 1892, resulting in 17,020 cases, with 8605 deaths, was caused by a band of gypsies camped on the banks of the river Elbe, and the discharges of one of its members suffering from cholera were emptied into the river, which at that time was served to the inhabitants of Hamburg without filtration. The epidemic spared the adjoining city of Altona, which derives its water from the same river after receiving the sewage of Hamburg with its 800,000 people, but Altona filtered its water and Hamburg did not.

PREVENTION OF RIVER POLLUTION.

When we remember that the general mortality of London a century ago was still 40 per 1000, while at the present time it is between 20 and 21 per 1000, and that no two factors have contributed so much to the prolongation of human life as the improvement of the air we breathe and the water we drink, it must be apparent that it is high time for civilized communities to take steps toward removing the danger to be found in rivers which are the sewers and at the same time the sources of public water-supplies. "One of the most pressing needs, therefore, is an investigation into the pollution of water supplies, which such pollution affects or threatens to affect the sanitary condition of the people of more than one State," because the individual states are powerless to protect themselves against the misdeeds of their neighbors.

Mr. Barthollett's bill for the appointment of a river pollution commission, first introduced five years ago, has not yet become a law. England enjoyed the benefit of such a commission as early as 1855, and in order to prevent, remedy and remove the danger of polluted water-supplies adopted a comprehensive system for the disposal of sewage and of water filtration, the fruits of which are shown by a marked decrease in the number of cases of typhoid fever, diarrheal diseases, and consumption, amounting in some localities to over 50 per cent.

I maintain that no community or individual has a right to pollute streams used for public water-supplies any more than a man has to contaminate his neighbor's well. This principle is very well appreciated by some of the nations in Europe: Thus the inhabitants of a town in Belgium suffered from the effects of a river polluted by the French, and the French government not only compelled the offending city to dispose of its sewage by irrigation, but granted a subsidy for this purpose.

All that is needed in this country is a correct appreciation of the dangers, and the first step in this direction is the appointment of a commission. The Marine-Hospital Service, which has for a number of years satisfactorily performed the functions of a national board of health, could, with the aid of the hydrographers of the U. S. Geological Survey and special agents of the Department of Agriculture, perform this duty without any great expense to the Government.

PURIFICATION OF SEWAGE BY IRRIGATION.

After determining the extent and dangers of river pollution, the remedy can be applied, and consists in the adoption of a system in which the sewage and noxious waste waters are utilized and disposed of by irrigation on so-called sewage farms, and the effluent and purified waters are returned to the streams.

This system has been in vogue in some European cities for many years. The city of Berlin purchased about 20,000 acres of land and, notwithstanding the enormous outlay of a little over \$3,000,000 for the land and over \$10,000,000 for the sewer system, operates these farms at a net profit of about \$60,000 per annum. The city employs men condemned to the workhouse as laborers at the farms, and practically converts vagabonds into producing classes, with a fair prospect, too, that many of these individuals will continue their honest efforts to become self-supporting citizens; moreover, the old manor houses of the individual farms are utilized as country homes for convalescents, and thus the beneficent effects of this system are felt in more than one direction.

It is a matter of great satisfaction, therefore, that within the past ten or twelve years over one hundred communities in the United States have established plants for the disposal of sewage. The first attempt in the establishment of a sewage farm in this country was made at the Augusta, Me., State Insane Asylum in 1872, since which time 78 plants for the disposal by irrigation and 15 by chemical treatment, etc., have been established, and over 40 more projected. I have prepared Table No 1 from data obtained in Mr. George W. Rafter's Brochure No. 22 of the U. S. Geological Survey, 1899, on Water Supply and Irrigation. Among the more prominent and successful sewage farms may be mentioned Brockton and South Framingham, Mass.; Bristol, Conn.; Plainfield, N. J.; Altoona and Wayne, Pa.; Pullman, Ill.; Hastings, Neb.; Colorado Springs, Colo.; Salt Lake City, Utah; Helena, Mont.; Phoenix, Ariz.; Fresno, Los Angeles, Pasadena, Redding, and Santa Rosa, Cal.

Heretofore it has not been considered necessary to prevent the pollution of rivers affected by tide waters. Dr. Conn, of the Wesleyan University, in 1894, traced, however, an outbreak of typhoid fever to raw oysters which had been fattened in a place where they were liable to contamination by sewage from typhoid patients, and since then numerous instances have been reported elsewhere. It has been shown that typhoid fever germs remain viable in oysters from fourteen to thirty days, and the medical officer of the local government board of England, in the twenty-fourth annual report points out the danger of many of the oyster beds on the English coast from sewage pollution, all of which indicates that even this newly-discovered source of danger should be guarded against.

PURIFICATION OF PUBLIC WATER SUPPLIES.

The primary object of disposing of sewage by means of irrigation is the prevention of the so-called water-borne diseases. I do not believe, however, that this method alone can be relied upon, as instanced by the cholera epidemic at Hamburg and typhoid fever epidemics at Plymouth and Cumberland, where the dejecta of a single patient were sufficient to cause the mischief, hence prevention of river pollution should be supplemented by filtration of the water-supply on a large scale, of which there are two systems, the American or mechanical method, and the English or natural sand filtration.

Time will not permit me to enter into their respective merits except to say that the mechanical filters, as first pointed out by Mr. Hill, have accomplished very little in the reduction of typhoid-fever death-rates in cities where they are used. In the subjoined table five American cities using these mechanical devices are compared with five cities in Europe using water from sand filters, with an average for the year 1895 for the American cities of 46.8 typhoid deaths per 100,000 living, against 6 deaths per 100,000 for the foreign cities. That is to say, the American rate was almost eight times greater than the foreign rate.

EUROPE (SAND FILTRATION.)		UNITED STATES (MECHANICAL FILTERS).	
	Before filtration.	After filtration.	
Berlin	100	5	Davenport 26
Breslau	113	9	Atlanta 43
Hamburg	21	9	Chattanooga 48
Rotterdam		2	Quincy, Ill 58
The Hague		5	Knoxville 59
Average	78	6	Average 46.8

Lest this comparison between foreign and domestic cities be considered unfair, I have prepared Table No. 3, showing the average number of deaths from typhoid fever in several American cities before and after filtration. From this table we learn that while sand filters accomplished a reduction of 78.5 per cent. in the number of deaths from typhoid fever, the establishment and use of mechanical filters have coincided with an increase of 20.43 per cent.; and even if we eliminate from our consideration Elmira, Lexington and New Castle, where an increase was noted, the reduction of typhoid fever in consequence of mechanical filtration amounts to only 26 per cent., as compared with 78.5 per cent. by the process of sand filtration.

FLOATING KIDNEYS IN CHILDREN.*

I. A. ABT, M.D.

CHICAGO.

Floating kidneys in children have not been frequently observed. Dr. Jules Comby, at the sixth annual meeting of the British Medical Association, in 1898, reported 18 cases, the children varying in age from one month to 10 years and over. It is remarkable to note that 16 of his cases occurred in girls. This proportion corresponds to the observations which have been made in adults. Ebstein states that 100 females to 15 males are affected, whereas Dietl believes that 100 adult females to one male are affected. Senator writes that he considers the last proportion to be the more nearly correct. Comby's cases do not, however, stand alone in the literature; quite a number of observers before him have reported these cases.

Steiner¹ reported 1 case in a boy 9 years old, and also 2 cases in girls, respectively 6 and 10 years of age. In these 3 cases it was the right kidney which was involved.

Jacobi² believes that cases of floating kidneys in infancy and childhood are for the most part congenital in origin. In children of 10 or 12 years he thinks the condition may be due to a fall or a jump. He has observed at least 8 cases in the course of thirty-six years.

W. R. Stewart³ reports the case of an infant of 8

months, who had swallowed some pieces of plaster, and who suffered afterward from intestinal obstruction. After thirty-six hours of ineffectual medical treatment an operation was performed. A distinctly movable tumor could be felt on the right side, which was believed to be the obstructed gut. Upon opening the abdomen it was found to be a floating kidney, while an intussusception in the left hypogastric region explained the intestinal obstruction. The child had never suffered any inconvenience from the kidney, and its discovery was purely accidental. Richard Frey⁴ reports that in 500 autopsies he observed two cases of dislocated kidneys. In each case the kidney of the right side was the one involved. He found that the parenchymatous tissue, the vessels, and the ureters as well as the pelvis of the kidneys were normal. It is a fact well recognized that under normal conditions the kidneys have a certain mobility. In individuals with relaxed abdominal walls the lower pole may be frequently felt during deep inspiration. By floating kidney is meant an abnormal mobility of one or both kidneys, so that the entire organ can be palpated through the abdominal wall. (Senator.)⁵

The etiology of these cases in children, as in adults, is not altogether clear. In adults it is known that the influence of sex is a marked factor, the condition being much more common in women than in men, a fact to which reference has already been made. Not infrequently floating kidney is only one symptom of a general enteroptosis—described by Glenard. Traumatism undoubtedly acts as the direct exciting cause very often. Cases are recorded where blows, falls, the carrying of heavy weights, violent pressure and straining, whooping-cough and a variety of other causes of the same nature have been sufficient to loosen the kidney and cause an undue mobility.

Relaxation of the abdomen after pregnancies, abdominal tumors, ascites, rapid emaciation which leads to a partial or complete disappearance of fat within the renal fascia, may lead to the condition in adults. We must also consider that conditions which influence the weight of the kidney will be sufficient cause to eventually drag the kidney from its normal position and give rise to abnormal mobility. We have, for example, tumors of the kidney, and hydronephrosis.

The recent contributions of Wolkow and Delitzen,⁶ on this subject, contain some interesting facts, obtained from experiments on the cadaver. The authors show that the kidneys are attached to the posterior wall in the paravertebral spaces (nischen). These spaces, under normal conditions, are of some depth, and are funnel-shaped below. In the cases where one or both kidneys had moved from their normal position, it was observed that these spaces were cylindrical, and the depth was less marked. The intra-abdominal pressure is an important factor in the fixation of the kidney. The authors also show that the anterior abdominal wall is an important factor in supporting these organs. They believe that the abdominal wall serves as a bandage, and the intestines as an elastic pad, both structures thus serving to support the kidneys.

In very young infants we are compelled to accept the congenital origin of floating kidney. In older children there can be doubt that a congenital predisposition for the disease existed. The hypothesis of Wolkow and Delitzen already cited may be invoked to explain this congenital tendency. The exciting cause may consist

* Read by title before the Section on Diseases of Children, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

1. Compendium of Diseases of Children, Prague, 1871.

2. Therapeutics of Infancy and Childhood.

3. Medical Record, Feb. 9, 1895.

4. Inaug. Diss., Zurich, 1886.

5. Ziemssen Specielle Pathologie der Therapie, vol. xix.

6. Abstract in Centralbl. f. Chir., 1898.

of an acute or chronic trauma. The latter is an expression of Knester, which has reference to causes which are constantly acting, or at least which are of frequent recurrence, eventually dislodging the kidney from its fixed position. It is a noteworthy fact that in two of the cases which have come under my observation there was a high degree of pulmonary emphysema and chronic bronchitis.

SYMPTOMS.

Perhaps in the largest number of these cases in children, as is also true of adults, the symptoms are latent. Pain is sometimes noted where the mobility is of moderate degree. In some cases the patients suffer from paroxysmal pain, dependent probably on a twisting of the pedicle. The pain may be colicky in character. At times the attack is accompanied with chill, fever, vomiting and perspiration.

The urinary secretion may be diminished; a temporary or permanent hydronephrosis may result from twisting of the ureter. The kidney is usually sensitive, though not acutely painful if it is pressed. A patient of Gerhard's who was himself a physician, compared the pain to that which is experienced when a testicle is pressed.

Symptoms on the part of the gastro-intestinal organs are not infrequently associated with floating kidney. Dyspepsia and constipation are very often present. Dilatation of the stomach is not uncommon. It is to be noted that of the five cases which have been observed and are reported in this paper three were in female and two in male children. In one case the kidney of the left side was the one affected.

CASE 1.—I. H., aged 7 years, a fairly well-developed female child, was an inmate of an orphan's home. The father had died as the result of an accidental injury. The mother suffers from pulmonary tuberculosis. The child had been previously well. Since her admission to the institution it is reported that she has been compelled frequently to desist from her play and was attacked with a feeling of distress on the right side of the abdomen. She was subject to attacks of bronchitis with elevation of temperature. She had distinct symptoms of adenoid growths in the nasopharynx, which were subsequently operated on. Physical examination of the abdomen showed a stomach of normal size. On the right side of the abdomen a tumor could be felt, which varied in position from one examination to the other; it could be readily grasped, was tender on deep pressure, perfectly smooth, and slipped readily from the finger's grasp. On one occasion the abdominal tumor caused the patient great pain of a colicky variety. An anesthetic was administered and the tumor found to have descended into the pelvis. It was carefully examined and replaced. The examination under the anesthetic showed a perfectly smooth kidney of apparently normal size, which had slipped down into the pelvis of the right side and, it was believed, had become twisted on its pedicle. The patient recently reported to me that if she runs or jumps the kidney descends into the pelvis of the right side, or sometimes it crosses over and is lodged in the pelvis of the opposite side. These distant excursions, she says, give rise to severe pain, and she secures relief by grasping the organ and pushing it up. The kidney is not permanently dislocated. If she has remained for a long time on her back it is difficult to feel the kidney while she is in the recumbent position. She has been greatly relieved by an abdominal supporter recently obtained for her.

CASE 2.—Tessie T., aged 12 years, has had measles, mumps and scarlet fever. Her thyroid is enlarged, and her mother says she has had pain in her right side for five years. She has complained for six months with symptoms of indigestion, the appetite is poor, and she has great distress after her meals; her abdomen becoming distended with gas, she has pain and frequently nausea. She observes, however, that the nausea

is sometimes present before meals; it is not an uncommon thing for her to vomit before breakfast.

Percussion over the area of the stomach and the distinct splashing sound over a large region shows that the lower margin of the stomach is three fingers' breadth below the umbilicus. She frequently becomes jaundiced, but this remains only a few days; she also suffers from chronic constipation. Examination in the right hypochondriac region reveals the kidney, which makes deep excursions with inspiration, and no difficulty is experienced in grasping the organ between the fingers. The kidney is smooth and apparently not enlarged.

CASE 3.—Joe H., aged 10 years, well-developed, has been ill for a long time, complaining of cough, and some difficulty in breathing at night. His pulse is 90; temperature normal. Examination of the chest reveals hyperresonance over both lungs. Sonorous and sibilant râles may be heard over both lungs, and the respiration is diminished on both sides. The kidney of the right side can be felt one hand's breadth below the costal arch on deep inspiration.

CASE 4.—Chester S., aged 14, presented himself at the dispensary of the Northwestern University Medical School, and was examined by Dr. G. A. Gowen and myself. His family history is negative. The patient has had whooping-cough and measles. Two weeks ago he fell from a trapeze in the gymnasium. The fall did not prevent him from resuming exercise immediately afterward. He has suffered from cough for a long time, particularly at night, and at times he suffers from asthmatic attacks. Physical examination of the chest gives the usual evidence of emphysema and chronic bronchitis. On examining the abdomen the kidney on the left side can be plainly felt on deep inspiration. The size and shape, the tenderness on pressure, the consistence and the tendency to slip from between the fingers and ascend toward its normal position leave no doubt that the kidney is the organ involved.

CASE 5.—Ruth B., aged 9 years, has always been a delicate child. She was artificially fed in infancy, and during the first sixteen or eighteen months of her life suffered from indigestion. She is an extremely nervous child, is very fond of reading, and is inclined to overwork at school. She is very thin and is poorly developed. Her appetite is poor and capricious. She is subject to attacks of indigestion characterized by vomiting and elevation of temperature. On physical examination of the abdomen it is observed that the stomach is dilated. The right kidney may be readily grasped between the fingers on deep inspiration, if the child is examined in the recumbent position; if examined in the erect position the kidney is easily palpated and descends lower in the abdominal cavity.

ADVANCES IN OBSTETRICS DURING LAST HALF CENTURY.*

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The half century is just elapsing since, as a student, I attended my first case of labor, and as I have been engaged in the practice almost continuously to this time and conducted, to within a few years, as many parturitions as fall to the lot of most men, you would naturally suppose there could be no difficulty in selecting an original subject of interest for this paper, but in looking around for the advances of obstetrics in the multiplicity of experiences, I am surprised to find it not so easy, for while medicine and surgery have prodigiously advanced and therapeutics become almost revolutionized, obstetrics continues in the trend of a former half century, and beyond the introduction of necessity for asepsis, the use of anesthesia, and perhaps symphysiotomy in parturitions, gynecologists have captured in their new creations the scepter and left the practice

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proper quietly trudging on in the same lines as it was found fifty years ago.

As soon as gynecology, a surgical offshoot of obstetrics, made its appearance, obstetricians, fascinated by the brilliancy of abdominal surgery, soon tired of the tedious drudgery of obstetric practice and enthusiastically entered the development of the new field where professional reputations and fees astonishingly increased, with fewer hours for work, enabling them to enjoy fixed daily periods for relaxation and to secure at night the rest unknown to the general practitioner.

About medical centers this wholesale withdrawal was a comparative death-knell to the advance of obstetrics, genius took to this surgical offshoot and the consequence is that the proceedings of obstetrical and gynecological associations are almost wholly gynecological, so much so that a late president apologized for selecting an obstetrical subject as the theme of his address and which had no relation to the mechanism of labor or its physiological action, but to a pathological condition that was readily recognized and claimed by the gynecologist as within his province.

In my early days Hodge and Meigs, of Philadelphia, the then medical center of this country, maintained national reputations and were revered by all peoples as the highest exponents of the science and art of obstetrics, in the advance and development of which they had been principal factors. Their labors were only completed as the epoch of the greatest advance in obstetrics was ended by their deaths. Before that time the chair of obstetrics was the highest of the seven cardinal departments in the curriculum of study, made so by their personality, yet they drew the line on the use of the knife when necessary to complete labor and consigned the Cesarean section, the operation of that day, to the general surgeon.

This was the entering wedge for gynecology, though for some years dormant, until the genius of Marion Sims astonished the world in exposing preconceived fallacies by throwing aside the barriers that declared invasion of the peritoneal cavity high treason to humanity and regarded the sacred uterus a *noli me tangere*. Prior to this, spinal irritation was the fad, then irritable uterus, and, later still, displacements treated by metal pessaries that to-day might be mistaken for horseshoes. The nervous system was then appealed to to reveal the causes of all the ills that befel women, until the successes of Sims and his followers instituted a popular rage, by brilliant achievements in the development of the principles and practice of gynecology. For many years the lines were severely drawn and, as the gynecologist advanced those who remained obstetricians stood still. Ophthalmology, whose sessions in the AMERICAN MEDICAL ASSOCIATION had been the principal centers of attraction for scientists, as well *hoi polloi* of the membership, soon faded before the alluring wonders of gynecology, which became the absorbing topic and crowded its sessions to a full capacity.

In the minds of the general public, obstetrics is relegated to the position of a mere physiological function and the standing in many civilized countries of the obstetrician is far below that of the man of medicine or surgery. In the triumph of gynecology the average man soon learns to hate practical obstetrics and would avoid it, except for the pecuniary advantages and perhaps his necessities.

How often do you hear the question asked: Who are the distinguished obstetricians of our metropolis? You hesitate. On reflection you find few, and, when asked

the names of men who occupy the chairs of obstetrics in various colleges, how many of you can name them? Men who hold them feel their comparative insignificance, as evidenced by their application or expressed willingness for promotion to the vacant chairs of gynecology; and it is a fact that most of them are in training for that step. But as the novelty and acquirement of large fortunes to the gynecologist are fast passing by, revulsion is sure to come when genius will return to the parent and obstetrics resume her place in the original curriculum of importance of fifty years ago, when to the minds of the public the accoucheur will no longer rank so nearly the status of the midwife. The young man who thinks he has accomplished nothing until he has successfully opened and closed a woman's abdomen will intuitively realize a higher sphere in the comprehensive revival when another Hodge or Meigs appears on the stage to lead the van of scientific investigation along its whole course. In our general medical associations, the gynecological sections will no longer occupy the whole time allotted to obstetrics and gynecology, for obstetrics must gather them into her fold by the force of advanced medical education.

As gynecology has robbed obstetrics of all the surgery, I shall confine this paper to the only two marked advances during late years, namely, asepsis, and particularly the use of anesthesia, therapeutically, in the conduct of labor.

The necessity of asepsis in midwifery is so apparent to the practitioner of the present day that cleanliness in all cases and the use of germicides to avert or combat suspected infectious or febrile conditions following labor make the practice imperative to the rational minds of most men. The variety of opinions pro and con expressed by many prominent men as to the value of the different agents and their use in detail, compels others to hesitate, because of their own universal success during long periods of obstetric practice where specific anti-sepsis was ignored and but the two precautions of cleanliness and avoidance of meddlesome midwifery observed, as taught from the beginning of time. In a healthy woman most of the natural vaginal secretions are germicidal, and in ordinary labors, unless the surroundings are unclean, all women should escape pathological infection, for when sepsis does occur some one is to blame. Infection comes from without, and septicemia is due in many instances to the infected hand of the obstetrician, largely by the use of lard, a fruitful purveyor of septic bacteria.

The profession does not so kindly take to the use of anesthesia, therapeutically, in conducting all labors, especially where by time and patience nature unaided can accomplish the delivery of the child. The causeless fear of post-partum hemorrhage, supposed arrest of uterine contractions, and danger to the life of mother and child, particularly where functional or organic disease of the heart, lungs or kidneys may exist, induces them to desist from its use, on false general principles, due entirely to a timidity begotten of voluntary inexperience.

Twenty-two years ago I had the honor of presenting a paper on this subject to the Pennsylvania State Medical Society, in which, after the administration of the English mixture of chloroform, ether and alcohol to 1000 cases, I felt justified in making the following conclusions, and have since repeatedly proved them to be correct:

1. The parturient state is the only condition of the

system during life in which anesthetics, judiciously administered, are entirely devoid of danger.

2. The physiological action of chloroform, ether and alcohol in a woman during labor is not identical with that in an ordinary subject in a dental chair or on the surgeon's table; and, from the history of such administration, free from a well-authenticated case of death, with statistics showing its superiority over venesection, opium, etc., in the desperate emergencies attending irregular labors, as eclampsia, it is fair to infer that this agent is an especial therapeutic indication for parturient women and should be so regarded in all labors where by its use the pains of the first and second stages could be obviated and this, too, to the ultimate benefit of the mother and safety of the child.

3. In puerperal eclampsia it is especially indicated, because of its direct, rapid and general action controlling nervous physiological irregularities, exciting secretion, relaxing the os and perineum, and, in short, preparing the parts so as to aid the accoucheur in his manipulations for the essential emptying of the uterus, to accomplish which venesection, opium, purgation, baths, counterirritation, etc., either singly or combined, bear to anesthetics the relation of mere fractions to a grand whole.

4. Its application is universal; no disease of heart or lungs should forbid its use.

5. In view of its known therapeutic action and safety in the small quantity required to produce narcosis, no use of the forceps, version or obstetric operation of any moment should be performed without it, not only to save the patient from shock and its consequence, but because of the great saving of time and labor, and in most instances the assistance it affords the operator.

6. Owing to the fact that uterine contractions are sometimes lessened by the administration, it may be regarded as important to precede it by an oxytocic in all labors and at any stage where the pains are slight, so as to increase their force, and also to guard against postpartum hemorrhage, a very infrequent occurrence where such precautions are taken.

7. Accidents to the unemptied bladder, ruptures of perineum and sphincter ani may be prevented, as well as death to the child in prolapsus of the cord, by the facilities afforded for rapid delivery in primiparæ.

8. In no instance have I seen narcosis of the child attributable to the anesthesia.

The small quantity necessary to produce semi-narcosis or full narcosis, the absence of nausea, exhaustion or shock on the return of consciousness, the impossibility of nervous perturbations, the freedom from hemorrhage, the invariably rapid getting up, with the small percentage of stillborn children, are facts that go very far to prove that which I believe to be axiomatic.

By judicious administration of an anesthetic, you can not possibly do harm to a woman in childbirth; nor can you fail to do her good.

In thousands of administrations only two cases of death are alleged to have occurred; even these two cases are so questionable that no one has ever been able to trace them to a reliable source. Whilst no one hesitates to administer the anesthetics in desperate emergencies, they fail to recognize the humanity of administration as a general practice, not alone to relieve pain, but for its imperative demand therapeutically, to facilitate by its aid a happy issue in result.

Few men who will sit by a case of labor using chloroform or the A. C. E. mixture in small quantities to produce scarce semi-narcosis during the pains of the first,

and full narcosis in the second stages, can fail to recognize the human adaptability of these agents, not alone to relieve pain, but for the physiological effect in allaying emotional irritants or excitants, thereby moderating central and peripheral nervous irritability, exciting vaginal secretion, dilating the os uteri, relaxing the perineum, giving force and direction to uterine contractions and establishing in all the organs engaged in parturition their true physiological functional activity, so essential to the quick, safe and happy completion of even a natural labor. In exceptional cases, uterine contractions may be lessened, but ergot and the stimulating effect of traction by the forceps will restore the muscular tone and greatly add to the ease and safety of delivery.

But few cases of close observation will be necessary to impress you with the fact that the therapeutic physiological action is not that of any other condition in life, and in eclampsia the patient is safer in the vapor of the anesthetic, during the paroxysms, than when breathing pure atmospheric air.

Many years ago, I saw a primipara with general anasarca, and fearfully apprehensive, because of her condition and the fact that her mother died giving her birth. She was almost blind; the urine was albuminous and scanty. She was exhausted from loss of rest and exhibited the prodromes of convulsions. Without any evidence of labor, I directed an active purge and large doses of bromid of potassium, believing that when labor set in I would have a typical case for testing the virtues of anesthesia in this particular character of convulsive trouble. Before either of the remedies could be administered, convulsions occurred with great violence; I commenced at once the inhalation of the English mixture of ether, chloroform and alcohol at each exacerbation until she was lulled to quiet. Turning a deaf ear to all appeals of the friends for venesection, the anesthetic was steadily continued for two hours, when it was evident her labor had set in and the chief aim was to deliver as soon as possible. While bringing down the child with the forceps, the general appearance of the woman became so alarming as to unmistakably portend to the bystanders certain and immediate death, and, so unwilling were my medical assistants to continue the anesthetic that I was compelled to leave my portion of the work to take the charged towel and crowd it over the entire face of my eclamptic patient; she had apparently almost ceased to breathe, but soon the blueness faded from the finger nails, the extremities assumed a more natural color, the pulse increased in force and the respiration returned to its former stertor. This gave confidence, and the assistants, being assured of no responsibility in the event of a fatal termination, complied with my instructions and for another tedious hour we so guarded her from death as to complete her labor in safety of a healthy, living child.

Twenty years ago, I saw Mrs. D., age 37, with a history of healthy parentage, having herself enjoyed good health until her 29th year. At that time she had her third child, and the labor was followed by a severe attack of measles from which she never fully recovered. A slow and insidious catarrhal pneumonia kept her ill, though not confined to the house or totally disabled from performing her usual domestic duties. She was attended by several physicians for three years, without benefit. In 1878, she was placed in my charge. After three months' attendance, I observed her symptoms steadily increasing in degree. I could not interpret the character of the cough, dyspnea, loss of appetite, diar-

rhea, profuse and uncontrollable night-sweats, leucorrhea and loss of menses, with extreme emaciation, other than as direct indication of an early demise. I ordered a sedative mixture of hydrocyanic acid and morphia, and hopelessly retired from the case. After several months had passed I met her husband on the street and delicately enquired of her subsequent history. His answer was "As good as could be expected," and as he was with other men, I asked no further questions. Two months later, I received a nameless message to call at a house in another part of the town from where I had seen her last. There I found this same woman improved in weight, appearance and in many respects, though she still had cough, dyspnea, and the lungs showing serious physical signs of embarrassment from fibrous deposits. Her face and arms were thin, but the body was round and full, and while I was wondering what mysterious power had prolonged the life of that woman, my services were asked to attend her in an approaching confinement. While I confess apprehension, my faith in this greatest boon to parturient women was unshaken, and I welcomed the opportunity to prove the truth of my conclusion that no condition of heart and lungs should forbid the use of anesthesia in labor. Accepting service, I secured the assistance of Dr. Chrisman. Her labor came on gradually, but when the pains increased in severity her face and chest became cyanotic. I commenced the administration of the A. C. E. mixture and after very few inhalations the laryngismus stridulus entirely disappeared and there was no sign of return of the cyanosis to the end of her labor. But a small quantity was administered at the beginning of each pain; a state of semi-narcosis was maintained for three hours. When I felt she would have the assistance afforded by the forceps, Dr. Chrisman was summoned and the anesthetic consigned to his care. He was directed to produce profound narcosis; the forceps were applied for one hour, and the delivery was accomplished of a large, living, apparently healthy child. During the next three weeks all went comparatively well, but in the succeeding week a sudden change occurred; dyspnea, cough and fever increased; her old symptoms returned and she declined from exhaustive sweats and malnutrition during the beginning of the fifth week.

A postmortem examination revealed the right lung filled with fibrous deposits from top to bottom, with two cavities the size of walnuts, one in the middle and the other in lower lobe. The left lung was of the same character in the upper half, and so studded with deposits in the lower as to make her whole lung capacity but one-fifth. Five weeks before, the deposit may not have been so great; yet I think at a liberal estimate, we may safely say that at the time of her labor she was only using one-half of the left lung, for during the four weeks after labor, my books show that I paid her very few visits.

With this testimony we should have no hesitation to use the anesthetic in all painful labors. How few physicians would refuse an anesthetic to a man or woman who required the lancing of a whitlow, the extraction of a tooth, the amputation of a breast or limb, or any of the ordinary minor or major operations in surgery, where danger to some extent always attends, and in which exists but a small amount of pain, from the shortness of duration, in comparison with that of an average labor where statistics declare no danger under any administration can be apprehended from the anesthetic alone?

Where is the man who as physician or surgeon in his legitimate province could stand coldly by and see with indifference the writhing of a human being in broken or continued pain without offering to him an anodyne or anesthetic? Yet that same man exhibits stolid and heartless indifference when he becomes an accoucheur and has in his sole charge a helpless woman in the agonizing throes of labor, earnestly beseeching him to save her of her anguish or give to her immediate relief in death.

Fortunately in unnatural labors most physicians regard an anesthetic as directly indicated and rarely attempt version or craniotomy without it; but unless some desperate emergency exists, a morbid apprehension of some mythical possibility seems to seize the mind and govern their action, and a humaneness, for which as physicians and surgeons they may be proverbial, deserts them in the very hour when the tenderest sympathy and promptest care should demand the consummation of a possible painless and happy conduct by that boon which, to a parturient in the travail of labor, falls but little short of what may well be termed an especial therapeutic indication.

WHEN SHOULD PATIENTS BE ADVISED TO EAT EVERYTHING?*

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There can be no question that a large proportion of the chronic ailments from which mankind suffers are mainly direct or indirect consequences of wrong eating and drinking, the secondary effects being produced through auto-intoxication. However, other hygienic faults are frequently added factors in the causation. The ailments thus induced may include not only the well-recognized diseases of the alimentary system, but also an endless number and variety of more or less obscure conditions of impaired health, ranging from insufficiency of bowel movements or of renal excretion and affections of the skin, to organic disease of the heart, vessels and kidneys as well as apoplexy and many organic changes in the nervous system. They include especially a number of cases of neurasthenia and other vague derangements of the health in ways that often seem very mysterious until a proper interrogation of the digestive organs by the recent exact methods reveals the presence in them of some lesion or functional disturbance, such as a moderate dilatation, displacement or latent catarrh of the stomach or intestines, or, as more frequently happens, hyperchlorhydria with resulting intestinal dyspepsia. Such cases are seen every day by physicians who are accustomed to make thorough examinations of the abdomen and the stomach contents, and not infrequently the only prominent symptoms are nervous ones, especially insomnia and either mental depression or an unwonted nervous tension.

Many patients who place themselves under treatment for the consequences of an unhygienic diet, though their disease may have been years in developing, expect to be so fully cured in a few weeks or months that it will be possible for them to eat everything as they had formerly done. One of the popular tests of the skill of a physician is his ability to cure dyspepsia, as well as the other maladies which require a restriction of the diet, so completely that the patients can again "eat everything."

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Before deciding as to the possibility of restoring to dyspeptics and other invalids this coveted power to indulge their palates to any desired extent without danger, it may be well to consider what the normal food requirements of man are, and then to contrast with these the sort of diet that is now in vogue among well-to-do people.

NORMAL FOOD REQUIREMENTS.

Physiologists have determined over and over again that to maintain the human body in full health, albuminoid or proteid material—furnished by meat, fish, eggs, etc.—must form approximately one-fifth part by weight of the food; the hydrocarbons or fats need to be in about the same or a slightly larger proportion; and the carbohydrates—starch and sugar—must form about three-fifths. The various authorities differ a little as to these exact proportions, and these must vary somewhat with the occupation, climate, etc., but all agree that the carbonaceous foods need to preponderate largely in the diet of man, or nutrition will suffer.¹ Lean meat contains chiefly proteid material, salts and water. Other meats contain considerable fatty matter, as do also such albuminoid foods as fish, eggs and cheese, but practically no starch or sugar, except cheese which contains 2 to 6 per cent. of sugar. In beans, peas and other legumens, as well as in the grains and unbolted flours, there is also a large percentage of proteid material combined with a still greater proportion of starch. Indeed, the legumens contain a greater percentage of albuminoid material even than most meats, fish or eggs, in addition to a still larger proportion of starch, and, therefore, are among the most nutritious of foods for persons able to digest them. The needed fat may be obtained from various sources, but especially from butter, cream, milk, olive-oil, the fat of meat, fish, etc. Milk is more nearly a complete food than any other single article of diet, yet does not contain enough of the carbohydrates to maintain perfect nutrition for prolonged periods in adults, without the ingestion of much larger quantities than the stomach could tolerate.

In the treatment of gastrointestinal catarrhs a milk diet, or one of meat mainly, is often prescribed with advantage for a short time, but either alone, if persevered with long, would cause a slow starvation.

Let us see, now, how a large number of the opulent classes, as well as many people in this country, of only moderate means, actually do eat and drink. With a great number of these, especially those who travel, or live much in hotels, breakfast includes a variety of hearty viands, of which meat or eggs or both usually constitute about one-half by weight, not counting coffee, which contains practically no nutriment at all, except the sugar and milk with which it is flavored. Luncheon also often consists of fully one-half albuminoid material, if not more. But the dinners are the most unhygienic. The approved modern dinner begins with oysters or clams, followed usually by a meat soup, fish and roast meat, and after these come frequently some sort of game and various kinds of entrees. All of these so far, except

the vegetables served with the roast and fish, and sometimes with one or more of the other courses, belong to the proteid or nitrogenous aliments which, as a rule, should not exceed one-fifth to one-fourth, at the most, of the total food taken. So far, then, the table d'hôte dinner, eaten by the average guest at first-class hotels, consists mainly of albuminoid material, and even when there is added the bread often taken and the desserts with which the meal is topped off, the proportion of proteids is rarely brought down to as low an average as one-half. Moreover, at dinner the carbohydrates eaten are largely in the form of amylaceous articles which are taken mostly with the dessert at the end of the meal when, even in normal stomachs, there is too much HCl present to permit of further salivary digestion, and in hyperchlorhydries often enough to impair also the action of the pancreatic juice. Then, the cane-sugar served generally with the starch in the dessert is the most fermentable of all foods, and therefore injurious to those patients and convalescents in whom there is a tendency to fermentation.

The pepper, hot sauces, and other sharp condiments with which such a meal is abundantly garnished, produce by over-stimulating the glands, in all except the worn-out stomachs, or those with depressed functions, an abnormally large flow of the gastric and other juices, so that the diner is tempted to eat, and often enabled to digest for a time, until his glands become prematurely exhausted, quantities of rich nourishment of various kinds, out of all proportion to his exercise and needs. The alcoholic beverages which form so common an accompaniment of the dinner, tend ultimately, even when taken very moderately, to produce degenerative processes, and if at all freely used, effect a serious amount of damage, exceeding even that brought about by the long-continued ingestion of a larger proportion of proteids than can be oxidized and assimilated. We know now, too, that alcohol, except in very minute quantities, retards instead of helps the digestive processes, and always impairs, when it affects it in any way, the motor function of the stomach.² Furthermore, the testimony of nearly all the leading physiologists is that it is in no proper sense a food.

Under the guidance, then, of our ignorant French cooks and caterers, who prepare their viands as though every one from childhood to old age had feeble peptic glands in constant need of the most energetic stimulation, and arrange their menus as though three-fifths or four-fifths, instead of one-fifth, of man's food should be nitrogenous, the gastronomic tastes and habits of the so-called good livers, and of large numbers of other persons, have become so perverted that it is not safe to advise even the apparently well to "eat everything" put before them. Still less is it safe to give such advice to those who for long periods of time have suffered much from impairment of their digestive functions or from toxemias produced by fermentation or decomposition of undigested food, even when they seem to be entirely recovered, since like causes would in time again produce the same effects and these would, in such persons, result even more certainly and speedily than before.

The truth is that, in all healthy persons with unspoiled stomachs, the gastric and other juices are secreted naturally in abundant quantity with only the stimulation resulting from the chewing and swallowing of any suitable, plain, nourishing food, and without the aid of either alcohol or pepper or other irritating condiments.

1. Landols and Stirling (Phila.: P. Blakiston's Son & Co., 1887) say there should be one part of proteid or nitrogenous to $3\frac{1}{2}$ or $4\frac{1}{2}$ parts of non-nitrogenous material in the entire food, while Rubner, in "Handbuch d. Ernahrungstherapie" (Leipzig: Geo. Thieme, 1897), holds that the proportions must vary with the age and activity of the person, but for adults engaged in moderate or severe labor, gives the normal percentage of albumin as 16.7, of fat as 16.3, and of carbohydrates as 66.9 per cent. In the aged he would place these percentages at 17.4, 21.81 and 60.9 respectively—i. e., nitrogenous a trifle more (though still less than one-fifth), the fats considerably more, a trifle above one-fifth, and the starches and sugars jointly at just about three-fifths the total intake of food by weight.

2. Diseases of the Stomach. By John C. Hemmeter. Phila.: P. Blakiston's Son & Co., 1900.

The employment of these irritant drugs as excitants in the daily diet of children, youth and adult persons having normal stomachs, is a most irrational practice which is doubtless productive of an incalculable amount of harm. At the best it must lead to the taking of more food than is required, thus not only overtaxing the secretory organs, but also burdening the liver, intestines and kidneys with an unduly large amount of excretory work; and at the worst it must result in a relatively early exhaustion of both sets of glands, as well as in catarrhal inflammations of the alimentary canal and all the unnumbered maladies grouped under the terms lithemia or uricacidemia, not to mention the more dangerous affections of various organs which are believed to owe their origin often to an excess of uric acid and the xanthin bases, and the more obscure forms of autointoxication. It is not intended, however, to condemn the use of table salt, or the various mild articles employed merely to flavor our foods.

It should be time enough to spur the digestive functions with drug irritants when, in the absence of imprudent eating, they are found to be flagging in their work. Usually, when they fail to meet the demands made upon them, except after acute illness or in old age, it is because the demands have been outrageously heavy. In the majority of cases of dyspepsia there is, in the earlier stages at least, an excess rather than a deficiency of the hydrochloric acid, and generally of pepsin and rennet ferment as well, and in these cases the gastric irritants so recklessly employed by the cooks are as useless and injurious as are the scarcely more powerful stomachics which are still so often ignorantly prescribed for them by physicians.

There is more in dietetics than is dreamed of in many of our philosophies. The diet can be made quite as potent for good or harm as our most frequently used medicaments. Besides the abuse of nitrogenous foods and of the sharper condiments, much might be said, if time permitted, of the overloading of the stomach which constantly results from the bad custom of tempting the palate with a lot of rich and often indigestible sweets after the appetite has been fully satisfied and, considering the artificial stimulation just described, after the needs of the body have already been more than supplied. And I shall not enlarge upon the popular fallacies regarding the importance of fruit in the diet of man. Palatable, and often useful as many kinds of fruit are medicinally to counteract some of the effects of over-eating, they do not supply to the system any indispensable elements not present in other articles of much higher food value and not so prone to disagree. In moderation most kinds of fully ripe fruit are safe enough for healthy persons, and for many of those whose chief complaint is constipation, but those of lithemic tendency need to indulge in them sparingly if at all.

CONCLUSIONS.

To sum up: We should never advise our patients to "eat everything" until we have thoroughly cured their diseased digestive organs and freed them from the lithemic condition; and powerful as are our modern weapons against these, we can not often succeed in accomplishing such a radical cure until the patients have reformed their unhygienic habits, not only in their eating and drinking, but also in both their work and play. They must learn self-denial and at least the rudiments of the immutable laws of health and, having learned, obey them. They must take into their stomachs, in approximately right proportions, the things that

will nourish and strengthen them, and little or none of those whose chief effect is to derange or irritate the functions or tissues of the body. In many cases, besides, they must give up sedentary employments or pleasures and take regularly, every day, an adequate amount of exercise out of doors. In short, oxygenation must be made to bear its proper ratio to alimentation.

Nor should we advise even the well persons in the families under our charge to "eat everything," without some regard to their idiosyncrasies and tendencies, as well as a reasonable amount of care that they do not follow a harmful acquired taste for too much of the rich and complicated viands or such an undue proportion of nitrogenous food as would make patients of them a few years later, by setting up gradually insidious forms of chronic disease which would inevitably result, at a relatively early period of their lives, in gout or rheumatism, or in other more serious and fatal organic affections.

POISONING FROM AUTOINTOXICATION.*

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In Hufeland's "Art of Prolonging Life," written in 1790, and one of the few books of that century still published and read, there is a distinct recognition of autointoxication states generated in the intestinal canal by the fermentation and changes of foods and drinks. Several of the proprietary medicines owe their success to the recognition of this condition and the application of antiseptic and eliminative measures. One such remedy, widely advertised and supported by volumes of testimonials as having cured obscure disorders and averted serious diseases, contains sulphate of magnesia and soda concealed by some flavoring substances. The value of this remedy is in its power to overcome these auto-intoxicative states which are largely unknown. A book written by an unknown man, claiming to be the science of a new life, nothing more than a promulgation of the theory of two meals a day, points out the same range of causes, with abstinence as the remedy. Eating large quantities of food three times a day is very apt to produce intestinal troubles by supplying more nutriment than can be assimilated, and furnishing the conditions for poisoning from that which is not used. Every practitioner is familiar with autointoxication and infection from the presence of foods which undergo putrefactive changes. The good results from antiseptic and eliminative treatment demonstrate this. The limits of this present paper make it impossible to do more than call attention to a particular form of autointoxication due largely to the products and chemical disturbances which follow from the use of beer and spirits. The common theory that spirits increase or in some way aid digestion, and can be used with foods with comparative safety, has no support in modern research. Persons who drink wine and beer only at meals are never good types of health and free from digestive disorders so common to all classes. Moderate users of spirits only at meals are not common in this country, for the reason that they are unable to confine the use of spirits to the time of food-taking. Literally, such persons soon begin to drink at other times and occasions, and often to excess. The average moderate drinking man, whether using spirits at meals or on other occasions, very soon becomes an

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invalid. Often this invalidism is called "rheumatism," "malaria," etc., and is marked by local palsy, headaches, irregularity of the heart's action, insomnia, dyspeptic symptoms, catarrhal difficulties, with alternate constipation and diarrhea. These and other obscure symptoms are ascribed to various causes and are rarely recognized as having any connection with the use of beer or spirits. The disappearance of all these symptoms after periods of total abstinence from spirits is usually ascribed to some other cause. The ordinary beer drinker is the most prominent example of autointoxication. In many instances but little change is noted in the first period of addiction. One may use beer daily for a long time, without any noticeable change, but sooner or later a class of symptoms will appear which clearly point out the presence of toxic products and their absorption into the system. The fatty degeneration so characteristic in beer-drinkers, associated with increase of flesh, loss of vigor and enfeebled action of the heart, is common to most cases. Enfeebled vigor and slow vitality is noticeable, particularly among the English workmen in large cities and towns. Such persons have every appearance of health, but when injured or attacked with disease, have no resisting power and die from apparently trivial causes. In this country beer-drinkers usually are dyspeptics, and have catarrhal and other local inflammations. They suffer from influenza, malaria, are sluggish, exhibit mental feebleness, and are great patrons of the doctors and the free dispensaries. The use of wines and stronger liquors in moderation or excess is followed by neuralgias, insomnia, and obscure pains which are called "rheumatism," and "malaria," or "the sequelæ of the grip." Other symptoms of disability which are noted in persons who use spirits to excess are frequently apparent in disorders of the nervous system. Some of the most obscure symptoms pointing to changes in the brain disappear rapidly from the discontinuance of spirits. In clinical studies this fact is so apparent that careful inquiries are always directed toward the habits of the patient to determine the influence of alcohol, if possible. The fact of using alcohol is becoming of greater significance clinically, and next to syphilis is a contributory cause in the production of a great variety of disease, and should be inquired into in every obscure case.

ACTION OF ALCOHOL.

Recent pathologic studies have cleared away much of the obscurity concerning the action of alcohol on the organism. We now know that alcohol, even in a small quantity, has a peculiar corroding action on both cell and tissue, impairing its power of growth and repair, and diminishing its functional activity. The nutrition which would naturally be used to repair cell and tissue is diverted, changed, and becomes waste products. The action of alcohol on the nerves, particularly those which control the blood-vessels, lessens the power of control and permit the blood to pass with greater force and volume, putting greater strain on the walls of the minute arteries, and is probably followed in many instances by minute hemorrhages. Alcohol in the blood diminishes the oxygen-carrying property, destroying the hemoglobin, and is followed by states of starvation. The waste products increase and the power of elimination decreases, hence all the processes of digestion are disturbed and altered. The waste products are retained and become sources for the growth of pathogenic germs. Both the liver and kidneys are subjected to increased activity with diminished nutrition. The pathologic condition is clearly that of starvation and irritation which

rapidly merges into inflammation and exhaustion. The products of these deranged metamorphoses become real poisons, and their presence in the system is marked by many and obscure symptoms. Often the evidence of these pathologic conditions is confirmed by the results of treatment. An example will make this more clear. A moderate-drinking lawyer who was an invalid, having been unsuccessfully treated by many physicians for many grave diseases, suddenly became a convert to "Christian Science." He abandoned the use of all spirits, and lived on a restricted diet, with mineral waters. The recovery which followed was attributed entirely to mind effects. In reality, it was simply the removal of the causes, viz., the spirits, overeating, and the autointoxication which followed.

Again, a farmer, who used cider-brandy regularly every day, was thought to have gastro-enteritis, with colitis and local paralysis. Heart lesion and asthma were also present. After various efforts to recover, which were unsuccessful, he gave up all use of spirits, and was treated in a sanitarium, by baths, milk, and a restricted diet. The result was most satisfactory, and the recovery very rapid. These are common instances which are often seen in practice. The young physician trained in the technique of modern diagnosis would find very grave symptoms of organic disease in such cases. To the older physician with experience and an intuitive diagnostic sense, the term "bilious" would express his conception of diagnosis and subsequent treatment. A great variety of obscure symptoms whose origin would be doubtful, should always be treated on this supposition that the poisonous products may be spirits and allied causes. Inflammatory states and bacterial sources of infection, localized lesions, and irritations may all spring from the same source, and their sudden recovery following the use of commonplace remedies and placebos should be considered evidence of their toxic origin. Many of the most wonderful cures ascribed to various remedies are nothing more than the removal of toxic poisons. In neurotic persons these conditions are probably often present, and the value of a hospital treatment is very often due to a change of diet and removal of certain causes which were not recognized. The action of a cathartic in all inflammatory conditions is a practical measure along this same line. Neurasthenic states of the brain and nervous system, from overwork and neglect of normal living, may strongly predispose to the formation of toxins in the intestinal tract, the absorption of which will still farther complicate and add to the disorders present. Want of proper muscular exercise, confinement in bad surroundings, using food not adapted to the climate and work, are also prominent causes. Insomnia is another common condition following poisoning. In a patient under my care, where insomnia led up to morphia taking, the treatment by baths, mineral waters, and restricted diet resulted in complete recovery. The original cause was toxemia. The use of beer for its supposed food and strength value often increases this condition. The temporary relief which follows from its anesthetic action on the nerve-centers creates the impression of cure, while in reality the poisoning is increased. Spirit taking for the same reason is often followed by the same results. Sclerotic states of the brain and cord which follow the moderate or immoderate use of spirits, and the slight hemorrhages which we now realize to be very common, are all the direct results of the changes in the metabolism and the formation of poisoned products which in themselves become sources of injury. The term "bilious," in disrepute among

modern physicians, and indicating in a general way some unknown congested condition, has pointed out lines of treatment the results of which have been far more satisfactory and nearer a final cure than from any modern remedies. The hydropathic theory of disease and its treatment, particularly the internal use of water, is also much nearer the most advanced teachings of science and its practical application. I append some clinical illustrations of these facts which will bring them into greater prominence. I select some extreme cases as examples of the possibilities of relief from treatment based on this theory of autointoxications. •

RESULTS OF TREATMENT.

A lawyer at 52 gave up business on the supposition that he had paresis and must die. A period of ten years of active treatment and consultation had confirmed the opinion that he was incurable. He continued to use spirits every day, at meals and at intervals, eating very heartily, and exercising very little. He suffered from palsy, lancinating pains, insomnia, and gastro-intestinal disturbance, was intensely irritable, and depressed at times, and had delusions of exaltation, which slowly increased. By an accident, he was forced to stay at a sanitarium, where he reluctantly consented to the withdrawal of spirits and the substitution of baths and moderate exercise. The change was so pronounced that the treatment was continued. Three months afterward all symptoms had subsided and he was able to go about free from pain and fully restored. He returned to his profession, working moderately and living abstemiously, using baths daily. Four years afterward he was still well and strong. The inference was clear that his paresis was very largely functional, and due to the toxic conditions of the body. This case was the subject of much discussion, and has been published in the journals.

An instance of a remarkable cure ascribed to a preparation of soda was undoubtedly due to hygienic measures of baths, abstinence from spirits, and a limited diet, followed continuously for months. I pointed out this probable fact to the disgust of the physician, who thought he had made a discovery of a new use of soda.

A second example of the same class was that of a prominent clergyman, who for years had used wines at table, and beer at intervals for its supposed tonic action. After an attack of influenza, hemiplegia with great enfeeblement came on. The urine showed disease of the kidneys and the stomach and intestinal tract were also deranged. Several very elaborate diagnoses of grave diseases were made by physicians, and equally elaborate plans for treatment were suggested. He was finally put under the care of a country doctor with no hope of recovery and the only expectation of making his last days comfortable. This physician used a cabinet bath for profuse sweating, and massage followed by a course of dieting, with mineral waters, and passive exercise. The recovery was rapid. The paralysis disappeared. His mental condition changed, and all symptoms of inflammation vanished. The restoration was complete. He did not resume his profession, but went into active outdoor service, and is now—three years afterward—well and vigorous. This case, like the other, was clearly one of poisoning which was rapidly merging into a chronic condition, but fortunately the removal of the active causes enabled Nature to restore much of the lost health and vigor.

An active, energetic lawyer, 55 years of age, had a convulsive attack, with unconsciousness, followed by

hemiplegia and mental feebleness. This was considered cerebral hemorrhage. The physician gave spirits as a tonic and large quantities of liquid foods to keep up his strength. He had been a wine-drinker at the table, also a very hearty eater of meat, using large quantities of rich food, and occasionally using spirits. For two years he suffered from headaches and intestinal troubles and prolonged periods of prostration. Albumin was found in the urine, and his case was regarded as serious. I was called to witness his signature to a will, and to determine his mental condition. Acting on my advice, the family physician removed all spirits, and restricted the diet, giving mineral waters and baths daily. The result was very marked, with rapid recovery and complete change. After a tour to Europe, under the care of a physician, he returned in good health and vigor, and is now—six years after—strong and well. This was a clear case of autointoxication and the supposed hemorrhage was a poison attack from accumulation of toxins in the brain-centers.

A mechanic and mill-owner, without hereditary history, who had been temperate and regular in his habits up to 46 years of age, returned from a trip to Europe with the habit of using wine at meals. For the next five years he drank sweet wines freely at the table, using large quantities of rich foods on the supposition that he needed more strength and vigor with increased age and work. Attacks of rheumatism, with headache and extreme exhaustion, appeared and were treated by the physician without success. Inflammatory conditions of the joints followed, and convulsive attacks with great irritability and mental changes appeared. These were associated with depression of spirits and physical exhaustion. He went to a sanitarium; spirits were removed, the diet restricted and active eliminative treatment carried out for several months. Recovery followed. He resumed his business and two years later began to use wine at the table again, with rich foods. Strong spirits were taken at intervals, for strength. Later, rheumatism reappeared, then convulsive attacks which were pronounced epileptic. The physician continued to allow wine at meals, using narcotics to prevent the attacks, until finally death took place from acute pneumonia. In this case undoubtedly autointoxication from the use of wines and foods was the special exciting cause of the epilepsy and death. Had abstinence from spirits, rigid diet and careful eliminative treatment been persevered in, the result might have been different. The poisonous irritants and toxins concentrated in the brain-centers were the exciting cause of the explosions of nerve energies and the subsequent debility and death.

NECESSITY OF RECOGNITION OF ACTION OF SPIRITS.

I conclude at this point with a statement of the necessity of recognizing the poisonous action of spirits whether taken in moderation or excess, and summarize what I wish to make prominent as follows:

1. Alcohol in any form, taken into the body as a beverage, is not only a poison but produces other poisons, and associated with other substances may develop toxins. Alcohol is also an anesthetic and not a tonic or so-called stimulant. It increases the waste products of the body and diminishes the power of elimination. It also destroys the phagocytes of the blood, and thus removes and lessens the protective power of the blood-cells.

2. Whenever alcohol is used continuously as a beverage, for its medicinal effects, favorable conditions and soils for the cultivation and growth of poisoned compounds are created. These may be neutralized by other

conditions and not be apparent in the derangements of the functional activities which follow. Where disturbance and derangements of the nutrient and functional activities of the body are associated with the use of alcohol, their transient character and disappearance by the removal of spirits suggests the causes.

3. The functional and organic symptoms of derangement appearing in those who use spirits in moderation or excess, which quickly disappear by abstinence and eliminative measures, are clear indications of autointoxications from this source. Obscure symptoms of the nervous system in persons who use spirits should always be examined in relation to the toxic origin from this source. Also grave nutrient disturbances should suggest the same cause with the same treatment.

4. The treatment of all such cases, in which alcohol is used in any form, should be by antiseptic and eliminative measures, and the supposition should always include the possibility of poison by chemical products formed in the body.

PROPOSED NATIONAL BUREAU OF MATERIA MEDICA.

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EAST ORANGE, N. J.

At the Richmond meeting of the AMERICAN MEDICAL ASSOCIATION, in 1881, I read a paper before the Section on Materia Medica and Therapeutics, entitled "The Materia Medica of the Future." In this paper I called attention to a condition of affairs threatening progress in materia medica science and, in a resolution offered for me by Professor Dunster, of the University of Michigan, after the reading of the paper, I suggested a way out of some of the difficulties which I then foresaw. The correctness of my reasoning at that time has been amply proved by subsequent events.

From the Richmond meeting I went to Washington and proposed to Prof. Spencer F. Baird, the secretary of the Smithsonian Institution, the advisability of establishing a national laboratory of materia medica under the auspices of the Government. Conferences were held with the heads of various departments, including the medical departments of the army, navy, and marine-hospital service, army medical museum, national board of health, etc. Professor Baird finally said that he considered the plan one of the most important ever brought to the attention of the Government. But lack of appropriation caused its abandonment at the time. In papers read before the Ninth International Medical Congress, Philadelphia County Medical Society and the AMERICAN MEDICAL ASSOCIATION, I again and again advocated the plan. The AMERICAN MEDICAL ASSOCIATION memorialized Congress on the subject in 1891, and reprints of my paper¹ accompanied it.

What I contend is that the "Materia Medica of the Future" depends for progress upon the proper interpretation and application of the patent and trade-mark laws. If those laws are so applied as to leave materia medica products free to the science, so that they can be investigated by the co-operative work of the profession, and the knowledge thus evolved reduced to law and embodied in system without the interference of self-interested persons who seek to appropriate it for the purposes of exploitation by misleading advertisements, their application for the protection of capital invested in the drug business will be beneficial. If, on the contrary, these laws are so applied as to create

monopolies in medical products, and encourage dishonesty in advertising, they will prove a hindrance to materia medica science and a curse to the American people.

Under act of Congress approved June 4, 1898, a commission was appointed to revise the statutes relating to patents and trade-marks. This commission reported Dec. 4, 1900, and the subject comes before the next Congress for debate. The time is therefore opportune, and it is important that the subject should be understood by the profession in all its bearings. Accordingly I beg attention to the following paper, which I have arranged in the form of a prospectus for a proposed bureau of materia medica. That the Government should inaugurate such a bureau all will doubtless agree. If the Government will not do so an association might be formed of the teachers of materia medica, and the work done by the experts connected with the medical and pharmaceutical schools and colleges working under the auspices of the association.

The plan I have suggested in the following paper is tentative, and needs most earnest consideration and discussion. When the right plan is reached, the committee on national legislation of the AMERICAN MEDICAL ASSOCIATION will be in a position to bring it before Congress.

PROSPECTUS.

The objects of this bureau are: 1, to establish the standards of the materia medica preparations on the market and keep them under analytic and pharmacodynamic observation, with the aid and co-operation of the expert chemists, physiologists, biologists, botanists, pharmacologists and clinicians connected with the medical schools and colleges, and the pharmacists and manufacturers of medicinal drugs and chemicals; 2, to act as the medium of communication between the scientific workers in the laboratories, hospitals and clinics engaged in the investigation of new materia medica products, and those engaged in manufacturing and marketing them, to develop the knowledge of their origin, genesis, nature, composition, methods of manufacture, standardization, pharmacodynamic properties and therapeutic uses; 3, to collect the knowledge of materia medica products, reduce it to law, embody it in system, and publish it for the benefit of science; 4, to aid the manufacturers of materia medica products and preparations who conform their goods to recognized standards in the introduction of their brands to commence by advocating that the medical profession in prescribing shall specify those brands which comply with scientific and professional requirements.

STANDARDS.

The necessity for authoritative standards to fix the nomenclature, define the character, establish the purity, and regulate the strength of medicine, is recognized by all civilized countries. These authoritative standards are called pharmacopeias. The "United States Pharmacopeia" is an authoritative list of medicinal substances with definitions, descriptions, or formulæ for their preparation. The work was devised, and is decennially revised by a committee appointed by a congress of physicians and pharmacists, which assembles in Washington every ten years for that purpose. The pharmacopeias of all nations, except those of the United States, Chili and Greece, are issued under the authority of the respective governments, and therefore partake of the nature of laws.

WANT OF UNIFORMITY IN MATERIA MEDICA PRODUCTS AND PREPARATIONS.

Compliance with the Pharmacopeia not being obligatory, there is a wide difference of uniformity in this country between the products of the various manufacturers. The processes of the Pharmacopeia yield products with characters which distinguish them from the products yielded by other processes. There are, for example, quite an extensive variety of processes extant for making fluid extracts. Taking the products of the Pharmacopeia as standard, and comparing the products of the other processes with them, grading them in accordance with their resemblance to the official fluid extracts, decided difference of character will be observed between the two extremes. The Pharmacopeia directs a certain process for the manufacture of tinctures. It is evident that the tinctures prepared by the official process, and those prepared by diluting the dif-

1. JOURNAL A. M. A., Oct. 24, 1891, p. 623.

ferent kinds of fluid extracts prepared by the processes of the different manufacturing houses, give an equal number of species of tinctures.

Another reason for want of uniformity in such preparations as the fluid extracts, tinctures, and other preparations of vegetable drugs, is due to the wide variance in the amounts of active principles present in different samples of the same drugs. To overcome this variation the Pharmacopeia directs that certain drugs, such as opium and cinchona, for instance, shall be assayed by official processes given for that purpose. Chemical assay, however, is confined to those drugs containing alkaloids, glucosides, and other definite principles, for which practicable processes of assay have been determined.

And what has just been said regarding galenic preparations applies also to chemicals, though, perhaps, not to the same degree. Each chemical process, however, gives a product with characters of its own; and, unless the product be rendered chemically pure, which is rarely the case, the variation in uniformity between products will be governed by the process employed in their preparation. Again, the commercial standards for purity in chemicals pertaining to the market is in many cases decidedly lower than that of the Pharmacopeia, this being another cause for want of uniformity in products.

WANT OF UNIFORMITY IN PRODUCTS MEANS WANT OF UNIFORMITY IN THERAPEUTIC EFFECTS.

The very first essential to uniformity in therapeutic effects is uniformity in products. The importance of all manufacturers conforming to the standards and processes of the Pharmacopeia is therefore apparent. The only exceptions to this rule permissible is in cases where pharmacopeial standards and processes can be improved upon. When such improvements are attempted, the manufacturers should furnish sufficient scientific reasons to justify departure from official standards. This means the employment of experts provided with laboratory facilities and instruments of precision.

THE QUESTION OF MONOPOLY OF MEDICAL PRODUCTS AND PREPARATIONS.

The beneficence and professional liberality which should distinguish the medical and pharmaceutical professions from the vocations of the merchant and tradesman, and the fact that the knowledge evolved by the co-operative work of professional men belongs by right to humanity, makes it unethical for those who are practicing the medical arts to individually appropriate the knowledge resulting from original investigation for selfish purposes. Pharmacy, or the art of manufacturing medicines, is a medical art, and the pharmacist and manufacturer are bound by the same ethical obligations as the physician. Therefore, those who violate the principles upon which medical practice in all its departments is founded, deliberately place themselves without the professional pale, and have no right to expect that the profession will accord them the privileges which belong only to those who comply with professional and scientific requirements. Among those privileges is the use of the scientific pages of the medical journals for the purpose of adding to the knowledge of *materia medica* by the publication of the results of original research. *But the price of science is publicity, and the surrender of all claims to proprietary rights in the products investigated.* Papers relating to patented or controlled products can only be regarded in the light of nostrum "write-ups" or testimonials, when favorable to the product, and regarded with suspicion when condemnatory; and no physician nor pharmacist of standing can afford to risk professional reputation by reporting upon them for publication.

THE QUESTION OF COPYRIGHTS AND PATENTS.

Carried to its logical conclusion, the enforcement of the professional ideal would exclude from fellowship the authors of medical books, who take advantage of the copyright law to secure monopolies of the products of their brains. Copyright has been made necessary, however, on account of the necessity of protecting the capital of publishers engaged in the business of printing and marketing books. But the monopoly obtained by copyright does not extend to the subject written about. It only includes the title of the book and its language. In the same manner exception can be made in favor of the inventors of new processes and apparatus for manufacturing medicine, and the Government can, without danger to science, grant them the right to prevent others copying their inventions for limited periods of time, so long as the patents do not cover the products themselves. If the product itself is monopolized, every effort is made by the manufacturer to push it to the front as a therapeutic agent by exaggerating its merits, and repressing its unfavorable side, so that it becomes next to im-

possible for physicians to ascertain its limits as a therapeutic agent and use it intelligently. And if any physician of standing has the temerity to publish its untoward effects, he excites the antagonism and reprisal of the manufacturer.

COMMERCIAL CLASSIFICATION OF MEDICINES.

According to the present classification in use at the United States Patent Office, "medicines" constitute a "class of goods," and manufacturers are permitted to register as trademarks on the class names which they are supposed to use for the purpose of distinguishing their goods of the class from other goods of the same class, but which they in fact use as the titles of the medicines themselves. As well might the patent office group in one class all metallic substances and permit the names of all new metals discovered to be registered as trademarks on the class of goods "metals."

Medical products may be distinguished and classified commercially by order, class, tribe, genera, species and variety. Take quinin sulphate, for example; it belongs to the order "alkaloid," class "cinchona alkaloid," tribe "quinin," genus "sulphate," species the product furnished by a stated "process," variety the "brand" of a stated manufacturer. Now it is evident that as each manufacturer has a right to use any unpatented process to make his brand of quinin sulphate, and that there are several such processes extant, and as the product of each process possesses characters of its own, it is important to name the process as well as the brand. There is a difference between process and brand, even in such definite substances as quinin sulphate. And this difference between process and brand is still more accentuated in case of fluid extracts and tinctures. By the use of the pharmacopeial process for making tinctures one species of tincture may be produced, and different varieties will result according to the amount of skill possessed and employed by the individual pharmacist or manufacturer in using that process. It follows, therefore, that the individual learning and skill which gives character to a medicinal product should have a name as well as the process. That name is the name of the manufacturer, or a name or mark standing in place of the name of the manufacturer—his mark, his commercial signature or trademark.

It is universally acknowledged in law that the function of a trademark is to distinguish the manufacturer, and it is perfectly apparent that the name of the order, of the class, tribe, genus or species of a medicinal preparation, is incapable of performing the function of a trademark. Not until that point is reached, where the individuality of the manufacturer counts, does the commercial signature, which distinguishes between one maker and another, come into play. It logically follows that the specifying of brands by physicians in prescribing throws the responsibility of character, purity and strength of medical products and preparations on the manufacturer where it belongs. This does not relieve the pharmacist who compounds the prescription from his responsibility in the matter of selecting between the various brands of fluid extracts, and other preparations on the market. The physician has the right to assume that the pharmacist fills the prescriptions entrusted to him with preparations made in accordance with the U. S. P., unless those made by other processes are specified.

THE QUESTION OF SPECIFYING IN PRESCRIBING, BY USING PROCESS NAMES AND BRAND NAMES.

Taking the above facts into consideration, it is evident that physicians in prescribing will consult their own interests, and the interests of their patients, by specifying processes and brands; and the manufacturers would consult their own interests by divulging their processes in many instances by patenting them, and providing their products with process names and brand names by which they may be specified. This particularly applies to new medicinal substances as prepared for the market before they have been standardized as to character by the committee for revising the Pharmacopeia.

Take, as an example, tannin albuminate. Knoll has invented a process for preparing it. The name "tannalbin" has been given to that species of tannin albuminate produced by the Knoll process. The Merck brand is on the market. Now it is evident that a patent granted Knoll for his process, which carries with it the right to prevent others from manufacturing and dealing in tannalbin for seventeen years, is protective alike to science and commerce, for no monopoly of tannin albuminate has been created, and exact knowledge of the Knoll process has been filed in the patent office in Washington, and may be had by any applicant for the small sum of five cents. It is also evident that the inventor, in making Merck his agent for introducing tannalbin to the American market, places himself in a similar position to that which the author of a copy-

righted book occupies in relation to the publisher, and that the physician in specifying "Tannalbin-Merck" secures the benefit of the Knoll process for manufacturing tannin albuminate and the guarantee of Merck for the character of the preparation. But if the patent on the Knoll process should have been extended to include tannin albuminate itself in the monopoly it would be a similar monopoly to that which the author of a medical book would obtain if his copyright could be made to cover the subject of the book as well as its title and language. It would be very similar to giving a botanist a right to prevent others from writing and publishing anything with regard to a new medicinal plant because he was the first to discover it and write about it. Manifestly, he would be able to control the knowledge of the plant during the existence of the copyright and exploit the plant as a "new remedy" by misleading advertisements "without let or hindrance." Knowledge must be protected, and science promoted, by leaving the products themselves open to the introduction to science by the co-operative and educational channels of the profession. Therefore, proper discrimination should be exercised by the physicians in prescribing to make sure they are not playing right into the hands of the nostrum trade.

THE INTRODUCTION OF NEW MEDICAL PRODUCTS TO SCIENCE.

The knowledge of materia medica, reduced to law and embodied in system, constitutes that important branch of medical science properly described as pharmacology. Pharmacology is defined as the science of medicines, their nature, preparation, administration and effects; including pharmacy, pharmacognosy and pharmacodynamics. Knowledge of one medical product, not known as related to any other, or of many such products not known as having any mutual relations or as comprehended under the general law of pharmacologic science, does not reach the meaning of science. The knowledge of new remedies remains a heterogeneous medley of facts and fancies without co-ordination or control, until it is reduced to law, embodied in system, and provided with a proper nomenclature.

It is evident, therefore, that the only way by which new medical products can be introduced to science is by the co-operative work of those engaged in the practice of the pharmacologic arts, and through the educational channels of the profession—the professional societies and press, the laboratories and lecture-rooms of the professional schools and colleges, the text-books, pharmacopeias, and dispensaries.

THE INTRODUCTION OF NEW BRANDS TO COMMERCE.

There is a great deal of difference between the introduction of new products to science and new brands of manufacture to commerce. The former belongs to the sphere of science, and the latter to the sphere of commerce. The former can only be accomplished by the use of scientific methods; the latter requires commercial methods. The exploitation of new products by exaggerating their merits and repressing knowledge of failures is one of the most dangerous forms of quackery. The introduction of new brands to the medical and pharmaceutical professions, in the advertising pages of the medical and pharmaceutical press, shows business sagacity and enterprise. But it should always be remembered that: "Commercialism is not a word in good repute in connection with the practice of medicine (including pharmacy or the manufacturing of medicine for therapeutic use). Not that it is wrong for a physician (pharmacist or manufacturer) to make money if it is done honorably; nor is it beneath the dignity of an ethical member of the medical (or pharmaceutical) profession to apply honorable business principles in obtaining just remuneration for services rendered; but it is wrong, and degrading, for him to subordinate all he may do to commercialism. The making of money is the mainspring of commerce, but medicine (including pharmacy) in its scientific as well as altruistic ideals, has a higher and nobler aim. The laborer is worthy of his hire, but in medicine the latter is only an incidental, not the ideal, end and aim. If it were, our widely uttered claims of being a liberal profession are false, and a large proportion of what we may call the non-scientific portion of medical literature, including most addresses to graduating classes in medicine (and pharmacy) and to societies, is the veriest talking for effect." Taking these facts into consideration, it becomes evident that the medical profession itself is the most to blame for the present unsatisfactory condition of materia medica knowledge, especially as related to new products, and that the only cure for "commercialism" in pharmacy, including that of the manufacturer and the corner drug store, is to discriminate against those who violate the professional ideal, and in favor of those who conform to professional and scientific requirements, by specifying the products of the latter exclusively.

PLAN OF CO-OPERATIVE INVESTIGATION, STANDARDIZATION, ANALYTIC AND PHARMACODYNAMIC OBSERVATION.

Rules.

1. A manufacturer or dealer who desires to market a product under the auspices of the Bureau of Materia Medica shall make application in writing, stating the name of the product, the name of the process, the name of the brand, stating also what claims have been made for it as a therapeutic agent, and on what authority, and promising to abide by the following rules:

2. If the product is one for which a formula has not been published whereby it may be duplicated and become a matter of scientific record, the manufacturer shall provide the Bureau with such formula. The working formula of the manufacturer is not required, although for scientific and ethical reasons it should be published. But a formula must be given by which the product may be reproduced by any person skilled in the art, so that it may be placed on a basis similar to quinin, sodium carbonate, and other official chemicals, or to fluid extract of belladonna, tincture of opium, or other official galenicals, and thus be subject to proper classification and standardization, and fitted for intelligent therapeutic use.

3. The manufacturer shall furnish a sufficient quantity of the product for its scientific examination by the Bureau, which shall, with the manufacturer's aid, fix a standard for it upon which all future claims shall be based.

4. The Bureau shall then announce the fact that the article is under the auspices of the Bureau, and shall declare the standard adopted, and send this information to at least one medical and one pharmaceutical journal for publication.

5. If the article is a new remedy, or extrapharmacopeial preparation, the Bureau shall collect all available information concerning it, and shall send it, together with material for investigation furnished by the manufacturer without charge, to a selected number of medical institutions, hospitals and clinics for experiment to determine its nature, pharmacodynamic properties, and medical uses, and shall collect the results for classification and study. If the nature of the results are sufficiently promising to warrant the Bureau in retaining the product under its auspices, the name of the article shall be placed upon the list of the bureau. If the test shall prove unsatisfactory, the manufacturer shall be informed of the fact and the article dropped by the Bureau.

6. The Bureau shall, at irregular intervals, purchase on the open market, samples of the articles marketed under its auspices, and submit the same to scientific examination, to ascertain whether the standard agreed upon is being maintained.

8. If at any time the scientific examination shall prove the article to have fallen below the adopted standard, the manufacturer shall be notified and permitted to correct the error by informing the trade and replacing the stock of the article in the hands of dealers—the stock bearing the number of the batch from which the article was taken.

9. Should the manufacturer refuse to correct the error, the Bureau shall drop the article from the list and inform the trade that the article has been dropped, and that the batch examined is below standard.

10. Should willful adulteration, sophistication, or depreciation of quality be proved against the manufacturer, the name of the manufacturer shall be dropped from the list of affiliated manufacturers, and the profession and trade informed of it.

11. The claims made in advertisements for the article shall be frequently subjected to examination and, if erroneous statements are found therein, the manufacturer shall be notified; and, if such error be repeated, the article shall be dropped and the profession and trade so informed.

12. Any three affiliated manufacturers shall have the privilege of appealing to the Bureau in writing, requesting the scientific examination of any article on the list. If the article shall be found below standard, Rule 9 shall apply. The fee for this examination shall be paid by the challengers.

13. The manufacturer of an article being marketed under the auspices of the Bureau shall have the privilege of stating that fact on the labels of the article, and in advertisements relating thereto, but this shall in no way be construed as an endorsement of the claims to therapeutic value. It means only that the article conforms to the standard of strength, quality and character.

14. The Bureau shall classify extrapharmacopeial preparations generically and specifically, giving a name to each genus and species when required. It is of course understood that the manufacturers are free to employ brand names in connection with the specific names to designate the varieties emanating from their respective laboratories; but the manu-

facturers should use care on their part not to force the medical public to use their brand names as the generic or specific names of the products. They should always provide their preparations with identifying names which may be employed in common by all manufacturers of the same article. Unless this precaution be observed, the manufacturers can blame no one but themselves if they are taken at their word, and their brand names are adopted as the generic or identifying names of the products themselves, become incorporated in the common language as material nouns, and thus sink into the public domain. The courts of Great Britain have, within about a year, made void the registration of "Formalin" and "Vaselin" as trade marks on the ground that the function of the trade mark is to point out the manufacturer, and the name of the goods, whether a coined name or not, is required as a noun of the language.

APPENDIX.

Under Act of Congress approved June 4, 1898, a commission was appointed to revise the statutes of the United States relating to patents and trademarks. The report of this commission is now before Congress, and is known as Senate document No. 20. It has been printed. By referring to page 31 of this report it will be observed that many foreign countries exclude from patent protection inventions relating to medicines. The report states that they are "excluded in Germany, France, Austria-Hungary, Italy, Japan, Denmark, Norway, Sweden, Portugal, Russia, and a number of other countries. Other classes of inventions excluded from protection in many countries are foods, chemical products, and inventions relating to war material." "The exclusion from protection of inventions relating to medicines or foods does not generally extend to those relating to processes or apparatus for their manufacture." "In all foreign countries which exclude chemical products from protection, except Switzerland, inventions relating to chemical processes may be patented, and in nearly all such countries it is expressly provided by law that a patent for a chemical process by which a new chemical product is made shall in effect cover such product, unless it is shown that such product was in fact made by some other process." (Read in this connection the second paragraph of this prospectus.) "It has been urged before us, both at the hearings of the commission, and in written communications laid before us, that the United States law should be amended to exclude from patent protection both medicines and chemical products generally, at least so far as such inventions are the inventions of subjects or citizens of the foreign countries which exclude these classes of invention from patent protection, and it has been contended that subjects or citizens of foreign countries should not be permitted to receive in this country patents for inventions which are not patentable in their own country."

On page 100 of the report appears a paragraph which shows that the claims made by some that the invention or coining of a word gives the inventor a natural right, or right at common law, to prevent others from using the word, are not supported by the law.

"Criminal prosecutions being had under the statutes of 1870 and 1876, in the southern district of New York and the southern district of Ohio, and a difference of opinion having been certified to the Supreme Court on the question whether these acts of Congress on the subject of trademarks were founded on any rightful authority in the Constitution of the United States, the cases came before the court for review at the October term of 1879. (Trademark Cases, 100 U. S., 82.) The court showed with admirable clearness that because of the distinction between patents and copyrights and trademarks, pointed out in the decision, the power of Congress to enact the law could not be derived from that paragraph of Article I, Section 8, of the Constitution which relates to authors and inventors, since the right of ownership in trademarks is created by adoption and not by authorship or invention."

On page 91 it is shown that "The adoption of a trademark or device to indicate the manufacture or origin of a certain article does not give any right to the exclusive production of the article so marked. Any article of manufacture, unless it be protected by a patent, may be made and sold by any person."

On page 107 appears the statement that "The representation of a star or the word 'star' has been registered in the United States Patent Office as a trademark for nearly every recognized class of goods, having been registered nearly 400 times."

On page 108 occurs the following: "It will, of course, be understood, that a star or an anchor or any other mark, may be used by manufacturers of or dealers in different classes of goods without conflict. For instance, the use of a star as a mark for tobacco does not conflict with the use of a star as a

mark for matches or dress braid. Antipyrin, phenacetin, and the names of most all the other German synthetics have been registered as trademarks. If the claims of the manufacturers had been sustained by the courts then these names could have been held for all time as private property and the monopoly created by patents on products and process continued after the expiration of patents for an indefinite time. The decision of the United States Supreme Court in the Singer Sewing Machine case, in 1895, prevented such monopoly. This decision reads as follows:

The result, then, of the American, the English, and the French doctrine universally upheld is this, that where, during the life of a monopoly created by a patent, a name, whether it be arbitrary or be that of the inventor, has become, by his consent, either express or tacit, the identifying and generic name of the thing patented, this name passes to the public with the cessation of the monopoly which the patent created. Where another avails himself of this public dedication to make the machine and use the generic designation, he can do so in all forms, with the fullest liberty, by affixing such name to the machines, by referring to it in advertisements and by other means, subject, however, to the condition that the name must be so used as not to deprive others of their rights or to deceive the public, and therefore that the name must be accompanied with such indications that the thing manufactured is the work of the one making it, as will unmistakably inform the public of that fact.

The manufacturers of secret nostrums congratulated themselves that this decision did not apply to them. However, it is reasonable to suppose that it does include them, in the light of the above facts, and logical conclusions therefrom set forth in this prospectus, and in the light of the following decisions of the courts on the subject.

The name of a secret preparation may be used by anyone for goods actually prepared according to the recipe, for they are the goods indicated by the name, whether prepared by the original inventor of the recipe, or his successors in business, or not. Until the secret is discovered or betrayed the goods of the original inventor or his successors can be the only goods to which the name is applicable, or which are denoted by it; but when other people can make them, the difficult question of fact arises, whether the name is merely that of the goods themselves, or that of the goods of the kind prepared or sold by the original inventor or his successors in business. This was well put by Fry, J., in the *Angostura Bitters Case* (*Siebert vs. Pindlater*, 7 C. D., p. 813), "I cannot say," the learned judge said, "that Meinhard may not, if he can, make a bitter identical with the plaintiffs', and if he does, I cannot prevent him from selling it as Angostura Bitters." It is to be observed that the person who produces a new article, and is the sole maker of it, has the greatest difficulty (if it is not an impossibility) in claiming the name of that article as his own, because until somebody else produces the same article, there is nothing to distinguish it from. No distinction can arise from using the name of the class, so long as the class consists of only one species, for then the name of the species and the name of the class will be the same. (The Law of Trade-marks, by D. M. Kerly, published by Sweet & Maxwell, 1894.)

There must be some word or sign, or device other than a generic name and words of descriptive quality. (Commissioner's decision, 1881, p. 97.)

So the words, "Night Blooming Cereus" were held to be invalid as a mark, being the proper descriptive appellation of the article. (*Phalon vs. Wright*, 5 Phila., 464.)

The same rule defeated the adoption of the words, Desiccated Codfish. (*Harris, Beebe & Co.*)

The policy that the mere use of a name to designate an article would give to those employing it the exclusive right to designate such article by such name, would be giving a copyright of the most odious kind, without reference to the utility of the application or the length of the title, and one that would be perpetual. Neither the Trade-mark Law, nor the Copyright Law, nor the Patent Law, affords any such right, or, under the pretense of the same, allows any one to throttle trade under the alleged sanction of law. (*Browne on Trademarks*.)

No one can claim protection for the exclusive use of a trade-mark or trade-name which would practically give him a monopoly in the sale of any goods other than those produced or made by himself. If he could, the public would be injured rather than protected, for competition would be destroyed. Nor can a generic name or a name merely descriptive of an article of trade, of its qualities, ingredients, or characteristics, be employed as a trade-mark, and the exclusive use of it be entitled to protection. (*Canal Co. vs. Clark*, 13 Wall, 323.)

We of course understand that when a name is coined by one who uses it as a trade-mark upon a particular article, if that name is originally a lawful trade-mark, its subsequent adoption by the public as a common appellative cannot take away the right already acquired. (*Celluloid Co. vs. Cellointe Co.*, 32 Fed. Rep., 98.) But "When an article is made that was theretofore known, it must be christened with a name by which it can be recognized and dealt in, and the name thus given it becomes public property, and all who deal in the article have a right to designate it by the name by which alone it is recognizable." (*Leclanche Battery Co. vs. Western Elec. Co.*, 23 Fed. Rep., 227.)

A word which is the name of an article, or indicates its quality, cannot be so appropriated. Every one has the right to manufacture the same article, and to call it by its name or descriptive character. (*Phalon vs. Wright*, Am. Tr. Cas., 308.)

It is only the seductive name that they claim as their exclusive property, and doubtless from the experience in its value in the extension of their sales. This, however, is a species of property which in my opinion is unknown to the law, and that can only be given to one by an infringement of the rights of all. . . . It has been repeatedly held that a trade-mark cannot be obtained in a name where it is the proper name for the article, as in the case of Schnapps, the subject of the controversy in *Wolf vs. Goulard*, or where it has by general use become the proper name of an article which all manufacturers may use, as in the case of Dr. Johnson's Yellow Ointment, Godfrey's Cordial, and Essence of Anchovies.

HOSPITAL CARS FOR RAILWAY SERVICE.*

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The end of the nineteenth century exhibits marked improvement in the means of alleviating suffering and for saving life. The sick and wounded in the last two wars have had furnished them life-saving appliances and means of transportation never dreamed of in former times. Public sentiment is so exercised in the matter of efficient attention to the needs of the sick and wounded in warfare that it is astonishing that people think or do so little in ordinary civil life in the matter of efficient first aid and comfortable transportation for the much larger number of persons who suffer injury on our railroads. The Interstate Commerce Commission shows that, in round numbers, there were 51,743 railroad casualties to persons in the year just ended. There were 7123 fatalities and 44,620 injuries. The total casualties to the British army in the war in South Africa, up to date, amount to about 48,000.

An interesting compilation of the number of persons killed and injured on the railroads of the United States during the year ending June 30, 1899, has been made by the Interstate Commerce Commission and furnished to the insurance press. During the twelve months 7123 persons were killed and 44,620 injured, a total of 51,743 casualties. In summarizing the accidents, it is found that 1 out of every 420 employees of railroads was killed, and 1 out of every 27 was injured. Of trainmen, engine drivers, firemen, conductors, etc., 1 out of every 155 was killed and 1 out of every 11 injured. One passenger for every 2,189,020 carried was killed and 1 injured out of every 151,998 carried. During the year 239 passengers were killed and 3442 were injured.

When one reflects that railroad casualties are continually going on, and will continue to occur, while those of warfare are intermittent and frequently far apart, as happily wars are not frequent in modern times, it is astonishing to know that scarcely any efficient system for assisting and caring for injured persons exists on many of the railroads in America. The purpose of this paper is briefly to consider the suggestion of furnishing properly-equipped hospital-cars on railroads for the purpose of caring for the injured and sick persons along their lines, and especially to incite discussion of this important subject from thoughtful, earnest, practical surgeons who are connected with railroads.

The experiment has been tried on a few lines. I know of the Long Island Railroad, the Lehigh and Susquehanna branch of the New Jersey Central Railroad, and and I am told that the Plant System also has such cars. The Missouri, Kansas and Texas Railroad has in preparation a car to be used for transporting sick and injured from an emergency hospital to their general hospital. There are probably others of which I know nothing.

I have been able to obtain very little data as to the efficiency and value of the few hospital-cars in use, so I shall have to discuss the subject purely theoretically in the light of the well-known necessities for surgical aid on railways.

1. *Expense.*—A very important matter when it comes to the adoption of the system on a railroad line will be the expense. For the car itself it may be estimated that \$2500 or \$3000 will be spent, the expense of its equipment will depend on how complete its appointments shall

be made. If the system shall displace other methods of rendering first aid and be more efficient, there must be, besides beds and stretchers, a stock of aseptic dressings and antiseptic appliances, with simple splints, bandages, etc., which would doubtless amount to \$300 to \$500. At a low estimate, therefore, \$3000 would be required to build and equip each car. Besides, the cost of running and transporting the cars over the line would be considerable in the course of a year.

2. *Range of Efficiency.*—Recently I asked an experienced dispatcher about this matter, and in answer to the question, "Under the ordinary conditions which prevail on a busy railroad line, how fast time could you guarantee a hospital-car in moving from one point to another?" He replied, "Twenty-five miles an hour would be about the limit." In other words, it would require about an hour to reach an injured man if he were twenty-five miles away from where the car was located. The reason for this is that the car would have to be sent "special," usually with a slow locomotive, and with chances of failing to get "right of way," or be attached to one of the lesser trains, which are usually slow. The fast express trains are too heavy usually, and their running time too close to add to their burdens; to attach a car to the limited or to side-track the limited for the car running "special" would not be thought of under ordinary conditions. As a means of rendering first aid, therefore, a hospital-car would be too slow to be efficient in a great many, perhaps the majority of instances.

3. *Location of the Car and the Number Required on a Line.*—As noted above, twenty-five miles an hour would, under ordinary conditions, be the expectation of hospital-car service. This might be in two directions, and so make the range of one car fifty miles. In order, therefore, to assure this service of one hour from the time of its call, there must be one car for every fifty miles of track. When there are a number of lines branching out from a common center, the proper location of the car would naturally be at the center or the point of convergence of the lines. One car under such conditions might serve for a much larger territory. Under the ordinary conditions of trunk lines, however, one car for every fifty miles would be necessary to give service with any degree of promptitude. For a main line of 500 to 800 miles ten to sixteen cars would be necessary. Then there would be yards and branches to be cared for, and these would require, for a 500 or 800 miles' system, the addition of five or six cars—a total of fifteen to twenty-two hospital-cars. Yards, re-shipping points, crossings, junctions and termini are generally regarded as especially liable to accidents. Wreck cars are, as a rule, not evenly distributed over a line. It would doubtless be well to follow this rule with hospital-cars. Perhaps with every wreck train a hospital-car might be located. I find that about ten wreck cars are allowed to a road of 500 miles of main line track. To follow this last suggestion would provide about the same number of hospital-cars as the first idea of distribution required. Putting them with the wreck cars would assure prompter service in case of serious catastrophes, perhaps; it would delay them, however, in many other instances. They would have to be uncoupled and detached from the wreck train when the hospital-car alone was required.

4. *What Provision Shall be Made for Surgical Service on Hospital-Cars?*—If the cars are to be properly efficient, a surgeon or surgeons must accompany them on all expeditions of merey. To assure this, it would be

* Read at the Annual Meeting of the American Academy of Railway Surgeons, held at St. Paul, Minn., Sept. 5 and 6, 1900.

necessary to recast the ordinary arrangement of local surgeons along a railroad. It might be made a rule that the surgeon in whose territory the accident occurred should serve on the car. In the East, however, it is rare for one local surgeon to have charge of a territory of twenty-five miles of road. He might render first-aid and then turn the patient, or patients, over to the next local surgeon on reaching his territory, so that in a transportation of twenty-five miles two surgeons might have to officiate. It is rare on most roads to find, in every section of twenty-five miles, a hospital or place of permanent treatment to which the injured person could be carried. The journey of the car would have to be much longer in some instances. The first surgeon to render aid would have to go far afield, and perhaps leave his location for many hours, or else there would be a large number of changes of surgeons en route. This would, in the last instance, work no end of confusion. Suppose, however, the rule were made that the first local surgeon to render aid must accompany the patient to his destination. The time this would require would be a very serious matter to a surgeon, without any direct pecuniary return for his work and time. Grant, however, that the railroad company would pay for the surgeon's time and work. If it were at the usual rate of fees, very few railroads would stand it. If it were at contract rates, very few efficient medical men would stand it. This service would, to be efficient, require salaried surgeons, and the expense would be very heavy if the men employed were properly qualified. I believe no railroad would stand such expense.

Another arrangement might be made, and in some instances it would not prove inhumane not hurtful, viz.: a local surgeon might render first-aid, see the patient aboard the hospital-car, and put him in such position and condition as would seem proper at the time, and then entrust him on his further journey to a lay employee—a brakeman, flagman or conductor. Surely some one ought to remain in the car with the patient. If it be a lay employee, he must give up his other occupation during this time; this frequently required might also make a serious expense, and be in a great many instances inexpedient and dangerous.

Another point is: if the car has to leave its own territory, as it must do in order to prevent the evil of transshipment, and very serious discomfort to the injured person in many cases, what provision shall be made for caring for possible accidents during its absence? This might be a very serious matter. It would not do for the next car on the line to take its place, as this would only transfer the evil. It is therefore obvious that a hospital car must be supplemented by other provisions for caring for injured persons.

If the foregoing points are well taken, it is evident that in order to equip a railroad line which has a main line of as many as 500 miles with hospital cars in sufficient number to begin to do efficient service in the majority of emergencies, it would cost from \$30,000 to \$50,000, and the maintenance and running of these cars would also add materially to the annual expense account. The personnel and the usual arrangement with local surgeons would have to be materially changed. Lastly, and *especially*, prompt and rapid first-aid by means of hospital-cars, under the ordinary conditions, could not be rendered in a large number of individual emergencies. No doubt the sentimental value of a system of hospital-cars for emergency work would be very considerable, but as practical men can we advocate any such system when we know there are other and prompter means of

succoring injured people, and which are on this account and perhaps in other respects more efficient?

The argument that a hospital-car furnishes seclusion, comparative comfort and facilities for proper dressings, and even operating-room facilities is frequently used. I am willing to grant the first point, namely, that the car furnishes seclusion and comparative comfort, without argument, *provided the car is at once* available. I have shown, however, that in many instances this will be utterly impracticable. The value of the other points of the argument are very doubtful. We all know it is much more important that the man who does the first dressing shall have the proper training and experience and know the best modern way of handling injuries than that all proper facilities for doing the dressings shall be provided to a less competent man. As I have said, in writing on the "Treatment of Compound and Complicated Fractures," the fate of the injured person depends very greatly on the man who does the first dressing. I doubt whether it is best for a seriously injured person to put him in the hands of an inexperienced and poorly trained aseptician with all the facilities for doing first-rate permanent work. I mean by this that the inexperienced man will thus be encouraged to attempt dressings which are intended to be the final restitution and rehabilitation of compound fractures, of very severe lacerations, or evulsions. Very rarely, except in minor cases, ought operations be attempted in hospital-cars.

It seems to me that the provisions and effort should be, in handling injured persons on the railroad, to furnish such simple aseptic dressings and apparatus as will prevent any further soiling or infection of the wounds, prevent or control hemorrhage, immobilize injured parts, and to transport the injured person where he may have careful and skilled permanent treatment just as soon as it can possibly be furnished him. Hospital-cars can not do all this. In this age of multiplicity of stationary hospitals along railroad lines, the publicity and some added discomfort in using the old manner of transporting injured persons are far less harmful than delays in delivering them at hospitals where they may find rest and permanent treatment at the hands of experienced men.

Is there then no field, no call, for hospital-cars on railroads? I think there is: 1. On a railroad composed of a number of short lines radiating from a common center, when the "center" has hospital facilities and the short lines have none, the car may be efficient for conveying relief in apparatus, a skilled surgeon and means of transportation. 2. Suburban short lines could also use a hospital-car efficiently. In both these instances one or two cars would suffice, and these roads could afford to employ a skilled surgeon to accompany the car. In both instances the object would be first-aid and the bringing of the patient to the hospital base, namely, the city in which the terminus might be. 3. Hospital-cars would be very efficient on railroads which have a system of small emergency hospitals along the lines, and one or two "base hospitals" at the termini. They would be used in transporting patients from the emergency hospital to the base or principal one. Dr. Yaney, chief surgeon of the Missouri, Kansas and Texas Railroad, informs me that his road has a hospital-car in preparation for this very purpose. 4. It may be considered utopian and very far ahead of the times, but an especial need for hospital-cars is for—intermittent—use on through express trains, to transport sick and injured passengers.

No doubt all of us can recall many instances of having seen and heard of cases of illness clearly contagious or infectious on crowded trains, in such conditions and locations that they must communicate the specific diseases. It is a matter of the commonest experience for persons suffering from pulmonary tuberculosis to travel long distances on railway coaches. Sleeping-cars are especially apt to be selected for these ailing persons. Efficient disinfection of coaches, especially sleeping-cars, is rarely practiced. It is astounding when one reflects on the subject that sanitarians have been so dilatory and slow to appreciate the great danger to the traveling public from the contaminations and infections of railway cars, and that no laws nor rules have been passed to meet this crying need of modern times. The various states have passed stringent laws requiring the careful embalming, disinfection and hermetic enclosure of all corpses of persons dying of contagious diseases, during their transportation on railroads. Individuals while still alive may travel without let or hindrance, suffering from any one of the contagious or infectious diseases on any railroad in the United States, and as a rule are placed in the very cars which are most sure to be frequented and most difficult to disinfect.

Understanding as we do the usual methods of transmission and the specific cause of pulmonary tuberculosis, it is amazing that no restriction has yet been placed on the transportation of persons who are in advanced stages of this disease. It would be a barbarous prohibition to prevent tubercular persons from using railroad cars in order to go whither their one chance of recovery might demand they should be. It seems to me the only proper, safe, comfortable and sanitary solution of this problem of contagious and infectious disease-spreading custom is for railroads to furnish properly-equipped hospital-cars which may be used to transport any doubtful case of disease to its destination, and so separate it entirely from the other travelers on the train. In order to make this system efficient, the co-operation of physicians generally must be obtained, and the various states should pass laws requiring the use of isolating or hospital-cars for sick persons. When such cars are known to be in use on a railroad line, a physician whose patient was about to make a journey for any reason would simply notify the proper railroad authority, and he would have the hospital-car prepared and attached to a given train. The patient and his attendants would have seclusion, more comfort, and efficient treatment might continue, without any danger to other people on the train.

These cars should be so constructed as to be inconspicuous on the outside, and have the simplest fittings inside commensurate with comfort and efficiency, and everything inside should be so arranged and constructed that thorough disinfection after, and proper sanitation during, the use of the car might be obtained. Two or three cars of this kind would be all that were necessary on a line of a thousand miles of main track. If they were properly stationed, they might also prove very efficient in cases of serious catastrophes along the line.

I wish it clearly understood that in recommending hospital-cars for express trains I do not advocate the abrogation of the usual ordinary laws of isolation which nearly every community has in vogue for the purpose of preventing the spread of contagious and infectious diseases, nor do I recommend common and frequent transportation of these cases, but as they so often travel surreptitiously, it would be far better to have proper provision for this transportation, and, under stress of

circumstances or necessity, they might safely thus be carried. When, furthermore, it was known that proper provision was made for their comfort and care, the sanitary authorities might permit removals which would be of great benefit not only to the sufferer but to communities. The value of these cars for transporting tubercular persons, those having typhoid fever, and those having some forms of specific enteritis can not be questioned, both for the infected person and for the traveling public as well.

A RULE FOR COMBINING CROSSED CYLINDERS.

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One of the stumbling-blocks of the students of optics lies in the proper transposition of different combinations of spheres and cylinders. It always requires long practice at the test-case and no little figuring to become familiar with and able to make the proper combinations. Dr. James Thorington, of Philadelphia, in his excellent work on "Refraction," recently published, has greatly simplified these problems for the student by formulating set rules for transposing combinations of spheres, cylinders and of a sphere and a cylinder. In working out mathematical problems of this character in optics the easiest and quickest way to master them is by rule, depending upon experience to sink the rules in the background.

As a student, I could find no rules in the literature for the transposition of plus and minus cylinders with opposite axes into a spherocylinder, and worked out the following formula, which has been of great assistance to me and which was published this year in "Retinoscopy," by Dr. Thorington.

Formula.—To transpose crossed cylinders into a spherocylinder: "The cylinder is the sum of the two cylinders with the sign and axis of one of the cylinders. The sphere is the strength of the other cylinder with its sign."

Example:

$$\begin{aligned} & - 1 \text{ c. axis } 180^\circ \ominus + 2 \text{ c. axis } 90^\circ = \\ & - 1 \text{ s. } \ominus + 3 \text{ c. axis } 90^\circ, \text{ or} \\ & + 2 \text{ s. } \ominus - 3 \text{ c. axis } 180^\circ. \end{aligned}$$

The use of the lighter and thinner lens is always to be aimed at and will usually give the best result; occasionally, however, the heavier lens will be more satisfactory, and rarely there are cases where only the crossed cylinders will be accepted.

It is in retinoscopy especially that the student will find rules of this character of great value, for there are always two meridians to be reduced to a sphere or a spherocylinder. The experienced refractionist will not need them.

Viavi Remedies.—These secret nostrums have undergone an airing in connection with a recent inquest in Liscard, England. The public analyst to the County of Chester reports that the liquid furnished him contained 30 per cent. of sugar, together with tincture of hydrastis and morphin. The pills were made of sugar, aloes and probably some colocynth. It appears that these preparations are as much exploited in Great Britain as they are in this country, it being the custom there as here to employ the wives of clergymen, and other socially respectable individuals to act as local agents for their sale. The *British Medical Journal* remarks that since it is shown that these preparations contain morphin, they come under the provision of the pharmaceutical act regulating the sale of poisons, and their agents and venders may find their business conducive to serious consequences to themselves.

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HYSTERICAL SENSORY APHASIA—WORD-DEAFNESS— IN A CHILD.

Although we do not as yet know the ultimate nature of hysteria, we have long since learned that it has nothing whatever to do with the uterus, after which it was named. An ample experience has taught that it may occur also in men, and it is fully appreciated that it may develop even in children—boys and girls alike. From existing knowledge and from analogy it may be safely inferred that hysteria is a nutritional neurosis, the aberrant function resulting from as yet undemonstrable changes in nerve-cells primarily susceptible in greater or lesser degree. These changes are probably due to processes engendered within the body and only indirectly by agents introduced from without. The inherent susceptibility of the nerve-cell would appear to be the primary essential factor, and it would be for this reason that hereditary influences are so important in an etiologic connection.

Whatever the mechanism of hysteria, it would seem that there is scarcely any disorder that it may not simulate, and at times so cleverly that even the expert may find difficulty in distinguishing the counterfeit from the genuine. It is not implied, and it is no longer believed, that hysteria is a simulated disease, although there can be no doubt that a tendency to exaggeration or deception is often a not inconspicuous feature. While the diagnosis, therefore, is at times difficult enough in adults, it may in children be practically impossible within the bounds of certainty. A case in point has recently been reported by Dr. Ludwig Mann.¹ The patient was a girl, 7 years old, in whom progressive indistinctness of speech and apparently complete loss of hearing had been noticed in the sequence of some emotional disturbance. More careful examination, however, disclosed that the child could hear, but failed merely to comprehend spoken words, although intelligence in general was present. In addition, there was a certain degree of paraphasia. The child could not write spontaneously nor from dictation, although she could copy printed and written matter. She was apparently unable to read intelligently. No lesion of the ears, and no other evidence of nervous disease was discoverable. Because of the absence of other symptoms of a lesion sufficiently extensive to account for those present, of the variability of some of the symptoms,

of the mental attitude and condition of the patient, and of the development of the symptoms in the sequence of emotional disturbance, the conclusion was reached that the condition was one of hysteria. The treatment consisted in painful applications of the faradic brush to the lips and the face, but it was at first unattended with improvement. It was then decided to isolate the child, and in addition to painful electrization, cold packs and douches were employed and instruction in speech was given. Improvement now set in and, while at the beginning slow, it subsequently became more rapid and advanced.

The case is believed to be unique, for although cases of hysterical deafness have been reported, word-deafness or sensory aphasia of hysterical origin has hitherto been rarely, if at all, described. Charcot has reported a case of hysterical motor aphasia and suggested the possibility of hysterical word-deafness. Paraphasia also has rarely if ever been described as an hysterical manifestation. The diagnosis in this case has been questioned by Oppenheim,² who gives reasons for believing that an organic lesion may really have been present. He points out the possibility of a circumscribed lesion of the temporal lobe giving rise to the symptoms present and of the paraphasia being due to a natural want of development of the speech-functions in a child. The inconstancy of the symptoms he considers as favoring organic not less than functional disease, while the mental attitude of the patient may be looked upon as an individual peculiarity. Too much importance should not be attached to the results of treatment, inasmuch as they are just such as could be expected, as the developing child is particularly susceptible of re-education. We must confess, however, that we are not convinced by these arguments, although it must be admitted that the diagnosis is not easy. In the first place there is always something in the tout ensemble of a case that eludes delineation and can be appreciated only by those under whose immediate observation it comes and of course is lost in a merely didactic consideration. In the second place the absence of provocative etiologic factors, the mode of onset, the absence of paralytic or irritative phenomena, and of interference with consciousness render less likely the presence of organic disease. The case, thus, is of exceeding interest, even though it should prove not to be of hysterical origin.

Curschmann, in his monograph on typhoid fever, in Nothnagel's "System of Special Pathology and Treatment," refers, it is true, to the case of a girl, 10 years old, in whom, during convalescence from a severe and protracted attack of typhoid fever, ataxic aphasia suddenly developed, with preservation of consciousness and of all other functions, and especially without paralysis in the extremities. Speech began to return in the course of two weeks, and after the lapse of five weeks was completely restored. In a second case also ataxic aphasia

1. Berliner Klin. Woch., 1901, No. 5, p. 135.

2. Berliner Klin. Woch., 1901, No. 7, p. 203.

developed in the third week of a severe attack of typhoid fever, without loss of consciousness. Improvement set in after the lapse of a week and was almost complete in the course of a few weeks. In this case, however, there was, besides, some ataxia in the lower extremities, though with preservation of sensibility and of knee-jerks, but this also disappeared entirely in the course of ten weeks.

The fact is not to be overlooked that in both of these cases the complication arose in the course of an acute infectious disease attended often with profound changes in the blood.

THE ETIOLOGY OF TUMORS IN HYPERPLASTIC INFLAMMATIONS.

Careful review of the evidence before us of the parasitic origin of malignant tumors, by competent authorities such as Lubarsch, Councilman, Adami, and others, demonstrates that there is as yet but little real support for the parasitic theory. The recent work of Gaylord, noticed in *THE JOURNAL*, has not been officially published in full and so can not be considered at this time. Inoculation and cultural experiments and persistent study of the tissues of tumors for parasites have been faithfully carried out, the results being largely of a negative character. Had similar zeal and time been spent in a search for the cause of diseases that are more likely infectious, such as smallpox, syphilis and measles, it may be that more positive results might have been secured. Of course this effort to find a parasitic origin for malignant tumors has extended greatly our knowledge concerning many phases of tumor growth. The parasitic theory not having been satisfactorily demonstrated, Cohnheim's theory, at least as regards malignant tumors, being quite generally abandoned, and Ribbert's views no longer easily defended, investigators again are taking kindly to the old irritation theory of Virchow. In the case of carcinoma, Hauser and Hansemann assume a primary disease of the epithelium which expresses itself in an excessive multiplication of the epithelial cells. This disease may be the result of irritation, and by irritation is understood trauma in its broadest sense: the result of mechanical injury, the effect of bulky scars, continuous suppuration and inflammation, etc. The well-known instances of carcinoma developing in the smoker's lip, in the chimney sweep's scrotum, and in the biliary passages when affected with gall-stones, as well as numerous other similar examples, are recalled at once. Birch-Hirschfeld, in 123 cases of primary carcinoma of the gall-bladder, found calculi in 113; in 13 cases of secondary carcinoma there were calculi but twice. Cullen and others point out the significant relationship between carcinoma of the cervix and pregnancy—only a small percentage of the cases have not borne children.

From India we learn that the natives of Kashmir show a large number of cases of carcinoma of the thighs, probably the result of repeated burnings by portable

stoves. Carcinoma frequently develops in pre-existing lesions often due to trauma or other factors such as leukoplakia linguæ, leukoplakia urethræ, psoriasis, fistulæ, syphilis, and tuberculosis. It seems that carcinoma not infrequently develops on the basis of a tuberculous lesion. In these instances it would seem as if the previous lesions favor the development of the primary disease of the epithelium that Hauser, on which Hansemann and others lay so much stress. It is a noticeable fact that the processes that precede carcinoma belong to the so-called hyperplastic inflammations and are characterized by cellular activity, especially in one direction, namely multiplication. Indeed, Le Count,¹ in his recent thorough study of the genesis of carcinoma of the Fallopian tube in hyperplastic salpingitis, points out that it is often impossible to draw a sharp line of distinction between purely inflammatory glandular hyperplasias and tumors. Le Count reviews the literature bearing upon this interesting and difficult problem in connection with growths developing upon various mucous membranes. He shows that great confusion has arisen in regard to tumors of the Fallopian tube, especially because of the failure to recognize that a diffuse hyperplastic inflammation may exist, which in many instances is quite distinct from tumor-growth. This confusion has in part been due to the fact that hyperplasia is so frequently combined with sacro-salpinx. Le Count cites several examples of growths in the tubes which were removed during the transition between hyperplasia and tumor. These considerations would seem to suggest that any factor that stimulates cell proliferation may lead indirectly to carcinoma, and that great care should always be used in interpreting hyperplastic conditions, especially of mucous membranes, as there are numerous forms of hyperplasia which do not merit the name carcinoma, although they may become the starting-point of carcinomatous proliferation.

SOME OF THE BLOOD-CHANGES ATTENDING TYPHOID FEVER.

The industry with which the study of the blood has been pursued in recent years is yielding rich fruit, and the results, while by no means complete, have already contributed much to the facility and the certainty of diagnosis. The field is, however, a large one and there is yet much virgin soil to be tilled. To confine ourselves to typhoid fever, it has been shown that, ordinarily, during the course of this disease, the number of corpuscles, both red and colorless, as well as the hemoglobin, is reduced in amount. In the presence of complications, however, such as perforation, peritonitis, suppuration and the like, the leukopenia is replaced by a leukocytosis, and this fact may prove of great diagnostic importance. Of the approved value of the Gruber-Widal agglutination-test nothing further need be said. There occur, however, certain changes in the blood that are probably responsible for a general hemorrhagic state

1. Johns Hopkins Hospital Bulletin, 1901, xii, 55-68.

or for the dissolution that results in the development of hemoglobinemia and hemoglobinuria. These manifestations are, it is true, uncommon and their exact mechanism is not definitely understood. When they occur they stamp the case as one of grave character. Their investigation is, therefore, all the more desirable and all the more to be encouraged.

Hemorrhage from the nose and from the bowel are well-known features of typhoid fever. Epistaxis is observed most commonly in the period of incubation or in the initial stage of the fever. It is due to hyperemia of the nasal mucous membrane or rupture of degenerated blood-vessels. It occurs in from 6 to 8 per cent. of cases. Hemorrhage from the bowel is one of the most important complications of typhoid fever, being observed in from 4 to 6 per cent. of cases. Occurring early—within the first two weeks—it is probably due to the hyperemic and spongy condition of the affected tissues of the intestinal wall. At a later period it must be attributed to erosion of vessels by ulcerative processes in the solitary follicles and Peyer's patches.

Apart from such conditions, hemorrhage may take place from all possible parts of the body as a manifestation of the hemorrhagic diathesis. This is a rare condition and it appears to occur only in grave cases, or it may be it is that which gives them this character. The bleeding is likely to take place first from the nose, then from the gums, into the skin and subcutaneous connective tissue, into the brain or the cerebral or spinal meninges or any of the serous sacs and from any of the mucous surfaces. With the hemorrhage there may be associated gangrene. This condition must, in the absence of more definite knowledge, be attributed to some as yet undiscovered change in the blood and the blood-vessels, of toxic or infectious origin. Whether it is dependent on the typhoid bacillus, and thus occurs as a complication, or on some other micro-organism and thus constitutes an intercurrent disorder, has not as yet been determined.

A fatal case of this character has recently been reported by Nicholls and Learmonth¹ and reference is made in this communication to four others reported by Nicholls. Two fatal cases have been reported also by Eshner,² and Hamburger³ last year reported a case in which recovery ensued. In the case of Nicholls and Learmonth, which was studied with great care both clinically and pathologically, the extensive hemorrhage present was attributed in part to the fatty degeneration of the basement membrane of the capillaries and various endothelial cells, especially noticeable in the lungs and kidneys after death, but it could not be determined whether the escape of blood occurred by rhexis or by diapedesis. The degenerative changes were in turn ascribed to systemic intoxication, but, although mixed

or secondary infection with staphylococcus albus was present, no micro-organism could be determined to be specifically responsible for the hemorrhagic condition and it is thought that all contributed a share.

Even less common than generalized hemorrhage are hemoglobinemia and hemoglobinuria in the course of typhoid fever. But a few instances of this kind have been recorded in the literature. The report of a case of this character was recently read before the Philadelphia County Medical Society, by Musser and Kelly.⁴ This case is especially remarkable, apart from the rarity of the complication, on account of the recovery of the patient, and on account of the beneficial effects of the cold bath, which by some has been thought to favor the occurrence of hemorrhage and cold being generally recognized as one of the exciting causes of hemoglobinuria. The occurrence of the blood change is attributed to some idiosyncrasy, by reason of which the blood was peculiarly susceptible to the action of the typhoid bacillus or its products. A case of hemoglobinuria attended with recovery has been reported also by Osler.⁵

THE PATHOLOGICAL UNITY OF TABES AND GENERAL PARALYSIS.

Some time ago this topic was discussed by the Pathological Society of London.¹ The chief points in favor of the pathological unity of the two diseases are well summarized by Mott, who holds that the poison of syphilis is the most important factor in causing two forms of progressive degeneration in the nervous system, one involving the exogenous afferent spinal neurons, namely, locomotor ataxia, and the other the association system of neurons of the cerebral hemispheres, namely, general paralysis. The two diseases are one and the same process affecting different parts of the central nervous system. It is now quite generally accepted that certain cases of locomotor ataxia present mental symptoms, that a certain number of cases of general paralysis present the symptoms and lesions of tabes, and cases of tabes may die of general paralysis. In both these diseases syphilis is regarded by many as the most important etiologic factor.

Mott has examined 12 cases of the tabetic form of general paralysis, and found in the brain the changes characteristic of general paralysis and in the cords the changes peculiar to tabes, namely, degeneration of the exogenous systems of fibers. He emphasizes as supporting the general trend of his argument that juvenile general paralysis and juvenile tabes probably occur only in congenital syphilitics. Krafft-Ebing's epigrammatic summary of the etiology of general paralysis, in the two words, "civilization" and "syphilization," with special emphasis on the latter, represents the general teaching of a number of prominent students of this perplexing

1. The Lancet, Feb. 2, 1901, p. 305; JOURNAL A. M. A., February 23, p. 530.

2. Am. Jour. of the Med. Sci., March, 1901.

3. Johns Hopkins Hosp. Reports, viii, p. 309.

4. Phila. Med. Jour., Jan. 19, 1901, p. 119; JOURNAL A. M. A., February 2, p. 346, ¶ 10.

5. Johns Hopkins Hospital Reports, v, p. 311.

1. Transactions, 1900, II, 339-398.

malady, which many regard as a primary meningo-encephalitis, but which Mott holds is a primary degeneration of the neurons with secondary meningo-encephalitic changes, and for the following principal reasons: 1, its relations to tabes dorsalis; 2, the presence of Argyll-Robertson pupil in the majority of cases; 3, the existence of gray atrophy of the discs in a number of cases, and these last two symptoms are explainable only on the score of primary atrophy; 4, wasting of the whole nervous system out of proportion to the inflammation affecting some parts more than others, the wasting being undoubtedly primary and not secondary to bodily disease because it is more extensive than that seen in cachectic diseases, or even in starvation.

Many of the prominent London clinical neurologists took part in the general discussion, and on the whole the views expressed agree with those of Mott outlined in the foregoing. It was pointed out by Gowers and others that the selective action of the toxic substance at work in locomotor ataxia is well shown by the limitations of its action to the intraspinal continuations of the posterior spinal roots—a strong argument in favor of the lesion being primarily degenerative. All the speakers endorsed the view that syphilis is the preponderant factor in tabes, and this seems to have been generally accepted as true also of general paralysis. Indeed, Ferrier has come to the conclusion that if there were no syphilis there would be no general paralysis or tabes. Of course it is impossible to prove a statement like this, but certainly there is much in favor of this view. The question whether tabes and general paralysis are one and the same morbid process affecting different parts of the nervous system, although perhaps to a certain extent a question of words, receives an affirmative answer in so far as both are considered as the result of parasymphilitic lesions of similar pathogenesis. From the standpoint of prevention this is an exceedingly important doctrine, because all measures limiting the spread of syphilis will diminish the frequency of tabes and general paralysis.

PROPOSED BUREAU OF MATERIA MEDICA.

In another column appears an article by Dr. F. E. Stewart, on "A Proposed National Bureau of Materia Medica." The suggestions made are well worthy of consideration, and a careful perusal of the article is advised for those who are interested in the question of the relation of pharmacy to medicine. That there is a mutual interest in the two professions none will deny; that each is dependent on the other, is a self-evident proposition. There ought to be some way through which scientific pharmacy can be protected and rewarded. While some of the pharmaceutical preparations offered to the profession of this country may be classed as nostrums, and are unworthy of support in any way, the great majority are not only of therapeutic and scientific value, but those who produce them should

be financially rewarded. There certainly ought to be some method by which the "wheat can be separated from the chaff," and while we are not prepared to say that Dr. Stewart's proposition will meet all the objections, still it does appear as though his solution of the problem is a satisfactory one, at least as far as is possible at the present time.

ERADICATION OF YELLOW FEVER IN HAVANA.

In his letter accompanying the report of the vital statistics of Havana for March, Major Gorgas, the chief sanitary officer, calls attention to the fact that Havana at last is free from yellow fever. He expresses the opinion that never before has that city been so long free from the disease, and attributes the present conditions in a large part to the systematic war waged on mosquitoes during the month of March. He has, he says, the strongest hopes of destroying the foci in that way. In former times and even since the American occupation the milder types of the disease passed largely unrecognized, and no such strenuous attempt was made to report them as is the case at present. Hence the significance of present conditions, and it is evident that the health authorities of Cuba are trying to verify clinically as well as experimentally the mosquito origin of the propagation of the disorder. This is only the beginning of the clinical test of the theory, but it is apparently a promising one. If they succeed in stamping out yellow fever, this result alone will be worth all the cost of the Spanish-American War. What can be done in Cuba can be done also elsewhere, and with this scourge of the American tropics, and malaria, eliminated, the area of the habitable globe will be appreciably increased for the white race, to say nothing of the removal of the danger to our southern coast from Cuban foci of the disease.

GENERAL SECONDARY INFECTION IN THE COURSE OF CHRONIC PULMONARY TUBERCULOSIS.

Chronic pulmonary tuberculosis in the majority of cases represents a mixed infection of the lungs. The exact rôle of the bacteria of secondary infection may not be fully and clearly established, but there is no question that the presence in the pulmonary foci of bacteria like the pneumococcus, streptococcus and staphylococcus is fraught with an element of additional danger to the tuberculous patient. In addition to hastening the local destructive process and causing more or less pneumonic infiltration as well as general intoxication, these secondary invaders may enter the general circulation and perhaps cause a terminal bacteriemia. Many investigators have examined the blood of the tuberculous for bacteria, especially during the period of hectic fever, and with varying results. One of the most extensive investigations of this kind is that by Teissier,¹ who studied bacteriologically the blood of fifty-three cases and obtained positive results in nine. His method appears to be quite reliable. He obtained streptococci and staphylococci. It is probable that in many cases the general infection does not lead to secondary localizations, but instances of endocarditis, of thrombosis, of metastatic suppuration are observed

1. Jour. de Phys. et Path. gén., 1901, iii, 223-230.

in the course of pulmonary tuberculosis, showing that localizations may occur which are of decided prognostic significance. Hence in combating pulmonary tuberculosis the physician should not lose sight of the significance of secondary infection.

THE ST. PAUL MEETING.

The coming meeting of the AMERICAN MEDICAL ASSOCIATION at St. Paul promises to be largely attended and of especial interest. The steady growth of membership the past year, the progress in medical science, the new questions that have arisen, and the locality, affording as it does an opportunity to visit some of the most interesting sections of our country, all favor a specially large attendance. The members of the medical profession of St. Paul are zealous to demonstrate the capabilities of their city as a place of meeting, and everything promises that the occasion will be one of special interest and value. The scientific program, as shown by the preliminary announcements of the several Sections, is excellent. The date of the meeting is such as to harmonize with other attractions of a summer trip and, to those who have never visited it, the scenery of the upper Mississippi, which Anthony Trollope called the most beautiful river in America, will be a revelation. Among other side attractions are special arrangements for visiting the Yellowstone National Park, which will be opened one week earlier than usual on this account. Altogether there is every reason to look forward to the St. Paul meeting as one of the landmarks in the history of the ASSOCIATION.

DR. KINYOUN AND SAN FRANCISCO'S PLAGUE.

Some of the San Francisco papers are expressing a sort of malignant satisfaction over the prospects of a transfer of Dr. Kinyoun from that station to some other in the U. S. Marine-Hospital Service. They apparently look upon it as a sort of punishment to be inflicted on him for not acting in accordance with their wishes, and as a result of their efforts. Since Dr. Kinyoun's offense was that he simply told the truth and did not actively go to work to suppress it at their demand, it would be a disgrace to the service were this the motive of the order for the transfer, and we trust, therefore, that their assumption is a false one. As far as Dr. Kinyoun himself is concerned, it can hardly be altogether disagreeable to him to get away from those who have persistently and maliciously slandered him for simply doing his duty, and we trust the change, if it occurs, involves no serious inconvenience to him, and is not contrary to his wishes. The misfortune is that it gives to the newspapers which have opposed him, the opportunity to pretend, however falsely, that their influence has effected the removal, and it puts the head of the U. S. Marine-Hospital Service on his honor, as it were, to show the falsity of such misrepresentations. Dr. Kinyoun can hardly ask for a better vindication of his course before the medical public, than has been given by the facts in the report of the government commission (see last and this week's JOURNAL). If he is transferred it should be with the assurance to the public that his course, as regards the facts of the plague, is fully endorsed by his superiors. If public and professional

confidence is to be given to the quarantine service, there must be no suppression of facts whatever may be the local wishes. Actual falsehoods seem to be demanded by a portion of the San Francisco press, and until the situation there is cleared up beyond any possible doubt, there is especial need of an honest and fearless representative of the Government at that post.

THE QUESTION OF ANTI-EXPECTORATION.

There is no physician—at least we confidently assume this to be the case—who will not endorse anti-spitting ordinances on general principles. If there is any way in which the tuberculosis germ can be universally disseminated it is through expectoration, and there are other sanitary objections, only a little less emphatic, against the practice, to say nothing of moral and esthetic ones. If the antituberculosis crusade does nothing more than put an end to the abominable practice of public expectoration in all sorts of places it will deserve the gratitude of mankind. But will it do it? The most sanguine optimism can hardly venture to predict this result with certainty. Spitting is considered an inherent right; a judicial decision, perhaps more than one, has settled this fact, and in most of the municipalities of the country the chances of this offense being duly punished are affected by the fact that the prosecution must run the gauntlet of expectorating police and spitting magistrates in a very large proportion of cases. Then we must consider the objection of the average tough to interference with what he considers his right to be a nuisance, with the consequent hesitancy of the usual meek-minded citizen to come into collision with him, and the difficulties of the enforcement of the law grow upon one's consciousness. A policeman was nearly murdered in St. Paul the other day in attempting to make an arrest for violation of an anti-expectoration ordinance, and other similar events are not unlikely. Nevertheless, the enactment of such regulation is a good thing. A law does not go at once into innocuous desuetude—to use the term introduced by and associated with a great public functionary—because it is not universally enforced. A partial or imperfect enforcement has still a certain moral effect, and what is more needed than anything else is its educative action on the public. What we want is a creation of a general sentiment that it is indecent and disreputable to spit in public places, and when that exists it will not be difficult to make the act unprofitable and to enforce regulations against it. Our civilization is too much behind that of most countries in this regard; a duly educated public opinion bringing the public spitter into proper contempt is what we need. It may be necessary to acquire this before anti-spitting regulations can be fully enforced, but the present agitation, if not allowed to die out, will help to bring this about. Let us have anti-spitting laws and enforce them as far as we can.

Another Xiphopagus.—Chapot-Prévost has found another pair of united twins which he is studying with interest. The twins are Chinese boys, 14 years of age, and are now on exhibition in a circus in Europe. The connecting band is comparatively long and narrow, thus allowing considerable freedom of movement.

Medical News.

CALIFORNIA.

Dr. Kate P. Van Orden, Ventura, has been appointed a member of the board of health.

Dr. John J. Kinyoun, Federal quarantine officer at San Francisco, who has made himself *persona non grata*, because of his refusal to conceal the existence of plague in San Francisco, has been transferred to St. Paul, Minn. He will be succeeded by Dr. Duncan A. Carmichael, now Federal quarantine officer at Honolulu, Hawaii.

Plague in San Francisco.—The Medical Society of the State of California, on April 17, passed a resolution expressing confidence that the San Francisco Board of Health, the State Board and the Government Commission will be able to watch and take proper measures for suppression of the plague in California.

ILLINOIS.

The Semi-centennial in Medicine, of Drs. S. S. Salisbury, Tolono, and Dr. Charles H. Mills, Champaign, was celebrated by a banquet tendered by the Champaign County Medical Society, April 9.

Smallpox in Springfield is taxing the patience of the health authorities. After securing a location for the isolation hospital, in a remote spot in Oak Ridge Cemetery, they were enjoined by persons who lived near the cemetery. They then set up the tents in Reservoir Park, but during the night of April 23 these were destroyed.

Rummage Sales and Smallpox.—Dr. James A. Egan, secretary of the State Board of Health, declares that a rummage sale held recently in one of the churches at Metropolis was responsible for the spread of "Cuban itch," that is, smallpox. He considers these sales great disseminators of disease, and that they constitute a most pernicious practice.

Chicago.

Dr. Reuben Peterson has been made Bates professor of gynecology and obstetrics in the University of Michigan, vice Dr. James N. Martin, resigned.

Dr. William Osler, Baltimore, will deliver the annual lecture before the Chicago Society of Internal Medicine, at the rooms of the Chicago Medical Society, May 15.

St. Luke's Hospital Bazaar, given last week by the graduating class of the St. Luke's Hospital Training School for Nurses, netted \$1000 to the charity work of the hospital.

Chicago's Mortality.—Of the 551 deaths reported for the week ended April 20, 195 were due to diseases of the respiratory system, and 48 to violence. The death-rate for the week was 16.33 per 1000 per annum.

Nicholas Senn Hall.—A permit was issued April 17 for the erection of a seven-story addition to Rush Medical College, to be ready for occupancy November 15. It will cost \$115,000 and will be devoted to clinical instruction.

Rush Students Transferred.—After July 1, the instruction in the first two years of the medical course of Rush Medical College will be given at the University of Chicago. President Harper announces in addition that large sums of money have been recently given to this department to buy new apparatus and to enlarge its capacity.

Smallpox.—There was a slight increase in the number of cases of smallpox discovered during the week, including a larger proportion of out-of-town cases. The second death from the disease occurred on Saturday—a typical case of confluent smallpox, in a patient "never vaccinated." Out of 193 cases since Nov. 30, 1900, there have been but two deaths. The isolation hospital report for the week is 17 new cases received, 13 discharged recovered, 1 death, 40 remaining.

Mortality and Morbidity.—After nearly three months of the lowest mortality rate on record, the scale has turned and the death-rate is rapidly rising to the usual spring proportions. A total of 551 deaths from all causes was recorded last week, an increase of 106 over the total of the previous week, and only 10 less than in the corresponding week of last year. This is an increase of nearly 24 per cent. over the average of the previous two months. In the weekly bulletin of the health department this result is attributed to the unusually low temperature of the month and the continuance of raw, chilling and depressing east and northeast winds laden with moisture from the lake. Chronic invalids and the aged, stricken with acute dis-

ease, are the principal sufferers from these conditions, and the death-rate among those over 60 years of age has increased more than 35 per cent. within the week, while pneumonia, heart disease and consumption all show an increased mortality. With a continuance of the prevailing weather conditions a further increase of the pulmonary diseases is inevitable. Individual precaution against undue exposure, attention to personal hygiene and thoroughly sprinkled streets, in the absence of rain, will restrict this increase in the degree in which these measures are enforced. Frequent showers, even at the expense of muddy streets, will do much for the public health at this season of the year, by limiting the spread of the air-borne and dust diseases.

INDIANA.

In Indiana, the State Board of Medical Registration and Examination has granted license to practice to forty-seven out of about seventy-five who applied.

The internes of the Indianapolis City Hospital, selected by competitive examination, have been assigned to duty; 5 to the dispensary and four to the hospital. Of these, 8 are graduates of the Medical College of Indiana and 1 of the Central College of Physicians and Surgeons.

Dr. R. B. Short, Union Mills, the Representative who had the Wood medical bill in charge in the house, says that the bill is causing large numbers of "Christian Scientists" throughout the state to retire. The laws of all the states surrounding Indiana are just as stringent against their practices as is the new law in Indiana. He has not observed that the law is operating to drive out of the state any other class of practitioners.

IOWA.

Dr. C. H. Cretzmeyer, Waverly, has been appointed to the house staff of the Iowa City Hospital.

Sioux City College of Medicine held its eleventh annual commencement April 24, and graduated a class of six. The trustees have decided to make the course of study eight instead of seven months, as heretofore.

Dr. John McClintock, of the Medical Department of the University of Iowa, will soon start for Europe to purchase new material for the pathologic and biologic laboratories which were recently destroyed by fire.

Iowa College of Physicians and Surgeons, the Medical Department of Drake University, Des Moines, held its annual commencement April 23, and graduated a class of fourteen. Hon. A. B. Cummins delivered the commencement address.

MARYLAND.

The Hospital for Consumptives has bought sixty acres more land, near Towson, in the suburbs of Baltimore.

Dr. John S. Fulton, secretary of the State Board of Health, has sent a circular to the truck farmers of the state calling their attention to the prevalence of smallpox and urging them to exercise care in employing hands and to see that those employed have been recently vaccinated.

Smallpox Threatens.—As the eastern shore counties are threatened with smallpox from Delaware, so the western part of the state is threatened from Pennsylvania. On April 15 there were thirty cases in Bedford County, Pennsylvania, within a small radius, near the Maryland border, and steps were being taken to establish a rigid quarantine by the Maryland authorities. The disease seems to have been carried to Pennsylvania from Cumberland, Md., by an infected individual, who escaped from that city before quarantine could be established.

Baltimore.

Dr. Melvin S. Rosenthal has returned after a year's stay in Europe.

Baltimore Medical College graduated a class of ninety-six on April 23.

Baltimore Medical College Alumni Association celebrated its twentieth anniversary on April 16. Dr. Edward L. Whitney was elected president.

Dr. John C. Hemmeter's new composition, "Des Sangers Himmelfahrt," for chorus and full orchestra, was produced by the Arion Society at Germania Maennerchor Hall, April 17.

Drs. Thomas H. Magness, Baltimore, and Dr. Joseph T. Devine, New York, have been elected resident and assistant resident physician respectively of Baltimore University Hospital.

The annual report of the Librarian of the Medical and Chirurgical Faculty of Maryland shows that 941 books were

added during the year. The journals regularly received number 156, chiefly English, German and French. There were 4123 readers and 1732 books were taken out. The Frick Fund books now number 1693.

Garrett Fellowship in Pathology.—Mr. William Johnston, the Liverpool ship owner, has founded an international fellowship of \$500. in pathology and physiology, in memory of the late John W. Garrett, of Baltimore, president of the B. & O. R.R. It is open to members of American universities and medical schools. The incumbent must devote himself to research in the Thompson-Yates laboratories of University College, Liverpool. The professors of University College, in whose hands is the nomination, have asked the Johns Hopkins Faculty to send the first fellowship from Baltimore.

MICHIGAN.

Dr. Herbert M. King, Grand Rapids, has been delegated to represent the State Board of Health at the tuberculosis congress in London this summer.

Dr. William B. Watts, Jackson, has been appointed grand medical examiner and adviser of the Brotherhood of Locomotive Firemen, with headquarters at Peoria, Ill.

Dr. T. J. Haines, Three Rivers, who sued the Lake Shore and Michigan Southern Railway for injuries received in a railway accident, in 1899, has been awarded \$3000.

The plague in Ann Arbor has no new victims thus far. The student is rapidly recovering from the infection and his two physicians are convalescing from the effects of the Haffkine serum injections.

The house has passed the bill providing for women physicians in Kalamazoo, Pontiac, Traverse City and Newberry asylums, in the home of the feeble-minded, Lapeer, the industrial school at Adrian, the school for the deaf at Flint and the school for the blind at Lansing.

MINNESOTA.

Dr. Thomas S. Roberts, Minneapolis, has been elected to the chair of pediatrics in the medical department of the State University.

The State Board of Medical Examiners recently granted licenses to practice to eighty-nine out of ninety-eight applicants who appeared for examination.

The vaccination order, which has been in force in Duluth since October last, and prevented unvaccinated children from attending school, was revoked April 6.

NEW YORK.

Dr. F. W. Robertson, formerly of Bellevue Hospital, and for the last few months resident physician and acting superintendent of the Elmira Reformatory, has been appointed permanent general superintendent of that institution.

Personals.—The governor has sent in the nomination of Norman S. Dyke, of Kings, as trustee of the State Consumption Hospital in the place of Walter Jennings, resigned, and has also nominated, for New York Quarantine Commissioners: Hugh McRobert, Frederick H. Schroeder and Charles H. Murray.

State Hospital for Consumptives.—The committee on Rules of the Assembly has amended Senator Davis's bill for the construction of a state hospital for consumptives, in the Adirondacks, so as to provide that the commission to review the selection of the site shall consist of the governor, the speaker *pro tem.* of the Senate and the speaker of the assembly.

New York State Cancer Laboratory.—The annual report of this institution has been transmitted to the legislature. It relates to the work of Dr. H. R. Gaylord in the protozoan cause of cancer, and speaks hopefully of the discovery of an antitoxin. After calling attention to the increase in cancer mortality in the state during the past year, and the importance of the work thus far done, a further appropriation of \$20,000 is asked for, and \$15,000 was appropriated to carry on further investigations.

To License Hypnotism.—The Senate has passed the McCabe bill which seeks to legalize and license hypnotism and mesmerism as taught in so-called schools for the purpose. The bill provides that neither hypnotism nor mesmerism shall be taught except in schools approved by the regents, and no one shall practice either, except physicians and surgeons, unless duly graduated from such school and his diploma registered with the county clerk. By this measure it is hoped to put hypnotists and mesmerists on a legal and licensed footing, and give the countenance of a state law to the practice.

Buffalo.

The monthly report of the Department of Health gives a death-rate of 14.57 per 1000.

Dr. Prescott Le Breton has been appointed assistant orthopedic surgeon at the Children's Hospital.

Dr. Charles F. Howard has been renominated by Governor Odell to be a member of the board of managers of the Elmira Reformatory.

A bill has been introduced at Albany to allow Charles E. Abbott, of Buffalo, to go through the medical department of the University of Buffalo and take the usual degree and afterward take the regents examination, which, as a rule, is required to be passed as a preliminary to entrance into a medical college.

New York City.

Dr. Morris J. Asch, after forty-six years of practice, is taking a year of rest.

Diphtheria has attacked so many of the 600 pupils attending the public school at Highbridge that the school has been ordered closed.

Arrests for Expectoration.—The Board of Health, on April 21, caused the arrest of thirty-two persons for spitting on the floors of street-cars and the decks of ferry-boats. Of this number, sixteen were held for trial and nine were fined from \$2 to \$3. It is thought that the publicity given to this crusade will act as a wholesome deterrent.

NORTH CAROLINA.

Smallpox was reported during March in twenty-five counties. In Green County 173 cases were reported.

State Board of Health.—The governor has made the following appointments: Dr. Richard H. Lewis, Raleigh; Dr. Francis Duffy, Newbern; Dr. George G. Thomas, Wilmington, and Dr. William P. Ivey, Lenoir.

State Examinations.—The regular annual session of the North Carolina State Board of Medical Examiners will be held in Durham, N. C., beginning May 16. Applicants desiring examination will carry with them a diploma from a college of medicine requiring not less than three years' attendance, evidences of clinical instruction, and certificates of character. The license fee is \$10. The president of the Board is Dr. E. C. Register, Charlotte; secretary-treasurer, Dr. J. Howell Way, Waynesville.

OHIO.

Starling Medical College, Columbus, held its fifty-fourth annual commencement April 11. The graduating class numbered thirty-three, and the address of the evening was made by President W. O. Thompson, of the State University.

Ohio Medical University, Columbus, held its ninth annual commencement exercises April 16, graduating a class of forty-four. The address to the graduating class was made by Rev. Louis Edward Holden, president of Wooster University.

A controversy over smallpox, between health officers and physicians of Springfield, resulted in the calling of Dr. A. Ravogli, Cincinnati, as an expert. He found one of the patients free from any indication of this disease, while the other disputed case was undoubtedly smallpox.

School Investigation.—The *Cincinnati Post* has engaged Dr. S. P. Kramer, late major and surgeon, U. S. V., to make a sanitary investigation of the public schools of this city. The sewerage, ventilation, lighting, construction of seats, and the effect on the spine of uncomfortable or poorly adapted seats, water-supply, the manner of collecting and disposing of dust, and all other conditions that might effect the health of the pupils, will be studied. The investigation will include one school a day, and Dr. Kramer will be accompanied in his rounds by a medical member of the Board of Education.

PENNSYLVANIA.

A bill has been introduced in the state legislature making it unlawful for cities of the first class to reopen, for the purposes of sepulture therein, any grave in which any corpse may be interred.

An attempt was made to destroy the smallpox hospital at McKeesport, April 18. A can of gunpowder, with matches and a fuse, was found in the building. There were no patients in the hospital at the time.

Large Medical Bill.—Probably the largest medical fee ever presented in Pennsylvania is that of Dr. Walter C. Browning, of Philadelphia, against the estate of Christopher Magee, of Pittsburg, recently deceased, who is reported to have been worth several million dollars. According to reports, the bill

covers a period of twenty-one months, and includes trips to the seashore, and to Hot Springs, Va. The total amount of the bill is \$190,000.

Philadelphia.

Dr. Lewis Morris, of the United States Navy, has been assigned to duty at the Naval Hospital of Philadelphia.

Dr. Samuel D. Risley has resigned, after a service of many years as professor of diseases of the eye at the Philadelphia Polyclinic. As a mark of appreciation of his services the Board of Trustees created the office of Emeritus Professor of Diseases of the Eye, to which Dr. Risley was elected.

Dr. William Campbell Posey has been elected professor of diseases of the eye at the Philadelphia Polyclinic, to succeed Dr. Risley, resigned. Dr. Posey is a graduate of the University of Pennsylvania, has studied abroad, and is connected with the Will's Eye Hospital, Howard, Epileptic, and Home for Incurables.

Smallpox.—Two new cases were reported in one day during the last week, and the total number is now eight. The cases have been found in various portions of the city. The first was discovered about three weeks ago, and two fatal cases have occurred. The patients have been removed to the Municipal Hospital and the infected houses quarantined.

As a precaution against plague, the Board of Health will take all the precautions possible to prevent the introduction of rats coming from vessels on board of which there is any suspicious disease. The medical board at Reedy Island will hereafter insist on a new style hawser, since it is believed that by the old style the rats have a means of reaching the shore.

The Ptolemy Society, the purpose of which is for social intercourse and to disseminate medical science, has been chartered with the following officers: Stilman Henry Conner, president; Bert Edward Goodman, vice-president; Atlee David Mitchell, secretary; Frank Cornelius Leytze, treasurer; and Drs. Hobart Amory Hare, Hiram R. Loux, Justus Sinexon, Edwin Russell Kennedy, and Dudley D. Smith, board of governors.

Obstetric Amphitheater.—Through the gift of Mrs. C. B. Newbold, the University of Pennsylvania has received \$25,000 for the construction of an obstetrical amphitheater to be added during the present year to the University Hospital. The new addition will be known as the Scott Amphitheater, in memory of Mrs. Thomas A. Scott, Mrs. Newbold's mother. The building will be of brick, fifty feet square, and will accommodate 150 students.

Exhibit of Board of Health.—In response to an invitation by officials of the Pan-American Exposition, the Board of Health will make an exhibit showing its work. It has been completed under the direction of Chief J. Lewis Good and Dr. W. M. Welch of the Municipal Hospital. The exhibition consists of a handsomely bound portfolio, and contains a complete set of all circulars, blanks, health diagrams, photographs, etc., showing the sanitary work done throughout Philadelphia. The photographs include the city hall, Municipal Hospital, smallpox building, leper building, diphtheria ward, and disinfecting rooms of the Municipal Hospital, and other data.

TENNESSEE.

The State Board of Medical Examiners met at Nashville, April 4, and issued licenses to practice to ten of the thirteen applicants whom they examined.

Tennessee University Medical Department, Nashville, graduated a class of seventy-nine, on March 26. Dr. Perry Bromberg delivered the charge to the graduates.

Grant University Medical Department, Chattanooga, held its commencement exercises April 23, graduating a class of about sixty. The orator of the evening was Judge Floyd Estill.

Vanderbilt University Medical Department, Nashville, held its commencement exercises April 3, and graduated a class of ninety-one. Hon. W. A. Henderson, Knoxville, delivered the address to the graduates.

The medical practice law, at present in force in the state, requires the State Board of Medical Examiners to recognize diplomas of all colleges in the state. This list includes two "magnetic schools" and the "Chattanooga Gentileium Medicum Collegium."

TEXAS.

Dr. Absalom A. Ledbetter has been appointed city health officer of Hallettsville.

Dr. John Foster, Georgetown, has been appointed third assistant physician at the State Lunatic Asylum, Austin.

Fort Worth University Medical Department held its seventh annual commencement, April 5. A class of twenty-six was graduated. The Faculty address was delivered by Judge B. D. Tarleton.

Temple Hospital has elected the following medical staff: Drs. Arthur C. Scott; Benjamin F. Lee; John M. McCutcheon; Victor Oatman; Robert W. Barton; John S. McCelvey; R. R. White; Lee Knight and James M. Woodson. The hospital association is prosperous and is planning to add a new wing to the hospital building.

UTAH.

Smallpox has broken out in the family of the author of the McMillan antivaccination bill passed by the recent legislature and vetoed by the governor on the ground that it "is a step backward, which will be disastrous."

The State Board of Medical Examiners met April 2 for organization and re-elected Dr. Elias S. Wright, Salt Lake City, president, and elected Dr. Robert W. Fisher, secretary. Five applicants for license appeared, two of whom passed the examination.

Smallpox in Salt Lake City.—Twenty-three new smallpox cases were reported in Salt Lake City the first week of April. There are now 120 cases under quarantine and in the isolation hospital. Of the twenty-three patients only two had been vaccinated, and these not later than 1866.

WISCONSIN.

The State Board of Medical Examiners, at its session in Milwaukee, April 9, refused to recognize diplomas of a southern medical college which requires only a three years' course. The board passed favorably on fifty-five out of sixty applications.

Frank X. Schaeffer, charged with practicing medicine without proper legal qualification, was found guilty and fined \$50 and costs, to stand committed to jail until the money is paid. The costs will amount to \$400 or \$500, as this was the third trial of the case. The jury was out only ten minutes. He appealed at once on writ of error to the supreme court.

The Circuit Court has decided that the State Board of Medical Examiners has the right to determine whether an applicant for registration is a reputable resident physician, and its decisions on this question cannot be reviewed by mandamus. The decision was rendered in the case of a practitioner of Hillsboro, against the state board, he seeking to compel the board to grant him a certificate of registration.

CANADA.

Dr. R. A. Reeve has been reappointed dean of the medical faculty of Toronto University.

The Winnipeg General Hospital, for the week ending April 13, treated 198 patients—102 men, 53 women and 43 children. There were also 42 out-patients.

Sir William Hingston, on May 8, will have completed the fortieth year of his connection with the Hotel Dieu Hospital, Montreal, as consulting physician, and on that occasion will be tendered a *dejeuner* by the sisters of the institution.

McGill Items.—The graduating class numbered over one hundred, in medicine, this year. Dr. Ruttan, registrar of the medical faculty, has been re-elected representative from that faculty upon the corporation of the university. Dr. William Gardner has been chosen to deliver the valedictory of the faculty to the graduating class at the convocation to be held about June 15.

Honors Awarded.—Dr. Andrew Haliday, Shubenacadie, N. S., who has been studying during the past winter in the Pathologie and Public Health laboratories of the Western Infirmary and the University of Glasgow, has, after examination, been awarded first class honors with first place in the sanitary division of the class of pathology and bacteriology, and also a diploma in State Medicine.

Ontario's Smallpox.—The smallpox outlook throughout Ontario is brighter, although within the past two days four or five new cases have been discovered in Toronto, and one of these, a medical practitioner, who contracted the disease while attending a supposed case of chickenpox. The men employed in the lumber camps of the northern part of the province have all left for their homes, and some five thousand of them have been vaccinated, and two thousand pieces of baggage disinfected at Sudbury. At present the disease exists in some fifteen centers west of Sudbury, and in thirty in what is called Old Ontario. All persons going north for the next few months, to work on boats and at summer resorts, will be examined.

"Christian Science" in Canada.—"Christian Science" is said to now boast of a little over 5000 adherents throughout all Canada; and lately there has been noticed a marked tendency among clergymen of all denominations to make a concerted and vigorous attack upon what they regard as the growing evils and delusions of this doctrine. In Toronto, in a number of the prominent churches, the subject has been taken up repeatedly of late, and the ministers of the city, though by no means unanimous in their views of Mrs. Eddy's belief, have broadly and generally made determined onslaughts on her doctrines. Starting in Canada with a membership of only a score or two in 1890, the sect is believed to have a membership of 3000 and about 5000 adherents. It has thirty-two churches scattered over all parts of the Dominion; four of these are owned. In Toronto there are about 500 "Christian Scientists" attending the two churches that city possesses. It is said that no adherents are drawn from the Roman Catholic Church.

Medical Convocation.—The convocation of the medical and dental faculties of Bishop's College, Montreal, was held last week. Dean Campbell, of the medical faculty, in his annual report spoke of the need for larger endowments for the faculty if it is hoped to carry on the work of teaching in the future as successfully as it has done in the past. The primary chairs especially require assistance, as they can not be filled at the present time by men who enjoy large practices. The year just closed shows an increase in the medical faculty and a decrease in the dental, perhaps due to the additional year now demanded and a more searching preliminary examination. There were eighty-four medical students in attendance last session. Dr. Hyman Lightstone delivered the valedictory.

Registration in Ontario.—It costs each student \$100 to become a licentiate of the College of Physicians and Surgeons of Ontario. An annual fee of \$2 is then demanded and every practitioner is required to pay this fee and be registered on the register of the College. Some ten years ago a storm was raised over this very same fee and many practitioners have refused to pay it at all. Now a number are in arrears and they have been notified by the prosecutor of the Medical Council that their names have been already erased from the register and that if arrears for assessments are not paid within thirty days from date of notice they will be proceeded against in the usual way as against all other unregistered practitioners. The Medical Council is composed of practitioners, representatives from different constituencies in the province.

Montreal's Sewerage.—The Sewage Farm in Montreal, a description of which appeared in the columns of THE JOURNAL about fifteen months ago, is now in an awful condition and has proven a flat failure. The farm, which is situated at the head of St. Denis St., in that city, and into which the sewage from the northern portion of the city has been emptying, cost in the neighborhood of \$75,000, and to-day is useless, and the raw sewage is seen rolling across country and into the Back River, constantly emitting a foul stench. The whole volume of sewage from the sewer outlets empties itself into the surface of the farm at one end and then rushes out at the other, and on as above described. The people living in the neighborhood threaten the city with legal proceedings unless the nuisance is abated at once. It appears that when the farm was in course of construction a double set of pipes was advised by the city surveyor, but his advice was disregarded, and Montreal now finds herself up against another source of danger from disease through the coming summer months.

Prevention of Tuberculosis.—A special meeting of the Executive Committee of the Canadian Association for the prevention of tuberculosis was called at Ottawa on the 20th. His Excellency, Lord Minto, in the chair. Dr. Lachapelle, of Montreal, was added to the committee. On resolution it was decided that all the secretaries of the provincial boards of health should be corresponding members of the Executive Committee. The Rev. Dr. Eby, of Toronto, has been appointed special organizer and agitator in the Province of Ontario, for a period of six months, in order to prosecute a systematic campaign of education on the line of providing municipal sanitaria. Toward this end the central association granted \$300. Dr. Eby in the meantime resigns the secretaryship of the Canadian Association, and Dr. H. B. Small, of Ottawa, has been invited to act as honorary secretary.

FOREIGN.

The Soemmering Prize.—This has been awarded by the Senckenburger Natural History Society of Frankfurt to Prof. Franz Nissl, of the University of Heidelberg, for his discoveries in the finer structure of the nerve cell, with especial reference to its alteration in disease.

University Chair.—The Wurttemberg Chamber has voted anew for the founding of a chair of homeopathy in the University of Tübingen. The Cultus Minister, von Weizsäcker, and the chancellor of the University, von Schönberg, fought the proposition energetically, but in spite of this it was carried by 43 to 31 votes.

Honors to Bottini.—A committee of the friends and students of Professor Bottini are planning to celebrate the twenty-fifth anniversary of his appointment to the chair of surgery at Pavia. A *Festschrift* or souvenir volume of original articles on surgery will be presented to him, with a gold medal and a framed parchment list of all subscribers. U. Tansini is secretary of the committee and the subscription asked for is twenty lire, or about \$4.

Requirements in Brazil.—The *Gazeta Med. da Bahia* for March is a students' number and describes the two medical colleges in Brazil, both of which have been open to women since 1879. Six women have taken the full course at the Bahia institution, which commenced as a school of surgery in 1808 and became transformed into a college in 1852. The requirements for admission are a high school course or a certificate of proficiency in Portuguese, French, English, or German, Latin, algebra as far as equations of the first degree, history, etc. For a course of obstetrics the requirements are merely proficiency in Portuguese and either French or English or German, and a knowledge of arithmetic as far as and including proportion.

Belgian Federation.—The profession has watched with much interest the struggle between the Brussels medical society, the collège des médecins, and the Belgian federation of mutual aid societies. Six years ago the physicians engaged by the federation resigned their positions on account of its arbitrary terms and demands and their position was endorsed by the local medical societies. Certain physicians were found, however, who acceded to the demands and the federation thus practically gained its point, although it has continued to make overtures to the former medical attendants and others. The collège des médecins officially decided, at a recent meeting, to revoke its former action and remove all hindrance to the acceptance of positions with the federation by any of its members.

Smallpox at Glasgow.—The number of cases has been steadily decreasing. On April 9 there were 234 cases in hospital. In the week ending April 5, 45 new cases were admitted, 100 patients were discharged, and 6 deaths occurred. Dr. Chalmers, the medical officer of health, has reported some interesting figures regarding the influence of revaccination. Among the patients were 39 persons who stated that they had been revaccinated; in 36 the date of revaccination and of the onset of smallpox were ascertainable. In all, the interval between revaccination and sickening fell short of the inoculation period, so that in none was the operation performed before the disease was contracted. This very cogent fact, however, has not silenced the antivaccinators, and they have held a series of meetings in the city.

Progress of the Plague.—In Cape Town 22 Europeans and 108 colored persons have died from plague, while the total number of cases has been 83 in Europeans, and 266 in colored persons. In the week ending March 30, there were 60 new cases, as follows: Europeans, 18; colored, 29; Malay, 6; Indian, 2; Chinese, 1; natives, 4. The 22 deaths in the same period were: Europeans, 6; colored, 9; Malay, 3; Indian, 2; natives, 2. The total number of cases during the week ending March 16 was 8829, a considerable increase on the previous week. In the city of Bombay there were 1203 deaths—a slight increase on the previous week. The condition of the city is twice as bad as at this time last year. In the Bombay presidency, 717 deaths occurred. In the Madras presidency 73 deaths were reported, a decrease on the previous week. In the northwestern provinces there were 557 deaths and in the Punjab 105. In Calcutta, on March 19 and 20, there were 168 and 190 new cases of plague, and 161 and 154 deaths—unprecedented numbers. A death from plague is reported to have occurred in Alexandria on April 7, which is the first case for twelve months.

PARIS LETTER.

The Doctor on the Stage and in Literature.

The rôle of the physician in contemporary life is the subject of quite a number of plays brought out recently. In one by Brieux, a playwright, called the "Substitutes," the question of nursing is discussed. There are two doctors in the east: one, the type of the fashionable physician, sacrifices his principles to the inclinations and the requests of his clients, who

prefer to hire nurses, whereas the other, who is from the country, upholds the author's idea, which is that mothers should always nurse their children if possible. This play serves to educate the public, and moreover a law passed not long ago in France forbids a woman hiring herself out as a nurse until her child is 7 months old. In literature too, one can find quite a number of books which deal with medical subjects. One published recently is called "Le Mal Nécessaire," *The Necessary Evil*, and is a study of the life and practice of a great surgeon of a certain familiar type. The book is a species of satire on the tendency shown by such to operate brilliantly and cleverly, without perhaps justifying their actions by a sufficiently clear conception of the requirements of any given case. Surgeons are much talked about in the French papers, much more so than they are in America, and it is getting to be rather bad form to have one's name appear in the newspapers.

Russian Sanatorium.

The tsarewitch, who died some time ago at Nice, was buried at the villa Bermond, and the ground around the estate was bought up by the Russian government. There is some reason to believe that a sanatorium for the Russian poor is to be established in this place, and Prince Georges of Leuchtenberg is at the head of this enterprise.

Influence of Bile on the Kidney.

According to most text-books, bile has a pernicious influence on the kidney, and its elimination in the urine causes albuminuria. Dr. Milian has studied the question carefully, and, at a recent meeting of the Anatomical Society, said that he had examined the kidney in Hanot's disease, or hypertrophic cirrhosis, and had found no reason to accept such a statement. There is, as everyone knows, choluria in this disease, and yet albumin is not even found in the last stages of this malady. Polyuria is generally noticed, as much as two liters being secreted every twenty-four hours. On performing the autopsy, the kidneys are found slightly enlarged, sometimes very much so, weighing together 610 grams instead of 280. On examining them microscopically, no alterations are found, both tubes and glomeruli being in a normal condition.

Exophthalmic Goiter.

At a recent meeting of the Society of Neurology, Dr. Babinski described the results he had obtained in the treatment of exophthalmic goiter by salicylate of soda. In one case a woman, 28 years old, began to show symptoms of this affection nearly three years ago. Since January, 1899, the symptoms have increased considerably, and in February there was a clearly defined goiter, very apparent exophthalmia, tremulation in the arms, and the pulse was 140. The patient had grown much weaker and lost flesh. The treatment by salicylate of soda was recommended and continued several months. In October, 1899, the condition of the patient was absolutely transformed. The pulse was only 80, the goiter and tremulation had disappeared, the patient's strength had returned and she had increased in weight. Toward the end of last year all exophthalmia had disappeared. Dr. Babinski also cited two other cases where noticeable improvement followed the use of salicylate of soda.

Intestinal Hemorrhage in Typhoid.

At a meeting held by the Society of Therapeutics, March 13, Professor Mathieu spoke on the treatment of intestinal hemorrhage in typhoid fever by very hot enemata. This method had been recommended by Dr. Tripier, but Dr. Mathieu thought it well to add chlorid of calcium. The treatment is carried out in the following manner: 1, complete immobilization of the patient—suppression of the baths, which are replaced by the cold pack; 2, immobilization of the intestine—opium and reduced amount of liquid food; 3, every morning an enema of a liter to a liter and a quarter at a temperature of 46 degrees, given very cautiously—pressure 20 to 40 centimeters. This enema should contain three to four grams of chlorid of calcium. One to 3 grams of chlorid of calcium are given by the mouth. Dr. Mathieu does not believe in giving more than 3 or 4 grams of chlorid of calcium, as when larger doses are given the coagulability of the blood is diminished instead of being increased. This method was tried on eight patients, and Dr. Mathieu found that the hemorrhage ceased after twenty-four hours. One great advantage of administering enemata in this manner is that the blood which remains in the intestine gets putrified and is the cause of an increase in the fever and the typhoid symptoms. Dr. Mathieu added that he prefers subnitrate of bismuth to naphthol as an intestinal disinfectant. He gives it in doses of 5 grams three times daily. He has found naphthol more irritating.

LONDON LETTER.

Sir William Church, the present president of the Royal College of Physicians, has been re-elected.

Bilateral Ossification of the Tendo Achillis and Plantar Ligaments.

At the Harveian Society, Mr. Daniel recently showed a case, in a man, aged 35, who had suffered from rheumatic pains all his life. His father was also rheumatic. The patient, for as long as he could recollect, had had tender feet. At 18 he was exposed to bad weather, took a chill and suffered from great pain in the feet, especially in the heels. Since then he has always been more or less crippled. Marked shooting pains were often present in the pectoral muscles of the back, deltoids and glutei, rendering him unable to move his limbs, the joints appearing fixed. No swelling of the joints was noticed. He walked with difficulty. There was no evidence of myositis ossificans and he had good movement in the back and all the joints, including the ankles. The heels were slightly enlarged and glossy and tender. For 1½ inches above the os calcis an irregular mass could be seen and felt on either side of, and probably on, the tendo Achillis. Cold, damp, and walking increased the pain. There was some rigidity of the great toes. Liniments, especially of iodine, and iodine internally gave relief.

Dangers of Flannelette.

An inquest has been held on the body of a servant girl who was recently burned to death. While cleaning a grate a cinder fell out and set fire to her petticoat, which was made of flannelette. The coroner remarked that flannelette is a most dangerous material, and that when once lighted there is no hope of extinguishing it. Deaths from the catching fire of flannelette night-shirts have been previously recorded.

Correspondence.

Conveyance of Yellow Fever.

BALTIMORE, MD., April 20, 1901.

To the Editor:—Relative to the editorial notice in THE JOURNAL of the 13th, on a paper of mine that appeared in the *Philadelphia Medical Journal* of April 6, "on the Correlation of the Theory of Conveyance of Yellow Fever by the Culex Fasciatus, with our Generally Accepted Beliefs," I would say:

1. My paper was written about the first of December last, when Finlay's experiments and Major Reed's "Preliminary Note" were the only direct evidence extant in favor of the conveyance of yellow fever by the mosquito as a host. Neither of these seeming to me—nor, I think, to others—fully convincing. I attempted to compare this theory, without regard to this evidence, with what was known and admitted on the subject, to try to determine if it were antecedently probable or improbable. The paper is confined to a bare statement of the case, purposely avoiding summing up, although I think a decided antecedent probability was shown for the theory. Since the publication of Reed's "Additional Note" (in February) this matter—the antecedent probability of this theory of conveyance—is of small importance. The direct evidence for it is satisfactory and, counting the conveyance of yellow fever from the sick to the well by a mosquito host as proven by such evidence, there is no question of probability to consider. 2. I can not think that the period of incubation of yellow fever will be found to vary analogously to that of malarial fever. In thirteen cases of experimental yellow fever, reported by Reed, the period of incubation was never over six days: in ninety-five collected and recorded by myself (*Medical Record*, March 9, 1901), in none did this period show over eight days, and in only two over six days, the usual period being from three to four days. We have no trustworthy evidence of an incubation period much beyond the limits given above. Save the transmission by a host, there is little analogy between yellow fever and malarial fever. There is no chronic yellow fever, there is no recrudescence of yellow fever in a patient; there are no "hold over" cases of yellow fever; and, finally, there is a very general—almost universal—immunity to yellow fever produced by one attack. To my mind the analogy is rather with Texas cattle fever than with malarial fever. Respectively.

H. R. CARTER, Surgeon, U.S. M.-H. S.

Implantation of Ureters.

NEW YORK CITY, April 11, 1901.

To the Editor:—In view of the fact that the patient on whom I operated for implantation of the ureters into the rectum by a new method, as described in the *American Journal of the Medical Sciences*, Vol. clv., pp. 270-276, is still living and enjoying the best of health at the end of 4½ years—not 3½ years, as stated by Dr. Peterson. I wish to protest against paragraph 3, in the General Conclusions at the end of his article on "Ureteral Anastomosis" (*THE JOURNAL*, March 23, p. 814), in which he says: "All efforts to prevent ascending renal infection in animals or in man where the ureter has been implanted without its vesical orifice have proved futile." In order to support the contention that the "operation is unjustifiable" (paragraph 5, General Conclusions), he endeavors to assume that, in my case, "the kidneys have been infected, but that the infection has been overcome with resulting contracted kidneys." This assumption in the absence of the slightest suspicion that such has actually occurred in the case, would seem to be in a great measure gratuitous, if not absolutely unwarranted, even though "experimental work would lead us" to such a conclusion.

Further, I wish to call attention to the alleged foundation for thus discounting, and even practically ignoring, the result in this case. It would appear, by a paragraph on the same page, that Dr. Peterson performed the operation on a dog, implanting one ureter, and killed the dog at the end of twenty-seven days. At the autopsy the kidney corresponding to the implanted ureter was found to be "decidedly smaller than the other and showed evidences of ascending infection. No bacteriologic or microscopic report on the specimen has yet been made" (italics mine).

Beyond calling Dr. Peterson's attention to the fact that the mucous valve formation is neither the only nor the most important feature of the operation in question, and that therefore its disappearance in the case of the dog need not necessarily militate against the procedure, it is scarcely necessary for me to waste your space by further comment. Yours very truly,

G. R. FOWLER, M.D.

Immunity Against Zymotic Diseases.

TOPEKA, KANS., April 18, 1901.

To the Editor:—I have read, with appreciation, the article on "Immunity Against Zymotic Diseases," by Dr. J. W. Class, published in *THE JOURNAL* of April 13, and have been much impressed by the author's lucid exposition of what is generally considered a perplexing theme.

The rather unique theory advanced by the author particularly attracted my notice, because its essential features had all been presented and elaborated in a paper of similar import, read Feb. 18, 1901, before the Medical Science Club of Topeka, by Dr. O. P. Davis, of this city, the original of which is in my keeping as secretary of that organization. In this paper, Dr. Davis, after canvassing the various theories of immunity, and pointing out their insufficiency, arrives by a process of deductive reasoning at what seems to be a new and plausible theory embracing all that Dr. Class sets forth, and more. The following main propositions were developed:

1. Acquired immunity is due to the continued presence in the body of the specific microbe of the given disease, in a form sufficiently attenuated to be tolerated by the host, and yet sufficiently active to stimulate the production of an antitoxin.

2. Germs may undergo attenuation outside, as well as within, the body, and entering the body, thus attenuated, may confer protection without typical infection.

3. During the whole time that this immunity continues the attenuated germs continue to reside in the protected body.

4. Such germs as will not undergo a stable attenuation, but tend to revert to the virulent type, will not confer permanent immunity by their presence in the body, but bring about either an immunity that is transient, or an increased susceptibility with subsequent reinfection, or both.

All these propositions were amply developed in Dr. Davis's paper, and though Dr. Davis set forth no special claim to originality on this subject, yet it seems that he has the priority over Dr. Class at least, in the enunciation of what appears to be a well-sustained theory. Very truly,

CORBAN E. JUDD, M.D.

Anesthesia of Ear Drum.

MEMPHIS, TENN., April 3, 1901.

To the Editor:—In Dr. Henry Gradle's recent article on "Purulent Otitis, Its Treatment and Prevention by the Family Physician" (*THE JOURNAL*, March 30), in speaking of paracentesis of the drum membrane, he says that it is a painful procedure and the pain is not lessened by any of the local anesthetics. I would like to mention a combination of local anesthetics which I have found to act admirably in producing an anesthesia of the drum, permitting painless paracentesis. The mixture is equal parts of cocaine, carbolic acid and menthol. It is attributed, I believe, to Bonain (*Rev. Heb. de Lar.*, June 17, 1899), and I claim no originality in connection with it. I have used it many times this winter with invariable satisfaction. After cleansing and drying the canal, I have applied this mixture with a cotton-tipped applicator directly to that portion of the drum which I wished to incise. In a moment the surface becomes white, and this is convenient in that it becomes easier to confine your incision to anesthetized parts. While I have used it mostly in adults, I have also tried it in children, and in them it is equally successful if you can allay their fears over the prospect of being cut. In one woman I did double paracentesis at one sitting without pain, and later in the progress of the case it became advisable to enlarge the too rapidly closing incision. This was done under the same mixture, and again without pain. I would like to urge on my colleagues in otology the use of this mixture, with which I am sure they will be pleased. Another popular mixture for the same purpose was suggested by A. A. Gray, in *The Lancet* of April 21, 1900, and is composed of cocaine, alcohol and anilin oil, in the proportion of 5 per cent of the alkaloid in equal parts of the other two ingredients, but I have had no experience with it. Very truly,

E. C. ELLETT, M.D.

Original Papers Used for Advertising.

PHILADELPHIA, April 16, 1901.

To the Editor:—In reference to the communication from Dr. Harvey, on page 1058 of *THE JOURNAL* of April 13, I would say that this matter did come to my ears very shortly before I saw his letter. I at once wrote to the manufacturers, who have so used my article, to stop all and every use made thereof, which they very promptly promised to do. That I never knew anything about the uses thus made, is a sufficient answer to the question at issue. If this is not satisfactory, I respectfully refer to the manufacturers, who have expressed great regret for using my paper at all, which was a sufficient apology to me, and I hope satisfactory to Dr. Harvey also.

Yours,

EDWIN ROSENTHAL, M.D.,

Former Chairman of the Section on Diseases of Children.

Life Expectancy in Medical Men.

BURLINGTON, N. C., April 11, 1901.

To the Editor:—Having seen it stated that medical men are shorter lived than those of other professions and trades, I have collected from the obituary notices in *THE JOURNAL* in succession as the deaths occur, the ages of 510 physicians, in the United States, Canada, and Europe. These statistics include deaths from accident and suicide, as well as those from disease. I find the average age to be 58 years and 9 months, not such a bad showing for the longevity of the physician after all, especially as the cases from accident and suicide, as well as casualties in the army service, are included. Yours truly,

W. G. SAFFORD, M.D.

Association News.

The Growth of the American Medical Association.—As the time draws near for the Association's next annual meeting, interest in its affairs naturally grows more active among the profession at large. As to the meeting itself, which is to be held in St. Paul on the 4th, 5th, 6th, and 7th of June, there can be but one opinion and but one confident expectation, namely, that it will be at least the equal of any former meeting of the same body, whether from the point of view of the scientific work that will be done or from that of a reunion of the best elements of the American profession. As one annual meeting after another approaches, however, one's thoughts turn more and more on questions more closely bearing upon the Association's future usefulness than most of the proceedings that are likely to mark the occasion. The AMERICAN MEDICAL ASSOCIATION has accomplished a great work, but is it, as at present organized, fitted in the best possible manner for the work that is yet before it? There are those—and they are among the Association's best friends—who, recognizing fully that it was originally organized in a way admirably fitting it to cope with the problems of half a century ago, are inclined to think that changed conditions call for some modification of its machinery if it is to keep on doing for the profession the best that can be expected of such a body. When the association was organized, American medicine was in a decidedly unpromising state. There was, to be sure, no lack of brilliant and progressive men in the profession, but the teaching faculties were almost entirely irresponsible bodies, issuing at their pleasure diplomas which, while certifying to but little that a man could be proud of, gave their holders unquestioned prestige with the general public. Everybody had the right to practise medicine, and quackery was rampant. Authoritative pronouncements by the better class of physicians were required to educate the people up to the point of remedying these evils. Such have proceeded from the AMERICAN MEDICAL ASSOCIATION and from other medical organizations, and they have slowly taken effect. They were authoritative in proportion as they came from a representative body. It was seen at the outset that this would be the case; hence the delegate system in the Association's organization. But the delegates have now become so numerous, about fifteen hundred in all, that, though there are always many absentees, the general session is almost sure to be unwieldy on occasions when a conflict of opinion is to be settled by a vote, many uncalled-for speeches are apt to be made, not a few of the voters fail to get an adequate idea of the merits of the question, and emotion rather than calm judgment is prone to carry the day. All this hinders the real purposes of the meeting so far as legislative action is concerned, and it diverts men's minds from the scientific work in hand, to say nothing of the waste of time entailed. Quasi-legislative action on the part of the Association—and by that term we mean the adoption of resolutions, memorials, and the like, calculated to influence State and national legislation—seems to have become less and less important of late years, for the defects which it was formerly needed to correct have been almost wholly remedied. A decided reduction of the number of delegates, the proportion for each constituent body remaining the same, would, it seems to us, enhance the scientific work done in the sections and give time for a greater number of formal addresses, papers of general interest, and demonstrations. There need be no limit to the number of non-voting members, so that the attendance at the meetings would go on increasing as it has done up to the present time. In short, we can see no objection to a decided curtailment of the representative element, and we believe that it would prove advantageous. Such a move, we are quite aware, would involve practically a reorganization of the Association; if our ground is well taken, however, why should not a reorganization be effected?—*New York Med. Jour.*, April 20.

The Pathological Exhibit in St. Paul.—Last June we had the pleasure of commending the enterprise and good judgment of some of our Indiana brethren as shown in the exhibition of pathological specimens given in connection with the Atlantic

City meeting of the AMERICAN MEDICAL ASSOCIATION. We were convinced that it could not have failed to make a most favorable impression, and we are glad to have our view confirmed by the announcement that a display of practically the same scope is to be made in St. Paul in June, this time under the Association's official recognition and as an integral part of its work. The committee in charge of the St. Paul exhibition, consisting of Dr. Frank B. Wynn, of Indianapolis; Dr. A. P. Ohlmacher, of Gallipolis, Ohio, and Dr. Hugo Summa, of St. Louis, has recently issued a circular of information from which we infer that a similar exhibition is hereafter to be a feature of all the Association's annual meetings. Gross pathological specimens, it is stated in the circular, will naturally constitute the greater part of what is to be displayed, but the committee add that they "will seek to present a wide range of practical scientific demonstrations, imposing only the condition that they bear absolutely no commercial impress." The educational object is to be kept constantly in view, particularly that of demonstrating the fundamental relationship of pathology to diagnosis, therapeutics, and sanitary science. In addition, however, to the pathological specimens, the committee will make an effort to present demonstrations of research and experimental investigation, which, it is quite properly remarked, will tend to stimulate original inquiry among the members of the Association, all of whom are appealed to to contribute specimens. It is suggested that in many instances such contributions may advantageously be made in connection with papers read before the sections. Besides their appeal to individual members of the Association, the committee urges upon State and other medical societies that they should select representatives to collect and present material on their behalf. Substantial co-operation is expected on the part of medical colleges, hospitals, laboratories, and various scientific institutions, among them, we hope, the Army Medical Museum. It is announced that an energetic local committee is charged with securing suitable quarters for the exhibition, separate and distinct from those of the commercial exhibits. Contributors are asked to have their material well in hand by the 1st of May, and to furnish the committee with complete lists of their specimens by the middle of that month. Institutions will be encouraged to present groups of specimens illustrative of some particular phase of pathology or bacteriology, and will be permitted to maintain them intact, but smaller collections and single specimens entrusted to the care of the committee will be disposed in the manner best suited to display their instructive features. It is asked that, so far as possible, all pathological specimens be accompanied by a history of the case and, unless the condition is so typical as not to call for it, a description of the specimen. Copies of the circular—which, by the way, is remarkably well written—together with further information, may be had by writing to Dr. Frank B. Wynn, No. 18 East Ohio Street, Indianapolis, to whom and to his fellow-members of the committee, we must add, the physicians of the whole country should feel indebted for their intelligent and zealous management of this most important undertaking.—*New York Med. Jour.*, April 20.

Section on Materia Medica, Pharmacy and Therapeutics.

PROGRAM OF SECTION ON MATERIA MEDICA, PHARMACY AND THERAPEUTICS.

Mode of Manufacture of Serums and Organ Extracts. Charles T. McClintock, Detroit, Mich.

Theory and Practice of Organotherapy. S. Solis-Cohen, Philadelphia.

Acromegaly Treated with Pituitary Body. Sydney Kuh, Chicago.

Treatment of Graves' Disease with Thymus Extract. John M. Dodson, Chicago.

Pharmacologic Action of the Various Preparations of the Suprarenal Gland. E. M. Houghton, Detroit, Mich.

Discussion on Organotherapy to be opened by Victor C. Vaughan, Ann Arbor, Mich.

Utility of Antitoxin Serums. Joseph McFarland, Philadelphia.

Further Observations on Serumtherapy in Croupous Pneumonia. J. C. Wilson, Philadelphia.

Antitubercle Serum. E. A. de Schweinitz, Washington, D. C.

Discussion on Serumtherapy, to be opened by Simon Flexner, Philadelphia.

Influence of Certain Common Remedies upon Gastric Functions. Boardman Reed, Philadelphia.

- Treatment of Gastric Ulcer. Gustav Fütterer, Chicago.
 Treatment of Gastric Hyperesthesia. Charles G. Stockton, Buffalo, N. Y.
 On the Therapeutic Management of Dyspepsia from the Neurologist's Standpoint. C. H. Hughes, St. Louis, Mo.
 Discussion on Gastric Disorders, to be opened by James B. Herrick, Chicago.
 Chronic Myocarditis. J. H. Musser, Philadelphia.
 Treatment of Neurasthenia. Harold N. Moyer, Chicago.
 Therapeutic Indications Presented by the Conditions of the Blood in Disease. O. T. Osborne, New Haven, Conn.
 Experimental Work in Intraorganic and Venous Injections and Blood Extraction in the Cure of Acute Organic Diseases. W. Byron Coakley, Chicago.
 An Analysis of Cascara Sagrada. L. L. Solomon, Louisville, Ky.
 Standardization of Crude Drugs and Galenical Preparations. A. B. Lyons, Detroit, Mich.
 A Plea for More Uniformity and Strength in Our Armamentarium. C. F. Wahrer, Ft. Madison, Iowa.
 Indication for and Utility of Altitude Treatment of Pulmonary Tuberculosis. S. E. Solly, Colorado Springs, Colo.
 Adaptability of Southern California and Similar Climates to the Needs of Consumptives. Norman Bridge, Los Angeles, Cal.
 Specific Treatment of Pulmonary Tuberculosis. E. L. Shurly, Detroit, Mich.
 Tuberculin Treatment of Pulmonary Tuberculosis, with Statistics. Charles Denison, Denver, Colo.
 Specific Therapeutics in Pulmonary Tuberculosis. Arnold C. Klebs, Chicago.
 Discussion of Treatment of Tubercular Disease of the Lungs, to be opened by R. H. Babcock, Chicago.
 Treatment of Lobar Pneumonia. De Lancy Rochester, Buffalo, N. Y.
 Papers have also been promised by Drs. Frank Billings, Chicago; J. Edward Stubbert, Liberty, N. Y.; John V. Shoemaker, Philadelphia; Geo. F. Butler, Alma, Mich.; H. M. Whelpley, St. Louis, Mo. The titles are to be announced.

Book Notices.

A SYSTEM OF PRACTICAL THERAPEUTICS. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia, Second Edition, Revised and Largely Rewritten. With Illustrations. Vol. I. General Therapeutic Considerations, Prescription Writing, Remedial Measures other than Drugs, Preventive Medicine, Diathetic Diseases and Diseases of Nutrition. Pp. 856. Vol. II. Fevers, Diseases of the Respiratory and Circulatory Systems, Diseases of the Digestive System and Kidneys, Nervous Diseases and Diseases of the Skin. Pp. 926. Vol. III. Anesthesia and Surgical Technique, Fractures and Dislocations, and Minor Surgery, Surgery of the Lungs and Pleura and of the Peritoneal Cavity, the Rectum and Anus, Diseases of the Genito-Urinary Apparatus and of Parturition and of the Puerperium, Diseases of the Eye and Ear and of the Upper Respiratory Tract. Pp. 841, 3 vols. Price \$15.00. Philadelphia and New York: Lea Brothers & Co. 1901.

This valuable composite handbook of treatment, so well received by the profession when it first appeared nine years ago, comes to us now in a new edition, and largely in new form and authorship. It is hardly the rule for works of this kind to pass to a second edition, but this is one of the exceptions. Naturally in view of the advances that have been made a thorough revision was to be expected, and more than this has been furnished in the present work. A large part of the articles have been completely rewritten so that the matter is altogether new, and in most cases this has been insured by a change of authors. Further than this, several entirely new chapters have been added either on subjects not included in the former edition or as amplifying and specializing the treatment. The arrangement of the work, as will be noted by those familiar with the earlier edition, has also been considerably altered.

In the first volume the subject of mineral waters and their medicinal uses, which was included with the general subject of hydrotherapy in the earlier edition, is given a separate chapter and treated with greater fulness and thoroughness, by Dr. James K. Crook. Another article notably changed is that on tuberculosis, by Dr. L. F. Flick, which is brought up to meet the views as modified during the past ten years. It is thoroughly modern in all respects. Diseases of the thyroid have also received an entirely new chapter, by Dr. S. J. Meltzer, giving the latest established facts as to the treatment of these disorders, among which obesity and its thyroid treatment are

included. Other subjects that are handled anew in this volume are those of syphilis, massage, disinfection, and scorbutus.

In the second volume, fully two-thirds of the matter is entirely new, and the remainder has been thoroughly revised and brought up to date. Among the new articles with new authorship may be mentioned those on malaria, by J. M. Anders; diphtheria, by Floyd M. Crandall; typhoid fever and pneumonia, by H. A. Hare; liver disorders, by J. H. Musser; asthma, bronchitis, etc., by Norman Bridge, renal diseases, by N. S. Davis, Jr., which with a number of others, also new, make up the bulk of the volume.

In the third volume there is hardly fifty pages not altogether new, the only articles not completely rewritten by different authors being those of Dr. Ransohoff on cerebral concussion, etc., and Dr. Martin on intestinal obstruction. It is practically a new book and this can be said to be the case with the system as a whole. We miss the names of many of the well-known authors of the first edition, but those of the second are hardly, if at all, less familiar and welcome. There is an advantage in this, which is not gained in most new editions; the older book need not be discarded but still kept as a valuable series of therapeutic monographs for reference. In its present form the first volume is nearly one-half, the second two-thirds, and the third almost altogether of different authorship from the first; it is also more condensed and by this space is made for new subjects not noticed in the earlier edition and here included. The new edition deserves fully as cordial a reception by the profession as did the last.

HYPNOTISM AND SUGGESTION in Therapeutics, Education and Reform. By R. Osgood Mason, A.M., M.D., Fellow of the New York Academy of Medicine. Cloth. Pp. 344. Price \$1.50. New York: Henry Holt & Co. 1901.

The author has presented certain phases of hypnotism which are at present of special interest. These seem to be largely the psychic element in general therapeutics, what he calls "rapport" or what we should otherwise call telepathy and the ethics of hypnotism. He also gives considerable attention to the peculiar phases of medical disorders that have been reported from time to time as cases of double consciousness, of which Azam's noted case is perhaps the type. The points in which we should especially disagree with the author are the extreme views which he holds as to the therapeutic value of hypnotism, reporting as he does cases of epilepsy, neuritis and other organic diseases temporarily or permanently cured. Some of his cases reported are a little hard to credit, not as to facts as believed, but as to their interpretation. The author's views concerning "rapport," though supported by numerous stories or accounts, some of them from investigations of the Society of Psychic Research and some from other quarters, seem hardly acceptable scientifically. We can not say positively that certain things have not been done, but under the most favored conditions in which these have been attempted in our presence, they have failed, and we believe that a thorough study would eliminate a large number of these cases from the category of proven facts. Recognizing as we do the limitation of our intellects and the mysteries that are all about us, we must not be too positive in saying what may and may not be done, but judicial skepticism seems to us the most rational course. The practical value of hypnotism so far as we have seen its work in medicine seems to be greatly overrated in the present volume; the views expressed are not in accordance with the experience of the medical profession. The book is well written and naturally makes very interesting reading. The only thing is how far it should be accepted as scientific truth. There is no need of questioning the honesty of the author's view and the opinions he holds are those of many others, but we doubt their acceptance by the medical profession.

SANITY OF MIND: A Study of Its Conditions and of the Means of Its Development and Preservation. By David F. Lincoln, M.D. Cloth. Pp. 177. Price, \$1.25. New York and London: G. P. Putnam's Sons. 1900.

This little volume by a physician who is already known as an author on subjects of public health is an excellent and popular presentation of the general subjects of mental hygiene.

The subjects taken up in detail are: 1. The outlook of the present tendencies as regards mental health. 2. Nature of mental derangement. And following this, in natural order, is the subject of degeneracy. Under this head are briefly described the principal stigmata and their psychic and moral associations. The largest part of the book is given to the subject of education, including self-education, which is treated in a separate chapter. It also contains a concluding chapter on social and civic duties in relation to mental soundness and its maintenance in the community. The book is one that will be profitable reading for educators, and for parents and citizens generally.

INFANT-FEEDING IN HEALTH AND DISEASE. A Modern Book on all Methods of Feeding. For Students, Practitioners, and Nurses. By Louis Fischer, M.D., Attending Physician to the Children's Service of the New York German Poliklinik; Bacteriologist to St. Mark's Hospital; Professor of Diseases of Children in the New York School of Clinical Medicine; Attending Physician to the Children's Department of the West-side German Dispensary; Fellow of the New York Academy of Medicine, etc. Containing 52 Illustrations, with 16 Charts and Tables, Mostly Original. 368 pages, 5 $\frac{3}{4}$ x8 inches. Neatly Bound in Extra Cloth. Price, \$1.50, net. Delivered. Philadelphia: F. A. Davis Company.

The object of this book is to answer a question that is so often asked the family physician: "What shall I feed my baby?" The introductory chapters are devoted to the anatomy and physiology of digestion in infants, the latter especially in relation to chemistry and physiology of the different periods of infant life. The various milks, artificial foods, methods of feeding and the relation of certain foods to special physical conditions of the infant are discussed in all their phases. The author makes use largely of German authors in his quotations, and his book is a reflection of modern German practice, to a great extent. It contains a mass of practical and valuable information, in regard to diet for the mother, before and after the birth of her child, management of the breasts, preparation of foods, management of a few of the minor ailments in infants resulting from errors in diet or faults of digestion, etc. There is room for improvement in the literary style in several instances, but these minor faults are outweighed by the great practical value of the work.

A MANUAL OF PRACTICAL HYGIENE for Students, Physicians and Medical Officers. By Charles Harrington, M.D., Assistant Professor of Hygiene in the Medical School of Harvard University. Illustrated with 12 Plates and 105 Engravings. Cloth. Pp. 729. Price \$4.25. Philadelphia and New York: Lea Brothers & Co. 1901.

The author handles his theme in general in a satisfactory way, and has in some respects carried his considerations a little beyond the limits of the ordinary work of this kind, that is, military and naval hygiene are treated, as well as quarantine laws, and tropical hygiene, a question which is now coming to be of some importance to medical sanitarians of the United States. He has, however, excluded some engineering questions, such as hospital arrangement, sewerage, etc., which are sometimes included in the larger text-books and has left out the usual chapters on bacteriology, which he thinks can be better studied in special works. The book is fairly accurate, though once in a while there is a slip, as for example when it says that up to 1892 the water-supply of Chicago was taken from a shore intake, a condition which has not existed for nearly thirty years before that time. Another point that impresses us as being open to criticism is the ignoring of a large part of American medical literature. A very few American journals only are quoted, while foreign authorities are quite adequately noticed. The book is well illustrated and will in the main meet the needs of the student satisfactorily. We hope that in future editions more attention will be given to one point we have mentioned, viz., the American contributions to the subject of sanitation and hygiene.

NURSING ETHICS: For Hospital and Private Use. By Isabel Hampton Robb, Graduate of the New York Training School for Nurses attached to Bellevue Hospital. Cloth. Pp. 273. Price \$2.00. Cleveland, Ohio: J. B. Savage. 1901.

The author has already published a work on nursing which has been well received, and here gives in a general and also

rather specialized way instructions as to personal conduct of nurses in their relations to the public, patients and the physician. Very little if anything is said to which we could take exception. Questions of personal habits, education, culture, the general care of the person, of the rooms, duties toward superiors and inferiors in the hospital, take up nearly two-thirds of the work. Only a few pages at the close are given to the relation of the nurse to the physician, a very important subject which might have been amplified. Still, the nurse who follows the advice here given will not come under the condemnation which has been uttered by various physicians, Dr. Malcolm Morris, for example, and others, and which, it must be said, often has a very good basis. The art of nursing is not all of the business, for there is something in natural aptitude, disposition, etc., and not every nurse can be satisfactory in all respects.

A MANUAL OF OBSTETRICAL TECHNIQUE as Applied to Private Practice. With a Chapter on Abortion, Premature Labor, and Curettage. By Joseph Brown Cooke, M.D., New York, Late Attending Physician St. Mary's Free Hospital for Children, Out-door Department, Cloth. Pp. 169. Price \$1.25. Philadelphia and London: J. B. Lippincott Co. 1900.

The author carries out well the promise made in the preface, that book is written from the point of view of the private practitioner and that the hospital idea has been eliminated. It deals with technical obstetrics, considers the care of the patient from early pregnancy until the end of the puerperium, and has in addition a chapter of abnormalities, on obstetrical operations, including symphyseotomy, and a separate and very useful chapter on the douche. The closing chapters deal briefly with the obstetrician himself and the obstetrical nurse. Added to the work are history blanks on the card index system, instructions to pregnant women and to the nurse. The manual will be of benefit to the younger members of the profession, who so often have received no practical training in the art of obstetrics with the exception of a limited number of deliveries which they have witnessed in a well-equipped maternity.

INTERNATIONAL MEDICAL ANNUAL: A YEAR-BOOK OF TREATMENT AND PRACTITIONER'S INDEX. 1901, Nineteenth Year. Cloth. Pp. 682. Price, \$3.00. New York: E. B. Treat & Co.

The 1901 volume of the International Medical Annual contains the usual judicious selections and keeps up well the reputation of the series. The names of the contributors, including a large number of the leading medical writers in this country as well as abroad, more especially England, are in their way a guarantee of the value of the work. Among the new contributors to this volume is an Italian, Professor Ruata, of the University of Perugia, Italy, the only continental European contributor; he furnishes the article on tuberculosis. The editor remarks, in the preface, that it may be of interest to the readers to know that this article is published as furnished by the author, in the English language.

A BOOK OF DETACHABLE DIET LISTS for Albuminuria, Anemia and Debility, Constipation, Diabetes, Diarrhea, Dyspepsia, Fevers, Gout or Uric Acid Diathesis, Obesity, Tuberculosis and a Sick-room Dietary. Compiled by Jerome B. Thomas, Jr., A.B., M.D., Instructor in Materia Medica, Long Island College Hospital. Second edition, revised. Cloth. Price, \$1.25. Philadelphia: W. B. Saunders & Co. 1900.

This volume is a collection of diet lists for the sick and sick-room dietaries or recipes for preparing them. It has been before the public in an earlier edition, but the present one contains such improvements as have been suggested since. The idea of the book is to have the pages torn out and left as practical instructions for the sick-room, and it will doubtless be found useful by the practitioner. Both the diet prescribed and the methods of preparing it can be left with the nurse or at the patient's house.

THE CLIPPING-FILE for Classifying and Filing Newspaper Clippings, References to Books and Magazines, etc. Also a System of Classification, Consisting of Common Subjects and a Classified List of Topics. Price \$1.00 per volume. The Clipping-File Company, Cleveland, Ohio.

The clipping-file consists of a case containing some ten envelopes with classification as to subjects, which are printed on

the outsides. For a limited number of clippings it may be found of some value. It is not, of course, necessary to follow the classification on the outside of the envelope, but this may be of convenience to some. Another edition is issued without this classification and may be adapted to anyone's ideas and uses.

A POCKET TEXT-BOOK OF CHEMISTRY AND PHYSICS. By Walton Martin, M.D., and William H. Rockwell, Jr., A.B., M.D., of the College of Physicians and Surgeons, New York. In one 12mo. volume of 366 pages, with 137 illustrations. Cloth, \$1.50, net. Flexible red leather, \$2.00, net. Philadelphia and New York: Lea Brothers & Co. 1900.

This work is another of Lea's series of pocket text-books and, while written especially for medical students, will be found of reference value to practitioners. In the section on physics a consideration of wireless telegraphy has been introduced, and the authors have given especial attention to details, notably in the consideration of organic chemistry, concerning those compounds which are "of medical interest not only medicinally, but in physiological chemistry."

AN INDEX OF SYMPTOMS AS A CLEW TO DIAGNOSIS. By Ralph Winnington Leftwich, M.D., Late Assistant-Physician to the East London Children's Hospital. Second Edition. Cloth. Pp. 267. Price, \$2.00. New York: Wm. Wood & Co. 1901.

The first edition of this book was received with favor by the profession, and found to be a convenient reference work for the practitioner. The chapter on the methods of diagnosis, including the various urinary tests, though brief and elementary, adds to the value of the work.

Deaths and Obituaries.

James T. Stewart, M.D., University of Pennsylvania, Philadelphia, 1850, who had practiced in Peoria, Ill., for more than fifty years, died at his home in that city, April 12, aged 76. He was noted as a botanist, was one of the founders of the Peoria Scientific Association, and was a member of THE AMERICAN MEDICAL ASSOCIATION.

William H. Davies, M.D., Jefferson Medical College, Philadelphia, 1861, died suddenly from heart disease, at San Bernardino, Cal., April 10, aged 60. He had formerly practiced in Maquoketa, Iowa, but moved to California in 1897, on account of bronchial trouble, locating at Rialto.

John B. O. Landrum, M.D., who practiced for twenty-four years in Campobello, S. C., but who for the past few years had been devoting his attention to historical study and writing, died from blood poisoning, at his home in Campobello, April 13, after an illness of several weeks, aged 70.

Reuben B. Nisbet, M.D., University of Georgia, Augusta, 1850, of Eatonton, Ga., where he had practiced for half a century, a Confederate veteran, for many years chairman of the board of education, died at his home in Eatonton, April 10, after a short illness from pneumonia, aged 70.

Thomas Phillips Graham, M.D., Albany Medical College, Albany, N. Y., 1866, one of the first members of Council and of the Central Board of Education from the Thirty-sixth ward, Pittsburg, died at his home in that city after an illness of six months, on April 14, aged 61.

Frank Wayland Abbott, M.D., University of Buffalo, N. Y., 1866, died at his home, Buffalo, April 9, after a protracted illness, aged 59. He was oculist to the Buffalo General Hospital and the Charity Eye, Ear and Throat Hospital.

A. H. Robbins, M.D., Medical College of South Carolina, Charleston, who had practiced for many years in Northwest Township, Brunswick county, North Carolina, died at his home in Wilmington, April 13, aged 70.

John W. Charles, M.D., Washington University, St. Louis, 1865, died at Bethany Hospital, Kansas City, Kans., April 9, after an illness of two weeks. He was one of the oldest practicing physicians of Armourdale.

Cephas G. Adams, M.D., University of Vermont, Burlington, 1855, died at his residence in Portland, Me., April 13, as

the result of injuries received in a carriage accident two years ago, aged 70.

J. Archer Watson, M.D., Trinity University, Toronto, 1885, was struck by a locomotive and killed instantly, while riding near Toronto, April 11. He was 45 years of age and had a wide practice.

Nelson D. Gaddy, M.D., Medical College of Ohio, Cincinnati, 1858, who practiced for nearly forty years in Weston, Ind., died at his home in Seymour, April 12, from heart disease, aged 72.

Frederick Koeberlin, M.D., who had practiced for more than forty years in Freeburg, Ill., died at his home in that city after a short illness, from heart disease, April 8, aged 69.

George W. Shilling, M.D., University of Pennsylvania, Philadelphia, 1875, of Sharon, Pa., died at Cambridge Springs, Pa., April 12, from kidney disease of long standing, aged 58.

Wyllis F. Wood, M.D., Albany Medical College, Albany, N. Y., 1874, died at his home in Rensselaer, N. Y., from lung disease after a long illness, April 11, aged 50.

Thomas A. O'Callaghan, M.D., McGill University, Montreal, 1880, died at his home in Worcester, Mass., April 13, after an illness of two years, aged 45.

Ellis Jennings, M.D., Medical College of Ohio, Cincinnati, 1862, died at his home in Dayton, Ohio, after an illness of several years, April 10, aged 67.

Harris S. Scruggs, M.D., Memphis Hospital Medical College, 1885, of Memphis, Tenn., was assassinated April 16, near his home, by persons unknown.

Peter O. Dillard, M.D., College of Physicians and Surgeons, Baltimore, 1893, died from consumption at his home in Martinsville, Va., April 9.

Abner E. Gore, M.D., University of Louisville, Ky., 1858, died at his home in Paris, Mo., from pneumonia, after an illness of one week, aged 78.

Merritt E. Williams, M.D., Louisville Medical College, 1875, died at his home in Antigo, Wis., April 14, from la grippe, aged 59.

George Kernahan, M.D., Rush Medical College, Chicago, 1880, died at his home in Chicago, from interstitial nephritis, April 17.

Henry Kemp Yeakley, M.D., Baltimore University School of Medicine, 1891, died at Fort Terry, Plum Island, March 27, aged 30.

Oliver H. Sullivan, M.D., Medical College of Indiana, Indianapolis, 1872, died at his home in Alexandria, Ind., April 12.

Louis Rademacher, M.D., Miami Medical College, Cincinnati, 1880, died at his home in Newport, Ky., April 7.

Arthur E. Herbert, M.D., Laval University, Quebec, 1882, died after a short illness at his home in Quebec, April 12.

Sylvanus C. Griswold, M.D., Missouri Medical College, St. Louis, 1860, died at his home in New Haven, Mo., April 6.

Miscellany.

Early Difficulty of Postmortems.—The *Journal de Med. de Paris* quotes the documents in a suit against a surgeon named Froment, in 1726, who was imprisoned because he had held an autopsy on the corpse of his own son and mounted the skeleton for preservation. The love of his art, he confessed, had overcome the tenderness of the parent. He was arrested on the complaint of his neighbors, but was soon released.

Modification of Murphy Button to Dispense with Sutures.—Jaboulay describes, in the *Archives Provinciales de Chirurgie*, ix, 10, a modification of the Murphy button. It consists in slitting each half of the button from the outer edge down to the shank. One lip of the intestine is worked into this slit, and then the other lip. The other part of the button is treated in the same way, and a little plate fits over the slit. The opening in the intestine can thus be extremely small.

Polyarthritis Anginosa.—This is the term proposed and advocated by Schurig in an article in the *Deutsche Militärärztl. Ztft.*, No. 3, for acute articular rheumatism, which he claims is usually preceded by tonsillitis. The throat and tonsils should have particular attention paid to them in all cases of articular rheumatism, and every simple tonsillitis should be vigorously treated to prevent the development of articular rheumatism. The regiments which suffer most from tonsillitis, he has noticed, are nearly always those that have most cases of articular rheumatism. The few exceptions demonstrate that the latter disease is influenced also by other factors.

Report of Special Commission on the Plague in San Francisco.

(Concluded from page 1132.)

From February 5 to February 16, thirteen dead Chinese were inspected as follows:

DEATH 1.—(Inspected February 5.) Chnn Ah Chou, aged 44, actor; died this morning in Washington Street Theater; body well nourished; two or three dark bluish spots on legs—possible hemorrhages. On palpation of the neck, axillæ and groins, some enlargement of the lymphatic glands of the left groin was made out, though nothing corresponding to an outspoken bubo was visible. The inspecting commissioner advised a pathological and bacteriological examination in order to remove all doubt as to the nature of the case. The results proved the case to be one of infection with plague (*vide infra*, laboratory case 1).

DEATH 2.—(Inspected February 5) Wong Koong Chin, elderly Chinese male; died at 6 Waverly Place; history of dyspnea and cyanosis for a long time before death. There is marked edema of legs; no enlargement of lymphatic glands ascertainable on palpation. Death certificate signed by city physician as due to valvular disease of the heart. Case not regarded as suspicious and no pathological or bacteriological examination was insisted on.

DEATH 3.—(Inspected February 5) Lee Kee, middle-aged Chinaman, found dead at 917½ Stockton Street. This man had been visited by members of the Commission two nights before, the case having been reported to them as one suspected of being plague. Neither when seen during life nor on inspection after death was anything seen which pointed to infection with plague. No enlargement of lymphatic glands could be made out. A pathological and bacteriological examination was, however, deemed advisable for purposes of exclusion. The results as regards plague were negative (*vide infra*, laboratory case 2.) The assistant city physician attributed the death to intestinal obstruction.

DEATH 4.—(Inspected February 6) Fong Sha Song, coolie, aged 56, found dead in "hall of tranquility" at rear of 1111 Stockton St. No available history of condition *intra vitam*; body filthy; edema of legs; no enlarged lymphatic glands; no visible hemorrhages; pathological and bacteriological examination advised for purposes of exclusion. Results negative as regards plague (*vide infra*, laboratory case 4). Death attributed by city physician to interstitial nephritis.

DEATH 5.—(Inspected February 6) Lnm Hong Yuen, died in room 15, third floor at 28 Ross Alley. Body found at Main Fook's undertaking establishment at 740 Pacific St. Through Mr. Wong Chung, the secretary of the Six Companies, a school teacher who knew deceased, stated that the man had been ill about three weeks, that he had been a cook and waiter in the Chinese Theater up to three weeks ago, when he quit work on account of "chancre and bubo," that since then he has been in his own room in Ross Alley, that four or five days before his death he was given medicine by a Chinese doctor, for a chill, that said medicine was too strong for the patient and that "his breathing stopped and he died."

On inspection of the body no evidence of "chancre" could be found; in the right inguino-femoral region a large mass of swollen conglomerated lymphatic glands could be felt. The swelling was so like similar swellings previously observed in cases of plague in Hongkong and in India that the case was regarded as almost certainly one of plague. Pathological and bacteriological examinations were made at once; the results proved correctness of the impression gained from inspection (*vide infra*, laboratory case 3).

DEATH 6.—(Inspected February 7) Wong Chi Lui, aged 45, cigar-maker, who had worked at 418 Battery St. Found dead at 18½ (21½) Waverly Place. Through Mr. Wong Chnng it was ascertained that the man had been ill for about two weeks, complaining of fever, loss of appetite and general uneasiness. He had had pains in the groins and lower abdomen to which region a Chinese doctor had applied honey and salve. No history of venereal disease. For three or four days prior to death, the man was unconscious. When chided by Mr. Wong Chung for not having reported the case earlier to the Six Companies, the brother of the deceased said he had not made a report because he had believed the patient would soon be well.

On inspection and palpation a large mass of swollen glands was discovered in the left inguino-femoral region. It seemed likely that the case was one of plague and the friends of the deceased were notified that an examination of the body would be made immediately. The pathological and bacteriological examination established the death as one due to infection with bacillus pestis (*vide infra*, laboratory case 5).

DEATH 7.—(Inspected Feb. 11) Tom Shom, male, aged 51; actor in Chinese theater; room above theater at 814 Washington St., near room of late Chun Ah Chou (See Death 1). This man was reported as ill to the Six Companies and was examined clinically on Friday, February 8, by Dr. Barker, who obtained the following history. The man had been acting in the theater about two weeks before, although it had been stated that he had not been very well for from six to seven months previously. On February 4 he became seriously ill with fever and delirium. There had been some vomiting. The urine as observed by the attendant was described as brandy colored. He had a Chinese doctor in attendance and his friends had not considered him ill enough to make a report to the Six Companies worth while. The man smoked about 50 cents worth of opium daily. On clinical examination the patient was found

lying upon his back in bed with legs drawn up; he was in a state of semistupor. His pulse was 108, quick, rather full but of low tension. The skin was hot and dry; respiration 20 to the minute. The face had an anxious expression; the tongue was coated in the middle. There was no palpable enlargement of the glands of the neck or axillæ, but in the right groin several slightly enlarged glands could be distinctly felt, and the patient, though his mind was partially clouded, winced decidedly when either groin was palpated. It was evident that the glands were quite tender. In the absence of urethral discharge, chancre or evidence of local irritation in the lower extremities, the case was, on account of the local and general phenomena, regarded as one of plague. The skin was cleansed and a sterilized hypodermic needle introduced into the groin. A few drops of bloody fluid were withdrawn, presumably from one of the enlarged glands. It was difficult to be sure of this, however, as the patient could not be kept quiet while the needle was being inserted. No colonies of plague bacilli developed in the inoculated tube. The autopsy subsequently made indicated that the needle had failed to enter an enlarged gland.

The patient was seen on the following day when his conditions showed no change for the better. The pulse was 136 and feebler; the patient seemed in general weaker and an unfavorable prognosis was made. The patient's friends were told that an injection of Yersin's serum offered the best chances for recovery, though they were also told that not much could be hoped from any treatment in the stage of the disease in which the patient then was. The offer was refused. The man died on February 10, the next day.

The dead body was inspected on the morning of February 11. The body was in a state of firm rigor mortis, the limbs being strongly flexed. On breaking down the rigor mortis and palpating the glands in the groin, it was difficult to say positively that there was any enlargement of the lymphatic glands. In view of the enlargement distinctly made out during life and the clinical picture which had been observed, the death was believed to be due to plague and a pathological and bacteriological examination undertaken. The results indicated clearly the existence of infection with *B. pestis* (*vide infra*, laboratory case 6).

DEATH 8.—(Inspected February 11) Chung Moon Woo She, wife of Chung Toy Ding, living in a cellar at 27½ Waverly Place. She had been seen clinically by inspecting Commissioner on February 6 and also on February 9. When first seen clinically, it was learned that she had been ill for three or four days, complaining of aching pains in the ribs and other bones, headache and loss of appetite. She had no cough. Two days before she had felt very chilly. On examination she was found to have slight fever; pulse 100; tongue slightly coated; examination of thorax and abdomen negative; careful palpation of cervical, axillary, cubital, inguino-femoral and popliteal lymph glands revealed no enlargement or tenderness. When seen on February 9 the patient was found to have grown much worse; the pulse was 132 and quick; the temperature was higher, the tongue was dry, sordes were appearing upon the lips and the woman was semistupid and moaning in bed. The next day, February 10, the patient died and the body was inspected on the following morning. The house in which the body lay was filled with men, women and children, friends of the deceased, all of whom objected strenuously to any examination of the body whatever. It was insisted upon, however, and finally by promising that only one small cut would be made, permission for examination was granted. Amid an appalling outbreak of grief on the part of the friends, an incision was made in one groin and as the glands imbedded in the fat there showed no hemorrhages or enlargement, no further examination was made. It is to be regretted in this case where only one slight incision was allowable that the spleen was not bacteriologically examined as the case may have been one of general infection with *B. pestis*. At the time, however, in face of the strong protest made by the friends, it seemed wise, in order not to antagonize the Chinese too much and so perhaps interfere with progress of the whole investigation, not to go further. The body was surrounded by quicklime and sublimate sheet and burial was permitted by the Board of Health.

DEATH 9.—(Inspected February 12) Foong Ah Fong, female, aged 12, found dead at 747 Sacramento St.; room 12, fourth floor. This little girl had been observed clinically on February 6, the first day of systematic clinical inspection. She gave a history of having caught a cold, followed by a headache and lack of appetite. She had complained of no chill or vomiting. Her pulse was 84 and her temperature only slightly above normal. She did not look very ill; the tongue was slightly coated; there was no palpable enlargement of lymphatic glands. As the splenic dulness was only slightly increased, and the mother of the child stated that the patient had been ill for fully two weeks, plague was not suspected. The case was looked upon as possibly a mild case of typhoid, and instructions given to report to the Six Companies in case she got worse. She was not visited again during life. It was a surprise to hear of her death, and on inspecting the body, though no external signs of plague were visible, it was deemed advisable to make at least a bacteriological examination of the spleen. This was done, but under marked protest from the child's relatives. The result showed that the child was actually infected with *B. pestis* (*vide infra*, laboratory case 7).

DEATH 10.—(Inspected Tuesday, February 12) Ung Ah Buck, aged 45, found dead at Wing Hai's undertaking establishment on Sacramento St. This man had been seen alive and examined by Dr. Barker on the previous day, when diagnosed the case *intra vitam*, as one of cervical bubonic plague. When seen alive he was in a room upstairs in the rear of 921½ Dupont St., opposite St. Louis Alley. The man was sitting up, but looked extremely ill. His face was pale, cyanotic and anxious looking. His voice was very feeble, but his intelligence seemed almost unclouded, and he was able to carry on a conversation though with difficulty with the interpreter. The friends stated that he had at times wandered in his talk. He was under the care of Dr. Mather. The patient stated that he had been ill for two weeks. His neck had been swollen for one week and he regarded the condition as quinsy. With the aid of a tongue-depressor the throat was examined. The fauces were swollen and reddened, the swelling being very marked in the left side. The left palatine tonsil was much enlarged and showed on its surface a grayish-white patch the size of a dime. The reddening in the throat was general and there was less local injection than one ordinarily sees in diphtheria. The left side of the neck was brownish-yellow, having been painted over with a solution of iodine. On inspection and palpation marked bulging was found; this seemed to be due to enlargement of the cervical lymphatic glands. The

case was diagnosed as one of plague with cervical bubo. The man died next day and a complete autopsy was made by Dr. Flexner. The pathological examination showed typical lesions of plague and the bacteriological examination made by Dr. Novy demonstrated the presence of *B. pestis* (*vide infra*, laboratory case 8).

DEATH 11.—(Inspected February 14) Baby 7 days old, found in undertaker's establishment on Clay St., having died at 717 Sacramento St. Advised making of cover-slip and cultures from umbilical stump and from spleen; reported negative as regards *B. pestis*.

DEATH 12.—(Inspected February 15) Ow Ah Lane, male, aged 55, coolie, who had worked at San Jose Junction, died at Kwong Chow "hospital," February 14, at 6 a. m. He had been ill for from six to seven months. No enlargement of lymph glands. Advised bacteriological examination of spleen. Reported negative as regards *B. pestis*.

DEATH 13.—(Inspected February 16) A male body was found at Quong Fook's undertaking establishment, with slight swelling in the right groin. Pathological examination negative as regards plague. No bacteriological examination made.

It will be noticed that of the thirteen deaths, which came to our attention, occurring from February 5 to February 16 inclusive, six were undoubtedly due to infection with plague. A seventh (Death No. 8) may have been a case of plague which went unrecognized. The six undoubted deaths from plague occurred during the eight days from February 5 to February 12 inclusive. During the days February 13 to February 16 inclusive, no new cases of plague or deaths therefrom were encountered.

Two of the deaths from plague occurred in the Chinese Theater on Washington Street. The other four cases occurred singly in different parts of Chinatown.

The study of cases during life and the inspection of bodies after death proves that it is often difficult and under certain circumstances impossible to make a diagnosis of plague even postmortem without bacteriological examination. In outspoken bubonic cases there will be but little if any difficulty in diagnosis, either intra vitam or postmortem provided the observer has had sufficient experience with the disease, but in the absence of primary buboes, the unskilled observer will miss practically every case and even the practitioner who has had much experience with plague may be deceived. Your Commissioners feel sure from experience with plague in Hong-kong, India and San Francisco that once it is established that plague exists among the Asiatics of a town, every Asiatic who has fever should be suspected as a case of infection with plague until the disease is proved to be other than plague and every dead body should be treated as a plague cadaver until bacteriological examination of glands, lungs and spleen (including animal inoculation) has proved the absence from the body of the *B. pestis*. Only by such caution will it be possible to avoid missing actual plague cases.

In the following table are given the deaths per month occurring from all cases among the Chinese during the past four years as recorded by the City Board of Health. As data regarding the exact population of Chinatown at different times are not obtainable it is difficult to institute comparisons of the mortality among the Chinese with that among whites. It is obvious, however, that at no time during the past four years has the mortality rate among the Chinese increased to such an extent as to, in itself, cause alarm.

MORTALITY AMONG CHINESE OF SAN FRANCISCO, 1897-1901.

Months.	1897	1898	1899	1900	1901
January	37	35	46	64	45
February	46	36	39	48	
March	38	46	37	47	
April	35	41	33	30	
May	27	34	36	42	
June	30	21	46	25	
July	39	25	34	38	
August	35	47	43	19	
September	45	27	35	27	
October	36	53	44	32	
November	39	66	37	34	
December	23	46	48	32	
Total	430	477	478	438	

THE PATHOLOGICAL ANATOMY OF THE CASES OF BUBONIC PLAGUE MET WITH IN SAN FRANCISCO.

1. Human cases.

2. Experimental inoculations.

In the study of the pathology of the cases of plague met with among the Chinese in San Francisco, a number of disadvantageous circumstances were contended with. In the first place, owing to the peculiar prejudices of this people, prejudices born especially of their religious beliefs and practices, permission for postmortem examination is given with great reluctance. The opposition to all mutilation of the bodies of the dead is so great that consent for autopsies was obtained only after assurances that the examinations would

be limited strictly to the actual necessities for the establishment of the diagnosis of the disease.

In the next place, there is no public mortuary in San Francisco to which the dead bodies were or could be carried. Such examinations as were made were conducted in the narrow limits of a dimly-lighted alcove in an undertaker's shop or in the even worse habitations where the dead were found.

Under these circumstances, the postmortem examinations left something to be desired on the score of completeness, although in every instance the important question whether death was caused by plague was answered definitely.

The majority of the dead did not exhibit well-marked buboes. Careful palpation usually was required in order to discover swellings and edema of the groin. In all cases in which inguinal buboes were suspected or discovered, incision was performed and the diseased glands and periglandular tissue, if present, removed.

With one exception (Case 8) complete autopsies were not made. In all cases, however, the spleen was exposed and examined and parts removed. The tissues removed at autopsy were examined in three different ways: 1. Cultures upon agar agar and cover slips were made at once after removal. 2. The tissues were taken to the laboratory where additional cultures and cover-slips were prepared and examined. 3. Guinea-pigs were inoculated with portions of the tissues. Finally, portions of the tissue were placed in alcohol for future study.

HUMAN CASES.

CASE 1.—Chom Ah Chou, autopsy February 5, 8 p. m. Examination was made in the presence of one of us (Flexner) by Dr. Kellogg. The examination consisted in exposing and removing the inguinal and femoral glands on both sides. Incisions were made deep into the subcutaneous tissue, extending from Poupert's ligament about one-third the length of the thigh. The tissues on the left side were swollen and edematous; the edema was sero-hemorrhagic in character and the lymphatic glands were hemorrhagic and greatly swollen. On the right side, the edema was less marked and the glands, while distinctly enlarged and reddened, were less altered than those of the left side. Sections of these glands showed them to be uniformly hemorrhagic and swollen and to contain frequently necroses visible to the naked eye.

The spleen was fully twice the normal size. It was softer than normal, the capsule was wrinkled and the color deepened.

The further examination of these tissues was made after removal to the laboratory and participated in by Drs. Barker and Novy. The examination consisted in: 1. Study of cover-slips stained in anilin dyes and treated by Gram's method. 2. Preparation of cultures upon agar agar separately by each member of the Commission. 3. Inoculation of guinea-pigs with portion of tissue from the glands and spleen. 4. Preservation of tissues in alcohol for future study.

The examination of the cover-slips from the glands, periglandular tissue, and spleen showed large numbers of bacilli decolorizing by Gram's method and presenting the morphology of the *B. pestis*.

CASE 2.—Lee Kee, autopsy Feb. 5, 9 p. m., in the presence of Dr. Flexner, performed by Dr. Kellogg; no evidence of plague.

CASE 3.—February 6, Lum Hong Yuen, autopsy made in Main Fook's undertaker shop, Drs. Kellogg, Novy and Flexner present. Upon incising the right groin from Poupert's ligament to the beginning of the middle third of the thigh, sero-hemorrhagic periglandular edema and uniformly enlarged and reddened glands were found. The amount of fluid was considerable; although there was enlargement of all the glands, some of them reached to the size of a horse-chestnut. On section these were of deep red color and soft consistence. Necroses were present.

The spleen was enlarged to fully double the normal size; it was softened and of a deep bluish-red color.

Cultures and cover-slips were made at once by Dr. Novy and the excised tissues taken at once to the laboratory where additional cultures were made, cover-slips examined and animals inoculated.

The cover-slips showed large numbers of bacilli, having the morphology and staining properties of *B. pestis*.

CASE 4.—Feb. 6, Fong Sha Shong, autopsy by Dr. Kellogg in the presence of Drs. Novy and Flexner. No evidence of plague.

CASE 5.—Wong Chi Lui, February 7, autopsy by Dr. Barker, 6 p. m., Drs. Novy and Kellogg present.

On inspection, there was a swelling in the left inguino-femoral region, which on incision revealed enlarged glands about the saphenous opening and in the groin. The largest gland had the size of an English walnut and was of a dark reddish-brown color. It was soft and juicy in consistence and mottled with hemorrhages and grayish-white patches of necrosis. The less swollen glands were markedly injected and contained hemorrhages. Periglandular tissue was very edematous, the fluid running freely from the incision. The spleen was about twice the normal size; soft and friable.

Cultures were made at once by Dr. Novy and cover-slips about one hour later at the laboratory, where at the same time animals were inoculated with portions of the tissue. The cover-slips from the spleen and the glands showed bacilli, presenting all the properties of *B. pestis*.

CASE 6.—Tom Shom, February 10, autopsy by Dr. Kellogg, Drs. Barker and Novy being present.

There was a slight swelling in the right inguino-femoral region which on incision revealed slightly edematous subcutaneous tissue, with slight enlargement of the glands. The largest gland was the size of a filbert, and its surface was dark and hemorrhagic. On section, it presented distinct hemorrhages; other glands were swollen, soft, juicy and hemorrhagic. The spleen was enlarged, soft and friable. The examination of the groin showed that the hypodermic puncture made for the withdrawal of fluid for diagnostic purposes during life had failed to enter a lymph gland.

Cover-slips from the spleen and glands showed large numbers of bacilli having the characteristic properties of the *B. pestis*.

CASE 7.—Foong Ah Fong, Feb. 12, autopsy by Dr. Flexner, Dr. Barker Present. The spleen only was examined; the organ was en-

larged to about twice the normal size and was diminished in consistence. Cover-slips showed a very small number of bacilli of the size of *B. pestis*, although the characteristic polar staining was not observed. Cultures were made and a portion of the spleen was introduced subcutaneously into the guinea-pig.

CASE 8.—Ung Ah Buck, autopsy Feb. 12, at noon at the undertaking shop of Wing Hal, by Dr. Flexner, Drs. Novy, Barker, Kellogg and Wilson being present. The left side of the face and neck presented a marked diffuse swelling, extending from the angle of the jaw backward to the sterno-cleido-mastoid muscle and below, almost reaching the clavicle.

On incising this region the parotid gland was first reached; this organ presented a normal appearance. After dissecting away the parotid gland a group of greatly enlarged deep glands surrounding the carotid artery and jugular vein came into view. The periglandular tissue was infiltrated with bloody fluid and presented a sodden appearance. The enlarged glands and portions of the surrounding tissue were excised; the former were found to be swollen—several reaching the size of an English walnut—and to be wholly altered in appearance and consistence. In color they were deep purplish and on incision a hemorrhagic fluid exuded. Opaque points of necrosis were also present.

The general subcutaneous fat was well developed; there was no general edema. The peritoneum appeared smooth and glistening; there was no excess of fluid in the abdominal cavity and the abdominal glands were not noticeably swollen. The spleen was enlarged to fully twice its normal size; it presented a purplish color and its consistence was diminished. The pleural cavities were dry. The lungs retracted moderately upon removal of the sternum. The lower lobes of the lungs were congested, but no consolidation was made out; no other abnormality was observed in the body.

The organs and tissues removed at this autopsy, consisting of the enlarged cervical glands and spleen, were taken to the laboratory where cover-slips, cultures and animal inoculations were made.

The cover-slips from the spleen showed large numbers of a bacillus having the morphology and staining properties of the *B. pestis*. The cover-slips from the glands differed in their appearance. In some instances there were present large numbers of bacilli similar to those in the spleen, together with a few diplococci or short chains of cocci. Other cover-slips showed, besides the organisms mentioned, a bacillus having the morphology of the *B. diphtheriae*.

EXPERIMENTAL INOCULATIONS.

The animals used for experimental inoculations were half-grown and grown guinea-pigs. In order to guard against accidental infection of the locality, the animals were placed in glass jars, which in turn were placed in large crocks, the latter having been covered with wire-netting covers upon which the earthenware covers were placed. When an animal succumbed to the inoculation it was carefully removed from the jar and immersed for some time in 1 to 1000 sublimate solution. The jar itself was filled with a similar sublimate solution and the two left in contact for several days.

After subjecting the animals to autopsy, they were placed in the steamer and thoroughly steamed, after which the body was incinerated. Such portions of the tissue as were preserved for microscopical study were placed at once in 95 per cent. alcohol.

Inoculations were made subcutaneously with bits of tissue from the tissue from the human cases and pure cultures of bacilli obtained from these sources. The usual procedure was to inoculate at least two animals from each human case; one with portions of the spleen and another with portions of the lymph gland. The cultures used were derived indifferently from the spleen and from the glands.

The inoculated animals can be separated into groups, depending upon the results of the inoculation. These results in turn depended upon the virulence of the material—tissue or culture—inoculated, upon which also depended the duration of life following inoculation.

It is important to state that characteristic lesions were obtained from inoculated material derived from every case in which bacilli were found in cover-slips, including Case 7 in which very small numbers of bacilli were detected in the spleen.

Types of Infection.—The animals inoculated early in the course of the investigations died at periods varying from forty hours to eight days. Those inoculated later, and one or two inoculated with cultures early in the studies, but which had not succumbed, were etherized at the close of the work and subjected to postmortem examination. According to the period of survival and virulence of the inoculated material, the appearances observed denoted: 1. bacteremia without microscopical localization in the organs, and 2, focal, nodular, localizations in the internal organs. In all cases marked local lesions at the site of inoculation and in the adjoining tissues occurred.

Local Lesion.—At the point of inoculation, the tissues—skin, subcutaneous tissue and sometimes muscles—were infiltrated with pus cells and presented a yellowish focus of necrosis. From this area as a center, the subcutaneous tissue, sometimes of one side, but frequently of both sides, were occupied by gelatinous hemorrhagic infiltration.

The lymphatic glands of the inguinal and axillary regions were distinctly enlarged even in the acute cases. In those animals which died after a longer period or were killed from

six to seven days after inoculation, the regional lymphatic glands were much enlarged, hemorrhagic and even necrotic. The inguinal glands were, as a rule, more swollen than the axillary.

Cover-slip preparations from the local lesion—necrotic area, subcutaneous edema, swollen lymph glands—showed large numbers of bacilli, having the characteristic morphology, staining and reaction to Gram's method of the *B. pestis*. Cultures from these sources gave positive results.

In one animal in which the inoculation was made with a culture, the animal being etherized on the third day, there was slight local reaction only, no involvement of the regional lymph glands and no visible lesions in the internal organs having been observed. A small number of characteristic bacilli were found in cover-slips made from the site of inoculation.

The Spleen and Liver.—In the instances of rapid death (bacteremia) the spleen was moderately large, its color was deepened, its consistence decreased, but no focal lesions were visible to the naked eye. Cover-slips and cultures showed numerous bacilli agreeing in characteristics with those of *B. pestis*.

In this class of cases, the other organs failed to show focal lesions. The lungs appeared mottled only and a few small necroses existed in the liver; numbers of bacilli were contained in all the viscera and in the heart's blood.

The focal lesions in the spleen consist of grayish-white nodules, larger than a millet seed in size, covering the surface (within the capsule) and occupying the substance of the organ; when the nodules are numerous, as e. g., in animals succumbing from the sixth to the eighth day, or after etherization at that period, when there has been a marked local reaction, the spleen is greatly enlarged, perhaps five to six times its normal size and its color is pale. Cover-slips and cultures show a very large number of characteristic bacilli if the animal has died spontaneously, while if killed the number of bacilli upon cover-slips and cultures is far less.

The liver invariably showed lesions when death had been delayed a few days. The common ones were focal necroses of varying size; these were yellow in color and in size ranged from that of a pin's point to linear and wedge-shaped areas 3 to 4 mm. in length. Only rarely did whitish nodules similar to but smaller than those occurring in the spleen occur. The best example of nodular lesions in the liver was observed in an animal inoculated with a culture derived from Case No. 1, the guinea-pig having been etherized on the eighth day after inoculation.

The Lungs.—The lungs presented a variety of appearances, only one of which was characteristic. Some times they showed no macroscopical lesions; not uncommonly, they were mottled and presented small ecchymoses beneath the pleura; rarely they contained scattered whitish nodules resembling those of the spleen, except that they were smaller and surrounded with a zone of recent hemorrhage. No effusion into the pleura were noted.

Subserous Hemorrhages.—These were common, especially in the peritoneum, where they occurred beneath and within the serosa of the large intestine, and in the pleura covering the lungs. They were usually small in size, although at times through confluence they reached larger dimensions. They did not give rise to an exudate or effusion into the serous cavities.

The other organs, except the adrenal glands, showed no especial changes to the naked eye. The adrenals were uniformly congested and often very dark in color and hemorrhagic.

The central nervous system was not examined.

BACTERIOLOGICAL EXAMINATIONS.

CASE 1.—Chun Ah Chou, 814 Washington St., autopsy February 5. The spleen and left femoral glands were examined. These organs were found to contain enormous numbers of bacilli, having the morphological and tinctorial properties of *Bacillus pestis*; thus the short thick oval rods gave a bi-polar stain with Loeffler's methylene blue or with carbolic thionin and were decolorized by Gram's method. Their pathogenicity was determined by inoculation of portions of the spleen and of a pure culture, subcutaneously, into guinea-pigs.

Agar streaks made from the perfectly fresh organs showed many small white, moist, isolated colonies, having all the appearance of those of *Bacillus pestis*. This was further confirmed by microscopic examination of living and stained preparations of such cultures. A few rapid-growing colonies due to other forms of bacteria were present. Subcultures were made in glucose gelatin, bouillon, agar, salt agar and milk. On agar in Petri dishes in twenty-four to forty-eight hours in the incubator, small white or grayish, moist colonies developed. These had a finely granular center with a smooth, sharply defined border.

The stab culture in glucose gelatin developed a slight growth along the line of inoculation. On the surface, the growth spread slightly, was grayish, moist in appearance and had a slightly wavy, raised border. No gas was formed.

In bouillon, in twenty-four hours, a diffuse cloudiness was produced. The sediment was very slight, scarcely appreciable. Subsequently, a faint stringy deposit formed. The surface remained perfectly clear with a trace of a ring or collarette.

The streak cultures on nutrient agar presented a moderate grayish-white, moist growth which, when touched with a platinum wire, could be drawn out into strings.

On 5 per cent. salt agar, the growth is very slight, scarcely visible, and shows the peculiar roundish or pyriform involution forms of the pest bacillus.

In milk the organism grows without producing any visible change in the medium.

The absence of gas-production and of coagulation of milk, together with the macroscopic and microscopic characteristics, agreed fully with the characters of bacillus pestis. The effects on animals have been described in a preceding part of the report.

Guinea-pig No. 1 was inoculated under the skin with a portion of the spleen from the above case. It died in thirty-six to forty hours. Cultures on agar made from the spleen and heart blood gave almost pure growths of the pest bacillus. Direct examination of the organs showed enormous numbers of typical plague bacilli.

Guinea-pig No. 2 was inoculated subcutaneously with a pure culture obtained from the gland of the above case. The animal died in three days. Plague bacilli were very numerous in the spleen and inguinal glands and were also present in the heart's blood.

CASE 3.—Lum Hong Huen, 28 Ross Alley, autopsy February 6. Smear preparations from the spleen showed large numbers of short thick rods, chiefly single; some oval or roundish-forms were also present. The organisms stained readily with Loeffler's methylene blue or with carbolic thionin. In the latter case the bi-polar staining was excellent. The organisms were completely decolorized by Gram. Cover-glass preparations from the gland likewise showed very numerous bacilli, occurring singly, taking the bi-polar stain, but not that of Gram. Agar cultures were made at the time of the autopsy in the undertaker's shop of Main Fook. The cultural and morphological characteristics were the same as those observed in Case 1.

Guinea-pig No. 3 received, subcutaneously, a portion of the spleen from the above case, and died in 5½ days. On autopsy the spleen was found markedly enlarged, full of white nodules which were also present in the liver and in the lungs. Cover-glass preparations from the spleen showed enormous numbers of bacilli, having all the characteristics of bacillus pestis. Agar slants were inoculated with the heart's blood and spleen of this animal. The former yielded a slightly contaminated growth but the culture from the latter was pure.

CASE 5.—Wong Chi Lui, 21½ Waverly Place, autopsy February 7. Streak preparations from the spleen showed very numerous pest bacilli apparently in pure culture; the predominating form was the short thick rod, although some oval or roundish forms were present. Loeffler's methylene blue and carbolic thionin stained the bacilli readily, demonstrating the characteristic bi-polar form. The organisms were completely decolorized by Gram's method. Similar preparations made from one of the left femoral glands show fewer organisms but these in form, size and staining reactions are identical with those found in the spleen. Cultures made on agar developed very slowly; on subsequent transplantation, however, the growth was more rapid, more abundant and typical of that of bacillus pestis.

Guinea-pig No. 4 was inoculated subcutaneously with a portion of the gland from the above case. Death resulted in 3½ days. Bacilli were numerous in the spleen and corresponded in characteristics to those of the plague bacilli.

Guinea-pig No. 5 was inoculated subcutaneously with a portion of the spleen; it was found dead 3½ days later. Numerous plague bacilli were found in the spleen, heart's blood and glands. Agar streaks from the heart's blood gave numerous small colonies of pest bacilli with a few larger colonies due to foreign organisms. The spleen gave numerous isolated small moist colonies, apparently a perfectly pure culture of the plague bacillus. Agar streak plates were made at the same time and gave in twenty-four hours numerous minute colonies.

Guinea-pig No. 6: A portion of the spleen from this case was introduced into the peritoneal cavity. Death resulted in 4½ days. Pest bacilli were abundant in the internal organs and in the glands. Agar streaks from the heart's blood gave a very limited growth, while those from the spleen were scarcely visible. In this and several other instances, difficulty was experienced in starting the growth of the organism directly from the tissues. Once started, however, with subsequent transplantations, better results were obtained.

Guinea-pig No. 7 was inoculated subcutaneously with a loopful of pure culture obtained from guinea-pig No. 5. It died in 2½ days. Autopsy revealed a hemorrhagic edema and cover-glass preparations of this showed pest bacilli mixed with numerous minute diplococci and streptococci. The spleen was large and soft, contained nodules and, on staining cover-slips therefrom, enormous numbers of typical plague bacilli, apparently perfectly pure, were found. No diplococci were present.

CASE 6.—Tom Shom, 814 Washington St., autopsy February 11. During life some fluid was aspirated by means of a sterile syringe, from the swelling in the right femoral region, and transferred to nutrient agar. Blood was also drawn from the lobe of the ear and planted on agar. Stained preparations made from these specimens failed to demonstrate the presence of any organism. Cultures developed pyogenic cocci, but failed to give any indication of pest bacilli. On autopsy the femoral glands, though characteristic of plague, were found not markedly enlarged. It was evident that the aspirating needle when introduced had missed the gland proper, and the failure to isolate the pest bacillus during life in this case can thus be explained. It should be noted that the periglandular tissue was but very slightly involved. Streak preparations made from the hemorrhagic gland showed relatively few typical plague bacilli. A long thick bacillus was present in small numbers. Gram's stain was negative. Streak preparations from the spleen showed the pest bacillus to be present in large numbers and apparently pure. The organisms occurred singly, gave the bi-polar stain and were decolorized by Gram.

Guinea-pig No. 6 was inoculated subcutaneously with a portion of the spleen from this case. Six and a half days later, though healthy in appearance, it was killed. A circumscribed caseous local lesion was found; there was a slight glandular enlargement on the same side. The spleen was slightly enlarged and showed white

nodules; pest bacilli having the short-rod and oval form were present in small numbers.

CASE 7.—Fong Ah Fong, 747 Sacramento St., autopsy Feb. 12. Streak preparations from the spleen revealed the presence of pest bacilli, although these were not very abundant; indeed, they were difficult to find in the cover-slips. Typical bi-polar staining rods and oval roundish forms were, however, found. Gram's stain was negative.

Streak cultures were made with the fresh spleen on agar slants and at the same time agar plates were made. The agar streaks failed to give an appreciable growth, but on the plate a colony was found which corresponded to that of the plague bacillus. On microscopic examination it was observed to consist of small, short, oval, non-motile rods, which decolorized by Gram. The colony transplanted to agar gave a typical growth of pest bacilli, and this culture was used to inoculate guinea-pig No. 10.

Guinea-pig No. 9 received a portion of the spleen of Fong Ah Fong, subcutaneously. It died in 4½ days. The spleen contained enormous numbers of pest bacilli which stained in the usual bi-polar manner and were decolorized by Gram. The heart's blood likewise contained the organism. Cultures were made on agar from the spleen and heart's blood of this animal; both gave numerous small moist colonies of bacillus pestis.

Guinea-pig No. 10 was inoculated subcutaneously with the agar culture mentioned above. It was killed 2½ days later. The spleen showed only a few but characteristic pest bacilli; under the skin there was but slight local change and a few typical bacilli were found.

CASE 8.—Ung Ah Buek, St. Louis Alley, autopsy February 12. Cover-slip preparations from the cervical lymph glands showed the presence of several distinct organisms. The short, thick oval forms of the pest bacillus were present in small numbers; with them was associated a large thick bacillus; there were also bacilli present resembling the bacillus diphtheriae and a diplococcus closely resembling that of Fränkel. The pest bacilli gave the usual bi-polar stain with methylene blue and with carbolic thionin. Specimens stained by Gram's method showed deeply stained diplococci, the other forms being decolorized. Smear preparations from the spleen showed many organisms resembling the bacillus pestis morphologically.

Agar streaks from the fresh spleen gave a number of discrete moist colonies which consisted of large oval non-motile bacilli, occurring singly and only occasionally in pairs; the streak cultures from the cervical gland also gave numerous isolated colonies. In both cases the cultures obtained were apparently perfectly pure and agreed in every respect with those of plague bacilli. The other bacteria seen in cover-slips did not grow. Agar plates yielded the same result.

Guinea-pig No. 11 was inoculated subcutaneously with a small portion of the spleen from the above case. In about three days the animal was very sick and was finally killed 5½ days after inoculation. Bacillus pestis was found in the spleen and to a less extent in the blood.

The bacteriological examination of the foregoing six cases has therefore demonstrated the presence of the bacillus pestis in each.

(Signed.)

SIMON FLEXNER, M.D.

F. G. NOVY, M.D.,

LEWELLYS F. BARKER, M.D.

San Francisco, Cal., Feb. 26, 1901.

Societies.

COMING MEETINGS.

- American Medical Association, St. Paul, Minn., June 4-7.
- American Association of Genito-Urinary Surgeons, Old Point Comfort, April 30, 1901.
- Association of American Physicians, Washington, D. C., April 30, 1901.
- American Gastro-Enterological Association, Washington, D. C., May 1, 1901.
- Kansas Medical Society, Pittsburg, May 1-3, 1901.
- American Surgical Association, Baltimore, Md., May 7-9, 1901.
- American Therapeutic Society, Washington, D. C., May 7-9, 1901.
- Nebraska State Medical Society, Lincoln, May 7-9, 1901.
- Oklahoma Territory Medical Association, Oklahoma City, May 8, 1901.
- Mississippi State Medical Association, Jackson, May 8, 1901.
- Washington State Medical Society, Seattle, May 8-9, 1901.
- Ohio State Medical Society, Cincinnati, May 8-10, 1901.
- Arkansas Medical Society, Hot Springs, May 14-16, 1901.
- Medical Association of Montana, Great Falls, May 15-16, 1901.
- Michigan State Medical Society, Battle Creek, May 15-16, 1901.
- Iowa State Medical Society, Davenport, May 15, 1901.
- Indiana State Medical Society, South Bend, May 15-17, 1901.
- New Hampshire Medical Society, Concord, May 16-17, 1901.
- Medical Association of Missouri, Jefferson City, May 21-23, 1901.
- Illinois State Medical Society, Peoria, May 21-23, 1901.
- Medical Society of North Carolina, Durham, May 21-23, 1901.
- Connecticut Medical Society, Hartford, May 22-23, 1901.
- Kentucky State Medical Society, Louisville, May 22-24, 1901.
- Medical Society of West Virginia, Grafton, May 22-24, 1901.
- American Laryngological, Rhinological and Otological Society, New York City, May 23-25, 1901.
- American Pediatric Society, Niagara Falls, N. Y., May 28, 1901.
- American Gynecological Association, Chicago, May 28, 1901.
- American Climatological Association, Niagara Falls, N. Y., May 30, 1901.
- American Association of Military Surgeons of the United States, St. Paul, May 30, 31, June 1, 1901.
- American Academy of Medicine, St. Paul, Minn., June 1-3.
- National Con. State Medical Examiners and Licensing Boards, St. Paul, Minn., June 3.
- Association of American Medical Colleges, St. Paul, June 3.
- American Medical Editors' Association, St. Paul, June 3.
- Minnesota State Medical Society, St. Paul, June 3.

American Proctological Association, St. Paul, Minn., June 4-5.
 American Dermatological Association, Chicago, June 4-6.
 Rhode Island Medical Society, Providence, June 6.
 International Association of Railway Surgeons, Milwaukee, June 10-12.
 Medical Society of Delaware, Lewes, June 11.
 American Medico-Psychological Association, Milwaukee, Wis., June 11-14.
 Maine Medical Association, Portland, June 12-14.
 Massachusetts Medical Society, Boston, June 12.
 Colorado State Medical Society, Denver, June 18.
 American Orthopedic Association, Niagara Falls, June 18-20.
 Medical Society of New Jersey, Allenhurst, June 25-27.
 Wisconsin State Medical Society, Waukesha, June 26.

Roentgen Society of the United States.—The next meeting of this Society will be held at the University of Buffalo, N. Y., September 10 and 11.

Southwestern Medical Association of Kentucky.—The thirteenth annual meeting of this organization will be held in Paducah, May 14 and 15.

Onachita County (Ark.) Medical Association.—This Association was recently organized at Camden, and elected Dr. James T. Henry, Eagle Mills, president.

Southern Railway Surgeons.—The sixth annual meeting of the Surgeons of the Southern Railway will be held at Mobile, Ala., May 7, 8, and 9. Dr. Samuel R. Miller, Knoxville, Tenn., will preside.

Southeast Missouri Medical Association.—The twenty-sixth annual meeting of this Association will be held at Charleston, May 7, 8 and 9, under the presidency of Dr. Moses Rosenthal, Kennett.

Bradford County (Pa.) Medical Society.—At the meeting of this Society, in Burlington, April 16, delegates were selected to the State Medical Society and to the AMERICAN MEDICAL ASSOCIATION.

Cumberland County (Pa.) Medical Society.—At the meeting of this Society, at Mechanicburg, April 10, delegates to the State Medical Society and to the AMERICAN MEDICAL ASSOCIATION were elected.

St. Louis (Mo.) District Medical Society.—The fifth semi-annual meeting of this Society occurred April 11, at St. Louis. Dr. Frank J. Tainter, Warrenton, was re-elected president, and Dr. John C. Murphy, St. Louis, elected permanent secretary. The next meeting will be held in St. Charles.

Pike County (Ohio) Medical Society.—The annual meeting of this Society was held at Flat, April 8, and the following officers elected: Dr. E. M. Dixon, Flat, president; Dr. J. S. Wiseman, Beaver, vice-president; Dr. Charles H. Willson, Idaho, secretary, and Dr. Orrin C. Andre, Waverly, treasurer.

Northwestern Wisconsin Medical Association.—At the annual meeting of this Society, held at Stevens Point, April 9, the following officers were re-elected: Dr. Carl Von Neupert, Jr., Stevens Point, president; Dr. Viola M. French, Neillsville, vice president, and Dr. Daniel R. Freeman, Colby, secretary and treasurer.

DeWitt County (Ill.) Medical Society.—This Society met at Clinton, April 9, for its annual session, and elected the following officers: Dr. Albert E. Campbell, Clinton, president; Dr. Curtis C. McMackin, Wapella, vice-president, and Dr. John H. Tyler, Clinton, secretary and treasurer.

Hill County (Texas) Medical and Surgical Association.—At its meeting in Hillsboro, April 11, this Association elected the following officers: Dr. Edwin L. Sessions, Hillsboro, president; Dr. George W. Benton, Woodbury, vice-president; Dr. Allen J. Gilbert, Hillsboro, secretary, and Dr. Benjamin F. Smith, Hillsboro, treasurer.

Marshall County (Ala.) Medical Society.—At the annual meeting of this Society, held at Guntersville, Dr. Thaddeus A. Casey, Albertville, was elected president; Dr. Peter M. Baker, Snead, vice-president; Dr. Miles B. Stephens, Whitesville, secretary and treasurer, and Dr. P. B. Lusk, Guntersville, county health officer.

Hampden District (Mass.) Medical Society.—This Society held its annual meeting at Springfield, April 16, elected delegates to the AMERICAN MEDICAL ASSOCIATION, and also the following officers: Dr. Lawton S. Brooks, Springfield, president; Dr. Stephen A. Mahoney, Holyoke, vice-president, and Dr. Harry C. Martin, Springfield, secretary and treasurer.

Shelby County (Ind.) Medical Society.—This Society has elected the following officers: Dr. Morris Drake, Shelbyville, president; Dr. Henry E. Phares, Morristown, vice-president; Dr. Frank Campbell, Shelbyville, secretary, and Dr. Joseph Bowlby, Shelbyville, treasurer. Delegates were also elected to the state society and to the AMERICAN MEDICAL ASSOCIATION.

Fairfield County (Conn.) Medical Association.—The one hundred and ninth annual meeting of this Society was held at Bridgeport, April 8, and the following officers were elected: Dr. Franklin P. Clark, Danbury, president; Dr. Nathaniel E. Wordin, Bridgeport, vice-president, and Dr. J. Murray Johnson, Bridgeport, reporter. Delegates to the AMERICAN MEDICAL ASSOCIATION were also chosen.

Medical Association of Dutchess County (N. Y.).—This branch of the New York State Medical Association was organized at Poughkeepsie, April 11, and elected the following officers: Dr. Irving D. LeRoy, Pleasant Valley, president; Dr. Edwin Barnes, Pleasant Plains, vice-president; Dr. John W. Atwood, Fishkill-on-Hudson, secretary, and Dr. Monroe T. Pultz, Stanfordville, treasurer.

Windham County (Conn.) Medical Association.—The one hundred and eighth annual meeting of this Association was held April 11, at Putnam. Dr. Laura H. Hills, Willimantic, was elected president; Dr. Frank H. Coops, Danielson, vice-president, and Dr. James L. Gardner, Central Village, clerk and treasurer. The Association will hold its next annual meeting at Willimantic, in April, 1902.

Missouri State Medical Association.—The preliminary program, just issued, for this Association's meeting at Jefferson City, May 21, 22 and 23, indicates that the sessions will be interesting and profitable. The meetings will be held in Representative Hall, the headquarters will be at the Madison Hotel, and Dr. Robert E. Young is chairman of the committee of arrangements.

Plymouth County (Mass.) Medical Society.—This Society met at Brockton, April 17, and elected the following officers: Dr. Alfred A. Mackeen, Whitman, president; Dr. Jesse H. Averill, Campello, vice-president; Dr. Frank H. Burnett, Brockton, secretary, treasurer and reporter, and Dr. Charles E. Lovell, Whitman, librarian. Delegates to the AMERICAN MEDICAL ASSOCIATION were also chosen.

Lebanon County (Pa.) Medical Society.—At the annual meeting of this Society, April 10, the following officers were elected: Dr. John J. Light, Schaefferstown, president; Drs. William R. Roedel, Lebanon, and H. W. Goss, Mount Aetna, vice-presidents; Dr. Charles M. Strickler, Lebanon, secretary; Dr. Charles L. Miller, Lebanon, treasurer; Dr. Henry H. Roedel, Lebanon, censor, and Dr. Samuel P. Heilman, Heilmandale, medical and surgical reporter.

Cumberland County (N. J.) Medical Society.—At the meeting of this Society, at Bridgeton, April 9, delegates to the State Medical Society and the AMERICAN MEDICAL ASSOCIATION were named, and the following officers elected: Dr. Leslie L. Hand, Leesburg, president; Dr. Grafton E. Day, Millville, vice-president; Dr. John C. Applegate, Bridgeton, secretary, and Dr. Joseph Tomlinson, Bridgeton, treasurer.

Triple State Medical Association.—This Society met for organization at Ashland, Ky., April 18. The following officers were elected: Dr. Lester Keller, Ironton, Ohio, president; Drs. John H. Wade, Ashland, Ky., and William F. Sturgill, Ceredo, W. Va., vice-presidents; Dr. James W. Kincaid, Catlettsburg, Ky., secretary, and Dr. J. M. Salmon, Ashland, Ky., treasurer. The Society adjourned to meet at Huntington, W. Va., July 18.

New York County Medical Association.—The annual election of officers of this Association, April 15, resulted as follows: Dr. Parker Syms, president; Drs. Alexander Lambert and Francis W. Murray, vice-presidents; Dr. Ogden C. Ludlow, recording secretary; Dr. Montefiore L. Maduro, corresponding secretary, and Dr. Charles E. Denison, treasurer. Dr. E. Eliot Harris, on behalf of the Association, presented a bronze statuette to James Taylor Lewis, counsel to the Association, in appreciation of the work done by him in regard to fixing the legal status of the Association, etc.

Western Ophthalmologic and Oto-Laryngologic Association.—The sixth annual meeting, held at Cincinnati, April 11 and 12, was the most successful in the history of the Association. The following officers were elected: Dr. Christian R. Holmes, Cincinnati, president; Drs. William L. Dayton, Lincoln, Neb., Joseph O. Stillson, Indianapolis, and Hanau W. Loeb, St. Louis, vice-presidents; Dr. William L. Ballenger, Chicago, secretary, and Dr. Otto J. Stein, Chicago, treasurer. The next annual meeting will be held in Chicago, in April, 1902.

International Congress of Physiologists.—It is announced that the sessions of the Congress from September 17 to 20, inclusive, will be occupied by demonstrations and communications, and that the sessions of September 21 and 23 will be supplementary and devoted chiefly to the reports of the International commission dealing with the standardization

of recording apparatus, calorimetric methods, etc. Dr. Z. Treves, local secretary, Corso Raffaello, Turin, requests that all titles of communications or experiments be sent him not later than August 1. Prof. Frederic S. Lee, Columbia University, New York City, is acting secretary for America.

Louisville Pathologic Society.—This Society was formally organized April 15, with the following officers: Dr. Thomas C. Evans, president; Dr. James B. Bullitt, vice-president; Dr. James K. Freeman, secretary; Dr. Rowan Morrison, treasurer, and Dr. James Vance, curator. The Society has upwards of forty members and the membership and the roll is increasing each day. Meetings will be held on the third Monday of each month except in July and August. There is to be no social feature of the meetings, as is the custom with those in existence at present.

Florida State Medical Association.—The twenty-eighth annual session of this body was held at Jacksonville, April 10 and 11, under the presidency of Dr. William L. Hughlett, Cocoa, who in his address announced that he had been made a member of the committee on organization of the AMERICAN MEDICAL ASSOCIATION, and urged on the Association the need for closer relations between the state and national associations, for a national board of health, for a national medical university and for uniform laws to govern the practice of medicine. The following officers were elected: Dr. A. Judson Wakefield, Jacksonville, president; Drs. Louis DeM. Blocker, Chattanooga, and George E. Welch, Palatka, vice-presidents; Dr. J. D. Fernandez, Jacksonville, secretary, and Dr. Edward N. Liell, Jacksonville, librarian. The association will meet in 1902 at Tampa.

CALIFORNIA ACADEMY OF MEDICINE.

Meeting held March 26.

The President, Dr. D. W. Montgomery, presiding.

Modified Procedure for Uterine Carcinoma.

DR. HENRY KREUTZMANN read a paper on "Suggestion for a Modified Procedure in Performing Hysterectomy for Cancer of the Uterus." He reviewed the history of the operation, and called attention to the frequent fluctuations between the abdominal and vaginal methods, going back to the time of the first vaginal hysterectomy, performed in 1822, by Dr. Santer, in Constanza, Germany. The author favors the vaginal operation. He has the greatest respect for the experience to be gained from the hundreds of cases gathered from the enormous material of the big clinics of this country and abroad, but the deductions are not always unbiasedly derived from an accumulation of operations, and sometimes operations are performed with the intention of proving a point. He has had an opportunity of seeing his patients for a long period of time, and has observed that there are cases of vaginal hysterectomy where the uterus is removed for carcinoma, where the malignant growth was proved to exist by competent pathologists, and where the woman remained free from relapse for years. Time and again clinical histories of cases have induced him to consider a neoplasm of recent origin; examination showed apparently a slight affection only; but after hysterectomy, the inspection of the divided uterus demonstrated a great encroachment of the disease.

Considering the decided possibility of permanently curing certain forms of carcinoma of the uterus by vaginal hysterectomy, on one side, and on the other, the impossibility of exactly diagnosing the extent of the disease before the organ is cut open, the idea suggested itself to him to remove the uterus through the vagina, to cut open and to inspect the uterus, and then decide on further procedure. If he found that the vaginal portion only was invaded, or that it was a circumscribed carcinoma of the fundus, and that he could expect with reasonable surety that relapse would not occur, then he could be satisfied with a vaginal operation. If, on the contrary, he found that the disease had progressed farther than was expected, that relapse would surely follow vaginal hysterectomy, then he would open the abdomen and remove all the tissue that it was proposed to remove by the abdominal operation.

DR. JAMES F. McCONE said that he was not quite decided regarding the method of operation in carcinoma of the uterus. In that involving the fundus, where the surrounding tissue was not affected, the removal is easy by the vagina, but in those cases involving the cervix, where the tissue extends to, and in-

volves, the rectum and vagina, operation by either method is apt to be disappointing. In these latter cases the radical abdominal operation is certainly the best method, and it should be thorough, care being taken to remove all infected structures surrounding the uterus.

DR. J. HENRY BARBAT said that if tissue is removed simply to temporarily relieve, the vaginal operation is a good one, but if an attempt is made to eradicate the disease, then the abdominal operation gives better results. One can not always tell by physical examination how far the disease has extended, or how much the surrounding structures have been involved. He doubts very much the ability of any operator to remove as much tissue below as can be removed through an abdominal incision. Then, again, the abdominal operation allows of the specimen being removed in one piece, without a great amount of bruising, tearing and squeezing, all of which are factors in recurrence.

DR. G. CAGLIERI said that during the last two or three years he had followed carefully the arguments of the advocates of the two methods of operation. In the beginning of a case of cervical carcinoma, vaginal operation certainly seems simple. A woman 45 years of age came to him some time ago, with a carcinoma of the cervix. As this had been treated by her family physician for some months with no results, and as some of her symptoms made him suspicious that it was carcinoma, he removed it per vaginam. A pathologist, to whom he submitted the specimen, said it was not an epithelioma. One and one-half months later, however, a hard fungoid mass developed in the vagina, which certainly was an epithelioma. He is satisfied that she had a recurrence.

DR. KREUTZMANN, in closing, said that this same dispute had been going on for one hundred years. At present he is in doubt as to what should be done, for these patients seldom remain well permanently. To get the case early is most important. He has concluded that certain men, having a favorite method of operation, use that method merely in their endeavor to prove it the correct one.

Cartilage in the Knee-Joint.

DR. J. HENRY BARBAT exhibited pathologic specimens. The first was a triangular piece of cartilage, 3x2 centimeters in size, which he had removed from the left knee-joint of a man 29 years of age, who gave a history of having sprained his knee five years previously. He complained of considerable pain, and physical examination revealed considerable thickening of the joint, while at the inner side of the ligamentum patellæ the edge of the hard body could be pushed in under the ligament with ease. Operation was done under local anesthesia, and the hard body dislodged with considerable difficulty, and removed with strong mouse-toothed forceps. The wound was closed and dressed dry. After forty-eight hours great pain developed, his pulse rose to 120, and his temperature to 101. The knee was much swollen and tender. He removed one of the skin sutures and passed a probe down into the joint, allowing two ounces of slightly bloody serum to escape, which proved to be perfectly sterile on culture-media. Two days following more serum was removed. By the twelfth day his condition became normal, the pain disappeared, and he was able to walk on the fourteenth day, after operation. He reported this case to show how much disturbance might be caused by invading a large joint even when no sepsis was present. The specimen looked as though it might have been a portion of one of the semilunar cartilages, which had been broken off at the time the patient sprained his knee.

Adherent Appendix and Ovarian Cyst.

This specimen was from Miss H., who had been treated for two weeks previous to his seeing her, for some pelvic disturbance, without any relief. He found a tender fluctuating mass in Douglas' cul-de-sac, in which a vaginal incision was made and pus liberated. A drainage-tube was inserted and remained for one week, when the discharge had practically ceased. The patient was able to go to his office two weeks from the date of operation. There was still a mass on the right side of the uterus, but otherwise the patient felt perfectly well. Four weeks from the date of the first operation she was taken suddenly with severe pain over McBurney's point, felt nauseated,

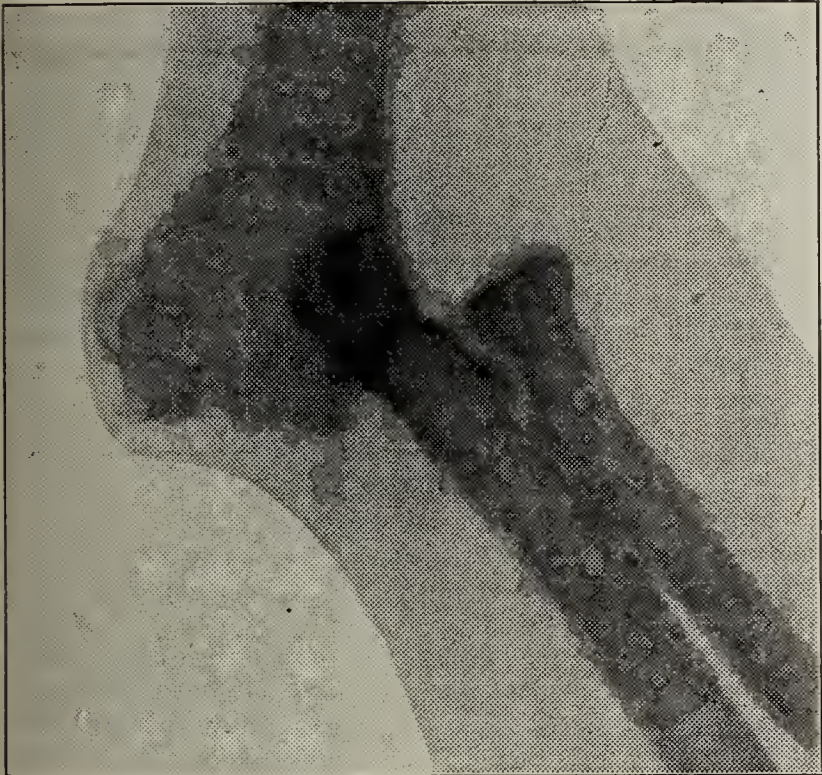
and the appendix was found extremely tender. Immediate operation was consented to and the appendix found passing directly down into the pelvis, and the tip adherent to a mass in the right broad ligament. The adhesion was separated and the appendix removed. This mass proved to be an intraligamentous cyst, which was removed with the tube on that side. The left adnexa were in fair condition and were not disturbed.

This case illustrates the fact that pelvic peritonitis, from whatever cause, if followed by adhesions, is a causative factor in the production of ovarian cysts. The adhesions which surround the ovary prevent the proper rupture of the Graafian follicle, the secretion is retained, the ovum can not enter the Fallopian tube, and an ovarian cyst is born, which may subsequently rupture and be absorbed, or which may keep on growing until it causes grave disorder, and requires removal.

DR. CAGLIERI asked if the introduction of olive oil into the abdomen was of more use in the prevention of adhesions than that of normal salt solution.

DR. BARBAT replied that he had used it on several occasions, and had sometimes seen good results.

DR. KREUTZMANN said that he did not agree with Dr. Barbat when he called these specimens cysts of the ovaries. The ovaries presented were inflammatory; he had seen any number of them, always growing fast to the broad ligament. Cysts are nothing but enlargements of the Graafian follicles. He thinks it proper to be as conservative as possible in operating on these



cases, and that a piece of the ovary should be left in whenever possible. These women should keep on menstruating. If all ovarian tissue is taken out and woman ceases to menstruate, she usually suffers more than before. All we can do to prevent adhesions is to see that the bowels move soon after operation, and sew up all tears in the peritoneum.

DR. BARBAT, in reply, said that in these cases he invariably gives a rectal infusion of coffee and Epsom salts, before the patient leaves the table. The adhesions that are particularly hard to prevent are those where an ovary and tube, being bound down, are separated, leaving very raw surfaces. He draws these ovaries outside the abdomen, wipes them dry, removing as much as possible all little stringy adhesions, then with the introduction of sterile oil he has found that adhesions are less likely to form again.

Dislocation of Elbow.

DR. J. W. SHIELDS reported a case and exhibited a patient who had recently fallen, sustaining a lateral dislocation of the right elbow. Dr. F. B. Carpenter was called and suggested making a skiagraph before reduction. This was done. The skiagraph, shown here, was also presented to the Academy. The dislocation was reduced, the arm put in plaster for forty-eight hours, when it was removed, and passive motion carefully commenced.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment will be answered in these columns.]

A Precipitation.

A subscriber writes us concerning the following prescription which occurred in THE JOURNAL issue of March 31, 1900. He states that in compounding the prescription that a precipitation occurs and he inquires the reasons for such a reaction:

R. Ext. Jaborandi flu.
Ext. belladonnæ flu., āā.....3i 4
Ext. tritici repentis fl.....3ss 16
Ext. ergotæ flu.
Ext. rhois arom., āā.....3i 32
Aquæ3ss 16

M. Sig.: One teaspoonful three times a day.

We wish to state that the reaction of which our subscriber speaks is not due to any incompatibility of the drugs in the prescription but is due to the fact that some of these preparations have constituents which are insoluble in water and consequently are thrown down whenever water is used as the vehicle. It must be remembered that each of the above preparations are held in solution by alcohol, consequently some vehicle equal in strength to it should be used. Glycerin or alcohol substituted for the aqua will correct the trouble.

Treatment of Scabies.

Eichhorst states that the simplest remedy for the cure of scabies consists in the following combination:

R. Balsami copaibæ
Liq. styracis, āā.....3i 32

M. Sig. Rub the skin well morning and evening for two days, and on the third day take a hot bath and wash the skin with green soap.

It is further stated in his practice of medicine that the solution of Vlcmingkx is used a great deal in treatment of scabies:

R. Caleii3vi 24
Sulphuris3iss 48
Digest with rain waterOi 500
And evaporate to3ixss 300

Sig.: Use as an inunction. Avoid excessive friction of the skin.

For Prostatorrhea.

R. Tinct. nucis vom.m. x 64
Tinct. cantharidism. v 32
Liq. ferri et ammon. acetatis q. s. ad..3vi 192

M. Sig.: One tablespoonful three times a day after meals.

Bronchopneumonia in Infants.

Carrière, in *Med. News*, says that when the disease has declared itself, keep the patient in bed in a well-ventilated room, wrap the limbs in cotton and change the position of the child frequently. Administer plenty of milk, bouillon and beef juice, and much water to drink. To lessen the congestion and increase the evacuation of the pathological products, give syrup of ipecac in teaspoonful doses every five minutes till vomiting supervenes, and follow by warm water. Then give the following:

R. Ergotingr. iii-viii 20-50
Strych. sulphatisgr. 1/150 0004
Syrupi simplicis3vi 24
Aquæ q. s. ad.3iv 128

M. Sig.: One tablespoonful every three hours.

Dry cupping, mustard plasters or poultices are of benefit. Stimulate the body with warm baths or mustard baths, and with a suppository at night as follows:

R. Quininae hydrobromatisgr. i-iv 06-25
Cacao butter, q. s.

M. Ft. suppos. No. i. Sig.: One such suppository night and morning.

Cleanse the nasal passages and the mouth with antiseptic solutions.

As a bronchial antiseptic the internal administration of eucalyptus, terpin hydrate, sodium benzoate in small doses are advisable. For the feeble heart give digitalis, spartein sulphate or caffein benzoate. For the dyspnea administer oxygen; for the collapse, friction with hot flannels wet with spirits of camphor. During convalescence give oleum morrhue or the following:

R.	Calcii lactophos.		
	Calcii glycerophos. āā	gr. iiss	15
	Aq. destil. q. s. ad.	℥iv	128
M.	Sig.: One teaspoonful four times daily.		

Simple Catarrhal Conjunctivitis.

R.	Aeidi borici	gr. xxx	2
	Sodii chloridi	gr. iii	20
	Aq. camphoræ	℥i	32
	Aq. destil. q. s. ad.	℥iii	96
M.	Sig.: Apply to the eye every two or three hours; or		

R.	Zinci sulphatis	gr. ss	03
	Sodii biberatis	gr. iiss	15
	Aq. camphoræ	℥ss	16
	Aquæ q. s. ad	℥i	32
M.	Sig.: Two or three drops in the eyes twice or three times a day.		

Chronic Catarrhal Conjunctivitis.

Dr. Guttman, as noted in *Merck's Archives*, recommends the following:

R.	Zinci sulphatis	gr. viii	50
	Hydrarg. chloridi corros.	gr. ss	03
	Aq. destillatæ	℥iiss	48
M.	Sig.: Instill into the eye daily.		

He states that in rebellious cases the lids should be touched once a day with crystallized alum; if this causes too much smarting, it may be preceded by the instillation of a few drops of a 2 per cent. solution of cocain. Should the case be very old the lids must be painted with a 2 per cent solution of zinc sulphate, followed by a good washing. In cases of marked hyperemia, eye douches are useful. The water should be at a temperature of 70 degrees F., and a little eau de Cologne added makes it more effective. The stream is directed on the closed lid two or three times daily for several minutes each time.

Chronic Articular Rheumatism.

R.	Liq. potassii arsenitis	℥i	4
	Potassii iodid	℥iv	16
	Sodii salicylatis	℥v	20
	Syrupi sarsap. compos.	℥iiss	48
	Aq. menthæ pip. q. s. ad	℥iv	128

M. Sig.: One teaspoonful in half glass of water after each meal; or:

R.	Potassii iodidi	℥iii	8
	Vini colchiei sem.		
	Tinct. opii camph. āā	℥i	32
	Tinct. stramonii	℥iii	12
	Tinct. cimicifugæ q. s. ad.	℥iv	128

M. Sig.: One teaspoonful three times a day in water.

The Uses of Formalin.

A. C. Jordan, of London, states that the use of formalin has been abandoned to some extent on account of its irritating properties and the pain it may produce. He has found that this may be overcome to a great extent by using glycerin as a vehicle instead of water. He has used, with success, glycerin in strength of from 1 to 4 per cent. for the following conditions: 1, as an application to the throat; 2, as a mouth wash; 3, as an application to the skin; 4, as a urethral injection.

As an application to the throat in follicular tonsillitis he applies it locally with a brush, and finds that the glycerin spreads rapidly over the tonsil and into the crypts. He uses it in 2 per cent. to 4 per cent. strength as a specific in early stages of tonsillitis. The application may be attended by a little soreness lasting a few hours. In pharyngeal diphtheria he has met with good results by these applications. For the mouth a single application of a 2 per cent. solution followed by a good mouth wash is successful in stomatitis. In parasitic diseases

of the skin as in tinea tonsurans (ringworm) he thoroughly cleanses the skin and carefully rubs in a 4 per cent. solution. One application is sufficient, followed by the application of zinc ointment.

Furunculosis.

George T. Jackson, in *Med. News*, gives following treatment for boils: Attend to the general health, look for diabetes or other constitutional diseases, and give tonics. Among the remedies the following are recommended:

R.	Calcii sulphidi	gr. 1/10	006
	Sacch. lactis q. s.		

M. Sig.: One such capsule every two hours; and:

R.	Syrupi hypophos. comp.	℥iii	96
Sig.:	One to two teaspoonfuls three times a day.		

Yeast is used a great deal in treatment of furunculosis. It can be used in doses of a wineglassful daily.

It is further stated that furuncles should never be poulticed nor squeezed. They are frequently aborted by injecting a drop or two of pure carbolic acid, applying an ointment of hydrarg. oxidum rubrum or painting with iodin. If the boil is mature thrust pure carbolic acid into its central opening with a sharp-pointed toothpick and dress with an antiseptic dressing of aristol or boric acid.

Ichthyol in Erythema Nodosum.

A. Brownlie, in *New York Lancet*, states he has had success from the use of ichthyol in treatment of erythema nodosum. prepared as follows:

R.	Ichthyoli ammon.	℥iii	8
	Spts. vini rectific.		
	Aetheris, āā	℥iii	12

M. Sig.: Paint upon the affected part.

He states that by this application relief from the burning pain was quickly relieved. He further states that the method of preparing the paint is important. The last two preparations should first be mixed together, and then add the ichthyol.

Treatment of Gonorrhea.

R.	Hydrastinæ hydrochlor.		
	Zinci acetatis, āā	gr. viii	5
	Glycerini	℥iv	16
	Aq. destil. q. s. ad.	℥iv	128

M. Sig.: Inject three or four times a day; or:

R.	Ichthyoli	℥iiss	6
	Glycerini	℥i	32
	Aq. destil. q. s. ad.	℥viii	256

M. Sig.: Inject four or five times a day and retain the fluid for several minutes.

Treatment of Lupus.

Dr. L. Butte recommends that the entire field occupied be thoroughly cleansed with the following antiseptic solution:

R.	Hydrarg. chloridi corros.	gr. v	30
	Tinct. benzoini	m. lxxv	5
	Tinct. saponis	℥iiss	48
	Aq. destil.	℥vii	224

M. Sig.: Cleanse the parts thoroughly.

Then apply compresses saturated with a 2 per cent. solution of potassium permanganate for ten or twelve minutes. Repeat every day. He claims by this method to be able to effect a cure as a rule in two or three months. —*Merck's Archiv.*

Removal of Powder Stains.

Dr. J. Neely Rhoads, of Philadelphia, states in *Amer. Medicine*, that he has removed with success, powder stains from the face due to firecrackers, etc., by means of the application of hydrogen peroxid. He applied it in full strength and gave it to the patient to apply at home. Within two days she called at his office with the powder marks all removed. So far, this is the only case in which he has had a chance to test the virtue of the treatment, but it behooves the general practitioner to carry this in mind until the fifth of July next, when he may have ample opportunity to test it.

Medicolegal.

Insanity, Commissioners of; Proof of; Charging.—The Supreme Court of Nebraska holds, in the case of *Biddle vs. Jenkins*, that the commissioners of insanity of that state have cognizance not only of applications for admission to the hospital for the insane, but also for the safe-keeping otherwise of insane persons in their respective counties. An affidavit filed with the commissioners, alleging that a person resident of their county is insane, and his being at large is dangerous to the community, confers jurisdiction upon the board to act. But insanity, the court holds, can not be established by proof of the reputation of the person so charged. Moreover, in an action against the person making such an affidavit for false imprisonment and malicious prosecution, the court holds that the advice of counsel with regard to making the charge contained in the affidavit, to be of any avail as a defense, must have been given after a full and fair statement of all the facts within the knowledge of the person seeking the same and making the affidavit, and must have been relied upon in good faith.

Commitment to Insane Asylum without Notice.—Mr. Justice Marean holds, at a special term of the Supreme Court of New York, Kings County, in the habeas corpus case of *People ex rel. Sullivan vs. Wendel*, that a person finally adjudged insane, and committed to perpetual restraint, without notice or hearing, is deprived of his liberty without due process of law, and that the insanity law of that state, so far as it permits this, is in violation of the constitution. He says that when one has been duly adjudged insane—when his status as an insane person has been duly established—personal notice, or notice of proceedings affecting his interest, may be dispensed with, if it appears that such service would be prejudicial to his mental condition. But, for the protection of those who are sane, it ought not to be tolerated that any person should be adjudged insane, and finally committed, without either notice or actual hearing. It is doubtful, also, he holds, if the commitment of an alleged incompetent to the custody of her sister, even if it were valid, warranted her transfer to the hospital by the commission. The statute only permits transfers from one hospital to another.

Use of Preservative in Butter.—The first appellate division of the Supreme Court of New York holds unconstitutional, in the case of *People vs. Biesecker*, a statute of that state, which, without a suggestion, so far as the statute itself is concerned, either in the title or in the body of the act, that its purpose is to protect the health of the people or to prevent fraud being practiced upon them, prohibits the sale of any butter or other dairy products containing a preservative, except salt in butter and cheese, etc., and prohibits the sale or advertising for sale of any substance for use in violation of this provision. It says that if the legislature had the power to thus prohibit the use of a substance, no matter how valuable it might be, or the extent of its utility, then it could prohibit the use of any preservative in butter, milk, or cheese. It is thought by not a few people, it goes on to say, that salt not only preserves, but actually adds to the quality of, butter; and it may not be entirely optimistic to assert that, with our increased knowledge, another substance may yet be discovered which will preserve and add to the quality of butter even to a greater extent than salt does, and if such substance should be discovered, and it were not prejudicial to the public health, no one would seriously contend that the legislature could prohibit its sale or use.

Theory of Dying Declarations.—The Supreme Court of Florida says, in the case of *Richard vs. State*, that the dying declaration of a person mortally wounded in reference to the circumstances which caused death, in cases where the death of the declarant is the subject of investigation, are admissible in evidence when the declarant is in extremity, believes death is imminent, and he is without any hope of recovery. When the party is in extremity, all hope of this world gone, every motive of falsehood silenced, and the mind induced by the most powerful considerations to speak the truth, the situa-

tion is so solemn and so awful as to be considered by the law as creating an obligation equal to that of an oath administered in court. But the circumstances under which such statements are made must be shown, in order that the court may determine whether the declarations should be considered by the jury. The fact that dying declarations are made in response to questions asked the declarant is no ground for excluding them; nor is it material, as to their admissibility, that the questions are omitted, and the answers only given, when they are reduced to writing, read over, and signed by the declarant. Neither is it material that the attending physicians try to encourage him by telling him that his wounds are not serious, when his reply shows that he has no hope of recovery, as where one was so firm of the belief that he was going to die that he instantly told the doctor, who tried to encourage him, that he would die.

Liability of County for Service in Smallpox Case.—The Court of Chancery Appeals of Tennessee holds, in the case of *Allen vs. Dekalb County*, that the act of that state of 1885 does not restrict the county board of health to action only during the existence of an epidemic, but authorizes and requires it to act whenever cholera, yellow fever, or other contagious and epidemic diseases are either threatened or exist in its county. It does not wish to be understood as holding that the existence of a single case of smallpox in a county constitutes an epidemic in that county. But it is clear, it says, that smallpox is one of the diseases mentioned in the act as contagious or epidemic diseases. It belongs to that class of diseases which, unless restricted and prevented by vigorous measures, becomes epidemic, and it was to prevent the spread of just such diseases that the act of 1885 was passed. It considers, too, that it may take judicial knowledge of the fact that in cases of smallpox a strict and rigid quarantine of the persons affected or exposed is always required. Wherefore, although it does not find any power imposed upon the county judge by law to appoint a county health officer or jail physician during the temporary absence of that official, it holds that the employment at such a time by the county board of health of a physician to attend a suspected case of smallpox and take measures to prevent the spread of smallpox from the patient is both proper and necessary. Moreover, it being provided by the act that all necessary expenses incurred by the board of health in preventing or restricting such epidemic diseases shall be made a county charge, the county court being directed to order their payment, this, the court holds, fixes upon the county a liability for all reasonable expenses and charges incurred in such a case as that just stated, including liability for the services of the physician temporarily employed by the board of health. Nor does it consider that it would make any difference that he was a partner of the regular county health officer and had agreed with the latter to do the county business during the latter's absence. Private agreements, the court declares, can not be recognized as substituting one individual, who has not been duly elected and chosen for a public officer, for another, who has. Besides, even conceding—what it does not think can be—that the physician appointed in this emergency was either *de facto* or *de jure* at that time county jail physician or health officer, the court says that the law imposes no such duties upon that official as he was called upon to discharge in this case. So the court takes it that, if the county jail physician or health officer should be required to give his time and attention during an epidemic of yellow fever, cholera, smallpox, or the like, to the suppression of the disease, he would be entitled to compensation for such time and attention aside from his salary fixed by the county court as compensation to him for services rendered as county jail physician. Nor is the county court given any power to adjudicate or pass upon the merits and amount of any such claim in a final and conclusive way. Neither does the law require the exact amount of the physician's compensation in such a case as this shall be agreed upon beforehand. Last of all, the court holds \$500 a low and reasonable charge for the services rendered in this case, the physician having given 30 days' time, and, besides treating the case of smallpox, rendered most efficient services in respect to quarantine and disinfection and lost at least \$266 in his

practice, and some patients permanently, besides which nine reputable physicians fixed the compensation, on the facts presented, at \$500.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Boston Medical and Surgical Journal, April 11.

- 1 Review of the Literature of the Therapeutic Use of the X-rays. Harvey P. Towle.
- 2 *Pathology of the Newborn as Illustrated in the Practice of the Writer. Frederic W. Taylor.
- 3 *Oblique Subtrochanteric Osteotomy, for the Lengthening of the Femur, and Correction of the Deformity of Flexion Resulting from Hip-Joint Disease. E. G. Abbott.
- 4 A Case of Chin Left Posterior. H. G. Swain.

New York Medical Journal, April 13.

- 5 *German Text-books Half a Century Ago; History and Reminiscences. A. Jacobi.
- 6 A Shielded Piston Syringe for Urethral and Vesical Irrigation. J. Rilus Eastman.
- 7 *Correction of the Deviations of the Nasal Septum, with Special References to the Use of the Author's Fenestrated Comminuting Forceps. John O. Roe.
- 8 Pathology of Intrauterine Death. (Continued.) Neil MacPhatter.
- 9 *The Preponderance of Male Stammerers Over Females. David Greene.
- 10 Management of Gonorrhea. Boleslaw Lapowski.

Philadelphia Medical Journal, April 13.

- 11 *Ligation of the Carotid Artery as an Operation Preliminary to Resection of the Superior Maxilla. Carl Schlatter.
- 12 *Thoughts on the Treatment of Diabetes Mellitus, being Part of a Clinical Lecture Delivered at the Philadelphia Hospital, March 13, 1901. James Tyson.
- 13 *Medical Relations of the Prevailing Forms of Food Adulteration. Henry Leffmann.
- 14 Ruptured Traumatic Aneurysm of the Femoral Artery Due to Gunshot Wound; with Report of a Case. Wallace Neff.
- 15 *Multiple Tumors of the Sciatic Nerve. John B. Roberts.
- 16 Venous Angioma of the Flexor Muscles of the Fingers. John B. Roberts.
- 17 Diabetes Mellitus as a Cellular Fault. Thomas C. Ely.

Medical News (N. Y.), April 13.

- 18 *Immediate and Remote Results in One Hundred Conservative Operations on the Ovaries and Tubes; with Brief Reports of Four Cases. W. L. Burrage.
- 19 *Tropacocain Hydrochlorate—A Substitute for Cocain Hydrochlorate in Spinal Anesthesia. Willy Meyer.
- 20 *Study of Cases Presenting Symptoms of Asthenopia and Anomalies of the Ocular Muscles in Which Ablation of the Middle Turbinal Was Effective Treatment. Heber Nelson Hoople.
- 21 *Acute Traumatic Malignancy. William B. Coley.
- 22 The Akouphone and its Limitations. J. A. Kenefick.
- 23 Perforating Gunshot Wound of the Chest with Fracture of Both Bones of the Left Leg and Lacerated Wound of the Right Thigh: Recovery. Victor Cox Pedersen.

Medical Record (N. Y.), April 13.

- 24 *Remarks on Enteroptosis. Max Einhorn.
- 25 Small Hospitals and their Administration. Louis N. Lanehart.
- 26 *X-Ray Photography. Eugene R. Corson.
- 27 Some Facts of Responsibility in Spirit and Drug Takers. T. D. Crothers.
- 28 An Unusual Case of Partial Recovery from Embolism of the Arteria Centralis Retinae. Edgar S. Thompson.

Cincinnati Lancet-Clinic, April 13.

- 29 *Acute Lobar Pneumonia. Charles F. Hope.
- 30 Tobacco and Tobacco Amaurosis. A. N. Ellis.

St. Louis Medical Review, April 13.

- 31 *Gonococci in Gonorrheal Secretions. A. Ravogli.
- 32 Gonococcus Infection in an Infant; Metastatic Joint Abscesses. W. L. Johnson.
- 33 Review of MacNaughton-Jones' Practical Manual of Diseases of Women and Uterine Therapeutics for Students and Practitioners. Mary Dixon-Jones.

American Medicine (Philadelphia), April 13.

- 34 *The Medical Aspects of Carcinoma of the Breast, with a Note on the Spontaneous Disappearance of Secondary Growths. (Concluded.) Wm. Osler.
- 35 *Gastrojejunostomy in Gastriectasis. A. H. Cordier.
- 36 *The Mortality of Operations for Obstructive Jaundice. John B. Deaver. (Concluded.)
- 37 *Phelps Operation for Club-foot, with a Report of 1650 Operations. (Concluded.) A. M. Phelps.

- 38 An Obscure Case of Hysteria with Associated Right Mydriasis and Amblyopia and Left Myosis. H. A. Hare.
- 39 *Indications and Limitations of the Vaginal Operation in Pelvic Diseases in Woman. J. Riddle Goffe.
- 40 Deep Breathing as a Curative and Preventive Measure. John H. Pryor.
- 41 "The Most Useful Citizen": A Study of Human Dynamics. F. W. Langdon.
- 42 Dust as a Factor in Diseases of the Upper Respiratory Passages. W. Scheppegegrell.
- 43 Duty of the Public to the Medical Profession. Andrew H. Smith.

Medical Age (Detroit, Mich.), March 25.

- 44 Diseases in Schools, and Medical Inspection. E. V. Silver.
- 45 *Municipal Prevention of Disease. Heman Spalding.
- 46 *Immunity as a Factor in Prevention of Disease. Adolph Gehrmann.

Medical Fortnightly (St. Louis), April 10.

- 47 Urine Semeiology. Dr. Charrin.
- 48 *Insanity of Puberty. Frank Parsons Norbury.

Pediatrics (N. Y.), April 1.

- 49 *The Value of Alcohol in the Acute Infectious Diseases of Children. Augustus E. Bieser.
 - 50 *Acute Articular Rheumatism in Children. Frank C. Simpson.
- New York State Journal of Medicine (N. Y.), April.
- 51 *Surgical Management of Umbilical Hernia with Large Ring. E. D. Ferguson.
 - 52 *On the Analogy Between Nervous Conductibility and Electric Conductibility, and their Relation to the Functional Neuroses. A. D. Rockwell.
 - 53 *Management of Normal Labor, Including the Use of Forceps. Austin Flint, Jr.
 - 54 What Determines the Real Value of Medical Papers? Louis C. Agar.

Ophthalmic Record (Chicago), March.

- 55 A Contribution to the Study of Injuries to the Eye. A. Levy.
- 56 A Case of Subacute Retro-bulbar Optic Neuritis First in the Left Eye, Later in the Right Eye. Edward Swasey.
- 57 A Case of Inflammatory Glaucoma Presenting Unusual Features. S. D. Risley.
- 58 Jeweler's Loupe for Examining the Eye—Mirror Monocle. Geo. F. Keiper.
- 59 A Case of Left Homonymous Hemianopsia, Probably Hysterical. M. W. Zimmerman.

Bulletin of the Johns Hopkins Hospital (Baltimore), March.

- 60 The Genesis of Carcinoma of the Fallopian Tube in Hyperplastic Salpingitis, with Report of a Case and a Table of Twenty-one Reported Cases. E. R. LeCount.
- 61 Report upon a Case of Gonorrheal Endocarditis in a Patient Dying in the Puerperium; with Reference to Two Recent Suspected Cases. Norman MacLeod Harris.
- 62 *An Experimental Study Concerning the Relation Which the Prostate Gland Bears to the Fecundative Power of the Spermatic Fluid. George Walker.
- 63 Further Observations on Epinephrin. John J. Abel.

Physician and Surgeon (Detroit and Ann Arbor), February.

- 64 A Half Century's Progress in Medical Jurisprudence. Frank T. Lodge.
 - 65 The Etiologic Factor. Charles G. Jennings.
- SYMPOSIUM ON PNEUMONIA.
- 66 Symptomatology and Diagnosis. George E. McKean.
 - 67 The Morbid Anatomy. Edmund A. Chapoton.
 - 68 The Treatment. Ernest L. Shurly.
 - 69 Full-Term Ectopic Pregnancy, with Reports of Two Cases. James G. Lynds.
 - 70 Antiseptic and Antipyretic Treatment of Typhoid Fever. Fred Grover.
 - 71 Goiter and its Treatment. H. Wellington Yates.
 - 72 Relation of Municipal Laboratories to the Control of Tuberculosis. Augustus W. Crane.
 - 73 The Detroit Academy of Medicine. Albert B. Lyon.
 - 74 Some Views of Curettement of the Uterus from the Standpoint of a General Practitioner. Elmer D. Gardner.

Annals of Gynecology and Pediatrics (Boston), April.

- 75 *Fibroid Tumors of the Uterus, Their Relation to Diseased Adnexa. Origin of Fibroid Tumors. When is the Proper Time for their Removal? Mary Dixon Jones.
- 76 *Facts and Suggestions Pertaining to Diphtheria. James H. Taylor.
- 77 *Suppurative Mastitis in the Newly-Born. Emery Marvel.
- 78 Etiology of Uterine Hemorrhage. George W. Kaan.
- 79 Treatment of Uterine Hemorrhage. Francis H. Davenport.
- 80 *A Case of Septic Rheumatism of Tonsillar Origin. Carolus M. Cobb.
- 81 *Two Cases of Jacksonian Epilepsy. John D. Target.

Medical Bulletin (Philadelphia), April.

- 82 Scabies—Tinea Versicolor—Impetigo Contagiosa. J. V. Shoemaker.
- 83 Caroid in Maldigestion of Infants. Arthur W. Condict.

- 84 A Case of Sneezing. Dr. Masse.
 85 Hemorrhagic Affections of the Skin. George A. Hewitt.
 Toledo Medical and Surgical Reporter, April.
 86 Report of Surgical Cases (Excision of Elbow, etc.). W. H. Fisher.
 87 Value of X-Ray to the General Practitioner. S. W. Beckwith.
 88 Pathological Examination of the Eye. Frank Jacobi.

Fort Wayne Medical Journal-Magazine, March.

- 89 *The Role of the Kidney in the Production of the Toxemias of Pregnancy. B. Van Sweringen.

International Journal of Surgery (N. Y.), April.

- 90 Regional Minor Surgery. George G. Van Schaick.
 91 Traumatic Gangrene. J. B. Murfree.
 92 Nose and Throat Work for the General Practitioner. (Continued.) George L. Richards.
 93 Practical Suggestions upon the Treatment of Rectal Diseases. (Continued.) James P. Tuttle.
 94 Details in the Preparation of Patients for Operation Outside of Hospitals. Lewis W. Rose.
 95 Complete Sloughing of Both Nipples. J. A. Wessinger.
 96 Diabetes, Why it May Follow Head Injuries. A Successful Method of Treatment. John B. Hawes.
 97 Local Anesthesia Without Risk of Danger. E. R. Rasely.
 98 A New Operation for Anal Fistula. R. D. Faurex.
 99 Acute Tetanus. W. R. Cummings.

Oklahoma Medical Journal (Guthrie), March.

- 100 Epileptic Convulsions. H. M. Fagaines.
 101 Neurasthenia. A. DeBord Young.

American Gynecological and Obstetrical Journal (N. Y.), March.

- 102 *Pus in the Peritoneal Cavity. Robert T. Morris.
 103 *The Complications of Gonorrhea in Women and their Prophylactic Treatment. Joseph Taber Johnson.
 104 *Organotherapy in Gynecology. Wilmer Krusen.
 105 Pregnancy in Uterus Bicornis. George H. Noble.
 106 *Operative Treatment of Cancer of the Uterus. E. E. Montgomery.
 107 Anne Murray, the First Trained Nurse. Ely Van De Warker.

Columbus Medical Journal, March.

- 108 Points in Cellular Pathology. D. N. Kinsman.
 109 Bronchitis and Broncho-pneumonia; Pathological Anatomy. D. N. Kinsman.
 110 Bronchitis and Broncho-pneumonia. Diagnosis and Symptomatology. John L. Gordon, Jr.
 111 Bronchitis and Broncho-pneumonia. Treatment. M. T. Dixon.
 112 Bronchitis and Broncho-pneumonia. Treatment in Children. J. C. Lawrence.
 113 Bronchitis and Broncho-pneumonia Complicating Surgical Operations. F. F. Lawrence.
 114 Report of a Case of Ischio-scrotal Eczema Madidans Rubrum. N. E. Aronstam.
 115 Heredity. L. Woodruff.

Laryngoscope (St. Louis), March.

- 116 *Papilloma of the Larynx. Francis J. Quinlan.
 117 *On Nasal Suppuration. Z. L. Leonard.
 118 Case of Congenital Web in Larynx. Albert B. McKee.
 119 *Observations on the Pathology of the Pharyngeal Tonsil and its Operative Removal. H. Gradle.
 120 Resorcin as a Preservative for Suprarenal Extract Solution. Seymour Oppenheimer.

Medical Standard (Chicago), April.

- 121 Drug Habits and their Treatment. T. D. Crothers.
 122 A Surgical Ear and Nose Clinic. Wm. L. Ballenger.
 123 The Etiology of Appendicitis. A. J. Ochsner.
 124 Administration of Anesthetics. A. A. Kerr.
 125 Typhoid Fever; its Complications and Sequelæ. J. T. Moore.
 126 Tinea Versicolor. N. E. Aronstam.
 127 Typhoid Fever, Complicated by Suppurating Ovarian Dermoid Cyst. E. J. Kemp.

Kansas City Medical Index-Lancet, April.

- 128 Gunshot Wounds of the Chest, with Report of a Case. J. Herbert Austin.
 129 Cerebrospinal Meningitis. John Punton.
 130 Fibroma Molluscum. Wilmot C. Willets.

Hot Springs Medical Journal, March.

- 131 Auto-intoxication from Renal Insufficiency. With and Without Diseased Kidneys: with Report of Some Remarkable Cases. James T. Jelks.

Medical Times (N. Y.), April.

- 132 Treatment of Urethritis in the Male. James Pedersen.
 133 Five Years' Experience with the Antiseptic Treatment of Typhoid Fever. J. A. Crook.
 134 Nasal Diseases and their Differential Diagnosis. David H. Stevenson.
 135 Case of Choledochotomy of Impacted Stones. Howard Lillenthal.

Atlanta Journal-Record of Medicine, April.

- 136 Extrauterine Pregnancy, with Report of a Case of Simultaneous Pregnancy in Both Tubes. C. R. Robins.
 137 Saline Transfusion, Hemorrhage and Shock. J. L. Campbell.

AMERICAN.

2. **Pathology of New-Born.**—Taylor makes a general statement of the pathologic conditions observed in an experience of 654 births, there were 23 still-births, 22 cases in which death occurred shortly after birth, and 10 where respiration was delayed. Besides these there were two cases of deformity, 3 of ophthalmia, 2 of melena, 2 of fractured clavicle—1 also included under melena—1 of depressed skull and 1 of facial paralysis, making a total of 64 or about 10 per cent. abnormalities at birth or during the first few weeks of life. The details are given at length. Of the children born alive, who died, 8 showed no cause of death except a lack of vitality, 6 were premature, and in 1 case the cause of death was difficult to explain, excepting the suggestion that it was smothered accidentally three days after birth.

3. **Oblique Subtrochanteric Osteotomy.**—The author thinks his method has an advantage in obviating the use of such powerful force and the destruction of so much soft tissue as is done in the method employed by German surgeons, Hoffa, Lauenstein and others, which they consider is an advantage over Gant's operation. In the patient whose case is reported the site of the operation was prepared in the usual manner and the patient placed on the side with large sand bags between the thighs, against the perineum. The osteotome, which was of the same width as the bone, was entered through the skin and underlying tissue upon the femur, about 4 in. below the upper border of the trochanter major, where it was firmly held at an angle of 30 degrees. It was then driven in the bone as far as the inner compact tissue, when it was exchanged for a narrower one and the division continued well into this, then withdrawn and the section completed by fracture. The leg was placed in the corrected position and dressed. After the patient was put back in bed a Buck's extension was applied with side plasters reaching to the fracture. A side splint from the axilla to the foot was loosely bandaged to the body, and weights applied on the end of the extension and gradually increased. The muscles relaxed in thirty-six hours, when the length and position were regulated and the splint firmly applied, retaining the leg in the corrected position. Measurements were frequently made to ascertain the condition, and at the end of the eighth week the apparatus was removed and the patient allowed to move around in bed. At the beginning of the tenth week crutches were given and free exercises permitted. The femur was lengthened 1.5 inches by actual measurement and the flexion was completely corrected as the adhesions were broken up by the operation, allowing movements of 15 degrees. Recovery was uninterrupted, union being firm in eighth week. The patient now walks easily with the heel of the shoe raised three-quarters of an inch on the inside. The points which Abbott considers of special importance are the making of a radiograph to determine the size of the femur, the exact location of the osteotome, the width of the osteotome and the angle at which it has been held, both to be governed by the size of the femur. The amount of weight required with different patients varies and must be gradually increased until results are obtained, when it may be lessened and held by side splints.

5. **German Text-Books.**—Jacobi's article is an interesting series of reminiscences of German teachers and German medical instructions fifty or sixty years back.

7. **Septal Deviations.**—The conditions of septal deviations are described as to their frequency, and the author's method given, with a description of his instruments, consisting of forceps with one blade fenestrated, the other fitting in the opening, by which a portion of the septum is crushed and thereby straightened. Roe claims that it gives a special facility for fracturing the osseous and osseocartilaginous portions without incising or even lacerating the soft parts, and that wrinkles and curves can be readily removed without other operative measures excepting the removal of spurs and ridges.

Dislocation of cartilage or bones can be reduced, and it avoids producing strain on the other portions of the septum than those immediately operated on, thus avoiding the danger of disturbing its upper attachments, and by complete removal of the elasticity of the attachments of deflected parts, it facilitates more ready adjustment of the septum to its normal position and diminishes the length of time that the support is required.

9. Stammering.—Greene shows the predominance of males over females with this infirmity and believes that the cause of this diversity is largely in faulty inspiration. The tendency to misdirected effort in the diaphragm is the most prolific cause of stammering among men, but is rarely found among women. In males quiet respiration is effected almost exclusively by the activity of the diaphragm, but in speaking some considerable emptying of the air in the lungs must take place, and this can only be affected by combined diaphragmatic and costal breathing. In females he says costal breathing is the habitual mode of respiration, hence, their lungs are generally well supplied with the amount of air necessary. The number of cases in his table in which stammering was caused by mismanagement of the voice in males was 82 or 35.8 per cent., while in the females it was 24 or 8.8 per cent. of the total number of cases. Instead of setting the vocal cords into vibratory motion by means of the expiratory current, the stammerer of this class makes a futile attempt to produce these vibrations by the muscles of the larynx, and every time the attempt is made to pronounce a word beginning with a vowel or vocal consonant, a noise is produced much like the bleating of a sheep. It is natural that this tendency to throw too much energy into the muscles of the larynx as a substitute for expiratory force should be more common among females than among males. The average respiratory force of the female is considerably lower than that of the male. As regards the treatment, he thinks the cases due to faulty inspiration are much more hopeful. The patient can be taught to educate his breathing and control his costal muscles by gymnastics. The organ of voice, however, is not so easily brought into control. Hence the stammering of females showing itself in spasms of the vocal cords usually proves very obstinate.

11. Carotid Ligation in Section of the Superior Maxilla.—From a general consideration of the subject, his own experience and the facts as given in the literature, Schlatter summarizes, in substance, as follows: 1. Preliminary ligation markedly diminishes the hemorrhage as well as danger from blood aspiration. 2. It is highly recommendable in all anemic individuals, those of lowered vitality from cachexia and hemorrhages, provided there is no vascular disease, especially arteriosclerosis. Exposing the bifurcation of the carotid in advanced cases is itself indicated for the purpose of extirpating the lymphatic glands which are generally the first attacked by the metastasis. 3. In by far the most cases of ligation of the external carotid it should be a permanent ligation. Conducted antiseptically the operation is not dangerous. The ligation can be applied by enlarging above the incision which has been made for exposing the bifurcation. 4. In exceptional cases it becomes imperative to ligate the common carotid, which if done temporarily seems to be less dangerous than a permanent ligation. He reports three cases in detail and remarks in conclusion in regard to the prosthetic dentistry in his case of double resection of the upper jaw.

12. Diabetes Mellitus.—Tyson thinks the prominence assigned to excessive glucose formation in this disease has been too great. The presumption is, he thinks, not that it is produced in greater quantity but that its metabolism is in some way diminished. He asks, should we not direct our therapeutics to measures to aid in this metabolism and give remedies that will increase the oxidation of glucose thrown into the blood from the liver. Of such he mentions arsenic, which he thinks is useful at least in the mild cases. The dose should not exceed 3 drops three times a day, of Fowler's solution, or 1/30 grain as often of arsenious acid. Other remedies mentioned are iron, massage and exercise. The close connection between this disorder of metabolism and the nervous system

is also mentioned, and he suggests that the effects of opium derivatives and coal-tar products may be due to their influence on the nervous mechanism of metabolism of glucose in the dorsal capillaries. Pancreatic diabetes, he thinks, is also a condition which can be reconciled with this theory. There is a possibility that the pancreas gives out a secretion under normal conditions, the presence of which is necessary for the proper metabolism of glucose.

13. Food Adulteration.—Several criticisms are made by Löffmann, of the common statements in regard to food adulteration, especially some that have been recently given out in a prominent newspaper. He thinks that Congress would never have taken the trouble to look after some of these adulterations if it had not been necessitated for war tax purposes. Among the criticisms he makes are those on the statement that glucose is a harmless food. He asks what we know about the commercial glucose. There is certainly 15 per cent. of unfermentable material which is very little understood either chemically or physiologically. The recent experience of England with invert-sugar in the manufacture of beer is noted as illustrating the point and showing that glucose is not necessarily a wholesome product. Butter substitutes are also mentioned, and he thinks that the benefit derived from these do not reach the poor man as he gets oleomargarin at about the same prices as the pure article. In regard to baking-powders, he says there is no satisfactory proof brought forward to show why alum is any more injurious than cream of tartar. The probability is that both are injurious. The legislation in regard to butter coloring has also its surprising features. Experiments have been made to show that colorings are injurious, but the tests are of no special value. To give a person in one dose as much coloring matter as would be sufficient to color all the butter he eats in six months is about as scientific as would be the same experiment with tea, coffee or pepper. It is worth noting, he also remarks, that farmers' influence in many states has managed to secure the prohibition of coloring oleomargarin while not interfering with butter coloring.

15.—See abstract in THE JOURNAL of March 23, p. 835.

18. Conservative Operations on the Ovaries and Tubes.—Burrage's experience covers 156 cases, 100 of which have been under observation for at least one year after operation: 3 patients died from the operation, which were accountable for by special conditions. The greatest interest is in the late results of the preservation of ovaries and tubal tissue. In a few instances, while he has left the ovary or part of an ovary in cases of hysterectomy, the symptoms of an artificially induced menopause seem to be lessened. In about 73 per cent. of his cases there was symptomatic cure. The anatomical cure, that is ovaries and tubes normal and well placed, was noted in 44 out of 69 cases, or 64 per cent. Some enlargement or prolapse of ovaries was found in the remaining 25 cases. Pregnancy followed operation in 19 cases, in none, however, after resection of a closed tube, the tubes being closed at the time of operation. As bearing on the question of resected ovary becoming diseased at some future time, he refers to a former article in which out of 85 cases in only one was another operation necessary. Four cases are reported. In one pregnancy occurred twice after removal of both tubes and one ovary for tubal mole, chronic salpingitis, and cyst of the ovary. We have to assume in this case that an opening became established on one side or the other between the catgut stitches so that the uterine cavity was connected with the peritoneal cavity, where the remaining ovary was located, and without intervention of the tubes.

19. Tropaeocain Hydrochlorate.—Meyer reports his experience with this drug, which he finds is less than one-half as toxic as cocaine, in producing spinal analgesia. It has a less distressing action on the heart and recovery from its effects is much more rapid. It has also a further advantage of being far more stable in solution than cocaine hydrochlorate. He will hereafter, he says, have the solution made as follows:

R.	Tropaeocain hydrochlorate	gr. ¼	1015
	Sodium chlorid	gr. i	06
	Distilled water	grs. clx	10

Each ten minims of this solution contains 1 centigram (1/6 gr. of the salt); fifty minims, therefore, contain 0.05, the generally required dose. He is so satisfied with the results that he shall continue to use spinal anesthesia in urinary surgery and in fact wherever the indication is present.

20. Asthenopia from Nasal Disease.—Hoople reports cases of ablation of the middle turbinal for ocular anomalies, asthenopia and muscle defects, and he thinks a larger proportion of such cases are due to nasal disturbances than has generally been supposed.

21. Acute Traumatic Malignancy.—In an earlier article Coley had called attention to the fact that in many cases with sarcoma there was a history of antecedent injury, and had endeavored to show the important etiologic relationship between it and the disease. Further study has confirmed his decision and he deduces the following main conclusions: 1. Trauma is a very important factor in the causation of malignant tumors. 2. This relationship between injury and malignant tumors furnishes additional and by no means unimportant evidence in support of the infectious origin of such tumors. The paper reports a number of cases.

24. Enteroptosis.—After defining the disease, Einhorn discusses its etiology. The corset and the weakened condition of the abdominal wall appear to be the most important primary factors. Although in many cases this last condition is congenital, there are some in which this is not the case; enteroptosis may develop, for instance, after sudden or great loss of flesh and after abrupt changes in the volume of the abdominal cavity. Movable kidney is usually present and may be taken as an index of the occurrence of the condition. Einhorn corroborates Glenard's statements as to the frequency of enteroptosis. Of 1912 cases of gastric diseases during the year 1900, 347 were of abdominal ptosis, 70 in men, 277 in women; 240 of these were cases of enteroptosis, 20 in men, and 220 in women, and 212 of the 240 were accompanied by movable kidney. The symptoms are reviewed and discussed. He considers the splashing sound the easiest and best method of determining gastric ptosis; owing to the area over which it can be produced, it will indicate the position of the organ. He mentions, among other things, Glenard's belt test: The physician, standing behind the patient, encircles the lower part of the abdomen of the latter with both of his hands, supporting and partially lifting it. If this gives relief it speaks in favor of the presence of enteroptosis. Treatment in most cases consists in the employment of a well fitting abdominal support, together with ample nutrition and exercise. Massage is of value only in mild cases or in very anemic patients, not in the advanced stage of the condition. Intra-gastric application of electricity is useful in functional disturbances of the stomach. Among the drugs, iron and arsenic are often indicated in anemic conditions, while the bromids may be given to allay great nervousness. The digestive disturbances and constipation must be looked after.

26. X-Ray Photography.—Corson gives his experience with this method. He finds that a spark alone is no index of x-ray efficiency. In the coil manufacture, after a certain length of spark has been obtained every effort should be toward increasing the amperage to the limits of the tubes; a ten or twelve inch spark is quite enough if a fat or multiplied one. He does not have much faith in the static machine, because it gives a thin spark, all tension, no quantity. The effects are very much inferior to those of a good coil. A change from a coil giving a thin ten-inch spark to a coil giving a very fat and multiplied spark of ten inches produces startling differences in photographic results, giving a negative of brilliant and fine detail. The difference is the amount of current going through the tube. The time of exposure and developing were both shortened. In his work he has endeavored to bring out the bones on a white background, taking out the flesh and superficial details. If there is anything to be left to the imagination let it be the superficial and not the bony parts; it is the bones we are after. He secures absolute immobility by binding the part firmly to the plate and by placing a heavy weight on

the limb to prevent any movement even from the arterial pulsation. This can be done in a way as comfortable as possible to the patient. The article contains also details as to exposure, developers, etc.

29. Pneumonia.—The various methods of the treatment of pneumonia in the past, the etiology, symptoms, and prognosis are discussed by Hope, who points out its increasing fatality in recent times. He advises the use of guaiacol carbonate and creosotal free, and as an auxiliary or substitute treatment, large doses of sodium salicylate and large doses of strychnia especially where exhaustion of cardiac weakness exists. Alcoholic stimulants are often of the greatest importance and in the pneumonia of drunkards, a *sine qua non*. Give as little medicine as will meet the indications so as to avoid gastric trouble. Hot applications are usually better than cold, but wet or dry heat, hot-water packs, sinapisms, or turpentine stupes are all available measures. In some cases tincture of iodine painting of the chest may be done and dry cupping relieves the obstinate pleuritic pains. The nourishment should be bland, digestible and mainly fluid. The patient should be kept at rest in bed until there is resolution of the stomach. Perfect ventilation is necessary. Convalescence should be carefully guarded and tonic medication given as needed.

31. Gonococcus.—Ravogli describes the gonococcus as it is found in pathologic conditions. He thinks that marriage should never be permitted or advised while the gonococcus is present, nor even after it has disappeared, unless we are fully satisfied that there are no more pus corpuscles in the secretion and in the shreds.

34. Carcinoma of the Breast.—Osler describes and discusses causes of mammary carcinoma according to the associated manifestations, cerebrospinal, thoracic and abdominal. Fourteen cases altogether are reported. He points out the importance of looking for carcinoma in cases of painful paraplegia and nerve-root pains. In two of the cases reported, with cerebrospinal symptoms, spontaneous disappearance or improvement of symptoms, and in one of them, of growths took place. Reference is made to other similar cases in the literature.

35. Gastrojejunostomy in Gastrectasis.—Two cases are reported by Cordier, who offers the following conclusions: 1. Carcinoma of the pylorus, even though removed, returns quickly and always kills. Pylorotomy is attended by a high mortality and is not justified in advanced cases. Gastrectasis due to malignant closure of the pylorus is best treated by a gastrojejunostomy. Wolfier's or Von Hacker's methods meet indications best. 2. It is not necessary to twist the bowel in making the anastomosis, to prevent bile entering the stomach. 3. The anastomotic opening in the stomach should be at the most dependent point. The mortality of the operation is low. In all cases with marked gastric dilatation, with pain, emaciation and invalidity, gastrojejunostomy is indicated. The relief of pain due to efforts of the stomach to empty itself is immediate. The patient gains in weight and if the disease is non-malignant he is restored to health. Tabulated statements of results of American and European operators are given.

36.—See abstract in THE JOURNAL of March 23, p. 836.

37. Club-Foot.—The conclusions of Phelps' very fully illustrated article are, in substance: All feet with shortened skin and ligaments, at any age after the fourth month, should be operated on; very prolonged medical treatment for months or years in any case is wrong. While he admits that many cases can be benefited or cured, the best and easiest way is to operate. The operation is not complete until the foot is placed in the supereorrected position flexed upon the leg and the heel prominent so that it strikes the ground, in walking, before the anterior segment of the foot. Then it takes the weight of the body so as to turn itself still further outward and thus prevent relapsing. Club-foot shoes he discards. By manipulation the foot is carried to the proper position and flexed there by plasters or plaster cast. The treatment just begins after the

operation is complete. Osteoclasis should be performed in all cases of inward twist of the tibia, or a relapse may be looked for. Bone operations should never be performed primarily. Open incision should supplement all cases of subcutaneous tenotomy when it fails to correct. Short tendons should be cut, not stretched, for prolonged stretching deforms the entire tarsus. Cure occurs only when the heel strikes first in walking and when new facets are formed on tarsal bones. Pirogoff's operation was required in one-fourth of 1 per cent. of his cases. Open incision should never be made unless the skin resists and will not stretch enough to allow supercorrection and proper unfolding of the foot. The weight of the body falling upon any club-foot shoe or brace nullifies the action of the apparatus. For this reason Adams treated one foot at a time with his apparatus, using crutches till the foot was cured.

39. The Vaginal Operation.—Goffe considers the vaginal operation preferable in uterine cancer, in fibroids not so large as to simulate the fourth or fifth month of pregnancy and in salpingitis and ovarian abscess. He uses the angiotribe exclusively in these cases. It is, he thinks, the ideal route in operating for uterine displacements by opening through the anterior fornix, breaking up adhesions, delivering first the uterus and then the appendages into the vagina, performing such conservative work as is required to preserve the function of the ovaries or ovary, and finally curing the displacement by shortening the round ligaments. He has treated some seventy cases this way and pronounces it the ideal operation, doing all the good that the Alexander operation or abdominal suspension can do, and free from their objections.

45.—See abstract in *THE JOURNAL* of March 16, p. 757.

46.—*Ibid.*

48. Pubescent Insanity.—The points made by Norbury are that hereditary taint in these cases should always be looked for and should include a search for not merely insanity but any other nervous disease or neurotic condition. He calls attention to the special problems which occur during the developmental period in youth, and remarks that in the average cases of insanity of puberty nutrition is at fault and the strain on the system increases in consequence. In most of these cases there is anemia. A study of the blood, estimation of hemoglobinuria and counting of red cells is important, and the nutrition can not be too carefully watched. The diet should be such as is given in neurasthenic cases, and the bowels carefully regulated to prevent autointoxication. Tonics are of more value than sedatives.

49. Alcohol.—Bieser thinks that in certain conditions alcohol is called for, as in diseases of children with persistence of high temperature, rapid irregular dirotic pulse, and marked prostration. He thinks there is hardly any single drug which so well meets the demands of nutrition where tissue makers must be excluded from the dietary. As a saver of nitrogenous waste its effects are of the most benefit. It also reduces fever and keeps the vital function of animal heat production at its proper place, thus aiding Nature, especially the infectious diseases where it is due to diminished elimination of heat rather than to increased production. It also correlates energy by keeping the pulse and respiration ratio normal and assisting the vital functions. In diphtheria, especially in septic nasopharyngeal cases, he thinks it is especially valuable in conjunction with iron and mercury, sepsis and bronchial pneumonia being the diseases which more than any others give evidence of symptoms which demand not merely an alcoholic stimulant but an alcoholic support.

50. Rheumatism in Children.—Rheumatism, according to Simpson, is an infectious disease. He has never seen a case in children that did not begin with an attack of indigestion. Heredity, he finds, is one of the most certain predisposing causes. In children the salicylates have to be used sparingly on account of the depression they produce. He is a great believer in the alkaline treatment following the use of the salicylates. It assists in controlling pain and fever, and never affects the stomach. Rest in bed is the only safeguard against endocarditis. When this has occurred he thinks opium useful in small doses. For the extreme emaciation

often present he thinks peptomangan one of the best tonics and advises being in the open air as much as possible.

51.—See abstract in *THE JOURNAL*, XXXV, p. 1171.

52.—*Ibid.*, p. 1104.

53.—*Ibid.*

62. Prostatic Secretions.—Walker has experimented to find the relation which the prostatic gland secretion bears to the fecundative power of the spermatie fluid. He operated on rats, in which the gland can be easily removed without causing other damage, in several series, in some of which the anterior lobes alone were excised and effects noted, and in others the whole glands. In the first series of seven pairs the anterior lobes were excised, 2 bred normally, 2 had small litters, and 2 were negative. In the second series of 15 pairs, where the anterior lobes were removed, 9 bred normally, 5 proved negative, and 1 escaped. In the third series of 3 pairs, after removal of the anterior lobes, 4 out of five bred normally and 1 was negative; after the second operation, where complete removal was done, 1 bred normally, and 4 were negative. In the fourth series, with complete removal of the glands, 8 out of 11 pairs were negative and 3 had small litters. In the fifth series, in which the prostatic gland was removed in early life, it did not have any subsequent effect on the development of the testes. From experiments he deduces the following conclusions: 1. That a removal of the anterior lobes of the prostate gland in rats has no effect on breeding; but in a certain number it diminishes the fecundating power; and in a few it is destroyed entirely. 2. Complete excision has a very marked effect on fecundity, reducing it to almost nil when the gland is entirely removed. 3. Partial or complete removal of the prostate has no effect upon sexual desire and capacity. 4. Complete removal of the gland in the adult animal has no effect on the histological structure of the testicles. Complete removal of the prostate in the young animal has no effect upon the subsequent development of the testes.

75. Uterine Fibroids.—Jones advises early removal of fibroids and insists on their pathologic importance, even when small. Early operations are in most cases desirable; delay only increases the trouble and suffering.

76. Diphtheria.—Taylor insists on giving the benefit of the doubt to diphtheria where it can possibly be suspected, and the necessity of bacteriologic examination in every case. In dubious cases he always isolates for the protection of others, and only when the membrane brushes off and other and bacteriologic symptoms of diphtheria are absent does he diagnose follicular tonsillitis. A thin, serous, acrid nasal discharge which excoriates the lips, and frequent epistaxis accompanying constitutional symptoms indicate diphtheria, usually of a grave nature. He admits the existence of non-diphtheritic membranous laryngitis which may at times render the diagnosis difficult, but in any case give the benefit of the doubt in all cases of inflammation with pseudo-membrane in the larynx to diphtheria. The severity of post-diphtheritic paralysis appears to be altogether out of relation to the original condition. The paper concludes with elaborate instructions for anti-septic methods of treatment, etc.

77.—See abstract in *THE JOURNAL* of March 3, p. 593.

80. Tonsillar Rheumatism.—The close relation between certain forms of tonsillitis and acute rheumatism is well recognized, and Cobb considers it due to migration to the joints, synovial cavities, and endocardium by micro-organisms from the tonsils. He reports a case in which there was a latent or concealed tonsillar abscess which he thinks is not an at all rare condition, and often it assumes the form of a mild general sepsis or enlarged cervical glands.

81.—See abstract in *THE JOURNAL* of March 2, p. 592.

89. The Toxemias of Pregnancy.—The case reported, in the author's opinion shows that these toxemias may occur without diminution either in the amount of urine or urea, and that the ordinary examination of the urine, except for the presence of albumin which indicates of itself nothing imme-

diate or serious, does not disclose in all cases the existence or approach of a very serious malady which may terminate life.

102. Pus in the Peritoneal Cavity.—The method of treating suppurative diseases in the abdomen is discussed by Morris, who remarks on gauze packing, which he thinks poisons the patient, and the closing up of the incision. He says that after long-continued operations with large incision, free handling of the bowel and large drainage apparatus, patients are commonly very much depressed and some depression exists for several days. When the abdomen is closed completely he finds altogether another condition. The peritoneum takes care of all but the large collections of pus, and he has confined himself to disposing of these, leaving the rest for the so-called phagocytes, and closing the incision completely in most cases. In a small proportion of cases drainage may be necessary, but in most it is employed because the surgeon assumes a responsibility that really belongs to the leukocytes and for which they are well equipped, if the surgeon does not interfere.

103. Gonorrhea in Women.—The importance of gonorrhea as a cause of female disease forms the principal motive of Johnson's article.

104. Organotherapy in Gynecology.—The different organic extracts that have been employed in gynecology are reviewed by Krusen who summarizes the literature of the subject. He says, notwithstanding many brilliant results referred to, experience leads him to the following conclusions as regards the ovarian extract: 1. The employment of ovarian extract is practically harmless, as no untoward effects beyond slight nausea have been noted even when full doses have been administered. 2. In the treatment of amenorrhea and dysmenorrhea no good results were secured. (Although in some cases of amenorrhea of obesity, remarkable results have been obtained by the use of the thyroid extract.) 3. The best results were seen in the second class of cases, for the relief of symptoms of artificial menopause, when in a few instances the congestive and nervous symptoms were apparently ameliorated. 4. No appreciable result was noticed in the use of ovarin in the natural menopause. 5. No definite or exact reliance can be placed on the drug, as it often proves absolutely valueless where most positively indicated. 6. It is extremely problematic whether, in those cases in which relief was noted, the effect was not due to mental suggestion rather than to any physiologic action of the drug. The neurotic individual demanding this treatment will often be relieved by any simple remedy. 7. In those instances in which effects were noted, increase in dosage seemed to have little influence in maintaining the effect or preventing the patient from becoming accustomed to its use. 8. In conclusion, the theory which suggests the use of this extract seems to be at fault, and the administration of ovarin, or ovarian extract, is based upon a wrong assumption as to the function of the ovary. In organotherapy, the best results have been obtained from the use of the thyroid and adrenal glands, and the ovary in function is in no sense analogous to these organs. Its principal function is ovulation, and if any peculiar product is coincidentally manufactured the isolation of this product has not yet been accomplished.

106. Uterine Carcinoma.—The radical treatment of carcinoma is here alone considered. Montgomery discusses the methods of hysterectomy and calls attention to the following special points: 1. An operation to afford hope of escape from relapse should be early. 2. The vaginal operation should have the preference wherever the conditions will permit of its performance. 3. Every precaution should be exercised to operate in healthy tissue and avoid the possibility of reimplantation. 4. The prognosis is much less favorable in women under 35, quite favorable in women over 50, if an operation is done early.

116. Laryngeal Papillomata.—The frequency of symptoms, classification, etc., of laryngeal papilloma are discussed in detail. It seems to be more frequent in males, and one of the most important factors in its causation is the so called warty diathesis. Vocal strain has been considered a cause and syphilis is mentioned, also scrofula, tuberculosis, etc. The method

of examination is given. The symptoms largely depend on the site occupied. The prognosis is usually good, although the point of attachment must be regarded. Every laryngeal growth should be removed if possible by the natural route. Some conservatism is still somewhat advocated and inhalation of formalin, alcohol and so on have been reported as giving good results. Fowler's solution seems to act well in some cases. The galvanocautery is neither scientific nor surgical, according to Quinlan, and its use should be limited. Major surgery of the part has its perils and may cause serious impairment of speech, but conditions may be promoted which may in every sense be palliative and at the same time insure radical means when the conditions are imperative. In conclusion, he mentions the possibility of change from benign to malignant growths and reports cases.

117. Nasal Suppuration.—In the majority of cases of nasal suppuration the presence of carious bone is the result of suppurative process and not its cause; the inflammation has extended from the superficial to the deeper-lying parts. The diseased bone may exist and there be no polypi. The variations in the anatomy of the parts may be a source of considerable perplexity, which is especially true as regards the frontal sinus. The author accepts Grünwald's theories of ozena as nearer the true solution than anything so far advanced. The focal point of suppuration in some one of the accessory cavities is the cause, and when this local disease is cured the attending symptoms also disappear. He has proved this to his own satisfaction in the cases he has observed. In attempting to relieve or cure the patient it seems best to take up each cavity separately, beginning with the antrum, which until recently has been the objective point of most of the surgical treatment. He thinks it is allowable to make an exploratory puncture through the inferior meatus for the detection of pus if transillumination and other methods fail. He would open both above and below in the canine fossæ and the inferior meatus, curetting granulations and washing out the cavity below. As regards the anterior ethmoidal cells he says these parts may be approached safely with the curette and forceps and unhealthy tissue cleared away. The use of the trephine or drill is not without danger even in expert hands. We may be obliged to remove the middle turbinate and other obstruction. The intimate associations with the frontal sinus often compel free exposure and breaking down intervening obstacles to secure good drainage through the whole extent. In the posterior ethmoidal cells and sphenoidal sinus more caution is to be observed. These may be opened by a strong curette and subsequent treatment by washing pursued. Considerable difficulty may be met with in advance upon the sphenoidal sinus, though patient probing will solve the problem. Careful scraping of the anterior wall and floor often produces decidedly beneficial results and Leonard quotes Myles who says he does not consider it safe to curette the upper and external walls of these sinuses.

119. Adenoids.—Gradle describes the method and a special instrument, a modification of Schuetz's adenotome, contrived by himself, which presses upward and backward and takes away the entire growth in one piece. He believes that this gives much more satisfactory results and can be employed without anesthesia, which he condemns in these methods excepting under unusual conditions.

FOREIGN.

British Medical Journal, April 6.

A Uterus which Contained One Hundred and Twenty Fibroids. J. BLAND SUTTON.—The writer reports the case of a woman, 34 years of age, who suffered from diffuse bleeding due to fibroids. The uterus was removed by laparotomy and the appendages left. It had a peculiar oval shape and he found four sessile fibroids in its cavity, as large as pigeon's eggs. The surface of the uterine wall was very thickly dotted over with small rounded fibroids, 120 altogether. In all that were examined the structure was similar. These could be described as bundles of plain muscle fibers twined around and immediately associated with the walls of the capillaries, giving the suggestion of the muscle coats of the

vessels as the source of growth. These minute fibroids were similar in structure with the large fully-developed growth. Each was globular and, on section, quite white, and was sharply differentiated from uterine tissue by a thin capsule from which it could be enucleated; this capsule was seen to be sharply differentiated in the stained sections when microscopically examined. Although he has examined carefully many hundred of uteri in the last sixteen years, he has never seen one similar to the specimen described, nor has he read an account of one in any way resembling it.

Placenta Previa. R. P. RANKEN LYLE.—The treatment recommended by Lyle, for placenta previa, is as follows: In cases of central or complete placenta previa the placenta is perforated with the fingers, version (if necessary) is performed, and a foot brought down, a tight abdominal binder applied, and the subsequent delivery left to Nature, unless the continuance of hemorrhage should necessitate slight traction on the foot. In cases of incomplete placenta previa, the treatment, with the exception of rupture of the membranes instead of perforation of the placenta, is identical. The advantages of version and bringing down the foot are: 1. It does away with the tampon and consequent danger of infection. 2. It allows early operation. 3. It arrests the hemorrhage with great certainty. 4. It gives time for the patient to rally. 5. It gives time for labor pains to set in and consequent natural dilatation of the cervix. 6. There is less danger of post-partum hemorrhage. In cases of placenta previa where the os is not sufficiently dilated to admit two fingers these should be converted into cases of the first or second class as described, and the vagina tightly plugged with boiled cotton wool and a tight abdominal binder applied until labor has advanced sufficiently to dilate the cervix and then to treat accordingly. No time should be lost in the treatment as soon as the diagnosis is made, as at any time severe and sudden hemorrhage may occur.

Diseases and Disorders of the Heart and Arteries in Middle and Advanced Life. J. MITCHELL BRUCE.—The third lecture on disorders and diseases of the heart and arteries takes up the subject of prognosis and treatment. It is always well to inquire after any family history of gout, rheumatism, or heart disease, and all the acute diseases should be looked after as well as the habits as to alcohol, tobacco, etc. The characters of the precordial impulse especially the seat of the apex beat and its strength are to be closely investigated. Weakness or absence of the impulse must never be disregarded. The precordial dulness must be mapped out and auscultation be employed to estimate the murmur, etc. The principal signs and symptoms are reviewed by the author. In the first place the mitral presystolic murmur is never significant of senile lesion. The arterial diastolic murmur, whether alone or combined with systolic murmur, shows that we have something more than atheroma, cardiovascular disease, or nervous disturbance and alcoholism and tobacco heart, even if one or more of these is present. Arterial incompetence developing in later life is the result of syphilis or acute and chronic valvular strain, though many instances met with after the age of 40 can be traced to juvenile endocarditis of rheumatic or other origin. While always serious it is especially so when due to syphilis or syphilis and strain. Fully developed basic systolic murmur, audible over the arterial area and manubrium and along the carotid, is a very common sign of atheroma of the aortic arch and valves and great vessels and also of syphilitic and traumatic affections of these organs, and should raise the suspicion of some degeneration in the coronary arteries and myocardial degeneration. An ill-developed basic systolic murmur is not uncommon in alcoholism, Bright's disease and nervous disorders, but it is difficult to disassociate it from anemia. The full-developed and audible systolic murmur in the mitral area, independently of leakage in cardiac failure, is usually traceable to rheumatic endocarditis, rarely to injury. Sometimes it may be due to valvular atheroma and attending sclerosis caused by gout, etc., and we must not overlook in these cases the possible association of coronary disease and fatty degeneration. If systolic mitral murmur is somewhat indefinitely affected by compensation and disappears under treatment, it is of no

special value other than signifying relaxation and weakness and of disorderly action of the left ventricle consequent on any of the recognized causes of failure or disorder of the heart, including cardiac poisoning, acute disease, etc., and this, whether in a heart previously sound, or enlarged, or the seat of valvular disease. Accentuated ringing second sound in the aortic area or more extensively is of great value in the diagnosis of arterial tension and aortic atheroma, or both, but has too many other associations to be of much use in differential diagnosis. It should suggest careful research for Bright's disease. Slight reduplication of the first sound is common over a senile heart, strained in youth, and hearts degenerated by alcoholism, etc., but it is not unusual in other conditions. On the other hand, galloping rhythm, definite doubling of the first sound, followed by slight accentuated ringing of the second sound, is practically pathognomonic of Bright's disease and one of the most valuable and ominous of physical signs. A normal-sized heart with irregular increased frequency and a variable systolic murmur in the mitral area is characteristic of tobacco poisoning. A heart enlarged on both sides and acting irregularly without murmur is, apart from cardiac failure, suggestive of strain in early life. The cardiac symptoms taken individually are of less value than the physical signs. No one symptom is pathognomonic. Palpitation is a nearly universal phenomenon of cardiac disease; faintness and fainting are not uncommon in cardiac strain, gouty heart and nervous disturbances; angina is met with in gout, tobacco heart, strain, especially after 40, syphilis, and alcohol, while pseudo-angina is extremely common in nervous women. The high tension pulse is most often met with in juvenile strain and nervous cardiac affections, while low tension pulse is connected with alcoholism and tobacco poisoning and senile strain. The prognosis of the different etiologic forms of heart trouble is noticed. In tobacco heart the prognosis is generally good. With alcoholism, however, the condition is much less favorable. If the disease be of recent development, and the condition uncomplicated and the treatment carried out faithfully, recovery may occur, but such cases are rare. Chronic Bright's disease, acute cirrhosis, etc., are common causes of death. Occasionally the end comes suddenly from fatty degeneration. The prognosis of gouty heart is rather difficult. Improvement under treatment may occur, but the condition of arrest can not go on indefinitely. In addition to the danger from Bright's disease, cerebral thrombosis, hemorrhage, bronchitis, and sudden failure of the heart from coronary degeneration are to be feared. Sudden death may occur in old gouty patients, not from the lesions of which a basic or systolic murmur is the evidence, but from associated coronary atheroma which probably was never suspected. In syphilitic lesions the prognosis is still more unfavorable. The condition of the heart from muscle strain is not, however, so serious. It is continuously liable to embarrassment during exertion, but old people often recover from conditions of distress from over-exertion. Cardiovascular disorder and disease from nervous strain pure and simple is amenable to treatment by complete and prolonged rest in the majority of cases, though death may sometimes occur. In any case of the presence of murmur in advanced life, together with cardiovascular degeneration, we must not forget the possibility of intercurrent acute diseases, such as pneumonia, the prognosis of which is seriously modified by these conditions. In treatment one of the principal things is to correct the habits of the patient, discourage habitual drinking, and heart disease is an admirable argument to employ with some people for this purpose. Reference is also made to the prevention of cardiac strain. As regards the atheromatous process which depends upon toxemia and anemia, the obvious indication is to purify and enrich the blood and, besides personal hygiene, Bruce suggests arsenic and moderate doses of iodids combined with an excess of alkalis. The establishment and maintenance of compensation is, however, the great indication for treatment. Nutrition and activity of the myocardium are to be increased and sustained by specific cardiac stimulants and tonics of which strychnin, ammonia, and the digitalis group of drugs, with the blood remedies, are mentioned, also control of the nervous system and the employment of non-medicinal measures, such as active and passive

exercise and baths. He remarks that in many cases where the symptoms are alarming to the patient, such as depression, pain, small, irregular pulse, etc., there may be no failure of the myocardium, but only temporary embarrassment. The condition, however, is not to be neglected, but rest in bed, a carminative draught, calomel and saline purgatives, a digestible diet, and a little time are all the treatment required. When true failure occurs a different set of measures are demanded. The three great therapeutic indications are to reduce the peripheral resistance, increase the vigor of ventricular contraction, and rehabilitate hypertrophy, and remove arrears of work in the form of residual blood in the cardiac chambers, mechanical congestion of the veins and viscera and dropsy of the integuments and serous sacs. Bodily rest, a light solid diet, definite allowance of alcohol, if required, active purgation and sufficiently large doses of digitalis together with saline and other diuretics are the means calculated to obtain the best results. We must not be afraid to purge the patient, if necessary every morning. When the appetite flags or flatulence occurs a blue pill or a dose of calomel should be given and light solid foods instead of slops. Nocturnal restlessness and sleeplessness are to be met unhesitatingly, with permission to spend the night in an easy chair by the bedside; according to the author's experience, acupuncture and drainage succeed perfectly in these senile cases, as much as ten pints or more of serum escaping in the course of twenty-four hours, to the complete and often lasting relief of the circulation.

The New Type of Scarlet Fever from a Public Health Point of View. WM. ROBERTSON.—An epidemic of scarlet fever at Paisley has been traced by Robertson to the playgrounds, which have been taken advantage of by the children, and the swings and simple gymnastic appliances are credited by him with disseminating the disorder. While there is nothing better, if open-air spaces were more common their frequency would prevent very large collections of children, which has a direct effect in spreading contagious diseases.

The Lancet, April 6.

Existence of Immunity after Enteric Fever. BURTON A. NICOL.—Nicol attacks the idea that enteric fever produces immunity, and gives cases which bear out his opinion. He does not deny it, but holds that it is more doubtful than that produced by febrile disorders, such as smallpox, scarlet fever, etc. His experience in South Africa has led him to these conclusions.

Pathology and Treatment of Rheumatoid Arthritis. P. W. LATHAM.—Latham argues for the nervous origin of rheumatoid arthritis, and he finds no evidence in the post-mortem records that the spinal cord or ganglia have been thoroughly examined so as to justify the statement that these parts are healthy and free from organic change. He points to the neurotic character of the antecedents and accompaniments of arthritic trouble, the neurotic pain, weariness, numbness and tingling, and the migraine which Trousseau and Remak say often precedes the disorder, and the worry, anxiety and shock which are well-known antecedents. The atrophy of the muscles often develops more quickly than could be attributed to mere disuse. He quotes cases to show that injuries to the spine and brain, or any lesion of the nerves, are capable of developing similar symptoms. From all the data it is not unreasonable to assume that rheumatoid arthritis is due to spinal congestion or chronic myelitis chiefly affecting the ganglion cells of the anterior horns, but extending also, when the disease is associated with "glossy skin," to the ganglion cells in the posterior horns of the cord. Two cases are reported in full, and he suggests, in accordance with these views, that a continuous counter-irritation, employed in these cases, is a useful therapeutic measure.

Bulletin de l'Academie de Medecine (Paris), March 26.

Physiologic Aspect of Spinal Cocainization. J. V. LABORDE.—Several years ago Laborde published a monograph reporting extensive experimental research in regard to the toxic and physiologic action of cocain and its salts. He found one of the first effects to be a neuromuscular or motor hyperstimula-

tion, keeping the animals tested in incessant, irresistible and uncontrollable motion—which explains the trembling and convulsive phenomena sometimes noted in man after its use. The analgesia following the administration of the cocain is localized at first, but spreads with the intravascular absorption, and induces marked vasoconstriction in addition to its specific action on the nervous elements by direct contact. This vasoconstriction is succeeded by vasodilation. The cardiorespiratory function becomes profoundly altered, passing from acceleration and irregularity to asphyxia complicated by convulsions in the fatal intoxications. These phenomena indicate that the cocain acts principally on the bulbar centers and that variations in the blood pressure co-operate in the functional disturbances. Other constant symptoms were vomiting and phenomena which could be explained only by assuming the existence of headache, from the extension of the action of the cocain to the cerebral centers. Injected under the arachnoid, the cocain moves with the cerebrospinal fluid at every movement of the patient, and finds its way to the medulla oblongata and even to the encephalon. This is demonstrated by the functional disturbances which result from its action on the medulla and brain, the vomiting, headache, tremor, cardiorespiratory syncope, etc., similar to the sequence observed in the experimental research. They render possible the gravest accidents and may terminate in death. Laborde concluded by protesting against Tuffier's assertion that heart disease and arteriosclerosis do not contraindicate spinal cocainization. The hypodermic method of cocainization which Reclus has used with success on 7000 patients without a single serious complication, and of which spinal cocainization is merely an offshoot, might be extended to the intramuscular or even the intra-abdominal injection of cocain, which would enlarge the field for operations, while avoiding the perils of the intraspinal route.

Echo Medical du Nord (Lille), March 31.

The Exclusive Milk Diet. SURMONT.—French physicians have unbounded confidence in the "absolute lacteal régime" and prescribe it in all cases in which the patient requires an easily digested food, substantial and yet not burdening nor irritating the alimentary canal; also in cases in which the intestinal fermentation must be reduced in order to diminish to the minimum this important source of organic autointoxication, and also when it is necessary to promote the urinary excretions and the elimination of toxins. Surmont states that the amount of milk should be about four liters a day for an adult, in conditions of repose or doing light work. The milk should be boiled, unless it is known to come from a cow which has passed the tuberculin test and is kept in disinfected quarters. It should be taken quite warm, at intervals of two hours, and sipped slowly, during ten or fifteen minutes. In case of marked gastric excitement, with a tendency to vomiting, the milk should be cold. An important precaution is to keep the mouth scrupulously disinfected. After each one of the eight meals of milk, the toilet of the mouth should be made with some alkaline solution such as sodium borate, to cleanse the mouth of all traces of the milk, which otherwise ferment and impair the appetite, while the noxious products are ingested with the next meal. The taste of the milk can be disguised with tea, coffee, chocolate, peppermint, chamomile, sage, sugar, salt or seltzer water, or it can be rendered effervescent, or be flavored with vanilla, orange-flower water, brandy, rum or other liquor when they are not contraindicated. By varying these flavors the patient can finally be induced to take the milk without addition. In certain cases of dyspepsia with abnormal fermentation, there is absolute intolerance for the milk at first, and the cream and upper part of the milk should be rejected and the balance mixed with 25 to 50 per cent. of an alkaline mineral water. In such cases Surmont begins with an energetic purge followed by plenty of water but no food for twenty-four hours, commencing then cautiously with the milk as above. The constipation that sometimes accompanies the milk diet can be combatted by a rectal injection of cold water once or, better still, twice a day, supplemented by a tablespoonful of linseed three times a day or other appropriate measures. Kefir sometimes substitutes milk to advantage or leads up to it.

La Gynecologie (Paris), January-February.

Non-Infectious Congestion and Sclerosis of Uterus. L. G. RICHELLOT.—In the gouty or neuro-arthritis diathesis the connective tissue is the tissue of least resistance, and this tendency induces sclerosis in all the organs. The ovaries and uterus suffer with the others from this trophic lesion. The process is first a primary congestion followed by sclerosis and the final transformation of the uterus into a very large fibrous organ without fibromata. The process is not infection, and yet it is usually diagnosed and treated as metritis, the only effect being to aggravate the symptoms. The first stage is what has been erroneously called "virginal metritis," but in reality there is no infection nor inflammation, but always a history of delayed, difficult and irregular menstruation, with more or less backache, neuralgia, migraine, eczema, pains in the joints and a catarrhal discharge, apparently to compensate the inadequate flow of blood. In the next phase of the process the pains are more constant, the menses recur with abnormal frequency, and the losses of blood may entail anemia. But it is absurd to attribute the trouble to anemia and treat it accordingly, as iron and tonics merely exaggerate the evil. The pains are at times to be relieved only by reclining. The exacerbations of the congestion usually coincide with the menses, but frequently appear during the intervals, and are sometimes periodical, with or without a discharge of blood or mucus. This pseudo-menstruation betrays the influence of the nervous system. There is usually constipation, cystalgia and rectalgia. In the confirmed stage of this pseudo-metritis the uterus and its cavity are enlarged, the walls thick, but the mucosa is smooth, with no mucus. Curetting is worse than useless, except when the uterus contains fungous growths or mucous polypi. The process may have long periods of latency, but there is usually an exacerbation at about 40 years of age, in which the loss of blood and severe pains justify the most radical measures. At any stage of the process an infectious metritis may be superposed and its treatment is of course indicated, but the neuro-arthritis soil should never be forgotten. The latter is responsible for the relaxation of the fibrous tissue which may induce displacements of the uterus or prolapse, intestinal hernia, sinking of the kidney or other ptoses. It is also a favorable soil for the development of carcinoma in the sclerous uterus. The treatment in the first stage of this primary congestion is rest in bed. The young girl should stay in bed from the first day of the menses until twenty-four hours after the last trace of blood has disappeared from the discharge. In the intermenstrual periods violent exercise, bicycling, horse-back riding and the abuse of dancing should be forbidden. Hydrastis, viburnum and piscidia erythrina are useful adjuvants, but are not equal to quinin sulphate, in the dose of 1 to 1.5 gm. Ergot has little value outside of the puerperium. In case of young married women, rest in bed is equally imperative, but it should be supplemented by vaginal injections of boiled water at 50 C., twice a day, taken in bed; five to ten liters, injected slowly, will arrest the congestion, hemorrhage and pain. Enemata with laudanum or antipyrin are also useful. The constipation should be relieved. Glycerin tampons applied to the cervix induce a serous secretion and relieve the congestion of the tissues. Massage is an illusion and is actually injurious in genuine metritis, but is extremely beneficial in these cases of congestion and pseudo-metritis. When done with skill and tact it proves a most beneficent measure in many cases. If hemorrhagic sclerosis requires cauterization, injections of zinc chlorid rank first. Hydrotherapy and water cures are beneficial with hot springs for cases with much pain. The seashore aggravates the tendency to congestion. Patients unable to leave home should take alkaline baths and dry frictions, and avoid tonics, especially iron, which ruins the stomach, favors constipation and overstimulates the nerves. In extreme sclerosis the dilatation of the cervix with laminaria tents will often prove effective, and in some cases will arrest serious hemorrhages. Supravaginal amputation may be required in certain cases and even vaginal hysterectomy, and it is better, Richelot thinks, to apply it at an early stage rather than to perform a series of less extensive operations.

Nouv. Iconographie de la Salpetriere (Paris), February.

Echinococcus Cysts in the Brain.—There are three separate illustrated articles on this subject. One case, reported from Gilles de la Tourette's service, was a man of 69, a day laborer, brought to the hospital in coma, his face congested, respiration stertorous, no hemiplegia, temperature 39.5 C. Death occurred in a few hours. He had occasionally had similar attacks, sometimes with convulsions, but had always apparently recovered in a few days; the attacks had always been attributed to drink. A hydatid cyst the size of an egg was found entirely included in the right hemisphere, which appeared normal in color and consistency. Auvray has collected 7 patients cured or improved in 16 similar cases operated on. In another, a girl of 17, who worked in the fields, suffered from headache and somnolence and at the autopsy nearly four hundred cysticerci of the *tenia solium* were found scattered through the encephalon, all in the gray matter. The patient had a history of a severe, almost fatal illness a year before, followed by comparative health. This illness may have coincided with the invasion of the centers by the parasite. No *tenia* was found in the intestines, but quantities of ascarides. The principal features of the third case, reported by Serieux, were cortical deafness, absence of paraphasia in spontaneous speech, paralexia, loss of comprehension of words read, impossibility to write, hallucinations in hearing and seeing, and epileptiform attacks. The patient was a man of 75, a forester. The autopsy showed a number of hydatid cysts disseminated superficially and with a certain symmetry in the temporal lobes, the Rolandic region and frontal lobes, all small. A fourth of the parasites were dead. The brain was the only organ affected by the echinococci.

Presse Medicale (Paris), March 30.

The Blastomycetes in Human Pathology and Serum Treatment. G. WLAEFF.—The virulence of blastomycetes can be enhanced by passage through animals the same as in the case of bacteria. They then appear under variable aspects, changing their size materially under the influence of certain media. They may induce in the animals septicaemia, abscess, pneumonia, nephritis, pyelitis, cysts, carcinoma—in short, all the various pathologic processes from which they have been derived and isolated in man. With these blastomycetes Wlaeff found that it was possible to immunize birds and mammals and to obtain a serum possessing a specific action on malignant tumors in man. Numbers of writers have published instances demonstrating the large share of the blastomycetes in human pathology. Wlaeff conducted experiments on 510 animals with cultures of blastomycetes obtained from the Paris Pasteur Institute and the institute at Prague, and a culture isolated by Plimmer from a carcinoma of the mamma. He treated 40 cases of malignant neoplasm with the serum thus derived—his anti-cellular serum, as he calls it—from geese and asses immunized in the course of a year with pathogenic blastomycetes. There was an appreciable reaction, both local and general, to the injections of the serum in nearly every case. The intensity of the reaction and, in fact, the different clinical pictures induced by the blastomycetes, depend on the condition of the organs in each individual. Experimental research corroborates clinical experience that with virulent blastomycetes it is possible to induce all kinds of pathologic processes by modifying their virulence and by modifying at the same time the conditions of resistance of the subject or of various organs. The supposed coccidia observed by certain scientists are probably blastomycetes—this identity seems probable on comparison of the numerical counts appended.

Congenital Alcoholism. NICLOUX.—This report of extensive personal research states that 10 per cent. of the alcohol ingested in the form of alcohol passes into the blood. Intoxication follows when 1 to 2 c.c. are ingested per kilogram, increasing to profound intoxication with 4 to 6 per cent., corresponding to 4 to 6 c.c. for each kilogram of weight. The alcohol also passes into the lymph, saliva, bile, urine and cerebrospinal, amniotic and pancreatic fluids and also into the milk. It is found in the latter in about the same proportion as in the blood. The blood of the fetus also contains the same or nearly the same

proportion as that of the mother. If the male organism is under the influence of alcohol, the semen is also impregnated with it, and in the female, the ovary and consequently the ovule.

April 3.

Physiology of Kernig's Sign. A. CHAUFFARD.—In the defective muscle-tone of tabes dorsalis there is no flexion of the knee. In normal conditions the knees are in slight, natural semiflexion, easily reducible. In the exaggerated muscle-tone of meningitis the flexion is exaggerated and not reducible without pain. The last, most pronounced stage of the flexion is the generalized contraction of tetanus. Kernig's sign can therefore be defined as a uni- or multi-regional contraction, affecting the predominating groups of muscles and occurring in the course of assuming a position which normally calls for this predominance, but in meningitis it is pathologically fixed in a painful and irreducible attitude. The sign is always a morbid phenomenon, but it is not necessarily localized exclusively in the knees. It is liable to be noted in the arms and to it is also due the rigidity of the back of the neck and the spine.

Semaine Medicale (Paris), April 3.

Alimentary Levulosuria in Connection with Liver Affections. R. LÉPINE.—Minkowski's experimental research on dogs, after ablation of the pancreas, and the work of others, have demonstrated that levulose is assimilated only when the liver is intact. This explains why it is tolerated only in certain cases of diabetes. A patient recently observed by Lépine, a woman in advanced cachexia, with complete impermeability of the common duct and consequent impairment of liver functions, was able to assimilate 150 grams of glucose without glycosuria, while 80 grams of levulose induced levulosuria. According to von Noorden and Strauss, icterus and other affections of the liver do not afford favorable conditions for the production of alimentary glycosuria. These facts also harmonize with the experimental observation that the tolerance for glucose is diminished very little in frogs that have had the liver removed. Our ideas in regard to alimentary glycosuria are becoming modified. It is no longer universally accepted as an indication of hepatic insufficiency, and the German writers mentioned above even deny it any value in the semeiology of the liver. It is possible that in some of the tests that have been reported, saccharose—a mixture of glucose and levulose—may have been used. In future, pure levulose should be used as a diagnostic measure for hepatic insufficiency.

Centralblatt f. Allgem. Pathologie (Jena), March 5.

Metastasis of Normal Thyroid Gland. H. ODERFELD.—A supposed sarcoma was removed from the forehead of a man 58 years of age. The tumor had developed in the course of three months and had attained the size of an egg. It was in the bone and the histologic structure was identical with that of the normal thyroid gland. No other pathologic manifestations could be discovered. In the only similar case on record, reported by Riedel, the tumor was in the lower jaw. Becker's case of a similar tumor in the supraclavicular fossa was probably an accessory thyroid gland.

Centralblatt f. Bakteriologie u. Infekt. (Jena), February 21.

Length of Life of the Plague Bacillus. N.-K. SCHULTZ.—Some specimens of the plague bacillus sealed in tubes, protected from the sunlight, and kept in a cool place, had lost none of their virulence when the tubes were opened after four years. The preservation of the vitality seems to be favored by the contraction, shriveling and thickening of the protoplasm.

Artificial Immunity to Malaria with Euchinin. A. CELLI.—During the last four years Celli has been interested in nine persons living on the Pontine Marshes who were reputed to have a natural immunity to malaria, as none had ever contracted it. In 1900 one of these persons had a slight attack and another, a man of 34, had severe estivo-autumnal fever. Celli's experience in regard to natural immunity does not confirm that of Koch, as he knows of many regions where the people, either from poverty or prejudice, never take quinin, and yet the children do not acquire immunity in time, but suffer repeatedly from malaria in after years. The maximum

mortality from malaria in Italy is between the ages of 5 and 20. He has been conducting extensive research on the hemolysins and antihemolysins in malarial blood, but it has proved practically useless. He anticipates better results from the use of certain drugs as a prophylactic measure against malaria. Quinin is not practicable for the purpose, he states, as few persons can tolerate the amounts required for effective prophylaxis. With euchinin, however, it is possible to accomplish the purpose without any inconvenience. In his extensive tests of the drug he found the effectual dose for adults to be .5 gram, and for children .25 gram, taken at one dose in the morning. The laborers on the Pontine Marshes, the Maremma and the plain of Catania took the euchinin for one to five months and experienced no gastric disturbances, ear symptoms nor disturbances of any kind from its use. Only 12 out of 116 thus treated, who had never had malaria, contracted it, while 172 of the 271 laborers who did not take it, became affected. Only 1 of 11 railroad employes treated with the euchinin showed any symptoms of malaria.

Centralblatt f. Gynäkologie, March 9.

Spontaneous Hematoma During Pregnancy. W. STOECKEL.—In one of the two cases of spontaneous hematoma in the abdominal wall, which are described, the patient was in the ninth, in the other in the sixth, month of pregnancy. The hematoma developed suddenly while the patient was coughing, and caused violent pain at first. No similar case is recorded in the accessible literature, but the possibility of such an occurrence should not be forgotten in forensic cases.

Deutsche Med. Wochenschrift (Berlin and Leipsic), March 28.

Cholesterin the Vulnerable Substance in Red Corpuscles for Saponin. F. RANSOM.—Saponin will dissolve the corpuscles in dog's blood so that the solution remains perfectly clear and no precipitate is deposited in twenty-four hours. Ransom reports experiments which show that cholesterin is the substance in the corpuscles which is affected by the saponin. Further research showed that cholesterin binds the saponin and will annul the toxicity of the latter. The same substance, therefore, which attracts the saponin to the red corpuscles and thus induces their destruction, when free in the serum, binds and annuls its toxic action. This research is the first successful attempt to isolate from a tissue the vulnerable substance, and demonstrate that the same substance can and does serve as an antitoxin under other circumstances.

Stenosis of the Pylorus in Infants. HUEBNER.—Stenosis of the pylorus may appear so early that it is liable to be diagnosed as congenital. The symptoms are incessant vomiting, almost complete constipation and scanty urinary secretion. Peristaltic waves can be observed in the moderately dilated stomach. Huebner has observed eleven such cases. The infants fall into inanition, but in spite of the threatening symptoms he does not advise operating for this spastic stenosis. When the child was well tended and no hospital infection intervened, all recovered after two months or thereabouts, sometimes longer. The infant is fed as usual, only at longer intervals, and the parents are told that the vomiting and emaciation will probably continue for a long time but will then gradually subside. The little that is retained by the child is digested. He applies warm cataplasms to the stomach several times a day, irrigates the intestines and sometimes supplements these measures with small doses of opium. He has never observed any benefit from lavage of the stomach in these cases.

Operation for Hemorrhage from Gastric Ulcer. STRAUSS.—Examination of six cases of fatal hemorrhage from the stomach showed that in none of them could operative measures have had a chance of success. In case of suspected transformation of an ulcer into a carcinoma, an important differentiating point is the determination of metastatic nodules in Douglas's pouch, palpated through the rectum, or of similar nodules in the thorax by radiography. These measures should never be neglected in dubious cases. An ulcer is seldom cured; it merely enters on a phase of latency in the apparently cured cases. By the abundant use of the fats of milk the tendency to hyperacidity can be combatted. This is especially useful in

cases of motor insufficiency, to substitute the readily fermenting carbohydrates. In a recent case of motor insufficiency with a history of gastric ulcer and hemorrhage at one time, the acute hypersecretion had dried out the tissues and induced such weakness of the heart's action that salt solution was injected to enable the patient to live until the next morning when the operation was planned to relieve the motor insufficiency. But the next morning the entire syndrome of stenosis of the pylorus had vanished. Strauss can explain this phenomenon only by the assumption that the obstruction had been due to some adhesion, cicatricial fibers or kinking, which had become broken or straightened during the ride to the hospital. During the two years that have elapsed since, the patient has returned twice with symptoms of motor insufficiency, cured each time by several weeks of a diet of albumin and fats.

Stain for Elastic Fibers in Sputa. L. MICHAELIS.—Weigert's stain for elastic fibers consists of fuchsin, resorcin and ferric chlorid. Michaelis has found that a number of other stains are equally effective, although the color varies when fuchsin, thionin or cresyl violet RR or safranin or methyl violet is combined with the resorcin. With fuchsin and resorcin for instance, the elastic fibers are stained a dark violet while all other fibers are colorless. The thick, suspicious portion of the sputum is spread evenly between two object glasses and dried in the air. They are then placed in a cylindrical vessel containing the stain, which can be used again and again. After one half-hour the specimen is rinsed with water and treated with 3 per cent. hydrochloric alcohol until the stain has almost entirely disappeared. A drop of cedar oil is then spread over the entire object glass. By this simple technique it is possible to determine the presence of elastic fibers in the sputum in the incipient stages of tuberculosis. In bronchitis there is no element in the sputum which reacts like this to the stain. This technique has given great satisfaction wherever used; it absolutely differentiates the elastic from all other fibers, and has afforded interesting information in regard to the arrangement of the elastic fibers in the lungs in advanced cases of phthisis.

April 4.

Galvanocautic Occlusion of Vessels in Intranasal Operations. ORTMANN.—For several years Ortmann has made a practice of galvanocautic occlusion of the vessels supplying the parts, as a measure preliminary to certain operations on the nose. By this means the operation can be performed without the loss of a drop of blood to obscure the field. It is especially useful in the removal of portions of the inferior turbinate, and of the horizontal margins of the bone or cartilage, and also in case of hemorrhage from the septum.

Acute Yellow Atrophy of the Liver Terminating in Recovery. ALBU.—In 1892 Wirsing was able to collect only 15 cases of acute yellow atrophy of the liver in which there was no history of syphilis and the patients recovered, and only two have been reported since. Albu reports another case free from syphilitic antecedents. The patient was a young man on his wedding trip, previously robust, but three weeks before his marriage symptoms of icterus had appeared after a series of violent emotions. The fever continued for nearly two months, with five apparent crises, when the patient perspired and the temperature dropped. The symptoms presented the classic picture of yellow atrophy of the liver, but the patient gradually recovered, except for slight icterus, in the course of three months, and the icterus also disappeared in another month, with complete return of strength. Examination of the metabolism on the fifth day of the disease showed that the nitrogen in the urea formed 75 per cent. of the total of 8.109 grams of nitrogen in 890 c.c. of urine one day, and the next, 85 per cent. of the total of 6.692 gm. of nitrogen in 980 c.c. of urine.

Jahrbuch f. Kinderheilkunde (Berlin), March 1.

Wandering Kidney in Infancy. W. KNOEPFELMACHER.—Hollenderer has stated that he found a wandering kidney in five out of a hundred children he examined, and each of the five was more than 12 years of age. In this article it is asserted that the kidneys of infants only 2 or 3 months old can be easily palpated through the rectum; at least the lower third or half can be thus palpated. The right kidney is more acces-

sible than the left. The kidney is larger in nurslings in proportion to the length of the trunk, and they extend farther down than in adults. The hilus of the kidney in the adult is on a line with the first to the second lumbar vertebra, but in the newly-born, with the second vertebra. These organs are more movable than in the adult and there is some respiratory mobility. In two cases, one an infant 9 and the other 4 months old, unilateral wandering kidney was noted and the liver and spleen were also abnormally movable. The latter, however, should not be regarded as a sign of congenitally misplaced kidney.

Affections of Spinal Cord in Inherited Syphilis in Nurslings. R. PETERS.—In 11 cases Peters has observed a sudden paralysis appear in infants of 2 to 3 months, indicating a lesion in the spinal cord with the brain intact. The paralysis affected the upper or lower limbs, or both, and was usually accompanied by a characteristic attitude of the hands resembling the position of the flippers of a seal, only more extreme. The forearm was in marked pronation, the back of the hands turned inward and the palms outward, the joint flexed and adducted to the body. He calls this the "Flossenstellung," or flipper position, and observes that it was prominent in 9 of his 11 cases. In 4 there were other manifestations of inherited syphilis and in 5 the parental history was suspicious, but in 2 there was absolutely nothing in either parents or children to suggest syphilis, and yet all recovered almost immediately after the institution of specific treatment. All the symptoms indicated the peripheral nature of the affection, and he suggests, as a plausible assumption, the possibility of a syphilitic arterial affection with disseminated foci of softening and eventual induration, a condition analogous to that described by Charcot, in adults, as *état tigré*. Inunctions of gray ointment were borne well by the children and the cure was complete with ten on an average, although a few required as many as thirty. Calomel and potassium iodid were administered to the mother at the same time. The daily dose of .5 gram of gray ointment for ten days was rubbed into one child in one day by a mistake, but he experienced no ill effects and recovered with unusual rapidity. Improvement was usually marked after three inunctions.

Muenchener Med. Wochenschrift, March 26.

Experimental Production of Cirrhosis of the Liver. MARCKWALD.—Frequent injections of small amounts of antipyrin in frogs, rabbits, etc., induced cirrhosis of the liver as the reaction of the organism to a primary destruction of the liver cells. Injections of large amounts caused acute destruction of the organ. Comparing this action of antipyrin with that of other agents which we know cause cirrhosis of the liver, and comparing the anatomic findings with those observed in the human cirrhotic liver, it seems reasonable to assume that alcohol or any agent capable of causing the destruction of the liver cells, induces cirrhosis of the organ in case of chronic action unless the latter is prevented by some obstacle outside of the liver.

Natural Immunization of Tuberculous Families. A. REIBMAYR.—Bacterial and malarial diseases confer in time more or less immunity which is not restricted to one generation but may be inherited by succeeding generations. This law applies also to chronic affections like tuberculosis, and the genealogic study of tuberculosis is, Reibmayr thinks, the surest way to throw light on obscure problems. He points out the changes in the constitution observed in families who have struggled with tuberculosis for generations, and states that the prophylaxis of the disease should be sought in the maintenance of the fund of immunity derived by inheritance from preceding generations and the increase of this resistance by hygienic and other measures.

April 2.

Childbirth with Deformed Pelvis. W. ALBERT.—The principles of the treatment of childbirth in a narrow pelvis are summarized by Albert as follows: In case of primiparæ with a conjugata vera of 7 to 9.5 cm., a spontaneous birth should be anticipated and promoted; with multiparæ, version should be done, bearing in mind the possibility of a spontaneous

birth. The colpeurynter is especially valuable in this group of cases, and with the bag of waters intact, affords the most favorable conditions for success. If the waters have escaped, the colpeurynter can be introduced inside the uterus and its tube used for traction. As soon as the fingers can reach the fetal mouth, the position of the woman is changed from the dorsal with flexed limbs, to the Walcher position with limbs pendent. One writer claims that the results for the children have proved successful in 20 per cent. more cases than before the introduction of the Walcher position into practice. Multiparæ are treated the same, unless the head refuses to come down after the cervix is fully dilated, in which case version and immediate extraction follow. These principles have been the guide at the Dresden clinics and 81.3 per cent. of the children were dismissed living; only 1 of the 60 patients treated with version and extraction according to these rules died. There was a rupture of the uterus in this fatal case. Chrobak has reported 6 deaths in 133 women treated by version and extraction, with only 48.9 per cent. living children. Braun-Herzfeld reports 2 deaths in 89 patients thus treated, with 70.7 per cent. living children. Leopold and Rosenthal report 2 deaths in 102 cases, with 68.4 living children, and Leopold and Loehmann, 3 deaths in 70 cases, with 64 per cent. living children. The statistics at Dresden are therefore more favorable than any of the others in respect to both mothers and children. The colpeurynter protects or after rupture substitutes the bag of waters.

Manipulative Treatment of Congenital Luxation of the Hip-Joint. C. GHILLINI.—The aim sought is to bring the head of the femur into the spot where the socket ought to be and would be in normal conditions. If the head is pushed up beyond it, the femur is twisted into exaggerated abduction. If it is below the proper point, it is twisted in adduction; if pushed forward, it is twisted inward, and outward if pushed backward. In more than a hundred cases thus treated, many of them bilateral, the results have been very satisfactory. The head of the femur is maintained for six months to a year in contact with the spot where the normal acetabulum should be, and the result is the formation of a new joint. It does not anatomically resemble a normal joint but has the same functions.

Queries and Minor Notes.

SECRETARY OF OREGON BOARD.

DETROIT, MICH., April 9, 1901.

To the Editor:—Please give me the name and address of the Secretary of the State Board of Medical Examiners of Oregon.

R. P.

ANS.—Dr. Byron E. Miller, 401 Dekum Bldg., Portland, Ore.

STATES NOT REQUIRING EXAMINATIONS.

UTICA, N. Y., April 14, 1901.

To the Editor:—Will you kindly inform me what states do not require examination for practicing medicine, simply registering a diploma from a recognized school in good standing. "M. D."

ANS.—This question was answered in THE JOURNAL of April 13, p. 1081.

U. S. MEDICAL SCHOOLS.

PINE BLUFF, ARK., April 2, 1901.

To the Editor:—Will you kindly inform me where I can procure a list of recognized, reputable medical schools in the United States?

A. C. J.

ANS.—Write to Dr. Bayard Holmes, of this city, Secretary of the Association of American Medical Colleges, 103 State St., Chicago, and to Dr. Chr. Tompkins, Richmond, Va., Secretary of the Southern Medical College Association, for the information required.

SCHOOLS FOR THE FEEBLE-MINDED.

EVANSTON, ILL., April 19, 1901.

To the Editor:—Will you kindly give me information as to, or recommend, some school for the care of the feeble-minded, not necessarily in, but easily accessible to Chicago?

N. J.

ANS.—See THE JOURNAL of April 13, p. 1081. There is such a school at Kalamazoo, Mich., under the management of Dr. C. T. Wilbur, formerly superintendent of the Illinois State Asylum for the Feeble-Minded; also one at Godfrey, Ill., known as the "Beverly Farm" Home and School for the Feeble-Minded, Dr. W. H. C. Smith, superintendent.

PHYSICIANS AND THE AUTOMOBILE.

PHILADELPHIA, April 8, 1901.

To the Editor:—I began to use the automobile in June last, and from the very beginning of my experience have employed it in my daily work. I estimate a mileage of 5000 to 6000 on this my original carriage. It is of the hydrocarbon or gasolin type. I am more strongly convinced than ever that this is the system. A few of its advantages over steam may be incidentally noticed. It may be started at an instant's notice—a turn of the crank and you are off. Having reached your destination the current is turned off. You may stop an instant or you may stop indefinitely. A turn of the crank and you are ready to start again. Incidentally that means saving of fuel. Economy of fuel is another thing. At a liberal estimate steam uses twice as much. The system is safe, simple and reliable. It can be operated at all seasons, while steam is not suited to zero weather, for some of the pipes will freeze up. I am convinced that the immense superiority of the hydrocarbon system will be fully demonstrated in the near future.

A word regarding difficulties I have experienced: 1. Bad wiring gave me much annoyance at the start. A liquid battery was dirty and sloppy. The dry cell has been found reliable. 2. Pneumatic tires. The heavy machines are equipped with single-tube tires. Repair in case of puncture is difficult, sometimes impossible, and punctures will sooner or later occur. My first set of tires gave out after three months of use, and they were replaced by the maker. The second set gave better results; both rear tires have recently been punctured. Removal from the rims is necessary in order to have a repair made. This involves expense of time and money and occasionally failure to effect a repair. The seriousness of this failure must be evident when it is remembered that the outlay for a single tire is a little over \$40. The use of double-tube or clincher tires on the lighter and medium weight wagons promises a solution of the trouble. Experience demonstrates that punctures occur more than twice as often on the front wheel as on the rear wheel. A puncture in a double tube can be repaired in a few minutes, while the repairmen want two or three days, sometimes longer, to repair a single tube. In case of a cut the process of vulcanizing a single tube may be impossible; if a double tube, no matter how extensive the cut, it can always be vulcanized.

Aside from a few defects of material and poor assembling my other troubles were the result of my own inexperience.

That the automobile is capable of taking the place of the horse for our daily use, I fully believe; indeed, it is able to fill the place of three horses. It may be kept on one's own premises, and gotten under way in as short a time as is required to mount a bicycle. The advantages of this must be at once manifest.

As to the amount of attention required, a man or an intelligent boy is quite necessary. In addition to the attention he may give I would urge a personal supervision of all the details of the machinery, lubrication, etc. One should have everything in perfect order by attending to the little things, e. g., tightening loose bolts and nuts, and, finally, operating one's own machine. The chances are you will then get home every time. Nor will you be compelled to make wayside demonstrations to idle, curious and sometimes impertinent onlookers. One of my friends in this city has driven one of these same wagons over 13,000 miles in the last two years, and to the complete exclusion of horses. His repair bills have not amounted to a hundred dollars in the last year. I am told by his repairman that "Dr. — never breaks anything." The doctor who has some mechanical taste and who likes such things may safely buy an automobile now. Let it be a hydrocarbon or gasolin machine and, preferably, unless he has money to burn, a second-hand one.

DANIEL LONGAKER, M.D.

A NEW CURE AND A COMMENT.

We recently received a piece of medical literature in the shape of a little pamphlet in which is reported "A Case of Gastric Carcinoma," successfully treated by a certain drug, let us call it sodium chlorid. The pamphlet in question, as the man said about the play, is so shockingly bad that it is good. There is a frankness about the writer that is refreshing. Without any preamble he tells us, in a plain straightforward manner, why he reports the case: the first reason being that gastric cancer is not a disease of frequent occurrence, and that possibly he would never see another case. The second is that he had such good results that he wanted others to know of his method of treating this generally supposed-to-be-fatal disease. So, too, in his clinical history of the case the author goes directly to the point and asserts boldly that this was a case of carcinoma of the stomach. He wastes no time in useless inquiry into the family history, previous illness of a similar or different character, nor does he annoy the reader with any question about differential diagnosis, whether jaundice, for instance, might have indicated gall-stones or whether the swelling might possibly have been a distended gall-bladder.

The patient, an adult male, had symptoms of gastric catarrh, for which the Doctor had been treating him for a few weeks, when one day the appearance and expression of the face suggested malignant disease, and it occurred to the physician that an examination would be in order, and, as a result of this examination, a smooth, hard, round tumor was felt "in the position occupied by the pylorus." We are told there was some vomiting and some blood found in the vomitus and stools, and hence the diagnosis, cancer of the pylorus. The patient refused consultation. Under the use of the drug in question the vomiting ceased, also the yellow tint of the eye and skin disappeared, etc. We might think the Doctor a little rash in his diagnosis, or hasty in arriving at conclusions, but we are distinctly told that this is not his characteristic manner of doing things. Thus on a certain day he reduced the dose to

4 minims and combined with it tincture of chlorid of iron, his only reason for reducing the dose being "to take time to deliberate as to the further course I should pursue in the case." We are told that there was a gradual gain in the patient's weight and strength and a diminution in the size of the tumor. In the end this tumor could not be felt and the writer, after speculating as to the manner in which the drug had caused the cancer to disappear, concluded that the action of the remedy is not only local but constitutional, and "it will prove efficacious in all cases of carcinoma wherever situated."

We laugh at the absurdity of the whole thing. We condescendingly pity the credulity, if nothing more, of the author; we are indignant that such stuff could even pretend to pass as medical literature; in disgust we toss this travesty on science into the waste-basket. And then as we pick up an article recently received for publication, and as we read it it dawns upon us that even in this paper before us are examples of conclusions based on a limited experience, of bold statements made with no consulting of authorities, of superficial observations, of misrepresentation of facts, of sweeping generalizations utterly unwarranted by the phenomena described, of strangely illogical processes of reasoning, and yet we find that the author of this article is not an obscure, humble country practitioner, but a man well known, a voluminous writer who appends titles to his name and assumes to be a leader of young physicians, for he is a professor in a medical college. With a more tender charity we pick the pamphlet from the waste-basket and place it on the shelf of curiosities to repose side by side with the one which tells of the condurango cure for cancer, of Bergeon's, and hundreds of other cures for tuberculosis, of the cure of all chronic ailments by operation on the rectum, of elaborate descriptions of microbes which turned out to be something else or nothing at all, merely artefacts, of the multitudinous operations on women for the relief of fancied or real aches and pains, and we say to ourselves as we squeeze the little booklet in between two ponderous volumes each with a well-known name upon its back: No, rural colleague, your sin is as much less than theirs, as your volume is smaller, your influence less far-reaching and your faults more glaringly manifest."

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., April 4 to 10, 1901, inclusive:

Charles B. Ewing, captain and asst.-surgeon, U. S. A., now on duty at the Santa Mesa Hospital, Manila, P. I., is detailed as a member of the board to investigate tropical diseases.

Charles W. Farr, lieutenant and asst.-surgeon, U. S. A., recently appointed, from Elmira, N. Y., to Fort Reno, Okla., for post duty.

Francis M. McCallum, captain and asst.-surgeon, Vols., from Fort Reno, Okla., to San Francisco, Cal., en route for service in the Division of the Philippines.

George J. Newgarden, captain and asst.-surgeon, U. S. A., on the expiration of his present leave of absence, will proceed to Fort Mason, Cal., for post duty.

Navy Changes.

Changes in Medical Corps of the Navy for the week ending April 13, 1901:

Medical Director W. K. Scofield, detached from special duty at Philadelphia, April 27, and ordered home to wait orders.

Medical Director W. G. Farwell, detached from the Philadelphia Navy Yard, and ordered to duty in Philadelphia, special.

Surgeon C. Biddle, ordered to the Philadelphia Navy Yard, April 27, as relief of Dr. Farwell.

Surgeon S. H. Griffith, ordered to duty at the Pan-American Exposition, Buffalo, April 25, in charge of exhibit of Bureau of Medicine and Surgery, Navy Department.

Asst.-Surgeon R. B. Williams, detached from Pensacola Navy Yard, and ordered to Key West Naval Station, with temporary duty at Dry Tortugas.

Medical Inspector J. R. Waggoner, detached from Naval Hospital, Cavite, and ordered to Mare Island Hospital, having been condemned by a medical board of survey.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the 14 days ended April 11, 1901:

Surgeon C. E. Banks, granted leave of absence for six days from April 15.

Surgeon J. J. Kinyoun, relieved from duty at San Francisco, Quarantine, and directed to proceed to Detroit, Mich., and assume command of the service. Granted leave of absence for fifteen days.

Surgeon T. B. Perry, department letter of March 2, 1901, granting Surgeon Perry leave of absence for thirty days, amended so that said leave shall be for 20 days.

P. A. Surgeon J. B. Greene, relieved from duty at Berlin, Germany, and directed to proceed to Washington, D. C.

P. A. Surgeon L. E. Cofer, designated as chief quarantine officer of the Territory of Hawaii, relieving Surgeon D. A. Carmichael.

Asst. Surgeon Hill Hastings, to proceed to Santa Barbara, Cal., for special temporary duty.

Asst.-Surgeon C. H. Lavinder, bureau telegram, granting Asst.-Surgeon Lavinder leave of absence for ten days, amended so that said leave shall begin April 1, instead of March 27.

Asst.-Surgeon S. B. Grubbs, granted leave of absence for seven days. Upon expiration of leave, to proceed to Washington, D. C., and report at Bureau for duty.

Asst.-Surgeon L. L. Lumsden, upon departure of Surgeon J. J.

Kinyoun, to assume temporary command of San Francisco quarantine station.

Asst.-Surgeon Edward Francis, to proceed to New York, and report to medical officer in command, Immigration Depot, for duty.

A. A. Surgeon G. H. Altree, granted leave of absence for four days from April 10.

Hospital Steward and Chemist Heury Gahn, to assume temporary charge of Purveying Depot during absence of medical purveyor.

Hospital Steward F. L. Brown, relieved from duty at Boston, Mass., and directed to proceed to Cape Charles quarantine station and report to medical officer in command for duty and assignment to quarters.

Hospital Steward F. H. Peck, to proceed to San Francisco, Cal., for special temporary duty.

PROMOTION.

Asst.-Surgeon H. S. Mathewson promoted and appointed passed-assistant surgeon to rank as such from April 7.

APPOINTMENT.

J. A. Moncure reinstated and appointed acting assistant-surgeon, U. S. Marine Hospital Service, for duty at the Gulf quarantine station.

Surgeon D. A. Carmichael, relieved from duty at Honolulu, T. H., and directed to proceed to San Francisco, Cal.

Surgeon C. T. Peckham, granted 20 days' additional leave of absence on account of sickness.

Asst.-Surgeon Hill Hastings, to proceed to Bakersfield, Cal., for special temporary duty.

Asst.-Surgeon M. J. White, to report to Surgeon J. H. White for duty.

Asst.-Surgeon W. C. Billings, to proceed to San Francisco, Cal., for special temporary duty.

Asst.-Surgeon D. H. Currie, to proceed to San Francisco, Cal., for special temporary duty.

A. A. Surgeon R. S. Primrose, granted leave of absence for five days from March 30.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon General, U. S. Marine-Hospital Service, during the week ended April 12, 1901:

SMALLPOX—UNITED STATES.

California: Los Angeles, March 23-30, 1 case; Oakland, March 16-23, 1 case; San Francisco, March 23-30, 7 cases.

District of Columbia: Washington, March 30-April 6, 2 cases.

Florida: Jacksonville, March 30-April 6, 19 cases.

Illinois: Chicago, March 30-April 6, 9 cases.

Indiana: Evansville, March 23-30, 1 case; Terre Haute, March 18-25, 1 case.

Iowa: Clinton, March 30-April 6, 1 case; Ottumwa, March 16-23, 1 case.

Kansas: Wichita, March 30-April 6, 17 cases.

Kentucky: Lexington, March 30-April 6, 8 cases.

Louisiana: New Orleans, March 30-April 6, 8 cases, 2 deaths; Shreveport, March 23-April 6, 4 cases.

Michigan: Detroit, March 30-April 6, 3 cases; West Bay City, March 30-April 6, 2 cases.

Minnesota: Minneapolis, March 30-April 6, 20 cases.

Nebraska City, March 2-23, 7 cases; South Omaha, April 1-6, 6 cases.

New Hampshire: Manchester, March 30-April 6, 6 cases.

New Jersey: Newark, March 30-April 6, 2 cases.

New York: New York, March 30-April 6, 42 cases, 8 deaths.

Ohio: Cincinnati, March 29-April 6, 3 cases; Cleveland, March 30-April 6, 35 cases, 2 deaths.

Pennsylvania: March 30-April 6, McKeesport, 1 case; Philadelphia, 1 death; Pittsburg, 3 cases; Steelton, 1 case.

Rhode Island: Riverpoint, March 10-April 8, 5 cases.

South Carolina: Charleston, April 2, a few cases.

Tennessee: March 30-April 6, Memphis, 22 cases, 1 death; Nashville, 14 cases.

Utah: Salt Lake City, March 30-April 6, 28 cases.

Virginia: Roanoke, March 1-31, 71 cases, 4 deaths.

West Virginia: Wheeling, April 1-8, 2 cases.

Wisconsin: Green Bay, March 31-April 7, 2 cases.

SMALLPOX—FOREIGN AND INSULAR.

Argentina: Buenos Ayres, Feb. 1-28, 37 cases, 21 deaths.

Austria: Prague, March 8-23, 7 cases.

Belgium: Antwerp, March 8-16, 3 cases, 1 death.

China: Hongkong, Feb. 23-March 2, 9 cases, 7 deaths.

Egypt: Cairo, March 4-11, 1 death.

France: Paris, March 16-23, 6 deaths; St. Etienne, March 1-15, 1 case.

Great Britain: England—Bradford, March 8-23, 3 cases; Liverpool, March 16-23, 2 cases; Southampton, March 16-23, 1 case.

Scotland—Glasgow, March 22-29, 11 deaths.

India: Bombay, March 5-12, 10 deaths; Calcutta, March 2-9, 85 deaths; Karachi, March 3-10, 12 cases, 4 deaths; Madras, March 2-8, 11 deaths.

Mexico: Progreso, March 22-29, 8 cases.

Netherlands: Rotterdam, March 23-30, 2 cases.

Russia: Moscow, March 8-16, 4 cases 3 deaths; Odessa, March 8-23, 13 cases, 3 deaths; Warsaw, March 8-16, 9 deaths.

Spain: Malaga, March 1-15, 2 deaths.

Switzerland: Geneva, March 2-9, 1 case.

Philippines: Manila, Feb. 16-23, 1 death.

Porto Rico: Ponce, from beginning of epidemic to March 15, 132 cases.

YELLOW FEVER.

Costa Rica: Port Limon, April 6, 1 case.

CHOLERA.

China: Hongkong, Feb. 23-March 2, 6 deaths.

India: Bombay, March 5-12, 4 deaths; Calcutta, March 2-9, 26 deaths.

Straits Settlements: Singapore, Feb. 2-23, 1 death.

PLAGUE—FOREIGN AND INSULAR.

China: Hongkong, Feb. 23-March 2, 7 cases, 6 deaths.

India: Bombay, March 5-12, 1,196 deaths. Calcutta, March 2-9, 537 deaths.

Philippines: Manila, Feb. 16-23, 7 cases, 6 deaths.

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No. 18.

Original Articles.

THE GYROMELE IN THE DIAGNOSIS OF STOMACH AND INTESTINAL DISEASES.*

FENTON B. TURCK, M.D.

CHICAGO.

The gyromele (revolving sound) is a flexible steel cable, terminating in a more flexible steel spiral end. This spiral end is provided with a metallic pellet, and covered by a sponge, lamb's wool or cotton. The sound is fastened in a revolving apparatus—not unlike a surgeon's drill. After introduction into an accessible cavity of the body, if the revolving apparatus is put in motion, the rotations of the cable cause vibrations of varying degree which, being transmitted through the tissues, are perceived externally by means of auscultation and palpation.¹

Cables of different caliber and length have been devised in order to obtain cables of different degrees of flexibility and elasticity, which considerably broadens the scope of usefulness of the gyromele, especially for diagnostic purposes.⁴ But it is not only the extraordinary adaptability, flexibility and elasticity which enable the instrument to enter cavities hitherto inaccessible, but the rotary motion adds greatly to the safety and facility of the use of the gyromele sound.

Since the delicate rotations gently wend their way through any possible narrowing, and these rotations can be followed externally by the auscultating ear or the palpating finger, we are enabled to gain valuable information of cavities which were formerly inaccessible. This information is limited not alone to anatomical data, as situation, extension, capacity, etc., of the sounded cavities, but by means of specially constructed gyromele sounds we may obtain valuable data as to the contents of these cavities, adherent masses of mucus, bacteria, etc. Thus, I have been able to remove, by these means, bacteria from different regions of the stomach, and make extensive studies of the normal and pathologic flora of this organ.^{3 4 5 6 11 14 18} The following cavities have been explored successfully with the gyromele: Nose and throat; esophagus; stomach; pylorus and small intestine; colon; bladder; uterus; thoracic cavity; false cavities of various character.

Various attempts had been made before the year 1894 to sound the stomach. Exploration with the stomach-tube for sounding the stomach was not successful, as no means of locating the tube within the stomach, such as by palpation, were presented, and, therefore, Leube attempted to locate the great curvature of the stomach by pushing in a stiff sound. Ewald ("Diseases of the

Stomach," Am. Trans., 1892) shows the impossibility of locating the curvature of the stomach by using the stiff sound, in the following language: "A stiff sound is introduced into the stomach until it meets with resistance, as far as is feasible, without the employment of undue force. If, now, the sound can be palpated below the level of the umbilicus, dilatation of the stomach is proved to exist. This method has been objected to on the ground that it is dangerous, and that it is frequently impossible to feel the tip of the sound. Leube has rejected both objections, and, so far as the former (danger) is concerned, I fully agree with him. Feeling the point of the sound through the abdominal wall is an entirely different matter. It is most frequently utterly impossible to feel the sound distinctly, even if we go over the whole abdomen as carefully as we can, palpating one square inch after another. Further, we must remember that the stomach is not infrequently in a vertical position, etc. For all these reasons, palpation with the sound will only give uncertain results."

As sounding the stomach with a stiff sound was proved to be both impossible and impractical for diagnostic purposes, the method was abandoned. No other attempts appear in literature of the use of the gastric sound for diagnostic purposes, until the publication of my method (1894) of using a revolving flexible sound, which is not only an advance of all other methods, but is based upon a different principle.¹

1. The flexibility of the sound is of such a degree as to adapt itself accurately to the situs, shape and size of the organ.

2. By means of the revolving apparatus (drill) to which the sound is attached, vibrations are produced which can be palpated and auscultated externally, thus giving us exact information of the presence and locations of the revolving cable.

3. The situation of the metal sound can also be verified *intra vitam* by means of the x-rays. The fluoroscope and the skiagraph give excellent results.

4. Percussion of the inflated stomach is rendered more facile and exact when the border-line of the stomach has been established beyond doubt, by means of the introduced cable. Only then are we enabled to distinguish the finer differences of sound between the stomach and the intestine.

ESOPHAGUS.

The difficulty and impossibility of ascertaining the exact position of the cardia, *intra vitam*, has led to methods of determining the length of the esophagus in the living, by means of external, anatomical landmarks. The usual method is to measure from the line of the incisors externally to the xyphoid appendix of the sternum, giving the sound a corresponding curve. Others measure from the incisors along the lobe of the ear to the tenth dorsal vertebra. The following is

* Presented by invitation at the Exposition of Diagnostic Instruments, in connection with the Congress of Internal Medicine, Berlin, April, 1901.

Rosenheim's method: From the second spinal process along the median line, to the costal articulation of the twelfth thoracic vertebra on the left side. This represents the length of the gullet from the uvula to the cardia; the distance between the uvula and the incisors must be added to the obtained figure (7 cm.).

It seems unnecessary to call special attention to the inaccuracy of these methods. The gyromele is the only instrument which, by the above-mentioned vibrations, makes its presence manifest as soon as it enters the stomach. If the presence of the end of the rotating sound—which is provided with a conical tampon of cotton or sponge—is once ascertained, it is then easy to exactly localize the cardia by gently withdrawing the sound until it meets with slight resistance—the narrowing of the cardiac portion of the esophagus.

The accidents reported in connection with sounding of the esophagus are appalling. These mishaps will

being the distance from the incisors to the cardiac end of the esophagus.

The cable I have used for special esophageal diagnosis is of medium flexibility (No. 2, about 60 cm. in length). The cable terminates with a more flexible spiral end, which is provided with a metallic pellet, thus affording a means for the attachment of a cone-shaped cotton pledget or sponge. (Fig. 5.) When it is desirable and of advantage, the cushion of cotton or sponge is covered with a thin rubber finger-cot, tied and secured with a fine silk thread. This greatly facilitates the introduction of the cable and renders the same less dangerous than the use of any of the described instruments.

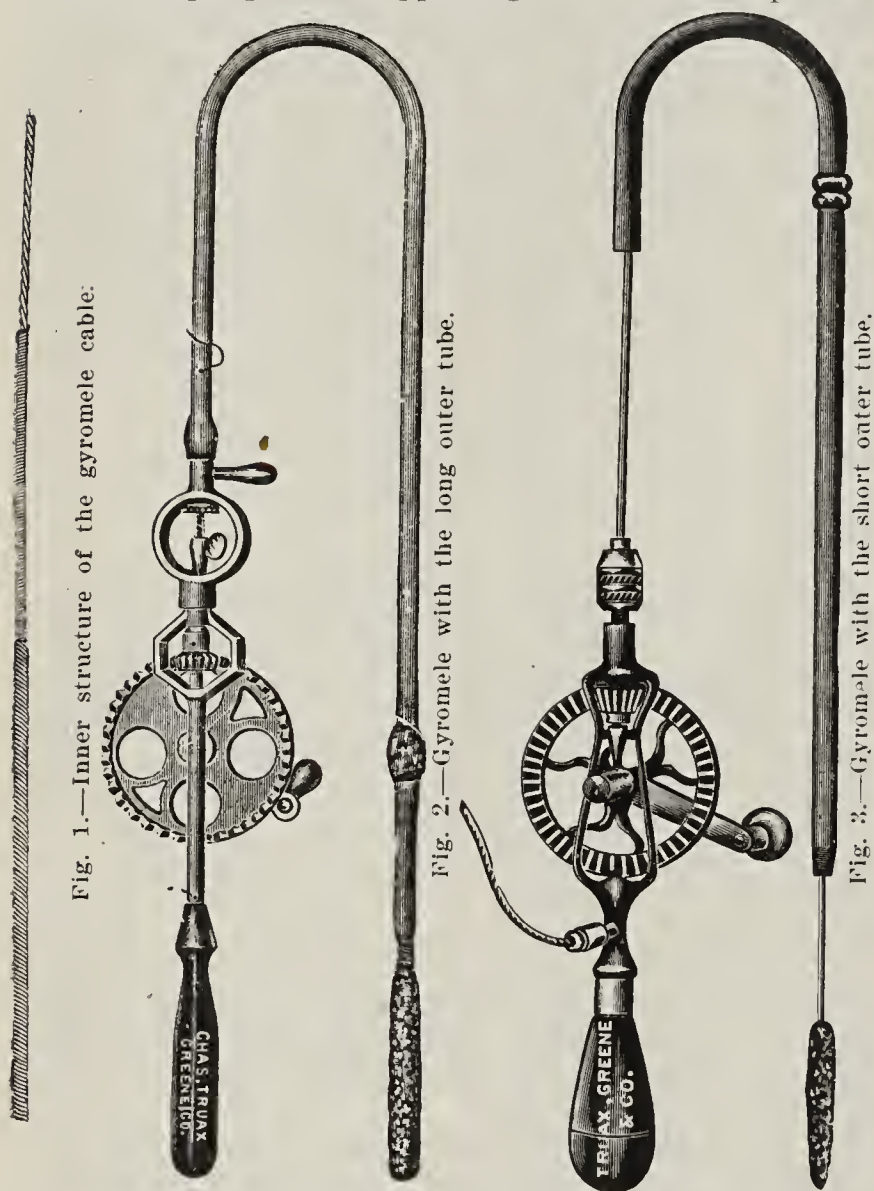
Where greater accuracy is desired, the location of the narrowing at the cricoid cartilage can be ascertained in the same manner with the additional assistance of rotary vibration, which can be easily felt at this point externally.

Where there is a patulous condition of the cardiac orifice, this orifice may not offer sufficient resistance, so the cotton pledget attached to the end of the cable is increased in thickness and the procedure repeated. The attachment of the cotton or wool pledget is an easy procedure: While the cable is being rotated, a small layer of cotton is allowed to wind itself firmly around the pellet of the spiral end of the cable. This forms the apex of the cone. A second larger layer is then placed a little above and overlapping the first layer, forming the base of the cone. More and larger layers of cotton can be added, according to the size of the pledget required.

Attachable cone-shaped sponges may be used instead of cotton pledgets. By covering the cable with a tightly-fitting rubber tube, as described,¹⁶ which is graduated in centimeter scale, the measurements from cardia to incisors can be readily read from the cable.

Intragastric Bag, (JOURNAL A. M. A., June 11, 1896).—I have also used rubber bags attached to a double tube, through one of which the gyromele cable is introduced; the other serves for the introduction of air for inflation of the rubber bag. To prevent escape of air through the first or cable tube, the opening of this tube is occluded by a rubber stopper through which the cable passes. The passage of the bag through the cardiac opening into the stomach is detected in the usual manner by external palpation of the rotating end of the sound. After inflation and partial withdrawal of the bag, it meets with the cardiac resistance. (Fig. 6.) This, however, is not as reliable as my other methods, for the reason that the inflated bag occupies the gastric funnel-shaped portion of the cardia, thus meeting the resistance of the gastric walls,¹⁵ and not of the cardiac orifice proper; this results in false measurements of the length of the esophagus and false location of the cardia. This is the reason why McCaskey in measuring the esophagus by means of this method obtained greater figures of the length of the esophagus than did other observers (Proc. of the Am. Gastroenterological Society, 1900).

I have frequently, in the past, called attention to the fact that by this method of using the gyromele strictures could be located in the esophagus, not only by measurement of the distance from the point of obstruction to the incisors, but by palpating and auscultating the vibrations of the gyromele at the seat of the obstruction.^{4 7 9} Thus, Ferguson²¹ was able to locate exactly an obstructing tumor opposite the bifurcation



be reduced to a minimal number if an instrument is used which combines elasticity, flexibility, with a cushioned extremity, and, when introduced, does not depend on the pushing force, but rather upon the gentle rotary motions, thus wending its way by any partial obstruction which it may encounter, without danger of injury.^{1 3 4 7 9}

The gyromele is introduced like the ordinary stomach-tube. The vibrations of the rotating end are palpated as soon as this emerges from behind the ensiform appendix of the sternum; then, as has been described, the sound is withdrawn until the cone-shaped cotton tampon or sponge attached to its end is marked at the point of the incisors by means of a tightly-fitting, movable, rubber ring. The gyromele sound is then completely withdrawn and the distance measured from the rubber ring to the base of the cone-shaped cotton tampon, this

the trachea, before operation. He states: "Upon using Turck's gyromele, we could feel the rotation of the sponge, which was most marked opposite the bifurcation of the trachea." By the same means, diverticula of the esophagus may be explored, and, further, it may be ascertained whether the sound has entered a diverticulum or has passed into the stomach, which is determined by palpation and auscultation of the rotating sound.

STOMACH AND INTESTINES.

For the past eight years I have made extensive use of the gyromele in the exploration of the stomach and intestines, for various diagnostic purposes. In 1893 I first examined and treated a series of interesting cases, proving the accuracy of my methods when combined with the extant methods.⁴

CASE 1.—Dec. 5, 1893, J. J., aged 44. Not alone were we enabled to localize the greater curvature 5 cm. below the umbilicus, but it was also possible, by the aid of the gyromele, to diagnose a thickening of the pylorus with absolute certainty.

CASE 2.—Nov. 3, 1893, Mrs. J. L., aged 51. Localization of the greater curvature below the umbilicus, discovery of a tumor in the anterior wall of the stomach, and bacteriologic examination was made.

CASE 3.—A. M. C. Greater curvature below the line of umbilicus and also tumor-like thickening of the anterior

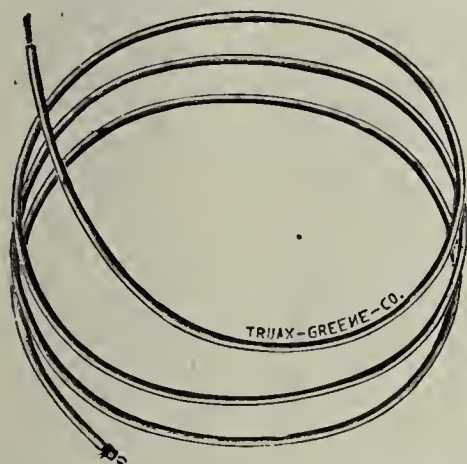


Fig. 4.—Rubber coated metal cable with metal pellet end.

gastric wall. Report of necropsy (published) confirmed the diagnosis, and proved that with the aid of the gyromele it is not only possible to exactly determine the dimensions of the stomach, but also to diagnose, *antva vitam*, thickenings and tumors of its walls.

CASE 4.—Nov. 4, 1894, L. S. By means of the gyromele, the greater curvature was found 4 cm. above the umbilicus-line. An explorative laparotomy confirmed this, and revealed a scirrhus along the lesser curvature.

I have had numerous occasions in the past eight years to make the diagnosis by the aid of the gyromele and see it confirmed by laparotomies and necropsies.⁴ I have also reported that during abdominal operations performed by Murphy, Newman, Ferguson, Beck, myself and others, I could determine with exactness the vibrations of the revolving sound.³⁰

Dr. Borland and myself have reported on a series of experiments with the gyromele on the cadaver. It must be admitted that the phenomena due to the gyromele are more positively manifest in the living.³⁰

During transillumination of the patient with the x-rays, a procedure which I have used since 1896, it could be clearly observed how the sound made its way through the stomach and pylorus into the small intestine.³⁰

CASE 5, which I demonstrated in London, in 1898. (Demonstrations and Lectures at St. George's Hospital.

August 8, 9 and 10) was that of a woman 50 years of age, who had shown stomach symptoms for over a year. The vibrations of the gyromele could be felt through a paper placed upon the abdomen of the patient, and thus an exact drawing of the contour of her stomach could be made. An accurate description of this case is to illustrate the technique of gastric diagnosis by means of the gyromele. The patient manifested all the symptoms of retention of food—frequent vomiting, emaciation, etc.⁴¹

Aug. 8, 1898, three hours after a test-meal, a very flexible gyromele sound was introduced, the patient

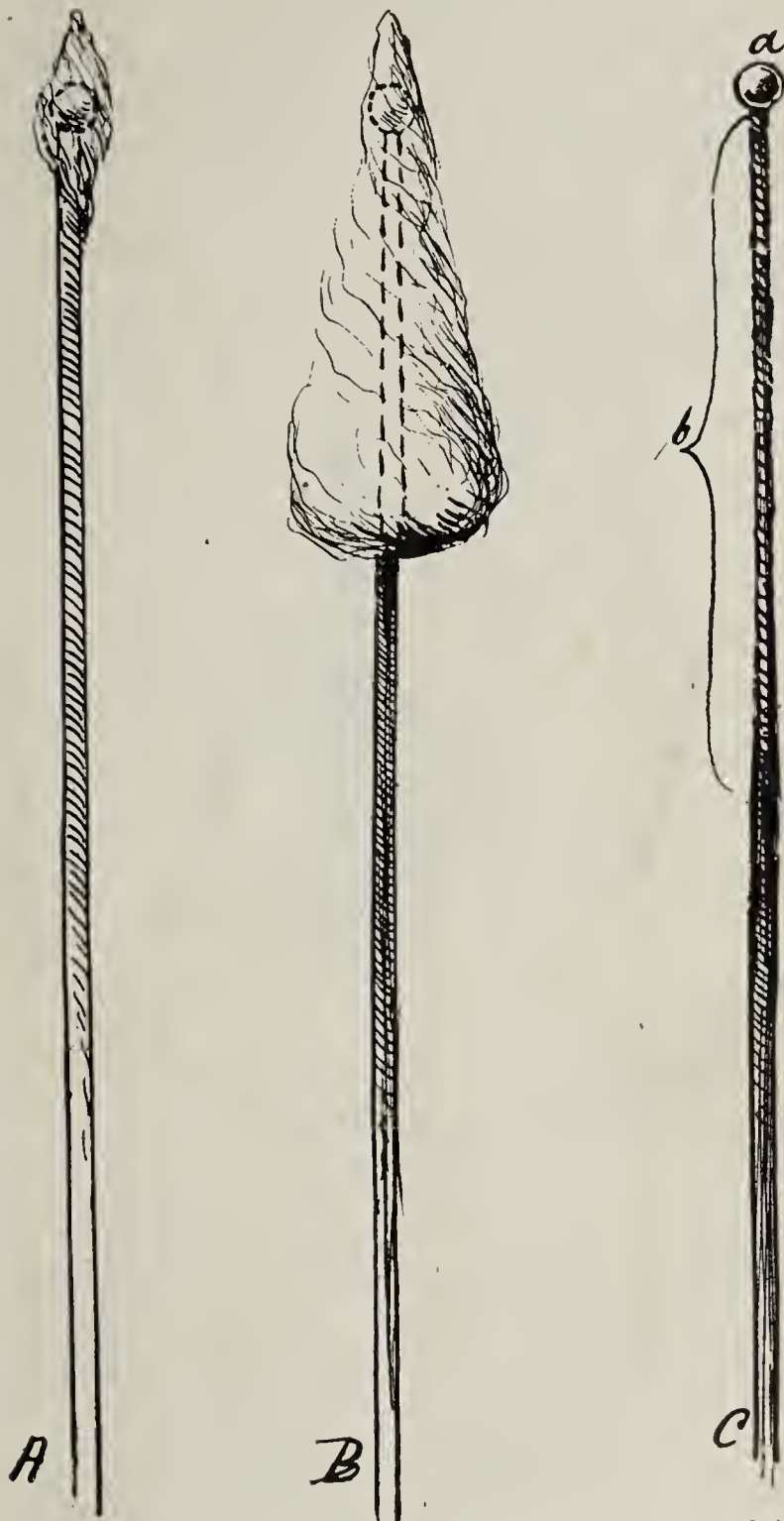


Fig. 5.—A, with first layer of cotton or wool; B, the finished conical cotton tampon (to be covered with rubber); C, the spiral end with metal pellet.

being recumbent. Location of the greater curvature was determined through the vibrations of the rotating gyromele, and found to be on the line of the umbilicus, "and by pushing the cable further into the stomach until the revolving sponge impinges against the lesser curvature, we find it located just below the border of the left lobe of the liver. On withdrawing the gyromele and testing the liquid which can be obtained by squeezing the sponge, we find that there is no HCl present in the stomach. The outline and position of the stomach, as thus determined, are shown by the diagram. (Fig. 7a.) . . . In order to determine the degree of

distensibility of the stomach, we now pass in a gyromele having a somewhat *less flexible* cable than the one just used, and again determine the outline of the stomach by palpating the revolving and vibrating sound. This time, with the patient sitting upright, we find the greater curvature below the umbilical line and quite near the hypogastric line, while the lesser curvature can be distinctly outlined just above the epigastric line. As shown in the diagram (Fig. 7b), we find with this second cable that the stomach is only slightly dilated, but that it is a case of marked gastropnoxis with very lax ligaments, the stomach being freely movable in its position. The long duodenal cable is next introduced for the purpose of sounding the pylorus. The sound is obstructed as it reaches the pylorus and further pushing only elicits signs of pain. The tip of the revolving sound can easily be recognized and the palpation indicates a hardened and thickened pylorus, but no tumor can be felt."

From the examinations thus made, we arrive at the following diagnosis:

1. Absence of free HCl after various test-meals, together with the failure of the gyromele to produce a

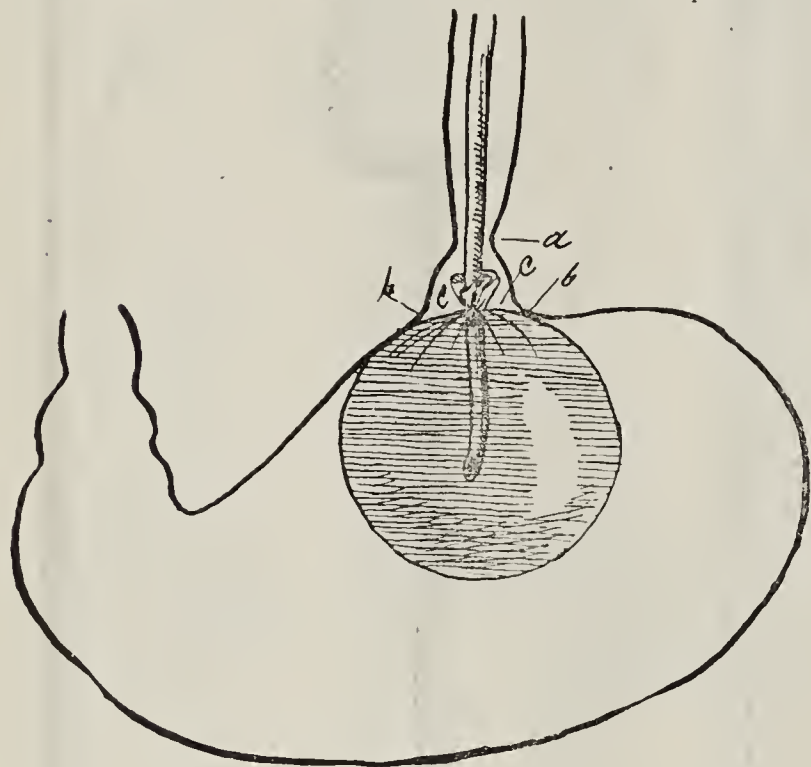


Figure 6.

secretion of the acid, would indicate atrophy of the glands.

2. The slight dilatation of the stomach, together with the ease with which the whole viscus can be pushed downward, as shown by the use of cables of different flexibility, indicates the presence of gastropnoxis and the thickened walls show hypertrophy.

3. The long retention of food indicates either motor insufficiency due to myasthenia, or pyloric obstruction, and as the duodenal sound indicates a hardened and thickened pylorus, we conclude that this is a case of stenosis pylorica. In view of the fact that the pyloric obstruction, notwithstanding the marked atrophy, is almost complete, I recommend immediate operation.

"(Through the courtesy of Dr. Ewart, the attending physician in charge of the case, the following hospital report has been received:) Operation was performed by Mr. Jaffrey on August 17. No outlying mass of cancer or glands could be felt. The stomach was of moderate size with thick muscular walls and *did not reach below the umbilical level*. Owing to its dropped state it could be easily pulled through the incision as well as the pylorus. The pylorus and its vicinity were free from

peritoneal adhesions or thickenings. There were a few superficial pyloric venules and minute whitish specks; but no important engorgement. The gall bladder was greatly distended with bile. *Marked thickenings could be felt not only at the pylorus*, but in one inch or two inches along the duodenum and two inches or three inches along the lesser curvature. This decided Mr. Jaffrey to prefer gastro-jejunostomy to pyloroplasty, and this was accordingly performed with satisfactory results, the patient doing well for two days. On the third day she began to vomit. Exhaustion set in on the fourth day, when she died. At the necropsy, no typhinites or peritonitis could be found. The external and the stomach wounds were sound. *The thickening* which had been felt, was found to be almost entirely muscular, traversed from within by a few fibers from a thin radiating deposit with white fibrous tissue in the sub-mucous layer. In connection with this, the mucous membrane at the pylorus and for one inch beyond, was atrophied, glistening and striated.

"There appeared to be nothing in the case, judging

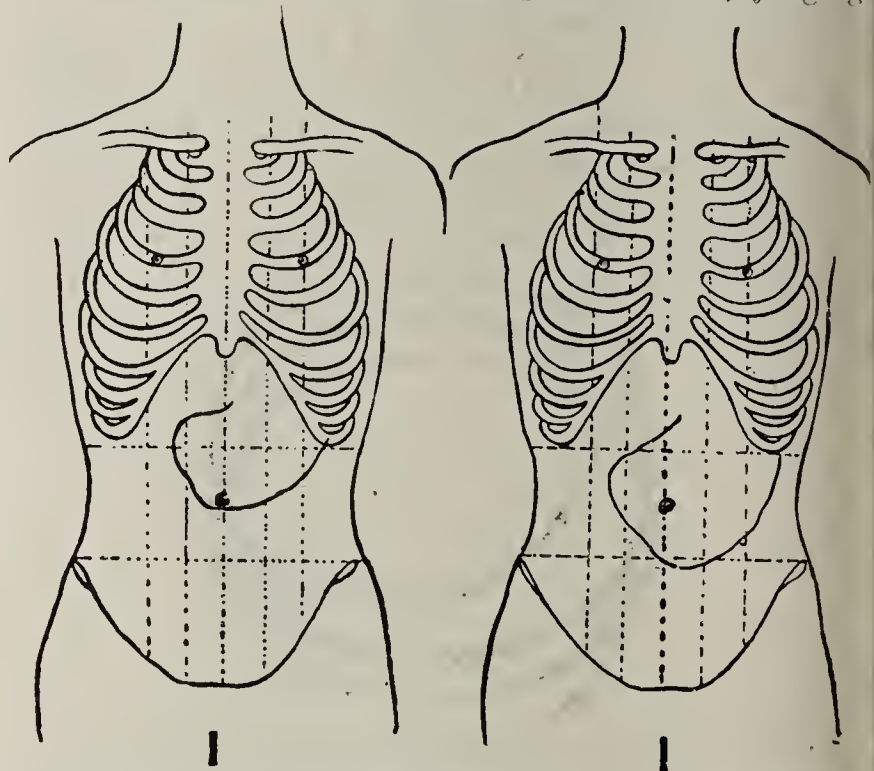


Fig. 7A.—The outline of stomach as given by the movements of the light flexible cable.

Fig. 7B.—The outline given by the movements of the less flexible cable.

from these appearances, incompatible with complete recovery from the gastric dilatation, as well as the *gastropnoxis*, had the patient's strength been equal to the surgical ordeal. The case tends to show how slight may be the impediment which leads to these fatal results."⁴¹

THE GASTRIC MUCOSA.

The examination of stomach contents obtained by use of the gastric tube marked an epoch in the diagnosis of diseases of the stomach and intestines. The stomach contents inform us of normal and pathologic secretion, and food remnants contained in the contents give information as to the approximate degree of the motility of the stomach. Material lying freely in the cavity of the stomach is easily removed by means of the ordinary tube; the mucus adherent to the walls of the stomach in pathological conditions is only obtained with greater difficulty, if at all, in the ordinary methods. Beaumont has demonstrated the presence of this adherent mucus in the person of St. Martin. He found it particularly in "catarrhal" inflammations of the stomach.

Ewald (*Loc. cit.*) recommends lavage of the stomach for the purpose of "loosening the mucus which adheres

to its walls, partly chemically and partly mechanically," but, as stated, this was advised for therapeutic purposes.

Boas (I. Boas zur Symptomatologie des Chronischen Magen-katarrhs und Atrophie der Magenschleimhaut, *Münch. Med. Wochenschrift*, 1887, No. 42.) differentiated between the mucous form and the atrophic form of gastritis, which was a decided step in advance.

membrane is coated by the adhering and tenacious mucus, associated with pathologic changes in the mucosa.

Hemmeter³⁴ (p. 394) states: "The epithelial surface is in the various forms of gastritis, covered with a tough, glassy mucus, epithelial detritus, and sometimes pus."



Fig. 8.—Duodenal sound with spiral end.

Einhorn (Dis. of the Stomach, N. Y., 1896), in his description of pathologic anatomy of chronic gastritis, states: "The mucosa is usually covered with a thick layer of tenacious mucus, presenting a yellowish-gray or slate color," but this refers more to the pathologic findings postmortem, and mention is not made of this as a diagnostic feature during life. Only the stringy mucus that is free in the gastric cavity and found on removal of the stomach contents by the tube, is considered; when mucus is not found in the gastric contents, it is differentiated as one of the other forms. The former condition is termed "gastritis chronica mucosa."

I reported an interesting case in 1893, of a man who suffered from periodic attacks of great flow, not of

It must be admitted that the question whether material removed from the stomach and consisting of mucus, food remnants, epithelia, leucocytes and bacteria had been lying loosely in the stomach or had adhered to its walls, is extremely hard to answer, if possible at all, but it is of the greatest diagnostic importance. Of like importance is the determination of the particular area of the stomach mucous membrane from which the material was derived. The diagnostic significance is not confined to the cellular elements and food detritus contained in the tough mucus, but a study of the nutritive variations of the culture-media will often determine the character or grade of infection. I have rarely been able, even by the prolonged use of the gastric needle douche under considerable pressure, to wash off the

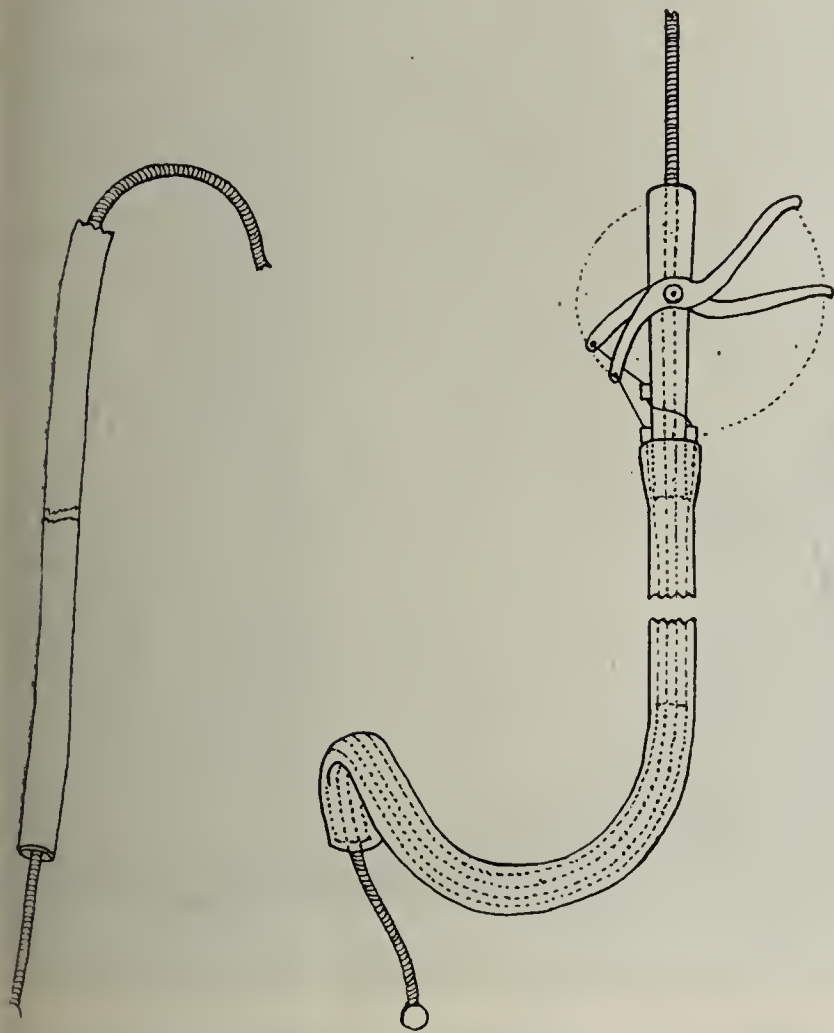


Fig. 9.—Duodenal sound before introduction.

Fig. 10.—Duodenal sound after introduction with silk threads drawn taut.

gastric juice, but glairy mucus. Between attacks but little mucus could be found. Many of the cases where mucus is found free in the cavity may be due to neuroses and other general conditions. (*North American Practitioner*, May, 1893.)

Leube, Penzoldt, Riegel and others have recognized, chiefly by the postmortem findings, that the mucous

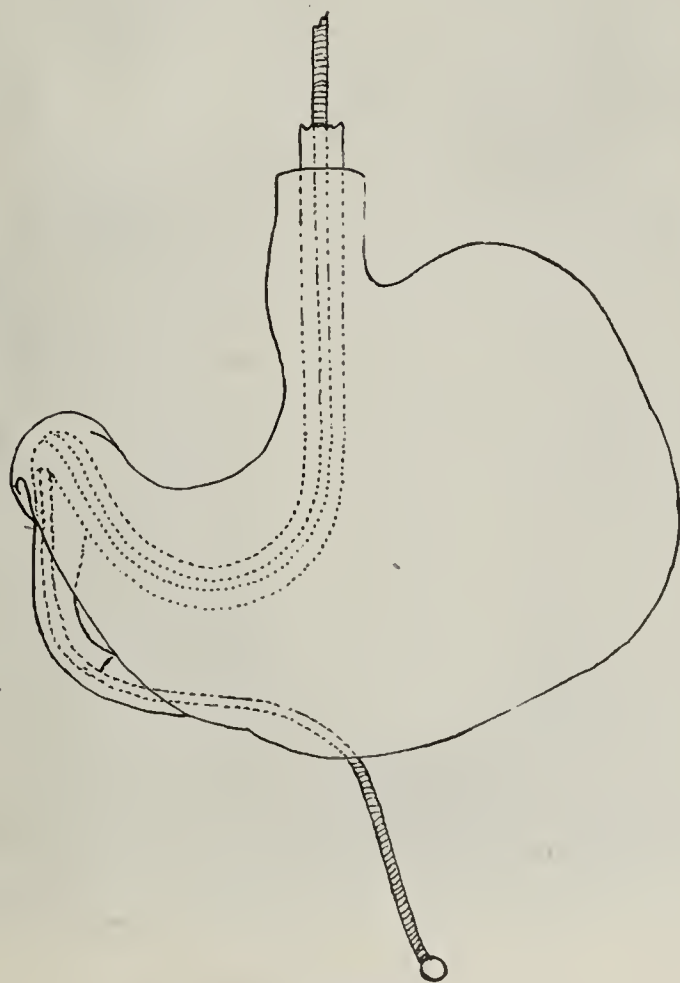


Fig. 11.—Duodenal sound in situ.

mucus covering the stomach wall. If, however, the fasting stomach is first thoroughly douched until the cavity is free from material, and the waste water runs off clear, and then the flexible, revolving sound is introduced and rotated, the adherent mucus masses are gently loosened and brought out. The region from which it is desired to remove this material can be readily determined by external palpation of the revolving sound

within the stomach. Before the revolutions of the sound can be felt externally, it is necessary that the end of the sound must have come in close contact with the mucous membrane from which the mucus is removed and found upon withdrawal of the instrument. The material thus obtained can then be used for examination. If it is desired to obtain material directly from a certain region of the stomach—for instance from the fundus, or greater or lesser curvature—the gyromele sound is introduced through a double stomach-tube. The cable passes through the wider tube while a strong silk thread is passed through the narrow tube. The thread is attached to the end of the longer tube which carries the cable. Upon traction of this silk thread, the cable can be directed to any selected area. By these methods we are enabled to make extensive chemic, microscopic, and bacteriologic studies of the stomach. I have used these methods constantly and successfully in my private clinic.^{1 3 4 5 6 14 18}

cially since these conditions vary greatly in different individuals. However, before the sounding of the pylorus is proceeded with, the situation, size, distensibility, etc., of the stomach must be correctly determined. Inflation of the stomach with air greatly facilitates the sounding, because the end of the sound glides more easily along the distended than the collapsed walls. The sound having passed the pylorus, the air is allowed to escape from the stomach and this organ resumes its former shape. When the sound turns through the antrum pyloricum toward the lesser curvature, a procedure which can be palpated externally, it is withdrawn slightly, whereupon the end of the sound enters the antrum. The rotations of the cable are continued while the sound is cautiously pushed forward, and the latter can then be palpated, having assumed the S-shaped curve of the duodenum. At this time it is possible to aspirate the duodenal contents through the cable tube, which convinces of the presence of the end



Fig. 12.—Palpation of the vibrations of the rotating cable within the stomach and outlining the contour upon the abdominal wall. (From the author's private clinic.)

PYLORUS AND DUODENUM.

In sounding the pylorus and duodenum with the gyromele, a more flexible cable is used, which terminates in an exceedingly flexible and elastic steel spiral. (Descriptions of the apparatus and its use were published in 1894 and 1895.)^{1 2 3 4 8 9 14} The object of the spiral end is to give the sound greater adaptability, combined with a certain degree of resiliency. These qualities enable the sound to more easily adapt itself to the anatomical conditions, which is very desirable, espe-

cially since these conditions vary greatly in different individuals. Transillumination with the *x*-rays, gives very instructive and convincing pictures.

Instead of the simple rubber tube, the above-described double tube with the silk thread directing the end of the sound can be used. I have also devised an instrument in which the silk thread is in the same tube with the cable. (Figs. 7 and 8.) Upon traction of this thread, after the sound has reached the greater curvature, a double curve of the sound is effected, which directs its

end with ease into the pylorus. (Fig. 10.) Not all cases require duodenal sounding, but in many of them this exploration is not only of value, but indispensable for differential diagnosis, as the following cases will illustrate:

means of the gyromele revealed a patulous, easily passable pylorus and no duodenal obstruction. The *x*-rays confirmed these findings. The patient was treated for myasthenia, and had gained 14 kg. at the end of six weeks. The last reports confirmed the diagnosis.



Fig. 13.—Colon sound.

CASE 6.—Dec. 5, 1893, J. J. O'C., was sent to me with a diagnosis of carcinoma of the pylorus. The general symptoms of this disease were more or less evident. Thorough sounding of the pylorus and palpation combined therewith excluded a carcinomatous affection of

TECHNIQUE.

The technique of sounding by means of the gyromele is simple and easy. The cable is introduced in almost the same manner as the ordinary stomach-tube. Some experience is required to locate the fundus, greater



Fig. 14.—X-ray of the duodenal sound in situ. The stomach is enormously dilated and markedly myasthenic, which accounts for the extraordinary excursion of the stiff cable, and the stomach is thereby displaced to the left.

this organ. After a comparatively short treatment, the patient gained more than 10 kgs. This patient has not shown any gastric symptoms since 1894.⁴

CASE 7.—Another case is that of Dr. C. L. C., who was sent to me with a suspected stenosis of the pylorus, by Dr. Murphy. There existed in this patient an enormous dilatation of the stomach, great emaciation and debility; weight 54 kg. Sounding of the pylorus by

curvature, pylorus and lesser curvature with certainty, but even the inexperienced find the introduction of the thin cable, covered with rubber tube the thickness of which reaches at the most 5 to 6 mm., and armed with the soft cotton tampon or sponge, easier than the introduction of the thicker and flabby stomach-tube. This is particularly the case with patients unused to intragastric methods. The steel sound serves here the same

purpose as the formerly much-used "mandrine" of the Germans, but because of its greater flexibility and elasticity, it conforms more easily to any intervening curves.

The rotating cable is covered the distance from mouth to cardia with a rubber tube. In this tube, the cable moves freely, and thus little friction is caused. Since this surrounding rubber tube remains stationary, a pushing to and fro of the cable is unnoticed by the patient. As soon as the tampon on the end of the cable has reached the greater curvature, it meets slight resistance, the cable bends, and the end glides along the greater curvature until at the antrum pyloricum, or lesser curvature, it again meets resistance. Now, the stomach is moderately inflated with air and the cable pushed slowly forward; its end now turns—as has been observed by the *x*-rays—toward the left and upward along the lesser curvature. Thus the cable is seen to describe an irregular circle, influenced by the contour of the stomach. Pushing the cable still farther into the inflated stomach, it will bend into the fundus, there adapting itself to the dome thereof. All of these phe-

of sounding the stomach and duodenum. It is therefore unnecessary to dwell especially on the sounding of the colon, and hence, I only mention it here.

X-RAYS.

By the use of the *x*-rays for transillumination of the body, diagnosis by means of the gyromele cable combined with palpation is made more certain and easy. The first attempts to observe the introduced sound *in situ*, with the aid of the *x*-rays, were made by me in the spring of 1896. The degree of density of the steel sound is seen to interrupt the rays and give a distinct contour of the sound. In May, 1897, I demonstrated the transillumination of the body with the sound introduced and put in motion, before the Illinois State Medical Society,³⁰ and I have since repeatedly called attention to the importance of this procedure. Different substances contained in stomach and other rubber tubes, as mercury, bismuth salt emulsion, etc., have been used with the intention of making the contours visible during transillumination with the *x*-rays. The visi-

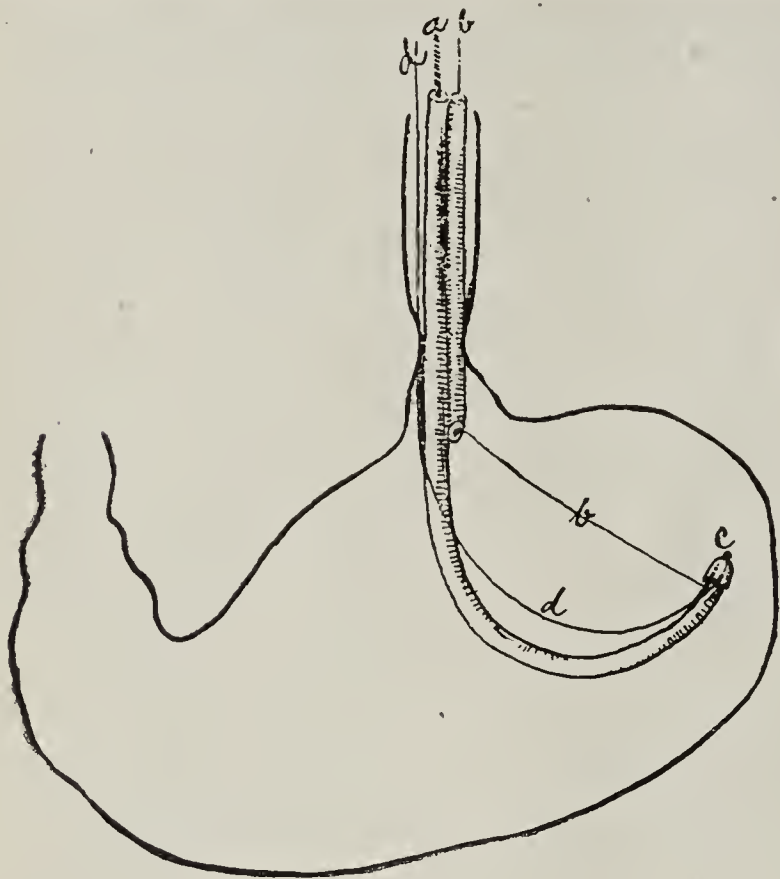


Figure 15.

nomena can be observed with as much certainty by external palpation and auscultation of the rotating cable end, as with the *x*-ray. This holds true, even of those parts which are covered by the left lobe of the liver or by the ribs. (Fig. 12.) By following the rotations of the cable end with a skin pencil the contours of the stomach are drawn upon the abdominal surface. In lean individuals the rotations may be perceived by inspection; in fat subjects, it is advisable to put the cable in more accelerated motion, in order to palpate the rotations. Variations in diameter of the stomach walls influence the degree of the vibrations considerably, and I have been often able to convince myself of this fact postmortem, as reported. Determination of the various grades of thickness, tension and tonus of the gastric walls is arrived at by sounding with cables of various strengths. The observed curves of distention give, in comparison with each other, the desired information.

In sounding the sigmoid flexure through the rectum, different circumstances had to be considered, and for this purpose a modification of the gyromele was required. (Fig. 1.) The technique of sounding is similar to that

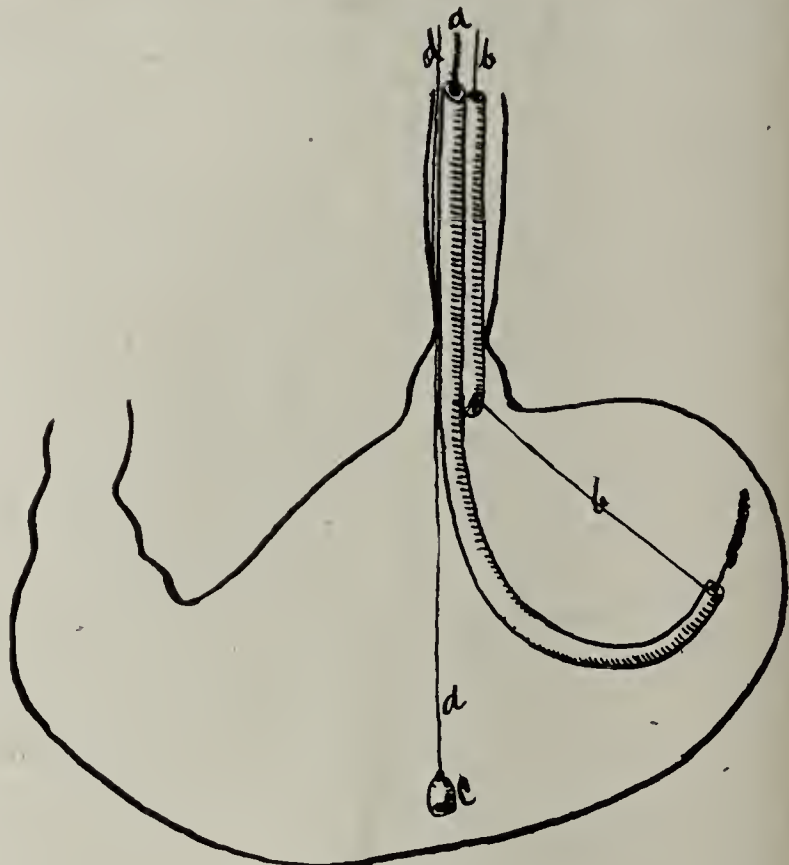


Figure 16.

bility and accuracy of these contours, obtained after introduction of my steel cable, can be observed in the accompanying half-tone illustration. The clearness of the picture has been somewhat impaired by its reproduction. The solid cable is plainly visible as a sharp line, while the hollow spiral end is represented by a more indistinct shadow; in fat and old individuals it is often impossible to distinguish the spiral at all. It is extremely interesting to observe the excursions of the rotating cable with the aid of the *x*-rays or the entrance of the end of the cable into the pylorus or duodenum. I have often found the borders of the stomach, previously marked by lead roll fastened upon the abdomen, confirmed by transillumination. The ensiform appendix and umbilicus were marked with metal buttons, and their position was also confirmed.

Measurements were made by graduating the cable with lead shot. All those experienced in the *diagnostique* of the stomach and intestines will readily appreciate the value of this method. It is easily seen, when applying bismuth salt emulsion, by means of the gyromele, that the walls of the stomach and esophagus

become thoroughly coated with a stratum of the emulsion.^{1 7 9 30}

BACTERIOLOGY.

What has been said in regard to the removal of material from portions of the mucous membrane for pathologic examination will give a clear idea of the method used in taking cultures for bacteriologic examination from any selected portion of the gastric mucosa, without contamination from the mouth, esophagus, or other portions of the stomach.

The cable is enclosed in a tube and the end covered with a rubber cap (Fig. 15) which is attached to a string that passes outside along the tube, and when the desired point is reached the cap is pushed off and withdrawn. (Fig. 16.) After a culture is taken from the walls, the cable is drawn into the tube again and the instrument withdrawn from the stomach.

A portion of the rubber end of the tube is then cut off to prevent contact of the sponge with any material which might enter it as it is being withdrawn. The sponge is then pushed out and inoculations made in the usual manner. I have used in special work, requiring great accuracy, a second outside tube that reached to the cardia only. This forms a protection sheath to the above-described tube that is pushed into the stomach. For practical purposes, the simpler method is sufficient.

It is not possible to make accurate bacteriologic investigation of any kind where contamination takes place. This is one of the chief principles upon which modern bacteriology rests. A stomach-tube introduced into the stomach and the stomach contents examined for bacteria gives no scientific data of the flora of the stomach. The micro-organisms in the lumen of the stomach, mixed with food, are transient and, without a constant factor, we can make no accurate deductions. The colonies develop upon the walls of the mucosa, in the bed of mucus, food detritus and exfoliated cells, which adheres with glue-like tenacity. This furnishes an opportunity for bacteriologic examination if we can secure such material uncontaminated. I have already referred to my studies of the gastric flora under various pathologic conditions.^{1 3 4 6 11 12 16} The normal stomach, as previously shown, does not permit germs to develop upon the mucous walls, although germs may be found free in the lumen. From a series of experiments upon dogs, my conclusions were that gastritis is caused chiefly by the growth of a variety of germs that develop upon the walls of the stomach; the type of inflammation was not dependent on special forms, but on the groups that predominated. I have verified the accuracy of these methods by cultures taken from the walls of the mucosa during operations for gastrectomy, gastroenterostomy and pylorotomy. Gehrman,⁴⁴ referring to the use of the gyromele in bacteriology, states: "It is apparently the only way of attaining definite data as to bacteriology of the stomach."

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A NEW OPERATIVE METHOD TO EXPOSE THE SEMINAL VESICLES AND PROSTATE FOR PURPOSES OF EXTIRPATION AND DRAINAGE.

A PRELIMINARY REPORT.*

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NEW YORK CITY.

The extravesical incisions heretofore employed to expose the prostate and seminal vesicles are the Von Dittel, the Zuckerkandl and the Kraske.¹ In my book on diseases of the genito-urinary system, recently published,² I have fully detailed these operations, consequently in the present connection little attention will be paid to them aside from citing their surgical shortcomings.

In all these operations the trunk of the patient lies horizontally. In the Zuckerkandl operation the ordinary lithotomy position is maintained. In the other two the patient lies on the abdomen, the thighs hanging vertically downward over the edge of the table. The space afforded by the Zuckerkandl incision is too limited to allow a surgeon to do any accurate work in connection with organs so deeply situated as the seminal vesicles. The operation is bloody and tedious, numerous vessels having to be ligated in inaccessible positions. Both the Von Dittel and the Kraske operations are lateral ones, consequently only the right or left seminal vesicle and corresponding side of the prostate, as the case may be, are well exposed during a given operation. The Von Dittel operation was designed especially to expose the prostate, and it also does not serve the purpose of exposing sufficiently the region occupied by the seminal vesicles. Besides being unilateral the Kraske operation is formidable, owing to the extent of the muscular structures, the division of which its performance necessitates. When the seminal vesicles and prostate are in this manner exposed, they lie at the bottom of such a deep wound that Redygier, in order to satisfactorily manipulate them, found it necessary to make the operation still more formidable by advocating a transverse cut across the sacrum just below its third foramen.

Although I have had considerable personal experience with these operations in exposing the seminal vesicles, I have found them all very disappointing, and this has led me to originate the procedure which I am now to report, and which I have found eminently satisfactory. After describing my method in detail, I will report five cases in connection with which I have practiced it. These five represent my experience up to date, with the operation. The method is as follows:

In the first place it must be remembered that the perineal and pelvic structures to be submitted to operation are soft, yielding and elastic. In order to facilitate an accurate dissection through such tissues they should be made to assume as stable a position as possible, and that can only be accomplished by putting them on the stretch, thus making them taut. This can be accomplished by flexing the thighs sharply, as in the extreme lithotomy position. The patient with his thighs so flexed is put belly downward on a Trendelenburg

* Read before the New York County Medical Association, Feb. 18, 1901.

1. In this connection mention should be made of the interesting surgical work of Dr. Hugh Young, of Baltimore, who has on two or more occasions exposed and removed the seminal vesicles by opening the abdomen and flexing the bladder forward.

2. The Macmillan Co., New York, 1900.

table, the buttocks protruding somewhat over the end while the flexed thighs straddle the table. The end of the table is then inclined upward quite sharply. In this position the body is maintained by sand bags, strapings and the attention of attendants. Figure 1 represents the position described. It is generally better to put the patient in this position after he is under the influence of an anesthetic. Dr. Stone, my house surgeon at the city hospital, has had a table made with notches at the sides to take the knees, which device may prove of some advantage in steadying the body. An antiseptic, lubricated cotton tampon, to which a tape is attached, is then pushed into the previously cleansed rectum, well up into the region of the sigmoid, in order to guard against bowel leakage during the operation. In the Von Dittel operation a catheter is maintained in the urethra to mark the position of the canal during the performance of the operation. In my operation no catheter is necessary or advisable. I make it a point, however, to see that the bladder has been emptied just before the administration of the anesthetic.

The next step is the external incision. This consists of two somewhat converging longitudinal cuts, which are connected at their dependent and proximal extremities by a transverse cut. The longitudinal cut to the operator's right begins a little above the upper

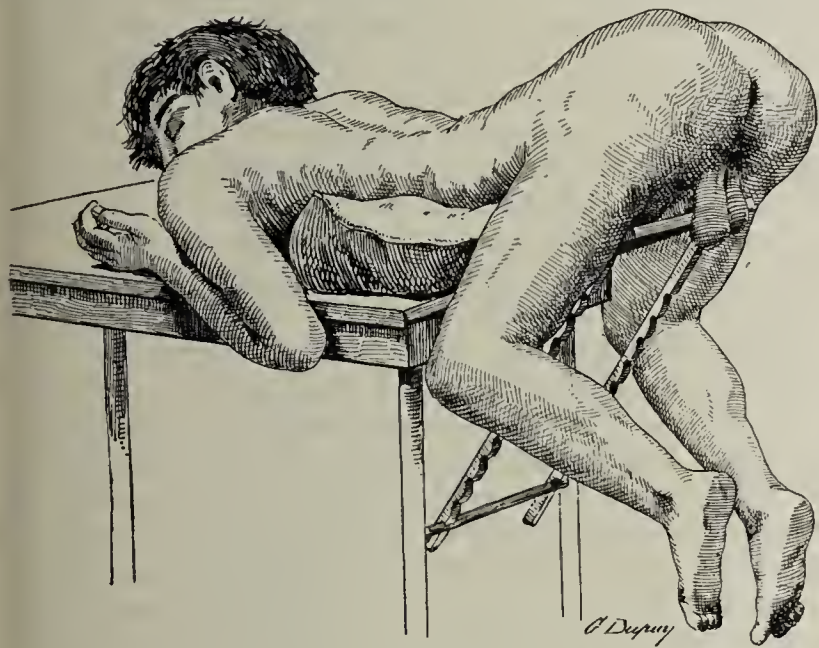


Fig. 1.

border of the patient's coccyx and just inside the body of his right ischium, and extends downward and slightly inward, keeping just within the border of that bone, passing the tuber ischii and ending somewhat below that tuberosity at a point laterally and about three-fourths of an inch anteriorly to the anterior margin of the anus. The longitudinal cut to the operator's left corresponds exactly to the one just described, it lying in like manner along and just within the body of the left ischium. The transverse cut connects the converging ends, dividing the perineum transversely about three-fourths of an inch anterior to the anterior margin of the anus. Figure 2 shows the line of the incision. The line of incision being so marked the next step is to incise deeply along the longitudinal cuts, going through the fatty tissue of the ischio-rectal space and dividing above a few of the lower fibers of the gluteus maximus muscle. The transverse cut is then deepened, the anterior layer of the deep fascia being cut through. Great care should be taken in cutting down transversely to keep sufficiently away from the anus to avoid wounding the sphincter muscle. The forefinger of the operator's left hand should next be inserted into the rectum, the

ball of the tip being turned downward against the anterior rectal wall, while the corresponding thumb presses against the loosely dissected rectum, the hand at the same time exercising upward traction as illustrated in Figure 3. The gut is thus held up in the grasp of the thumb and forefinger, while with his right hand the operator employs the knife to dissect more deeply, cutting through the levator ani muscle and the visceral layer of the pelvic fascia. It must be borne in mind, in this connection, that the pathway of the dissection, which is between the urethra and rectal wall, is very narrow. The forefinger in the rectum acts in this deep dissection as a most important guide. The stroke of the knife in making it should be inward and at the same time toward the rectal wall. The tip of the finger should always be moved so that it is just behind the portion of the rectal wall where the dissection is being made. This being done there is no danger of perforating the rectal wall, and at the same time the direction of the dissection, keeping along close to the rectal wall, is such that the urethra escapes damage. In case the lower portions of the lateral incisions have not been deep enough to sever the fibers of the levator ani muscle they can now be made so. This accomplished, the rectal flap of the wound can be still further raised. The knife is then for the time being discarded and the operator's right forefinger inserted along the dissection, keeping just below the rectal wall till it passes through

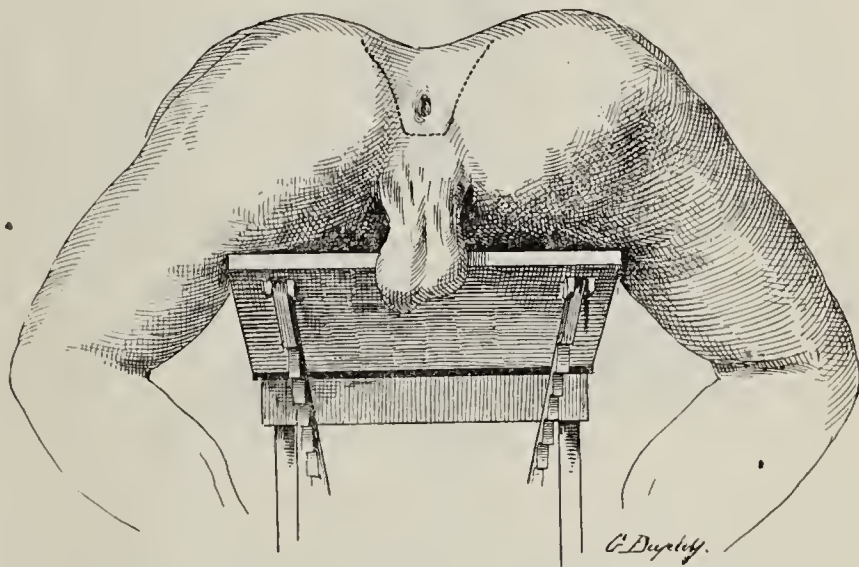


Fig. 2.

the cut in the visceral layer of the pelvic fascia and enters the lymph space which lies between the prostate and the rectal wall. This space being reached, the left forefinger should also be passed in alongside the right and the path of the wound over the prostate divulsed by separating the fingers. This much accomplished, it is comparatively easy, by a continuance of this separating process with one or both fingers, to strip the loose rectal connections off from the seminal vesicles and the posterior bladder wall, leaving those parts exposed to direct surgical attack. The operation for which the incision was undertaken being completed, the walls of the wound should be carefully adjusted by deep sutures, so as to bring the rectum back into its original position. A space, however, for gauze packing, should be left in the middle portion of the transverse cut. If the sutures about the rectal portion of the wound are not deep, so as to allow the sphincter to become firmly united to the outlying structures, some tendency to rectal prolapse may eventually develop. Temporary retention of urine demanding the passage of a soft catheter is very apt to develop, especially in cases where considerable gauze packing is left connecting the deep track of the wound with the

surface. As the tissues in this part are well nourished, first-intention is the rule.

This operation renders direct surgical attack feasible in many rebellious forms of seminal vesicular disease which have formerly been left unaided, or which have responded unsatisfactorily to palliative measures of treatment. Acting on this assumption I have in this manner opened and drained thickened and catarrhally-distended seminal vesicles, have freed them from dense inflammatory adhesions, have removed a neoplasm from the interior of one of them, and have entirely extirpated one. Aside from extirpation of the seminal vesicles, much of the surgery I am now doing in this connection is in the nature of pioneer work. As the patients on whom I have practiced it are, however, still in the hospital, convalescent, or have been only recently discharged, it is as yet too early to draw conclusions as to its true surgical value. I have accordingly called attention in the title of my paper to the fact that my report is a preliminary one. This specification it is needless to say does not apply to my method of operating, the advantages of which are established. The operation, as I have stated, exposes the prostate most satisfactorily, making its removal comparatively easy. Although I have removed a very large number of pros-

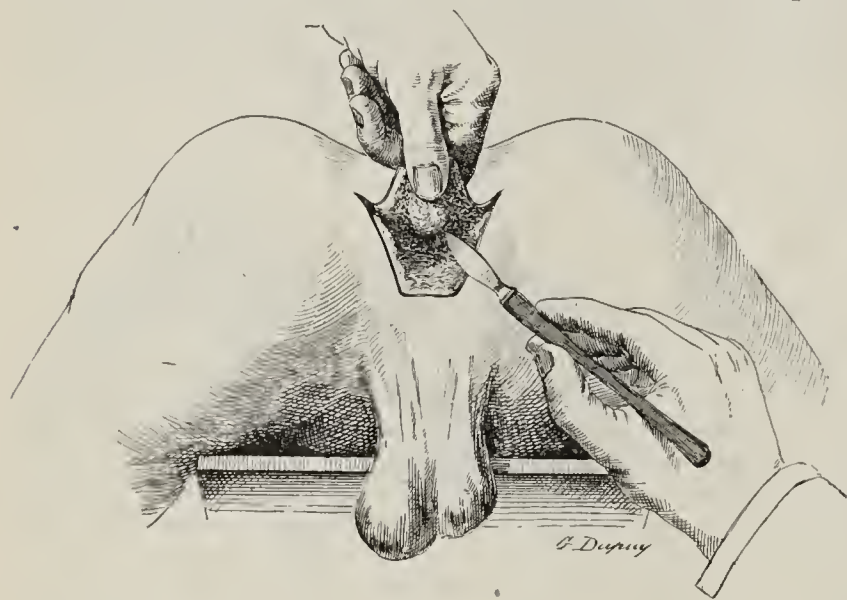


Fig. 3.

tates from those suffering from the effects of prostatic hypertrophy, I have almost uniformly done so in connection with a suprapubic or perineal cystotomy, and shall probably continue to do so in spite of the easy route afforded by the operation just described, since I consider drainage and treatment of the bladder in that class of cases a most important feature in the after-treatment, the accomplishment of which is impossible in connection with an extravescical operation. For suppurative conditions in connection with the prostate the operation I have described would be of practical value.

Up to the present time I have employed my operative method on five occasions. The patients have all recovered most satisfactorily, their stay in the hospital averaging about three weeks. In three of them the purpose of the operation was to expose chronically diseased seminal vesicles for incision and drainage. In these instances free longitudinal incisions into the diseased sacs were made and, were the interior of the organs was found to be granular from chronic catarrh, such tissue was removed by gentle curettage. In all cases the cavities of the sacs were left packed with gauze, while gauze drainage to the surface of the wound was established. Wherever the sacs were found bound down by perivesicular inflammatory adhesions, such were broken up, leaving the organs free. This is an original method of

treating chronic seminal vesiculitis. I think it will prove of much value in connection with very aggravated cases. As my experience with it is as yet, however, very recent, I will not at this time comment further on it.

One of my cases represented an instance of extirpation of a seminal vesicle, while from another I removed a neoplasm from the interior of a seminal vesicle, leaving the sac intact, the first operation of its kind on record. The neoplasm in question was an adenoma having, however, associated with it certain evidences which made the examining pathologist fearful of the coexistence of carcinoma.

MYASTHENIA GRAVIS PSEUDOPARALYTICA.

(ASTHENIC BULBAR PARALYSIS.)*

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In 1877, Wilks, of Guy's Hospital, London, published the report of a case of "Bulbar Paralysis without Anatomical Changes." "The patient, a girl, could scarcely move about, spoke slowly and had strabismus. For a month she remained in much the same condition, then all the symptoms became aggravated and in three days they assumed the characters of bulbar paralysis. There were indistinctness of speech, difficulty of swallowing and inability to cough. Respiration became increasingly difficult, and death rapidly supervened." The next year Erb reported three cases in which the chief symptoms were a striking paresis of muscles, especially of mastication, of the neck and the eyes (ptosis), less of those of deglutition, the tongue and extremities.

During the twenty years that have passed since Wilks reported this interesting condition, 62 cases have been reported, including our own, most of them (46) from the continent of Europe—10 from England and 6 from this country. Though there has been a notable lack of unanimity in the nomenclature of this affection, the clinical features of the cases recorded by the various observers have been so strikingly similar in all their salient features, and the results of the autopsies have, with one or two doubtful exceptions, so uniformly presented a complete absence of all signs of organic disease both macroscopic and microscopic that there can be no reasonable doubt that practically all the cases belong to the same category.

To the earliest observers the symptoms which attracted the greatest attention were those referred to the muscles innervated by the bulbar nuclei, hence whatever the lesion or disturbance of function might prove to be, it was naturally referred to the bulb and the various designations of "bulbar paralysis without anatomical changes" (Wilks, 1877) and "asthenic bulbar paralysis" (Strümpell, Church, Dana, and Collins, in "Twentieth Century Practice") were given to the disease.

In 1890, Shaw² reported a characteristic example of the disease. In this case he drew particular attention to the weakness and exhaustibility not only in the muscles innervated by the bulb, but also in the muscles of the eyes and extremities. During recent years this weakness and exhaustibility of the muscles generally has taken perhaps a more important place in the symptomatology of the disease than that formerly given to the bulbar symptoms.

In 1895, Jolly³ reported a case under the title of "Myasthenia Gravis Pseudoparalytica," and he seems

* Read before the Nashville Academy of Medicine, Dec. 11, 1900.

to have been the first to use this name. Recently the English writers, notably Buzzard, with Sanger Brown in this country, have adopted the same title. While it may be claimed that such a title is unscientific, one may urge that it is not misleading, that it suggests no pathologic conditions that might prove to be erroneous, and that it refers especially to the characteristic clinical feature of the disease.

Etiology.—As to the etiology, practically nothing is known. Sex seems to play no important part. It has been observed most frequently in young adults. A few cases have been preceded by influenza, typhoid fever, prolonged worry or mental or physical exertion, but in the great majority of the cases the patients have been strong healthy individuals, free from any apparent taint, hereditary or acquired, before the attack, and in no instance recorded has any observer been able to attribute the disease to any definite cause. Rarely has there been a family tendency to nervous disease. Syphilis and alcohol seem to play no part as an etiologic factor.

Pathology.—At present nothing definite is known as to the true nature of the disease. In seventeen instances autopsies have been held by competent observers, with the practically uniform result that no lesions have been discovered either in the affected muscles or in any part of the nervous system, central or peripheral, that were sufficient to account for the symptoms. Careful and extensive microscopic examination of the whole nervous system by the most modern methods failed to discover any departure from the normal in 11 of the 17 autopsies; in the other 6 the lesions were slight and inconstant, and consisted of slight degenerative changes in the intramedullary portion of the anterior roots in one case, in the cells of the motor gray matter from the oculomotor nucleus through the whole length of the cord in another, of partial disappearance of the chromatophilic elements of the third, sixth, seventh and twelfth nuclei in another, and of slight medullary hemorrhages that possibly occurred while dying in the other three. By some the disease is considered to be toxic, the result of disturbed metabolism, and it is possible that the poison produces changes in the cells which can not be observed under ordinary modes of investigation, but which may in the future be demonstrated by more recent methods of examination.

An interesting experiment by Dr. Farquhar Buzzard⁴ goes a long way to prove that the disease is one of the nervous system and not a myopathy. In a case under his observation he completely exhausted the biceps muscle, by faradic stimulation until movements were no longer visible; he then immediately applied galvanism and a prompt and vigorous contraction occurred. This tends strongly to show that the exhaustion was not in the muscle but in the conducting power of the nerve. The absence of muscular atrophy also militates against the myopathic nature of the disease.

Symptoms.—The characteristic features of the disease are the weakness of the muscles and the rapidity with which they become exhausted, the tendency to affect not only the bulbar muscles but also those of the eyes and extremities, the occurrence of remissions and exacerbations with a tendency to vary from day to day, the presence of the myasthenic reaction, the retention of intellectual and sexual power, and the absence of atrophy and fibrillary twitching, of sensory disturbance, of reaction of degeneration, of bladder or rectal troubles, or of interference with the reflexes. The onset is usually gradual, but sometimes rapid. Though the weakness

may begin in any muscle, the cranial nerve muscles usually suffer first, and in the majority of cases the earliest symptom is either ptosis or diplopia; for this reason many of these patients first consult the oculist. The ptosis or diplopia may be slight, may be intermittent or may disappear altogether for an indefinite period, to recur again in a marked degree; after a time it usually becomes a permanent symptom which varies, however, from day to day, and tends to become worse in the evenings. The liability to fatigue of the levator palpebræ is readily shown if the patient looks steadily upward at an object held above his eyes, when the lids are seen to gradually droop until the eyes are nearly closed. There may be weakness of any or all of the ocular muscles, resulting in complete ophthalmoplegia.

Suckling⁵ published two characteristic examples under the title: "Functional Ophthalmoplegia with General Paralysis and Implication of Cranial Nerves in Young Women." In these cases there was a great tendency to oscillatory movements of the eyeballs when fixed for a time to their limit in the direction of the weak muscle. In some instances the patients can not raise their eyebrows, wrinkle the forehead nor close the eyes tightly; in others the weakness of the lower facial muscles is shown by a calm, rather expressionless countenance. Sooner or later the muscles innervated by the bulbar nuclei are affected; weakness in these muscles may be the earliest symptom, or it may not appear until near the end of the case. It is owing to the prominence of these bulbar symptoms that the disease has been designated "asthenic bulbar paralysis." All the symptoms of true bulbar paralysis may be present, but they are usually less marked, nearly always bilateral and are characterized also by exhaustibility and variability from day to day. There is difficulty in biting, mastication, deglutition and articulation; the palate reflex may be weak and on phonation the soft palate but slightly elevated on one or both sides; there may be inability to protrude the tongue beyond the teeth, or if projected to its normal extent it soon tires, begins to quiver and recedes into the mouth; difficulty in sucking, blowing or inflating the cheeks may be observed. In many cases the patient begins his meal all right, but in a few minutes, though still hungry, he is compelled to rest owing to the weakness in his muscles of mastication, or before he has satisfied his hunger he is no longer able to swallow and fluids regurgitate through his nose. The difficulty in articulation is shown by the weakness of the voice after use. At first the patient can speak clearly and distinctly, but his voice gradually grows weaker until he can no longer articulate; after a short rest he can proceed as before. The disease is prone to affect the respiratory muscles, producing attacks of dyspnea of an alarming character; indeed, the majority of the deaths have been due to asphyxia from this cause. The rapid fatigue of the respiratory muscles is well shown in our patient, who lost three-quarters of an inch in expansive movement after eight or ten inspirations.

The muscles of the head and neck may be affected with a tendency of the head to fall backward. The extremities are weak, the patient may be unable to raise his arms above his head, or, if he can do so, he can not maintain them in this position beyond a few minutes when they gradually fall to his side, but after a brief rest he may be able to raise them as high as before. His grip is feeble. In writing he begins rapidly, but after a few lines it becomes slower and labored until he is compelled to stop. The patient may be able to walk well for a short distance, then his gait becomes

feeble and irregular until he is forced to sit down and rest; he may be unable to lift one knee over the other. In some cases the weakness is so marked that the patient is unable to raise himself out of bed or to rise from a chair.

In addition to the weakness and exhaustibility, with in some cases a permanent paresis, which may affect any of the voluntary muscles, other striking features of the disease are its tendency to be aggravated in the evening, especially after exercise, the occasional exaggeration of the weakness when the patient's attention is drawn to his condition and the better performance of involuntary than voluntary movements. Remissions and exacerbations are common and the patient may for weeks, months, or even years—five years in Dreschfeld's⁹ case—appear to have made a complete recovery and then, perhaps suddenly, there is a recurrence of all the symptoms.

Myasthenic Reaction.—The electrical reactions in the affected muscles are interesting. If the muscle is not fatigued by voluntary exertion there is a prompt and good response to faradic stimulation—the vigor of the contraction, however, varies in different muscles and in the same one at different times. As the applications of the current are rapidly repeated, the movements gradually decline in extent and force until in a few minutes contractions are no longer visible, but after a minute's rest vigorous contractions are again induced by faradism. This peculiar exhaustibility of the muscles to the faradic current is called the myasthenic reaction, and since it was first described by Jolly it has been found to be present in the majority of the cases in which the examination was made. Even after exhaustion to faradism a vigorous contraction is at once induced by galvanism. In no case has reaction of degeneration been demonstrated.

It is very striking that in a disease with such pronounced and characteristic motor defects, which often lead to a fatal termination, there remains throughout a complete absence of so many of the well-known signs of organic disease in both the nervous and muscular systems. There is no atrophy of the affected muscles and fibrillary twitchings are absent; the special senses are unaffected and intelligence is good to the end, though in a case reported by Collins there was rapid exhaustion of the senses of sight and hearing; there are no sensory or trophic disturbances; there is no ataxia and the pupils are normal. There are no bladder or rectal troubles and the superficial reflexes, arm and knee-jerks are normal, or present no material change; in a few cases it is said that the knee-jerks became exhausted after repeated tapplings.

The course of the disease is characterized by the tendency to remissions and exacerbations already mentioned. In some instances the affection is almost limited to the bulbar muscles, but in most cases it is extensive in its distribution. The duration is indefinite; it may be chronic, as in Dreschfeld's patient who died from respiratory paralysis fifteen years after the onset of the disease, and in one of Buzzard's, who is still living eight years after the symptoms first appeared; on the other hand, it may be very rapid, as in an example reported by Widal and Marinesco,⁶ where death occurred fourteen days after the onset of the first symptoms.

Diagnosis.—The diagnosis must depend upon the recognition of the characteristic features of the disease, the weakness and early fatigue of the muscles, the implication of other muscles than those innervated by the

bulbar nuclei, especially those of the eyes and extremities, the tendency to remissions and exacerbations and the myasthenic reaction, with normal intelligence and the absence of atrophy and fibrillary twitchings, of sensory disturbances, of bladder and rectal troubles while the reflexes are normal. It is perhaps most likely to be mistaken for hysteria, neurasthenia, true bulbar paralysis or multiple neuritis, but a careful examination associated with the history of the case should prevent one falling into error. In this connection a case was recorded by Allbutt:⁷ "Miss ———, aged 18, caught cold six months previously, followed by stiffness of the tongue and jaws; this stiffness remained for a few weeks and then disappeared. She now moves her tongue and jaws and indeed every muscle of the face, throat and orbit normally. Of late she has begun to talk oddly, 'as if with a potato in her mouth.' This gets worse as she proceeds, when her utterance becomes involved and she stops." She had difficulty in swallowing, "she choked over her meals, more when she was tired, that is, at the later meals of the day." No evidence of hysteria or other neurosis or of palsy or atrophy was found, nor any other evidence of organic disease, except that the "forefinger of the left hand seemed weak and fumbling." A diagnosis of hysteria was made and for two or three weeks she made considerable improvement. Then one evening her symptoms, especially the swallowing, grew worse again and next morning before breakfast "she suddenly fell to the ground, was convulsed, turned blue and died at her mother's feet." Such a case in the hands of so competent a diagnostician as Professor Allbutt shows how readily the true nature of the disease may be overlooked, especially when the symptoms are so apparently indefinite and so variable as in the example recorded. A discussion on the differential diagnosis between myasthenia gravis and the various diseases with which it may be confounded is hardly necessary. As a rule a careful examination of the patient will render the exclusion of other diseases which may resemble it comparatively easy.

Prognosis.—Of the 62 recorded cases, 23 terminated fatally, the average duration of life after the development of the first symptoms being about 11½ years. As in many instances the duration is protracted, and as several of the reported cases have come under notice only during the past year, it will be evident that these figures probably under-rate the true gravity of the disease. It is probable that complete recovery sometimes takes place. Attacks of dyspnea from weakness of the respiratory muscles are of the gravest possible omen, and the patient's friends should be warned that death may occur suddenly during one of these attacks.

Treatment.—No specific treatment is known. Complete rest, mental and physical, and freedom from all forms of excitement should be enjoined. Various drugs have been tried, but there is no evidence to show that any drug has a beneficial effect on the disease. Strychnin has naturally been tried, but so far without result. One patient of Buzzard's made a great improvement under thyroid extract, but in another it was given without benefit. Faradism appears to have done harm, while galvanism and massage did no good. General tonics, as iron, arsenic and cod-liver oil may be of use in maintaining the general health.

REPORT OF CASE BY DR. J. R. BUIST.

According to the diagnosis of Dr. E. G. Wood and myself, the case we are about to report should be put in a class of nervous affections, the prominent feature

of which is a peculiar paralysis, or, more strictly speaking, a paretic state of many muscular groups, upon exertion rapidly showing fatigue, soon succeeded by absolute loss of power if the action of the muscles is persisted in.

It is only in the last eight or nine years that a real clinical entity has been accorded this abnormal state of the neuromuscular apparatus. As much as twenty years ago some cases first attracted the attention of medical men in Germany and England, and were reported under different designations.

The foremost neurologists of Germany, France and England are, at the present time, evincing very great interest in these cases, and studying hard to solve the hidden problems of causation and pathology.

Let us recollect that most forms of disease when first recognized, appear infrequent, but as familiarity with the clinical features increases, we find that particular cases are not so uncommon. At all events we know that this will be the first case ever described and reported in the Southern States, and the sixth ever given to the profession in America. Dr. Wood and myself are glad that this distinction will belong to the Nashville Academy of Medicine.

All the articles written on this subject unite in stating that the first reported case that came to an autopsy was that of Dr. Wilks of Guy's Hospital, published in 1877. The examination of the brain and spinal cord were carefully and fully conducted, and as no lesions of these structures were found, Dr. Wilks gave his case the name of "Bulbar Paralysis without Anatomical Base."

Along about the same period Erb of Germany published one or two cases. No other case was reported for ten years after. From 1887 to 1893 quite a number were reported in Germany, France and England. About that time Jolly of Berlin appears to have been the first to use the term "myasthenia gravis pseudoparalytica." In 1893 Dr. Dreschfeld published a case under the heading "Polio-encephalo-myelitis without Anatomical Foundation." In 1896, Collins^s uses the term "asthenic bulbar paralysis." Since then the text-books of Church and Peterson, Allbutt's "System of Medicine," and some other recent works employ the designation of "asthenic bulbar paralysis." Dr. Buzzard of London, in a lecture last March, used the term "myasthenia gravis," and so does Dr. Sanger Brown of Chicago in the last published case.

To our minds this term "myasthenia gravis pseudoparalytica" is by far the most appropriate yet employed. Without committing us to any theoretical doctrine of its etiology and pathology, or involving us in the necessity of localizing the disease, it simply gives us the most conspicuous clinical features.

Mr. E. R. R., white, 34 years old, a native of Giles County, Tennessee, and a resident of Carthage, Tenn., came under our care on Nov. 23, 1900.

Family History.—His father is said to have been an active and healthy man, and to have died at the age of 72, in an apoplectic stroke. Seven years previously he had a slight attack of hemiplegia, which was recovered from, except that the facial paralysis persisted. He had abdominal dropsy a year before his death. His mother was a woman of good constitution and died at the age of 73, of pleurisy. There were ten children, two by a first marriage and eight by the second—the patient is the youngest. His brothers and sisters seem to have been sound, of strong constitutions, except one brother now 48 years old, who, when 18 years of age, had an attack of typhoid fever. Ever since he has had tremulous movements of his hands. He can not write well; his condition has not

changed in thirty years. One sister, now 38, with three children, after the birth of her last child—eight years ago—seems to have had puerperal mania. Her mind remains unsound, but she is not in an asylum.

Personal History.—The patient is a man of good intelligence and fair education. He has lived mostly in Tennessee, a few years in Florida, and has traveled abroad. He has always enjoyed excellent general health, usually weighing 140 pounds. He has led a very active and sometimes laborious life, being engaged in various mercantile pursuits, has had all the ordinary diseases of childhood, and a slight attack of influenza when 20 years old. This left no serious sequelæ.

Ten years ago, while working very hard in a wholesale drug-store, he suffered with lumbago, which confined him to bed for two weeks, and two years later he began to have pains in both legs and feet, with much restlessness of the latter at night. This condition lasted, with intermissions and in decreasing severity, up to two or three years ago.

He went to Europe in the summer of 1899, on business and for travel, remaining there until April, 1900. While in London, during February, drooping of the left eyelid occurred, and first attracted his attention while playing billiards—he was annoyed by the eyelashes coming in the field of vision. This drooping increased so that in two weeks complete ptosis of that lid existed, and he consulted an oculist. After three weeks partial recovery occurred and he has remained about the same ever since. He can not fix the date of the drooping in the right eye, but is sure that it was some months subsequent to the occurrence in the left. He had no diplopia at this time.

On April 20 he first observed that at times he saw double, and then visited another oculist in London. After examination he was advised to return home, as his case looked suspicious of serious trouble. He arrived in New York on May 10, and consulted an oculist for diplopia. He was wearing a shade over the left eye at that time, to avoid double vision. He reached this city on the way to Carthage on June 1, and walked from one train to another, in the station, carrying two heavy satchels. On taking hold of the hand-rail with his left hand, he found he had lost power in the arm and could not lift himself up by it. This was the first weakness he had experienced in any of the extremities. On June 10 he again noticed the weakness of the left arm when he tried to lift his baby. About June 15, while at home, he awoke from sleep in the middle of the night with very peculiar feelings—there was a wave of tingling passing through his body, great oppression over the chest and stomach, and he thought he was about to die. He had not eaten imprudently, but a dose of bicarbonate of soda gave him relief, and he was better before the doctor arrived; it was thought likely he had had indigestion. He says it was not at all like night-mare. Subsequently, at long intervals, he had slight recurrences of this.

Early in July he first found he had lost power in the right arm—discovering this by his inability to put this hand into his hip pocket. Two weeks later, in going into the village one-fourth of a mile from his home, he took a short-cut and had to cross a stile steps, so he reached out both hands and sought the fence to help him up, but his hold gave way and he fell backward to the ground. He recovered in a few minutes sufficiently to walk a few hundred yards to a doctor's office. He was then in a state of great prostration—pulse from 110 to 120 and weak. He had to be taken home in a carriage.

A few days after this he went to Red Boiling Springs and remained there two weeks. Just before leaving home, he thinks his lower limbs were weak. His stomach and digestion had become disordered and he felt badly and was losing flesh. He made no improvement at the Springs, and in a few days after returning home, started to Battle Creek Sanitarium in Michigan. By September 15 his muscular weakness had increased so much that he was unable to raise himself in bed or to dress himself unaided.

He remained at this institution from August 1 to October 1, receiving the usual treatment of massage, hot and cold packs, electricity, etc., the paretic state all the while increasing, although he was much relieved of his gastric disturbance.**

Through October, and up to November 21, he remained at home, during which time he thinks his condition grew no worse. He has never had the least trouble with his bladder. His urine has been repeatedly analyzed and nothing abnormal found. His bowels are usually good; no rectal paresis. He never had headaches, no febrile attacks and no pains except as above noted.

EXAMINATION OF PATIENT BY DRS. WOOD, J. R. AND W. E. BUIST;
AT 8 P. M. NOVEMBER 23, AND 8 A. M. NOVEMBER 24.

He was fairly well nourished, color good, intelligence excellent, memory good. His forehead showed transverse wrinkles distinct. His expression was calm, the lower half of his face smooth and symmetrical, both at rest and in action. There was partial double ptosis. When his eyes were fixed on any object held above the eyes, the upper lids would gradually fall until the eyes were almost closed. Both eyes could be tightly closed.

Ophthalmoplegia (Partial).—The movements of both eyeballs were defective in all directions—weakest in the left external rectus. Convergence was fair. On turning the eyes to their limit in any direction, oscillatory movements soon appeared. The pupils were normal in size and shape, the reaction to light and accommodation good. The fundus was normal in both eyes. There was no facial paralysis, but the lips were weak and easily fatigued on suction. The tongue protruded in a straight line and with normal force, but soon began to quiver and in less than two minutes would fall back. The palate-reflex was normal, and moved well in both sides. The jaw-jerk was active, but on biting the temporals and masseters were weak and soon became fatigued; eating, swallowing and talking tired him in a few minutes. The neck muscles were sound and the trapezii quite active and strong. The pectorals and serrati were weakened, the latissimi good.

Arms.—The grip was very feeble in both hands. The dynamometer showed right 25 and left 27, and was better at the morning examination—32 and 35. Flexion of the elbow was active and strong if not resisted, but weak against resistance. The deltoids were flattened and small. There was no atrophy of the infra and supraspinati. He could raise his arms, flexed at the elbow, so that the fingers reached the top of the ears, and could maintain them, the right 25 seconds, the left 20, and then they would fall down. He could not put his hands in his hip pocket. His chest and shoulders were symmetrical—no fibrillary twitchings. Chest expansion: Expiration, 30½ inches; inspiration, 32½. After eight or ten deep inspirations, the power of expansion diminished to three-quarters less. The patient could write for a few minutes, but the handwriting then rapidly changed, becoming feeble, with irregular, illformed letters.

Lower Limbs.—These were weak generally, but with no atrophy. The thighs measured the same, and the calves were equal. In the recumbent posture he could put one leg over the other, and sitting could, with the greatest difficulty, throw one knee over the other—he could flex and extend the knees easily and equally. He could not raise either limb against resistance. When lying down he could not rise up unassisted, and when sitting could not rise to the erect posture without help. He could stand erect alone. Romberg's symptom was absent. Walking twice across the room his gait was good, his step being a little quicker than it should be, but after the third round his limbs got tired and he had to support himself or he would have fallen. The knee-jerks were very active when lying on his back and rather more than normal when sitting, but equal in both limbs. There was no foot clonus, and no extensor response of the big toes.

Myasthenic Reaction.—Tested at 8 a. m., November 24, the biceps responded well the first half minute, then grew weak, and responses ceased in about three minutes. Responses of the deltoids were very weak, and became exhausted in 2½ minutes. Both arms were alike.

Sensation.—There was no pain anywhere. Cutaneous sensibility was everywhere unimpaired to touch and pain—temperature test not used. The muscular sense was good. He

could touch the point of his nose with a finger of either hand with his eyes shut, without tremor. No ataxic gait and no ataxic movement of arms existed. The organic reflexes were normal, and sexual power good. The symptoms of weakness and fatigability of the muscles were more pronounced in the evening examination than on the following morning.

The patient was under observation and treatment until December 11, and then went home. During this time the pulse and temperature remained normal, that is, between 76 and 88 and 98.6 to 99 respectively. His sleep was usually good and undisturbed. His appetite was fairly good and bowels regular. The urine was found normal in quantity and quality. His knee reflexes were frequently examined, almost always active and, when not so, hand reinforcement would develop them to fully normal. He wrote two short letters, the first he had written in some time; after the first page the hand-writing became bad. His digestion seemed easily disturbed and he was afraid to eat many articles of ordinary diet. On the evening of November 29, in less than an hour after dinner, he was seized with a tightness and oppression of the chest, some difficulty in swallowing and a sense of general prostration. His chest expansion was slight, even with effort, and his facial expression anxious. There was slight nausea when the head was raised a little, but no vomiting nor any epigastric pains or uneasiness. His voice was weak, and tired easily. This condition was recovered from in a few hours. He said he had felt such attacks before but lighter in degree. On another occasion he found slight difficulty in deglutition, the milk getting up in the posterior nares. The muscles were always a little stronger in the mornings, especially the levators of the eyelids. He was generally in a good humor, hopeful and patient. No twitchings nor tremors were ever present.

He improved in muscular power perceptibly while under our observation, the grip of the right hand 35, of the left 36, at the time he left. He did not improve any in flesh or general condition. He could walk across the room eight times without giving out. Dr. L. B. Graddy was kind enough to examine the eyes on the day he left, and found the pupils normal. The fundi in both globes were equally normal, vision normal, and the vocal cords acted normally.

Treatment.—Complete rest in bed was ordered. The thyroid gland was tried a few days but abandoned, because it seemed to produce headache. Cod-liver oil and phosphorus was given for a few days, but his stomach rather rebelled and he was placed on codein, 1/8 gr. every three or four hours, which he still takes tentatively.

COMMENT.

Making a summary of the symptoms presented in the above record, we have the following clinical picture: A young man, previously healthy, with no antecedent illness and no irregular habits, is taken with a gradually advancing loss of power in the muscles innervated by the third nerve; then marked improvement up to a certain point. After a few months he suddenly becomes aware of a partial loss of power in the left arm. This slowly increases, when unexpectedly his lower extremities get quickly tired, and one day in attempting to get up a stile steps he staggers and falls back. Both arms and both legs now rapidly lose power, so that on very slight exertion complete exhaustion of voluntary power takes place. Meanwhile no change in sensibility and no impairment of mind, no abnormal condition of reflexes, and no disturbance in the circulatory system have occurred. The parietic muscles, though diminished in size, do not show real atrophy, and respond to electric stimuli. This irregularly progressive march of paresis finally invades the muscles of mastication, deglutition and respiration. This, it seems, is essentially different from the clinical history and behavior of any other form of neurotic disorder.

If we compare the above symptom-complex with the features of those nervous affections which most resemble

* * A letter from Battle Creek, Dated Nov. 12 (received Dec. 10), states that "his case is unique, and called myasthenia gravis."

t, and with which it has been most frequently confounded, we can easily differentiate "myasthenia gravis" from each and all.

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LIMITATIONS OF THE LARYNGOLOGIST IN THE GENERAL TREATMENT OF NOSE AND THROAT DISEASES.

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ST. LOUIS.

The tendency observable in modern laryngologic literature, to ascribe to the general system a closer etiologic relation with the nose and throat, must have one important effect—to call for a more general treatment of the upper respiratory tract.

Before the local propaganda had practically absorbed the attention of specialists in our line, the general or systemic means comprised in great measure the plan of treatment of nose and throat diseases. And now that localism has had full sway, it is to be expected that the general treatment should come more into vogue. Perhaps, if it were merely a return to former conditions, there would not be much call for a paper on limitations in this regard. But we must not forget that during these years changes have taken place which have increased our knowledge tenfold and our range of instrumentation and manipulation a hundredfold; which have so added to the science of medicine that no man can encompass it; which have so multiplied the fields of work that division of labor is not alone a pleasure but a necessity. Knowledge is no longer cloistered in the minds of a few men; it is open and free to him who will but learn; and its adherents are no longer numbered by the few but by the many. Naturally, this encourages competition in the acquirement of knowledge and struggle for supremacy in the application of knowledge to the various fields of human activity.

The pace set by all these workers results in the development of the special lines and to such an extent that he who would keep up to the standard set by these pace-makers must confine himself, almost exclusively, to the domain of his own work. Hence, when there is a call to return to a general view of medicine, for the cure of certain nose and throat affections, the specialist who has been in great part a localist finds himself, if he be conscientious to patients, in a field in which he can not work, except to the detriment of his special duties, which can not receive the attention they require.

It is a consideration such as this that has led me to present here some points in the relation of the throat and nose to the general system, which seem, at least, to substantiate the proposition that has been made to the effect that the practitioner and not the specialist should conduct the general treatment. I know the argument is advanced that the specialist should be first a general practitioner, and then become a specialist, that he should never sacrifice his interest in general medicine for the detail of his specialty. And yet the progress in general medicine is so great that ten years make a

tremendous difference and the specialist, after such a lapse of time from participation in the actual practice of general medicine, will find such a change that he will be in almost an unknown world. Then, he can barely keep up with the literature of his own line—not to speak of the tremendous amount that is to be included under the head of general medicine. Every month there are published about 300 articles devoted exclusively to the nose, throat and ear—the whole domain of medicine includes many thousands. Which is to be chosen, the relatively few or the impossible many? Another thing, the laryngologist's attention is, in the main, devoted to manipulation with instruments of examination and of therapeutics—can he be expected to be proficient in these and at the same time capable of outlining the plan of treatment which comprises conditions and circumstances remote from the nose and throat?

Because a paralyzed left vocal band is due to pressure upon the left recurrent, which in its turn depends upon a tubercular pleurisy or lymph node, is that any reason why the laryngologist should treat the tuberculosis? It seems to me that his function was completed when he discovered and localized the paralysis. Because chronic inflammations of the larynx and pharynx are often associated with bronchial and pulmonary conditions, and because the heart is in anatomic relation with the lungs and bronchi, is that any reason why the laryngologist should conduct the treatment of heart affections, or perchance kidney affections, which cause or result from cardiac diseases? I can understand how one who devotes his attention to the heart and lungs must be somewhat proficient in the diagnosis—not treatment—of nose and throat affections, but that the laryngologist should affect to include the lungs, heart and kidney is either presumptuous or evidence of a lack of full interest in his own line. It must be admitted, however, that circumstance sometimes throws a laryngologist into the necessity of including diseases of the lungs in his work, but few are equal to the task of properly filling both functions.

I say nothing of the justice which should be accorded the general practitioner who sends patients to laryngologists and to other specialists, for that matter, for his proper territory should not be encroached upon by the very men to whom he refers his cases.

Another phase of the question is to be found in the justice to patients, which we all should and do accord. Should we whose view is largely limited by the requirement of our special study and duties assume to meet the general indications with a skill equal to the general practitioner whose efforts are continually directed toward general conditions which we are considering? Is it not better for each to fulfil his own part of the medical and surgical management of the case—does not our own obligations to our patients demand this? We can, naturally, advise and consult with the general practitioner upon these matters, but to carry out these general indications is surely his particular function.

Relative to the bearing which general medicine and other specialties have upon laryngology, it will be interesting to consider the various conditions which may be associated with hemorrhage of the upper respiratory tract. According to Hagedorn, they include the following: Changes in the blood-vessels and blood itself, hemophilia, morbus maculosus Werlhofii, scorbutus, purpura hemorrhagica, phosphorus poisoning, anemia, leukemia, pseudoleukemia, diabetes mellitus, fatty degeneration of the blood-vessels, diphtheria, variola, ileotyphus, pyemic processes, gout, influenza, acute rheumatism, vicarious

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menstruation, nervous causes, lung diseases, heart diseases, interstitial nephritis, cirrhosis of the liver and pertussis. Is there a single condition enumerated here whose treatment a laryngologist would be justified in undertaking? Certainly there is as much reason to undertake general treatment of these complications and associations of epistaxis and hemorrhage from the pharynx as to prescribe general or systemic treatment for chronic rhinitis or pharyngitis.

In this connection, it might be well to mention that Kompe has discovered that epistaxis is a precursor of softening of the brain, which plainly indicates that in this instance the laryngologist might play the rôle of a diagnostician, but not that of a therapist.

COMPLICATIONS OF NOSE AND THROAT DISEASE.

When we investigate the various general and remote conditions which complicate nose and throat diseases, or which come into relation with them, we must be more than willing to admit that they can not fall within our therapeutic scope, unless they are relievable by local means or measures whose effect is local. Their number and distribution certainly offer a formidable argument in this regard. For instance, Friedrich groups them as follows:

Respiratory Diseases: All chronic lung diseases, asthma, emphysema, bronchitis, croupous pneumonia, chronic pleurisy, affections involving the apex of the lungs, edematous pleurisy, pleuritic exudates, chronic indurative processes of the lungs, tuberculosis, swelling of the intrathoracic lymph nodes, anthracosis, tumors of the mediastinum, diseases of the bronchial and peritracheolaryngeal lymph nodes, struma, thymus hypertrophy, abscess of the mediastinum.

Circulation: Heart weakness with lack of compensation, venostasis on account of the same, arteriosclerosis, mitral insufficiency and other valvular affections; aneurysm of the aorta, innominate, right subclavian and carotid, pericarditis, pericardiac exudate, thrombus, embolus, infarct and various affections of the heart and blood-vessels.

Digestion: Mouth conditions, dyspepsia, indigestion, cirrhosis of the liver, icterus, gall-stones, cholera Asiatica, cholera nostra, various stomach and intestinal affections.

Blood: Chlorosis, pernicious anemia, leukemia, pseudoleukemia, lymphosarcoma, hemophilia, purpura, scorbutus.

Chronic Constitutional Diseases: Rhachitis, acromegaly, diabetes mellitus, gout.

Acute Infectious Diseases: Measles, scarlatina, varicella, variola, typhoid, influenza, mumps, acute rheumatism, diphtheria, erysipelas, malaria.

Chronic Infectious Diseases: Tuberculosis, lupus, leprosy, glanders, foot and mouth diseases, anthrax, actinomycosis, rabies, trichinosis.

Kidney Diseases.

Skin Diseases: Eczema, herpes, pemphigus, impetigo, erythema, urticaria, lichen, miliaria.

Genital Diseases: Vicarious menstruation, masturbation, vasomotor reflex neuroses, puberty, gonorrhea, syphilis.

Eye Diseases.

Intoxications.

Nervous Diseases: Hemiplegia, progressive paralysis, cerebral softening, motor paralysis, tumors and abscess of the brain, meningitis, multiple sclerosis, bulbar paralysis, pseudobulbar paralysis, cerebral hemorrhage, cerebral syphilis and tuberculosis, tabes, syringomyelia, paralysis agitans, epilepsy, hysteria, chorea, enuresis

nocturna, affections involving the cranial nerves, pachymeningitis, leptomeningitis, acute cerebrospinal meningitis.

It will be noted that though Friedrich devotes over 300 pages to the relations of the nose, throat and ear to these diseases, which comprise practically the whole range of medicine, he does not say one word on treatment, probably considering that this should in the main be left to general practitioners and specialists in other lines. This catalogue of diseases shows the utter futility of an effort on the part of the laryngologist to meet the general indications enumerated. To assert that some may be met is to confess that he is unequal to the task of conducting such treatment as successfully as one who makes a closer study of general conditions.

TREATMENT OF PHARYNGITIS.

It is very interesting to take up a single topic, such as chronic pharyngitis, and observe the general treatment advised by various laryngologists. The following are the general plans announced:

Ball interdicts alcohol and tobacco, urges suitable diet, sulphate of soda or Carlsbad salt, attention to general health, and mineral waters.

Block's treatment is prophylactic, dietetic, hygienic, climatic, hydriatic, medicinal and at mineral springs; mercury, iron, iodine and springs containing iron, arsenic, sulphur and iodine.

Bosworth treats gastric catarrh, and uses mineral waters, colocynt and podophyllum for constipation.

Bresgen tries mineral waters.

Coakley inquires into the diathesis, seeks to correct the causal conditions, relieves constipation and congestive diseases of the liver.

Downie prescribes general tonic treatment, dry bracing air, iron and quinine with bitter infusions, and saline aperients when necessary.

Fink treats sweaty feet with liquor antihydroicus of Brandau, corrects the disordered circulation and looks after the stomach and bowels.

French attempts to cure the impaired digestion, which is the underlying cause in the majority of cases.

Ingals attends to the bowels, with arsenious acid, saline diuretics, corrects dyspeptic symptoms, with colchicum.

Kyle gives careful attention to the general condition and to correction, as far as possible, of any underlying constitutional diathesis or organic lesion, and stimulation of glandular secretions of the alimentary and urinary tract. For this he gives effervescent phosphate of sodium, succinate of sodium, compound wine of iodine.

Lennox Browne resorts to saline purgatives, iron and vegetable tonics, and arsenical waters.

Morell Mackenzie prescribes confinement to the house, restricted diet, wet compress, mustard poultice, opiates, and the Turkish bath.

Mandel gives iron and iron salts, iodids, baths, and change of atmosphere.

Moure favors mineral springs, sulphur and arsenical waters.

Price-Brown treats chronic gastric disease, checks the liquor and tobacco habit, regulates the general system, attends to the alimentary canal and prescribes appropriate tonics.

Robinson treats the constitutional condition, by appropriate general medication and hygiene.

Rosenberg gives hygienic and dietetic treatment and baths.

Schech removes the anemia, scrofula, hemorrhoidal conditions, interdicts strong alcoholics, highly seasoned or too hot foods, smoking and snuff-taking; protects workers in dusty atmospheres by the use of respirators, enforces rest and limits use of the voice in professional speakers, prescribing baths, mineral waters, and hydro-pathic cures.

Schmidt stops the smoking and drinking, orders mineral waters, cold baths, and denies sugar to diabetics.

Seiler builds up the system, gives hygienic treatment, such tonics as quinin, iron and phosphorus, cautioning patients against the evil consequences of masturbation, venereal excesses and intemperance.

Solis-Cohen attends to the general health, urges avoidance of exposure, and maintenance of functions of the skin, bowels and other organs as normal as possible, giving as tonics, iron and quinin, phosphoric acid and compounds.

It is evident that in addition to the treatment at mineral springs, which can only be accorded to a minority of the sufferers from this disease, attention to the stomach and bowels, according to the references here given, constitutes by far the most important indication. Let us see what this signifies. Until a few years ago, such an indication would have been a simple one to meet in the light of the knowledge of the time. To-day it is different, for it involves a diagnosis between, and a thorough understanding of, acute gastritis, chronic gastritis, gastric ulcer, dilatation of the stomach, gastrop-tosis, superacidity and the various widely-distributed causes of constipation. To do this properly requires a thorough knowledge of the details of stomach-contents analysis, physiologic chemistry, physical diagnosis and the latest modern methods of gastro-intestinal treatment. This manifestly falls beyond the province of the laryngologist, and so, that which at first sight is the simplest general treatment associated with an affection of the nose and throat, calls for a general practitioner or one who has made the condition a matter of special study. So we may analyze the general indications in every nose and throat disease, until we are forced to the conclusion that our work should be limited to the local manifestations in the nose and throat alone.

In the few rare instances where general treatment results in immediate local change in the nose and throat, the laryngologist may appropriately conduct the general treatment, but under other circumstances it is his duty to refer the case to the general practitioner or to the specialist in whose domain the condition belongs.

Thus mercury and iodids in syphilis of the nose and throat, aconite, atropin, opium, coal-tar products, etc., in acute conditions, and salol, etc., and the salicylates in rheumatic conditions, so far as their effect is local, are subjects for study and use at the hands of the laryngologist.

Personally, I do not take the view that the general system has such an overwhelming influence upon the diseases of the nose and throat. I am more disposed to expect a local cause in the majority of instances. But when the system is found at fault, it is clearly not the function of the laryngologist to correct it, with the slight exceptions just indicated; and those who maintain that the general condition is the most important indication for treatment, must, in justice to their patients, refer them to the general practitioner for treatment.

LIMITATIONS OF THE LARYNGOLOGIST.

In conclusion, I venture the following as the limitations of the laryngologist in the general treatment of

nose and throat diseases: 1. Acute conditions of the nose and throat, influenced by remedies which have an immediate local effect. 2. Rheumatic nose and throat conditions which exhibit a positive and early relief under appropriate treatment. 3. Syphilis of the nose and throat where general treatment may be best observed by watching its effect upon the local lesion, and where the local process is rapidly destructive. Even under these conditions, the patient's chances might be improved by assistance from one whose attention is less directed to localism.

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ABSOLUTE INCREASE OF MEASUREMENT FROM THE ANTERIOR SUPERIOR SPINE TO THE MALLEOLUS AS A SIGN OF HYSTERIC HIP DISEASE.*

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The differential diagnosis between tubercular and hysterical hip disease is sometimes easy but, on the other hand, sometimes exceedingly difficult, especially if the test examination under ether can not be resorted to; while the importance of a correct decision is always great, both from the medicolegal and the clinical stand-points.

Gilles de la Tourette, in an excellent review of the subject, gives a number of diagnostic signs—left side involved oftener than the right; pain, spontaneous or induced by pressure and motion, not only about the joints but at various points along the affected limb; relatively great development of cutaneous hyperesthesia; absence of nocturnal paroxysms; the presence of hysterical edema about the affected joint and limb; involvement of the knee muscles in the rigidity; coldness of the affected parts; finally, the presence of other well-marked hysterical signs—most of which are approved by my own experience. To this list the sign indicated by the title of this paper is at times a valuable addition.

The shortening of the measurement from the anterior superior spine of the ilium to the malleolus, due to the erosions and absorptions of tubercular hip disease, is familiar to every one. Less well known is the fact that in

* Read by title before the Section on Nervous and Mental Diseases, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

early stages of the disease this measurement is sometimes longer than the corresponding one of the opposite side, and the communication by Halsted,¹ published in 1885, in which the obviously correct explanation of this is clearly given is less often cited than it deserves.

Halsted's statement is that when this relative lengthening of the measurement is present on one side, it is mainly because the corresponding leg is adducted, and also because the opposite leg, with which comparison is made, is abducted. The latter factor is in fact the more important one, though both rest upon the same cause. It is, namely, perfectly evident, when one stops to think of the matter, that the center of motion within the head of the femur is ordinarily not in the direct line between the anterior superior spine of the ilium and the inner malleolus, but slightly inside of it toward the median line of the body. If, therefore, we measure from the anterior superior spine to any point below the neck of the thigh bone, we are measuring, as it were, the chord of a circle, and not the diameter, and no such chord can be as long as the diameter itself. If we strongly adduct the thigh, so that the three points in question lie in the course of one straight line, and then measure, we obtain, as it were, the diameter of the circle. It is also important to note that abduction shortens the measurement in question more rapidly than adduction lengthens it.

In the adduction of one limb and the abduction of the other with which its measurements compare, as met with in either tubercular or hysterical hip disease, provided they lead to tilting of the pelvis, these principles come eminently into play. The demonstration is easily made if one will place his foot on one end of a tape-measure and draw it taut to the anterior superior spine of the ilium, and will then note the changes in distance that are made as one sways the pelvis to the right or left, thus alternately adducting and abducting the limbs.

The value of this sign in differential diagnosis depends upon the fact that the lengthening of the measurements repeatedly alluded to rarely occurs in tubercular hip disease except in the early stages, when pain induces the muscular contraction which leads to tilting of the pelvis, yet when no erosion of the joint has taken place. In hysteria, on the other hand, the lengthening comes on with the contracture and does not pass away, however long the morbid conditions may last. Again, the difference between the two sides as regards this measurement is rarely, if ever, so great in true hip disease as it may be in its counterfeit, a fact which the case about to be reported will illustrate. Finally, the amount of lengthening or shortening is certain to be greater with persons whose pelvises are of such a shape that the distance between the anteroposterior planes of the anterior superior spines and the acetabulum is relatively great. This is probably true of women as compared with men, but this point needs further investigation. I give a brief history of the case which called to our minds the importance of this diagnostic mark.

The patient was a woman about 30 years old, and of good health, up to the time of an accident which happened on July 31, 1893. On that date, while walking about a shoestore to make a purchase, she stepped backward through a trap-door, into a cellar about five feet in depth, but, the fall being partly broken by a short flight of steps, the actual blow was not very severe. She struck on the back, the left hip, and the back of the head, and, what was perhaps more important, she

received a severe nervous shock, which was added to by the fact that she considered the storekeeper to blame.

After resting for a few minutes in a more or less dazed condition, she walked home, but almost immediately after entering the house she vomited, she said, two or three pints of a liquid which was colored with blood and was considered by her to be pure blood. The vomiting continued through the whole of that day, whenever any food was taken, but she kept about her house, nevertheless, until seen by her physician and advised to go to bed. For two days after this she was said to pass blood in the urine. The vomiting and nausea continued off and on for two weeks. She was extremely nervous, and suffered from attacks of faintness and pain along the vertebral column, increased by pressure. She had also palpitation and partial incontinence of urine for a number of weeks. Both legs became weak and would not bear her weight, though there was no paralysis. The pain in the neighborhood of the left hip was an early symptom, and would perhaps have been associated with the pain in the back as one of the general nervous symptoms, but for the fact that pain on active and passive motion, so severe as to make her scream out during the examination, suggested the idea of hip disease. Besides this pain on passive motion there was persistent dull ache, but there were no spasmodic outbreaks, even at night. The pelvis was tilted upward on the left side, to an extreme degree, and all the muscles controlling the motions of the hip-joint, and indeed those at the knee and ankle also, though to a less marked extent, were held rigid, so far as could be ascertained, day and night, without intermission. The diagnosis of hip disease was, moreover, strengthened by the discovery that the measurement from the anterior superior spine to the internal malleolus was greater by half an inch to an inch on the affected than on the unaffected side.

Treatment had been instituted in accordance with this view, and many months elapsed before she was permitted to put the foot to the ground. Meantime, the difference in the measurements aforesaid between the right and left side increased somewhat, so that it became actually more than an inch, while the whole limb became relatively cold and the muscles atrophic.

At an examination made by me in 1893, five months after the accident, and again nearly a year later, a well-marked hemianesthesia was found, associated with hyperesthesia over the hip-joint area, and the case was considered to be one of hysteria, pure and simple. Indeed, all her physicians had considered some of the signs and symptoms as of that nature.

At an examination made fifteen months after the injury, hemianesthesia of the left side, including the arm, leg, face and trunk, was still well marked. The vision of the left eye was not quite so good as that of the right, but there was no great impairment of the field for motion or color. She was still wearing the Taylor extension-splint and was suffering much from poor sleep, pain in the hip, knee and back, and from various hypochondriac and hysteroid symptoms. The general nutrition was poor. When she was examined, while lying flat on the table, the tilting of the pelvis toward the left side was so extreme and the abdominal muscles on the left side were so contracted that a depressed appearance was given to that half of the abdomen. The patient shrank from the slightest touch over the skin on or near the hip, pelvis, or back on the left side, and the slightest motion at the hip-joint was strongly resisted. The region of the left trochanter was

1. N. Y. Med. Jour., 1884, vol. 39.

excessively prominent, more than could be explained by any ordinary effusion or thickening. The surgeons considered that thickening was present, but I was inclined to believe that the condition was due to hysterie edema.

The left calf was found to be about three-eighths of an inch smaller than the right, and the left thigh was also smaller than the right, to about the same degree, but there was no practical difference between the glutei muscles. The entire left leg and arm, the left side of the trunk and face were slightly cooler than the right. The patient said that this was habitually the case, but that the left hand sometimes grew hotter than the right. I will note, in passing, that an alternating difference of this sort, the foot on the anesthetic side being cooler than its fellow while the hand on the same side is warmer, or vice versa, has been observed by me in quite a number of cases of hysteria. These signs, however, shift about from day to day or even hour to hour. The muscles about the knee and ankle were so rigid that it was difficult to bend the limb at those joints, as well as at the hip. No satisfactory reflexes could be obtained on either side, but the plantar reflex was much less pronounced on the left than on the right side. The knee-jerks were exaggerated, the left more so than the right.

The patient was carefully observed and repeatedly examined by the physicians in charge until the case came up in court, when her suit was lost on the ground of no liability. Her condition after this continued the same, except that she discarded the splint, finding she could get along about as well without it. Her general nutrition did not improve, and for a number of months she was troubled with a harassing cough and lost flesh and color to a marked degree. By my advice she entered the Massachusetts Hospital, and while there a salpingitis was found and treated, but without benefit to her general condition. After her return home means were found for sending her out of town, and she gradually improved, though without material change, either as regards the extreme tilting of the pelvis or the absolute lengthening above referred to.

Being greatly interested in the case, I kept track of the patient and, three years after the accident, at a time when the trial of her claim had long been an affair of the past, I induced her to come again to the hospital for examination under ether, by Dr. R. W. Lovett and myself.² All the conditions above described were present and unchanged before the etherization, but the relaxation was complete, the movement of the joint was free, the measurements became normal and the whole appearance and feel of the structure of the two hips became essentially alike on the two sides. As the anesthesia passed away, the contracture of the muscles, the hyperesthesia of the skin and the pain associated with passive motion rapidly returned. It could not be said that the rule laid down by Charcot, namely, that in hysterical hip disease the hyperesthesia of the skin returns before that excited by motion, could be substantiated.

Since that period the patient has gradually gained in all respects, but up to the time of my last accounts of her, she had not entirely recovered and was still lame.

The increased length of the measurement from the anterior superior spine of the pelvis to the internal malleolus has not, so far as I know, been recognized as a characteristic of hysterical hip disease, though a search through the literature of hysteria shows that it has not

been wholly unnoticed. Charcot is said to have described a case of that sort, but so far as I could judge from the reference, he speaks of it in a way to lead one to think that he regarded the signs as important.

Since the case above recorded I have seen a similar one, though less marked, the details of which it is not necessary to mention, and my colleague, Dr. Lovett, to whom my sincere thanks are due for valuable aid in this case, has likewise observed one or two of apparently similar character.

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A CASE OF TRANSIENT MOTOR APHASIA, COMPLETE ANOMIA, NEARLY COMPLETE AGRAPHIA AND WORD BLINDNESS. OCCURRING IN A LEFT-HANDED MAN; WITH ESPECIAL REFER- ENCE TO THE EXISTENCE OF A NAMING CENTER.*

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The history of the patient is as follows: Alfred E., aged 42 years, a coal miner by occupation, had always enjoyed good health until the onset of the present illness, which occurred four weeks previous to his coming under observation. He denied venereal infection and the use of alcohol, and his family history was negative. At the time above mentioned—four weeks—while at work, he suddenly became dizzy and weak on the left side, but power was not completely lost. There was no loss of consciousness, but he found that he was unable to talk, although he knew what he wanted to say. He also noticed that he was unable to write anything excepting his name and address. In the course of a day or two he regained the power of speech, excepting that he could neither name objects nor people. He says that he knew the name but could not express it. The muscular weakness of the left side improved rapidly excepting the muscles of the face and tongue.

When examined, the patient appeared to be a healthy, well-nourished man, of considerable intelligence for his station in life. The heart, lungs and kidneys were normal, and there was no rigidity or increased tension of the blood-vessels. He was a left-handed man excepting for his writing, which had always been performed with the right hand. The angle of the mouth was drawn slightly to the right and the tongue was protruded to the left. Weakness of no other muscles could be discovered. The knee-jerks were both active and equally so, and upon the left side there was a wrist-jerk which could not be elicited upon the right. He complained of headache, but there were no other sensory disturbances. Examination of the eyes showed nothing abnormal. He understood everything that was said to him and could converse fluently until he was required to name either a person, place or object; this with the exception of his own name and address, he was unable to do. For instance, he was unable to give the name of his married sister, who was with him, but knew when it was pronounced correctly. There was inability to name paper, a penholder, an ink-well and a watch, but he could tell at once what they were used for, and whether or not they were named correctly by another,

2. It is proper to say that the test by etherization had been proposed at an earlier stage, but was not carried out on account of the unwillingness of the patient and her friends to submit to it.

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but he could not repeat the name after it had been pronounced. He also insisted that he knew the name but could not say it. He was equally unable to name the objects when felt or heard, as in case of the watch; or objects smelled or tasted. Both printed and written words were read very imperfectly, the latter more so than the former. Single letters could usually, but not always, be read, and in attempting to read he sometimes got a word by spelling it. When words not recognized were read to him, he was unable to tell whether it had been done correctly or not. It was noticed that the more common the word the more likelihood there was of its being recognized. Figures, he read correctly, but simple arithmetical calculations could not be well done; for instance, he knew how much twice two was, but could not tell how much five times two made.

With the exception of his name and address, spontaneous writing was impossible; in attempting it, after making one or two letters imperfectly he would give up in disgust. Writing from dictation could be done somewhat better, but still very imperfectly. For example, the sentence: "John Smith is no good," was given him. He wrote, with much effort: "John Smith is no"—the word "good" being attempted but unintelligible, and he was unable to proceed further. He could copy fairly well for a while, but would soon tire and be unable to proceed further, and he was unable to read what he had written. Figures could be made correctly.

Improvement gradually took place, the power of pronouncing names first becoming better. At the end of two months he wrote a letter home and was able to name, in some instances after some thought, all objects shown him, excepting a lead pencil.

To sum up the symptoms of this case, we have in a man who was left-handed for all acts excepting writing, which was performed with the right hand: 1. Loss of the power of naming, whether the object was seen, felt or heard, smelled or tasted. The name, however, he claimed to know and recognize, whether it was pronounced correctly or not, but he could not then repeat it. 2. Marked but not complete word blindness, with preservation of the power of recognizing and reading numerals. 3. With the exception of his name and address, inability to write spontaneously; better, but still very imperfect, power of writing from dictation, and inability to read the copy. 4. There was paresis of the muscles of the tongue and lower part of the face on the left side.

From the suddenness of the onset the lesion was evidently vascular in origin—either an embolus or hemorrhage. All of the symptoms excepting the inability to pronounce names can be explained by an incomplete involvement of the angular gyrus on the right side. A lesion limited to this locality does not, however, explain the peculiar form of inability to name objects exhibited by this patient. From the facts that the patient, by means of his internal language, could call the name into consciousness, that he could recognize whether it was pronounced correctly or not, but could not repeat it, we are justified in assuming that the disability was motor and not a sensory defect. It differs from the so-called optic aphasia of Freund in that there was loss of the power of naming, even after the stimulation of other senses than sight, and that there was ability to call up the name but inability to say it. There would seem, therefore, to have been no interruption of the pathways between either the primary or higher visual centers and the center for auditory word memories; it would seem likely also that a lesion destroying these tracts would also cause hemianopsia.

There has been some discussion of late as to the existence of a concept or naming center. After Broadbent, Mills has been the most earnest advocate of its existence. The case just reported would seem to add some proof to the correctness of the theory that such a center exists.

It will be remembered that the patient could not name objects after stimulation of either the senses of sight, touch, hearing, smelling or tasting, and also that the inability to pronounce the name was due to a forgetting of the muscular movements necessary to say the word, and not to loss of the power of calling the word into consciousness. These facts eliminate loss of function of the centers for preserving the sensory memories, viz., visual, tactile, auditory, olfactory and gustatory, as a cause. It is not likely that the center of motor speech memories in Broca's convolution was destroyed, as he could use all other words with facility. It does not seem improbable, then, that this disability was due to the destruction of either a tract or tracts leading from the region or regions where names are called into consciousness to the motor speech center. It is, therefore, necessary to assume that either the lesion cut a number of tracts leading respectively from the centers of visual, tactile, auditory, olfactory and gustatory memories to the motor center, or else that tracts from each of these centers converge to a common center where the memories of names are stored up to be called into consciousness by stimulation of one or all of the percipient centers, and that from this center a tract passes to the motor speech center, and that this tract was destroyed. While the occurrence of the former is conceivable, that of the latter seems more probable, especially so as a lesion to cut all of the tracts mentioned would have to be of considerable extent, and from the slight amount of shock present at the time of onset, this was probably not the case. The possibility of such a lesion occurring has been considered by others. Langdon¹ has reported the case of a man who had lost the power of naming objects seen and felt, but who could name them when any of the other senses were excited. He knew what the object was used for and whether the name was pronounced correctly or not by another, but he could not repeat it. In addition, he had word and letter blindness, *agraphia* due to muscular disability, as he could write with the left hand, right homonymous hemianopsia, right hemiplegia and anesthesia of the right hand and forearm. Langdon believed that the lesion involved the posterior limb of the left internal capsule and extended outward into the centrum ovale, but did not involve the cortex. He believed that inability to name objects, either seen or felt, was due to a cutting of the tracts leading from the centers of visual and tactile memories to Broca's convolution. He afterward says that it is also possible that the symptoms might be produced by a cutting of fibers going from these centers to the naming center and regards the existence of such a center as possible but not proven.

Bramwell,² in discussing a case of total inability to spontaneously name objects and persons, with, however, ability to repeat names when heard, associated with slight word blindness and *agraphia*, says that this inability, viz., loss of the power of naming, may be due to destruction of the "naming" center, which he assumes is part of the superior temporal convolution; destruction of the nerve fibers which pass from the "naming" center to the motor vocal speech center; and destruction of the motor vocal speech center by which these impulses are emitted. To these Mills very properly adds "de-

struction of the sensory percept centers and tracts leading from these centers to the naming or concept center."

If we assume that the belief that a naming center exists offers the best explanation of the occurrence of the peculiar form of anomia presented by this patient, the question arises: Where is this center? This has not yet been answered satisfactorily, and this case does not offer us much help other than that from a consideration of the other symptoms presented, it seems probable that it is somewhere in the region of the center for auditory memories, where it has been placed by others. Mills³ has located it in the third temporal convolution, but his case, reported as evidence of this, is not conclusive as there was destruction of other neighboring portions of the brain, and other forms of aphasia—word blindness, agraphia, etc.—were present. Hammond⁴ has recently reported a case due to traumatism, in which the patient had no other symptom excepting the loss of ability to name, and knew the proper uses of the objects presented, but could not pronounce the name after he had heard it. When operated on, a clot was found covering the entire superior temporal convolution on the left side, and at the junction of the posterior with the middle third of the gyrus there was a hole into which a probe could be introduced to a depth of about an inch and a half, at a right angle to the surface of the gyrus. Removal of the clot was followed by recovery. Hammond believes that there is a certain region of the cortex in which the memories of names are stored; he thinks that it is probably a part of the center for auditory memories which has this special and isolated function. Bramwell,⁵ in his discussion of the case, before mentioned, expresses the same view. That a so-called center may be subdivided into parts possessing different functions would seem probable from the observations of Hinshelwood⁶ and others who have reported cases in which there was letter but not word blindness, the converse of what should take place if the faculty remaining depended on first-learned and consequently, as it were, more deeply-rooted impressions.

It will be remembered that in Hammond's case, before mentioned, there was no word deafness, and yet there was a lesion involving part of the left superior temporal convolution. At this point it may be well to again call attention to the fact that in the case just reported, there was but slight letter blindness, and that the power of reading and writing numerals was preserved.

While recognizing the uncertainty of the correctness of an opinion based alone upon clinical symptoms and theorizing, it seems to the writer that the most probable explanation of the inability to name objects presented by this case is: that there is a naming center, probably somewhere in the temporal lobe, possibly part of the superior temporal gyrus, and that a tract leading from this center to the center for the preservation of the motor memories of speech was damaged. Such a tract would likely run through the insula and thus would be in a location easily reached by a lesion that had, judging from the word blindness and motor paralysis present, involved the angular gyrus and extended subcortically in a direction to impair the function of the fibers running from the centers for the lower part of the face and tongue to the internal capsule.

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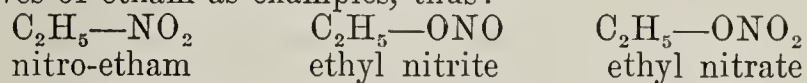
THE PHARMACOLOGY OF THE NITRO-SUGARS.*

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The nitro-sugars are in reality nitrate-esters, and are closely allied to nitroglycerin and other members of this class. They were first prepared, along with other organic nitrates, by Schonbein¹ (1845), then by Sobrero² (1847) and Flores Demonte and Minard³ (1847). The whole class of bodies obtained by these observers was made by simple nitration, and this led to the name "nitro" being given to them. Subsequently another class of substances possessing entirely different physical and chemical properties was obtained, and, on reduction, yielded amido compounds. To these the name of nitro-compounds has been restricted. It was shown later that nitroglycerin did not yield an amido compound and, therefore, it could not be a true nitro body. It is in fact a nitrate.

The differences may be expressed, taking the derivatives of etham as examples, thus:



As nitro compounds yield amido compounds on reduction— $C_2H_5NO_2$ yielding $C_2H_5NH_2$ —it is evident that their nitrogen is directly connected to the alkyl radical, whereas nitrites, which are isomeric with them, must have their nitrogen linked to the alkyl radical through the intermediation of an oxygen atom, as there is no other possibility. Nitrates which are built up in the same way as nitrites must also have their nitrogen united to the alkyl by an oxygen atom. Recently the formula $R-OONO$ has been suggested, but into this question it is unnecessary to enter. It may perhaps be well to restate that the nitro-sugars belong to this nitrate class.

Pharmacologically the interest which surrounds the nitrites and many organic nitrates is their peculiar affinity for unstriated muscular fiber, especially that of the blood-vessels. Injected into the circulation, they lower blood-pressure; perfused through the vessels of isolated organs, they dilate them; and administered to man, they lower the tension of the pulse—effects due to a paralyzing influence on the unstriated muscle of the blood-vessel wall.

All volatile or soluble nitrites, inorganic or organic, exert this action, but not all nitrates. Inorganic nitrates and organic nitrates corresponding to them, e. g., urea nitrate, have no influence. The organic nitrates which possess this effect are those in which the nitrate group has replaced an alcoholic hydroxyl. And all of them, with a few doubtful exceptions, belong to the aliphatic group. Ethyl nitrate, which may be regarded as ordinary alcohol with the OH replaced by NO_3 ; glycerol trinitrate (nitroglycerin), in which the 3(OH) of glycerin have given place to 3(NO_3), and erythrol tetranitrate, in which the 4(OH) of erythrol (a tetrahydric alcohol) have been replaced by 4(NO_3) are examples in point.

The action of these three substances, although similar in kind, is of very different degree. Nitroglycerin in minute amounts possesses a powerful but comparatively transient action; erythrol tetranitrate in much

* Read by title in the Section on Materia Medica, Pharmacy and Therapeutics, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

1. Philos. Mag., xxxi, p. 7.
2. Comptes Rendus, xxiv, p. 247.
3. Ibid., p. 390.

larger amounts, a more gentle and prolonged effect. The difference in action is due in the main to a difference in solubility—erythrol tetranitrate is a crystalline solid and much less soluble in water than nitroglycerin; mannitol hexanitrate, which is still less soluble, exerts a correspondingly weaker effect.⁴

The nitro-sugars possess an action similar to these solid organic nitrates. They too are solid, but the three investigated—glucose nitrate $[C_5H_6(NO_3)_5CHO]$, levulose nitrate $[C_5H_6(NO_3)_5CO]$, and saccharose nitrate $[C_{12}H_{14}O_3(NO_3)_8]$ —are non-crystalline. At ordinary temperatures they are of a pasty consistency; at low temperatures they are brittle solids. Their solubility in water is very small; they gradually decompose in air, and like all bodies of this class, they are explosive.

Their pharmacologic action corresponds to their chemical constitution and solubility in water. A saturated solution in 40 per cent. alcohol injected into the circulation causes an immediate and somewhat prolonged fall of blood-pressure, and when injected through a catheter into the stomach a similar, but delayed, slighter and more prolonged fall is obtained. Perfused through the vessels of an isolated kidney, they all cause distinct dilatation, apparently of almost equal degree. They also exert a similar action on the pulse of man, but the effect is not great. The following figure shows that produced by 0.1 gram of glucose pentanitrate:

On urinary secretion the effect is slight. In the few experiments made the variations seemed to follow those of the blood-pressure.

These bodies, in fact, act in every way like the other solid organic nitrates of this class. Like them, they are readily reduced on boiling with dilute alkalis, and the explanation of their action, whatever it may be, is the same. They are, however, much less stable and much less active than erythrol tetranitrate, and on this account it is doubtful if they will find a place in therapeutics. Strange to say, they possess a very bitter taste.

THE CLASSICAL CESAREAN VERSUS PORRO CESAREAN.*

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As the present year completes the nineteenth century and we are about to be ushered into another with all its responsibilities, it is natural for those of us who are interested in the history of midwifery to look over the past and also think of the possibilities of the future.

The remarkable advance which has been made, particularly in the latter half of this century, has revolutionized our science, resurrecting operations which were in the writer's student days spoken of only in condemnation. We refer to the classical paper on the "Contagiousness of Puerperal Fever," by Oliver Wendell Holmes, in 1843; next, the work of Semmelweis, of Vienna, in 1846, and later that of Pasteur in bacteriology, and its application to surgery by Lister. The works of these illustrious men have established forever the fact that the so-called childbed fever is an infection.

The antiseptic era has revolutionized obstetric surgery. It has made the physician all the more appreciate

the fact that the problem before him for solution is a grave one and that at any moment in the progress of labor he may find himself facing an operation which must be performed, not only intelligently, but immediately.

This century has given us the child-saving operations: axis-traction for the forceps, the modern symphysiotomy, and the modern Cesarean section.

The century is closing with our science placed on a higher plane than ever before in its history. The obstetrics of to-day conserves the child's interests more than it ever did in the past. It makes us all the more mindful of the fact that we have two lives at stake and that we have no right to sacrifice one to save the other.

The twentieth century still has much to accomplish. Let us hope that with the advance of civilization the midwife will soon be a thing of the past, or else remedy the evil by compelling her to attend a full course in medical training, for none other than the physician has a right to assume the responsibility of an obstetric case.

My object in this paper is to defend to the best of my ability the classical Cesarean section as the operation of choice whenever it is essential to deliver by abdominal section; also to express my views in answer to the question: Does the life of the child alone indicate the Cesarean section? My conclusions are based on an experience gleaned from my private work and the work of two teaching maternities—the Philadelphia Lying-in-Charity for twelve years, 8000 cases, and the Medico-Chirurgical College Maternity for six years, 1500 cases; also the study of the published results of others.

In these two maternities thirteen successful Cesarean sections have been performed. Of this number six were by the writer, seven by my colleagues. Twelve of these cases were the classical Cesarean by choice; one was a Porro by necessity.

The Cesarean section is so frequently performed now and—in the hands of the experienced—with such a low mortality that the day, we believe, is not far distant, if it does not already exist, when, for the child's interest it will be elected in some cases over high forceps, version, induction of premature labor, and symphysiotomy. If the mortality is as low as we claim, the operation will be more generally resorted to and we may expect in the future a new chapter added to obstetrics.

If we follow closely the recent literature on the subject we believe that the above statement as to mortality can be substantiated. Each month is adding to the accumulating evidence.

A recent paper by Reynolds¹ on "The Conditions which Govern Success in the Sanger Cesarean Section," embodies my views so precisely that I will take the liberty to draw from his text. He reports fourteen successful cases and makes the following two propositions:

1. "That when the mother's vitality has been seriously lowered by either septic infection, prolonged labor, or complicating disease, the mortality of the Cesarean section is so high that it is an unjustifiable operation, and in such cases symphysiotomy should be done when it is applicable or, if it is not, craniotomy to the living child should be unhesitatingly preferred to the section, in the interests of the mother."²

2. "That when the mother is in good condition, that is, when she is generally sound, uninfected, and not

4. Bradbury: The Lancet, 1895, ii, 1205.

* Read by title before the Section on Obstetrics and Diseases of Women, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

1. Obstetrics, January, 1900.

2. Always excepting cases in which the hopeless condition of the mother leaves the child's interests only for consideration.

exhausted by long labor or by prolonged efforts of delivery by the forceps, the Cesarean section is so safe an operation that it may be used unhesitatingly in cases at term, whenever an intrapelvic deformity would be fatal to the child, and may often be preferred even to the induction of premature labor, on account of its superiority in the saving of fetal life."

He analyzes the two largest lists of Cesarean sections recently published, that of Everke's 35, and Leopold's 100.

Excluding the cases of hysterectomy and those infected, or else exhausted by long labor, that were operated on, he finds 74 cases come under his second proposition.

To this number he adds his 14 cases, making 88. I will take the liberty to make the same analysis of the 103 cases herein mentioned and will remove one case, hysterectomy, leaving 12 cases operated on in good condition, by hysterotomy. This makes a grand total of 100 cases. In this series there were but two deaths; both cases were operated on many years ago when our technique was not as good as it is now.

"The most favorable showing for the neglected or complicated cases, that of Leopold, gives almost one death in every four." It would seem from these statistics that the Cesarean section, if anticipated and not performed as a *dernier ressort*, is accompanied with so low a mortality that the life of the infant would be a sufficient indication.

Accepting this proposition it becomes our duty to be prepared to operate by abdominal section in all cases giving the history of one or more labors resulting disastrously to the infant.

In pelvic deformity the patient in many cases should be given the test of the first stage of labor and if the head is fixed at the inlet the forceps may be applied and judicious traction made; failing in this, abdominal section should be resorted to.

For eclampsia developing at or near term when for certain reasons it does not seem wise to resort to manual dilatation of the cervix, abdominal section will rapidly empty the uterus and enable us to bring about free blood-letting, which is often beneficial. Olshausen advises Cesarean section in severe cases of eclampsia occurring before the onset of labor and with undilated or unyielding soft parts.

Hillman reports a case of eclampsia in which he was forced to perform Cesarean section. The woman, a primipara, 23 years old, came under observation after she had had six convulsions. She was cyanotic and comatose; pulmonary edema, no labor pains, os completely closed. The operation was performed to save the mother's life. It could not be decided whether the child was alive or dead. After the uterus was emptied there were no further convulsions and immediate improvement was followed by recovery. The child was still-born.

For placenta prævia, particularly the central variety, when the patient has not been depressed by excessive hemorrhage, abdominal section will conserve the child's interests, and the patient will escape the hemorrhage subsequent on any operative interference per vias naturales.

For prolapse of the cord complicating the vertex, especially in cases where the cord can not be repositioned and podalic version is entertained, here, in some cases, section may suggest itself.

There exists a difference of opinion among American Cesareanists as to which is the better method of oper-

ation, the Sanger or the Porro. The writer believes that the same conservatism which has cared for the child must be applied to the mother, and that a mutilating operation should be only one of necessity.

The celio-hysterotomy has many advantages over celio-hysterectomy. We can not agree with those who believe that a woman should not be exposed to the danger of a second Cesarean.

Celio-hysterotomy has a lower mortality, can be performed more readily, and above all it is the operation which conserves the mother's interests and by so doing broadens the field for the Cesarean section. On the other hand, celio-hysterectomy is mutilating, has a higher mortality and should only be performed when the patient is infected or when some tumor of the uterus makes it necessary. Celio-hysterectomy should not be performed simply to prevent future pregnancy, when ligation of the Fallopian tubes—which is less mutilating—will accomplish the same purpose.

In reviewing my six cases we find the following:

CASE 1.—Flat rachitic pelvis; also extensive fibroids of the uterus. Patients two days in labor, infected. Hysterectomy was necessary.

CASE 2.—Scolio-rachitic pelvis. A second Cesarean, an elective operation. Hysterotomy performed.

CASE 3.—Coxalgic pelvis; a II-pari; first labor ended in craniotomy; operated on during labor. Hysterotomy.

CASE 4.—Generally contracted pelvis. Patient has had six dead children. Elected date. Hysterotomy.

I wish to place on record my fifth and sixth cases, operated on in February and March of this year.

CASE 5.—A third Cesarean for scolio-rachitic pelvis. Mrs. C.; married; aged 34 years, was admitted to the Medico-Chirurgical College Maternity Feb. 13, 1900. In September, 1892, she was delivered by the elective Cesarean³ section in Kensington Hospital for Women, Philadelphia. Dr. Charles P. Noble operated, the writer assisting.

Five years after this, in 1897, she was admitted to the Philadelphia Lying-in-Charity in her second pregnancy, and well advanced in the last month. With the history of this artificial delivery and the patient again in the last week of gestation a second Cesarean seemed indicated. The staff of the hospital agreed with me in this opinion. Examination of the patient proved the fetus to be of good size, presenting by its pelvic pole. The following measurements were made: intraspinous 27 cm., intracristal 28 cm., external conjugate 17 cm., diagonal conjugate 8.5 cm., true conjugate 7 cm.

A second elective operation was performed Aug. 12, 1897. A free incision was made through the abdominal wall to the side of the old linear scar. Several omental adhesions were now loosened, then it was found that the uterus and abdominal wall were firmly united at the lower angle of the old incision. The uterus showed no evidence of the result of the first operation. The silk sutures used could not be found. Although this strong attachment between uterus and abdominal wall interfered with the compression of the organ it did not seem wise to make the dissection.

A clean incision was now made parallel with the long axis of the uterus just sufficiently large to permit the extraction of its contents. The fetus, presenting by the breech, was delivered head first through the incision. The uterine wound was closed with interrupted silk sutures just escaping the mucosa. For the abdominal wound silkworm gut was used.

The third Cesarean was performed in February last, at the Medico-Chirurgical College Maternity. In this

3. Annals of Gynecology and Pediatrics, January, 1893.

operation the patient had the test of a thirteen-hour labor without progress.

The incision was this time made over the old scar. Because of the firm union between the uterus and abdominal wall at the lower angle of incision a transverse fundal incision in the uterus was made. The child, a female weighing $7\frac{1}{2}$ lbs., was with ease removed, and the uterus nicely contracted.

The puerperium was uneventful. Mother and child left the hospital in four weeks. Both were in good condition.

CASE 6.—An obliquely contracted pelvis. Mrs. B., a multipara, aged 37 years, was admitted to the Philadelphia Lying-in-Charity, Feb. 28, 1900. The history of her previous labors is briefly as follows:

The first labor was long (52 hours) and finally terminated by the use of forceps. The child was dead.

The second labor, also long, resulted in craniotomy. As a result of these two instrumental deliveries the soft parts were badly torn, demanding two years ago the removal of the left ovary, trachelorrhaphy and a ventrofixation of the uterus. The patient comes to us a third time pregnant, near term. Her previous history is explained in an examination of the pelvis. It is contracted and the left oblique measurement is much encroached upon.

Cesarean section was performed after the test of a fourteen-hours labor. An interesting point in the operation was the effect that pregnancy had had on the fixation of the uterus. Fortunately the uterus was not firmly attached, else we might have had another cause for obstruction.

The growing uterus had left its point of attachment and a cord-like band six inches in length had formed, extending from the fundus over the anterior wall of the uterus to the point of attachment. A longitudinal incision was made in the uterus and the child easily removed. The infant was a male weighing $9\frac{1}{4}$ lbs. Mother and infant left the hospital in one month in good condition.

In conclusion, I would say:

1. That the life of the infant alone, under certain conditions, justifies the Cesarean section.

2. That the classical Cesarean has as low a mortality as an easy ovariectomy. Is not the life of the child then as good a reason for performing a simple abdominal section as are the vague symptoms for which operations are daily done?

3. That the classical Cesarean is less mutilating than the Porro Cesarean, and, with the patient in good condition, is therefore the operation of choice.

4. That the Porro Cesarean has about the same mortality as has hysterectomy for fibroids. That it should be performed when the patient demands it, or when infection or a neoplasm of the uterus makes it necessary.

5. That it is the duty of the practitioner in attendance on a multipara with the history of one or more dead children, to be prepared to perform the Cesarean section. If he does not possess the necessary surgical training then he should call to his assistance the obstetric surgeon.

1953 Locust Street.

Lumbar Puncture in Miliary Tuberculosis.—Dr. William Osler recently showed, at his clinic, specimens from a patient who had died of acute miliary tuberculosis, and in whom the diagnosis had been made by lumbar puncture, the fluid exudate obtained showing an enormous number of tubercle bacilli. The disease is almost invariably mistaken for typhoid fever.

OCEAN CLIMATES: THEIR EFFECTS AND THE CASES THEY BENEFIT.*

JOHN A. ROBISON, A.M., M.D.

CHICAGO.

We are all familiar with land climates, for obvious reasons, but a study of ocean climates is desirable, because a sea voyage is often beneficial when a change of land climate is of no avail. And why this is true is readily comprehended when the differences in the climates are observed.

1. The climate of the sea is more equable on account of the temperature being varied by ocean currents instead of winds, as is the case on land. That this is true is proven by the fact that the hottest and coldest months on land are August and February, respectively, because the winds are scorching and freezing during those months, while the hottest and coldest on the sea are September and March, because the southern cauldrons are at their highest and lowest temperatures during those periods.

2. The sea air is warmer. While this statement applies to the parts of the sea which are the ordinary paths of travel, yet as a statement it is true in general, as Arctic explorers have said it was warmer on the sea than on land—or ice. The warmer air is more sedative, and tends to allay nervous irritability of tissue and body.

3. The air of the sea is more nearly aseptic, is free from dust, and contains more ozone than land air, except in the highest altitudes. And it is almost continually in motion.

4. The sea air contains more moisture than land air, and this moisture is laden with the volatile elements of sea water. The dew point is lower than on land, and the sensible temperature is also somewhat lower.

Besides these points of difference, it is interesting to note that the sea currents flow so that the warmest currents hug the shores of the coldest side of the continent, as the so-called gulf stream follows our Atlantic coast, while the Japan stream veers away from our warm western shores. The rising and lowering of the temperature is slower than on land, for the isotherms travel only at the rate of twenty-two miles a day, while the cold or hot waves on land travel with the velocity of the wind.

Thus we see that the sea affords conditions that favor slow travel. And in the days of the sailing vessel it was quite the proper thing for the invalid to take a sea voyage, where he could enjoy pure air, sunshine and the breezes.

What are the effects of a sea voyage? The equability of the climate permits, and the desires of the traveler demand, the spending of the most of his time in the open air, and the pure air is stirred in motion by the continual sea breeze and fans the invalid, and the tonic influence of the air creates appetite, and the enforced rest revives the exhausted body. Quiet of body and mind, freedom from the worry of business and domestic cares assist mother sea in restoring the tired invalid to health. Sea air has a sedative effect on the nervous system, increases metabolism, weight, appetite, and inclination to sleep, and so, to those with whom it agrees, it is a sedative tonic.

From a knowledge of these effects we can readily perceive the class of cases which sea air will benefit. In addition to the general effects enumerated, the air has, also, a sedative effect on the respiratory passages. Therefore

* Read at a meeting of the Chicago Laryngological and Climatological Association, Nov. 15, 1900.

a sea voyage should benefit a large number of cases of diseases of the respiratory tract, and we find that it is true that it is, in the majority of cases, a specific for hay-fever, whooping-cough, purulent and chronic bronchitis, and of benefit in incipient tuberculosis and tuberculosis where cavities or empyema exist. Walshe gave it as his opinion that a sea voyage, especially in the case of young adult males, will occasionally work more effectual change in the phthisical organism than any other single influence or any combination of influences with which he was acquainted. Formerly sea voyages took the place of the high altitude treatment of consumption. The English recommended the trip to Australia or New Zealand because it afforded the longest spell of marine influence. Williams gives statistics of 65 phthisical patients who used sea voyages: 41 were in the first stage, 17 had the right lung affected, 12 the left, and 12 had both lungs affected. In this group 5 had the disease arrested, 19 decreased, 4 remained stationary, 4 advanced, and 9 extended; 58 per cent. were improved, 10 per cent. remained stationary and 32 per cent. were worse; 24 were in the second and third stages, 5 had the right lung in the second or third stage, 5 had this lung in the third stage and the left in the first; 7 had the left in the second or third stage and 7 had the left lung in the second or third stage and the right in the first. Of this group, the disease was arrested in 5 cases, decreased in 31, remained stationary in 7, advanced in 9, advanced and extended in 3, and extended in 10; 55 per cent. were improved, 11 per cent. remained stationary, and 34 per cent. were worse.

Altogether improvement was noted in 77 per cent., and 22 per cent. were worse. In the cases where softening or excavation was present, 43.75 per cent. were improved. Williams remarks: "The general improvement consisted of gain of appetite, color and strength, and above all, of weight; sea voyages surpassing all the other climatic groups in this particular. Twenty-five of these patients were weighed before and after the voyages and the result was 17 had gained, of whom 9 had gained more than a stone, and the rest from 5 to 12 pounds. In 3 cases the fact of gain only was recorded. In 2 patients the weight remained stationary, and 6 lost weight. The large gain of weight is to be explained by the improvement of the appetite, the regularity of the meals, the plentiful supply of food at them, and the lack of opportunities for exercise."

Williams believes the forms of phthisis that are benefited are: 1, the scrofulous or strumous form; 2, the hemorrhagic type marked by limited consolidations and large recurrent hemoptyses, and lastly the chronic unilateral cavity cases, without great local irritation. He believes the sea air promotes the fibrotic process, and when there is a septic discharge it has also a healing influence, and the results in cases of empyema are sometimes marvelous. Therefore, he recommends sea voyages in chronic pleurisy and empyema, chronic bronchitis, various forms of scrofulous disease, hemorrhagic phthisis, unilateral tubercular cavities and neuroses, the result of overwork or insomnia.

But the day of trips on the sea in sailing vessels is apparently over, for the present generation is not content with the slow methods of the past, but wishes to regain health in a hurry. And they prefer to go to some altitude resort where they can easily return to their homes on the first appearance of home sickness, and keep in touch with their world of business. An ideal trip for such patients is a combination of sea travel and mountain climbing, such as is found in a trip to Norway,

for example. A trip across the Atlantic prepares the invalid for a continuance of the journey by steamer along the coast, and among the fjords of Norway. The monotony of the sea voyage is interrupted by short journeys across the land, over the mountains in wagons or carts in a bracing and pure climate, where the best of food can be obtained and the novelty of traveling through a new country adds pleasure to a trip which otherwise might become irksome. The wayside trips are never far enough from the sea to be removed from the effect of the sea air, and the confinement of the vessel is removed. The greatest objection to such journeys is the expense, yet it does not amount to so much more than the expense of traveling on land as to be an insurmountable objection.

Asthma is frequently benefited by a sea voyage, notwithstanding the humidity of the sea air. But in this disease the same rule holds good as in prescribing a change of air on land: what is beneficial to one patient may be a source of torture to another; so no rule of advice can be laid down as infallible.

Scrofulous affections, other than pulmonary, are frequently cured by prolonged sea voyages, and I know of no better cure for the malarial dyscrasia, for the patient is entirely removed from all the conditions which tend to prolong this condition.

Debility as evidenced by chlorosis, anemia, malaise, loss of flesh and strength, insomnia, nervous irritability and similar symptoms is often removed by a sea voyage.

Chorea is frequently benefited, as well as some cases of rheumatism, contrary to the ordinary rule that rheumatics should not be in a damp climate. But the exposure which patients often are subjected to in the way of humidity at sea is often without bad results, like the patients I have sent to the mountains with asthma, who could wade through slush and snow and get their feet wet without any sign of asthma.

As already intimated, the class of cases which are benefited in highest degree are the overworked, melancholic, the brain-goaded sufferers, the women who are harassed by domestic cares, or society dissipations, the children who are nervous and weakly, and, in short, the army of neurasthenics. In this class of cases it is a question whether the improvement almost invariably following an ocean voyage is due so much to the change of climate as to the change of scene and entire change of life.

I have purposely omitted the disadvantages connected with a sea voyage, for the reason that the climatologist can not refer his patient to any spot on earth where there are not disadvantages, and if we are to scientifically study the effects of various climates, we must know their physiologic effects, and then compare the value of different varieties of climate by admitting that, aside from variations in climatic conditions, all the others are equal. Admitting, therefore, that all other conditions are equal, I am inclined to believe that the advantages of a sea voyage for a large number of our patients who seek change are often overlooked, and I believe the modern comforts of an ocean voyage offer inducements to patients which should be accepted in many instances, and my colleagues will probably agree with me when I say that no travel causes the tired-out professional man to renew his strength quite so quickly as ocean travel, barring the individuals who have idiosyncrasies against this form of treatment on account of incoercible seasickness.

297 Ashland Boulevard.

ADHESIVE RUBBER DAM FOR THE PREVENTION OF POSSIBLE INFECTION AT THE SITE OF OPERATION.

J. B. MURPHY, M.D.

CHICAGO.

Infection of wounds during operation may always be traced to contact with materials, and is probably rarely if ever due to contamination from the atmosphere (Dr. P. L. Friedrieh, *Arch. für Klin. Chir.*, B. 59.). The common sources of infection of operation wounds are as follows: 1. Instruments. 2. Sponges and dressings. 3. The hands of the operator or assistants. 4. The skin of the patient. 5. Towels, sheets, etc., used about the wound.

The exhaustive researches of Fürbinger, Ahlfeld, Koch and others emphasize the difficulty of rendering the hands aseptic, for after a short period of exposure they again become septic from their own secretions, as has been shown by cultures made for the inner surface of rubber gloves. We have been able to overcome this difficulty by the use of such gloves.

The sterilization of the skin surface in the field of operation is practically as difficult and uncertain as is the case with the hands, as shown by Mark Kummel, Lauenstein, Samter, Senger, and others. The danger of

other envelopes, much after the method used in preparing the dry sterilized catgut. Thus prepared, the dam remains in a perfectly sterile condition, and can be applied to the prepared skin, and, as an extra precaution, its surface washed with any of the antiseptics or sterilizing solutions. If it is not sufficiently adhesive, a little ether spread over its surface will increase its adhesive properties. It is elastic and gives with the skin, being, in reality, a non-secreting, sterile, artificial derma, for the period of operation.

Owing to its elasticity, it may be applied to any part of the body. For laparotomies, it is spread over the abdomen, extending onto the symphysis pubis and covering the umbilicus. For herniotomy, it covers the inguinal region and genitalia, and it is in this operation that it is of the greatest practical importance, for we know that this field of all others is most frequently infected from the surrounding parts. In vaginal operations, it covers the entire perineum and prevents the soiling of the field from the rectum. In amputations, it entirely encircles the limb at the seat of operation. In operations on the eye, it covers all the remaining parts of the face. In fact, there is no part of the body to which it may not be readily applied, as is shown by the accompanying photographs.

METHOD OF APPLICATION.

The field of operation is prepared in the usual way. It is then thoroughly dried, washed with ether and the rubber is applied, the latter being put slightly on the stretch as it is brought in contact with the skin. The small quantity of ether retained by the skin increases the adhesive power of the dam. After it is applied, it is washed with alcohol or with any other sterilizing solution. The incision is now made through the dam, simultaneously with that in the skin, and to the same extent, as it stretches even more readily than the latter and there is no trouble in retracting it. The dam remains in position until the sutures are inserted and tied, after which it is lifted at one end, put a little on the stretch and divided at the points of suture in a manner similar to that of dentists in removing the dam from teeth.

Its second practical application is in all suppurating and draining wounds. In these cases it should be left on until suppuration and discharge have ceased so that it may protect the skin and prevent the erosion and eczema which are so frequently caused by the irritation of a purulent discharge. For this purpose it is particularly applicable in cases of artificial anus, cholecystostomy, gastrostomy, nephrotomy, suprapubic cystostomy and a draining, suppurative, circumscribed or general peritonitis.

We have used it in a number of cases at Mersey Hospital, with gratifying results, and feel that its simplicity of application and its self-evident advantages need no further word of comment.

100 State Street.



infection from this surface is always present a short time after it had been prepared, because of the secretions from the sweat and sebaceous glands, which the sterilizing solutions have been unable to reach. Samter secured sterility in 20 per cent. of his cultures after thorough disinfection; Lauenstein, 44 per cent.; after preparation by Fürbinger's method, not a single case was free from germs, showing that asepsis of the skin is not often obtained.

For the past two years the author has been endeavoring to secure a sterile, adhesive rubber dam, which, when placed on the skin, would remain firmly adherent to it throughout the operation, at the end of which it might be removed. The mechanical, chemical and physical difficulties proved great stumbling-blocks, and one manufacturer after another declared it would be impossible to produce such an article. Finally all the difficulties were overcome, and an adhesive rubber dam produced¹ which answers all the purposes mentioned above. It is sufficiently adhesive to stand considerable traction without separating from the skin, and is not affected by water, antiseptics or wound secretions. It is prepared and sterilized, placed in sterile envelopes and these, again, placed in

Politzer Air Douche for Inflating the Stomach.—Our foreign exchanges mention with approval Oehler's suggestion that the Politzer air-bag can be made to serve the purpose of inflating the stomach for diagnostic purposes. The subject reclines and takes a swallow of water. The tube of the air-bag is inserted in the nose, and as he swallows the water the air is expelled from the bag and passes with the water into the stomach. After repeating this simple maneuver three times the stomach is usually so inflated that its outlines can be accurately determined and its motor function tested by the peristalsis induced by the air.

1. By Johnson & Johnson.

THE PRESENT STATUS OF SPINAL SURGERY.*

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NEW YORK CITY.

(Continued from page 1117.)

FRACTURES (CONTINUED).

In those cases where no improvement follows the recovery from the shock, and yet the suspicion remains that a complete crush of the cord has not occurred, we should operate immediately. This divides the cases, therefore, as follows: 1. Those that evidently have complete destruction of the cord; they should not be operated on. 2. Those where, following the recovery from the shock, it is evident that the lesion of the cord has not been completely destructive and yet no improvement is noted. Operation here should be done as soon as these facts are determined. 3. Those where the lesion of the cord is incomplete and where the symptoms of compression are extending as evidenced by increasing paralysis and the enlarged area of anesthesia. Here operation should be undertaken immediately, as there is a hemorrhage, an inflammatory thickening, or some acute process present that threatens the destruction of the cord unless it is controlled. 4. Those in which improvement is noted at first but is arrested later. Operation in these should be done as soon as it is settled that the improvement has ceased. 5. Those who made a full recovery or almost so under the usual conservative methods, where the paraplegia or other symptoms develop at a later date. This is probably due to compression from callus, and the operation should not be delayed any longer than is essential to establish the fact that there has been a loss of function.

In our former paper we tabulated 103 cases of traumatic injuries to the spine, and divided them into two series, the pre-antiseptic and the antiseptic. In the former the deaths were 63 per cent.; in the latter 50 per cent. We have now been able to tabulate 227 cases in 185 of which all of the facts in regard to the result are known. This includes the 103 cases formerly tabulated. Of this number 59 died within a few days, and therefore the death may be said to have been hastened by the operation itself; 32 died at a later period, and usually from complications not resulting from the operative interference—91 deaths, therefore, in all, or 49.18 per cent., which corresponds very closely to my former statistics. Of course, this includes the cases dating back to the pre-antiseptic era, but it is hardly worth while at the present time to eliminate them from our statistics. If only those dying within the first few days are counted against the operative statistics the percentage is only 31.89. With these statistics before us there can be no doubt about the advisability of operative procedure, as compared with the conservative treatment. These figures could be still further improved by throwing out the pre-antiseptic cases.

We must also remember that this includes all of the patients who were operated on immediately, many of whom would in all probability have died of the shock alone. Thus we find out of 27 affected in the cervical region, operated on immediately, 21 died, while out of 10 operated on at a later period only 2 died; in the

dorsal region, out of 49 operated on immediately 23 died, while of those who were operated on later, only 5 died from a total of 63. Even in the lumbar region the same disproportion exists; thus, from 6 immediate operations, 4 died, while from 22 done at a later period, only 4 were fatal.

The inserted table shows the results better than any description I can write.

	Immediate Operation.	Later Operation.
Cervical Region.		
Deaths	21	2
Recovery	0	2
Improved	2	1
Not improved	0	4
Subsequent death	4	3
	27	12
Dorsal Region.		
Deaths	23	5
Recovery	4	10
Improved	9	18
Not improved	6	16
Subsequent death	7	16
	49	65
Lumbar Region.		
Deaths	4	4
Recovery	1	6
Improvement	1	6
No improvement	0	4
Subsequent death	0	2
	6	22
Sacral Region.		
Death	0	0
Recovery	0	1
Improved	0	3
Not improved	0	0
Subsequent death	0	0
	0	4

These statistics are decidedly against immediate operation and we must urgently advise never operating until it is evident that the patient will not succumb to the direct effects of the injury. As soon, however, as he has recovered from the shock and his exact physical condition is known the operation should be performed.

This emphasizes the fact, which is already recognized, that the cervical is the most dangerous region for operation, and at the same time the least satisfactory in its ultimate result. The results in the dorsal region have improved since the earlier statistics, due probably to the improvement in technique, the greater rapidity with which the operation is done, and the fact that operations are done earlier than was formerly the case. The lumbar region shows a surprisingly small number of surgical interventions when it is taken into account that the safety of the operation in this region and the decided improvement following it was emphasized in all the earlier papers on this subject. I can not but feel that some of the incomplete recoveries recorded have been due to incomplete relief of the compression. Unless the operator has had considerable experience in spinal surgery, it is a very easy matter to overlook a compressing point. It is essential, in order to make the operation perfectly successful: 1, to remove enough laminae to absolutely settle the fact that there is no remaining compression of the cord; 2, to chisel off any projecting bone, whether it be a portion of a vertebral body or bodies, or one or more articular processes; 3, to remove all blood clots, even though laminae of unaffected verte-

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bræ have to be removed to get beyond the hemorrhagic area; 4, to look out for thickening and compression resulting from inflammatory processes or injuries of the structures within the vertebral canal. It is sometimes difficult to be absolutely certain whether all compression has been done away with, but one usually recognizes the fact that the cord is smaller in the exposed area than it should be, and that its pulsation is not complete, not as full as in a normal cord. Care should be taken, therefore, that the cord dilates to its full extent, and that the pulsation returns. This can happen only where the cord has not been completely destroyed. And if the operator can not be sure of this fact without cutting the dura, he had better make an incision and definitely determine whether the integrity of the cord has been preserved. He will also sometimes recognize the fact that the dura is discolored, looks as though there has been an intradural hemorrhage, and while this accident, if it has occurred, has probably produced more or less disintegration of the cord itself, the dura should be opened and this blood clot extirpated, for one may look for a certain amount of regeneration in the cord provided it is relieved from the compression at a sufficiently early period and has not been completely destroyed.

After commenting on the former statistics of the operation, Keen said: "With such statistics before us it is impossible to draw any other conclusion than that operation is advisable in case extension directly after the accident fails to reduce the deformity. Of course, the limitations arising from the time that has elapsed since the accident, the region involved, and the severity of the lesion must be given due weight in reaching a conclusion in any given case. In an instance therefore of such gravity followed by such an immense percentage of deaths, if no operation be done it would seem to be advisable with our present experience, in all suitable cases to give the patients the real though often desperate chance that operation offers and that the operation should be done at a much earlier period than has hitherto been the rule." If this was the conclusion reached after a careful weighing of all the data presented up to that time, how much more emphatically may we advise operation with the present statistics before us.

The question may be asked: What are the dangers of the operation? And this applies equally to all conditions in which laminectomy is indicated. We have already spoken of the shock, and this necessarily includes the anesthetic, but, with our improved methods of handling shock at the present time, this need be much less than it was formerly. In the cervical region, one must remember the dangers of phrenic paralysis when the third and fourth, or even the fifth and sixth cervical vertebræ are interfered with, and here it is advisable that the operator should manipulate the cord as little as possible. Hemorrhage has been spoken of as a serious danger, but we have not found it so. If one is unaccustomed to operate in this region, he will lose much time in attempting to control bleeding by the application of hemostatic forceps. This is hopeless. If, however, he is prepared to make a rapid clearing of the laminæ and then pack the wound for a few minutes with firm compresses, the extravertebral hemorrhage will entirely cease. The hemorrhage arising from the vessels about the dura may be somewhat troublesome, but it usually stops in a very short time, and in our experience has never proved dangerous. In the cervical region, if the injury includes the costo-transverse foramen, hemorrhage from the vertebral artery, which has proven fatal several times, must be guarded against. Formerly

the loss of cerebrospinal fluid was feared, but a number of cases have since been reported where this oozing went on for weeks and large quantities were lost, yet the patient survived and eventually recovered. In one of my cases a fistula persisted for ten or twelve weeks with no appreciable inconvenience to the patient. If the dura is opened, and closed again with fine catgut, or fine silk, there will be but little escape of cerebrospinal fluid. The weakening of the spine is perhaps an important element, particularly in those cases where a portion of a displaced body or a projecting articular process or processes have to be removed. Here supporting apparatus should be employed and the method of wiring the vertebra, as suggested by Hadra, may be considered. Finally, operation on that part of the spine below the first lumbar vertebra, in which we find only the cauda equina, comes under rather a different ruling from those where the medulla itself may be affected. Here a lesion is a nerve compression or nerve section and the results of operation would not differ from operative measures undertaken upon nerve tissue in any other part of the body.

I have operated on the following cases of fracture or fracture-dislocation of the spine since the publication of my last paper. These cases have not been published before and are therefore given somewhat in detail.

CASE 1.—W. W., a male, was admitted to the New York Post-Graduate Hospital, Aug. 9, 1897. Four years before, he was shot from a distance of four feet. The bullet was 32-caliber, and entered the mid-dorsal region a little to the left of the spine. Immediate paraplegia and anesthesia resulted. He was unconscious most of the time for the next four days. Vesico-rectal paralyses were also present, but improved after a few weeks so that he was able to control his bladder. At the end of a year he was able to move his right leg and had regained some sensibility in both. Improvement has been going on gradually for the past three years. His general health is very good.

Examination revealed normal organs, but there were bed-sores on the buttock and ankles. Ankle-clonus was exaggerated, also the patellar reflexes, and the gluteal muscles were thrown into clonic spasm on pressure over the sciatic nerves. The feet were in constant plantar flexion.

Operation was performed on September 1, under ether anesthesia, the incision being from the sixth to the tenth dorsal spines, and down to the laminæ. The arches of the sixth, seventh, eighth, ninth and tenth dorsal vertebræ were removed. There were evidences of fracture of the seventh, eighth and ninth laminæ. The fracture crossed from one side to the other, running toward the right and from above downward. The superior right articular process of the tenth vertebra was also fractured and had not united. Pressure on the cord was present over the whole area, and there were also evidences of old pachymeningitis. Pulsation of the cord was much reduced before the removal of the compression, but improved afterward. Before the operation the left leg had to be strapped to the thigh to prevent the violent muscular spasms, which resulted from the least jar, from throwing him out of bed. He could walk with the aid of crutches, as long as this leg was strapped up, but if it was allowed to dangle it would throw him over. When he left the hospital the reflexes were normal, he had recovered almost normal power in his adductor muscles on both sides, and in his quadriceps extensors, while the areas of anesthesia were markedly diminished. He has been heard from within a few months, and has recovered a great deal of the power in both limbs, although he is not yet able to do without crutches and has no trouble either with bladder or rectum.

CASE 2.—A. L., a male, on July 19, 1898, while diving in shallow water, struck upon his head, and was immediately paralyzed. He was admitted to the New York Post-Graduate Hospital on July 27, and at this time had complete paraplegia and anesthesia below the third rib. He had had syphilis two

years before. Priapism was present. He could extend his wrists slightly and flex the elbows. Vesico-rectal paralysis, cystitis and bed-sores were present. The areas supplied by the ulna nerve were still sensitive.

On July 28, I took an *x*-ray, which confirmed the diagnosis of fracture-dislocation of the fifth cervical vertebra. Operation, August 12, was under ether anesthesia, with removal of the laminae of fourth, fifth and sixth of the cervical vertebrae. The fifth arch was compressing the cord, which did not appear to be crushed. There was no hematoma, and the dura was not opened. Pulsation returned as soon as compression was removed. In a few days sensation began to return, and he could use his arms considerably, while the priapism disappeared and he seemed to be gaining rapidly. His bladder symptoms, however, did not improve, and he began to give signs of uremia. Then, about September 1, he was suddenly completely paralyzed again and died in uremic coma, September 25. Unfortunately the house staff allowed his body to be removed without asking for an autopsy, so that it was impossible to determine the cause of the return of the paralysis.

CASE 3.—B., a female, was aged 14, with a family history of tuberculosis on the mother's side. Both parents, three brothers and four sisters were all healthy.

Previous History.—She had measles, whooping-cough and pneumonia in infancy, but was otherwise in excellent health and robust until the present trouble, with the exception of a few months prior to its onset, when she had nervous attacks in school; she was then about the age of puberty. Her first menstruation was very scanty and came four days before the present trouble. She menstruated four weeks later and has not since. In November, 1897, she fell down about sixteen steps, landing so that her head was thrown forward on her chest and her feet backward. She felt no injury and no pain at the time, and forgot about it until reminded of it six weeks later.

Present Trouble.—About Jan. 15, 1898, she was taken with a grippe, recovered partly, but felt very severe pains in the muscles of the legs and back. All day, January 22, she had very severe pains between the shoulders, and on the 23d, when dressing, she suddenly found that her arms dropped while combing her hair, and she could not grasp a comb or pins. Sudden weakness came over her and she became hysterical. She then walked some distance and got into bed. Her neck became rigid and her head was thrown backward. She could not use her legs and left arm, but could the right from the elbow down, though not the fingers; the face was flushed and body cold, but temperature 104. There was total loss of sensation below the seventh cervical vertebra, retention of urine and no control of bowels—all these symptoms were present the first day. On January 23 the bladder became distended to the umbilicus and urine dribbled. The condition was unrecognized by the physician. When catheterized the urine was ammoniacal—this was two or three days later. There was no improvement at the end of the week, during which time all these conditions persisted and also great pain in the neck. An osteopath was then called, and discovered a lump about the seventh cervical, which he is said to have massaged away. With massage the stiffness and pain disappeared, and the bowels, which resisted cathartics, were made to move with fair regularity. This occurred within thirty-six hours, but there was no further benefit derived from this treatment, which lasted six weeks; by this time the patient had lost considerable flesh. The temperature persisted at about 103 F., nightly. On the fifth day of the disease bed-sores developed on the heel and elbow; they healed in five months. Others have since developed and healed.

The patient was then removed from Utah, where she was taken sick, to the Presbyterian Hospital, in Chicago, where she remained seven weeks, growing thinner every day until almost a skeleton. Her mother says that there the case was pronounced incurable. From Chicago she went with a trained nurse to Bayonne, N. J., her home, in May. Her general health improved greatly. A nerve specialist made there a diagnosis of myelitis. Her temperature became normal soon after reaching home and she regained some of her lost flesh. With careful

catheterization all cystitis disappeared, but there was no improvement in muscular power until the present time. Electricity has been used faithfully. There was a partial return of sensation, which is variable in degree and location.

This improvement persisted up to the last three weeks. Then her appetite failed. Temperature became 103 to 104, nightly, and she seemed weaker; a lump appears at intervals on her back at the seventh cervical, and is about the size and thickness of a watch.

The mental condition has been good, and she has never been unconscious, but sometimes petulant. Cathartics and catheters are still necessary.

Physical Examination: The tongue is coated with dry, brown fur. The breath is sour, the nose obstructed, the neck asymmetrical—enlargement on the right side, soft and over the sterno-cleido-mastoid muscle. As to the thorax, the veins in the median line are prominent. The lungs show diminution of resonance on the left side, anteriorly, and rough, harsh breathing sounds over this area on deep inspiration—the same posteriorly. The heart is negative. There is an anemic bruit in the veins of the neck. The liver is apparently normal, also the spleen. Bed-sores are present on the hips and in the lumbar region and heel. These show—first two regions—reparative changes.

Extremities: The right arm muscles are weak and flabby, with much wasting of the flexors of the forearm; the dorsal and palmar interossei and ulnar groups wasted away. The arm can be raised, also the forearm flexed on the arm, but no flexion of the hand is possible. Extension of the hand is controlled. The tendons are not contracted. There is anesthesia of the dorsal surface of the fourth finger only. In the left arm less wasting of the muscles is evident, but the shoulder group shows motor power only. There is no anesthesia. The right leg has partial anesthesia below the knee, the patellar reflex absent, and no ankle-clonus. The left shows motor paralysis and anesthesia of the whole extremity.

There is pain on palpation over the spinous process of the sixth cervical vertebra; crepitation; tendinous or blood clot.

The abdomen shows anesthesia over the surface extending to a line between the nipple line and the clavicles.

The *x*-ray revealed displacement of the fifth cervical vertebra.

Operation: On September 15, Dr. Lloyd made an incision over the spines of the fourth, fifth and sixth cervicals, hemorrhage being controlled by gauze packing. The fifth vertebra was found dislocated and pressure on the cord by its body very marked. Pulsation in the cord was absent. The dislocated vertebra was reduced by traction on the head and body and manipulation. The head, neck and chest were put in plaster after closing the wound. The patient stood the operation very well, but with no improvement.

CASE 4.—A male of previous good health, fell through an elevator shaft, receiving a fracture of the spine, with complete paraplegia, vesico-rectal paralysis, and obliteration of the reflexes. There was also anesthesia below the iliac crests, bed-sore over the lower sacral region, and gangrene of the toes of the left foot. This was his condition at the end of six weeks, when he was brought to me.

He was 28 years old, and had measles and typhoid fever when a boy. He had pneumonia twelve years before the accident, and seven years before had two sores on the penis. The latter were treated locally, and the patient's physician told him they were chancres, but gave no constitutional treatment.

When he fell down the elevator shaft, a distance of sixty feet, he struck on the lower spinal region, or buttocks. He was not rendered unconscious by the fall, but was unable to rise, as his lower extremities were completely paralyzed. The rectum and bladder were also involved. There was kyphosis in the lower dorsal region, the eleventh and twelfth vertebrae being most prominent. When I saw him his condition was fairly good, and he had partial control over the bladder, but his bowels still moved involuntarily. The toes on the left foot were gangrenous, the heart and lungs negative, and anesthesia extended over the areas supplied by nerves arising from and below the fifth lumbar segment (Starr). He voided urine voluntarily on the second day, and was out of bed the eighteenth.

Three weeks after operation there had been improvement in his general condition. The gangrene of the toes and the bed-sores were almost well. Control over the bladder was almost normal and there was also partial control over the rectum, also considerably more motion than before operation, the improvement chiefly in the adductors and abductors of thighs. There was also some motion in the flexors of the knee and in the quadriceps extensors. The right leg was better than the left. Anesthesia was also less than before, and most of the areas of lessened sensation before operation were now hyperesthetic, and spots of sensation were present in the anesthetic areas. The reflexes also were returning. Incision was from the eleventh dorsal to the second lumbar, inclusive, with removal of these arches. The cord was plainly seen to be pushed anteriorly and to the left side. The portions of bone encroaching on it were removed when the cord, which before had not been larger than a lead pencil and non-pulsating, expanded to its full size and pulsation returned. The dura was opened and no general destruction of the cord or blood clot was present. Improvement followed.

NOTE.—Feb. 28, 1901. This patient has been heard from again within the past few days, and he reports that he still continues to improve.

FRACTURES.

CASE 104.—Operator, Warren, 1867. Dorsal region; duration, 4 days. Projection over 6th D. crepitus; senses comatose; paraplegia, priapism, anesthesia, tympanites, paralysis of bladder. Incision 8 inches long; 5th D. spine fractured and removed with forceps. Fracture 6th D. lamina and trans. process; dura punctured. Intradural clot found on cord and left. Improvement unmistakable. Plantar reflex observed on second day; third day sensation along thighs and reflexes good below seat of fracture. Death on eighth day. Cause of death and post-mortem observations: Fracture of pelvis and left laminae of 5th to 7th D.; comminuted fracture of 5th, 6th and 7th bodies, twisting of spine. Death due to infection from cystitis. Reference: *An. of Surg.*, vol. xvii, p. 439.

CASE 105.—Operator, Fitzgerald, 1882. Upper dorsal region; duration, 2 hours. Paraplegia and anesthesia below lesion; vesical and rectal paralysis. Removal of fractured laminae and reduction of dislocation. No improvement. Death some days later on moving the head. Reference: *Syme; Aust. Med. Jour.*, 1893, p. 121.

CASE 106.—Operator, Fitzgerald, 1882. After a formal laminectomy—a new fracture. Canal reopened, projecting part of body removed. No functional result. Reference: *Idem.*

CASE 107.—Operator, Balow, 1886. Paraplegia and absence of reflex. Death on eighth day. Reference: *Glasgow Med. Jour.*, 1892, p. 1, table viii.

CASE 108.—Operator, Balow. Duration, 6 weeks. Fracture with paraplegia. Return plantar reflex, motion of big toe. Death after 3 months; myelitis. Reference: *Idem.*

CASE 109.—Operator, Balow. Fracture with paraplegia. Improvement. Reference: *Idem.*

CASE 110.—Operator, Schede, 1886-90. Dorsal region; duration, 13 months. Fracture of 5th and 6th D.; anesthesia below umbilicus; paraplegia complete; vesical paralysis, exaggeration of reflexes gradually becoming worse; bedsores, anesthesia. Resection 5th and 6th D. arches; fragments removed; meninges normal. No improvement. Death from exhaustion 1 year later; gangrene. Post-mortem: Fracture of 7th and 8th D. bodies; displacement into canal. Reference: *Rieder, Yahr. d. Hamburger Staats Krank.*, 1892, vol. II, pp. 236-301.

CASE 111.—Operator, Schede, 1886-90. Dorsal region; duration, 18 months. Fracture of clavicle and 6th D. Anesthesia almost up to mammae; paraplegia, paralysis of bladder and rectum; reflexes exaggerated; gradual increase in symptoms. Four dorsal arches removed; body of 6th displaced into canal, crushing cord. No improvement. Reference: *Idem.*

CASE 112.—Operator, Schede, 1886-90. Dorsal region; duration, 16 weeks. Paraplegia and anesthesia; absence of patellar reflex; priapism, ejaculation, vesical paresis. Removal of arch of 6th D. which pressed on cord. Gradual improvement. Return of patellar reflex in 4 months. Could walk after 5 months. Almost complete recovery. Reference: *Idem.*

CASE 113.—Operators, Wooster and Montgomery, 1889. Cervico-dorsal region. Paraplegia of lower limbs; partial paralysis of upper limbs. Removal of 6 bony fragments; cord normal. Paralysis increased; dyspnea. Death on 36th day. Post-mortem: Comminuted fracture of 5th and 6th C., 1st D.; cord crushed; pus at this point. Reference: *Occidental Med. Times*, 1889, p. 497.

CASE 114.—Operator, Woodbury. Dorsal region; duration, some weeks. Complete motor and sensory paraplegia. A slight sensibility over right great toe; paralysis of bladder and rectum. Ablation of 3rd, 4th and 5th dorsal arches. No improvement for some time, when extension and counter extension were applied; then rapid improvement. Seventeen months later practically well. Reference: *N. Y. Med. Jour.*, 1890, vol. I, p. 1007.

CASE 115.—Operator, Ewing Mears. Lumbar region. Complete motor and sensory paraplegia. Removal of 1st lumbar arch. No pulsation in cord. Impossible to reduce fracture of body. Improvement. Reference: *Phila. Med. News*, 1890, vol. I, p. 210.

CASE 116.—Operator, Dalton, 1889. Dorsolumbar region; duration, some hours. Complete motor and sensory paraplegia below great trochanter. Arch of 12th D., which compressed cord, removed. A splinter pierced cord. Return of sensibility. Death on 3rd day; hyperpyrexia. Reference: *St. Louis Courier of Med.*, vol. I, p. 128.

CASE 117.—Operator, Armstrong. Dorsal region. Complete paraplegia; bedsores, pyrexia. Resection of 12th D. to 1st L. arches. meninges normal; cord atrophied; marked displacement of ver-

tebral body. No improvement. Death on 8th day. Post-mortem: Fracture of 3rd and 12th dorsal bodies. Purulent infection, probably from bedsores. Reference: *Reports U. S. M.-H.*, Washington, D. C., 1889, p. 2712.

CASE 118.—Operator, Bird. Dorsal region; duration, 1 year. Motor and sensory paraplegia; diarrhea; atrophy of lower limbs; bedsores, pains in back and thighs. Resection last 3 dorsal arches. Meninges bent at right angles and appeared empty. Area of distribution of crural br. of genito-crural nerve regained sensibility on right. Very slight improvement. Reference: *Aust. Med. Jour.*, 1893, p. 115.

CASE 119.—Operator, Bird. Dorsal region; duration, 48 hours. Great pain; motion diminished, also sensibility, patellar and plantar reflexes. Depression over 12th dorsal. Removal of superior left articular process and arch of 12th D., which was fractured removal of a dural blood-clot; hemorrhage. Following day all symptoms improved. Almost complete recovery. Reference: *Idem.*

CASE 120.—Operator, Lamplasi, 1890. Dorsal region. Complete motor and sensory paraplegia; vesical paralysis. Removal of 9th and 10th dorsal spines and arch of 10th dorsal. Third day vesical paralysis disappeared. Complete cure. Reference: *Com. Fatta Sulla vi. a Ad. dela Soc. Ital. di Chir.*, Bologna, il 116, 1889-90.

CASE 121.—Operator, England, 1890. Cervical region. Paraplegia up to 3rd rib; paresis of both arms; priapism. Trephining. Death 6th day, asphyxia. Post-mortem: Fracture 6th cervical; destruction of cord. Reference: *N. W. Lancet and Pharm.*, Winnipeg, 1890, p. 287.

CASE 122.—Operator, Terrier, 1890. Lumbar region; duration, long time. Considerable bony displacement, complete paraplegia, intense pain in lower limbs. Crushing so complete that removal of a lamina gave access to subjacent body. Cord destroyed. Persistence of paraplegia and pain. Reference: *Prog. Med.*, 1891, p. 377; *Bull. a Mem.*, 1891, p. 682.

CASE 123.—Operator, Knox, 1890. Dorsal region; duration, 36 hours. Complete motor and sensory paraplegia; violent cramps in legs. Removal of arch and articular processes of 10th D.; replacement of 11th dorsal, which was dislocated; pulsation gradually returned. Complete sensation following day; some motion of toes; no other improvement for 2 months. In 10 months could walk without assistance. Decided improvement. Reference: *Glas. Med. Jour.*, 1891, i, 241.

CASE 124.—Operator, Weiss, 1890. Dorsal region; duration, 33 days. Complete motor paralysis of left leg; incomplete of right; sensation and reflexes normal; vesico-rectal paralysis; later, paraplegia complete. Removal of 11th D. spine and arch, also 10th D. arch. Premeningeal connective tissue red, injected; marked decrease in size of canal. Next day some motion; 3rd day, involuntary but conscious micturition; disappearance of incontinence. Cured. Reference: *Revue Med. de l'Est*, 1891, p. 449.

CASE 125.—Operator, Bircher. Dorsolumbar region. Fractured vertebra had contused cord; arch removed, dura opened; sutured with catgut. No improvement. Reference: *Bull. a Mem.*, 1891, p. 680.

CASE 126.—Operator, Roux, 1890. Dorsolumbar region; duration, 5½ months. Complete motor and sensory paraplegia; vesicorectal paralysis; atrophy and edema of lower extremities. No response to Faradic current; contraction with galvanism. Reflexes absent. Anesthesia below Poupart's ligament; sacral bed-sore. Resection of 12th D. and 1st L. arches. Canal narrowed by body of 1st L.; cord bruised. Incision of dura. Slight improvement. Death from infection from bedsores, 2 months later. Reference: *Chlapault, op. cit.*, 1893, p. 91.

CASE 127.—Operator, Montprofit. Dorsolumbar region; duration, 9 months. Complete motor and sensory paraplegia; vesicorectal paralysis. Resection of 1st and 2nd L. arches. Canal obliterated; cord only a fibrous tract. No improvement. Reference: *Idem.*, p. 90.

CASE 128.—Operator, Anger, 1890. Lumbar region; duration, 1 month. Complete motor and sensory paralysis; vesicorectal paralysis. Resection of 12th D. and 1st L. arches. Gradual recovery of some sensation and muscular power; improvement of bedsores. Death from nephritis 1 month later. Cause of death and post-mortem observations: Dislocation of 1st L. body backward. Cord nearly severed and pushed backward from left to right. Ascending and descending degeneration. Reference: *Idem.*

CASE 129.—Operator, Poirrier, 1890. Dorsal region; duration, 4 days. Complete paraplegia, anesthesia and thermal anesthesia. Resection of 11th and 12th D. and 1st L. arches and articular processes of inferior right of 11th, superior left of 12th L. Careful reduction of post. dislocation of 12th body by extension and counter-extension. After several days, improvement in sensibility and rectal paresis. No motor improvement. Result: Some improvement. Reference: *Idem.*, p. 101.

CASE 130.—Operator, Chlapault, 1890. Lumbar region; duration, 36 days. Complete motor and sensory paraplegia; bedsores; vesicorectal paralysis. Removal of 11th and 12th D., 1st and 2nd L. arches. No pulsation. Removal of projecting border of displaced body of 1st L. Destruction of cord. Very slight improvement in anesthesia. Reference: *Idem.*, p. 93.

CASE 131.—Operator, Chlapault, 1890. Dorsolumbar region; duration, 3 days. Complete paraplegia, anesthesia, vesicorectal paralysis. Of reflexes, cremasteric present; patellar decreased; plantar suppressed. Removal of 11th and 12th D. and 1st and 2nd L. arches. No extra dural hemorrhage. Large intradural clot between node of cauda equina. No improvement. Death 2 months later. Reference: *Idem.*, p. 105.

CASE 132.—Operators, Church and Eisendrath, 1890. Cervical region; duration, 20 hours. Complete paralysis of trunk, abdomen and extremities; anesthesia up to 5th D. spine; posteriorly and anteriorly to superior border of 3rd rib. Absence of reflexes. Vesicorectal paralysis; depression of 5th and 6th cervical processes. Right lamina of 5th and 6th removed. Death from asphyxia in 8 hours. Reference: *American Jour. of Med. Sci.*, 1892, p. 395.

CASE 133.—Operators, Church and Eisendrath, 1890. Dorsolumbar region; duration, 62 hours. Paralysis of lower extremities and abdominal and intercostal muscles; anesthesia to superior border of 3rd rib; all reflexes gone except left cremasteric; priapism, rectal and vesical paresis. Left lamina and spine of last dorsal fractured and 1st L. dislocated forward; dislocation reduced. Death from asphyxia and shock. Post-mortem observations: Fracture of 12th D.; dislocation of 1st D. and 2nd L. Reference: *Idem.*

CASE 134.—Operators, Church and Eisendrath. Sacral region; duration, 2 years and 3 months. Motor and sensory paraplegia, anesthesia; rectal and vesical paralysis. Two years later had im-

proved, but had complete anesthesia from four last sacral nerves. No reflexes except cremasteric. Incision over sacrum. Canal obliterated up to inferior border of 1st sacral segment. Fragments removed. Sacral root below could not be found. Month later anesthesia only in feet, gluteal regions, sacrum and posterior surface of penis; three mo. later lateral motion of feet; some erections. Result: Improved. Reference: Idem.

CASE 135.—Operator, Korteweg, 1889. Dorsolumbar region; duration, 13½ months. Partial paraplegia with anesthesia up to knee; rectal and vesical paralysis. Resection of 12th D. and 1st L. laminae hard and resistant. Could walk with apparatus. Result: Some improvement. Reference: Chipault.

CASE 136.—Operator, Korteweg, 1891. Dorsal region; duration, 5 weeks. Paraplegia and anesthesia up to 6th intercostal space; all reflexes lost. Resection of 2nd, 3rd and 4th dorsal arches. No improvement. Death 9 months after from pyemia from bedsores. Reference: Idem.

CASE 137.—Operator, Tilanus, 1890. Dorsal region; duration, 7 months. Total paraplegia and anesthesia below umbilicus. Resection of 9th, 10th and 11th D. arches; dura unopened. No improvement. Reference: Idem.

CASE 138.—Operator, Tilanus, 1893. Dorsal region; duration, 3 months. Complete paraplegia and anesthesia below umbilicus, just above zone of hyperesthesia. Resection of 9th and 10th D. arches. No improvement. Reference: Idem.

CASE 139.—Operator, Lucas Champonniere, 1891. Dorsal region; duration, 14 months. Removal of 4th and 5th D. arches and a hypertrophic callus, which compressed cord on side and in front. Three months later could walk without cane. For six months gradually became worse. Reference: Idem.

CASE 140.—Operator, Ridenour, 1891. Dorsal region; duration, 1 hour. Paraplegia and pain on motion; depression at 7th D. arch. Removal of 7th, 8th and 9th D. arches; reduction of displaced 7th body. Rapid return of sensibility and control of sphincters. Recovery. Reference: *Columbus Med. Jour.*, vol. x, p. 151.

CASE 141.—Operator, Boyle, 1891. D. region; duration 2 months. Complete motor and sensory paraplegia; priapism, vesical paresis. Removal of 9th, 10th, 11th and 12th D. and 1st L. arches. Marked improvement. Reference: *St. Louis Med. and Sur. Jour.*, vol. ii, p. 308.

CASE 142.—Operator, Audry, 1891. Cervical region; duration, 24 hours. Paraplegia of all 4 extremities; anesthesia below internal aspect of arms; right pupil contracted; ptosis of right eye. Resection of 5th and 6th cervical arches. Cord compressed backward by body. Death in 12 hours from respiratory failure. Post-mortem observations: Fracture of 5th cervical arch and body; cord destroyed; extradural hemorrhage.

CASE 143.—Operator, Boiffin, 1891. Lumbar region; duration, 3 months. Complete paraplegia on left; incomplete paraplegia on right side. Removal of 2d and 3d L. arches. Spine compressed by inferior fragment of 2nd lumbar. Death from nephritis 2 months later; improvement at first. Reference: *Memoirs and Discussions of French Cong. of Surg.*, p. 516.

CASE 144.—Operator, McBurney, 1891 (Starr). Lumbar region; duration, 5 months. Complete motor and sensory paraplegia; vesical and rectal paresis. Removal of 1st, 2nd and 3rd L. arches; dura incised. Vesicorectal improvement at end of 3 months; 6 months later no motor improvement. Result: Slight improvement. Reference: *Am. Jour. Med. Sci.*, vol. ii, p. 26; Case 12.

CASE 145.—Operator, McCann, 1892. Dorsal region. Paraplegia. Removal of arches which were driven down on cord; fragments removed. Death subsequently. Reference: *Trans. of Am. Surg. Asso.*, vol. ix, p. 216.

CASE 146.—Operator, McCann, Jr., 1891. Dorsolumbar region. Duration, 3 months. Anesthesia below knees; paraplegia. Removal of arches of 12th dorsal and 1st and 2nd lumbar. Recovery. Reference: Idem.

CASE 147.—Operator, Moullin, 1891. Lumbar region; duration, 9 weeks. Paraplegia; anesthesia most marked on the right; some vesicorectal paralysis. Improvement, then stationary. Removal of 2d and 3rd lumbar arches and inferior right articular process of 2nd lumbar, which compressed cord. Improvement; recovery. Reference: *London Lancet*, 1892, vol. i, p. 359.

CASE 148.—Operator, Wyeth, 1891. Dorsal region; duration, 4 months. Complete paralysis from level of umbilicus down, of bladder and rectum. Removed laminae of 6th, 7th and 8th D. vertebrae and found cord almost completely severed. No improvement. Reference: *N. Y. Med. Jour.*, 1892, vol. ii, p. 273; also *Annals of Surgery*, vol. xx, p. 273.

CASE 149.—Operator, Wyeth, 1892. Dorsal region. Removal of 7th and 8th dorsal arches. No improvement. Reference: *N. Y. Med. Jour.*, 1892, vol. ii, p. 273.

CASE 150.—Operator, Urban. Dorsolumbar region; duration 6½ months. Complete motor paraplegia; complete anesthesia in feet; incomplete anesthesia in thighs; vesical paresis; bedsores; patellar reflex exaggerated; superficial reflex absent. Resection of 12th dorsal, 1st, 2nd, 3rd and 4th L.; dura adherent; incised on right side. Traces of cicatricial tissue; body of 1st L. displaced; canal narrowed. Complete recovery. Reference: *Gesell. Chir.*, 21st Cong., 1892, p. 214.

CASE 151.—Operator, Urban. Lumbar region; duration 9½ mo. Complete motor and sensory paraplegia; rectovesical paresis. Temporary resection of 11th and 12th D., 1st, 2nd, 3rd and 4th L.; 12th D. body displaced; no pulsation. Pulsation returned. Partial return of sensibility in 24 hours. Reference: Idem.

CASE 152.—Operator, Israel, 1892. Motor and sensory paraplegia; rectovesical paresis. Two months later, no improvement. Reference: Idem, p. 111.

CASE 153.—Operators, Verdelet et Venot. Lumbar region; duration 1½ months. Right monoplegia; no anesthesia; vesicorectal paralysis. Removal of splinter on right of 1st lumbar. No improvement; increase in cystitis. Death 12th day. Reference: *Societe d'Anat. et Physiol de Bordeaux*, June 13, 1892; *Jour. de Med.*, p. 311, 1892.

CASE 154.—Operator, Park, 1892. Dorsal region; duration, 2 days. Motor and sensory paraplegia. Resection of 10th, 11th and 12th arches. Canal filled with clot and debris. Improvement of anesthesia; none of paraplegia. Reference: *Med. News*, 1892, vol. i, p. 546.

CASE 155.—Operator, Bruns. Cervicodorsal region. Paraplegia; anesthesia up to 6th rib; vesicorectal paralysis; priapism, contraction of pupils. Removal of arches of inferior cervical and superior dorsal. Improvement in flexors and possibly in extensors of arms. Death. Post-mortem observations: Total degeneration

of cord. Lower cervical, upper dorsal. Secondary degeneration of points of myelitis. Reference: *Mercer Med.*, 1893, p. 9.

CASE 156.—Operator, Koerb. Dorsal region. Complete paraplegia; all reflexes gone; paralysis of sphincters. No improvement. Death 10th day. Post-mortem observations: Fracture 10th dorsal; cord crushed. Reference: Idem.

CASE 157.—Operator, Le Dentu. Dorsolumbar region; duration, 28 days. Complete motor and sensory paraplegia; vesicorectal paresis; fracture of femur. Removal of 11th and 12th dorsal and 1st lumbar arches. Death from pyelonephritis. Post-mortem observations: Cord crushed. Reference: Chipault, loc. cit.

CASE 158.—Operator, Villar, 1892. Dorsal region; duration, 3 days. Depression in dorsolumbar region; motor and sensory paraplegia; patellar reflexes present; plantar and cremasteric gone; rectovesical paralysis. Incision from 10th dorsal to 1st lumbar; compression removed. Improvement. Reference: Idem.

CASE 159.—Operator, Van Kleef, 1892. Dorsolumbar region; duration, 6 weeks. Total motor sensory paraplegia and rectovesical paresis. Removal of 12th dorsal and 1st lumbar arches; cord compressed by fragments. Marked improvement in two days. Reference: Chipault.

CASE 160.—Operator, Zavaleta, 1892. Lumbar region; duration, 7 days. Motor and sensory paraplegia; vesicorectal paralysis. Fragments removed; extensive ascending myelitis. Death from respiratory paralysis on 43rd day.

CASE 161.—Operator, Wyeth, 1890-91. Dorsolumbar region; duration, 8 months. No motion below hips; no sensation from junction of middle with upper third of thigh; urine overflows. Laminae of 11th and 12th D. and 1st L.; cord small and soft, and no direct compression. No improvement. Death 3 years later; cause unknown. Reference: *Annals of Surgery*, vol. xx, p. 154.

CASE 162.—Operator, Wyman, 1892. Lumbar region; duration 8 weeks. Complete motor and sensory paralysis below last dorsal nerve; vesical and rectal paralysis; cystitis. Removal of 2nd L. arch; cord atrophied. Death 15 hours later. Reference: *Annals of Surgery*, vol. xix, p. 661.

CASE 163.—Operator, Riggs, 1893. Dorsolumbar region; duration, 4 days. Complete paralysis; bladder and rectal paralysis. Removal of last dorsal and 1st L. arches. Recovery from operation. Slight improvement. Reference: Idem.

CASE 164.—Operator, Mayer, 1894. Lumbar region; duration, 17 months. Paralysis, motor and sensory; bladder symptoms; cystitis. First and 2nd L. arches removed; dura adherent to cord. Recovery from operation. Marked improvement. Reference: *Annals of Surgery*, vol. xxvi, p. 207.

CASE 165.—Operator, Park, 1892. Male, 37; had had Pott's disease some time before; struck by train; paraplegia; anesthesia limited to skin. No lesion or fracture found. Death on eighth day. Post-mortem observations: Fracture found at region of Pott's disease. Reference: *Med. News*, 1892, i, p. 546.

CASE 166.—Operators, Weller and Van Hook, 1891; reported by Starr. Third dorsal region; duration 16 hours. Wound from revolver bullet; complete paralysis of lower limbs. Removal of 3rd D. arch; cord found reduced to a pulp. Death 21 days later. Reference: *Am. Jour. of Med. Sci.*, vol. cili, p. 395.

CASE 167.—Operator, Conley, 1891. Fifth dorsal region. Revolver wound at 5th dorsal; complete paralysis of lower limbs. Retention of urine and feces. Fifth dorsal arch removed; cord nearly sound and bullet found in back of vertebrae; lodiform drain. No union because of escape of cerebrospinal fluid. Death 31 days later. Reference: Idem.

CASE 168.—Operator, Bouffleur, 1891. Duration 24 hours. Fracture 5th and 6th C. vertebrae; anesthesia of upper and lower limbs. Exploratory laminectomy at 5th C. Death in 8 hours. Reference: Idem.

CASE 169.—Operator, Halsted, 1891. Second D. and 5th L. dislocated, 12th D. fractured; duration, 62 hours. Struck by grip of cable car; paralysis of lower limbs and trunk. Laminectomy at 12th D.; reduced dislocation at 2nd D. and 5th L. Death in 15 hours. Reference: Idem.

CASE 170.—Operator, Frank, 1891. Sacral region; duration, 2 years. Partial anesthesia of legs and complete of rectum and penis; two bedsores. Portion of sacrum removed. Some improvement. Reference: Idem, p. 405.

CASE 171.—Operator, Golding-Blrd. Dorsal region; duration, 72 hours. Severe pain across back, which increased with movement. Paralysis of lower limbs (partial); partial anesthesia of legs and abdomen; reflexes normal; ankle clonus; paralysis of sphincter ani. Removal of 11th and 12th D. arches and blood-clot; wound closed with silver; no drain used; extension made by traction. Sensation and motion steadily improved. Complete recovery. Reference: *Br. Med. Jour.*, May 23, 1891.

CASE 172.—Operator, Warren. Dorsal region; duration, 4 days. Paralysis of legs; cold feet and semistupor; fever. Dura opened and blood-clot found. Death. Post-mortem observations: Fracture of spine and pelvis; torsion and compression of cord. Reference: *Annals of Surg.*, xvii, 1893, p. 439.

CASE 173.—Operator, Pauzer, 1893. Lumbar region; duration 3 years. Male, 40. Fell 30 feet; hysterical, no pain; mind gradually gave way; right limb then paretic and weak. Again injured back 11-3 years after: 7 months after was found in a stupor; pain on pressure in lumbar region. Removal of 4th and 5th L. arches; dura adhesive; cord normal. Death 55 hours after. Reference: *Trans. Indiana Med. Soc.*, 1893, p. 47.

CASE 174.—Operator, Pauzer. Lumbar region; duration 4½ years. Male, 40; jumped 35 feet, landed on feet, became unconscious; rectal and vesical paralysis; 3 months later suffered from severe coccygodynia; 2 years later severe pain on pressure; intermittent paralysis of right limb; head symptoms; right arm cold, weak and numb; unconscious spells; pupils constantly dilated. Removal of 2nd and 3rd L. arches and 4th and 5th right laminae; 2nd lamina and anterior processes thickened; dura thickened and adherent; pulsation present; drainage by rubber tubes. Great pain on right side for 24 hours after. Recovery. Reference: Idem.

CASE 175.—Operator, Pyle, 1893. Dorsal region; duration, 11 hours. Loss of sensation and motion below hips; loss of reflexes; severe pain; rectal and vesical paralysis. Removal of fragments; cord contused. Pain immediately disappeared; sensation and motion returned one week later. Recovery. Reference: *Annals of Surg.*, xix, p. 666.

CASE 176.—Operator, Pyle, 1893. Dorsal region; duration, 6 days. Loss of sensation, motion; rectovesical paralysis; girdle pains. Fragments removed. Pain disappeared, but no other recovery in three months. Slight improvement. Reference: Idem.

CASE 176.—Operator, Wyeth, 1890. Dorsal region; duration 7 months. Paralysis below pelvis; rectal and vesical paralysis. Some fragments removed. Gradual improvement; recovery. Reference: Idem.

CASE 178.—Operator, Wyeth, 1892. Dorsal region; duration, 4 months. Complete paraplegia and anesthesia below umbilicus; rectal and vesical paralysis. Cord almost destroyed; 6th, 7th and 8th arches removed. No improvement. Reference: Idem.

CASE 179.—Operator, Wyeth, 1890. Dorsal region; duration, 8 months. Paralysis below hips; vesical paralysis. Removal of 11th and 12th D. and 1st L. arches. No improvement. Died 2 months after; cause unknown. Reference: Idem.

CASE 180.—Operator, Wyeth, 1893. Dorsal region; duration, 7 mo. Complete anesthesia and paraplegia below 6th D. spine and ensiform cartilage; rectal and vesical paralysis. Removal of 3rd and 4th D. arches and fragments of bone; cord found cut. No improvement. Reference: *Annals of Surg.*, xx, p. 153.

CASE 181.—Operator, Wyeth, 1894. Dorsal region; duration, 2 months. Paralysis below crests of ilia; vesical and rectal paralysis. Removal of 8th to 11th D. arches. No improvement; death. Reference: Idem.

CASE 182.—Operator, Ellinwood, 1894. Dorsal region; duration, 3 months. Female, 19; fell 20 feet; complete paralysis below umbilicus; incontinence of urine and feces; in plaster jacket for 2 months; line of anesthesia lowered to pubes. Seventh to 11th D. arches removed; dura adherent; large mass anterior to cord which could not be reached; iodo-collodion dressing. Gradually failed; death. Reference: *Occ. Med. Times*, viii, p. 581, 1894.

CASE 183.—Operator, Ellinwood, 1894. Dorsal region; duration, 42 days. Male, 34; fell 20 feet; no pain and not unconscious; complete motor and sensory paralysis in lower limbs; bladder paralyzed. Sixth to 10th D. arches removed; pressure removed; cord edematous; blood-clot found. Slight movement and sensation after 2 weeks; developed cough and had dulness on left side; tubercle bacilli found. Died 2 months later. Post-mortem observations: Tuberculosis found; 8th D. was driven into 9th D., which injured cord. Reference: Idem.

CASE 184.—Operator, Roberts, 1894. Region, dorsal. First operation five months; gradual loss of power and sensation below crests of ilia, rectal and vesical paralysis. Removal of 9th and 10th D. arches, bone fragments removed. Regained sensation in testicles. Ten months later, second operation. Complete loss of power below iliac crests. Incision in lumbar region, no fragments discovered. Only improvement in legs. Two years later, third operation; 11th and 12th D. and 1st L. arches removed. Cauda equina displaced and injured, old bone fragments removed. Slight improvement in ankle joint. Reference: *Medical News*, 1894, lxiv, p. 265.

CASE 185.—Operator, Roberts, 1892. Dorsal region; duration, 1 month. Paralysis of both lower limbs; rectal and vesical paralysis. Pressing fragments removed. No improvement; death. Post-mortem observations: Sepsis. Reference: Idem.

CASE 186.—Operator, Roberts, 1893. Dorsal region; duration, 5 months. Paralysis of lower limbs, bladder and rectum. Cord destroyed. No improvement. Reference: Idem.

CASE 187.—Operator, Roberts, 1892. Dorsal region; duration, 10 months. Paralysis of lower limbs. Cord destroyed. No improvement; death in 2 months. Reference: Idem.

CASE 188.—Operator, Sharples, 1894. Dorsal region; duration, 24 hours. Male, 28; injured by falling weight; instantly paralyzed below 11th D.; marked blood extravasation. Arches of 7th, 8th and 9th D. removed; cord bent; no pulsation; compressing fragments removed. Next day tingling in feet and desire to micturate; later paralysis complete, leg-jerks, anesthesia below iliac crests; no control over bladder or rectum; fistula in back. Reference: *Medical News*, Phila., 1894, lxiv, p. 633.

CASE 189.—Operator, Dundore, 1894. Dorsal region; duration, 5½ months. Male, 21; injured by falling weight; loss of motion and sensation in both lower limbs; retention of urine; cystitis; slight motion and sensation after treatment with electricity. Ninth D. trephined; cord compressed, but no lacerations; drain and plaster jacket. Subsequent course: Used electricity; recovery. Reference: *Med. News*, Phila., 1894, lxv, p. 578.

CASE 190.—Operator, Dundore, 1894. Dorsal region; duration, 3½ months. Male, 35; struck by weight while stooping; complete loss of motion and sensation below 10th D. Cord found cut through. Death. Reference: Idem.

CASE 191.—Operator, Dundore, 1894. Dorsal region; duration, 5 days. Male, 20; total paraplegia of lower limbs. Eighth, 9th and 10th arches; cord lacerated and blood-clots found; drain used. Died 15 days later. Reference: Idem.

CASE 192.—Operator, Oliver, 1894. Dorsal region; duration, 14 months. Male, 34; fell 20 feet; instant paraplegia of lower limbs, bladder and rectum; all reflexes present. Arches of 7th, 8th and 9th D. vertebrae removed; dura adherent; no pulsation in cord; dura not stitched; perfect union. Improvement in bladder and rectal symptoms. Result: slight improvement. Reference: *Med. and Surg. Reporter*, 1894, lxx, p. 871.

CASE 193.—Operator, Arnison, 1894. Lumbar region; duration, 2 years. Complete paraplegia below seat of injury. Arches of 1st, 2d and 3d L. removed; cord crushed. Improvement in cystitis. Result: No improvement. Reference: *Annals of Surgery*, xxi, p. 522, 1895.

CASE 194.—Operator, Arnison, 1894. Lumbar region; duration, 7 weeks. Paralysis of hamstring muscles; retention of urine; incontinence of feces. Arches of 1st, 2nd and 3rd L. removed; cord crushed. No improvement. Reference: Idem.

CASE 195.—Operator, Arnison, 1894. Lumbar region; duration 1 month. Paralysis below hips, and of bladder and legs, atrophy of thighs and legs. Fragments removed. Immediate improvement; could walk in one month, cured in eight months. Reference: *Annals of Surgery*, xxi, p. 522.

CASE 196.—Operator, Dawbarn, 1893. Lumbar region; duration 8 months. Complete paraplegia, pain and bedsores. Cord found diminished in size. Slight increase in motion, complete control of bladder and rectum, sensation normal. Reference: *Annals of Surgery*, xxi, p. 46, 1895.

CASE 197.—Operator, Dawbarn, 1894. Lumbar region; duration 2 hours. Motor and sensory paraplegia below seat of injury. Fragments removed. Recovery in two months. Reference: Idem.

CASE 198.—Operator, Winnet, 1894. Cervical region. Male, 29; dived in shallow water; mind remained clear; sensation above nipples anteriorly and shoulders posteriorly; retention of urine and incontinence of feces; pupils contracted; tenderness over

4th and 5th cervical; all muscles below neck except diaphragm were paralyzed. Fourth and 5th cervical arches removed with Hey's saw and forceps. Could move arms when last heard from. Result: Slight improvement. Reference: *Canadian Pract.*, xx, p. 1, 1895.

CASE 199.—Operator, McCosh, 1894. Cervical region; duration, 18 months. Male, 33; bedridden 9 months; paralyzed below clavicles. Fifth cervical arch removed. Good recovery. Reference: Idem.

CASE 200.—Operator, Lindsey, 1894. Dorsal region; duration, 3 months. Male, 39; struck by cable across back; unconscious; paralyzed in lower limbs; no control over bladder and rectum; bedsores, cystitis; Sayre's jacket, electricity and strychnin given. Could walk with cane after six weeks. Spines of 9th to 12th D. taken off with forceps; spicula of bone removed and dislocation reduced; no drain. Had occasional convulsions and died 5 days later. Reference: *N. Y. Med. Jour.*, 1896, lxiii, p. 382.

CASE 201.—Operator, Wyeth, 1895. Dorsal region; duration, 11 days. Male, 27; struck by rock; instantly paralyzed below seat of injury. Incontinence of urine. Tenth to 12th dorsal arches removed; dura intact, but cord injured. Not much improvement; cystitis; regained partial control of bladder; large bedsores; severe priapism. Result: Very slight improvement. Reference: *Jour. of Am. Med. Assoc.*, 1896, xxvi, p. 1052.

CASE 202.—Operator, Wyeth, 1895. Cervical region; duration, 4 days. Male, 19; fell on head; remained conscious; intense pain, especially on motion; complete paralysis of motion and sensation in trunk and lower limbs; right arm partially paralyzed and anesthesia of its ulnar nerve; extension made; marked rise in temperature. Fourth, 5th and 6th C. arches removed; cord almost divided by lamina of 5th C.; cord red, but no signs of hemorrhage. Died 8 days after operation. Reference: Idem.

CASE 203.—Operator, Platt, 1894. Dorsal region; duration, 11 months. Fell down stairs; 2 months later loss of sensation and motion in legs; incontinence of urine; curve appeared. On entering hospital, 10 months after, was anemic; curve, anterior posterior from 6th to 10th dorsal; whole region thickened; tenderness and edema between scapulae; dulness below right nipple and all the way back; complete paraplegia and wasting of muscles; no control over bladder or rectum; many bedsores. Two parallel incisions from 4th to 9th D. spines just internal to trans. processes; laminae of 5th, 6th and 7th dorsal cut; fragments removed. No motion restored; improvement in sensation and bedsores. Death 4 months after operation. Cause of death: Probably a complete transverse lesion. Reference: *Boston Med. and Surg. Jour.*, cxxx, p. 415.

CASE 204.—Operator, Myles, 1894. Cervical region; duration, 48 hours. Fall, with immediate loss of power over lower extremities; limbs warm, pulse slow and feeble, respiration shallow and rapid, pupils contracted, pain in neck increasing on movement, bladder and bowel symptoms, sensation absent, reflexes gone in left leg, present in right; next day, paralysis of both legs, all reflexes absent, right side anesthesia up to nipple, left to 8th dorsal, right arm unable to flex or extend fingers, left pronation, supination, extension and flexion gone; pupils contracted, respiration diaphragmatic, legs drawn up. Incision from occiput to 7th C.; fragments removed and 4th and 5th arches. After 24 hours began to sink, and died of dyspnea. Post-mortem observations: Arches of 4th, 5th and 6th C. fractured; also body of 3rd; cord slightly bruised in front, and no displacement of bodies of vertebra. Reference: *Medical Press and Circular*, London, 1894, pp. 4-7.

CASE 205.—Operator, Giles, 1894. Dorsal region; duration, 10 days. Fell on back; complete loss of sensation below umbilicus; hyperesthesia above; paralysis in legs, reflexes gone, bladder paralysis; no deformity; 8th dorsal more movable than the rest; no pain on pressure; high temperature. Compressing bone removed; dura not opened. Gradually became worse. Death 34 hours later. Post-mortem observations: Body of 8th dorsal fractured; no laceration of cord. Reference: *Australian Med. Gaz.*, 1894, xiii, p. 86.

CASE 206.—Operator, Ridenour, 1895. Dorsal region. Struck in back by a beam. Arches 6th to 9th dorsal vertebra removed. Sensation returned at once; walked on crutches after three months. Reference: *Can. Pract.*, 1895, xx, p. 1.

CASE 207.—Reprint from *Am. Jour. Med. Sci.*, 1892. Dorsal region; duration, 5 hours. Fracture and dislocation between 10th and 11th D. vertebrae. Fragments removed; dislocation reduced; spines held together with silk. Improvement in symptoms; recovery. Reference: Ibid.

CASE 208.—Operator, Boyle, 1895. Dorsal region. Dislocation between 9th and 10th dorsal; also between 12th D. and 1st L. Arches from 9th dorsal to 1st L. removed. Good sensation and motion; recovery. Reference: Ibid.

CASE 209.—Operators, Church and Eisendrath. Dorsal region. Fracture and dislocation of 10th dorsal; complete paraplegia. Extradural clot removed and reduction. Improvement in symptoms; cured. Reference: Ibid.

CASE 210.—Operator, Galaudet, 1895. Dorsolumbar region; duration, 48 hours. Fracture of laminae of pedicles of 12th dorsal and 1st L.; dislocation between 1st and 2nd lumbar. Fractured portions removed and dislocation reduced. Recovery from operation; bedsores and cystitis developed. Thirteen months later sensation returned to lower extremities, but no muscular power. Reference: *Annals of Surg.*, vol. xxv, p. 32, 1897.

CASE 211.—Operator, Galaudet, 1896. Lumbar region; duration, 48 hours. Laminae of 2nd and 4th L. crushed. Fractured parts removed; 3rd L. intact; dura not opened; spinous processes of 10th, 11th and 12th D. vertebrae removed. Recovery from operation. Three weeks later sensation returned to lower extremities. Reference: Ibid.

CASE 212.—Operator, Galaudet, 1890. Dorsal region; duration, 5 days. Complete anesthesia of lower limbs and trunk below point of fracture. Removed laminae of 4th, 5th and 6th dorsal vertebrae; dura opened and cord found normal. Recovery from operation. Convulsion of both upper extremities 6 hours after operation, followed by their complete paralysis. Death 10 minutes after convulsions. Post-mortem negative. Reference: Ibid.

CASE 213.—Operator, Hudson, 1894. Cervical region; duration, 5 weeks. Male, aged 19, dived into shallow water; paralyzed from neck down, except shoulders and elbows; three weeks later head held back and pupils contracted and not active to light; arms abducted and rotated out, forearms pronated, left arm partly paralyzed and sensation absent below 2nd rib in front, 2nd dorsal spine behind; breathing diaphragmatic and pulse regular and strong; large bed-

more on sacrum and right shoulder; four abscesses below umbilicus, which healed on treatment; incontinence of urine and of feces at times; temperature sometimes as high as 104 degrees. Wound packed with hot sponge; 7th C. arches removed; processes with forceps, lamina of 6th C. with rongeur; no pulsation of dura; body of 5th C. almost occluded canal. Died on eighth day. Reference: Jour. of Nervous and Ment. Diseases, 1897, xxiv, p. 357.

CASE 214.—Operator, Hersey, 1895. Dorsal region; duration, 5 months. Male, aged 13; fell from tree. Depression of 4th D. crepitus; complete paralysis below injury; movement of arms also impaired; temperature 100 degrees, pulse 78, respiration 32; plaster jacket and extension used three weeks after injury and gave relief, but did not improve condition greatly; removed 15 days later; 35 days later, incontinence of urine, bedsores. Cut transverse processes of 4th, 5th and 6th D. and removed them. Spinous processes removed; deep silkworm sutures used; catgut superficially. Died 19 months after operation. Reference: Atlantic Med. Weekly, vol. viii, p. 370, 1897.

CASE 215.—Operator, Godding, 1896. Dorsal region; duration, 2 weeks. Fell 60 feet; 11 days later left leg completely paralyzed; could move right foot, sensation normal; rectal and vesical paralysis; depression between dorsal and lumbar vertebrae, patella reflexes absent; temperature 99.8 degrees, pulse 92, respiration 20. Left lamina of 11th D. cut with Hey's saw and chisel; arch of 11th D. removed, dura came away with it; deep sutures of catgut, superficial ones of silkworm gut; no drain. Complete recovery. Reference: Atlantic Med. Weekly, vol. viii, 1897, p. 369.

CASE 216.—Operator, Godding, 1896. Dorsal region; duration, 48 hours. Fell 15 feet and struck across back. Extension applied; partly reduced dislocation; complete paraplegia below umbilicus; retention of urine, priapism, paralysis of rectum; spinal curve to right from 6th to 10th D. crepitus over 8th D.; reflexes absent, temperature 99.2, pulse 72, respiration 20. Cord had been cut through between 7th and 8th D.; catgut drain. Died 16 days later. Reference: Idem.

CASE 217.—Operator, Oliver, 1897. Lumbar region; duration, 35 days. Male, 36; struck by train on head and back; unconscious for a time, complete paralysis of lower limbs, rectal and vesical paralysis; constant priapism for 2 weeks; sensation normal; later, projection of left 12th D. and depression of 1st L.; turning to right caused pain; incontinence of feces, bladder control normal, knee-jerk absent. Laminæ of 1st and 2nd L. cut; pressing fragments removed. Galvanic current and tonics given; regained power of locomotion. Result: Improvement. Reference: Cincinnati Lancet-Clinic, xxxix, p. 615, 1897.

CASE 218.—Operator, Oliver, 1897. Cervical region; duration, 48 hours. Male, aged 62. Alcoholic; fell down stairs while intoxicated. Pulse slow, respiration stertorous, temperature subnormal; complete motor and sensory paralysis below 3rd rib on right side; on left side arm was involved; could flex right arm; rectal and vesical paralysis, superficial reflexes absent. Irregularity at 2nd and 3rd C.; crepitus felt; pupils contracted. Fragments from 2nd and 3rd C. removed. Bedsores appeared where there had been contusions. Died 3 weeks later. Reference: Cincinnati Lancet-Clinic, xxxix, p. 615, 1897.

CASE 219.—Operator, Frank, 1891. Sacro-coccygeal region; duration, 3 years. Male; fell 36 feet; complete paralysis of lower limbs, loss of sensation below hips, rectal and vesical paralysis; bedsores on sacrum. Coccyx and lower part of sacrum with its posterior wall removed and spinous and transverse processes of 4th and 5th L. Good recovery. Reference: Chicago Med. Record, vol. xvi, p. 143.

CASE 220.—Operator, Porter. Dorsal region; duration, 28 months. Male, 25; fell 20 feet, landed on his feet; complete paraplegia; retention and then incontinence of urine. Segments of 11th and 12th D. removed. Unimproved. Reference: Idem.

CASES 221, 222, 223, 224. For these cases see text, pp. 1248-1250.

DISCUSSION.

DR. R. H. DAWBARN, New York City—I wish to emphasize the importance of early operation in these cases and think this Section should go on record as saying so. I had a case some years ago which taught me a lesson. A young man whose spine had been broken had been treated for nearly a year before coming to me. He saw Dr. Seguin and Dr. Gray, who advised against operation. The patient then bought a large galvanic battery and used it on their advice until there was no response. He ultimately agreed to an operation, and I found the spinal cord in one spot subject to bony pressure, and hardly more than scar tissue at that point. Of course the delay had ruined his chance of ever walking again, but he greatly improved in certain symptoms. As against this I had a case five years ago, of a young girl who fell down a shaft, and I succeeded very promptly in getting an operation, which was done inside of two hours. She was paraplegic from the waist, or just below it. I found the eleventh and twelfth dorsal vertebrae crushed and sticking into the cord. My assistant suggested that perhaps one of the bodies might be fractured and attacking the cord also from its front, and sure enough such was the case. A spicule of bone about the size of a lead pencil was found sticking into the cord. I removed the lamina on that side with the rongeur, and finally reached and removed the fragment. Suddenly there was a tremendous rush of blood—evidently from the torn venæ basis vertebrae—which was controlled by a long strip of gauze curved around the spinal cord. I was afraid

that this would be the means of conveying infection from air outside, but this proved not to be the case. The result was an ideal recovery, and prompt restoration of walking and all bodily functions. These cases are not in the same category as fracture of the skull. There is not more reason to delay in a case of fracture of the spine where there is hemiplegia or paraplegia and a depressed or deflected spinous process than for delay in a case of fracture of the skull with depression and pressure symptoms. There is no wisdom in waiting to see what would happen, and there is no more danger from shock in the one case than in the other. I would not wait in a case of fracture of the spine, even a needless hour, for more hopeless cases can not be found than these are. I hope this Section takes the same view that I do.

DR. G. DE N. HOUGH, New Bedford, Mass.—In 1896 I had a case of broken neck in a man who was thrown during a friendly scuffle, striking on top of his head. Paraplegia was immediate. I saw him next day. Both legs and the right arm were affected; temperature 102. He was taken to the hospital; and at 5 o'clock both legs and both arms were paralyzed; temperature 104.5 degrees; spinous process of the seventh cervical vertebra slightly deviated to the left. Laminectomy was performed and he made an uneventful recovery. Soon after the operation I found that he had phthisis. He is still living and I am informed that, except for a decided weakness of the right arm, he is well.

DR. DAWBARN.—The writer and I do not differ in the least. He says that if you have a deflected spinous process you have one more indication for operation, and I agree with him. In saying that he would open the cord, he did not mean that, but the theca spinalis.

Endurance of Vegetarians.—Baelz, of Tokio, is reported in the *Deutsche Med. Woch.* as having stated, at the meeting of the Berlin Medical Society, March 20, that he has found the vegetarian Japanese actually more enduring than meat-eating foreigners in control tests, and the events in China have corroborated his experiences. In the interior of Japan it is impossible for the masses to procure even fish or much rice, and as the Japanese cows do not give milk, they have no butter nor cheese, and the food is limited to barley or buckwheat with one-quarter rice, the soya bean and no meat. The soya bean contains as much albumin as beef and 20 per cent. oil, but the amount of cellulose renders it difficult to digest. The rich Japanese who eat rice more abundantly have soft bones, owing to the lack of lime in the rice. Children who eat much rice have grooves in their bones from the bands of their clothing, although rachitis is unknown in Japan. Among the tests of endurance he mentioned that he once drove 110 km. in fourteen hours, changing horses six times. A Japanese with a cart made the trip at the same time in 14½ hours. He had two rickisha men trot 40 km. with his weight of 80 kg. every day in the heat of the sun. At the end of fourteen days one of the men had gained .5 kg. in weight. He then added a little meat to their food, but the men said it made them feel tired, so it was suspended after three days. At the end of the twenty-second day of the test the men were as full of energy as at first.

Medical Journals as Teachers.—A correspondent of the *Wiener Klin. Rundschau* criticizes the new official post-graduate courses as superfluous in the large cities, observing that "a good medical journal takes the place of many such courses. The serumtherapy of diphtheria became the common property of the profession without any special course of training. The best teacher is always, and invariably, practice on a basis of thorough knowledge of contemporaneous achievements in science and a discussion of dubious points in professional gatherings."

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CRYOSCOPY OF THE URINE.

Cryoscopy is, in brief, the determination of the freezing point of fluids containing substances in solution. The following are the principal laws deduced by Raoult and others from the study of the freezing point of solutions: 1. All substances, solid, liquid and gaseous, when dissolved in a definite liquid capable of solidification, lower the point of solidification, and this the more the greater the concentration of the solution. 2. If the body dissolved is not combined with or altered by the water of the solution, the lowering of the freezing point is proportional to the molecular weight of the substance dissolved. 3. The solution of an equal number of molecules in a constant quantity of water lowers the freezing point to the same extent no matter what the nature of the substance dissolved may be. 4. When various substances are dissolved in the same solution, the lowering of the freezing point of the common solution is the sum of the lowering produced by each substance when dissolved singly.

On account of electrolytic dissociation of inorganic substances into ions, apparent exceptions to the second and especially the third laws are frequent. Each ion has the same significance in this case as a molecule. Thus dissociation of one molecule of NaCl into the ions Na and Cl would produce the same fall of the freezing point as the two molecules of an organic substance, because these are not dissociated. Van't Hoff's law makes this clear: Equal volumes of isotonic solutions contain the same number of molecules or fragments of molecules, and consequently they have the same freezing point.

In spite of the complexity of organic liquids the foregoing laws are directly applicable to their study, and during the past three or four years, following Koranyi of Budapesth, some work has been done on the cryoscopy of the urine and other organic liquids. The determination of the temperature of congelation is not a difficult procedure. In a recent brochure Claude and Balthazard¹ give the results of cryoscopy of the urine as applied to the diagnosis and prognosis of cardiac and renal diseases and as compared with other methods of exploration of the renal function.

The urine is regarded as the result of the filtration by the glomeruli of a pure, or nearly so, solution of chlorid of sodium, which becomes concentrated by the

absorption of water as it passes down the canaliculi and is enriched at the same time with other substances from the blood by a process of molecular exchange, so that for each molecule that passes from the blood into the urine a molecule of chlorid of sodium passes from the canaliculi into the blood. This hypothesis, based largely upon a consideration of osmotic phenomena, serves as a useful guide to understanding the significance of the facts learned by cryoscopy, which permits the calculation of the total molecular diuresis for twenty-four hours and per each kilogram of body weight, and furthermore also the rate of molecular exchange by determining the amount of chlorid of sodium in the urine. The freezing points of normal urine vary between—1.3 and—2.2 degrees. After excessive libations or sudation the extremes may vary still more. By means of certain formulæ the total molecular diuresis, the diuresis of elaborated molecules, and the rate of molecular change, i. e., elimination, may be calculated and the normal standard established. Every cause that raises the arterial tension or the activity of the heart and thus accelerates the flow of blood results in an increase of molecular diuresis, but the rate of molecular exchange does not show a corresponding increase. In cardiac insufficiency and circulatory obstruction molecular diuresis falls while molecular exchange is favored if the kidney is normal. As regards the results of cryoscopy of the urine in the various forms of nephritis, the following general statements may be made: A low molecular diuresis indicates more especially glomerular impermeability, while a fall in the diuresis of elaborated molecules, i. e., elimination in the ordinary sense, points to changes in the renal epithelium, which hinder molecular exchange and prevent the elimination of detrimental substances. In uremia there is a marked diminution in the elimination of complex substances; this is also the case in chronic interstitial nephritis, and this grave prognostic omen may be detected by means of cryoscopy before the clinical symptoms lead one to suspect its existence. In the course of the disease there may be many ups and downs in the urinary condition.

In acute nephritis the interpretation of the phenomena is more difficult as the conditions vary according to the causes and the lesions. Enough work has not been done to divide the cases into groups; the clinical symptoms are often masked by the associated intoxication and infection, and cryoscopy throws a welcome light upon the condition of the renal function. In the subacute and chronic forms of nephritis, diffuse or parenchymatous, the pathological physiology is also subject to many variations, periods of insufficient elimination alternating with periods of functional activity, often exaggerated above the normal. Comparing cryoscopy with other methods of urinary examination it is notable that the chemical study of the toxic substances in the urine necessitates prolonged and delicate manipulations, which unfortunately are rarely directly applicable in clinical cases where immediate results are desired. The

1. La Cryoscopie des Urines, Paris, 1901.

authors point out that while the administration of methylene blue and the study of its elimination by the urine may throw much light upon the general condition of the renal function, cryoscopy distinguishes between glomerular insufficiency and impermeability of the epithelium of the urinary tubules.

It seems not unlikely, from what has been merely hinted at in the foregoing, that cryoscopy may clear up a number of points in the pathological physiology of the kidneys concerning which the clinician desires daily information. The condition of the renal permeability remains as the principal prognostic indicator, whatever the anatomico-clinical type of the renal lesion may be. From the standpoint of cryoscopy and pathological physiology the various forms of nephritis present marked analogies. The future must show to what extent the application of this method of physical examination may be rendered practically useful in clinical work. The work already done indicates the great value to medicine of all advances along chemico-physical lines.

HEMORRHAGIC TYPHOID FEVER.

Hemorrhagic typhoid fever does not mean cases marked by intestinal hemorrhage, ordinary epistaxis, and petechial eruption, but certain infrequent instances in which there occur multiple hemorrhages in various parts of the body, especially the skin and some mucous membranes. It is the hemorrhagic putrid fever of the early French writers. Cases have recently been described by Nicholls¹ and Hamburger.² Multiple hemorrhages are rare in typhoid fever. Hamburger states that of 1900 cases in Basel only 3 showed hemorrhagic diathesis. The case he describes is the first in the history of the Johns Hopkins Hospital. Uskow observed 4 in 439 fatal cases, representing 6513 instances of typhoid fever. In Montreal 3 cases occurred among 543 patients. The hemorrhages occur oftenest in the skin, but may take place also from mucous membranes; there may be bleeding from the gums, epistaxis, hematuria, and bleeding from the vulva. Murchison saw fatal epistaxis. In some instances the hemorrhages are almost universal, post-mortem examinations showing hemorrhages in the serous membranes, the muscles, and internal organs. There are no other special symptoms characteristic of this form of typhoid fever. Possibly furunculosis is more pronounced in hemorrhagic cases. There seems to be no definite period for the onset of the hemorrhages, which may appear early in the attack, most commonly however as the fever subsides; they may come on during a relapse, as in the case of Hamburger.

The causes are on the whole somewhat obscure. It has been claimed that the hemorrhagic diathesis is peculiar to some epidemics, and Trousseau speaks of this under the term "medical constitution," but just wherein this alleged epidemic influence resides is wholly undetermined. The appearance of hemorrhages corresponds in

some cases to secondary infections of various kinds and localizations (Nicholls). In other instances the cachectic state to which the patients are reduced seems to explain the bleeding. Gerhardt is inclined to place some blame upon the cold-water treatment and the more or less exclusively nitrogenous diet; he thinks that the condition is not unlike scurvy. Idiosyncrasy in the patient is also suggested because Wagner saw hemorrhagic typhoid in three sisters and two brothers, but the idiosyncrasy may have been in the infecting organism just as well as in the infected patients. At all events the theory that the hemorrhagic diathesis results from the action of toxins circulating in the blood seems to harmonize best with the teachings of the present time. The exact source and nature of the toxins remain hidden however, though most likely bacterial in origin. This toxemia would be "the morbid condition that constitutes putridity," as Trousseau has it.

But little is known of the pathological changes that underlie the hemorrhages. Older writers place much stress upon changes in the blood, which they refer to under the indefinite term of "dissolutio sanguinis." When venesection was in vogue there were abundant opportunities to note alterations in the appearances of the blood, which was regarded as the seat of putrid changes. Nicholls found fatty changes in the smaller vessels and the capillaries. There is need of further complete histologic studies. There are no special gross changes in these cases.

Hemorrhagic typhoid is serious, as two-thirds of the patients die (Hamburger). The treatment is largely if not wholly symptomatic. Gerhardt stops the cold baths and adds simple vegetables and vegetable juices to the diet in order to overcome the scurvy-like condition which he thinks is present. Hamburger and Nicholls suggest calcium chlorid in order to increase the coagulability of the blood, which should be frequently tested as recommended by Wright.

MUCOUS OR MEMBRANOUS URETERITIS.

Under certain conditions not yet perfectly understood, the secretion poured out upon the surface of mucous membranes undergoes, at times, a sort of coagulation, and as a result of this it may be discharged in irregular masses or shreds, or in the form of actual tubular casts. The disorder is most commonly encountered as occurring in the large intestine, giving rise to the symptoms of mucous or membranous colitis. The peculiar and characteristic materials discharged have been found to consist essentially of mucus, and they are considered to be the products of a secretory neurosis. They can be detached without loss of tissue, and they thus differ from diphtheritic membrane, which is an inflammatory product, with coagulation-necrosis, and which can be detached only with loss of tissue and some bleeding. Patients suffering from mucous colitis almost invariably present other evidences of a neurotic predisposition. An analogous disorder is occasionally observed involving

1. Montreal Med. Jour., 1901, xxx, 51.

2. Johns Hopkins Hospital Reports, 1900, viii, 309.

the bronchial tubes and, rarely, the ureter. A case has also been recorded in which a membranous cast of the gall-bladder and the bile-duct gave rise to attacks of biliary colic.

It may be conceived that in all of these affections the secretion of the mucous membrane is altered, both qualitatively and quantitatively, in consequence of some abnormality of innervation of local or of central origin, resulting in the formation of the peculiar mucous masses, shreds or casts. The condition is so unusual in being seated in the ureter that a case recorded recently by Dr. J. A. H. White¹ would seem worthy of special note.

The patient was a woman, 60 years old, of nervous temperament, who complained of repeated attacks of agonizing pain in the left loin, of gradually progressive intensity for twenty years. The pain was constant, though worse in paroxysms radiating from the loin down the front of the abdomen to the inner side of the left thigh. It was not increased on walking about or in riding, except during the presence of an attack. The attacks usually lasted two or three hours, were attended with sweating and vomiting and were followed by collapse. Micturition was increased in frequency, but blood had never been noted in the urine. Great tenderness was present below the left lower ribs posteriorly. Bimanual palpation of the kidney was difficult on account of great rigidity of the abdominal wall, and the kidney could not be distinctly felt to be enlarged. Tenderness and rigidity were noted also along the course of the ureter. The urine was neutral in reaction and contained a trace of albumin with a few leukocytes. That passed after an attack contained a larger amount of albumin and a few blood-cells, together with a number of semitransparent mucoid strings about an inch long and obviously derived from the ureter. Microscopically the structures last named were found to be hollow, elongated, cylindrical bodies of clear mucus, held together by a few threads of fibrin. Improvement followed the administration of an alkaline mixture containing 2 grains of potassium iodid. Reference is made to a similar case reported by von Jaksch, in which the expulsion of a renal calculus was followed by periodic attacks of colic attended with the passage of casts of the ureter 10 centimeters long. Relief was afforded by rendering the urine acid. It is thought that in this present case also an encysted renal calculus was present, which by irritation of the renal plexus caused nutritional disorder of the ureteral mucous membrane.

A CASE OF AUTO-CESAREAN SECTION.

That there is some as yet undiscovered fact or that in the individual case turns the scale for or against infection would appear all too obvious from an abundance of evidence. Of several persons equally exposed, a number will surely be attacked, while another will surely escape. Such susceptibility and immunity are observed not alone in medicine proper, but in surgery

as well. The most scrupulous attention to every detail will not in some instances insure against wound infection, while in others the grossest carelessness or even the total want of every precaution will fail to be attended with any undesired result. This latter peculiarity is often strikingly illustrated in the mutilations practiced by the insane, in other self-inflicted injuries and in accidental lesions. A remarkable instance of toleration of this character, bearing the stamp of authenticity, has recently been reported by Dr. Robert Löffler.¹ A woman, 42 years old, the wife of a Turkish peasant, had been bedridden for eight months on account of great weakness and pain in the lower extremities. She was at the end of pregnancy, and as she feared that she would die before the child could be born, she concluded to secure relief from her own resources. Taking an ordinary pocket-knife that she had concealed for the purpose for three days, she cut open the abdomen, and became unconscious after seeing the child extruded. When consciousness returned after a time, the woman awakened her 13-year old daughter, sleeping in the same room, and bade her sew up the abdomen. This was done with the aid of a domestic needle and waxed hemp thread. When a physician was called, after an interval of two days, it was learned further that the woman had lost about two quarts of blood, that the daughter had ligated the umbilical cord and had thrown away the placenta.

On examination, the patient was found to be greatly emaciated and anemic, with signs of old pulmonary tuberculosis. The abdomen was slightly distended, the skin of the abdominal wall flaccid and the musculature atrophic. In the linea alba was an irregular, ragged incision 16 cm. long, beginning 4 cm. above the symphysis pubis and extending three-fingers' breadth above the umbilicus, the lips of which were approximated by a continued suture and healed by primary union in spite of the fact that it had been dressed with moss and a soiled rag. The uterus was enlarged and directed to the right, but not unduly tender. On digital examination the cervix was found spongy, the external os admitting three fingers and the internal os one finger. The mucous membrane of the uterus was also spongy. From the uterus a bloody-serous odorless flow took place. So far as could be learned no attention had been given to closing the uterus. Examination of the bony pelvis was painful, as was also movement of the lower extremities. There was no noteworthy pelvic contraction. The child was 49 cm. long, and weighed 3000 grams. This case is remarkable in several respects, first of all on account of the operation itself, certainly a most desperate and heroic measure; next on account of the absence of serious hemorrhage; then by reason of the spontaneous closure of the uterus; again by reason of the absence of infection; and finally, from the recovery of both mother and child.

1. British Med. Jour., Jan. 5, 1901, p. 14.

1. Wiener Med. Woch., 1901, No. 10, p. 472.

A SELF-CONFESSED FRAUD.

In spite of the advocacy of prominent politicians and officials another fraud has come to grief. The notorious Weltmer magnetic healing concern of Nevada, Mo., advertising over the whole United States and counting its dupes by the thousands, has been brought to confession by the Federal laws. The United States postal authorities investigated the methods of the managers and finally caused their indictment for fraudulent use of the mails. Nine separate counts were found against these men, and, notwithstanding their lawyers, they had to plead guilty and throw themselves upon the mercy of the court. It seems strange that conviction of such frauds as magnetic healers, and similar swindlers, can not be reached in state courts, but there is a satisfaction that when the United States courts are appealed to justice is obtained.

SAN FRANCISCO'S PLAGUE.

Since the report of the Government Commission there has been no denial of the existence of plague in San Francisco, but notwithstanding the fact that the Chinese quarters are being fumigated, etc., a little more positive assurance of the thoroughness of the work would be welcome. It is being done by appointees of the State Board of Health, the dominating element of which had up to the Government's investigation emphatically denied the existence of the disease. One might reasonably prefer to have the work in other hands to feel a positive assurance of its thoroughness, for no halfway measures will suffice. We are informed by our San Francisco correspondent that at present no new cases of plague are being found and that remarkably few deaths from any cause are being reported in Chinatown, which leads to a suspicion that the Chinese are at their old tricks again, hiding their sick and clandestinely interring their dead. If this is a fact the methods of the State Board of Health are not what they should be. It is true that the work is nominally under the supervision of the U. S. Marine-Hospital Bureau, but that fact alone does not, under all the circumstances, lead us to feel a full assurance that the methods and details are absolutely what is demanded. There is reason to fear, moreover, that there may be other plague foci on the Pacific Coast and attention should be given to them also. California and its state authorities owe it to themselves and to the rest of the country to give evidence of no half-heartedness in the measures they take against the Oriental pest that has existed there. It is a misfortune that their acts heretofore have not been such as to insure full confidence.

THE ANTIVIVISECTION QUESTION.

The antivivisectionists have at last been heard from in reply to Dr. Keen's cutting exposé of their unfair methods. The corresponding secretary of their Society, Mrs. Caroline Earle White, attempts a countercharge of misquotation. She says Dr. Keen misrepresents when he says that there were only two alleged instances of experimentation on the human subject mentioned in the humane society's pamphlet, whereas Dr. Wentworth admits performing forty-five experiments and

Dr. Berkley admits experimenting on eight patients. What Dr. Keen referred to was charges of making such experiments, not the number of subjects employed; it made no difference whether the cases were one or five hundred so far as the point made by him was concerned. The other charge made against him is that he took advantage of a typographical error to make his case. He stated that a quotation from Tertullian was not to be found on pp. 430, 433, as averred in the pamphlet. Mrs. White says it was to be found on the second line of p. 431, and charges Dr. Keen with wilfully taking advantage of the printer's error of leaving out the dash between the figures. How could he know the omission of the hyphen was the printer's error? He simply looked up the references as given, and if the alleged typographical error had not occurred the reference would have been still ridiculously vague enough to deserve Dr. Keen's criticism. It would have been a curious way to give the reference, "pp. 430-433" for a quotation from the second line of p. 431, yet that is what it is claimed was intended to be done and Dr. Keen is charged with an "evasion of truth" because he did not find it and characterized it as vague and indefinite. The unreasonableness of the zoophile crank could hardly go much farther. These two countercharges, such as they are, are all the defense made to Dr. Keen's letter, a defense which amounts to a practical acknowledgement of the truth of his criticisms.

THE AMERICAN ARMY HOSPITAL AT PEKIN.

The *British Medical Journal's* correspondent with the China expeditionary force, furnishes, in the April 13 issue of that journal, a very complimentary notice of the American army hospital at Peking. The first fact realized, he says, is "that medical arrangements in the United States Army possess a far higher degree of importance than our own." While he thinks, apparently, that the American soldier is a generally rather coddled employee, he says it is not till he goes to the hospital that he really finds out how his country loves him. It would not be a serious exaggeration in this correspondent's opinion to say that the American hospital in Peking could hold its own in comparison with most London hospitals. The furnishings, cooking, attendance, and staff all come in for commendation, and one or two disadvantageous comparisons are at least implied between British and American hospital management. The hospital corps men are particularly mentioned as efficient, and it is said that five of them, lent for a special emergency to the British naval hospital at Wei-Hai-Wei, fairly astonished the surgeons there by their wonderful training and efficiency. The correspondent attributes all these excellencies he observed to the very liberal policy of the U. S. Government as regards the army medical expenses. "The *tout ensemble* of the hospital suggested that the Government had given a free hand to a man with his heart in his work; no other explanation seemed forthcoming." Outside testimony of this character is the more satisfactory since yellow journalism at home is so apt to make the most of any possible deficiencies. There has never been any doubt that the Army Medical Department would be equal to any ordinary demands if given a chance, and the con-

ditions in China may be taken as a fair index to those in the Philippines. The American soldier is as well cared for as any in the world and better than most.

THE KNEE-JERK IN CHOREA.

The diagnosis of developed chorea is not usually difficult. There are, however, occasional cases in which the symptoms are slight and doubtful and it is of some interest or importance to recognize the affection. Moreover, if chorea is an infectious disease, as is held probable by many, if not by most, neurologists, it is quite possible that our knowledge of all of its manifestations is not exhaustive. Any addition, therefore, is an advantage, especially if the symptoms noted are of diagnostic value. A peculiarity of the knee reflex in this disorder, described by W. Gordon¹ in a recent article, appears to be such a one, consisting in a retardation of the relaxation of the contracting muscles; the foot is jerked up as quickly as ever, but does not fall at once to its former position. There are varying grades of this sustained contraction, from a very slight sluggishness in the descent to almost a permanent extension of the limb. Gordon finds this symptom common though not present in every case, but he has never found it in a non-choreic and it occurs in unilateral chorea only on the affected side. This symptom has been previously noted in chorea apparently only by Risien Russell, who remarked that "in some cases the resulting contraction of the quadriceps muscle is unduly sustained"; other authorities apparently have given comparatively little study to the reflexes in this disease. It is probably well known that a somewhat similar phenomenon may be observed in some cases of organic brain disease, and also in some irritable neurasthenic states, but there the associated symptoms are different and the value of this symptom as a diagnostic sign of chorea is not affected. Gordon accounts for the symptom by assuming it to be an involuntary movement incited by the knee-jerk, due to a sort of overflow of impulse in the excitable central areas of localization. That such may occur in chorea is, he thinks, demonstrable, and he gives as an illustration the evoking or aggravation of choreic movements in the fingers of the uplifted hands by the putting out of the tongue, another delicate test of the presence of the disease. The hanging up of the knee-jerk seems to him to also point to the overflow of impulse. In whatever way we may account for it, the fact is an addition to our knowledge of the symptomatology of chorea and a possible aid to diagnosis in some less obvious cases of the disorder.

INFLUENZA AND GENERAL MORTALITY.

THE JOURNAL² editorially called attention to the fact that while the mortality from tuberculosis is decreasing that from pneumonia is steadily on the increase, and now, in many parts of our country at least, exceeds that from any other one cause. In the March *Bulletin*, just published, the Commissioner of Health of Chicago refers to the same facts and quotes the same figures that were in part noticed in our editorial. The point he emphasizes, however, is the "grip" epidemic that has inter-

mittently prevailed during the past ten or eleven years, and to this he apparently refers not only the increase in pneumonia mortality but also a proportionately lesser increase in that from pulmonary tuberculosis. There is little question that the influenzal infection is largely responsible for the marked advance from 6.7 per cent. of total deaths in the 1881-1890 decade to 10.2 per cent. in that of 1891-1900. It is well that he calls attention to the fact, for if there is any epidemic scourge of the present responsible, directly or indirectly, for a greater mortality than is la grippe, it would be hard to say what it is. It is the more dangerous because it is insidious, rarely doing its evil work openly and under its own name, but through its life-sapping toxins destroying the vital resistance to the onset and morbidity of other disorders. As yet also we know too little of its natural history, and popular ignorance as to its infection enhances the danger. As Dr. Reynolds says, "influenza has apparently become domesticated with us," but we do not yet duly appreciate its baleful action as shown in the mortality statistics. Not only pneumonia, but cardiac disorders would also probably show increased mortality, and not only in this country from Canada to Mexico, but also in Great Britain and on the Continent of Europe the mortality records show its influence. It would probably be wrong to attribute the enhanced pneumonia mortality altogether to "grip" infection; Dr. Reynolds' figures show a steady increase from 3.98 per cent. in the decade between 1861-70 to nearly twice this figure before the disturbing element of la grippe intervened. Nor can we estimate this earlier gradual increase as altogether due to the higher percentage of those of advancing years in the general population; there are older communities where this factor can not be counted on, that also show an increase in the mortality from pneumonia prior to the advent of the "grip." How to meet the special dangers of this disease involves is a problem before us that we have yet to solve. The tuberculosis question is, as it at present appears, a comparatively simple one; the mortality it causes is steadily on the decrease, while that from acute pneumococcic infection, whether combined with the influenza virus or not, has passed it in the records of deaths it produces, and it may be we have not yet seen the worst.

DOES PRIMARY CARCINOMA OF BONE OCCUR?

If we take it for granted that carcinoma originates solely from cells of ectodermal or entodermal origin, then primary carcinoma can not develop in bones unless it should be from misplaced remnants of epithelial cells carried into the interior of bones either during embryonal development or as the result of pathologic or traumatic processes. Outside of the bones of the jaws, which occupy a peculiar position when looked at with this question in view, but very few primary carcinomas of bones have been described. An apparently authentic instance is the following by Carola Maier¹: In direct sequence of a definite trauma without wound of the skin or fracture a squamous carcinoma developed in the interior of the radius. The patient had, at the time of the report, remained in perfect health after amputation

1. British Med. Jour., March 30, 1901.

2. April 14, 1900.

1. Beitr. z. Kl. Chirurgie, 1900, xxvi, 553-556.

three years previously, thus apparently excluding the possible metastatic nature of the tumor, which is regarded as springing probably from misplaced epithelial cells and as illustrating Cohnheim's theory. Fittig² describes an analogous case: A flat-celled carcinoma developed in the ulna in direct sequence to a definite trauma in an otherwise apparently healthy man. In this case, however, careful overhauling of the patient was rewarded with the discovery of a small ulcerating, symptomless carcinoma of the larynx, and so it became quite plain that the ulnar tumor was a metastasis. Similar cases, in which the correct diagnosis was made after the operation, if ever, are not uncommon. Helferich, Billroth, Leuzinger, Goldmann and other authors are cited by Fittig, and it is probable that the majority of the surgeons have had similar experiences. In many of the cases cited the primary tumor was apparently very insignificant because so small and free from local symptoms. The lip, the mammary gland, the thyroid, the prostate, the urinary bladder may be the seat of the primary growth. Perhaps it would be well, in view of the occurrence of osseous metastasis especially in latent tumors, to make a preliminary excision for diagnostic purposes of all bone tumors. From the foregoing it is evident that while the occurrence of primary carcinoma of bone can not be denied theoretically, yet actually it becomes exceedingly difficult to exclude the possible secondary character of osseous carcinomas. The fact that Carola Maier's patient lived at the end of three years after the removal of the tumor does not exclude a slowly growing primary but latent carcinoma in some other part.

Medical News.

ARKANSAS.

A new board of health was organized at Hot Springs, April 11, with City Physician Henry C. Wallace as its medical member.

Arkansas University medical department, Little Rock, held its twenty-second annual commencement exercises April 12. Hon. Jacob Trieber delivered the address to the graduating class of twenty.

A graduate of the notorious "Independent Medical College," Chicago, has been arrested at Pine Bluff, charged with practicing medicine without proper credentials. In default of bond he was committed to jail.

Medical Bill Defeated.—The bill providing for the regulation of the practice of medicine and surgery in the state, for the appointment of a state board of health, medical examiners and registration, to consist of seven members to serve for a term of four years, was defeated in the senate by a vote of 14 to 13.

CONNECTICUT.

The State Board of Medical Examiners, at its last meeting in New Haven, issued licenses, to practice to seven candidates.

Dr. Walter K. Scofield, U. S. Navy, whose home is in Stamford, was placed on the retired list April 28, with the rank of rear admiral.

Yale Medical School's new building is assured. An anonymous benefactor has given the corporation \$100,000 for this purpose, and the contract for the building has been awarded for \$96,000.

Typhoid in New Haven.—The recent epidemic of typhoid fever in New Haven, where more than 300 cases have been reported, has been traced by Dr. Frank W. Wright, the health

officer, to infection with typhoid germs of one of the city's sources of drinking water. The water from the infected reservoir was immediately shut off and the supply pipes flushed with water from other sources.

GEORGIA.

Dr. James N. Carter has succeeded Dr. Jesse E. Wright as resident physician at the Macon City Hospital.

Presbyterian Hospital, Atlanta, has been granted a charter, and a location and the necessary funds are all that is required. Both of these essentials are progressing favorably, and the committee expects to be able to make a report recommending the erection or remodeling of buildings in a few days.

"Christian Scientists" Denied Charter.—Judge J. H. Lumpkin, of the superior court of Atlanta circuit, refused to grant the "Christian Scientists" a charter, April 19. This refusal was based on the law requiring all persons to be graduates of recognized medical colleges and to pass examination before the State Board of Medical Examiners before being allowed to practice medicine in the state. This decision puts this class of believers in the same class as osteopaths.

ILLINOIS.

The Kerr bill, which required all manufacturers of patent medicine to print the formulæ of their productions on the bottle or wrapper, and also to designate whether the medicines contained any harmful drugs, was defeated in the senate.

Appropriations for charitable institutions are called for by the omnibus bill, and amount to \$2,640,449.90, of which all but \$375,600 is for the hospitals for the insane, homes for the deaf, dumb, blind and feeble-minded, and the eye and ear infirmary.

Cuban Itch.—Despite the many-times repeated experience all over the country, some physicians still diagnose cases of smallpox as "Cuban itch." Carelessness of this kind has been followed by an epidemic of the disease at Brockton, where there are 65 cases and at Dawson and Hume in the central southern part of the state. Six cases of the disease have also been reported from Lepo, Fulton County.

Chicago.

The Illinois Epileptics' Home has received a gift of \$500 from Theodore Oehne.

Dr. Ira D. Isham, who spent the fall and winter in foreign travel, returned to Chicago on April 29.

St. Luke's Hospital is a beneficiary under the will of the late Mrs. Jennie L. Young, to the extent of \$5000.

Dr. and Mrs. Silas T. Yount have returned from a four-months' vacation tour to Jamaica, the Bahamas and Florida.

A midwife was found guilty of murder and sentenced to fourteen years in the penitentiary. The offense was the common one of criminal abortion, in which the patient died.

The Woman's Medical College, at the annual meeting, April 24, recommended Dr. Eliza H. Root for dean of the college during the absence of Dr. Marie J. Mergler, away on sick leave. Dr. John Ridlon was elected secretary of the faculty.

The Week's Mortality.—For the week ended April 27, the mortality was 17 per cent. lower than for the preceding week—457 deaths as against 551. Of these 151 were due to diseases of the respiratory system and 26 to violence. The death-rate equals an annual mortality of 13.55 per 1000. Reports from the laboratory show an almost total disappearance of the influenza germ, a very satisfactory condition of the water-supply and a much better quality of milk than is usual at this season of the year.

INDIANA.

Dr. Charles L. Armington, Anderson, has been appointed a member of the State Board of Medical Examiners.

Dr. Christian B. Stemen, Fort Wayne, has been appointed a trustee of Purdue University, to succeed the late General Harrison.

Garrett is to have a new hospital under the charge of Rev. Father Young. The establishment of this institution will obviate the necessity of sending injured employees of the Baltimore and Ohio Railway to Chicago for treatment.

IOWA.

Dr. Lloyd L. Krebs, Cedar Rapids, as a result of competitive examination, has been commissioned first lieutenant and assistant surgeon in the army.

Dr. Charles S. James, Centerville, has been appointed the state representative to the American Congress of Tuberculosis, to be held in New York City, May 15 to 17.

MARYLAND.

Dr. Frank H. Ruhl, Lansdowne, has been appointed sanitary officer for the Thirteenth district, Baltimore County.

Dr. Frank R. Rich, Towson, has been appointed physician of the hospital for consumptives near Baltimore, succeeding Dr. G. B. Adams.

Baltimore.

Dr. Herman Westphal, resident physician at the City Hospital for the past two years, will spend a year in study abroad.

Dr. L. Ernest Neale, at a recent meeting of a medical society here, exhibited a negro girl who had borne a child by an entirely normal labor at the age of 11 years, 8 months.

A case of leprosy was discovered last week of more than two years standing. The patient was formerly employed as a nurse, is married and has two children. The disease is of the mixed form.

The second annual banquet of the Society of the Alumni of the University of Pennsylvania in Maryland was held April 22. Drs. Thomas Opie and J. McP. Scott were elected vice-presidents, and Dr. Jos. C. Bloodgood, secretary.

The College of Physicians and Surgeons graduated sixty-one at the twenty-ninth annual commencement held April 27. Mayor Hayes delivered the address to the graduates. Charles H. Brueckner of New Jersey received the first prize.

Dr. Eugene H. Hayward, of Howard County, won the gold medal for scholarship at Baltimore Medical College, the surgical and gynecological prizes. He will become resident physician of Maryland General Hospital May 1, succeeding Dr. Duncan McCalmon, whose resignation takes effect on that date.

The appointments made by the College of Physicians and Surgeons are as follows: City Hospital: Dr. L. H. Stick, resident physician; Drs. L. T. Owen and C. W. G. Rohrer, associates; Drs. J. M. Barry, F. T. Marr, Lewis J. Rosenthal, Joseph L. Sullivan, Homer B. Jester, and Albert F. Conrey, assistants. Assistant in Pasteur Department, Dr. E. T. West. Maternité Hospital: Drs. S. T. Lowry and W. B. Graves, residents. Bayview Asylum, Drs. W. B. T. Smith and J. A. Campbell, assistants.

The University of Maryland's school of medicine, graduated a class of seventy May 1. Rev. W. A. Fletcher made the address. Gold medals were awarded to George W. Hemmeter and Nathan Winslow. The appointments to the University Hospital are as follows: Superintendent, Dr. George H. Stewart; assistant superintendent, Dr. A. A. Matthews; assistant resident surgeons, Drs. W. F. Hargrove, W. H. Smith, and W. R. Rogers; assistant resident physicians, Drs. J. M. B. West and G. W. Hemmeter; assistant gynecologists, Drs. H. A. Naylor and Nathan Winslow; pathologist, Dr. W. E. Kornegay; resident physicians at the Maternité, Drs. B. H. Dorsey, W. S. Rankin and R. P. Carman, assistant resident physicians at Bayview asylum, Drs. C. H. Lewis and E. D. Weems.

MASSACHUSETTS.

Dr. Joseph Proctor, late city physician of Malden, has been appointed a state medical inspector of the State Board of Charity.

The anti-spitting ordinance at Worcester has been enforced for the first time, and a fine of \$5 imposed on a violator who pleaded guilty.

Dr. George E. Winslow, U.S.N., who has been medical director of the Charlestown Navy Yard for 2½ years has been placed on waiting orders.

Dr. Augustus P. Clarke, Cambridge, has resigned as dean and professor of gynecology and abdominal surgery in the College of Physicians and Surgeons, Boston.

MICHIGAN.

State Sanatorium for Nervous Diseases.—A bill has been introduced in the legislature providing for an appropriation of \$200,000 to establish a state sanatorium for nervous diseases. The object of this sanatorium is to provide an intermediate place between the home and the insane asylum, and thus to prevent an increase of insanity.

Michigan's Smallpox.—During the ten years, 1890-99, there occurred in Michigan 710 cases of smallpox, with 134 deaths, or about 19 per cent. During the single year 1900 there

occurred 608 cases with 8 deaths, or a little over 1 per cent. At the close of the first quarter of 1901, final reports have been received of 77 outbreaks, showing that 500 cases occurred, including 7 deaths, a little less than 1.5 per cent.

Delinquent Health Officers.—Of the 1600 local boards of health, 206 health officers in 67 counties have failed to make to the State Board of Health their annual report for the year 1900. They have been three times asked to comply with the law, and the executive officer of the board has put the subject in the hands of the prosecuting attorneys in the 67 counties, asking that they see to it that the law is complied with and the annual reports of the health officers now delinquent are forthcoming.

MINNESOTA.

Dr. Charles D. Sidle has been appointed resident physician of the Stillwater City Hospital.

The State Board of Medical Examiners, at its April meeting, elected Dr. Pierre A. Hilbert, Melrose, president, and Dr. Carl J. Ringwell, Minneapolis, secretary. Licenses to practice were also granted to ninety applicants.

Smallpox Under Control.—The State Board of Health reports that smallpox is now well under control. The total number of cases for March was 689, of which eighty-one were reported from the range and lumbering districts.

State Sanitarium.—The senate passed the Daugherty bill April 4. It provides for an appropriation of \$1000, and a commission of three to be appointed by the governor to select a site for a state sanitarium for consumptives, in the northern pine woods.

MISSOURI.

Dr. Herbert A. Logan, police surgeon of Kansas City, has appointed Drs. J. S. Snider and Charles L. Bell assistant surgeons.

Centenary Hospital. St. Louis, which is to adjoin Barnes Medical College, is to be a six-story structure 60 by 126 feet. It is to be non-sectarian and a private enterprise. Drs. Pinckney French and Alonzo R. Kieffer are members of the board of directors.

NEBRASKA.

Dr. B. F. West, Tecumseh, was recently afflicted with a stroke of paralysis and is now confined to his bed, with the probability that his recovery will be slow.

Omaha Medical College graduated a class of twenty-three on April 24. Dr. E. Benjamin Andrews, chancellor of the University of Nebraska, delivered the doctorate address, on "Medicine and Morals."

Dr. J. Cameron Anderson, Omaha, surgeon-general of the state, has resigned that position and the chair of surgery in the Omaha Medical College, as well as his hospital appointments, and is about to move to New York City.

The Omaha Medical Alumni Association, at its meeting April 25, elected Dr. Willis W. Dean, Sioux City, president; Drs. George R. Gilbert and Henry A. Reichenbach, Omaha, vice-presidents; Dr. George Moquridge, Glenwood, Iowa, secretary, and Dr. Mary L. Tinley, Council Bluffs, treasurer.

NEW YORK.

The Albany Hospital acknowledges receipt of donations aggregating \$4506.25.

Dr. and Mrs. Theodore D. Miles, Middletown, and Dr. and Mrs. John T. Howell, Newburgh, sailed for the Mediterranean, April 13, on the *Hohenzollern*.

Dr. George Blumer, of the Bender Laboratory, of Albany, has been appointed director of the Bureau of Bacteriology and Pathology which is a new department.

A bill has been passed authorizing payment to the Pasteur Institute of New York for services in caring for poor persons in danger of infection with rabies.

Smallpox at Cohoes.—The State Board of Health reports twelve cases of smallpox at Cohoes, in the vicinity of the Harmony mills. The patients include children and adults. The disease was spread by a man who was taken ill about six weeks ago.

Craig Colony for Epileptics.—The legislature just adjourned passed a special appropriation bill which has been signed by Governor Odell, giving the colony \$137,050. The chief item in the bill is one of \$90,000 for additional cottages for patients. There are now twenty-eight cottages and buildings at the colony, occupied by 700 patients, and the new appropriation will provide for eight or ten additional cottages and

increase the epileptic population to 1000. An appropriation of \$125,000 was also given for maintenance, beginning Oct. 1, 1901.

Buffalo.

Drs. Frederick Zingsheim and **Paul O. Luedeke** have been appointed medical internes in the German Hospital.

Drs. Tripp and Leonard, of the class of 1901, University of Buffalo, have been appointed resident physicians to the Buffalo General Hospital.

The commencement exercises of the medical department of the University of Buffalo were held April 26. There were forty-five members in the graduating class. Dr. W. E. Ford, Utica, delivered the address to the graduates.

The German Hospital Dispensary has elected the following new members: Drs. Thomas Phillips, Frederick Milliner, Julian Riester, Abram Weil, Louis Beyers, Charles Mengis, Frederick Kochler, J. Leidler and A. Schweigert.

Charity Hospital Patients.—All of the Buffalo hospitals have combined in an effort to have the city increase the per capita maintenance of charity cases taken into the hospitals from \$4 to \$6 a week. The cost of maintenance averages over \$9 per capita.

New York City.

The German Hospital has received a bequest of \$1000 from the late Colonel Henry Roehr.

Seven new cases of smallpox have been reported in the New York Foundling Hospital. The City Lodging House in First Avenue and Twenty-third Street was recently visited at 2 a. m. by two of the physicians of the health department, and the 493 inmates vaccinated.

Health Board Statistics.—For the week ending April 13 there was a decided decrease in contagious diseases. During the week ending April 6 there were 1620 cases. The greatest decrease was in scarlet fever, which dropped from 725 to 619 cases for the week ending April 13. Smallpox, however, increased two cases, the total being 44.

Bequests to Hospitals.—Joel Goldenberg has left the following bequests to hospitals: To the Mount Sinai Training School for Nurses, \$5000; to the Montefiore Home, \$4000; to the Mount Sinai Hospital, \$3000; to the Presbyterian Hospital, \$2000. The entire residuary estate is bequeathed to Mount Sinai Hospital for establishing and maintaining a special ward in the hospital, to be known as the "Joel Goldenberg Ward," and to be under the charge of his nephew, Dr. Herman Goldenberg.

A New East Side Hospital.—The Austro-Hungarian Hospital Association, after May 1, will begin to remodel the building now known as the East-side Dispensary. It is in future to be named the Austro-Hungarian Hospital and East-Side Dispensary. The capacity is to be from thirty to thirty-five beds. The money to change the buildings into a hospital has been given by members of the association and others in the colony. The Hungarian miners in Pennsylvania, many of whom are sent here for treatment, have also contributed. About \$10,000 has been already raised.

Ambulance Surgeon's Mistake.—An ambulance surgeon of the New York Hospital has been severely criticised for wrongly diagnosing a case of apoplexy, occurring in a respectable and well-dressed woman, as a "plain drunk." The policeman who saw the woman fall in the street urged the surgeon to take her to the hospital, suggesting that she appeared to have some other trouble, but the ambulance surgeon refused. She was accordingly taken in a police patrol to the police station. There the matron insisted that the woman was dangerously ill, and the surgeon was again summoned. Even then it was with difficulty that he was persuaded to take her to the hospital. It was admitted at the hospital that her death there the following evening was caused by apoplexy; nevertheless the case was reported to the coroner's office as one of death from being run over in the street.

OHIO.

D. V. Burkett, a senior student at Ohio Medical University, has been appointed assistant editor and business manager of the *Columbus Medical Journal*.

Dr. Samuel E. Newman, Cincinnati, has started for Vienna, where he will study for six months, returning in December for his internship in the City Hospital.

The State Board of Medical Registration and Examination met at Columbus, April 18, and admitted 103 physicians to practice, without examination, under the provisions of the Love law.

Toledo Medical College held its twenty-first annual commencement exercises April 25. A class of eight was graduated, one of whom—D. W. Iford—was immediately commissioned captain and assistant surgeon, O. N. G. The address to the class was made by Rev. Campbell Coyle.

PENNSYLVANIA.

Dr. Alexander A. E. McCandless, Pittsburg, has assumed charge as medical director of the Department of Public Safety.

Allentown Hospital has been given \$35,000 for the purpose of adding an additional wing to the hospital, for the treatment of surgical cases. The name of the donor has been withheld.

"Christian Science" Treatment.—Willard Schellheimer, aged 26 years, of Sharon, a few days ago met with a railroad accident and was taken to the State Hospital at Mercer for treatment. Both he and his wife, it is claimed, were "Christian Scientists," and the wife insisted on his removal to his home. No regular physician was called in until two hours before his death. It is now claimed by the hospital physicians that death was hastened by his removal, while he was in such a critical condition, and an investigation will likely be held.

Philadelphia.

A eulogy of the late Dr. Richard J. Dunglison, who was president of the Musical Fund Society for thirty-one years, has been adopted by members of that association.

Whooping-Cough a Contagious Disease.—At a recent meeting of the Hygiene Committee of the Board of Education it was decided to add whooping-cough to the list of contagious diseases, this being a cause for exclusion from the public schools.

Dr. Aloysius O. J. Kelly, instructor in clinical medicine in the University of Pennsylvania, recently was elected professor of the theory and practice of medicine in the University of Vermont. He leaves Philadelphia shortly for Burlington to begin his professorial duties, but will return to Philadelphia in the early fall.

Marine Hospital.—Plans have been accepted for the erection of a new building and for remodeling the U. S. Marine-Hospital Service office adjoining the Custom House. The new building will be thoroughly equipped with all improvements for a dispensary, waiting-rooms, examination-rooms, for seamen of American vessels. The officer in command will be Dr. H. W. Austin, who is now in charge, and who devised the plans for the new building.

Books as Contagion Carriers.—In reference to the statement that contagious diseases may be communicated to persons reading the books at one of the free libraries of this city it has been stated that since the incorporation of the library in 1891 there have been about 10,500,000 books received and handled over and over again by the employees of this institution, and not a single one has contracted a contagious disease. Since March 15 there have been 492 cases of contagious diseases reported to the library, 13 in visitors to the library. Seven books were found in infected houses, and these were promptly destroyed.

Philadelphia Polyclinic.—At a special meeting of the board of trustees, held April 22, the resignation of Dr. Ralph W. Seiss as professor of diseases of the ear was accepted. Dr. Francis R. Packard is to be his successor. The trustees also elected Dr. B. M. Randolph, Richmond, Va., as dean of the college and director of the laboratories, to succeed Dr. T. S. Kirkbridge, recently deceased. At present Dr. Randolph is in charge of the Department of Pathology at the Richmond Medical College. He will assume his duties at the Polyclinic after a course of study in Europe.

Removal of Insane Hospital.—The medical faculty of the University of Pennsylvania and others have appeared before Councils for the purpose of urging the speedy removal of the almshouse and insane department of the Philadelphia Hospital (Blockley) to a more suitable location. As it is now arranged, the insane department and the almshouse militates against the institution as a source of great benefit to the thousands of medical students who annually come to Philadelphia. It is now believed that both these departments will be removed to a place near the house of correction, at Holmesburg Junction. Mayor Ashbridge has already signified his willingness to comply with the wishes of those who have asked for the removal of these departments. The sum of \$200,000 has been made available for the erection of these new buildings, through the action of Councils.

CANADA.

The present smallpox outbreak in Toronto has cost the city \$1400 up to April 27.

Dr. George A. Peters has been given command of the new corps of mounted infantry, now being raised in Toronto. He will have the rank of major.

Dr. Patterson, Winnipeg, under instructions from the Dominion government, is visiting the northern Indian reserves in the territories, to inquire into the reported outbreak of smallpox.

Dr. George Stirling Ryerson, Toronto, has been created a Knight of Grace of the Order of St. John of Jerusalem, for services in South Africa. Mr. Frederick Treves and Mr. A. D. Fripp received similar honors at the same time.

Appointment Asked.—The National Council of Women is asking the state department of the Ontario government, in selecting the staff for the new Coburg asylum for female patients, to appoint a woman physician to the post of assistant medical superintendent.

The suit brought against the College of Physicians and Surgeons of Quebec, by some six applicants to practise medicine in that province, has been decided in favor of the applicants. The college was ordered to grant the licenses and pay \$100 damages with costs in each case. An appeal has been entered.

Yellow Fever on Shipboard.—On April 19, H. M. S. *Condor* arrived at the Williamshead Quarantine Station, B. C., flying the yellow flag at her mast head. The vessel sailed from Acapulco on April 9. The exact number of cases of yellow fever among her crew has not yet been ascertained, but the vessel is still in quarantine and will be thoroughly disinfected.

To Test for Tuberculosis.—As a result of negotiations between U. S. Secretary of Agriculture Wilson and the Canadian Minister of Agriculture, an agreement has been reached between the two administrations by which Canada is to have a first-class veterinarian stationed in England to test, for tuberculosis, all British cattle shipped to the United States via Canada.

Services Appreciated.—At the recent meeting of the Canadian branch of the Red Cross Association a resolution of thanks was passed to Dr. Ryerson for work in South Africa, and \$500 voted toward defraying his expenses. Letters were read from Lord Roberts and Surgeon-General W. D. Wilson, principal medical officer of the army in South Africa, commending Dr. Ryerson very highly for his valuable services.

Attempt to Annul Degree.—The College of Physicians and Surgeons of Quebec seeks to stop a party practising medicine in that province. It is alleged that at the examination of July, 1898, this man, a student, failed in his written examination. When the successful candidates were called to present themselves for their licenses, he went with them, gave his name, secured his title and walked out as an M.D., and he has been practising medicine ever since. The court took the matter *en delibere*.

Physician Dies from Smallpox.—The value of vaccination has just been brought home to the Toronto profession and the laity generally. Dr. Thomas H. Little, of Toronto, was called about ten days ago to attend a young man recently arrived from Cleveland, Ohio. The Doctor treated his patient, but unfortunately not for smallpox. He contracted the disease himself and a week after died from confluent hemorrhagic smallpox. He had never been vaccinated. All the other patients infected from the first case had the disease in a mild form. Dr. Little was 40 years of age and had been practicing in Toronto twelve years. He was a graduate of the Toronto School of Medicine.

Health Precautions.—Dr. Montizambert, director of public health at Ottawa, is having a strict watch kept in order to guard against the introduction of bubonic plague as well as the spread of smallpox in Canada. At the Pacific Coast all Orientals must undergo a bath at quarantine. With regard to smallpox, forty officers have been detailed for service along the western boundary line between the United States and Canada. A circular has been issued by the Dominion customs to collectors and subcollectors at seaports and inland water ports authorizing them to make careful enquiries into the possible presence of smallpox, and if necessary to call in the services of a medical man to inspect suspected persons.

Toronto Branch, Victorian Order of Nurses.—The annual meeting of this branch of the Victorian Order of Nurses was held in Toronto on April 27, Lady Minto having come up from Ottawa to deliver an address. Her Excellency, speaking of the good work the order was doing in Canada, told of recent encouragement for her cottage hospital scheme for the northwest ter-

ritories. The Dominion government has promised a grant of \$6000. Sir William Macdonald will supplement this with \$3000, and there are other contributions of \$4000. The report of the superintendent shows that during the past year the local branch treated 249 patients, to whom 4323 visits were made. Thirty-eight Toronto physicians have been added to the list of those employing these nurses throughout the city. The fees for the year amounted to \$472. During the past three months the nurses have made 1142 visits and had 95 new patients. Fourteen new physicians have been added in that time, and \$152 collected in fees. Dr. James Thorburn presided, and a number of medical men attended the meeting and spoke of the good work the Order was doing in Toronto.

Smallpox in Ontario.—The past week might truly be called "smallpox" week so much has the disease been discussed throughout the province of Ontario during that time. The quarterly meeting of the provincial board of health was held at the secretary's office—Dr. P. H. Bryce—and nothing but smallpox discussed. The disease has broken out among the Mohawk Indians on the reserve on the Grand River, at the city of Brantford, Ont., and the braves are being subjected to a rigid quarantine. The present outbreak in the province is the worst in twenty years, as regards the number of municipalities affected. Several doctors in New Ontario had obstructed the work of the provincial board and the secretary has called on the medical council of the province to discipline these members of the profession who persist in calling the outbreak "chickenpox." An important resolution was adopted by the board that all the unorganized settlements along the lines of communication by railway and water be required to appoint and pay sanitary inspectors. The compulsory vaccination of all employees of lumber and mining camps was also insisted on. Although the disease is so widespread, only two or three deaths have been recorded. Dr. Little's death being the first that has occurred in Toronto since 1888.

FOREIGN.

Glasgow's Smallpox admissions for the week ending April 14 were 33 and the patients under treatment 190.

Dr. Metchnikoff, of the Pasteur Institute, Paris, has been awarded the Wilde gold medal, by the Manchester (Eng.) Literary and Philosophical Society.

Bizzozero's Death.—The eminent Italian pathologist, Giulio Bizzozero, died April 8, in his fifty-sixth year. His friends say that every discovery, every achievement in histology or biologic research in Italy of late years is directly due to his untiring, fostering care of the infant science of histology and the enthusiasm he inspired in his associates and students.

Italian Institute for Scientific Research.—Professor E. Maragliano announces that he has founded and opened an institute for the study and cure of tuberculosis and other infectious diseases, modeled on the Pasteur Institute of Paris. Opportunities are offered physicians for special research and the production of serums, etc., and infectious diseases are cared for free of charge.

Progress of the Plague.—At Capetown, S. A., for the week ending April 6, the records are: Cases admitted: Europeans, 20; colored, 22; Malay, 4; Indian, 3; natives, 13; total, 62. Deaths: Europeans, 3; colored, 17; Malays, 3; Indians, 3; natives, 5; total, 31. On April 16 7 new cases of plague were recorded, including 3 in Europeans and 4 persons found dead, 1 of the latter being a European. The matron of the plague hospital has succumbed to a severe attack. A native case has been discovered in Port Elizabeth. For the week ending April 13, 43 cases and 23 deaths were reported—a considerable diminution as compared with the two preceding weeks. An unsatisfactory feature is that dead bodies are discovered from time to time, showing that the people are withholding information. The total number of cases up to April 13 was 392, of which 152 were fatal. The disease is confined to the Cape Peninsula, with the exception of a few cases imported therefrom into adjacent districts. In India, for the week ending March 23, no fewer than 11,560 deaths from plague occurred, an increase of 2731 over the previous week. In Bombay City, during the week ending March 23, there were 1092 deaths, a diminution of 111 over the previous week. In Calcutta there were 1040 deaths, an increase of 221 over the previous week. Calcutta has never suffered so seriously before and is almost in the same plight as Bombay. But in spite of the magnitude of the epidemic there is no sign of panic as there was three years ago, when the people ran away from the epidemic. In Australia, from Queensland, a case is reported at Pinkenba, at the mouth of the Brisbane River. In West Australia plague exists in a more or less sporadic form.

LONDON LETTER.**British Vital Statistics.**

The registrar-general's annual report for 1899 has just been issued. The marriage rate shows a further increase. It was 16.5 per 1000, the highest since 1876, and 1.1 above the mean rate for the ten years, 1889-98. On the other hand the birth rate was 29.3 per 1000, .01 per 1000 below that of the previous year, which had been the lowest on record, and 1 below the mean rate of the ten years, 1889-98. More boys than girls were born, in proportion of 1039 to 1000. The death rate was 18.3 per 1000, against an average of 18.4 in the preceding ten years. The total number of deaths was 581,799, of which 89,235 were attributed to zymotic diseases, 174 to smallpox, 9998 to measles, 3722 to scarlet fever, 6304 to typhoid, 9295 to diphtheria, 10,129 to whooping-cough, 12,417 to influenza, 30,971 to diarrheal disease, 26,325 to cancer, 42,408 to consumption and 18,665 to violence. The deaths of 2121 men and 723 women were attributed to suicide; 143 males and 148 females were victims of homicide. The death-rate from cancer was the highest on record, 829 per million living of the population, in males 672, in females 977.

Lateral Sinus Pyemia and Cerebellar Abscess: Cheyne-Stokes Respiration: Cessation of Respiration Under Anesthesia: Recovery After Two Operations.

At the Medical Society of London, Mr. H. F. Waterhouse recently described this interesting case: A dental surgeon was admitted to hospital April 17, 1899, with lateral sinus pyemia. For the greater part of his life he had suffered from double otorrhea, and for many years from tuberculous abscesses near the right hip. In 1895 he was operated on for a large right supramastoid abscess, and shortly before admission two abscesses of the right hip had been opened. On April 11 he fell ill; the temperature was 100. On the 12th he had a rigor, on the 13th another of half an hour duration and a temperature of 103 F. On the 15th a consultation was held and lateral sinus septic thrombosis was diagnosed, but on which side could not be decided. The temperature was 104.2 F. There were no pupillary changes and no optic neuritis. From this time to April 28 there were repeated rigors and the highest temperature was 105.2 F. A systolic murmur developed after continuous pain over the base of the heart, and there was cough with sputa of the color of prune juice. The condition became profoundly toxemic and apparently hopeless. Much valuable time was lost in waiting to determine upon which side the sinus was affected. At last, on April 28, as the time for interference was passing away, the left lateral sinus was opened and the internal jugular vein divided between two ligatures. A septic thrombus was cleared out of the former. Recovery took place, but on May 1 streptococci were found in the blood. On June 8 there were headache and vomiting and the pulse fell to 56. Drowsiness increased and on June 10 the patient was comatose and there were double optic neuritis, Cheyne-Stokes respiration and a pulse of 50. It was then decided to explore the temporosphenoidal lobe and cerebellar fossa on the left side. Unfortunately the former was first attempted with negative result. Respiration ceased entirely under even partial anesthesia. Artificial respiration was performed. The pulse became imperceptible. As the patient was obviously near death, the exploring syringe was made to perforate the tentorium cerebelli from above. An ounce of fetid pus was obtained and the respiration and pulse recovered at once. The left cerebellar fossa was now rapidly trephined and several drams of pus evacuated. Progress henceforth was satisfactory, although there were for many days word-deafness from injury of the temporosphenoidal convolutions. The patient is now in better health than before his illness and is in practice as a dental surgeon.

PARIS LETTER.**Treatment of Syphilis.**

Dr. Brocq, physician at the Broca Hospital, who is considered the most thorough skin specialist in France, recently wrote an essay on the treatment of syphilis by mercury, the following being a synopsis: It has always been an important principle in therapeutics that to act with efficacy drugs must be in a state of dissolution. Since 1888 Dr. Brocq has applied this principle to the use of mercurials administered by the mouth, and he has always preferred using Van Swieten's solution or biniodid in an aqueous solution or as a syrup. He has sometimes given mercury in massive doses, for instance every morning before the first breakfast, or else half the daily dose before the two principal meals of the day. But he has generally pre-

ferred giving it in small doses, for instance four to six times a day. After a first period, during which subcutaneous injections were discussed, they have at last come into current use. On the other hand, the method of mercurial frictions has been extended, regulated and made more precise. It would seem that the treatment by gastric absorption had been more or less discredited. It is quite true that this latter means of administering the drug presents serious defects, especially when it is given in the form of pills, as the absorption takes place much less readily in such cases, and the active principle has sometimes an injurious action on the mucous membrane of the intestine. Dr. Brocq admits that this plan of treatment offers certain disadvantages. There is to be taken into consideration the irritating effect produced on the stomach and intestines by the use of pills. When given in the form of a dilution, this is much less to be feared, and, according to Dr. Brocq, milk or Vichy water should be used as a means of administering the drug. When mercury is given in small doses he rarely had occasion to notice any unfavorable symptoms, the digestive functions being sometimes ameliorated. Whenever there is any colic or diarrhea, Dr. Brocq uses paregoric, which he has found most beneficial in such cases. As for the distaste shown by some patients, it is found with very few of those who suffer from intense forms of syphilis, and the preparation can in such cases be flavored to suit the patient's taste. There is a last argument against the use of this solution: it is the bother caused to the patient by having to take his medicine in public. Dr. Hallopeau, of the St. Louis Hospital, has recommended the use of little pellets, which can be allowed to dissolve in the patient's mouth, or else a graduated bottle may be employed, so that the patient may easily determine how much of the solution he should pour out.

The advantages of this method are numerous, according to Dr. Brocq: exact determination of the quantity given, very slight irritation produced, and efficacy of relatively smaller doses of the drug. Dr. Brocq has found that this method produced excellent results in all cases of syphilis, with the exception of certain psoriasiform syphilids of the palms of the hands and the soles of the feet, and in such cases injections of calomel had better be used immediately. Dr. Brocq has been applying this method for the last 3½ years at the Broca Hospital, where he has charge of one of the large venereal services of Paris, and he has treated some 2000 patients with Van Swieten's solution, obtaining a good result in such cases. His article concludes as follows: "It is best not to suppress the gastric method in the treatment of syphilis; just as much as other methods, it has its indications, advantages and usefulness. It is of undoubted advantage in a physician's city practice, where the patient can not afford the expense of subcutaneous injections, but to be efficacious, mercury should not be given in the form of pills, but in a solution and in small doses."

Correspondence.

Implantation of the Ureters.—A Reply.

CHICAGO, April 29, 1901.

To the Editor:—It gives me great pleasure to be afforded an opportunity of replying to Dr. Fowler's criticism (see last week's JOURNAL) of certain conclusions appearing in my article on "Ureteral Anastomosis" recently published in THE JOURNAL (Feb. 16-March 23).

The particular conclusion objected to is the third among the General Conclusions, and reads as follows: "All efforts to prevent ascending renal infection in animals or man, where the ureter has been implanted (into the intestine) without its vesical orifice have proved futile."

In order to show this conclusion false, Dr. Fowler points to his case of uretero-rectal implantation, where the patient has survived bilateral uretero-rectal implantation by the Fowler method 4½ years and is to-day apparently in perfect health.

What grounds have I for assuming that this patient's kidneys, as a result of the operative procedure, have been infected, "but that the infection has been overcome with resulting contracted kidneys?" 1. One or both ureters, minus the vesical orifices, have been implanted into the bowel in a comparatively large number of animals, yet in every instance where accurate postmortem findings have been given the kidneys were shown to be infected, or to have recovered from an ascending infection.

2. After a most careful search through the literature I have been unable to find a single case of ureteral implantation in the human being which did not correspond in its results with similar experiments made upon animals. The post-mortem findings show infection in every case.

3. In February, 1899, I implanted both ureters into the bowel of a dog, using practically the same method employed by Dr. Fowler in his case, except no mucous valve was made (*THE JOURNAL*, March 16, p. 738). The dog remained in perfect health for over a year and probably would have been living yet if she had not been killed for the purposes of my article. In this case of bilateral implantation of the ureters there were no more signs of kidney infection than in Dr. Fowler's case, yet the postmortem examination showed healed pyelonephritic lesions in the form of contracted kidneys. Whenever the other animals experimented upon lived long enough to overcome the primary renal infection connective tissue changes ensued. Why then is it not reasonable and far from being either "gratuitous" or "unwarranted" to assume that the same changes resulted in the kidneys of the boy operated on by Dr. Fowler?

4. It is certainly fair to assume that the danger of ascending infection after implantation of the ureters into the bowel was considered by Dr. Fowler to be particularly great, since he concludes his article by setting forth certain advantages to be derived from his operation as follows: "1. An efficient permanent valve with a mucous surface applied to the mouths of the ureters, is provided. This valve is so situated that it is closely applied to occlude the open ends of the ureters as the rectum becomes filled with urine or when the fecal matter descends from above. 2. Placing the ureters in the submucous space of the rectal wall for a distance of three or more centimeters above the point where these enter the cavity of the rectum affords an additional safeguard against renal infection. In this situation the circular muscular fibers of the bowel wall compress the ureters and secure occlusion at this point during the act of defecation."

Now my experiment upon the dog, where the Fowler technique was employed, showed that the mucous valve and that portion of the ureter projecting into the bowel soon sloughs away, hence can have no effect in preventing ascending infection.

A study of my other experiments will show that the ureters were buried underneath the muscular coat of the bowel as advised by Dr. Fowler, yet kidney infection resulted in every case. It is a beautiful theory to assume that the circular bowel muscles will act upon the ureters and prevent ascending infection, but like so many theories it is not substantiated by facts. So another "important feature" of the operation in question must be considered worthless as a preventive of infection.

5. It is hardly just for Dr. Fowler to make use of italics in calling attention to the fact that no bacteriologic nor microscopic report was made on the mucous valve specimen. The gross specimen differed in no way from many others which I reported in my paper at great length. It clearly showed pyelonephritis, and as my chief object in performing the experiment was to ascertain the fate of the mucous valve within the gut cavity, I did not think it necessary to ask the pathologist to repeat his work on this specimen.

I would also call Dr. Fowler's attention to the fact that I am not even guilty of the inaccuracy ascribed to me in his letter when he says his case "is still living and enjoying the best of health at the end of 4½ years—not 3½ years as stated by Dr. Peterson." At the time my paper was written and Dr. Fowler was kind enough to report upon the condition of his patient, 3½ years had elapsed since the operation. I can only congratulate the doctor that the boy has been able to add another year to the score.

6. Among the cases of bilateral uretero-intestinal implantation given in abstract in my article is one by my friend, Dr. Carl Beck, of Chicago. Dr. Beck also devised an operation whereby ascending renal infection could be prevented. The patient on whom he operated survived for some months and was shown before the medical societies as free from infection

after ureteral implantation. I challenged this statement in open society, and the autopsy some months later showed marked renal infection.

In conclusion, when I am shown either in animals, or man, a kidney free from infection, where the severed ureter has been implanted in the bowel, then and then only will I feel justified in thinking that Dr. Fowler's case has proved the exception to the universal rule and escaped infection.

REUBEN PETERSON, M.D.

Immunity Against Zymotic Diseases.

CHICAGO, April 28, 1901.

To the Editor:—In *THE JOURNAL* of April 27 there appeared a letter by Dr. Corban E. Judd, relating to an article recently published by me in which I had formulated a theory in regard to acquired immunity. Dr. Judd states that Dr. O. P. Davis, of Topeka, Kan., had presented a paper before the Medical Science Club of Topeka, on Feb. 18, 1901, which, to use Dr. Judd's words, "embraced all that Dr. Class sets forth and more." As my paper was published April 13, 1901, a claim for priority is made in favor of Dr. Davis. Priority squabbles are usually not very edifying, and in this case of no particular moment; still, I would like to state my position. Dr. Judd states that Dr. Davis's theory embraced all that I set forth and more. Dr. Davis, by saying "more," made his theory different from mine inasmuch as he says that during the time that immunity continues the attenuated germs continue to reside in the protected body. This statement shows that his theory is not identical with the one formulated by me as I state that the immunity is due to the presence of the antitoxin without saying anything about a continued presence of the micro-organisms. In fact, I think the continued presence of a large variety of pathogenic organisms in the human body would not be borne out by research and is illogical. Even if the two theories were identical the question of priority would not be open for discussion as my paper was written during September, 1900, and was on the program of the Chicago Pathological Society for the meeting held Oct. 18, 1900. Circumstances prevented me from reading it at the time. Shortly afterward I sent it to the publishers in whose hands it was for a long time before Dr. Davis read his paper. If Dr. Judd wishes to investigate the matter further I will be pleased to send him the exact data. As it is I do not lay claim to any special originality in the matter, as the fundamental fact upon which the theory rests was illustrated very forcibly when vaccination came into vogue. However, I tried in my theory to show its application to a wide class of diseases and to elucidate this applicability. I believe similar views have been held by others before, but like the venerable egg trick of Columbus, they needed a practical demonstration. Respectfully,

W. J. CLASS, M.D.

Lavage of Stomach in Constipation.

PITTSBURG, PA., April 27, 1901.

To the Editor:—In Dr. Spivak's paper on "Lavage of the Stomach as a Therapeutic Agent in the Treatment of Habitual Constipation" (*THE JOURNAL*, April 13.), among other things he says: "The fifth indication, habitual constipation, of which I claim to be the originator until some one claims priority," etc. I desire to state that I have been treating chronic constipation by lavage of the stomach for the past two years, and, I might add, with good results. On May 8, 1900, I read a paper before the Washington County Medical Society of this state, and in it I placed particular stress on the good results obtained by lavage of the stomach in chronic constipation. The following are a few extracts from my paper: "You will note that some of the medicated water which must escape through the pyloric orifice, has a twofold action on the intestines, first as an antiseptic, and second, as a stimulus to peristalsis, thereby helping to overcome constipation which you will nearly always find associated with chronic stomach disease." . . . "I wish to bring to your notice a particularly interesting case which came under my care some months ago, inasmuch as he had been operated on for appendicitis due to chronic constipation."

tion." The history and diagnosis was given, and in closing I said: "The stomach symptoms disappeared, but what I wish to show in this case is the complete disappearance of the constipation, the patient's bowels moving regularly once and twice per diem." I still have the original paper from which these quotations are taken. Very truly yours,

E. R. GARDNER, M.D.

Mark Twain and "The Doctor" in *Innocents Abroad*.

CHICAGO, April 23, 1901.

To the Editor:—Every little while there appears a statement in one of our medical journals concerning some doctor who is or was—for this statement usually appears in an obituary notice "the original of Mark Twain's doctor in 'Innocents Abroad.'" There is, accordingly, a possibility that the original doctor of "Innocents Abroad" may become as numerous as the original Uncle Tom of Mrs. Stowe's famous novel. I have no doubt that these statements are all made in good faith; the explanation doubtless being that the particular person of whom the statement is made has been such a jovial, clever good fellow that he might have been the original of Mark Twain's doctor even if he is not, and so the tradition had gradually grown up around him.

In order to settle the question I wrote to Mr. S. L. Clemens (Mark Twain) a few days ago calling attention to the number of the originals of his doctor, and asking him to let me know who, if anybody, was the original. The following reply from him answers that question:

NEW YORK, April 15, 1901.

Dear Sir:—It is true, as you say, that doctor is multiplying from year to year. I have six of him on my list already. I do not remember the one which you enclose. The real one was Dr. A. Reeves Jackson, of Chicago, whose too early death I still lament. Very truly yours,

S. L. CLEMENS.

Wm. Allen Pusey, Esq., Chicago, Ill.

It must be a source of some satisfaction to those who knew Dr. Jackson, with all his charming and original qualities, to know that these have been immortalized in Mark Twain's famous character. Yours truly,

WM. ALLEN PUSEY, M.D.

Brewer's Yeast in Tuberculosis.

BUFFALO, N. Y., April, 27, 1901.

To the Editor:—I was interested in the editorial on "General Secondary Infection in the Course of Chronic Pulmonary Tuberculosis." It is important to know that these secondary pyogenic infections occur in tuberculous cases, and they, more than the primary bacillary infection, have to do with many of the annoying symptoms, namely: chills, morning and evening rise of temperature, hectic flush, increasing pallor, night sweats, etc. Many remedies have been recommended to combat these symptoms, especially the night sweats, with but little effect. Some time ago, being interested in the subject of tonsillar infection, I saw, through the courtesy of Dr. Charles Carey, of Buffalo, a case in which, through a pyogenic infection of the tonsil, there followed a retropharyngeal abscess and a pyemia with many metastatic abscesses. Dr. Roswell Park opened the retropharyngeal abscess, but the metastatic ones appeared from time to time in various parts of the skin-surface.

Large quantities of brewer's yeast were given the patient 2 to 4 ounces every three or four hours. It was well tolerated and the patient has made a good recovery. Since this time I have used the brewer's yeast to combat the secondary pyogenic symptoms of ulcerating tubercular cases, and in the two cases in which there were chills, hectic flushes, morning decline, evening rise of temperature has remained normal. There are no further chills, no hectic flushes and no night sweats.

The remedy is easily obtained fresh from any brewery. It may be taken in a tumbler without the addition of other liquid, and my experience is that it is well borne. If the stomach can not tolerate it a rectal enema of double the quantity may be given.

It has been shown by Vaughan and others that the nucleins of the body have much to do with giving to an organism its immunity. The various organs generating neutro-albu-

min and nucleinic acid give to the body a substance which is destructive to micro-organisms and their toxins. Brewer's yeast contains nucleinic acid and therefore is an excellent therapeutic measure, and one which to my knowledge I have not seen recommended as such for pyogenic infection, whether a pyemia, septicopyemia, or the secondary infections in tuberculosis, diabetes, typhoid, carcinoma, etc. I have noticed yeast nuclein recommended to be given hypodermically in septicemia, but have not seen brewer's yeast mentioned.

JULIUS ULLMAN, M.D.

Association News.

Annual Announeement.

The fifty-second annual session (54th year) of the AMERICAN MEDICAL ASSOCIATION will be held in St. Paul, Minn., on Tuesday, Wednesday, Thursday and Friday, June 4, 5, 6 and 7, commencing on Tuesday at 11 a. m.

DELEGATES.

The delegates shall receive their appointment from permanently organized state medical societies, and such county and district medical societies as are recognized by representation in their respective state societies, from the medical department of the Army, the Navy and the Marine-Hospital Service of the United States, and from oral and dental societies in good standing. *Provided*, however, that no state, county or other auxiliary body sending representatives shall receive into its membership any one who may, after 1901, have received the degree of Doctor of Medicine on less than four years of graded instruction or an equivalent requirement.

Each delegate shall hold his appointment for one year, and until another is appointed to succeed him, and shall participate in all the business and the affairs of the ASSOCIATION.

Each state, county and district medical society, entitled to representation, shall have the privilege of sending to the ASSOCIATION one delegate for every ten of its regular resident members, and one for every additional fraction of more than half that number. *Provided*, however, that the number of delegates from any affiliated society shall not exceed the ratio of one in ten of the members of such society. The Army and Navy, and the Marine-Hospital Service of the United States shall be entitled to the same proportionate representation as that of affiliated medical societies.

No individual who shall be under sentence of expulsion or suspension from any state or local medical society of which he may have been a member, or whose name shall have been, for non-payment of dues, dropped from the rolls of the same, shall be received as a delegate to this Association, or be allowed any of the privileges of a member, until he shall have been relieved from the said sentence or disability by such state or local society, or shall have paid up all arrears of membership; nor shall any person not a member and supporter of a local medical society, where such a one exists, be eligible to membership in the AMERICAN MEDICAL ASSOCIATION.

No one expelled from this ASSOCIATION shall be received at any time thereafter as a delegate or member, unless by a three-fourths vote of the members present at the meeting to which he is sent, or at which he is proposed.

PERMANENT MEMBERS.

The permanent members shall consist of all those who have served in the capacity of delegates, and of such other members as may receive the appointment by unanimous vote, and shall continue such so long as they remain in good standing in the body from which they were sent as delegates, and comply with the requirements of the By-Laws of the ASSOCIATION. Permanent members shall at all times be entitled to attend the meetings, and participate in the affairs of the ASSOCIATION, so long as they shall continue to conform to its regulations, but without the right of voting.

MEMBERS BY APPLICATION.

Members by application shall consist of such members of the state, county, and district medical societies entitled to repre-

sentation in this association as shall make application for admission, in writing, to the treasurer, and accompany said application with a certificate of good standing, signed by the president and secretary of the society of which they are members, and the annual fee, \$5. They shall have their names on the roll, shall have all the rights and privileges accorded to permanent members, and shall retain their membership on the same terms.

MEMBERS BY INVITATION.

Members by invitation shall consist of distinguished practitioners of foreign countries who may be invited by the officers of Sections or of the ASSOCIATION. They shall hold their connection with this ASSOCIATION until the close of the annual session to which they are invited, and shall be entitled to participate in all of its affairs, as in the case of delegates, but without the right to vote.

RIGHT TO VOTE.

Every member-elect, prior to the permanent organization of the annual meeting, or *before voting on any question*, after the meeting has been organized, *must exhibit his credentials to the proper committee*, and sign these regulations, inscribing his name and address in full, specifying in what capacity he attends, and, if a delegate, the title of the institution from which he has received his appointment.

DELEGATE BADGES.

No one can be registered as a delegate without a certificate as called for by the above clause in the Constitution. Delegates will be furnished with delegate badges on presentation of their credentials.

REGISTRATION AT MEETING.

Each delegate or member, when he registers, is requested to record the name of the Section, if any, that he will attend, and in which he will cast his vote for Section officers.

ADDRESSES IN SECTIONS.

The Chairman of each Section shall prepare an address on the recent advances in the branches belonging to his Section, including such suggestions in regard to improvements or methods of work as he may deem important, and present the same to the Section over which he presides on the first day of its annual session. The reading of such address shall not occupy more than twenty minutes.

LENGTH OF PAPERS.

No paper, the reading of which occupies more than twenty minutes, shall be read before any Section.

A Suggestion as to the American Medical Association.

We have, of course, the sincerest desire that the ASSOCIATION may grow more and more powerful, and to that end we would, in the most friendly spirit, offer a suggestion which we believe would have the effect desired. It is that, without losing the democratic or representative control of the business and decisions—the direction and fate of the organization—some plan may be devised whereby a small number of delegates should thresh out all propositions and decide them according to their combined wisdom and judgment; the general meetings would thus be kept for purely scientific business. If the referendum is instituted, it should be without discussion, by the general body which must vote yea and nay at once upon presentation of the question of supporting the committee's decisions. When in earlier days the ASSOCIATION was made up of a small number, the town-meeting plan of legislation was possible; now that it has grown so large and will continue to grow still larger a manner of expediting the transaction of business should be instituted. A mob can not legislate, can not deliberate dispassionately, and several thousand people even of the best, will be subject to the laws of the psychology of crowds. This representative body might be called the senate. Each senator should be elected by his state organization and represent a stated large number of members and should devote his entire time, to the exclusion of section work, to the business of the ASSOCIATION.—*Am. Med.*, April 27.

Meeting Places at St. Paul.

The halls for meeting places for the general sessions and Sections of the AMERICAN MEDICAL ASSOCIATION are announced

as follows: General Sessions, Metropolitan Opera House; Section on Practice of Medicine, Legislative Hall, State Capitol; Obstetrics and Diseases of Women, Small Masonic Hall; Surgery and Anatomy, Large Masonic Hall; Hygiene and Sanitary Science, Masonic Armory; Ophthalmology, Elks' Hall; Diseases of Children, Ryan Annex, Builders' Exchange; Stomatology, Ryan Hotel; Mental and Nervous Diseases, Committee Room of State Capitol; Cutaneous Medicine and Surgery, Masonic Banquet Hall; Laryngology and Otology, Elks' Dining-Room; Materia Medica, Pharmacy and Therapeutics, Senate Chamber, State Capitol; Physiology and Dietetics, Builders' Exchange, Ryan Annex; Pathology and Bacteriology, Ryan Annex.

Trip to the Yellowstone National Park.

The arrangements for this trip are not yet complete, though practically so. The special train, or trains, will leave St. Paul on the afternoon or evening of the fourth day of the ASSOCIATION meeting, Friday, June 7, the trip taking about thirty hours. As President McKinley and his party are to be at the Park a day or two preceding our visit everything will be in a most promising condition. The total expense of the trip will be \$85, which includes railroad fare, sleepers, hotel expenses and conveyances through the Park. The total time occupied will be between eight and ten days from St. Paul. The rate is remarkably low when it is considered that the regular charge for the five and one-half days in the Park is \$49.50. Those desiring to take the trip are requested to notify Dr. J. F. Fulton, St. Paul, Minn.

Next Year's Meeting of the Association.

At a special meeting of the Memphis Medical Society, held April 16, a resolution was adopted to the effect that an invitation be tendered to the AMERICAN MEDICAL ASSOCIATION to meet in Memphis at its regular annual meeting in 1902, and that every effort be made toward securing the same. It is believed by the Memphis people that the ASSOCIATION should go south next year, and that Memphis, with its population of over 110,000, is thoroughly able to entertain the ASSOCIATION. Saratoga Springs, N. Y., is also preparing to advocate at St. Paul the meeting of the ASSOCIATION at the Springs in 1902.

Delegates.

Columbia County (Pennsylvania) Medical Society has elected the following delegates to the meeting of the AMERICAN MEDICAL ASSOCIATION, with power to substitute: Dr. Geo. L. Reagan, Berwick; Edward L. Davis, Berwick; and J. Elmer Shuman, Jerseytown.

Program for the Section on Surgery and Anatomy.

TUESDAY, JUNE 4—AFTERNOON SESSION.

SURGERY OF THE BRAIN AND SPINAL CORD.

Remarks on the Surgery of the Spinal Cord, with Illustrative Cases. Andrew J. McCosh, New York City.

Spina Bifida, with the Report of an Interesting Case. Paul F. Eve, Nashville, Tenn.

The Methodical Exploration of the Brain for Fluid. Christian Fenger, Chicago.

The Immediate and Remote Effects of Brain Injury. D. S. Fairchild, Clinton, Iowa.

Cases of Trephining for Pathological Lesions of the Brain. John C. Munro, Boston.

Discussion opened by W. W. Keen, Philadelphia.

WEDNESDAY, JUNE 5—MORNING SESSION.

The Mortality of Appendicitis. John B. Deaver, Philadelphia.

Some Unusual Features of Appendicitis and Their Treatment. Ernest Laplace, Philadelphia.

Abdominal Contusions Associated with Rupture of the Intestine. Homer Gage, Worcester, Mass.

The Knot Within the Lumen, in Intestinal Surgery, with Report of Eight Cases. F. Gregory Connell, Chicago.

Surgery of the Colon. H. O. Walker, Detroit, Mich.

Fallacies in the Treatment of Urethral Diseases. Robert Holmes Greene, New York City.

Discussion opened by Willis G. McDonald, Albany, N. Y., and D. A. K. Steele, Chicago.

WEDNESDAY, JUNE 5—AFTERNOON SESSION.

THE SURGICAL ASPECT OF CARCINOMA.

The Nature of the Cancerous Process. Roswell Park, Buffalo, N. Y.

The Present Status of the Carcinoma Question. Nicholas Senn, Chicago.

Early Diagnosis of Carcinoma: Methods. Charles A. Powers, Denver, Colo.

The Pathology of Breast Carcinoma and its Relation to Early Diagnosis and Treatment. J. C. Bloodgood and M. B. Tinker, Baltimore, Md.

Carcinoma of the Cecum. Wm. J. Mayo, Rochester, Minn.

Improved Method for Resecting High Rectal Carcinoma. Robert F. Weir, New York City.
 Method of Operating on Carcinoma of the Tongue. J. Collins Warren, Boston.
 Treatment of Malignant Diseases by Surgical Operation. Frederick S. Dennis, New York City.

THURSDAY, JUNE 6—MORNING SESSION.

Hemostasis in Amputation at the Hip-Joint, a Résumé of 262 Cases by the Author's Method. John A. Wyeth, New York City.
 Autoplastic Suture in Hernia and other Ventral Wounds. L. L. McArthur, Chicago.
 A New Method of Skiagraphic Diagnosis for Renal and Ureteral Surgery. L. E. Schmidt and G. Kolischer, Chicago.
 Prostatotomy versus Prostatectomy for Prostatic Hypertrophy. Ramon Guiteras, New York City.
 Prostatectomy, the Method of Choice in the Management of Prostatic Obstruction. Eugene Fuller, New York City.
 A Further Report on Permanent Catheterization. J. R. Eastman, Indianapolis, Ind.

THURSDAY, JUNE 6—AFTERNOON SESSION.

THE SURGERY OF THE CHEST.

Pneumectomy and Pneumotomy. J. B. Murphy, Chicago.
 Insufflation of the Lungs and its Application to Pulmonary Surgery. Rudolph Matas, New Orleans, La.
 Removal of Foreign Bodies from the Trachea and Bronchi. DeForest Willard, Philadelphia.
 Treatment of Empyema. James H. Dunn, Minneapolis, Minn.
 Penetrating Wounds of the Chest. Joseph Ransohoff, Cincinnati, Ohio.
 Decortication of the Lung. George Ryerson Fowler, Brooklyn, N. Y.
 Discussion opened by Frederick W. Parham, New Orleans, La.

FRIDAY, JUNE 7—MORNING SESSION.

ABDOMINAL SURGERY.

Abdominal Surgery. Maurice Richardson, Boston.
 The Indications for and Against Total Removal of the Human Stomach. G. Childs Macdonald, San Francisco, Cal.
 Diagnosis and Treatment of Kidney Stone. Arthur D. Bevan, Chicago.
 The Surgery of the Gall-Bladder and Gall-Ducts. Alexander H. Ferguson, Chicago.
 Acute Infective Cholangitis and Cholecystitis as a Complication of Gall-Stones. Daniel N. Eisendrath, Chicago.
 Dissecting Abscesses of Abdominal Wall Producing Symptoms Simulating Pott's Disease of the Spine. James B. Bullitt, Louisville, Ky.
 Experimental and Clinical Observations on the Therapeutics of Abdominal Surgery. George W. Crie, Cleveland, Ohio.
 Discussion opened by Howard A. Kelly, Baltimore, Md., and Frank D. Smythe, Memphis, Tenn.

FRIDAY, JUNE 7—AFTERNOON SESSION.

The Roentgen Rays in Differentiating between Osseous Cyst, Osteosarcoma and Osteomyelitis with Skiagraphic Demonstration. Carl Beck, New York City.
 A Simple Operation for the Treatment of Hemorrhoids. J. Rawson Pennington, Chicago.
 Fracture of the Femoral Neck. C. E. Ruth, Keokuk, Iowa.

Married.

CASSIUS CLAY ROGERS, M.D., to Miss Rena B. Richards, both of Chicago, April 17.
 WILLIAM H. ROBIN, M.D., to Miss Emma Meyer, both of New Orleans, La., April 17.
 C. C. BARNARD, M.D., Oakville, Ind., to Miss Amy Leslie, of Arcadia, Ind., April 5.
 EDWARD L. LYONS, M.D., to Miss Minnie McMahon, both of Troy, N. Y., April 10.
 J. HOMER PUMPHREY, M.D., to Miss Anna Moorehead, both of Salem, Ohio, April 3.
 O. H. RADKEY, M.D., Manor, Texas, to Miss Sadie Hewlett, of Austin, Texas, April 2.
 ROBBINS F. LILLY, M.D., to Mrs. Bessie Baxter Volk, both of Circleville, Ohio, April 24.
 FRANK F. SMITH, M.D., to Miss Nannie Miller, both of Cumberland, Md., April 3.
 PRINCE C. PAGE, M.D., Bangor, Me., to Miss Ida May North, of Riverdale, Md., April 18.
 J. B. GUTHRIE, JR., M.D., New Orleans, to Miss Sara Hall, of Little Rock, Ark., April 9.
 HARRY H. RITTENHOUSE, M.D., Chicago, to Miss Lillias Y. Wood, of Cairo, Ill., April 30.
 JAMES DAVIDSON McDOWELL, M.D., to Miss Hattie Spencer, both of Yorkville, S. C., April 3.
 SYLVESTER A. PRESTON, M.D., Beemer, Neb., to Miss Ellen Bonine, of Omaha, Neb., April 10.
 ORTHIELLO S. LANGWORTHY, M.D., to Mrs. Minnie E. Sheldon, both of Hamilton, N. Y., April 17.

H. F. SCHROEDER, M.D., Marinette, Wis., to Miss Mary Ceeilia Consadine, of Philadelphia.

ARTHUR P. HERING, M.D., Baltimore, to Miss Agnes Louise Kinney, at Staunton, Va., April 10.

WARREN L. CAMERON, M.D., Medford, Ore., to Miss Katharine C. Vail, of Chicago, April 25.

CHARLES L. REESE, M.D., New York, N. Y., to Miss Harriett Stedman Bent in Baltimore April 10.

A. W. HON, M.D., Bloomington, Ind., to Miss Cora MeFadden, of Harrodsburg, Ind., April 10.

WILLIAM McILWAIN THOMPSON, M.D., Chicago, to Miss Anna Caruth Hill, of Boston, Mass., April 24.

THOMAS H. JAMIESON, M.D., Wellington, Kan., to Miss Laura J. Bixby, of Hutchinson, Kan., April 24.

WILLIAM A. BRITTIN, M.D., Auburn, Ill., to Miss Anna Painter, formerly of Streator, Ill., April 9.

CHARLES EDGAR AUCALT, M.D., Fredericksburg, Va., to Miss Lydia Florence New, at Baltimore, April 10.

JOHN J. EARGLE, M.D., Proctor, Texas, to Miss Louis Lee, of Lexington, Okla., at Purell, Ind. T., March 18.

BERNARD LAWRETON HARDIN, M.D., Washington, D.C., to Miss Rosalie T. Scott, of Warrenton, Va., April 11.

ARTHUR H. HAWKINS, Cumberland, Md., to Miss Louise Bland Brokenbrough Price, at Orange, Va., April 10.

STUART W. CASSARD, M.D., Baltimore, to Miss Mary Elizabeth Jenifer, at Towson, Baltimore County, Md., April 24.

FREDERICK L. CLARK, M.D., New Bedford, Mass., to Miss Myra Allen Dwelley, of Fairhaven, Mass., at New Bedford, April 8.

CHARLES W. BROWN, M.D., of Philadelphia, to Miss Florence Thomas, daughter of Dr. Bruce Thomas, of Kensington, Md., April 17.

DR. HOWARD H. HOPKINS, JR., M.D., to Miss Alice Eleanor Griffith Wood, both of Newmarket, Frederick County, Md., April 10.

ALEXANDER MCK. CAMPBELL, M.D., Grand Rapids, Mich., to Miss Annie Maclean, daughter of Dr. Donald Maclean, of Detroit. The former pupils and intimate professional associates of the bride's father presented a handsome antique silver tea and coffee service to the bride.

Deaths and Obituaries.

Thomas Hepburn Buckler, M.D., University of Maryland, Baltimore, 1835, died in Baltimore, April 20, rather suddenly, aged 89. From 1840 to 1850 he was physician to the City Almshouse and wrote a history of the epidemic of cholera there in 1849. The waters of the Gunpowder River were introduced into Baltimore on his suggestion, and for many years he strenuously, although unsuccessfully, urged the filling up of the "basin," or inner harbor of Baltimore. He introduced the phosphate of ammonia in the treatment of gout and the uric acid diathesis, and the succinate of iron and chloroform as gall-stone solvents. From 1866 to 1890 he practiced in Paris under a license from the French government, and represented the state of Maryland in 1878 as Commissioner to the French Exposition. He returned to Baltimore in 1890, but had not practiced since that time.

William Henry Draper, M.D., College of Physicians and Surgeons, 1855, died at his home in New York, from pneumonia, aged 70, April 26. He was born in Battleboro, Vt., 1830, was graduated the head of his class in Columbia College, and after receiving his medical degree studied in Paris and London. He was an authority on skin diseases, was a writer of ability, an acute diagnostician and a popular teacher. Always claiming to be only a general practitioner, probably no one stood higher than he in many circles of influence. He was made professor of diseases of the skin in the College of Physicians and Surgeons in 1869, and eleven years later assumed the chair of clinical medicine. He was made professor emeritus in 1898.

Prof. Giulio Bizzozero, Turin, the prominent Italian pathologist, best known from his researches on the blood, bone-marrow, lymphatic glands, etc., died April 8, after a brief illness, from double pneumonia, aged 56. He was one of the most prominent teachers in medicine in Italy, and his name is familiar throughout the world. Among his students were many of the younger pathologists of Italy, including Golgi, Tizzoni and others. He was a member of most of the Italian and many foreign medical societies, and was a senator of the Kingdom of Italy.

Charles Kerns Dease Tanner, M.D., died at Reading, April 21, from consumption, aged 51. He had represented the Irish Nationalists of the Middle Division of Cork County in parliament since 1885. He was a practising physician of Cork and received his education at Queen's College, Cork, besides pursuing his studies at the Universities of Leipsic and Dublin. Although an habitual obstructionist in the House of Commons, he was personally very popular.

Frederick J. Brockway, M.D., College of Physicians and Surgeons, New York, 1887, of New York City, died at Brattleboro, Vt., April 21, aged 41. He was assistant demonstrator of anatomy and secretary of the faculty in the medical college of which he was a graduate. Besides being a fellow of the New York Academy of Medicine, he belonged to many other scientific bodies.

Charles H. Kenegy, M.D., College of Physicians and Surgeons, Keokuk, Iowa, 1877, who had practiced at Plum River, Morseville and other places in Jo Daviess County, Ill., died suddenly from apoplexy, at Scales Mound, Ill., April 21, aged 51.

Edward M. Schaeffer, M.D., University of Maryland, Baltimore, 1880, died from a self-inflicted gunshot wound, April 21, at his home in Baltimore, Md., aged 45. He had been a sufferer from melancholia for some time.

Elmer E. Barr, M.D., Rush Medical College, Chicago, 1893, colored, who practiced in Chicago until 1898, died from consumption at Los Angeles, Cal., where he had gone for his health, April 14, aged 33.

Richard C. Baker, M.D., New York University, 1874, of Brooklyn, E. D., N. Y., died April 24, at Otigo, N. Y., aged 47. From 1888 to 1894 he was secretary and superintendent of the Brooklyn Board of Health.

Charles Dana, M.D., a son of Dr. Charles H. Dana, who died in Florida, March 25, was burned to death while endeavoring to rescue some hares from a burning barn at Tunkhannock, Pa., April 17, aged 45.

Frederick J. Bricker, M.D., University of Wooster, Cleveland, Ohio, 1876, who had practiced for twenty-three years at Aurora, Neb., died at his home in that place, April 22, from meningitis, aged 48.

Edward Watts Morris, M.D., Medical College of Virginia, 1885, died at his home in Birmingham, Ala., April 23, from pneumonia, aged 36. He was a member of the AMERICAN MEDICAL ASSOCIATION.

Edwin D. Swift, M.D., New York University, 1849, who had practiced in Hamden, Conn., for fifty-two years, died at his home near that place, from Bright's disease, April 18, aged 76 years.

Frederick A. Larkin, M.D., Rush Medical College, Chicago, 1892, of Chicago, a member of the AMERICAN MEDICAL ASSOCIATION, died in Philadelphia, after a surgical operation, April 23.

James H. Woodburn, M.D., University of Louisville, Ky., 1857, of Indianapolis, Ind., formerly superintendent of the Central Hospital for the Insane, died suddenly, April 23.

Charles Kelley Gardiner, M.D., Medical College of Virginia, Richmond, 1880, died at Huntington, W. Va., April 14, from the effects of an overdose of laudanum.

George W. Cox, M.D., Medico-Chirurgical College of Philadelphia, 1887, died suddenly from exhaustion following a severe attack of la grippe, April 19, aged 60.

Almon V. Belding, M.D., College of Physicians and Surgeons of the Western District of New York, Fairfield, died in Rochester, N. Y., April 18, aged 94.

B. F. Hill, M.D., who practiced at Mexico, Mo., until two years ago, died from consumption at his father's home in Bardstown, Ky., April 16, aged 45.

George S. Cogswell, M.D., Dartmouth Medical College, Hanover, N. H., 1830, died at his home in Haverhill, Mass., April 21, aged 93.

James S. Carradine, M.D., University of Pennsylvania, 1858, of New York City, died from pneumonia, at East Orange, N. J., April 23.

William Harrell, M.D., Louisville (Ky.) Medical College, 1870, died at his home in Tifton, Ga., from pneumonia, April 10, aged 60.

Leonard Howard Moxim, M.D., Medical School of Maine, Brunswick, 1855, died at his home in Hartford, Maine, April 15, aged 71.

Roy Inglis, M.D., College of Physicians and Surgeons, New York, 1890, of Jersey City, N. J., died at Denver, Colo., April 23.

Ira J. Fuller, M.D., University of Vermont, Burlington, 1888, died at his home in Spragueville, N. Y., April 19, aged 43 years.

John J. Durand, M.D., a veteran physician of Chattanooga, Tenn., died from apoplexy at his home in that city, April 16, aged 72.

Lewis R. Kirk, M.D., Jefferson Medical College, Philadelphia, 1853, died at Rising Sun, Md., April 19, of heart trouble, aged 69.

Alfred H. Hiatt, M.D., Medical College of Ohio, Cincinnati, 1846, died at his home in Chicago, April 26, aged 77.

Miscellany.

A Christian Science Miracle.—The *New York Med. Jour.*, April 13, is responsible for the following: It is related that Charles Lamb and Douglas Jerrold were once discussing the extent to which animals could be domesticated, when Lamb in support of his argument told the story of a tame oyster which used to follow him up and down stairs. To this Jerrold retorted that the oyster had one advantage at least over Lamb. "What is that?" asked Lamb. "It knows when to shut its mouth," tartly responded Jerrold. At the recent dedication of a new Christian Science meeting house it was officially stated that a granite corner-stone had been duly carved with an inscription wrongly given under a mis-apprehension, and that the day before it was to be laid the mistake was discovered too late to admit of alteration. The omnipotent witchery of Christian Science methods, the mental concentration and focusing of "truth" upon this "error of mortal mind" enshrined in granite, was brought to bear by the undaunted devotees, when, lo! upon uncovering the block it was found that the erroneous carving had disappeared and an unexceptionable inscription had taken its place. We are curious to know whether the engraver was guilty of a fortunate disregard of his instructions, or the error therein was discovered and corrected in time, but secretly for the sake of subsequent "effect," or the narrator—. But, no. Let us rest content with recommending the moral of the Lamb-Jerrold story to the notice of the votaries of Christian Science.

The Refracting Optician.—The *Providence (R. I.) Med. Journal* for April says: "Not long ago the following letter was received by an oculist in this city from one of the enterprising opticians who flourish in the rich soil of Rhode Island fertilized by an inefficient medical practice act: 'Dr. —, Dear Sir: I wish to make a proposition to you. For every prescription you send to me I will give you one-third of the profits, send your statement and money the first of every week. This is to be strictly confidential. Hoping to have some of your work, I remain very truly yours, —.' It is strange that

any one should expect to find a physician so false to his professional honor that he would for a moment consider such a proposition. It is both insulting and degrading and, would it serve any good, the name of the writer would be appended to the letter; but it serves as a text to speak of a growing evil in our city and state. The daily papers, both city and county, are filled with advertisements of jewelers and opticians, opticians and refractionists, who fit all eyes, correctly measure for glasses and cure headaches, nervous affections and even more serious ailments. At any rate, one would be justified in assuming that they could do all this if credence is given to the advertisements. As a matter of fact, aside from the mechanical part of refraction, which is easily learned, the majority know nothing of physiological optics and are wholly unfitted to deal with either refractive errors or muscular anomalies. The old argument against all law regulating the practice of medicine that every man shall treat his own as he desires, or shall not treat them at all, is inoperative. No man can be allowed by an error of judgment to do himself personal injury, or by parental or marital authority allow harm to come to his family. The State has a right to demand of its citizens compliance with laws which regulate its well-being. This is recognized by both adherents and opponents of the proper regulation of the practice of medicine, on one hand by the interpretation of existing laws and on the other, as in Massachusetts at the present time, by an attempt to pass legislation which will legalize the pseudo-profession of opticians. We may take it for granted, therefore, that some restriction is needed if it can be found that harm results from the present practice of allowing wholly incompetent persons to prescribe for the welfare of the eyes."

Societies.

COMING MEETINGS.

- American Medical Association, St. Paul, Minn., June 4-7.
- American Surgical Association, Baltimore, Md., May 7-9, 1901.
- American Therapeutic Society, Washington, D. C., May 7-9, 1901.
- Nebraska State Medical Society, Lincoln, May 7-9, 1901.
- Oklahoma Territory Medical Association, Oklahoma City, May 8, 1901.
- Mississippi State Medical Association, Jackson, May 8, 1901.
- Washington State Medical Society, Seattle, May 8-9, 1901.
- Ohio State Medical Society, Cincinnati, May 8-10, 1901.
- Arkansas Medical Society, Hot Springs, May 14-16, 1901.
- Medical Association of Montana, Great Falls, May 15-16, 1901.
- Michigan State Medical Society, Battle Creek, May 15-16, 1901.
- Iowa State Medical Society, Davenport, May 15, 1901.
- Indiana State Medical Society, South Bend, May 15-17, 1901.
- New Hampshire Medical Society, Concord, May 16-17, 1901.
- Medical Association of Missouri, Jefferson City, May 21-23, 1901.
- Illinois State Medical Society, Peoria, May 21-23, 1901.
- Medical Society of North Carolina, Durham, May 21-23, 1901.
- Connecticut Medical Society, Hartford, May 22-23, 1901.
- North Dakota Medical Society, Fargo, May 22-23, 1901.
- Kentucky State Medical Society, Louisville, May 22-24, 1901.
- Medical Society of West Virginia, Grafton, May 22-24, 1901.
- American Laryngological, Rhinological and Otological Society, New York City, May 23-25, 1901.
- American Laryngological Association, New Haven, Conn., May 27-29, 1901.
- American Pediatric Society, Niagara Falls, N. Y., May 28, 1901.
- American Gynecological Association, Chicago, May 28, 1901.
- American Climatological Association, Niagara Falls, N. Y., May 30, 1901.
- American Association of Military Surgeons of the United States, St. Paul, May 30, 31, June 1, 1901.
- American Academy of Medicine, St. Paul, Minn., June 1-3.
- National Con. State Medical Examiners and Licensing Boards, St. Paul, Minn., June 3.
- Association of American Medical Colleges, St. Paul, June 3.
- American Medical Editors' Association, St. Paul, June 3.
- Minnesota State Medical Society, St. Paul, June 3.
- American Proctological Association, St. Paul, Minn., June 4-5.
- American Dermatological Association, Chicago, June 4-6.
- Rhode Island Medical Society, Providence, June 6.
- International Association of Railway Surgeons, Milwaukee, June 10-12.
- Medical Society of Delaware, Lewes, June 11.
- American Medico-Psychological Association, Milwaukee, Wls., June 11-14.
- Maine Medical Association, Portland, June 12-14.
- Massachusetts Medical Society, Boston, June 12.
- Colorado State Medical Society, Denver, June 18.
- American Orthopedic Association, Niagara Falls, June 18-20.

Medical Society of New Jersey, Ailenhurst, June 25-27.
Wisconsin State Medical Society, Waukesha, June 26.

American Proctologic Society.—The third annual meeting of this Society will be held at the Ramsey County Library, St. Paul, Minn., June 4 and 5.

Central (Ky.) Medical Association.—At the April 19 meeting of this Society, at Danville, Dr. George Cowan of that city was elected president, and Dr. Steele Bailey, Stanford, secretary.

Nebraska State Medical Society.—The thirty-third annual meeting of this Society will take place May 7, 8 and 9, at Lincoln, under the presidency of Dr. Harry M. McClanahan, Omaha.

Cecil County (Md.) Medical Society.—At its annual convention, this Society elected Dr. Joseph Veasey Wallace, Chesapeake City, president; Dr. John H. Jamar, Elkton, treasurer, and Dr. Harry P. Hinchliffe, Elkton, secretary.

Hartford County (Conn.) Medical Association.—The one hundred and ninth annual session of this Association was held April 17. Dr. George Clary, New Britain, was elected president; Dr. Nathan Mayer, Hartford, vice-president, and Dr. William G. Craig, Hartford, clerk.

Ohio State Medical Society.—The fifty-sixth annual meeting of this Society will be held at Cincinnati, May 8, 9 and 10, at the Scottish Rite Cathedral, Broadway near Fourth Street. Dr. Frank D. Bain, Kenton, will preside.

Golden Belt (Kan.) Medical Association.—This Association, at its meeting in Abilene, April 18, elected Dr. John C. McClintock, Topeka, president; Dr. John D. Riddell, Enterprise, treasurer, and Dr. E. B. LeFevre, Abilene, secretary. The next meeting will be held in Topeka in July.

Tolland County (Conn.) Medical Association.—The one hundred and ninth annual meeting of this Association was held in Rockville, April 16. Dr. Thomas F. O'Loughlin, Rockville, was elected president; Dr. Eli P. Flint, Rockville, vice-president; and Dr. Edwin T. Davis, Ellington, clerk and treasurer.

Walla Walla (Wash.) Medical Society.—A society to further the interests of the physicians of the city and county has been organized with Dr. Elsworth E. Shaw, president; Dr. Nelson G. Blalock, vice-president; Dr. Samuel A. Owens, secretary and Dr. William Van Patten, treasurer.

Central of Georgia Railway Surgeons' Association.—The annual meeting of this organization occurred in Augusta, April 17, and the following officers were re-elected: Dr. Hunter P. Cooper, Atlanta, president; Dr. Benjamin R. Dostor, Blakely, vice-president, and Dr. Wm. Darracott Travis, Covington, secretary and treasurer.

Shreveport (La.) Medical Society.—The annual meeting of this Society was held April 13, when the following officers were elected: Dr. T. Edgar Schumpert, president; Dr. William L. Egan, vice-president; Dr. Greene C. Chandler, corresponding secretary; Dr. Fred J. Frater, recording secretary, and D. John J. Scott, treasurer.

Austin Flint Medical Society.—The spring meeting of this Society was held at Hampton, Iowa, April 11, and the following officers elected: Dr. Daniel W. Crouse, Waterloo, president; Dr. J. Clinton Powers, Hampton, vice-president, and Dr. Lester C. Kern, Waverly, secretary-treasurer. The July meeting will be at Clear Lake.

Georgia State Medical Association.—The fifty-second annual meeting of this body was held in Augusta, April 17-19, Dr. Samuel C. Benedict, Athens, in the chair. Savannah was selected as the next place of meeting, and the following officers were elected: Dr. James B. Baird, Atlanta, president; Drs. Thomas R. Wright, Augusta, and Jefferson D. Chason, Bainbridge, vice-presidents; and Dr. Louis H. Jones, Atlanta, secretary and treasurer.

Jo Daviess County (Ill.) Medical Society.—The first anniversary meeting of this Society was held in Elizabeth, April 25. Dr. Henry T. Godfrey, Galena, was elected president; Dr. G. E. Miller, Hanover, vice-president; Dr. Domer G. Smith, Elizabeth, secretary, and Dr. T. J. Stafford, Galena, treasurer. Delegates to the AMERICAN MEDICAL ASSOCIATION were also appointed. The Society was entertained at a banquet, by Drs. William Hutton and Domer G. Smith, Elizabeth.

Alabama State Medical Society.—At the annual meeting of this Society, held at Selma, April 16-19, the following officers were elected: Dr. Edwin L. Marechal, Mobile, president; Drs. William T. Pride, Madison Station, and Matthew B. Cameron, Sumterville, vice-presidents; Dr. George P. Waller,

Montgomery, secretary; Dr. Henry G. Perry, Greensboro, treasurer, and Dr. Edwin B. Ward, Selma, orator. Birmingham was selected as the place for the next annual meeting.

Medical Society of the State of California.—The annual session of this Society was held at Sacramento, April 16-18. A proposition to establish a monthly journal as the organ of the Society was voted down. San Francisco was selected as the next meeting place. The following officers were elected: Dr. William J. G. Dawson, St. Helena, president; Drs. Frank B. Carpenter, San Francisco, and Frank L. Adams, Oakland, vice-presidents; Dr. George H. Evans, San Francisco, secretary; Drs. Z. Taylor Malaby and William F. Barbat, San Francisco, assistant secretaries; Dr. Elmer E. Kelley, San Francisco, treasurer, and Drs. Charles C. Wadsworth, San Francisco, Dudley Tait, Ventura, Cephas S. Bard, Ventura, David Powell, Marysville, and Daniel E. Osborne, St. Helena, board of medical examiners.

Erie County (N. Y.) Society for the Prevention of Tuberculosis.—An informal meeting of this newly organized Society was held April 18. Encouraging letters were read from other societies with a like purpose. The lines of work laid down are as follows: 1, promulgating the doctrine of the contagiousness of the disease; 2, instructing the public in practical methods of its avoidance and prevention; 3, advocating the establishment of institutions for its early treatment; 4, co-operating with boards of health in such measures as may tend to the prevention of the disease; 5, advocating the enactment of proper legislation, and 6, taking such other measures as from time to time may be deemed necessary to check the ravages of tuberculosis.

South Carolina Medical Association.—The fifty-first annual meeting of this organization was held in Florence, April 17 and 18. Dr. Wharton Sinkler, of Philadelphia, delivered the annual address. The application of graduates of the class of 1900-01 of the South Carolina Medical College, for membership were held over till the next annual meeting for consideration, or until they comply with the requirements of the law. The following officers were elected: Dr. Theodore G. Croft, Aiken, president; Drs. Curran B. Earle, Greenville, W. Price Timmerman, and John T. Darwin, Blacksburg, vice-presidents; Dr. William Weston, Columbia, corresponding secretary; Dr. T. Prioleau Whaley, Charleston, recording secretary, and Dr. Barnard E. Baker, Charleston, treasurer. Dr. Walter P. Porcher, Charleston, was chosen as a member of the Board of Medical Examiners, to succeed Dr. Robert L. Brodie.

DETROIT MEDICAL SOCIETY.

Meeting held April 3.

Hydrocele of Round Ligament.

DR. FRANK D. SUMMERS exhibited a very rare and interesting hydrocele tumor of the round ligament. It was about four inches in length and the size of a large Frankfurt sausage. The upper portion had been constricted by the left inguinal ring so that a cyst tumor about the size of a large walnut was within the abdominal cavity. The lower end of the tumor was attached in the left labium majus.

About ten years ago the woman called a surgeon to reduce for her an inguinal hernia, and it had to be done under chloroform. Following his advice she wore a truss until about three months ago. On Saturday, March 30, her attention was attracted to the left inguinal region by a sudden sharp pain, followed by a chill, at which time she discovered the swelling; and considering it the same old hernia that had come out before, she thought she could probably reduce it herself. By the next day (Sunday) her pain was so intense that she called Dr. Summers, and he found a tumefaction that would not reduce and ordered her to St. Mary's Hospital and operated at once with the above results. He dissected out the tumor very carefully, with a portion of the round ligament attached to each end, and closed up the inguinal ring completely, which is healing by first intention.

Elasticity of the Skull.

DR. ANGUS MCLEAN read a paper on this subject and exhibited specimens. This was demonstrated on the cadaver by placing clamps over the lateral and anteroposterior regions. In lateral compression this diameter was decreased half an inch and in longitudinal three-eighths of an inch before the cranium fractured. When one diameter was diminished the

others were increased. The calvaria was removed while the clamps were in position, and comparison made. The superior-inferior measurements were made by boring gimlet holes through the vertex and passing small graded steel rods to the base. The skull did not fracture at the points of compression, but through the anterior base. Serious endocranial lesions might be produced without any bone lesion.

CHICAGO ACADEMY OF MEDICINE.

Meeting held March 27.

Dr. W. X. Sudduth in the chair.

Intrauterine Periods of Stress.

DR. JAMES G. KIERNAN read a paper on this subject. After some introductory remarks, he said: The law of economy of growth governs the relation of the organs to each other and the operation of the process whereby one structure is sacrificed for the development of another. Since the evolution of organs certain parts disappear, certain ones through suppressive economy, and since the disappearing and developing tendency of necessity centers around the time when certain functions are to be lost by the disappearing, and others gained by the developing, periods of stress occur around which the law of economy of growth centers the struggle for existence between parts of organs and between organs themselves. Because of this, physiologic atrophies and hypertrophies occur. Nearly all conditions of physiologic disturbance may result at these periods of stress from the influence of maternal nutrition or environment, or of hereditary factors.

While the fetus may pass through all periods of stress, a seeming replica of its immediate ancestors, still since nutriment assimilable by a given organism is limited, a check of development at certain stages often turns the nutriment in the direction of organs or cells or functions which should disappear at that particular stage. Man passes through the polyphyodont potentiality before reaching the diphyodont, which is the dental characteristic of the race. Arrest of development at the period when polyphyodont potentialities are present implies the dentition found in the Sauropsidæ, where teeth continually disappear to be continually replaced. Through such arrest a child may develop successively several hundred teeth. Since teeth are among the most variable structures in evolution, upon them is peculiarly evident the effects of stress. The struggle between the diphyodont and the polyphyodont condition early in human embryogeny may result in jaw atrophy and tooth increase in size. On the other hand, tooth decrease in size and jaw hypertrophy may occur. In the first case, decided irregularity of the teeth occurs in a comparatively normal subject. In the second case, seeming absence of irregularity will occur in a hereditarily defective subject. Jaw decrease as well as arrest of the face has been determined by general surrender of the system to brain growth. The development of the face in vertebrates is checked in man, because the upright position renders it unnecessary to bend the head as in quadrupeds, and because the enormous cerebral development has rendered necessary brain cavity enlargement by extending the cavity over the nose region, in addition to enlarging the skull. Normal vertebrate development of the face is therefore arrested in man at an embryonic stage. The long jowl, an advance in face development, does not occur in man. The skull is a development partly of the vertebrae, and partly of dermal bones. The dermal bones are the frontals, the parietals, the nasal bones, the pterygoids, palatines, maxillaries, premaxillaries and mandibles. The fontanelles in the child are spots in which dermal bones are yet to be formed. Development of the brain depends upon the growing power of the secondary skull formed by the dermal bones. These considered as bones are degenerate remains of the outer skeleton of the head which in early fish and reptiles emulated the lobster. Because of their very degeneracy they have been utilized to aid in covering the brain.

Dr. Kiernan then enumerated some of the conditions of fetal life corresponding to permanent phases in the lower animals, and said that as the power of passing through the fetal period

of stress will depend on the condition in which the fetal organism is at the time of the period of stress, and as this condition of the fetal organism will depend partly on factors inherited and partly on the material condition, it must be obvious that defect in either at these periods of stress may so disarrange the struggle for existence between the fetal organs that reversionary conditions will gain the ascendancy.

The fetal periods of stress of the organism as a whole, which most deserve attention, are those of the senile (or simian) period of intra-uterine life (which occurs about $4\frac{1}{2}$ months after conception) and the period of sex differentiation. Arrest at the senile period through any of the processes which check development, exercises marked influence on extra-uterine development. When produced by syphilis—which so frequently causes the senile appearance of new-born children—the child, because of organs which have undergone premature senescence, fails to pass through the first dentition, or readily falls a victim to secondary infections. Precocity, whether of the intellectual or physical type, is an expression of senile arrest of development, which causes the child to pass through growth and senescence rapidly. Minor expressions also occur, involving the skin alone, while the rest of the system is comparatively unaffected.

The truth of the popular opinion of precocity—early ripe, early rotten—is illustrated very frequently. Cratemus, a brother of Antigonus, was an infant, a youth, adult, married, begat children, and senile in seven years. Louis II, of Hungary, was crowned in his second year, at 14 had a complete beard, at 15 was married, at 18 had gray hair, and at 20 died. One boy had external marks of puberty at 12 months, and died senile at 5. Of six cases of early puberty in boys cited by Gould, one, virile at 1 year, died senile at 5. Cazaeux reports the case of a girl who menstruated at 2, became pregnant at 8, was a grandmother and senile at 25. Another child of 3, with the breasts and genitals of a woman, and menstruation of a nubile girl, had a senile appearance.

Premature senility may evince itself in atheroma of the arteries at the periods of extra-uterine stress. This has been observed rather frequently in the children of vegetarians and after the essential fevers.

Sex is not inherited, but the result of various factors acting not only at the time of impregnation, but at various times thereafter. Long after impregnation, when the embryo is already developed, nutrition is still influential and may change the tendency even after the sexual organs have developed. Poor maternal nutrition may arrest female development, causing reversion to the male type. The psychic side of sexual differences should normally, as it often does, remain undifferentiated until adolescence. Adolescence is affected by the atavistic tendency to simian senility, which implies its early onset.

The biologic facts stated show that there is a factor at work in intra-uterine life independent of heredity and operating only at certain periods. Heredity, so far as its working forces are concerned, consists of immediate heredity from the parents, of immediate atavism or type heredity and of remote atavism. These forces are usually in conflict. Type heredity and immediate heredity offset remote atavism, as a rule. Deficiency, either immediate heredity or type heredity brings remote atavism into full play, and is the source of degeneracy. Strong type heredity may, however, offset the evil influence of defective immediate heredity. The question of the sway of these factors turns on the etiologic moment of the period of stress when either the organism balance or some structure or function may be checked to give undue play to a structure or function useless or worse under the present biologic status of man. Heredity, therefore, is modified by an etiologic moment occurring at the period of stress. Malign heredity is often destroyed or diminished by the immediate effects of type heredity. Hence, in even the most hereditarily defective families sound members are found. Variations are often introduced by the struggle between the hereditary forces at the periods of stress which prove beneficial under a favoring environment. Hypertrophy due to degeneracy may thus place the subject in a higher position than the ancestor under the favoring influence of environment.

DR. ALFRED C. COTTON stated a firmly grounded belief in the influence of maternal impressions had not as yet been shaken either from the lay or professional mind. During intra-uterine or embryonic life certain influences produce, at times, more perfect impressions than at others. Efforts directed toward the stress periods of embryologic existence are in the nature of pioneer work to prepare the way for systematic observations. Postmortem findings demonstrate that environment more than heredity may influence the status of the infant. The persistency of the senile type of infant led Henoch to call the state infantile atrophy, a pathologic condition which had never been satisfactorily described histologically and pathologically. Senility makes an early impress upon many cases that are called infantile atrophy.

DR. CHARLES S. BACON said that it is fairly well established that periodicity exists in growth and changes. This is noticeable when the earliest forms of cell development are studied. When the fertilized ovum is studied under the microscope, a quiescent state is noted until suddenly the nucleus and cell divide and in the course of a short time, the homogeneous mass assumes another shape. In the child an important cycle occurs at puberty, and later, both in male and female, are cycles corresponding more or less to monthly changes. Periodicity then becomes a well-established fact. The importance of sound balance for the developing organism, at those periods, is undoubtedly great. The intra-uterine being is quite independent of the mother. The child may be fairly well nourished, although the mother is improperly nourished. In starving mothers the child is often well developed. So the periods of the child's development are not so dependent on the mother's condition as might at first appear. While important periods occur in the development of the child, it does not follow that those periods should coincide with the mother's period.

DR. EUGENE S. TALBOT stated that perhaps no structures in the body are so much affected by the law of economy of growth as the face, jaws and teeth. Under this law is exerted a natural force causing brain development and resultant jaw recession. The jaws are not now required for the purpose they were originally, hence an arrest of development is taking place. Originally the jaws measured $2\frac{3}{4}$ inches across; now the average one measures only about two inches. On some adult patients the jaws only measure three-quarters of an inch. The senile stage occurs at about $4\frac{1}{2}$ months of fetal life, a period in which the teeth are more readily affected than any other structures of the body. If change should occur about the fourth month of fetal life, the teeth are liable to alter in shape and structure. Teeth without enamel are frequently found, sometimes slight amounts of enamel may be found on some teeth. Occasionally children are born who have no teeth throughout life. These changes are the effect of the swaying between the diphyodont normal state and the polyphyodont state of reptiles at a period of stress.

Absorption of the alveolar process is an expression of polyphyodont physiology. Were a man to live long enough, he would lose his second set of teeth by osteomalacia or senile absorption. Senile absorption may occur at any period in the life of the individual. It is more frequently noticed in degenerates, neurotics, deaf-mutes, congenitally blind and idiots. To this senile condition is due the transitory nature of the alveolar process. Decay of the teeth is a natural process.

DR. SANGER BROWN believes that there is no warrant for designating the changes described as periods of stress, because they did not take place properly. Physicians are not warranted in regarding those periods in which changes are observable as of more importance than those that are imperceptible between the manifestations observed. While a law of observable periodicity is perhaps admissible, yet this is not equivalent to proving that observable manifestations are more important or exert more influence upon development than the periods when so much activity can not be observed.

DR. WILLIAM L. BAUM believes that there are periods of stress. One of the greatest examples of the influence of these in modern times was the remarkable number of defective children born immediately after and during the siege of Paris.

Anatomic changes must not be considered alone. Those which occur at certain periods during intra-uterine life reflect in the individual the consequences of nutritional change. This is very well shown in the syphilitic child. At one time the elder Ricord claimed that the child could not be infected from a syphilitic mother if she became infected later than the third month of pregnancy. This period has now been extended to the sixth month. This was true not only of syphilis, but of congenital ichthyosis. The same changes appear in ichthyotic children when development of the teeth takes place. Dermatology furnishes many examples which, from knowledge of embryology, can be attributed to certain periods. These periods often coincide with periods of altered nutrition in the mother. Hence it is obvious that the periods of stress have some influence not only upon nutrition temporarily, but upon the future of the child. There are cases of congenital hairy individuals, showing at the period of the evolution of the hair follicle that there must have been some nutritional change at that time. Many congenital dermal growths demonstrate that at one time there must have been some localized nutritional change in the fetus itself, such as are evinced in the various types of nevi. About fifty different dermatoses of congenital origin sometimes interfere with the future of the child.

DR. KIERNAN, in closing, defined what he meant by periods of stress. He had simply grouped biologic laws and embryologic facts together. Had they been nosologic facts their validity would have been recognized. The fetus was regarded as an organism subject to certain developments like those of the child in the period of the first dentition, in the period of second dentition, in the period of puberty, and subject furthermore to maternal environment. When a child is prematurely born with certain monstrosities, Dr. Bacon recognizes that this is arrest of development. If, however, under certain conditions some of its organs are arrested while the child is viable and lives for a certain time, Dr. Bacon could not, under the dictum laid down, regard these arrests of development, provided the child was apparently well nourished. A congenitally well-nourished infant is not necessarily a perfectly-developed one. The children of phthisical, syphilitic mothers, as also of mothers with other defects, may be well nourished at birth, yet break down at the first dentition, the second, during puberty, or even later, because of congenital defects. Luetic children may be apparently well developed, yet have, as Fournier has shown, defects simply due to arrest of development.

Suturing of Large Blood-Vessels.

DR. A. E. HALSTEAD read a paper on this topic, reporting the case of Mrs. S., aged 43, operated on by him in the latter part of May, 1900, for advanced mammary carcinoma. At this operation, the whole mammary gland, with both pectoral muscles and their fascia and the axillary glands and fat were removed in one mass by sharp dissection. The infraclavicular glands were slightly enlarged, and were also removed. No change in the cervical glands was noted at this time. Four months later the glands along the posterior border of the sterno-cleido-mastoid began to enlarge and were removed. They were found to be carcinomatous. About the middle of October, a small nodule began to grow at the outer end of the clavicle, which was somewhat deep-seated and painful. In two weeks the pain disappeared, and the nodule appeared to diminish in size. In the latter part of November the tumor again became painful and rapidly increased in size. On December 14 she presented herself for examination, when a tumor, about the size of a walnut, could be felt deeply seated, just below the coracoid process. The patient was advised to have this tumor removed, and accordingly was sent to the Policlinic Hospital, where, on December 14, under ether anesthesia, an incision was made parallel with the old line of incision, curving downward and outward from the middle of the clavicle to the floor of the axilla. The tumor was found to have originated in the short stump of the small pectoral muscle which was left attached to the coracoid process. It had pushed up the inner fibers of the deltoid to which it had become adherent and had involved the upper part of the coraco-brachialis and the capsule of the shoulder-joint. The coraco-brachialis with the inner third of the deltoid were dissected from below upward, and with the

tumor and the part of capsule, about two inches of the axillary vein were removed. Just before the dissection was completed the axillary artery was found adherent by its fascia to the tumor at a point about on a level with the insertion of the pectoralis minor muscle. By means of sharp, curved scissors, the artery was being freed from its attachment to the tumor, when the vessel was accidentally cut obliquely through about two-thirds of its circumference. The violent hemorrhage that immediately followed was controlled by placing the index finger of the left hand under the artery and pressing it up against the clavicle. The operative field was then sponged dry and the wound of the vessel inspected. At the time of the first operation, all the branches of the axillary artery, excepting the circumflex had been divided. While removing the recurrent growth, the anterior circumflex had been cut so that there was practically no chance for collateral circulation to be established. Under the circumstances the only chance of saving the arm was to suture the artery. Accordingly, while the circulation was controlled by pressure of the left index finger, four interrupted catgut sutures were passed through the two outer coats of the vessel and tied. This effectually closed the wound in the vessel so that no hemorrhage followed removal of pressure from the artery. To support these sutures, the perivascular connective tissue was sutured longitudinally with a fine catgut suture. The tumor was then dissected from the vessel and the wound closed in the ordinary way. The radial pulse was immediately restored and was as full as that of the opposite side. The patient made a good recovery from the immediate effects of the operation, and had at no time any disturbance of the circulation of the arm. She left the hospital at the end of two weeks. Two months after the operation there was still a radial pulse on the left side of a volume equal to that on the right.

Dr. Halstead then referred at considerable length to the work, experimental and otherwise, of Muscatello, Tichow, Orlow, Nitze, Bruci, Doerfler, Abbey, Zoege von Manteuffel, Murphy, Lindner, Ziegler, Kuemmel, Garrie and others. The indications for arterial suture are: 1. In all cases of injury to a vessel or vessels, where a ligature might bring about serious nutritional changes to the part supplied by the injured vessels. This is especially apt to occur when the corresponding vein is injured at the same time. In such cases an effort should be made to repair both vessels, although if the arterial circulation is established, the necessity of restoring the continuity of the vein is not so imperative. 2. In all wounds of large vessels produced by puncture, gunshot, or laceration. 3. Operation wounds of large vessels, accidental or intentional, as, when for any reason a part of the vessel must be sacrificed.

In dealing with the technique of suture of wounds of blood-vessels, the means of securing temporary hemostasis, the suture material to employ, and the manner in which the sutures are to be introduced should be considered.

Since operating on the case reported, in doing experimental suture of arteries on dogs, he has secured temporary control of the circulation by passing a loop of tape around the vessel and twisting it until the lumen of the vessel is closed, then holding the tape by means of an artery forceps applied close to the vessel. With this method, the wall of the vessel is not injured, and the ligature can be quickly removed after the suture is completed. This method also has an advantage over digital compression, in that it excludes from the field of operation the hands of an assistant that are in the way and may be a source of infection.

DR. KIERNAN referred to the possibility of embolism following the suturing of vessels, and asked whether in a case in which there was a thrombotic tendency suturing of the artery would not be contraindicated. It seemed to him that in suturing the carotid or vertebral artery in neurotic conditions there would be a slight tendency to thrombosis.

DR. HALSTEAD stated that theoretically it had been claimed that a mural thrombus forms, but actual experiments have shown that it is not so, even with through-and-through suture, and the formation of a thrombus does not occur except under very exceptional circumstances.

Therapeutics.

Treatment of Dysentery.

Dr. W. J. Buchanan, Superintendent Central Prison, Bhagalpur, Bengal, as noted in *Brit. Med. Jour.*, has employed the saline treatment in dysentery in 855 cases, with only 9 deaths. The formula he used is as follows:

R. Sodii sulphatis3i 4
Aque fœniculi q. s. ad.....3i 32

M. Sig.: One such dose to be given six or eight times a day, as the case may require.

The saline should be continued until every trace of blood and mucus has disappeared. This treatment will relieve the tenesmus. Dr. Buchanan advises the use of salines in acute cases only. He does not consider it a safe method for chronic or collapsing cases with ulceration of the colon. In those patients he uses only one or two doses and then continues to treat the case with soda and bismuth or with salol, with an occasional dose of castor-oil.

H. B. T. Symons, of Sorrento, Italy, in the same journal advises the following local treatment in the amebic variety of the disease:

R. Acidi tannici3ss 2
Aque destil.Oii 512

M. Sig.: Use as a douche every four hours. The water should first be warmed.

He states that he has found it of great benefit in rapidly diminishing the number of evacuations and speedily mitigating the distressing tenesmus. Hot hip baths are of value in relieving the abdominal discomfort and local smarting. This treatment with small doses of opium by the mouth, rest in bed, and a strictly milk diet comprises an outline of treatment which generally affords prompt and permanent relief.

It is recommended by Dr. Potilov in *Les Nouveaux Rem.*, that ichthyol be used in treatment of dysentery. He uses the following formula:

R. Ichthyoli3vii 28
Aq. destilOii 1024

M. Sig.: Use an injection every other day. An effort must be made to get the enema as high in the bowel as possible, when the pains will subside quickly. The enema should be preceded by a dose of oleum ricini.

Treatment of Measles.

The following combination is of service by aiding the elimination of the toxic substances and reducing temperature:

R. Potassii citratis3iii 12
Tinet. aconitim. vi 36
Spts. etheris nitrosi3iss 6
Syr. tolutani3i 32
Aque q. s. ad.....3iii 96

M. Sig.: One teaspoonful every three hours for a child of 6 years or older.

For the bronchitis the following:

R. Codeinæ sulphatisgr. iss 09
Syr. ipecacuanhæm. xxx 2
Syr. pruni virginianæ.....3ss 16
Aq. aurantii q. s. ad.....3ii 64

M. Sig.: One teaspoonful every two hours for a child 4 years of age or older.

A Dressing for Varicose Ulcers.

R. Glycerini
Zinci oxidi
Gelatin. (albus), āā..... 3i 32
Aque destil.3iii 96

M. Sig.: Heat in a water bath. Apply several coats with a brush to protect the ulcers.

A DUSTING POWDER FOR ULCERS.

R. Iodoformi
Salol, āā3ss 16
Bismuthi subnitratiss3vi 24
Pulv. earbo. ligni (charcoal)
Pulv. cinchonæ
Pulv. benzoini, āā.....3i 32

M. Sig.: To be used as a dusting powder.

Intensive Guaiacolization in Phthisis.

This is the title of a communication presented by A. Weill and Berger, at the International Medical Congress. They aim to administer guaiacol by every possible route. 1. A small rectal injection of a quarter of a glass of milk to which 40 or 50 drops of guaiacolized oil have been added. 2. Application of the same substance externally to the thorax every day, restricting the application to an extent of surface 8 by 10 cm. square, and passing to other portions of the thorax. 3. Guaiacol pills every three or four hours during the day only, made according to the following formula:

R. Guaiacol (synthetic).....gr. 1/6 01
Crys. terpin. hydratisgr. 1/3 02
Acidi benzoici.....gr. ss 03
Ext. belladonnæ
Ext. hyoseyami, āāgr. 1/600 0001

M. ft. pil. No. i. Sig.: One such every three or four hours.

This intense guaiacolization should be kept up for several months, suspending it for eight or ten days every three weeks.

A New Local Treatment for Erysipelas.

G. Lenox Curtis, in an article in *Med. Record*, states that he has derived very gratifying results from the external treatment of the disease by first cleansing the parts affected very thoroughly. A sufficient quantity of sodium sulphate is mixed with cold distilled water to make it of the consistency of a thick paste, the diseased part is covered with a single layer of the gauze or coarse cheese-cloth, and over this is spread a thick layer of sodium sulphate, care being taken that it extends considerably beyond the margin of the disease. Ice water must then be applied to the poultice to produce cold and moisture as well as to reduce the inflammation. He states that within six or eight hours, all the germs will have been destroyed.

TREATMENT OF ERYSIPELAS BY UNGUENTUM CREDÉ.

Max Stalber, as noted in *Med. Summary*, has used this ointment in erysipelas with success. The treatment consists in rubbing the ointment in with gentle friction over the affected and inflamed area. The rubbing should be continued for 20 or 30 minutes until the ointment is completely absorbed. Forty or fifty grains of the ointment can be used with each inunction for adults, and proportionate doses for children. The ointment contains about 15 per cent. of soluble metallic silver.

Spermatorrhœa.

R. Cornutinæ citratis.....gr. ii 12
Ergotin3ii 8
Ext. nucis vom.....gr. v 30

M. Ft. capsule No. xl. Sig.: One capsule twice daily. When spinal hyperesthesia is present:

R. Potassii bromidi3iv 16
Tinet. hyoseyami3iv 16
Tinet. nucis vom.....3ss 2
Syrupi zingiberis3ii 64
Aque camphoræ q. s. ad.....3iv 128

M. Sig.: One teaspoonful three times a day.—*Merck's Archives*.

Comparative Effects of Urotropin upon the Urine.

Dr. F. Suter, in *British Med. Journal*, has experimented with the following preparations in order to obtain some knowledge of their relative antiseptic properties upon the urinary tract: Benzoic acid 10 grains, boric acid 15 grains, salol 15 grains and 40 grains, and urotropin 15 grains. The preparation was administered at night and an examination was made of the first urine passed in the morning. The decomposition was retarded by several days only by large doses of urotropin and salol. It produces best effects in ammoniacal decomposition and is of value in disease of the prostate gland with consequent retention of the urine. It can be given in daily doses of 15 to 25 grains. It is not of great value in gonorrheal cystitis.

Treatment of Pneumonia.

Porter, in *Phila. Med. Jour.*, states that in his clinical work venesection is ordered as soon as the diagnosis is established. Usually from 8 to 12 ounces of blood will be sufficient. Immediately after this procedure, subcutaneous injections of salt

solution is administered. The solution is prepared according to Jennings's formula as follows:

R. Sodii chloridi.....	gr. xxx	2	
Potassii chloratis			
Sodii sulphatis, āā.....	3i	4	
Sodii phosphatis.....	gr. xl	2	66
Sodii carbonatis	3i	4	
Aq. destil. q. s. ad.....	3vi	192	

M. Sig.: Use one part of this solution to sixty of distilled water subcutaneously.

To Abort Pneumonia in Children.

Illoyay recommends the following:

R. Tinct. veratri viridis.....	gtt. vi	36	
Tinct. aconiti rad.....	gtt. ii	12	
Aq. destil.			
Syr. tolutani, āā.....	3ss	16	

M. Sig.: One teaspoonful every half-hour for five doses, then a teaspoonful every hour.

To Relieve the Pain in Carious Teeth.

R: Codeinæ sulph.....	gr. ½	03	
Ol. caryophylli	3ss	2	
Chloroformi	3ii	8	

M. Sig.: Soak a small pledget of cotton with the solution and place in the decayed cavity.

Gonorrhea in Women.

Dr. Marshall, in *Internat. Med. Mag.*, states that he has derived most satisfactory results in treating gonorrhea in women, from the use of tampons and pessaries. He advises against the employment of douches in these cases as being not only unsatisfactory but harmful, as douches may leave the cervix and upper vagina untouched. He prefers the pessaries made in one-inch test-tubes, of gelatin-glycerin as a basis. When ready for use the tube can be heated in hot water, when the pessary will slide out. This gradually melts when placed in the vagina. The active ingredient may be one of the following: Iodin ½ per cent.; ichthyol 2 to 5 per cent.; hydrargyri bichloridum 100 to 500; argouin 5 per cent.; lysol 2 per cent.; formalin 2 per cent. The best results have been obtained by him with iodine and ichthyol.

We should advise care in the use of formalin on account of the great tendency to irritate.

Medicolegal.

Eighty-five Hundred Dollars for Injury to Foot.—The Supreme Court of Washington holds, in the personal injury case of Uren vs. the Golden Tunnel Mining Company, that where a young man working in a mine had his foot mashed to such an extent that he had to have a portion of the bones of the foot removed, and, according to the testimony, was permanently maimed, it can not be said that a verdict in his favor for \$8500 damages was excessive.

North Carolina Provisions as to Care of Insane.—The Supreme Court of North Carolina, in the case of the State Hospital at Raleigh vs. Fountain, interprets the law of that state as showing that it was the paramount purpose of the legislature to care for the indigent insane, with the proviso that the board of directors of an insane asylum may, if there be sufficient room, admit other than indigent insane persons upon payment of proper compensation, and allowing the directors to furnish private apartments, extras, or private nurses, if practicable, for the use and comfort of those patients who are able to pay for it. Nor does it consider the law as thus written in conflict with the state constitution. The constitutional declaration, as amended in 1879, that "the general assembly may provide that the indigent deaf-mutes, blind and insane of the state shall be cared for at the charge of the state," it holds empowers the general assembly, in its wisdom and discretion, to provide for the indigent at the charge of the state or otherwise, and, being silent as to the expense to be borne by those of sufficient property, it must be concluded that it was not in-

tended that any requirement should be put upon the legislative department as to them. An indigent insane person it defines as an insane person whose property is insufficient to support himself and his family immediately dependent upon him.

Calling Physician as Witness a Waiver of Privilege.—The Court of Appeals of New York holds, in the case of Holcomb vs. Harris, that where, in an action against an executor, the latter called his testator's physician as a witness, and asked him a question calling for a disclosure of professional information, it was an express waiver of the provisions of section 834 of the Code of Civil Procedure, which forbids a physician to disclose necessary information acquired in attending a physician professionally, such as a legal representative is allowed to make by section 836 of the Code. It says that it is difficult to imagine a clearer act of waiver than for the legal representative of a deceased patient to call his former physician to the stand, and ask him to disclose professional information falling within the provisions of section 834 of the Code. Nor does it think that either court or counsel was misled in this situation, in this case, notwithstanding that the executor did not state in so many words that he desired or intended to exercise his right under section 836, as the other side contended that it was his duty to indicate.

Post-Graduate School Not Liable for Malpractice.—In the case of Collins vs. the New York Post-Graduate Medical School and Hospital, it appeared that the plaintiff, being ruptured on the left side, applied for admission to the defendant's hospital for the purpose of undergoing an operation, bringing with him a card from his own physician stating that fact, and giving the true location of the hernia. The house physician examined him and confirmed his doctor's diagnosis. The second day he was placed under the influence of an anesthetic, and the operation performed in the presence of the students, after a preliminary lecture to the class by one of the attending physicians. The operation was performed on the right side, which was in a perfectly healthy and normal condition, and the plaintiff was obliged to and did afterward submit to another operation at another hospital for the removal of the hernia diagnosed by his doctor. The surgeon who performed the operation on the wrong side had been subjected to a competitive examination before being accepted by the defendant's board of examiners, and, before that operation, was regarded by the defendant as skillful and competent. The defendant by its answer denied the negligence alleged, and asserted, by way of a separate defense, that its hospital was a charitable institution; that the medical and surgical attendance and ministrations furnished the plaintiff were furnished free; and that they were so accepted by him. True, he paid \$8 weekly, during the four weeks he was in the hospital, but the testimony showed that was a charge made those able to pay it for room, board, nursing, medicines, dressings, and the services of the house staff—everything except a medical fee, nothing ever being charged for medical services, though gifts to the hospital might be made in lieu of payment of such fees by emergency patients. Under these circumstances, the second appellate division of the Supreme Court of New York holds that the complaint was properly dismissed. It says that, however opinions may differ on the question of the policy of exempting charitable institutions from the ordinary rule of respondeat superior, or "let the principal answer," the law is too well settled in that state to permit a recovery against the institution for the wrong committed by the surgeon who operated upon the plaintiff gratuitously. While the precise question does not yet appear to have been passed on by the court of appeals, it has been decided adversely to the right of action a number of times at the circuit and the general terms. It says, too, that many of the cases cited from other jurisdictions in harmony with this view are authority for the proposition that the fact that the institution receives pay patients does not change its status as a charitable organization. And it holds that the fact that the defendant charged tuition fees, and that the operations were a necessary incident to successful teaching, and that in that sense the defendant might be said to have been paid for the operation, did not change the relation of the parties to each

other. In the performance of the operation, so far as the plaintiff was concerned, the defendant was engaged solely in charitable work; and its corporation must therefore be regarded as a charitable institution, as to him, in that respect. When it had furnished a surgeon selected with proper care, and with no reason to believe him to be negligent or incompetent, it had fulfilled its duty, and, as it did not control him in the performance of the operation, it must be held free from liability for his want of care.

Practice in Another State—Good and Bad Diplomas.—When the case of the State of Kansas vs. Wilson was first before it, the Supreme Court of Kansas held that a person of good moral character, who had practiced medicine continuously for ten years or more before the taking effect of "An act to protect the people from empiricism, and to elevate the standing of the medical profession" (chapter 68 of the Laws of 1870; sections 2302, 2303, General Statutes of 1899), is deemed to be qualified and to have complied with the provisions; but continuous practice for ten years in violation of law, after the act was passed, confers no right or authority on the practitioner. And now it holds, on the second appearance of that case before it, that it is no defense to a prosecution under the act to prove that the person charged with unlawfully practicing medicine in violation of its provisions has been, since the passage of such act, continuously engaged in the practice of medicine for a period of ten years or more in another state, as, for example, in Nebraska. The contention on behalf of the defendant was that, having practiced without the state of Kansas during a period of ten years, he could not be said to be one who had been engaged "for ten years in violation of law." But the supreme court answers that, in the absence of proof to the contrary, it will be presumed that the laws of the other state referred to (Nebraska) are the same as those of Kansas. Besides, it says, it is known of all men that throughout the civilized world schools, colleges, dispensaries, hospitals, and institutions for clinical instruction are maintained at public and private expense for the education of those men and women to whom are committed the responsible duty of ministering to the health and endeavoring to prolong the life of human beings. All, or nearly all, of these institutions issue certificates or diplomas reciting the term and course of study which has been pursued by the student therein. And those colleges whose curriculum includes a complete course of those studies which are regarded as requisite for a physician and surgeon to pursue do uniformly issue to one who has completed such course, and exhibited proficiency therein, a diploma reciting such facts, and evidencing that by reason thereof the graduate has been made a doctor of medicine. Wherefore, the court makes a point of the fact that in this case the defendant did not claim to have attended any of these schools of special learning, nor claim that he had devoted any time to the study of any of the branches of this learned profession, nor avow that in Kansas or elsewhere he ever submitted to an examination before a board of competent members of the profession which he sought to follow, and the court holds that the purpose of the statute would not be carried out, and the evident intent of the legislature would not be given effect, by holding it sufficient that he had practiced in another state for more than ten years. In such a case as this, it devolves upon the defendant, the court holds, to produce evidence tending to show that he has attended two full courses of instruction and graduated in some medical college in this or some foreign country, or a certificate of qualifications from some state or county medical society, as such evidence is not accessible to the state, and is peculiarly within the defendant's knowledge and under his control. To this, the court adds that if the defendant should show, on the new trial, which it orders because the judge usurped the functions of the jury in practically directing it to return a verdict of guilty, that he had attended two full courses of instruction, and graduated in some medical college of this or some foreign country, then, in the absence of some evidence raising a question about it, the presumption would be that such college was respectable. To avoid misunderstanding, however, with reference to the facts of this particular case, it says that it thinks

the trial court would have been justified, for reasons appearing on the face of the documents themselves, in excluding from the jury the paper, which counsel for the defense called a "diploma," issued by the so-called Independent Medical College of Chicago, and the other paper purporting to have been issued by a physio-medical society in Illinois (which latter was excluded), because neither of these papers proved, nor tended to prove, that the defendant had attended any course of instruction in either institution, or had graduated at either, and because neither of them can be regarded as a diploma, nor as such a certificate as is contemplated by the Kansas statute.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

New York Medical Journal, April 20.

- 1 *The Early Diagnosis of Ectopic Gestation. Andrew F. Currier.
- 2 *The Use of Hot-water Vaginal Injections. James H. Burtenshaw.
- 3 A Case of Cystinuria Ending in Recovery. John Reid.
- 4 *Acute Spinal Ataxia (Non-tabetic), and its Relation to Other Forms of Acute Ataxia. Charles L. Dana.
- 5 Pathology of Intrauterine Death. (Concluded.) Neil MacPhatter.
- 6 Grippe, Pneumonia, and Insanity. Emile Aronson.
- 7 Notes on the Treatment of Diphtheria, Based on the Methods of the New York City Hospital. William L. Somerset.

Philadelphia Medical Journal, April 20.

- 8 *The Localization of Brain Tumors Especially with Reference to the Parietal and Prefrontal Regions. Charles K. Mills.
- 9 *Non-Surgical Treatment of Fibroid Tumors of the Uterus. Augustin H. Golet.
- 10 Akromegaly, with Report of Two cases. W. G. Shallcross.
- 11 *A Clinical Note on Infantile Scorbutus. Wm. M. Mastin.
- 12 Susceptibility to Disease and Physical Development in College Women. Arthur MacDonald.
- 13 *Operative Treatment for Prostatic Hypertrophy. Ramon Guiteras.
- American Medicine (Philadelphia), April 20.
- 14 *How to Deal with the Vermiform Appendix. Some Forms of Complicated Appendicitis. Howard A. Kelly.
- 15 The Good and Bad Effects Obtainable from Digitalis Used as a Therapeutic Agent. William Henry Porter.
- 16 Congenital Deformity of Wrist; Osteotomy of Radius. DeForest Willard.
- 17 *The Logic of Hydrochloric Acid Therapy, Restoration of Lost Gastric HCl secretion by medical and Surgical Methods. John C. Hemmeter.
- 18 *Metatarsal Fracture. Carl Beck.
- 19 *Some Remarks on Inguinal Colostomy. William J. Mayo.
- 20 The Prevalence of Streptococci in Cow's Milk. D. H. Bergey.
- 21 Case of Congenital Form of Hernia of the Appendix Vermiformis in Conjunction with Cyst of the Canal. G. Childs MacDonald.

Boston Medical and Surgical Journal, April 18.

- 22 *The Opinion Evidence of Medical Experts. John D. McLaughlin.
- 23 The Umilian Murder. Herbert B. Perry.
- 24 Upon What Sort of Information Shall a Medical Examiner Hold a View? H. M. Culls.
- 25 *Leucocytosis and Typhoidal Perforation. Colin K. Russell.
- 26 Contusion of the Abdomen; No External Wound; Rupture of the Descending Colon; Fecal Abscess; Drainage; Suture of Ruptured Gut; Recovery. Charles L. Scudder.

Medical Record (N. Y.), April 20.

- 27 *The Toxemia of Pregnancy: Its Diagnosis and Treatment. S. Marx.
- 28 Faith Cures and the Law. John B. Huber.
- 29 Report of Three Cases of Malignant Endocarditis: One Following Measles, Another Typhoid Fever in a Child and Simulating Splenic-Lymphatic Leukemia, and another Terminating in Recovery. Albert E. Roussel.
- 30 *Strangulated Hernia in Infants; Description of a Hitherto Unrecognized Cause and Seat of Strangulation. Alexis V. Moschowitz.

Medical News (N. Y.), April 20.

- 31 An Historical Sketch of the Department of Medicine and Surgery of the University of Michigan.
- 32 *Some Errors in the Examination of Urine. Louis Heltzmann.
- 33 Acute Traumatic Malignancy. (Concluded.) William B. Coley.
- 34 Epistaxis. Charles N. Cox.

Cincinnati Lancet-Clinic, April 20.

- 35 Some Truths in Medicine. Brose S. Horne.
- 36 Thoracoplasty. Hal C. Wyman.
- 37 Old-Time Practice. Geo. J. Monroe.

St. Louis Medical Review, April 20.

- 38 *Indications for Operation in Floating Kidney. G. Frank Lydston.
- 39 The Treatment of Diphtheria. W. L. Downing.
Post-Graduate (N. Y.), April.
- 40 Wounds and Injuries of the Eye. Edgar S. Thomson.
- 41 A Foreign Body in the Bronchus Contrasted with a Case of Incipient Tuberculosis. William Henry Porter.
- 42 Tecto-Colonic Enteroliths and Concretions. Samuel G. Gant.
- 43 Indications for Renewal of Plaster of Paris Jackets in Tubercular Spondylitis. Dexter D. Ashley.
- 44 Report of Clinics (Convergent Squint, Diseases of Children). St. John Roosa, A. E. Davis, and Dr. Caille.
- 45 Case of Cerebellar Abscess, the Result of Chronic Suppuration of the Middle Ear. D. B. St. John Roosa.
- 46 Notes from the Clinics. (Hernia). W. B. De Garmo.

American Journal of Medical Sciences (Philadelphia), April.

- 47 *Primary Splenomegaly. With a Report of Three Cases Occurring in One Family. N. E. Brill.
- 48 *Enteroptosis. James R. Arneill.
- 49 *Estimation of the Urinary Sulphates and of the Fecal Fat in the Diagnosis of Pancreatic Disease. David L. Edsall.
- 50 *Premature Infants. Vanderpoel Adriance.
- 51 Contribution to Study of Fatty Infiltration of Heart Secondary to "Subpericardial Over-Fatness." J. M. Anders.
- 52 *Multiple Neuritis and Hematuria Following the Prolonged Ingestion of Trional. Stuart Hart.

Canadian Practitioner and Review (Toronto), April.

- 53 A Case of Tic. R. D. Rudolf.
- 54 Tendon Transplanting in Paralytic Deformities. Clarence L. Starr.
- 55 A Comparison of Antiseptics. E. Ralph Hooper.
- 56 Clinical Experiences with Chloretone and Mercurochrome. C. E. Darche.

Physician and Surgeon (Detroit and Ann Arbor), March.

- 57 *Some Reflex Disturbances from Disturbed Pelvic Mechanism of Genital Dislocation. Byron Robinson.
- 58 *Diabetes Mellitus: A Study in Therapeutics. George Dock.
- 59 A Basis for the Study of Insanity. Hiram A. Wright.

A SYMPOSIUM ON ENDOCARDITIS.

- 60 Etiology and Pathology. William M. Donald
- 61 Symptomatology. William R. Chittick.
- 62 Diagnosis and Prognosis. George W. Wagner.
- 63 The Treatment. F. Lydston Newman.
- 64 *A Medicolegal Study of Euthanasia. Noah E. Aronstam and Louis J. Rosenberg.

- 65 Better Compensation for Local Health Officers. Henry B. Baker.

Northwestern Lancet (Minneapolis), April 15.

- 66 *Pancreatic Disease. H. L. Staples.
- 67 If Operative Technique be Perfect, Can Sepsis Occur? George C. Barton.
- 68 *Blood Examination in Surgical Diagnosis. A. Elton Williams.
- 69 Operations for Relief of Epilepsy. F. A. Dunsmoor.
- 70 Report of a Case of Erysipelas Treated with Antistreptococcic Serum. F. M. Archibald.

Cleveland Journal of Medicine, March.

- 71 Congenital Dislocation of Hip-Joint with Especial Reference to Lorenz's Bloodless Reduction. Walter G. Stern.
- 72 My Experience with Some of the Surgical Diseases of the Thyroid Gland. Aug. F. House.
- 73 Aortic Aneurysm. F. C. Herrick.
- 74 Some Proofs that Vaccination Prevents and Mitigates Smallpox. Charles L. Webster.
- 75 Syphilitic Disease of Facial Bone. C. A. Hamann.
- 76 Persisting Fetal Type of the Appendix. N. S. Scott.

Brooklyn Medical Journal, April.

- 77 *Pediatric Malaria. William A. Northridge.
- 78 *The Treatment of Club-Foot. Arthur H. Bogart.
- 79 *The Present Status of the Thyroid Extract in Therapeutics. Hiram Elliott.

Medical Summary (Philadelphia), April.

- 80 Meckel's Diverticulum as a Source of Intestinal Obstruction. J. F. Purviance.
- 81 Receding Diseases. Frank R. Brunner.
- 82 Comments on Gelsemium. Ralph St. J. Perry.
- 83 Some More Don'ts. D. H. Keller.
- 84 Camp and Hospital Life Under Red-tape Rule. C. W. Canan.
- 85 Is Malarial Hematuria Produced by the Administration of Quinin? B. P. Wilson.
- 86 Treatment of a Case of Tuberculosis of Left Lung in First Stage. S. D. Sour.
- 87 Good Health. Geo. J. Monroe.

Cleveland Medical Gazette, April.

- 88 *Nephritis and the Nervous System. Henry S. Upson.
- 89 Etiology of Chronic Non-Exudative Nephritis. S. L. Bernstein.
- 90 Prognosis in Chronic Non-Exudative Nephritis. Norman C. Yarian.
- 91 Treatment of Chronic Non-Exudative Nephritis. J. B. McGee.
- 92 Spontaneous Fracture of the Humerus Due to Sarcoma, with History of a Case and Presentation of Specimen. H. W. Quirk.

St. Paul Medical Journal, April.

- 93 *The Differential Diagnosis of Acute Febrile Diseases which may Simulate Typhoid Fever. Henry Jackson.
- 94 *Death from Drowning. Howard Lankester.
- 95 *A Report of 245 Cases of Anesthesia by Nitrous Oxid Gas and Ether. Alice Magaw.
- 96 *General Massage. Haldor Sneve.
- 97 State Sanatoria for Consumptives. H. Longstreet Taylor.
- 98 Erosions and Ulcerations of the Triangular Cartilage of the Septum. Jacob E. Schadle.
- 99 Suprapubic Cystotomy, Tenotomy of Tendo Achillis, Recovery. Oscar A. Fllesburg.

Peoria Medical Journal, April.

- 100 Nasal Hemorrhage in Septicemia. William Niergarth.
- 101 A Case of Aortic Aneurysm. B. M. Stephenson.
- 102 Considerations Relative to Typhoid Fever. H. H. Fletcher.
- Canadian Journal of Medicine and Surgery (Toronto), April.
- 103 Some Successful Cases of Operation at the Samaritan Hospital, Montreal. (Ventrofixation, etc.) A. Laphorn Smith.
- 104 *Experiments in Climatology—The Tropical Winter. Ezra H. Stafford.

Occidental Medical Times (San Francisco), April.

- 105 *The Report of the Government Commission on the Existence of Plague in San Francisco.
- 106 Address, San Joaquin Valley Medical Society. W. J. Mauplin.
- 107 *The Etiology of the Skeletal Deformities of Rachitis. Harry M. Sherman.

- 108 Eye-Strain. L. E. Felton.

- 109 The Tuberculin Test. F. E. Twining.

American Medical Compend (Toledo, Ohio), April.

- 110 Hemorrhage After Removal of the Ovaries and Tubes; Malignant Disease of the Uterus; Pyosalpinx and Hydrosalpinx with Fibroid Uterus. E. E. Montgomery.
- 111 Gynecology—Its Range. Byron Robinson.
- 112 Sudden Profuse Hemorrhage Before the Birth of the Child and the Manner of Treating it, with Report of Three Cases. H. E. Noble.
- 113 The Treatment of Cystitis with Aminoform. W. W. Grube.

Merck's Archives (N. Y.), April.

- 114 Therapeutics of Ipecac. W. H. Blake.
- 115 *Atropin in Algid, Pernicious Malarial Fever (Congestive Chill). I. L. Van Zandt.
- 116 *Scalds and Dry Burns. A. D. Blinkerd.
- 117 An Essay on Opium and its Alkaloid Morphin, and Their True Value in Modern Therapeutics. Adolfo Luria.

Illinois Medical Journal (Springfield), March.

- 118 *Chronic Inflammation of the Tear Passages. Willis O. Nance.
- 119 *Rheumatic Diseases of the Eye. H. W. Woodruff.
- 120 Sympathetic Ophthalmia, with Reports of Cases. A. L. Adams.
- 121 Pneumonia. W. S. Caldwell.
- 122 *Relation of the Physician to the Public Schools. K. Miller.
- 123 *Mental Overwork and Lack of Interest in Physical Development and Hygienic Care of School Children a Menace to the Future of the Race. E. A. Edlen.
- 124 Diet, or Some Phases of It that Our Forefathers Did Not Have to Meet. W. J. Eddy.
- 125 Slight Ailments. L. L. Leeds.

Medical Herald (St. Joseph, Mo.), April.

- 126 *Intubation of the Larynx as an Emergency Operation. F. E. Sampson.
- 127 Treatment of Cancer by Escharotics. Chas. Ott.
- 128 Malaria and Mosquitoes on the West Coast of Africa. Hans Ziemann.
- 129 Hydrophobia—Report of a Case. A. Herring.

Alabama Medical Journal (Birmingham), April.

- 130 The Use of Forceps in Childbirth. Hugh Boyd.
- 131 Use and Value of Proprietary Medicines. S. M. C. Howell.
- 132 *Some Unusual Reflexes Resulting from Lacerations of the Cervix. W. G. Harrison.
- 133 *The Duration of Life. R. C. Bankston.
- 134 Acute Uremia Successfully Treated with Intravenous Saline Solution. J. M. Mason.
- 135 Vaccination in Alabama—What Does it Prove? W. H. Sanders.
- 136 Hypertrophic Elongation of the Cervix Uteri, with Complete Eversion of the Vagina from Fibroid Tumor of the Cervix. Restoration by Supravaginal Amputation of the Cervix and Inversion of the Vagina. George Henry Noble.

Denver Medical Times, April.

- 137 Neglect of a Great Opportunity for the Advancement of Medicine and Surgery in Denver. Henry Sewall.
- 138 Thoughts Suggested from an Attendance at the Pan-American Medical Congress. T. A. Stoddard.
- 139 Bad Effects (?) Following Vaccination. E. P. Hershey.
- 140 A Visit to Padua and Bassano. R. W. Corwin.
- 141 Amblyopia from the Use of Wood Alcohol. Edward Jackson.

Memphis Medical Monthly, April.

- 142 The Metric System in Prescription Writing. Wm. Krauss.
- 143 *Follicular and Perilurethral Abscess in the Male. William F. Bernart.
- 144 Urban Sanitation with Special Reference to the City of Memphis. Edwin Williams.
- 145 Suburban and Village Sanitation. B. F. Turner.

- 146 Adenoid Vegetations of the Nasopharynx and their Removal. George S. McReynolds.
 147 *Shall We Use Quinin in So-called Malarial Fevers? J. M. Williams.
 148 A Case of Endocarditis, Terminating in Embolism of the Cerebral, Pulmonary and External Iliac Artery. Robt. W. Tate.

AMERICAN.

1. **Ectopic Gestation.**—The symptoms which determine the diagnosis of tubal disease may be divided into ordinary and extraordinary. The ordinary ones are those of usual pregnancy at different periods. The absence of one of more of these, however, may mislead the physician. The point which Currier wishes to make is that when gestation occurs normally or abnormally it causes certain changes in the tissues, and a general condition characteristic of the pregnant state. These should be carefully sought. There are certain conditions which seem to predispose to tubal gestation and their etiologic importance should be considered when arriving at a diagnosis, such as retroflexion, precedent sterility, diseases or dislocation of tubes, bicornate uterus, previous tubal gestation, etc. These are noticed in detail. The most important of the extraordinary signs is hemorrhage. It is seldom externally manifest. It is most likely to occur and occurs most early if the seat of the ovum is in the fimbriated extremity of the tube, and is less likely to occur when it is near the middle. In the first case it rarely progresses to the end of the first month without rupture, and hemorrhage is frequently fatal. The comparative absence of tumor may mislead the physician, so that he may temporize until it is too late. In any other portion of the tube rupture is usually observed between the sixth and twelfth week and the signs of such tumor would usually exclude the fimbriated or terminal variety. It does not necessarily imply the complete rupture of the fetal sac with escape of its contents, but may be simply rupture of the blood-vessels and distended tissue. The signs of hemorrhage from tubal rupture are not easily mistaken, the weakness of collapse, flickering pulse, the pinched face, and the shallow breathing can have but one significance. Next to hemorrhage the most important extraordinary sign is pain, which is usually paroxysmal, sharp and darting, often associated with hemorrhage, though not always. The third sign is tumor, which is usually best determined by examination per rectum, the thighs being flexed upon the abdomen, and anesthesia is necessary in most cases. The passing of decidua by the vagina, uterine hemorrhage, etc., are of minor importance. In many cases the surgeon is not called until it is too late, and Currier doubts whether operation is justifiable, as a rule, in extreme cases, except as it is understood to be only a last resort. The diagnosis of tubal gestation is not always conclusive even when the abdomen is opened, tumor of the tube discovered and blood found. The case is not one of tubal gestation unless the fetus is found within or without the tube or a microscopic examination of the mucosa reveals the presence of decidual cells.

2.—See abstract in THE JOURNAL, XXXV, p. 1572.

4. **Acute Spinal Ataxia (Non-Tabetic).**—The summary as given by Dana, of his article, is as follows: Acute ataxia occurs occasionally in tabes dorsalis, but is associated usually with characteristic symptoms. Acute non-tabetic spinal ataxia occurs as a manifestation of spinal syphilis or senile arterial changes, and shows itself by a sudden onset of temporary motor weakness and bladder troubles, great ataxia, and minor sensory disorders. It may affect only one extremity, but usually affects the lower limbs. The tendency is to nearly complete recovery. Acute bulbar or bulbocerebellar ataxia occurs as a sequel of some acute infection, and is usually the beginning of a form of multiple sclerosis. Acute neuritic ataxia occurs as the results of multiple neuritis of the sensory type. It is seen usually in the non-alcoholic forms of neuritis, especially those due to metallic poisons, like arsenic, or to diphtheria.

8. **Brain Tumors.**—From a number of cases here reported Mills deduces the following: The diagnosis of the existence of a brain tumor can sometimes be made even in the absence of most of the general symptoms, such as optic neuritis, headache, vertigo, and vomiting, chiefly by the close study of localizing

and invasion symptoms. Emotional states, even hysterical stigma, are sometimes present in cases of brain tumor, and must not be given too much weight in differential diagnosis. Tumors of the posteroparietal region, and especially of the superior parietal lobule (parietal of Wilder), give as their most important localizing symptoms disorders of cutaneous and muscular sensibility, and especially astereognosis; other symptoms often present in such cases are the result of compression or invasion of adjoining regions. Tumors and other lesions implicating the angular gyre, and the regions adjoining (the subparietal, first temporal and mediooccipital convolutions, give as their main localizing symptoms word deafness and word blindness, with the usually accompanying speech disturbances, lateral homonymous hemianopsias and disorders of cutaneous and muscular sensibility, including astereognosis. Although it is possible that these disorders of sensibility in the case cited may have been dependent upon invasion of the superior parietal lobule. Just as the centers for hearing, vision and speech are more highly differentiated in the left hemisphere, so it is probable that the stereognostic sense is more highly evolved in this hemisphere. A tumor strictly confined to the motor regions does not give objective sensory phenomena of a persisting character; the localizing symptoms of a growth so situated are motor, chiefly paralysis and monospasm, with also exaggerated deep and superficial reflexes. In tumors of the motor sub-cortex tonic spasticity is usually a marked symptom. Paresis or paralysis, and exaggerated reflexes, with monospasm or unilateral convulsions, may also be present. Tumors of the prefrontal region, by which is meant the region entirely cephalad of the motor zone, chiefly give psychic symptoms of an especial character; when the tumor is situated on the left side, motor agraphia (or orthographia) and motor aphasia are usually present because of the compression or invasion of the posterior portion of the second frontal and of the third frontal convolutions; paralysis and other motor symptoms are often present late because of encroachments upon the motor region.

9. **Uterine Fibroids.**—The class of tumors where non-surgical treatment may be supposed to suffice are fibroids and myomatous growths of the interstitial variety, which have not obtained sufficient size to cause the uterus to rise in the abdomen above the umbilicus. Goelet believes in active measures in the arrest of these growths, even when they give no marked symptoms though non-surgical treatment may be a necessary alternative when operation is refused. He thinks that electricity in its various forms may have a certain palliative effect, and some observations have led him to believe that the moderate-sized interstitial fibroids may disappear under the influence of electricity aided by such remedies as iodine, ergot, etc. In this latter respect he has changed his views formerly expressed.

11. **Infantile Scurvy.**—Several cases of infantile scurvy illustrating the troubles of diagnosis, etc., are reported by Mastin. They show that the errors in diagnosis are not confined entirely to rheumatic affections, but may involve the incorrect diagnosis of surgical disorders, tubercular bone lesions, etc., spinal diseases and even hereditary syphilis. They also show that scurvy may arise during the use of several of the most popular artificial or prepared foods, and in addition that it occurs in the use of sterilized milk.

13. **Prostatic Hypertrophy.**—Guiteras believes the Bottini operation the one of choice where there is damage to the kidneys, while prostatectomy may be performed with healthy kidneys, and if the prostate is of a large size, as felt per rectum. He describes the technique of the Bottini operation, and also a method of prostatectomy by perineal enucleation, which he thinks is of great value. The bladder is first washed out with boric acid solution, through a catheter allowed to remain *in situ* and plugged when the bladder has been well distended and pushed up to avoid perineal folds. The abdominal wall having been cut through above the symphysis, the fingers of the left hand are thrust into the prevesical space where the prostate can be felt between them. The plug is now removed from the catheter. The fluid drawn off, the bladder collapses, after which the catheter is withdrawn. A staff is now introduced through

the urethra, a perineal urethrotomy performed, the membranous urethra being cut through the apex of the prostate at which point the prostatic capsule is incised. The forefinger of the right hand is inserted between the capsule and the gland and enucleation commenced, counter-pressure being brought to bear by the index and middle fingers of the left hand in Retzius's space. Having thus enucleated the prostate, control of the gland by the fingers is almost as complete as if it were in the bladder. After the lobes have been enucleated through the perineal opening, a large perineal tube should be pressed up into the bladder, and drainage kept up for three weeks or more. This avoids a suprapubic opening, which is less simple and more dangerous. The after-treatment consists in an enema of a pint of hot saline solution at 120 F., to be retained, administration of 1/30 gr. of strychnia, and the application of hot bottles to the feet; all this for shock. After the patient comes out from under the effects of ether, a little hot water, soup or bouillon should be given, and water pushed *ad libitum*. Strychnin should be given every four hours hypodermically, and it is well to repeat a hot saline enema every four hours with bouillon or water by the mouth. It is well, before and after the operation, to give a urinary antiseptic, and a diet of milk up to two or three quarts a day. The bowels should be moved by some saline water on the second day.

14. Appendicitis.—Kelly recommends the cutting off of the appendix at its base in cases where it is diseased and densely adherent at its tip. The distal freed portion is wrapped for protection in a bed of gauze, while the opening in the bowel is sewed up and is later dissected out of its bed with much greater facility than when both ends are anchored. This is especially the case when it is attached to a pyosalpinx or ovarian or fibroid tumor. When it is imbedded in strong old adhesions, he detaches the organ at its base and catches the free end with a pair of artery forceps and circumcises it just below the forceps, going through the peritoneal and external muscular coats. A longitudinal incision including only these two coats may also be carried down the dorsum as far as visible, and the appendix is now stripped out of its bed by pulling it out; if it begins to break, it is grasped again by the forceps and stripping continued. There is often no bleeding, and when there is, it is easily managed. When the end of the appendix enters an abscess cavity surrounded by adherent intestines which can not be stripped off with safety, he has grasped the appendix close to the abscess, with a pair of forceps on either side, then split it open and followed its lumen as a guide by using a grooved director and pair of open scissors with one blade in the appendix. In this way he has been able to reach the abscess and open, clean it out and sterilize it without doing any damage to the intestines.

17. Hydrochloric Acid Therapy.—Hemmeter holds that the supplementing of HCl in deficient secretion is rational, even if we can not supply the deficit, because the amount necessary thereto could not be expediently administered. If we can not give sufficient HCl to make the chyme distinctly acid, we can at least add enough to exert a disinfecting influence and free it from a part of its germs, and perhaps produce some of the preliminary stages to peptone. He reports the case of a physician who suffered from extensive stomach dilatation with absence of HCl, which was unimproved by treatment until the operation of gastropliation was performed. This was done successfully and then free HCl was detected after the test meals. The glandular layer had not been destroyed by the disease, but the peptic cells had simply been exhausted, and when this condition was remedied and the normal amount of functions restored their normal secretions was recommenced.

18. Metatarsal Fracture.—After first calling attention to the probable nonrecognition of many cases of this condition and the symptoms of neuralgia, metatarsalgia, etc., that may follow, Beek points out the different methods of treatment for the different forms of this fracture. If there is no displacement present in the fracture of any of the second, third or fourth bones, simple plaster-of-Paris dressing meets all the requirements, the patient being kept in bed the first week, and later a solid plaster-of-Paris dressing from the toes up to the lower third of the leg being used. If the first or fifth

metatarsus is broken and no displacement is noticeable, a small strip of moss-board, slightly moistened, is placed alongside the outer or inner margin of the foot before the plaster-of-Paris dressing is applied. The ambulatory dressing should not be chosen for this type before two weeks. If there is displacement of the second, third or fourth metatarsal bone in either direction, up or down, pressure will usually reduce the fragments and they are easily kept in place by coaptation splints, preferably also consisting of moss-board and protected by plaster-of-Paris dressing. If the displacement, however, is sideways, the reduction is somewhat more difficult. It is best accomplished by grasping the fragments as firmly as possible near their epithelial ends and alternately turning and shifting them until reposition is perfect. Sometimes considerable counter-pressure is required. To hold them in place is still more difficult and there is danger of consolidation between the bones with functional impairment. Experience has taught him that metacarpal fragments are invariably held in place by elastic pressure. The same principles apply to metatarsal fracture. He therefore uses rubber drainage-tubes of moderate size lightly pressed into the adjoining interosseous space at the dorsum, so that they fill them up to a certain extent. These are kept *in situ* by adhesive plaster strips, and recurrence of displacement is prevented. The dorsum is surrounded then by a moss splint which adapts itself to the foot like a cast. Plaster-of-Paris dressing is then used, reaching from the toes to the lower third of the leg. The patient then remains in bed for ten days, after which ambulatory dressing is applied. When skiagraphed through the plaster-of-Paris dressing, the displaced fragments must be found in exact position. If not they must be replaced and redressed. He thinks that with this method, metatarsalgia and its companion affections will become very rare.

19. Inguinal Colostomy.—The following are the conclusions of Mayo's article: 1. Colostomy is not now a rival of excision of the rectum for malignant disease, and should only be employed in hopeless cases presenting obstructive phenomena. 2. For a permanent colostomy, the combination of Wyeth and Bailey's methods gives a satisfactory result. 3. Colostomy preliminary to excision of the rectum should be located high on the colon to give sufficient length of sigmoid to permit restoration of the continuity of the bowel. 4. For ulceration and other conditions in which the upper limit of the disease is not definitely known, the interior of the bowel should be explored through the inguinal incision in order to determine the proper site of the opening. 5. Right-sided colostomy has an increasing field of usefulness, as in amebic dysentery, chronic colitis, etc.

22. Opinion Evidence.—McLaughlin reviews the methods of opinion expert testimony here and abroad, and while he does not recommend the adoption of continental methods, he thinks the reform must be to make the expert the partisan of neither side and that we should go back beyond the common law to Roman jurisprudence for the principles to follow.

25. Leucocytosis and Typhoid Perforation.—A number of cases are reported by Russell, from which he deduces the following conclusions: That leucocytosis occurs in perforation, but in widely varying degrees, and that the leucocytes, while appearing as a rule early, may not be at all marked until general peritonitis and collapse have supervened. There may be an utter absence of leucocytosis with marked perforation and peritonitis. The cells may be lower than normal, and with typical signs of perforation and a definite leucocytosis there may be no such complication present. Leucocytosis to a marked degree may occur in other complications, such as bronchitis, cholecystitis, etc., but with pain and tenderness, however, in the abdomen, coming on suddenly during typhoid, and in the absence of cholecystitis or other definite complications, a distinct leucocytosis, even without other symptoms of perforation, an exploratory operation is justifiable and advisable.

27. Toxemia of Pregnancy.—Marx's conclusions are as follows: 1. Toxemia of pregnancy is a complex condition depending on more than one factor. 2. Many women go to term with albuminuria, without symptoms referable to toxemia.

When such symptoms arise they are not caused by the albumin present, but by faulty urea secretion. 3. In the most desperate and malignant cases there is found neither albumin nor casts. 4. Urea is always found markedly diminished in the so-called true toxemias of pregnancy, or urinemias. 5. There should be a regular and methodical course of urea estimation in all cases of toxemia, or the relegation to secondary importance of the time-honored examination for albumin. 6. Progressive diminution of urea excretion, with or without albuminuria, is the sole indication for the induction of premature labor, which is especially indicated when conscientious medical treatment fails.

30. Strangulated Hernia in Infants.—Moschcowitz reports two cases which he thinks represent a hitherto unrecognized cause and seat of strangulation, viz., in the descent of the testicle the processus vaginalis may begin the shutting off of the normal tunica vaginalis, but the process may stop before it is entirely completed. The result will be a sac of the usual congenital variety, but constricted in the lower portion. He finds a case which appears to indicate this possibility, reported by Russell, and which seems to corroborate the findings in his own case here reported, though he has not found anything in the literature which positively thus accounts for the occurrence of this form of strangulation low down in the scrotum, which appeared in his case.

32. Urinary Examination.—Some errors in urinary examination are noticed by Heitzmann, such as assuming too much importance from the presence of albumin, which may be only a sign of the presence of pus corpuscles. A microscopic examination should be employed in addition to this test and this is not less important than the chemical examination. Hyaline casts are often described as being present when they are not; they are simply cylindroids or mucus-casts, that is, mucous threads resembling casts, which may be derived from any portion of the genito-urinary tract, and entirely independent of nephritis. Granular casts are often diagnosed from conglomeration of harmless bacteria on mucus. He also thinks the use of the centrifuge is productive of errors in this way. The diagnosis of nephritis does not necessarily depend upon the presence of casts: pus-corpuscles, red blood-corpuscles, and kidney epithelia are sufficient. The latter are never voided in healthy individuals, and if care is taken to look for pus-corpuscles, which are always the smallest granular corpuscles, mistakes can not be made.

38. Floating Kidney.—Lydston protests against indiscriminate operation in movable kidney, and advises a more conservative attitude. If the psychic disturbance in exceptional cases is such as to warrant operation, he believes that the operation of splitting the fibrous capsule, separating it from the cortex in such a manner as to fashion three or four triangular flaps to be stitched to the margin of the wound, with subsequent packing of the wound for three or four days with iodoform gauze and permanent suture on the removal of the latter, will give the most satisfactory results.

47. Primary Splenomegaly.—Three cases of enlarged spleen occurring in one family, and all in the same generation, have been under Brill's observation for fifteen years. There was enormous enlargement of the spleen and liver accompanied with profuse perspiration, tendency to hemorrhage, discoloration of the skin, conjunctival thickening, and nevertheless a comparative well-being and general comfort which does not seem to correspond to the condition. The cases can be easily distinguished from splenic anemia. The author does not attempt to give a thorough explanation of the condition, but suggests that it is a peculiar form of family disease characterized by enlargement of the spleen. When the physiology and pathology of the spleen becomes better known the pathology of these cases may be explained.

48. Enteroptosis.—According to Arneill this is an extremely common condition, seldom recognized or examined for by the average doctor, but a better knowledge of which will be of great worth to the profession and of untold value to suffering women. He describes the methods of examination, including palpation and auscultation, and use of the acid and

soda method of gastric dilatation with which he has been rather successful. He gives tabulated statistics of 80 cases, 69 women and 11 men. In 28 of these there was a high degree of gastric dislocation, the entire organ lying below the umbilicus. In 41 the prolapse was of a moderate degree. In a few cases there was both dislocation and dilatation. The stomach contents were analyzed and the blood examined in a number of cases. The symptomatology was extremely varied. In a few there were no symptoms other than loss of weight, strength and "just run down." In a much larger proportion nervous symptoms predominated, a depressed, excitable state with irritable and hysterical phenomena, often with palpitation. Some patients were nervous wrecks, and in another group there were, in addition to the neurasthenia, derangements of the kidneys and gastralgia. In nearly all chronic constipation and sick headache were constant symptoms. In most cases there were uterine displacements and some had mucous colitis, probably secondary. He thinks that there is no etiologic connection between enteroptosis and chlorosis. Gastric subacidity was more often present than hyperacidity. He considers congenital predisposition important, but not the direct cause: child-bearing, constipation, etc., are mentioned. As regards the prognosis and treatment the statements must be guarded. Operation is advisable in cases accompanied with hydronephrosis and Dietl's crises where we have purely mechanical disturbances resulting from kinking or twisting of the kidney vessels, which could occur only when this organ was dislocated. Abdominal bandages may help in some cases, and where the stomach symptoms are prominent, gastric lavage and the use of hydrochloric acid are useful if there is subacidity. Exercise and massage of the abdominal muscles are of great value, but seldom satisfactorily carried out. Tincture of nuxvomica has been of great value in many cases. There must be a great deal of individualizing in the treatment of the condition.

49. Pancreatic Disease.—Edsall reports two cases which seem to indicate that the reduction of ethereal sulphates may be a sign of value in the diagnosis of severe disease of the pancreas. This is not, however, conclusive, he thinks, and from a review of the literature he considers the test likely to be only an inconstant aid in the diagnosis and to be of real value only when positive. Even the positive results of the test would not always be conclusive since all varieties of ethereal sulphates have been observed as a result of hyperacidity, diarrhea, etc. He would not say, however, that it is entirely worthless. As to the importance of fatty stools in the diagnosis of pancreatic disease he considers the general clinical teaching that they are an indication of the condition. He quotes Osler's conclusions to the contrary effect and points out that Walters and others have demonstrated definitely that fatty stools can be seen in most cases of icterus in which the pancreas is entirely uninvolved. A case is reported as bearing on this point.

50. Premature Infants.—Adrianne gives the characteristics of premature infants, their defective organism, difficulty of raising them, and the indications in their treatment. The greatest task is the maintenance of animal heat and only careful watching and great attention to details will succeed. The incubator alone can not be relied on; we should have as nearly as possible the conditions experienced *in utero*. Every effort must be made to assimilate this environment. If possible it would be better to forbid any disturbance whatever, but the matter of toilet demands a certain amount of handling; the simpler the clothing, the fewer the pins, the less the manipulation the better. The food should be given in very small amounts. A weak digestible food with special precautions against overtaxing the stomach is the best. The mother's milk can not be depended on, but a wet-nurse should be secured who has had a healthy infant at full term, at least two weeks; or better a month old, so that the characteristics of the colostrum period may be lost in the milk. The weight should be recorded at rather infrequent intervals on account of the disturbance that might be produced. The attacks of cyanosis should be promptly treated by administration of oxygen and minimum doses of whisky, and if they seem to be caused by

the food finding its way into the larynx it should be promptly removed by inverting and patting the back. Small doses of castor-oil are necessary to prevent fecal stagnation in the intestines.

52. Trional.—Hart reports a case of trional poisoning in which the amount given was apparently not excessive, viz., 450 gr. during two months. The symptoms were at first those of gastrointestinal poisoning. Following this was an acute degeneration of the kidneys, and hematuria. The first of the nervous manifestations were neuritis of the vagus and subsequent trophic disorders of the heart muscle resulting in dilatation and valvular insufficiency. With improvement in the muscle tone these last disappeared, leaving a normal heart. Trophic changes such as extreme emaciation and marked thickening about the joints of the fingers persisted after recovery. The possible fatal effects should be kept in mind. Several cases from the literature are noticed. Hart is inclined to favor the theory that disturbance of the function of the kidney was secondary to changes in the nervous system, as the urinary changes did not appear until some time after the development of nervous symptoms, and probably after elimination of the drug. The cumulative action of trional as shown by Marro is remarked upon; it should not be given continuously and the bowels and kidneys should be kept active during its use.

57. Genital Reflexes.—Robinson describes the sympathetic nerves of the female genitals and calls attention to the reflexes which occur from their dislocation. He specially mentions the stomach reflexes, asthma, cough, etc. The general treatment, he thinks, must be long continued and systematic, and local treatment of the skin, bowels and kidneys employed. We should use vaginal douches, gradually increasing in heat to the bearable point, and employ the boroglycerin tampon three times weekly. It may take a long time to accomplish a permanent result, but the future of medicine depends on physicians accomplishing more by non-surgical methods. The universal rule is now to sacrifice only hopelessly diseased tissue.

58. Diabetes Mellitus.—Dock remarks in regard to the tests for sugar, and thinks that the copper reduction tests should not give as much trouble as they do, though they have many sources of error. A control test is, therefore, indicated, and he prefers the phenyl-hydrazin test. The directions given in the text-books are unduly complicated. He finds satisfactory the method used in Ultzmann's poliklinik and recommended by Williamson, viz., putting phenyl-hydrazin hydrochlorate and sodium acetate into a test-tube to the height of .5 centimeter each and filling the tube one-third with the urine to be tested, boiling to dissolve the reagents, repeating the boiling several times; then allowing the tube to stand fifteen minutes and examining the sediments in the usual way. As a further control, and as a convenient, and for clinical purposes a sufficiently accurate quantitative test, he uses the fermentation method. The determination of the presence of sugar, however, is only the beginning of the study of diabetes. The further details of carbohydrate metabolism, the relation of the glucose excreted to carbohydrates ingested and the existence and amount of glucose in serious cases independent of carbohydrates, must be known. We should watch for the appearance in the urine of such substances as acetone, diacetic acid, etc., which indicate intoxication foreboding diabetic coma; and for diacetic acid the ferric chlorid reaction of Gerhardt is fairly useful. For oxybutyric acid there is no easy method suitable for the purpose, but one will probably be found. It is important in all cases to use the Gerhardt test. All organs of diabetics must be thoroughly investigated at the beginning and at frequent intervals, always with the thought that the whole metabolism of the diabetic is different from that of normal man. The prognosis must always be guarded, the patients are obliged to avoid nervous strain, and regular habits of life and diet are important elements. The treatment, if there are no symptoms requiring medication, may be purely dietetic and should be arranged on the ground of carbohydrate tolerance, the idea being to give as much carbohydrates as may be assimilated without damage. The diet is of much wider range than formerly, and mild cases can frequently

get along with 100 grams of bread or its equivalent without discomfort. Fat in all forms, cheese, etc., are of value. A good rule before prohibiting or ordering any food is to ascertain the amount of carbohydrate contained to the proportion to be used.

64.—This article appeared in THE JOURNAL of January 12, p. 108.

66. Pancreatic Diseases.—Staples describes the symptoms of disease of the pancreas and holds that many cases loosely diagnosed as dyspepsia, biliousness and liver disease, and some of the cases diagnosed as chronic appendicitis, are really cases of pancreatic disease.

68. Blood Examination in Surgical Diagnosis.—The conclusions of Williams's article are, in substance, that the leucocyte count in inflammatory diseases is not reliable for determining the presence or absence of pus. It is of value: 1, in arriving at a preliminary diagnosis; 2, in prognosis; 3, as a guide to the course of pathologic or healing processes. The red count and hemoglobin estimation and observation of the character of red cells are often of value to the surgeon. The study of stained specimens is occasionally of value. Undue reliance upon special methods of diagnosis should be avoided, but it is incumbent on every practitioner to carefully observe and regard the progress of blood examinations in relation to diagnosis and prognosis.

77. Pediatric Malaria.—Northridge points out that the malarial germ, when it attacks a young child, produces different symptoms from those in the adult, as a rule. The quotidian instead of the tertian is the more common type, chill is often not readily detectable, the sweating stage is often absent or very slight, and the nervous system is especially liable to be affected, which is not the case with the adult. The older the child the more nearly do the phenomena approach the adult type, while the converse is also true. In infantile diseases where the diagnosis is in doubt and fever and periodicity are present, the presence of the hematozoon should be suspected. Quinin is the specific remedy, arsenic is next. Children bear both of these drugs very well.

78. Clubfoot.—Bogart believes in manipulating to relieve clubfoot, rather than in extensive operations, other than tenotomy of the tendo Achillis. He advises careful preparation of the part, as if it were to be a general operation, overcorrection and fixing by plaster-of-paris. He is satisfied that reduction by manual force readily applied, and retention by plaster-of-paris, is the best method, and when we add to this tenotomy of the tendo Achillis, and subcutaneous division of the plantar fascia, the great majority of cases can be satisfactorily treated and permanently cured. The open incision and tarsal resection and osteotomy he would reserve for those extremely rare cases which can not be corrected by other means. He doubts whether these occur under 12 years.

79. Thyroid Extract.—The experience with thyroid extract, reported by Elliott, leads him to sum up by saying that thyroid extract is a powerful alterative, possessed of some toxic properties, which may disappear under better methods of obtaining the drug. It has specially proven itself to be of value in the treatment of insanity, in those cases that are curable after the acute symptoms have passed away and there are beginning signs of chronicity. In other words, we should administer thyroid late rather than early in mental disorders.

88. Nephritis.—Upson discusses the relations of nephritis to certain symptoms, and believes that uric acid is the substance appearing in the urine which seems to be in close relation with nervous diseases, especially functional ones on the one hand and organic kidney diseases on the other. The relationship is a complicated one, the most of its problems still to be solved.

93. Diagnosis of Typhoid.—The febrile affections which may simulate typhoid, enumerated by Jackson, are febricula, which explains itself by its short duration, malaria, that may give difficulty in its estivo-autumnal type, and general tuberculosis, of all perhaps one of the most embarrassing forms, and in regard to which he says a case of continued fever with pro-

tration and rapid pulse and absence of Widal reaction should always arouse the suspicion of some hidden focus from which the agent of tuberculosis has invaded the system. Pneumonia may also run a rather latent course and the diagnosis may be difficult when lobar pneumonia complicates the early stages of typhoid. Cerebrospinal meningitis is another disease which, as is well known, may give rise to difficulty. Typhus fever is mentioned, and especially septic conditions, including those connected with appendicitis. Malignant endocarditis is possibly equal in importance to general tuberculosis in the differential diagnosis of typhoid fever. Its initial symptoms are often obscure and indefinite, the pulse is rapid, chills are frequent, but are combined with leucocytosis, which is not the case with uncomplicated typhoid. The physical signs from the heart may determine the diagnosis. Petechiæ occur in about one-third of the cases, and may be a clinical phenomenon to clinch the diagnosis of doubtful cases of typhoid with cardiac murmurs. The Widal reaction is not reliable in the early stages of the disease, and may not always be available, but leucocytosis occurs in all forms of sepsis and is available before the positive Widal reaction.

94. **Drowning.**—Lankester holds that death from drowning rarely occurs from asphyxia, and it is not scientific to say that the victim died of cramps or convulsions. In all probability he met his death from the absorption of some uneliminated material which may or may not have been formed partially or wholly during his immersion. The water is merely a mechanical factor in the process, not the direct cause, apart from the fact that it brought about faulty elimination, hence the failure to resuscitate the patient. So-called drowned people do not come to their death, except in a few cases, by water acting in a mechanical manner, hence resuscitation in these cases of so-called accidental drowning after prolonged immersion is so rare, while in those who have simply fallen in and the lungs have not become damaged by the churning of the liquid, it is the rule. This question of toxins is merely a theory, but he thinks it is the best explanation of death by drowning.

95. **Anesthesia.**—Magaw advises the use of nitrous oxid and ether in combination as having the following advantages: The initial excitement is avoided, which is a great comfort to the patient. The time for producing anesthesia is also considerably shortened and the amount of ether required greatly diminished.

96. **Massage.**—After describing the various methods of massage, together with the Swedish movements in the beginning of the treatment, Sneve says that its physical effects are generally increased metabolism in all the tissues, increase of the temperature temporarily, frequency of respiration, body weight, number of red blood-corpuscles, increase and changes in the character of the urine; toxic substances are set free for elimination, and it is of special value in improving mal-nutrition from any cause. To relieve insomnia, prevent atrophy, hasten convalescence, favor elimination and as a reconstructive it is also of value. It is useful in diseases of the blood, such as anemia and chlorosis, and wherever nutrition is below par it acts as a tonic and reconstructive. He concludes with the following special points to be observed: The treatment is usually given but once a day, but may be employed with advantage in the morning and at bed time. Always cover up each limb well after it has been manipulated. Do not use, as is recommended by some authors, an alcohol or other bath after massage, because you will be defeating the purpose of the whole treatment; when the treatment has been given in the morning and the patient wishes to be relieved of the cocoanut-oil or other fat, this should be removed an hour or two afterward by means of a little bay rum, eau de Cologne, or alcohol on a rough towel. Avoid unnecessary talking. Do not use enough force or hurt your patient.

104. **Jamaica as a Health Resort.**—Stafford's article is a description of Jamaica and a recommendation of it as the best locality in the Caribbean as a health resort. Among the advantages he recommends the stability of the government and the conveniences of modern civilization which are largely absent in other neighboring regions.

105. **The Plague.**—This is the complete report of the Gov-

ernment Commission on the plague in San Francisco, which appeared in THE JOURNAL for April 20 and 27.

107. **Rickets.**—Sherman considers structural weaknesses in the bone the cause of the skeletal deformities of rachitis. The active cause is muscular action or too great superincumbent weight or pressure. The bone always yields in the direction in which the greater force is working, and this is often determined by the natural shape of the bone, the tendency being to increase normal curves. In some cases there is hypertrophy of the deformed bone to antagonize the deforming force. Symmetrical deformities are characteristic.

115. **Atropin.**—Van Zandt, in his early practice, met with congestive chills in the malarial regions, and on failure of the ordinarily recommended treatment reasoned that if he could render the cold, blue and moist skin of his patients red, hot and dry, it would possibly have a good effect. Belladonna occurred to him as an agent suitable for trial, and he used it with success, later substituting atropin sulphate. He gives 1/60 gr. of atropin, and more in twenty to thirty minutes if no visible effects are produced, in some cases supplementing these with strychnia. Under this medication, he finds that reaction occurs and vomiting and purging ceases, generally in a few minutes.

116. **Burns.**—The first indication when called to treat a burn is to relieve the pain, and Binkerd finds the best agent for this purpose is a mixture of carbolic acid and glycerin; 1 part and 2 parts respectively. He says it may be applied to any burn with the best results; the pain will disappear in five minutes. He has had a large experience with these injuries, and he would apply this preparation, thoroughly rubbing the dressing on several times in the twenty-four hours, paying attention to the excretions and secretions and using careful cleanliness. After the angry swelling has begun to subside he changes to an anti-septic ointment composed of yellow wax, 1 oz., and olive-oil 3 oz., heated together, and then a dram each of carbolic acid and bismuth subnitrate with 2 to 4 drams of tannin thoroughly incorporated in the ointment. He applies this on a small piece of lint, warm, after first dusting with tannin and subnitrate, equal parts. He claims this is the very best and most satisfactory method of treating extensive and painful burns.

118.—This article appeared in THE JOURNAL of February 9, p. 363.

119.—Ibid., xxxv, p. 1086.

122.—See abstract in THE JOURNAL, xxxiv, p. 1491.

123.—Ibid., p. 1490.

126. **Intubation.**—Sampson's article insists on the importance of intubation and gives directions and illustrations how to make and use the apparatus, together with a table of dimensions for the tubes. He makes his tubes, in cases of emergency, out of lead or solder, pieces of wood, bamboo pipe-stems, or any substance which can be shaped and hollowed out to suit.

132. **Cervical Lacerations.**—Harrison calls attention to some peculiar reflexes observed by him in connection with lacerations of the cervix. Cases of supraorbital headache, of lumbago, of nausea, of palpitation, of choking sensation whenever the patient attempted to walk and aggravation by every irritation of the lower lesion of the cervix are reported. These were all relieved by operation and treatment.

133. **Duration of Life.**—Bankston reviews the life expectancy tables and the average duration according to occupation, and discusses the chances of longevity under ordinary conditions. He asks what should be the normal duration, and using the period required for maturity as a basis, which according to biologic investigations, he says, would be one-fifth of the total, he maintains that the average duration of life should be 130 years if all conditions of vitality for longevity could be observed and all intercurrent abuses and exposures overcome. The greatest achievement in the twentieth century will be the demonstration of definite laws for increasing the duration of life by eradicating all diseases, blemishes, degeneracies, crimes, etc.

143. **Periurethral Abscess.**—The special essential point emphasized by Bernart, in regard to follicular and periurethral abscess, is to make sure of the diagnosis, for a follicular abscess may closely simulate a chancre or a gumma; he refers to

occluded abscesses that do not discharge freely. He says we should try all the mechanical means available to produce an opening of the occluded duct or an absorption of the deposit, but never await the breaking of a follicular abscess, as the destruction of the tissue is greater, or it may break both externally and internally or may rupture internally and point backward, thus favoring urinary infiltration. We should open through the urethra, if possible.

147. **Quinin.**—Williams finds fevers in his section of Arkansas, where the attack commences with chills and frequently high fever, which do not react to quinin though they are commonly called cases of malaria. He thinks they are not malarial fever. He has practiced medicine in this region of the country for fifteen years, and for twelve months in each he has tried to cut short or cure a case of this fever with quinin and has always failed. Lately he has not used quinin and his patients get along better.

Tuberculosis.—The following corrected formula is inserted at the request of Dr. O. A. Fliesburg, whose article was abstracted in *THE JOURNAL* of April 13, p. 1074. It was copied verbatim from the *Northwestern Lancet*, which has since made the same correction:

Ol. Iodo-Bromo-Phosphori Comp. Steriliz.

R. Iodi puri cryst.....	1 50
Bromi puri	0 50
Phosphori puri	0 25
Thymolis	
Mentholi, āā	2 50
Guaiacoli	1 25
Ol. Morrhuæ, steriliz.....	50
Fiat sol. secundum artem.	

FOREIGN.

British Medical Journal, April 13.

The Saline Treatment of Dysentery. W. J. BUCHANAN.—The author published, in a previous issue, Feb. 10, 1900, a note on the results of the treatment of dysentery by salines, in 555 cases with only 6 deaths; 300 more cases have since come under his observation in the Central Prison, Bhagalpur, Bengal, making a total of 855 cases with 9 deaths. The results are better than those of the previous year. The average stay in the hospital was about eleven days, though many might have been discharged earlier, if it had been thought best. There is little to add to his remarks previously made. He used, throughout the year, the following mixture: Sulphate of sodium, 1 dram; aquæ fœniculi, ad 1 ounce, given four, six or eight times a day, each dose representing 1 dram of the saline. No dose was repeated on the following day until the stools had been inspected. The treatment was continued until every trace of blood and mucus had disappeared, which was generally the case in two or three days. In some cases they returned in three or four days, necessitating repetition of the treatment. He advocates this method for acute cases only, and does not deem it safe with chronic or relapsing cases with ulceration of the colon. Considering the fact that the death-rate among the natives, from dysentery, is usually given as from 30 to 37 per cent., its reduction to about 1 per cent. is certainly a favorable showing.

Resistance of the Larval Mosquito to Cold. M. J. WRIGHT.—Mosquitoes, it appears, occur abundantly in Aberdeenshire, Scotland. Wright has observed three species of the *Anopheles* and three of the *Culex*, which appear in great numbers from the middle of August to the middle of October, and are just as vicious as those in the tropics. The *Anopheles bifurcatus* and *Culex nemorosus* are the worst, while the *Culex annulatus* could not be induced to bite. The favorite feeding-time was late in the evening, but the *Culex nemorosus* was ready for business any time. The *Culex pipiens* and *Anopheles bifurcatus* would occasionally start blood-sucking on dull days or in a shady place in the woods. The observations were specially made, however, to test them in different climatic conditions; he found the larvæ under ice, active, in the latter part of October, and under the snow in pools in February. Most of the adult insects that he had in captivity died in the cold weather, and he is inclined to believe that the

larva is the condition in which they pass the winter. The larvæ that changed into pupæ late in November, December and even January, died before completing their metamorphosis, and it appears that Scotch mosquitoes do not bear cold weather well. As regards the statement that the adult mosquito hibernates during the winter, he finds no actual proof of it. The larvæ, he thinks, continue the species without hibernation, and can be searched for and found with greater ease than the hibernated mosquito in out of the way corners. He believes that the best method of destroying the larvæ is not the intermittent application of coal-oil, but the suspension of a vessel containing the kerosene over the water and arranging for the discharge of the oil drop by drop. This is most advisable in accumulations of water near dwellings that can not be drained off or filled in.

The Practitioner, April.

Physiology of the Ductless Glands. JOHN ROSE BRADFORD.—Glands may be described as having one or more than one of three functions: they may elaborate an internal or an external secretion or an excretion, the distinction between the last two being usually quite as marked as between the first and second. Some glands confine their activity to the production of external, others, like the thyroid and suprarenal, of internal secretions. Further investigations may show still greater activities. Many glands have not only an external but also an internal secretion, like the liver, the glycogenic function of which is essentially of the nature of the internal secretion. The kidney is the most obvious excretory gland, though there is a possibility of other functions. Any secretory gland may under certain circumstances excrete, as the salivary glands, iodid of potash, and the liver may excrete toxic substances. In pathologic conditions this may occur to a large extent. In many glands the phenomena are under the control of the nervous system and this specially applies to external secretions and is best observed in the salivary and sweat glands. There are also other glands where there is probably a nervous control, where we have no conclusive evidence of it. The relation of vascular change to secretion is intimate, though it is independent of the process of secretion. In cases of internal secretion the nervous system acts less plainly, but there is evidence that it has its influence as in the case of the so-called diabetic puncture of the fourth ventricle affecting the liver. The external secretions are generally substances having a physiologic action, frequently ferments. The excretions of the gland are generally of no future use to the economy, though there are excretion processes with physiologic action besides, as, for example, the activity of the sweat glands influencing the bodily temperature. Internal secretions, apparently are required for the physiologic activity of certain specific tissues of the body, and their existence is clearly established, in the suprarenals and thyroid, which fact has thrown a great light on the pathology of diseases of these organs. There are, however, many things to be worked up in regard to this, for example, the function of parathyroids in exophthalmic goiter. The removal of the parathyroid tissue experimentally, in spite of its small bulk, has the same fatal effects that follow complete removal of all thyroid tissue, though it does not seem to contain the colloid material, which contains the essential product of thyroid activity. Bradford thinks, in spite of all difficulties, the most plausible explanation of Graves' disease is that it is due to hypersecretion of the thyroid. As regards Addison's disease, it is impossible to get a complete explanation as the pathologic effects of the suprarenal are not known. The glycogen excess of the liver and the relation of the pancreas to glycosuria are also mentioned, but this only serves to show more clearly how complicated the problem of internal secretions are. Brown-Séquard many years ago considered that the kidneys had an internal secretion, and it does seem evident that the renal tissues may have some other functions than those of mere excretion, but the evidence of an internal secretion is not conclusive. We can not fully explain the pathology of uremia, and modern experimentation would seem to show that it does not result from the mere retention of morbid urinary constituents, but that it is in some way associated with proteid disintegration. The possibility of internal secretions of

the sexual glands is also mentioned, though other possibilities of the effects of their removal being produced in some remote or not understood way through the intermediation of the nervous system are also remarked upon.

Therapeutic Uses of Thyroid Extract. GEORGE R. MURRAY.—The function of the thyroid is to form an internal secretion, the colloid material; it is discharged from the alveoli to the lymphatics and is conveyed to the general blood stream. This secretion plays an important part in the general metabolism, which is impaired when the supply is absent or insufficient. The thyroid or thyroid extract is of value in the treatment of those conditions due to destructive diseases of the thyroid gland. The different ways in which this may be used are mentioned, but Murray thinks that the official preparations are preferable. Advanced cases of myxedema are now seldom met with since thyroid treatment has been adopted for the condition. The treatment here is divided into two stages: In the first the object is to get rid of the symptoms and restore the patient to health. In the second it is to keep him in the normal condition, and this necessarily lasts as long as the normal thyroid supply is maintained, even the whole life of the patient. He prescribes, as a rule, in the first stage only small doses, gradually increasing them to about 10 or 12 minims of liquor thyroidei, or 2 gr. of dry thyroid daily, and continues at this dose until the symptoms of the disease have disappeared. During the second stage as a rule 1 dram of liquor thyroidei a week is sufficient. Cretinism is a condition treated on much the same plan as myxedema and the earlier the better. He uses 1 minim of liquor thyroidei daily for each year of the child's age up to 10 or 12 years. In certain cases of goiter, especially the simple parenchymatous type in adolescents and young adults, thyroid treatment is very useful. Here it seems that the thyroid becomes hypertrophied in response to the demand for an increased supply of its secretion. By thyroid treatment we relieve it from some of its work and check hypertrophy. The soft parenchymatous goiter can in the majority of cases be reduced to two-thirds, one-half or even one-third of its former size, and this is usually sufficient to remove the dyspnea and lung discomfort. In some cases treatment fails; if no diminution is observed at the end of two months further treatment is probably useless. The symptoms of thyroidism are described and exophthalmic goiter discussed at length. It is a condition in which thyroid treatment is especially contraindicated. Thymus extract can be given with perfect safety, but its results are somewhat negative and opinion differs as to its utility. In one case treated by Murray, in which the patient took three thymus tablets a day for nine months, there was great improvement. Bramwell has found decided improvement from thyroid treatment in certain diseases of the skin, psoriasis for example, and it is useful in ichthyosis, though relapses may occur. In obesity it is useful as an adjunct to dieting, but can not be relied on alone. In some cases the dieting treatment fails without it. In many cases of insanity, even aside from those connected with myxedema, thyroid is often of value. The results of Easterbrook, Macpherson, and others are quoted. Lastly the author mentions Beatson's suggestion of treating inoperable carcinoma of the breast by the removal of the tubes and ovaries, combined with thyroid administration, and the good results also obtained without the operative treatment by thyroid by Page and Bishop. It seems probable, he thinks, that some 20 per cent. of the cases of inoperable mammary carcinoma are benefited by the combined treatment, though after the menopause removal of the ovaries does not seem to be so important. In these cases the doses of thyroid extract should be increased until distinct signs of thyroidism are produced. We have no evidence that this treatment is of any use in carcinoma of other organs.

The Chemistry of the Thyroid in its Physiologic and Pathologic Aspects. ROBERT HUTCHINSON.—The chemistry of the thyroid is noticed by Hutchinson, who finds iodothyryn the only physiologic active constituent. It is difficult to account for the iodine in the organism, it is also difficult to say whether it is essential to the activity of iodothyryn. He concludes that if its presence is essential it is not through virtue

of its being iodine, but by reason of the peculiar form of organic condition in which it occurs. As regards the physiologic action of iodothyryn, he concludes that it can not be regarded as the ideal antifat remedy, because, instead of causing fat to be consumed alone or largely, it produces early destruction of the proteid tissue. When one reflects on the minute doses of iodothyryn which are capable of producing such profound effects on metabolism, one is filled with astonishment and tempted to suppose that it exerts its influence through the nervous system rather than directly through the tissues. There is, however, no proof of this beyond its influence on the general metabolism; no specific action of thyroid on any special organs in the body has been proven. What becomes of iodothyryn after it has affected its work is hard to say. It is possible that it may be used, taken up and used over again, but it may be excreted, as a trace of iodine can be detected in the urine after thyroid administration, and symptoms of thyroidism have been observed in nursing infants whose mothers were being thus treated. The toxic symptoms of thyroidism are held by the author to be due more probably to some other product produced in the increased metabolism that the thyroid induces. As regards goiter, chemical investigation has not thrown any light on its pathology, but in myxedema the case is different. Myxedema is a disease in which the general metabolism is sluggish and the effect of the thyroid is to stimulate it. The physiologic action of iodothyryn explains the therapeutic action in this disease. The hyperthyroidization theory of exophthalmic goiter is not the one endorsed by Hutchinson. No one has yet succeeded in producing Graves' disease even by enormous doses of thyroid. Neither can we assume that it is producing an abnormal secretion of unusual potency, for investigation of the colloid matter from the enlarged thyroid in Graves' disease fails to show any marked departure from the state of health; and its administration experimentally and clinically is not attended by any symptom indicating increased toxemia. Parathyroids also contain iodine. He believes that the accumulated evidence seems irresistible that it is to the removal of the parathyroids that the nervous symptoms ordinarily associated with general thyroidectomy are due. It seems more probable, however, that they are concerned in the removal of something from the blood, rather than adding something to it. Administration by the mouth does not combat the symptoms resulting from their removal, nor does their administration have any beneficial effect in myxedema, and they have been found entirely inert in cases of insanity. Removal of the thyroid alone probably causes myxedema, while removal of the four parathyroids produces the acute tetanic symptoms observed after so-called experimental "thyroidectomy." The symptoms of myxedema can be explained by the absence of iodothyryn from the blood. The symptoms of parathyroidectomy are not susceptible of any satisfactory explanation as yet. The chemical evidence is, on the whole, opposed to the over-action theory of the thyroid of exophthalmic goiter, but whether the parathyroids play any part in the production of that disease, chemistry is not yet in a position to decide.

Annales de Dermatologie (Paris), March.

Ducrey's Bacillus and Humanized Media. LENGLET.—It is almost impossible to cultivate Ducrey's bacillus from the primary simple chancre, but it can be accomplished by inoculating a second chancre on the thigh. The bacilli cultivate readily from the pus of the second lesion. This measure is unnecessary, however, and superfluous, as microscopic examination alone is sufficient to determine the presence of the bacillus. It is a coccobacillus, isolated or sometimes surrounded with a glairy substance which fastens the bacilli together in clumps or chains.

Early Pupil Symptoms of Acquired Syphilis. SULZER.—Out of 53 syphilitics examined, 14 exhibited the anomaly which Sulzer believes he is the first to note. Visual acuity and light-perception are practically normal, and the symptom, the lack of associated reaction on the part of the pupils, is evidently due to a lesion of the motor part of the peristaltic are which occasions the contraction of the pupil under the influence of light and of near fixation. In 12 of the 14 patients, the pupil

reaction to light was weak or absent, while convergence was normal. This peculiarity is characteristic of the Argyll-Robertson sign, but differs from the latter as the pupils were of medium diameter or much dilated in all the syphilitic patients. In one case the pupils did not react to light nor in convergence, and in another, the lack of associated reaction was the reverse of that in the Argyll-Robertson sign; light reaction was retained while convergence did not occur. Accommodation was normal in all. This distinct and constant dissociation distinguishes the disturbances observed from internal ophthalmoplegia. It also explains why this anomaly has passed unnoticed. The vision being undisturbed, it attracts no attention. All of the patients were in the first year of syphilis, the majority in the third month. The duration of the symptoms is less than that of internal ophthalmoplegia, the course averaging four to six weeks. In one case the dilated pupil was immovable, but accommodation was intact.

Urinary Formula in Dermatoses. GASTOU.—For several years Gastou has been studying the urinary formula in cutaneous affections, and, comparing the results he has obtained with those of other investigators, he finds that in acute, non-medicinal dermatoses the specific gravity of the urine and the chlorids are increased, while the urea and phosphates are diminished. In chronic dermatoses with nervous or cachectic manifestations, the specific gravity, the urea and the phosphates are diminished, while the chlorids are increased. In bullous dermatoses all the elements are generally diminished, but during exacerbations there is considerable modification of the proportions between these elements. In the secondary stage of syphilis and at the period of tertiary visceral lesions, all the elements are increased except when the nervous manifestations induce a decrease of all the elements excepting phosphates which are increased. Subnormal acidity and subnormal amounts of phosphates are the rule in dermatoses. Investigation of the acidity is facilitated by the fact that, as it is mostly due to acid sodium phosphate, titration with calcium saccharate does not require any staining reagent. The normal formula is for the density, corrected to 15 C., 1.017; total acidity in SO_4H , 0.849; phosphoric acid in PO_5 , 2.083. Fifteen different cutaneous affections were studied and hypoacidity and hypophosphaturia found the rule. The therapeutic indication is therefore to increase the acidity and the phosphates. Cautru, from his study of hypoacidity in arthritis, advocates the following medication: 1, increase the fluids ingested, avoiding alkaline waters; 2, increase the phosphates by taking 3 gm. of sodium phosphate in a glass of water on awaking; and during the two principal meals, a teaspoonful of a solution of medicinal phosphoric acid, 17 gm. in enough distilled water to make 250 c.c. The dose is increased by a teaspoonful after four days, until by the eighth day a table-spoonful is being taken. This treatment should be kept up two or three weeks and the urine examined every month. To prevent digestive disturbances with pain 1 gm. of precipitated calcium carbonate can be taken two hours after meals, in water.

The Blood and Urine in the Course of Alopecia. JACQUET and PORTES.—Fifty-nine cases of alopecia areata were examined, and it was found that the maximum of disturbances in the hair growth, correspond with the maximum of disturbances in the urine and blood, in the majority of cases. A marked hyperchloriduria was also discovered, corresponding to a marked hypo-chloridemia in the advanced cases. The results of this research indicate that persons affected with alopecia are suffering from an actual dechloridation, and this fact taken in connection with the tonic and beneficial action of injections of salt solution indicates that alopecia areata is a local trophic disturbance grafted on a general trophic disturbance, and is in fact a mere episode on the surface of this profound dystrophy.

Annales de la Soc. Med.-Chir. de Liege, March.

Bacteriology of the Lungs. L. BECO.—The blood was found sterile in 21 out of 50 cases of pneumonia examined by Beco, and in only 9 was pneumococcemia evident. In two mild cases a few scattered pneumococci were found in the blood. These facts, taken in connection with the results of research on the bacteriology of the lungs, indicate that while the lung

may be the portal of entry for infection, it is not favorable to its development. Beco has previously shown that virulent pneumococci may live in the lungs without determining any appreciable lesion. He points out the fact that these and other bacteria living harmlessly in the lungs may invade the surrounding organs postmortem. Bacteria found in various organs on autopsy do not necessarily originate in the alimentary canal, as has been generally assumed.

Gazette Medicale de Paris, April 6.

The Bacillus of Articular Rheumatism. P. ACHALME.—The bacillus which Achalme described in 1891 is probably, as a rule, an ordinary saprophyte. Under the influence of fatigue or cold, the blood becomes favorable for its development, and it passes by way of the circulation to the heart muscle where it locates, the activity of the muscle furnishing it with the culture-medium it prefers. It may propagate in the serous membranes of the endocardium or pericardium and in the pleura, even before the articular manifestations. The latter by their symmetry, their mobility, and their occasional sudden disappearance with complete restitution, indicate that they are not directly microbial, but are due to the toxins generated by the bacilli ensconced in the primary focus, the heart muscle. There is a sort of eruption on the synovial membranes consecutive to the carditis, like the sore throat of scarlet fever. The carditis may exist without articular complications. The bacillus causes an actual process of putrefaction in the living tissue, the products of which are probably amido-acids, as *in vitro*. Sodium salicylate combines with the most important of this group, glycolic, and is eliminated as salicyluric acid. This fact suggests an explanation of its heroic action in acute articular rheumatism as well as in other non-infectious rheumatic manifestations. The bacillus is of the same size and shape as the anthrax bacillus and the septic vibrio. It is anaerobic, takes the Gram and the Claudius stains and requires a temperature above 21 and below 45 C. The sporulation is ovoid; not so terminal as that of the tetanus bacillus. It grows on milk with production of gas, and coagulates into a small clot, pitted with holes from the action of the bubbles. It induces an acid fermentation at the expense of the carbohydrates, but never sporulates in an acid medium. If a rabbit is inoculated with 2 c.c. of a culture of the bacillus, it usually dies in four or five days with serous effusions in the pleura and pericardium, but it is impossible to find any of the micro-organisms in the fluids or tissues. A smaller dose kills a young rabbit in thirty-six to forty-eight hours, with a pronounced infection of all the organs. The results of bacteriologic examination of patients are positive in some cases and negative in others, but before accepting the negative findings milk or bouillon should be copiously sewn with small cubes cut from the myocardium.

Journal de Medecine de Bordeaux, March 24.

Lumbar Puncture in Case of Cerebral Tumor. J. ABADIE. A woman of 42, with intense headache from an assumed cerebral tumor, but no fever, was treated in vain with the usual remedies to relieve the pain. The only respite obtainable was after large doses of bromid and chloral. About 25 c.c. of cerebrospinal fluid were withdrawn, followed at first by an aggravation of the headache and nausea. By the next day the headache, and soon after the optic neuritis, had permanently disappeared. Abadie is inclined to try lumbar puncture henceforth in all cases of headache from any source, rebellious to other measures. The disappearance of the optic neuritis from stasis, after the puncture, is another argument in favor of the theory that this neuritis is due to hydrops of the sheath of the optic nerve.

Journal des Sciences Medicales de Lille, March.

Salt Solution in Severe Burns. A. BESSON.—The blood becomes very much modified in case of extensive burns with phlyctenae and blisters, principally in the loss of fluidity and the resulting tendency to coagulation. This functional paralysis of the blood causes the retention and accumulation of toxins in the circulation and general intoxication. Persons who die from extensive burns succumb with symptoms resembling those of uremia. The subcutaneous injection of salt solution restores fluidity to the blood and water to the dehydrated tissues, raises

the blood pressure, stimulates the nutritional changes, modifies the visceral circulation and frees the blood and the tissues of the toxins elaborated in general metabolism, and the waste products, the elimination of which is checked or arrested in consequence of the nutritional alterations in the emunctories. The amount should be at least 1000 c.c., repeated twice a day or even oftener if necessary. The formula which Besson has found successful in a number of severe cases is 8 gm. of sodium chlorid to 1000 gm. of water.

Semaine Medicale (Paris), April 10.

Paresthetic Meralgia and Flat-Foot.—J. PAL, of Vienna, calls attention to the fact that in eight cases of paresthetic meralgia he found the affection coincident with an incipient or developed flat-foot, dependent in its turn on a rapid increase in the weight of the body.

Centralblatt f. Chirurgie (Leipsic), March 23.

Application of Fracture Bandages. F. BAEHR.—By applying a broad bandage around the limb at the point of fracture, if the two ends of the bandage are crossed to the right and left, exactly parallel, traction on the ends during extension of the limb will pull the displaced stumps of the shaft into the corrected position. The bandage thus applied works much better than the fingers for the purpose. It can even be applied in this way through a plaster cast, by leaving an aperture for the ends of the bandage, which can then be tied, with traction, over a slat. Baehr relates several instances in which the stumps would not consolidate in the normal position after many trials. Application of the bandage curd described resulted in complete normal consolidation in twenty-two days or less.

March 30.

Muscle Flap for Large Hernia. SALISTSCHIEFF.—A large hernial orifice the size of a man's fist was closed by two muscle flaps cut in half the thickness of the rectus muscle, above and below the aperture, and turned over on it, still attached at the base, 2 cm. from the edge of the defect. The flaps were sutured together and formed a solid muscular wall over the aperture. In another case the defect was the size of a man's head, in the lower right inguinal region. One long flap was cut in the rectus, attached below, and was twisted over to cover the defect. The results have been extremely satisfactory.

Dermatologisches Centralblatt (Berlin), April.

Bromin and Tannin for Pruritus. M. JOSEPH.—Bromin has an anesthetic, and tannin an astringent action on the skin. The combination produces a salve which is very effective in all forms of pruritus, according to Joseph's tests and experiences during the last twelve months. He uses a dibromotannin jelly, about 20 per cent. bromin to 40 per cent. tannin, known as bromocoll and first suggested by H. Brat. The alkaline secretions of the skin enhance the action of the salve, which has considerable disinfecting and healing power. It never produced symptoms of irritation in subacute or chronic processes in his experience. He uses a 10 to 30 per cent. jelly and found the local and general effect prompt and most gratifying, especially in cases of lichen, urticaria and cutaneous neuroses.

Deutsche Med. Wochenschrift (Berlin and Leipsic), April.

Diffuse Peritonitis After Appendicitis. E. SONNENBURG.—During the years 1894 to 1897 only 25 patients out of 61 with peritonitis from appendicitis in Sonnenburg's service, survived. It was the progressive, fibrino-suppurative variety in 28, with 64 per cent. recoveries, and diffuse, ichorous suppurative in 33 with 21 per cent. recoveries. He reports since 1897, 54 recoveries in 89 patients, including 71 per cent. recoveries in 53 cases of fibrinous, and 44 per cent. of 33 cases of ichorous peritonitis. He attributes this favorable record to his practice of operating within twenty-four hours, whenever possible. He incises in the cecal region and, instead of draining, tampons extensively, his "apron tamponade" keeping the abdominal cavity well open. He rejects irrigation as liable to cause shock and favor paralysis of the intestines. Spontaneous, continuous pain and its increase under pressure speak for the ichorous variety. In dubious cases under expectant treatment, morphin should be given in very small doses so as not to mask the symptoms.

Three Extraperitoneal Tumors. C. HELBING.—The first tumor was a cyst containing ciliated epithelium. It had developed in the cavum Retzii, possibly from relics of the parovarium. The second was a cyst in the vicinity of the tail of the pancreas, springing from the retroperitoneal connective tissue, probably a sarcoma. Both patients were women 43 and 60 years of age respectively. The third patient had a papillary, partially cystic adenocarcinoma in the region of the kidney, with no connection with any retroperitoneal glandular organ and which was traceable to no embryonal germ.

Two Cases of Urogenital Coli-Bacillosis. W. KARO.—The colon bacillus was found pure in the pus in the epididymis in both cases. There was concomitant enteritis in each case and both troubles vanished together, suggesting a connection between them, although there had been preceding gonorrheal affection in one case. It is impossible to decide whether there had been originally infection of the urethra and bladder or whether it occurred through the prostate and seminal vesicles or through the blood. The testicle was much involved in both cases and the disturbances commenced acutely with considerable temperature and intestinal disturbances. One patient was a man of 65, and after a comparatively mild stage, evidences of a severe general infection became apparent. This exacerbation may have been due to a suddenly augmented absorption of toxins or to an overloading of the organism with bacteria, which the body disposed of without the production of metastatic affections and which appeared only once, as the focus of the acute lesion was removed with the ablation of the testicle and epididymis. The primary benign phase may have corresponded to the purely inflammatory, suppurative stage and the exacerbation to disturbances in the circulation and necrosis. The other case was more chronic. There was a history of syphilis and gonorrhea in 1895, the next year a second gonorrhea with bilateral epididymitis which was cured after five weeks of hospital treatment. In 1898 a urethral discharge commenced and resisted all treatment until April, 1900, when the patient took a strong purgative and two days later the right testicle became swollen, with much fever and severe pains. The prostatic and seminal secretions contained the colon bacillus pure as in the first case, and it was also derived from the scrotal ulceration by puncture. The latter subsided after the puncture and the enteritis also yielded to calomel. The two cases show that the affection may become threatening at any moment, although the early stage is benign. This suggests the query whether castration should be proposed to the patient earlier in this than in other affections of the testicle, to forestall general infection. Karo thinks this is unnecessary so long as there are no indications of suppuration in the genital glands, and the patient has no serious subjective symptoms. He must be kept under constant supervision and an incision made on evidence of fluctuation or if severe subjective symptoms supervene, or if the fever keeps up unduly long. If the patient's condition still remain threatening, castration should be the last resort.

Wiener Klinische Rundschau, March 31.

Intraperitoneal Rupture of the Bladder. KRABBEL.—There are only 40 cases of extraperitoneal rupture of the bladder on record, and 152 intraperitoneal ruptures. The differentiation of the two varieties is difficult. It is assisted by rectal palpation under narcosis and a tetanic tension of the abdominal wall. The latter is pathognomonic of an intestinal lesion and also of an intraperitoneal rupture of the bladder, at least in the first few hours. In one case the rupture was both intraperitoneal and extraperitoneal. Dittrich states that a "box sound" in the bladder region, just above the symphysis, indicates a rupture of the bladder in the extraperitoneal portion of the organ. This deep sound is heard after catheterization, probably due to the entrance of air through the catheter. Peritonitis appears about forty hours after the rupture into the peritoneum. The symptoms are much less severe in case of an extraperitoneal rupture and the infiltration of urine is more evident, in most cases. The operation should not be deferred an hour. The incision should be longitudinal and the peritoneum detached and sutured, transforming the intraperitoneal

into an extraperitoneal lesion in which the chances of recovery are far more favorable. Berndt advises incising the bladder to locate the rupture, if necessary. In a personal case reported, Krabbel was erroneously led by the quantity of blood-stained urine voided by catheterization, to assume a mere lesion of the mucosa, but symptoms of peritonitis the fourth day indicated an intraperitoneal rupture. He operated at once, tamponned and cured the patient. He is inclined to believe that an intestinal loop must have been adherent near the spot of the rupture, which partially occluded it and checked the outflow of urine. The small amount remaining in the bladder was absorbed by the peritoneum during three days without disturbance.

Horseshoe Kidney. J. PREINDLSBERGER.—This anomaly was noted by the writer six times in the course of 1344 autopsies. In five the kidneys were united below and in one above. Each is illustrated. Four of the subjects were adults; no evidences of renal trouble had been noted in any case. In one case a third renal branch of the aorta emerged from the aorta 1 cm. above its lower fork, and passed to the lower portion of the right kidney.

Wiener Klinische Wochenschrift, March 7.

Differentiation of a Diverticulum in the Esophagus. W. ZWEIF.—Systematic rinsing out of the diverticulum is the only means to prevent stagnation of food in it and consequent disturbances. Faradization, sounding and all other measures are useless, according to Zweig's experience. The cardiospasm causing the so-called idiopathic dilatation of the esophagus, on the other hand, should be treated by systematic, repeated sounding, and the atony of the esophagus dispelled by local faradization. The existence of a diverticulum is frequently suggested by the anamnesis, and study of the sounds made in swallowing shows that the second sound is absent or much modified. The diverticulum can be easily diagnosed by inserting two stomach-tubes with several perforations at the tip. The first almost inevitably finds its way into the diverticulum. When the second is then introduced, it passes directly into the stomach. The capacity of the diverticulum is determined by estimating the amount of stagnated food evacuated from it. The same quantity of a solution of methylene blue is then introduced through the first sound into the diverticulum, where it remains. Slowly withdrawing, then, the second tube—which has passed into the stomach—not a trace of the blue fluid will be evacuated through it, and the tube will not be stained with the blue at any point. In case of a mere dilatation of the esophagus, on the other hand, the colored fluid will pour out from the top of the tube as it enters the esophagus, and the stain will be conspicuous at the tip.

Auto-Observation of the Elimination of Acetone. SCHUMANN-LECLERCQ.—The tests on the author in sound health, which are described, extended over a period of two or three months at the same season of the year in two consecutive years. The results confirm the assumption that the transformations of fat in the body are the principal if not the only source of the acetone eliminated. Carbohydrates diminish the amount of acetone eliminated, by their pronounced inhibiting influence on the transformation of fats.

Infiltrating Carcinoma of the Bladder. J. ENGLISH.—The chief points in the differentiation of infiltrating, from other varieties of carcinoma of the bladder, are the even, exceptional hardness of the bladder walls and the limited capacity of the organ. The infiltrated portion feels like a hard, tough plate, and the bladder, whether full or empty, seems distended and unusually solid, like a youthful bladder. The early, severe pains are also significant. They may be neuralgic in character and radiate to the small pelvis and sacral region, or to the kidneys. Urination is painful and the desire exceptionally frequent, with no relief after emptying the bladder. The urine at first is normal, later becomes cystitic, and finally purulent with numerous coagula. The persistence of these characteristics, unmodified by treatment, is also an important sign in combination with the persisting pains, relief from which can be obtained only from powerful doses of narcotics. Tenderness of the spine or other bones, and numerous metastases, speak for a

carcinoma of the prostate. The patient usually applies to the physician for relief from supposed persisting catarrhal symptoms. The neoplasm is then too far advanced for more than a palliative operation. Legueu is the only surgeon who has succeeded in curing a patient thus affected. Albarran has reported seven operations, none successful. The extensive infiltration and adhesions with adjacent organs render the operation peculiarly difficult. If necessary the ureter can be implanted in the sigmoid flexure, or an abdominal fistula can be made to spare the patient the pains of micturition. In the two personal cases reported, a slight difficulty in urinating had been noticed for years, with occasional pain in the sacral region. After a severe cold, micturition became intensely painful and accompanied by hematuria. Pains soon appeared in the renal region and in one case death occurred four months later. The patient was a man of 69. He was unable to tolerate a permanent catheter.

March 28.

Pathology of Migraine. M. SIVLE.—A careful study of the condition in his own case has convinced Sivle that the connection between migraine and epilepsy is extremely close, even hinting that the future may prove that migraine is an epileptic seizure without convulsions, and epilepsy merely an advanced stage of migraine. He considers it established that a unilateral alteration of the cortex is the indispensable prerequisite, entailing a pathologic susceptibility to chemical influences. The uric acid diathesis, tuberculosis, anemia and similar chronic nutritional disturbances prepare the soil on which the abnormal chemico-toxic effects develop. Besides this, certain agents affecting the brain directly may be the means by which an attack is precipitated, for instance, strenuous mental effort, stimuli affecting a single sense, as strong perfumes affecting the sense of smell, street noises, the hearing, a dazzling light, the sight, irritation from nasal polypi, etc., and digestive disturbances which irritate the brain by the toxins poured into the blood. The "Flimmerscotoma" or temporary partial amaurosis which precedes migraine, in at least half the cases, is usually crossed in respect to the following pain. It is probably due to the action of the toxin on the cortex. As the cortical cells dispose of or eliminate the toxin and return to their previous condition, the toxic elements, leaving the cortex, have to pass the pia, and induce swelling and hyperemia which in turn irritates the nerves and induces the pain. Migraine is therefore a pain in the pia mater. It is usually localized in the temples as the temporal regions are peculiarly susceptible to toxic influences, as shown in the headache after drinking liquor.

Rivista di Patologia Nervosa e Mentale (Florence), January.

Modifications of Nerve Cells in Acute Intoxications. M. CAMIA.—The various phases of functional activity of the nerve cell are probably accompanied by many slight modifications in its anatomic structure, not sufficiently marked to induce any change in its structural physiognomy. In experiments on twenty-four dogs and a number of rabbits and guinea-pigs, injected with large doses of convulsive and narcotic drugs—strychnin, cocaine, etc.—the alterations produced in the course of these acute intoxications were comparatively slight and probably reparable. They are evidently due to disturbances in the nutrition of the cell rather than to any functional perturbation. They differ but slightly in the diverse intoxications, varying only in degree, independently of the symptomatology of the intoxication.

The Efferent Cerebellar Routes. F. ORESTANO.—In experiments with dogs who had had the cerebellum removed, actions which are habitually automatic, such as walking, etc., were only possible when the animal exerted its will for each step of the process. If the animal's attention was diverted, it fell over. From these and similar experiences, Orestano concludes that the cerebellum not only presides over the automatic movements in general, but enters largely into the mechanism by which they are produced. The cerebellum relieves the brain of all trouble in regard to habitually automatic actions, with great economy of nerve force and advantage to the higher intellectual functions.

The Nervous System the Anatomic Counterpart of the Vascular System. A. RUFFINI.—Apathy's recent discoveries of a fine network of fibrils beyond the supposed terminals, are confirmed and amplified by Ruffini, who is *Libero Docente* of normal histology at the University of Siena. He believes that this discovery completely demolishes the neuron theory, and establishes that the nervous system is the exact anatomic counterpart of the vascular. The terminals should rather be called "expansions," as they are not the terminations of the nerves. He shows that the delicate ultraterminal fibrils of the sensory nerves branch from Meissner's corpuscles and tend always toward the subpapillary layer to which they seem to be limited. They have no myeline sheath and apparently constitute a system independent of the motor fibers. He thinks he has reason to assume that these ultraterminal sensory fibrils communicate with the sympathetic nerve fibers, thus forming a nerve circuit in the sensory sphere, like the circulation in the vascular system or the electric circuit of a battery. He believes that there are two circuits, one through the motor fibers, in which the sympathetic is not concerned, and the other through the fibers and ultraterminal fibrils with the co-operation of the sympathetic, the small corresponding to the pulmonary, and the large to the peripheral, circulation.

Cronica Medica Mexicana (Mexico), April 1.

Life is Proportional to the Lymphogenesis. J. B. HERNANDEZ.—This communication presents arguments to prove that the lymphatic system is the most important of all in the economy, and that the blood is merely a part and a continuation of the lymphatic apparatus. So-called inflammation is lymphatic thrombosis. The lymphatic apparatus is the source of life, and here we must seek for the hidden secret of the cause of existence, the remedy of many diseases and possibly new resources for prolonging life. Potassium iodid has the property of rendering the lymph more fluid when it is abnormally coagulable, and the administration of this substance in innumerable cases of adenitis, bronchitis, incipient pneumonia, catarrh of respiratory and genital organs, rheumatic pains, etc., has promptly cured the patients in twenty-four to seventy-two hours, sometimes with complete restitution in less than a day. The success of this treatment indicates that the disturbances were due to a lymph thrombosis on which develops later, unless checked, the process of ordinary inflammation. Tuberculosis, syphilis and many other affections are attributed by Hernandez to the lymphatic system, and the importance of the latter explains the benefits derived from infusion of salt solution in infections.

Books Received.

Acknowledgement of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review as dictated by their merits, or in the interest of our readers.

HUMAN PLACENTATION. An Account of the Changes in the Uterine Mucosa and in the Attached Fetal Structures, During Pregnancy. By J. Clarence Webster, B.A., M.D. (Edin.), F.R.C.P.E., F.R.S.E., Professor of Obstetrics and Gynecology in Rush Medical College. With 233 Illustrations. Cloth. Pp. 126. Price, \$3.75 net. Chicago: W. T. Keener & Co. 1901.

AN INDEX OF SYMPTOMS as a Ciew to Diagnosis. By Ralph Winington Leftwich, M.D., Late Assistant-Physician to the East London Children's Hospital. Second Edition. Cloth. Pp. 267. Price, \$2.00. New York: Wm. Wood & Co. 1901.

TWENTY-FIFTH ANNUAL REPORT OF THE MANAGERS AND OFFICERS of the New Jersey State Hospital at Morris Plains, for the Year Ending Oct. 31, 1900. Paper. Pp. 79. Trenton, N. J.: MacCrellish and Quigley. 1900.

PROTECCION CUARENTENTARIA de la Isla de Cuba. Por Arthur H. Glennan, Cirujano del Servicio de Hospitales de Marina, Jefe de Cuarentena de la Isla de Cuba. Paper. Pp. 20. Habana: Gaceta Oficial Press. 1901.

TRANSACTIONS OF THE SOCIETY OF ANESTHETISTS. Vol. III. Pasteboard. Pp. 168. London: The Medical Publishing Co. 1900.

PROCEEDINGS OF THE PATHOLOGICAL SOCIETY OF PHILADELPHIA. April. Paper. Pp. 27. Published by the Society. 1901.

INTERNATIONAL CLINICS. A Quarterly of Clinical Lectures and Especially Prepared Articles on Medicine, Neurology, Surgery, Therapeutics, Obstetrics, Pediatrics, Pathology, Dermatology, Diseases of the Eye, Ear, Nose and Throat, and other Topics of Interest to Students and Practitioners. By Leading Members of the Medical Profession Throughout the World. Edited by Henry W. Cattell, A.M., M.D., Philadelphia, John B. Murphy, M.D., Chicago, Alexander D. Blackader, M.D., Montreal, H. C. Wood, M.D., Philadelphia,

T. M. Rotch, M.D., Boston, E. Landoit, M.D., Paris, Thomas G. Morton, M.D., Philadelphia, Charles H. Reed, M.D., Philadelphia, J. W. Ballantyne, M.D., Edinburgh, and John Harold, M.D., London, with Regular Correspondents in Montreal, London, Paris, Lelapsic, and Vienna. Volume 1. Eleventh Series, 1901. Cloth. Pp. 312. Price, \$2.00. Philadelphia: J. B. Lippincott Co. 1901.

HYGIENE AND PUBLIC HEALTH. By Louis Parkes, M.D., D.P.H., Lond. Univ., and Henry Kenwood, M.B., D.P.H., F.C.S., Fellows of the Sanitary Institute and Members of the Board of Examiners. With Illustrations. Cloth. Pp. 732. Price, \$3.00. London: H. K. Lewis. Philadelphia: P. Blakiston's Son & Co. 1901.

DISEASES OF THE NOSE AND THROAT. By F. De Havilland Hall, M.D., F.R.C.P., Lond., President of the Laryngological Society of London, and Herbert Tilley, M.D., B.D. (Lond.), F.R.C.S., Eng., Surgeon to the Throat Hospital, Golden Square. Second Edition, with 2 Colored Plates and 80 Illustrations. Cloth. Pp. 605. Price, \$2.75. London: H. K. Lewis. Philadelphia: P. Blakiston's Son & Co.

LECTURES ON NASAL OBSTRUCTION. By A. Marmaduke Sheld, M.B. (Camb.), F.R.C.S. (Eng.), Surgeon to St. George's Hospital, London. With 1 Colored Plate and 27 Illustrations in the Text. Cloth. Pp. 106. Price, \$1.50. Philadelphia: P. Blakiston's Son & Co. 1901.

EXPERIMENTAL STUDY OF CHILDREN, Including Anthropometrical and Psycho-Physical Measurements of Washington School Children, and a Bibliography. By Arthur MacDonald, Specialist in the Bureau of Education. Paper. Pp. 1390. Washington: Government Printing Office. 1899.

THE FEEDING OF INFANTS. Home Guide for Modifying Milk. By Joseph E. Winters, M.D., Professor of Diseases of Children, Cornell University Medical College. Cloth. Pp. 47. Price, \$0.50. New York: E. P. Dutton & Co. 1901.

PROCEEDINGS OF THE PHILADELPHIA COUNTY MEDICAL SOCIETY. February. Paper. Pp. 50. Price, \$0.15 per copy. Philadelphia: Published by the Society.

THE MEDICAL LAWS ENACTED by the Maryland Legislature from 1892 to 1896. Paper. Pp. 23.

FIRST AID TO THE INJURED AND AMBULANCE DRILL. By H. Drinkwater, M.D., Cloth. Pp. 104. Price, \$0.40. Edinburgh and London: Ballantyne, Hanson & Co.

BOROUGH OF INVERCARGILL, New Zealand. Standing Orders and By-laws. 1896. Pasteboard. Pp. 125. Invercargill: Southland Times Co.

CONSTITUTION OF THE MEDICAL CLUB OF PHILADELPHIA. Cloth. Pp. 19.

A HANDBOOK OF MATERIA MEDICA, PHARMACY AND THERAPEUTICS, Including the Physiological Action of Drugs, the Special Therapeutics of Disease, Official and Practical Pharmacy, and Minute Directions for Prescription Writing. By Samuel O. L. Potter, A.M., M.D., M.R.C.P., Lond., Formerly Professor of the Principles and Practice of Medicine in the Cooper Medical College of San Francisco. Eighth Edition, Revised and Enlarged. Cloth. Pp. 950. Price, \$5.00. Philadelphia: P. Blakiston's Son & Co. 1901.

INTRODUCTION TO THE DIFFERENTIAL DIAGNOSIS OF THE SEPARATE FORMS OF GALL-STONE DISEASE, Based upon his own Experience Gained in 433 Laparotomies for Gall-stones. By Professor Hans Kehr, Halberstadt. Authorized Translation by William Wotkins Seymour, A.B. Yale, M.D. Harvard, Formerly Professor of Gynecology in the University of Vermont. With an Introduction by Prof. Kehr. Cloth. Pp. 370. Price, \$2.50. Philadelphia: P. Blakiston's Son & Co. 1901.

A COMPEND OF HUMAN PHYSIOLOGY Especially Adapted for the Use of Medical Students. By Albert P. Brubaker, A.M., M.D., Adjunct Professor of Physiology and Hygiene in the Jefferson Medical College. Tenth Edition, Revised and Enlarged. With Illustrations and a Table of Physiologic Constants. Cloth. Pp. 270. Price, \$0.80. Philadelphia: P. Blakiston's Son & Co. 1900.

MEMORANDA OF THE POISONS. By Thomas Hawkes Tanner, M.D., F.L.S., Eighth Revised Edition. By Henry Leffmann, A.M., M.D., Professor of Chemistry in the Woman's Medical College of Pennsylvania. Cloth. Pp. 175. Price, \$0.75. Philadelphia: P. Blakiston's Son & Co. 1901.

THREE THOUSAND FIVE HUNDRED QUESTIONS ON MEDICAL SUBJECTS ARRANGED FOR SELF-EXAMINATION. With the Proper References to Standard Works in which the Correct Replies will be Found. Third Edition, Enlarged, With Questions of the State Examining Boards of New York, Pennsylvania and Illinois. Paper. Pp. 230. Price, \$0.10. Philadelphia: P. Blakiston's Son & Co. 1901.

THE MEDICAL NEWS POCKET FORMULARY FOR 1901. By E. Quin Thornton, M.D., Demonstrator of Therapeutics, Pharmacy, and Materia Medica in the Jefferson Medical College, Philadelphia. Third Edition, Revised and Enlarged. Leather. Pp. 287. Price, \$1.50 net. Philadelphia and New York: Lea Brothers & Co. 1901.

LARYNGEAL PHTHISIS OR CONSUMPTION OF THE THROAT. By Richard Lake, F.R.C.S., Surgeon Laryngologist, North London Hospital for Consumption. With 36 Illustrations, 21 of which are Colored. Cloth. Pp. 94. Price, \$2.00. Philadelphia: P. Blakiston's Son & Co. 1901.

INTERNATIONAL MEDICAL ANNUAL: A YEAR-BOOK OF TREATMENT AND PRACTITIONER'S INDEX. 1901, Nineteenth Year. Cloth. Pp. 682. Price, \$3.00. New York: E. B. Treat & Co.

New Patents.

Patents of interest to Physicians, April 2 and 9:

671,307. Soda-water dispensing fountain. Charles H. Clark, Newark, N. J.

671,337. Ligating forceps. Llewellyn Gibson, Lansing, Mich.

671,067. Surgical instrument. August Heiss, Solingen, Germany.

671,420. Electrotherapeutic spectacles. Alexander F. Humphrey, Allegheny, Pa.

671,138. Instrument for improving the hearing. Adolphus A. Knudson, Rutherford, N. J., and F. H. Clark, Brooklyn, N. Y.

671,346. Nasal douche cup. Ernst G. Lochmann, Lelapsic-Gohlis, Germany.

670,998. Atomizer. Samuel F. Patterson, Baltimore, Md.

671,247. Medicine spoon. Anna E. Super, Narberth, Pa.

34,312. Design, medicinal tablet. H. P. Ewell and E. A. Everett, Rochester, Mich.

34,313. Design, finger slide and wire holder, for surgical snares. Richard P. McCully, Brooklyn, N. Y.

- 671,622. Pharmaceutical compound and making same. Arthur Eichengrun, Elberfeld, Germany.
 671,477. Vaginal syringe, James Graham, Detroit, Mich.
 671,804. Coated pill, etc. Frederick H. Metcalf, Franklin, Ill.
 671,499. Sterilizing apparatus, Austin V. M. Sprague, New York City.
 671,500. Door for sterilizing apparatus. Austin V. M. Sprague, Brooklyn, N. Y.
 34,337. Design, blank for specula. Charles J. Pilling, Philadelphia, Pa.
 34,338. Design, blank for rectal speculum blades. Charles J. Pilling, Philadelphia, Pa.
 34,339. Design, blank for speculum blades. Charles J. Pilling, Philadelphia, Pa.
 34,340. Design, blank for speculum blades and handles. Charles J. Pilling, Philadelphia, Pa.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, War Department, Washington, D. C., April 11 to 17, 1901, inclusive:

Roger Post Ames, acting asst.-surgeon, leave of absence granted with permission to go beyond sea.

Aaron H. Appel, major and surgeon, U. S. A., leave of absence granted.

Davis Boak, dental surgeon, from Martinsburg, W. Va., via San Francisco, Cal., to duty in the Division of the Philippines.

William H. Corbusier, major and surgeon, U. S. A., member of an examining board convened at the Army Building, New York City, relieving Major H. S. Kilbourne, surgeon, U. S. A.

Calvin DeWitt, lieutenant-colonel, deputy surgeon-general, U. S. A., relieved from further duty as chief surgeon, Department of Dakota, to report in person to the Surgeon-General of the Army for duty.

Albert H. Eber, captain and asst.-surgeon, Vols., recently appointed, leave of absence granted, on the expiration of which he will proceed from St. Clair, Mich., via San Francisco, Cal., to duty in the Division of the Philippines.

Frederick C. Jackson, captain and asst.-surgeon, Vols., previous orders revoked, leave of absence granted on the expiration of which he will proceed to Columbus Barracks, Ohio, for temporary duty.

Ernest K. Johnstone, captain and asst.-surgeon, Vols., recently appointed and now in San Francisco, Cal., to duty in the Division of the Philippines.

Henry S. Kilbourne, major and Surgeon, U. S. A., is detailed member of a board in San Francisco, Cal., for examination of candidates for admission into the Medical Department of the Army, relieving Lieut.-Col. B. F. Pope, deputy surgeon-general, U. S. A.

Clarence E. Lauderdale, dental surgeon, from Naples, N. Y., via San Francisco, Cal., to duty in the Division of the Philippines.

George B. Lawrason, captain and asst.-surgeon, Vols., recently appointed and now in Washington, D. C., to proceed via San Francisco, Cal., for duty in the Division of the Philippines.

James W. Madara, captain and asst.-surgeon, Vols., recently appointed, from Lexington, Ky., via San Francisco, Cal., to duty in the Division of the Philippines.

Francis M. McCallum, captain and asst.-surgeon, U. S. Vols., former orders amended as to direct him to proceed from Fort Reno, Okla., via Jefferson Barracks, Mo., to San Francisco, Cal., en route for service in the Division of the Philippines.

Edgar A. Mearns, major and surgeon, U. S. A., sick leave extended.

Jefferson D. Poindexter, captain and asst.-surgeon, U. S. A., found disqualified physically by an examining board and retired from active service as a major to date from April 13, 1901, the date on which he would have been promoted to that grade by reason of seniority if he had been found qualified.

William B. Summerall, captain and asst.-surgeon, Vols., recently appointed, from the Department of Cuba, via San Francisco, Cal., for duty in the Division of the Philippines.

Alfred A. Woodhull, colonel and assistant Surgeon-General, U. S. A., retired from active service, by operation of law, having reached the age limit of 64 years.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended April 18, 1901:

Surgeon G. T. Vaughan, reassigned to duty in the Marine-Hospital Bureau. April 13, 1901.

P. A. Surgeon H. D. Geddings, directed to proceed to Buffalo, N. Y., for special temporary duty in connection with the installation of the Marine-Hospital Service exhibit at the Pan-American Exposition.

P. A. Surgeon Rupert Blue, directed to proceed to San Francisco, Cal., and report to Surgeon J. H. White for special temporary duty.

Asst.-Surgeon H. B. Parker, directed to proceed to San Francisco, Cal., and report to Surgeon J. H. White for special temporary duty.

Asst.-Surgeon M. H. Foster, two days' leave of absence granted Asst.-Surgeon Foster by Bureau letter of March 11, revoked. April 18, 1901.

Asst.-Surgeon G. H. Corput, directed to proceed to San Francisco, Cal., and report to Surgeon J. H. White for special temporary duty.

Asst.-Surgeon Dunlop Moore, relieved from duty at Port Townsend quarantine, and directed to proceed to San Francisco, Cal., and report to Surgeon J. H. White for special temporary duty.

Asst.-Surgeon T. D. Berry, granted leave of absence for thirty days from May 2. April 13, 1901.

A. A. Surgeon J. C. Ballard, leave of absence granted by Bureau letter of February 4, amended to read six days from April 23.

A. A. Surgeon B. W. Goldsborough, granted leave of absence for seven days. April 13, 1901.

A. A. Surgeon R. H. McGinnis, directed to proceed to St. Augustine, Fla., for special temporary duty. April 12, 1901.

Hospital Steward S. W. Richardson, directed to proceed to Buffalo, N. Y., and report to P. A. Surgeon H. D. Geddings for special temporary duty. April 17, 1901.

Hospital Steward L. P. Hall, directed to proceed to Boston, Mass., and report to medical officer in command for duty and assignment to quarters. April 13, 1901.

APPOINTMENT.

Louis P. Hall, of New York, appointed junior hospital steward in the U. S. Marine-Hospital Service. April 12, 1901.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending April 20, 1901:

P. A. Surgeon N. J. Blackwood, detached from Naval Hospital, Philadelphia, April 17, and ordered to the *Alliance*.

P. A. Surgeon L. Morris, detached from the Naval Academy and ordered to Naval Hospital, Philadelphia, April 17.

Asst.-Surgeon R. E. Peck, ordered to the *Pensacola*, April 25.

Surgeon J. F. Urie, detached from the *Dolphin*, April 20, and ordered to Marine Recruiting Rendezvous, Boston.

Surgeon E. P. Stone, detached from the Naval Dispensary, Washington, April 19, and ordered to the *Dolphin*.

Surgeon F. Anderson, ordered to the Naval Dispensary, Washington, D. C., April 19.

Surgeon J. E. Gardner, detached from Marine Recruiting Rendezvous, Boston, and ordered to the Naval Hospital Cavite, P. I. April 22.

Asst.-Surgeon C. G. Smith, appointed asst.-surgeon, April 12, 1901.

Surgeon W. F. Arnold, detached from the *New Orleans* and to duty at Olengapo, P. I.

P. A. Surgeon A. Alfred, ordered to duty with Marine Brigade, Cavite, P. I.

Asst.-Surgeon E. H. J. Grow, detached from the *Glacier* and ordered to the *Isla de Luzon*.

Asst.-Surgeon J. Stepp detached from duty with First Regiment Marines, Cavite, and ordered to the *Castine*.

Asst.-Surgeon H. C. Curl, detached from *Castine*, and to Cavite, P. I.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended April 20, 1901:

SMALLPOX—UNITED STATES.

- California: San Francisco, March 30-April 13, 5 cases.
 District of Columbia: Washington, April 6-13, 1 case.
 Florida: Jacksonville, April 6-13, 14 cases.
 Illinois: Chicago, April 6-13, 10 cases.
 Iowa: Clinton, April 6-13, 1 case.
 Kentucky: Lexington, April 6-13, 7 cases; Louisville, April 5, 1 case.
 Louisiana: New Orleans, April 6-13, 12 cases, 2 deaths.
 Maryland: Baltimore, April 6-13, 1 case.
 Massachusetts: Fitchburg, April 6-13, 1 case, 1 death.
 Michigan: Detroit, April 6-13, 3 cases; smallpox present at 104 places, April 6-13.
 Minnesota: April 6-13, Minneapolis, 8 cases; Winona, 1 case.
 Nebraska: Omaha, March 30-April 13, 18 cases.
 New Hampshire: Manchester, April 6-13, 3 cases.
 New Jersey: Jersey City, March 31-April 7, 7 cases; Newark, April 6-13, 1 death.
 New York: New York, April 6-13, 44 cases, 11 deaths.
 Ohio: Cincinnati, April 5-12, 1 case; Youngstown, April 6-13, 1 case.
 Pennsylvania: April 6-13, Lebanon, 1 case; Pittsburg, 4 cases, 1 death; Steelton, 4 cases.
 South Carolina: Charleston, April 8, 1 case.
 Tennessee: April 6-13, Memphis, 5 cases; Nashville, 16 cases.
 Utah: Salt Lake City, April 6-13, 25 cases.
 West Virginia: Huntington, March 23-April 13, 62 cases; Wheeling, April 6-13, 1 case.
 Wisconsin: Milwaukee, April 6-13, 1 case.

SMALLPOX—FOREIGN AND INSULAR.

- Belgium: Antwerp, March 23-30, 6 cases, 3 deaths.
 Brazil: Rio de Janeiro, March 1-15, 13 deaths.
 China: Hongkong, March 2-9, 2 cases, 1 death.
 France: Paris, March 23-30, 12 deaths.
 Gibraltar: March 23-30, 1 case.
 Great Britain: Scotland—Dundee, March 23-30, 1 case. Glasgow, March 29-April 5, 10 deaths.
 India: Bombay, March 12-19, 10 deaths; Calcutta, March 8-16, 151 deaths; Karachi, March 10-17, 14 cases, 5 deaths; Madras, March 9-15, 11 deaths.
 Italy: March 23-30, Messina, 1 case; Naples, present.
 Mexico: Mexico, March 23-31, 1 death; Vera Cruz, April 6-13, 1 death.
 Russia: Moscow, March 16-23, 8 cases; Odessa, March 23-30, 5 cases, 1 death; St. Petersburg, March 16-30, 30 cases, 4 deaths; Warsaw, March 16-23, 7 deaths.
 Porto Rico: Ponce, March 30-April 1, 4 cases.

YELLOW FEVER.

- Brazil: Rio de Janeiro, March 1-15, 36 cases, 28 deaths.
 Colombia: Panama, April 1-8, 7 cases, 1 death.
 Costa Rica, Port Limon, April 5, 1 case.

CHOLERA.

- India: Bombay, March 12-19, 3 deaths; Calcutta, March 2-16, 43 deaths; Madras, March 8-16, 3 deaths.

PLAGUE—UNITED STATES.

- California: San Francisco, April 6-13, 2 cases, 2 deaths.

PLAGUE—FOREIGN.

- Africa: Cape Town, to March 9, 100 cases, 27 deaths.
 Brazil: Rio de Janeiro, March 1-15, 1 death.
 China: Hongkong, March 2-9, 15 deaths.
 India: Bombay, March 12-19, 1,203 deaths; Calcutta, March 8-16, 819 deaths; Karachi, March 10-17, 163 cases, 126 deaths; Madras, March 9-15, 1 case.

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Original Articles.

THE DIAGNOSIS AND TREATMENT OF INJURIES OF THE HEAD.*

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MINNEAPOLIS, MINN.

Injuries of the head are frequent, exceedingly variable in character, notably uncertain of prognosis, and often disastrous in their immediate or remote results. There is considerable difficulty in classifying serious lesions of this region to the greatest practical advantage. The usual tendency to place special emphasis upon the presence or absence of fracture of the bones is misleading clinically, because, for the most part, fracture when recognizable is of entirely secondary importance to injury of the cranial contents, because fracture is not always recognizable or treatable, and because in any event the treatment of skull fractures has little in common with that of other bones.

It is exceedingly helpful to study head injuries from a distinctly clinical standpoint somewhat after the manner in vogue in the presence of injuries to the other great cavities, the abdomen and thorax. In the one case as in the others, the chief rôle of treatment lies in the prevention of infection and the control of hemorrhage, together with the removal of the sources of present or future cortical irritation. That diagnosis which is sufficient to point the way to the most efficient treatment is alone of paramount importance; the exact recognition of conditions about which nothing material may be done is more or less vain, particularly if it divert the attention from a single detail of practical succor. Hence, that practical diagnosis which promptly recognizes the indications for action, or appreciates the negative signs which counsel masterly inactivity, is the most utile.

It is my present purpose to call attention to some perhaps well known, but sometimes forgotten, precepts, and to elicit discussion upon some still unsettled problems in the technique of opening and closing the skull.

The first duty in all head injuries is a careful and systematic examination. For this purpose it is always desirable, and usually necessary, to clip or shave the whole head. If there has been extensive wound of the soft parts, ever so slight a penetrating wound or fracture of the skull, shaving the whole head should be insisted on as the first necessity. The most astounding blunders in diagnosis as well as barbarous transgressions of the laws of asepsis are still occasionally observed. I have known a boy to be carted about and x-rayed in two or three planes, at great trouble, expense and risk, when a few moments subsequent use of the

razor showed the small bullet to have emerged three-fourths of an inch from the wound of entrance.

All points of contusion, ecchymosis or hematoma, should be carefully noted and examined. Two conditions need special consideration: 1. The natural irregularities of the skull. Such depressions may be mistaken for depressed fractures, or, much more frequently, in damage cases are claimed as such later on. If the head has been shaven and carefully examined at the time of accident such claims may often be much more easily refuted. 2. The embossments and tumefactions caused by extracranial effusions of blood may lead to errors of diagnosis unless carefully studied. Such effusions may be located superficially in the cellulo-fatty tissue, i. e., subcutaneously, or deeply. The subcutaneous boss is sharply circumscribed. If small in quantity and intimately infiltrated into the cellulo-fatty tissue it is remarkably hard, but if the quantity be large so as to dissect up the tissues, it is soft and fluctuating. But this fluctuation is superficial and readily distinguished from that of a subaponeurotic effusion. The bosses produced by subaponeurotic and subperiosteal effusions are more diffuse, their hardness more abrupt and fluctuation, if present, deep. Usually these effusions give rise to little trouble in diagnosis, but under certain conditions they may quite remarkably simulate fracture with depression. First in the early history of the case, when there is at once infiltration into the subcutaneous tissues and also a deep effusion, one finds the boss from the start hard on the periphery and soft in the center, giving the appearance of a distinctly depressed area of bone. I have known this condition in two instances to mislead the examiner into a diagnosis of depressed fracture; continued pressure on the hard rim, however, enables the finger to recognize the subjacent bone in its normal plane with that of the apparently depressed region. Second, at a later period a deep-seated embossment may undergo central softening while the periphery remains hard.

A careful study of the discharges of blood and serum from the ear or nose, the behavior of ecchymosis of the mastoid region, of the conjunctivæ, of the pharynx, etc., and the disturbance of function of cranial nerves, is important. In case of external wound or probable fracture at the base communicating with the exterior, the greatest possible antiseptic precautions should be at once instituted. It is well as a routine practice to cleanse the various cavities, exposing the brain to infection when fracture communicating with them is thought possible. The nose should be douched with boric acid solution, and nostrils lightly plugged with sterile cotton. The mouth and pharynx need to be kept cleansed by mild antiseptic washes. While all this may sound stale, we are frequently reminded at the bedside that the average practitioner is still far from alive to the necessity of prompt and constant attention to these de-

* Read at the Annual Meeting of the American Academy of Railway Surgeons, held at St. Paul, Minn., Sept. 5 and 6, 1900.

tails in head injuries. Men who exhibit considerable respect for the abdomen, aseptically speaking, forget the needs of the cranial cavity, especially if there be no glaring cranial wound.

If there be scalp wound, compound fracture, or any indication for operation, the scalp must be cleansed in the most thorough manner possible. It should be thoroughly scrubbed with hot water and soap; then with 1 to 20 chlorinated soda, rinsed off with sterile water; rescrubbed with 1 to 1000 bichlorid and covered with a mild, moist bichlorid gauze dressing; wounds of the soft part are explored, perhaps enlarged, carefully irrigated and cleansed, and if lacerated and contused, trimmed with scissors in a surgical manner.

If there is no indication for immediate operative interference, the patient should be placed under the care of a good nurse, who may watch and record the pulse, temperature, respiration and movements of the patient. He should be placed in a warm bed with the head low. During the early stages of concussion, warmth to the feet, counter-irritation to the epigastrium and cardia are useful. If the pulse becomes bad, strychnia or atropin may be administered. In the stage of excitement which usually follows the period of depression, great restlessness, headache, etc., the bromids, or even a little morphin, is useful. However, in this class of injuries the first and greatest duty is rigid asepsis. The second is the securing of a careful consecutive history of the progress of the case from the time of the injury, and this should be reduced to writing as it transpires and not left to guess-work and memory. And third, the observation of certain general precepts, among which may be stated: The recumbent position, with absence of noise and excitement, should be kept until the symptoms have well resolved. All cases of serious head injury should be carefully observed for at least a month. The prognosis should be guarded, and in cases liable to litigation, it should be guarded both ways. Persons looking for damages are liable to store up all the symptoms and loose talk of the doctors and make the most of it. It is as unwise to discuss all the possible calamities that might follow a blow on the head, as to assure such a patient when he wakes out of the concussion that he is all right. The better course for all concerned is to observe keenly until the case is cleared up: state only the evident facts and prophesy not.

Having made such a local examination and thrown out the necessary lines of defense, so to speak, he is in a position to with safety assume the offensive in case of necessity. While he may still often be far from clear as to the extent, seriousness and outcome of the case, so far as his activity is concerned, he finds it already falls, or in its further development will fall, into one of the following four classes, or one of their subclasses:

Injuries Without Important Local Signs or Definite Focal Symptoms.—The following instance may be taken as somewhat typical in a general way of this class, though perhaps unusually severe:

P. W. D., a switchman, aged 38, was coupling cars, Dec. 3, 1898, when the draw-pin broke and a piece of it struck him with great force on the top of his head. He fell unconscious and was removed at once to the hospital, reaching there at 10 a.m. in a semicomatose condition, his pulse 72, rectal temperature 98 degrees. On my arrival at 12:30 he was taken to the operating-room; the head completely shaved and cleansed; the ears cleansed and examined, no discharge or injury found, but insufflated with boric acid and plugged with cotton. There was a contusion $1\frac{1}{2}$ inches long and about one-

half that breadth at the vertex, in the medial line, the most careful examination revealing no evidences of fracture. The abrasion was dressed with boric acid powder, the head bandaged and the patient returned to bed. He vomited twice during the day. There was retention of urine requiring the use of the catheter for fourteen days, or till December 17. From the time I saw him, at 12 m., December 3, till December 14, or eleven days, he remained in a semicomatose condition most of the time, i. e., he slept or snored most of the time when left alone, but at times was restless and flopped about and had to be strapped in the bed. When attempts were made to catheterize him he became very violent, inasmuch that it took several persons to hold him, and once my assistant had to give chloroform to draw the urine. During these eleven days he spoke twice—on the second and ninth day he asked for a drink.

His temperature, a trifle subnormal at first, after the second day rose slightly above normal occasionally, but fluctuated between 97.5 and 100 F. The pulse on the third day reached the lowest point, of 42; during the next four days it varied between 42 and 60. During the second week the pulse was still more variable, some days varying from 58 to 85. On the fourth day he would sit up and take milk when told to do so, and he occasionally seemed to vaguely understand some things that were said to him, but he did not regain consciousness to know where he was or what was wrong until December 17, two weeks after the injury. December 10, at 9:30, he had a convulsion which was general and lasted but about two minutes; also a similar one December 12. Several urinalyses showed nothing of special interest, unless some increased indican reaction. From December 15 to 22, his condition gradually cleared up and he was taken home on the latter date. He was up and about the house, complaining of some headache, weakness and dizziness, gradually improving until January 14, when he came to the office, and resumed work a week later, or seven weeks after the accident.

I will not at this time discuss the condition further than to say that, at the first examination, my diagnosis might be said to have been the negative one: Severe head injury, no external wound, no focal cerebral symptoms, no indication for operation. During the further watching through two weeks with rational attention to symptoms, nothing occurred to remove the case from this category until spontaneous recovery.

If time permitted, many cases might be related as starting out in this class, but which, after a few hours or a few days, variously deviated in the most diverse courses. Of course the development of localized cerebral symptoms removes the case to another class and indicates our surgical duty, but until such indications arise the treatment must be non-operative, let the outcome be what it may. To open the head under such conditions is to go hit-or-miss, quite as likely to do harm as to do good, and is on a par with the generalship which would lead an army blindly into an unknown country and against an enemy of which nothing was known save that one of some kind existed somewhere. In the one case as in the other, chance may now and then approve the result, but the rule must be disaster, and the practice is not scientific.

There is Fracture of the Vault without Wound.—These cases may be considered under the following subdivisions:

1. There are local signs—i. e., of fracture—but no focal cerebral symptoms. The same methodical examination of the head indicates fracture. Sometimes a fis-

sure may be detected by the finger, or a point may be felt which yields under the finger pressure, or local tenderness and the reaction of defense may convince the surgeon that fracture is present. Yet, however clear the evidence of fracture, excepting only a considerable depression over the motor areas, there is no indication for immediate operation. Wait and watch developments just as in the previous instance; if, as the concussion dissipates, giving place to a sort of hebetude with ability to move the limbs at command, the facial expression regular, speech slow but correct, in short, no localized phenomena, the treatment becomes identical with that outlined above.

If, however, the examination has disclosed a depression, there is longer but little difference of opinion as to the proper course. It may well be doubted whether a moderate depression of a considerable area of skull is of itself a serious matter. Indeed, the depression of a small area is more often accompanied with sources of irritating mischief than the slight flattening of a considerable area. But in either event it is the possibility of displacements of fragments of the internal table, injuries to brain and membranes, and probable blood-clots that render the advice to always trephine in the presence of decided depression wise. Under careful and judicious operating, with proper facilities for rigid asepsis, even suspected depression had best be cleared up by exploratory incision and actual depression always relieved by trephining. Under less perfect conditions for operating, some slighter depressions unaccompanied by external wound or localized cerebral symptoms are not of such imperative importance as to justify hasty resort to opening the skull. The condition can wait; a secondary operation under perfect conditions is preferable to the slightest risk of infection.

2. There are local signs of simple fracture with focal cerebral symptoms. These are the cases of real urgency. The necessity for operative interference is clear and unmistakable. It only remains to interpret the symptoms and decide upon the operative technique. There are four sets of cases falling under this subclass:

a. The focal symptoms are on the side opposite the cranial lesion. There is aphasia, or hemiplegia, or a monoplegia of the upper or lower extremity. To trephine at the site of injury including the motor area indicated by the focal symptoms, is the clear and sole indication.

b. The focal symptoms are on the *same* side as the cranial lesion. Here the indications are not quite as clear in detail. Lejars advises first trephining at the site of injury, which may, he says, discover conditions dispensing with further intervention; if not, he then advises trephining in the zone indicated by the focal symptoms. In the cases of this class falling under my observation I have trephined at once on the side opposite the injury, found and removed the clot and ligated the vessel, and relieved the patient without exploring at the point of injury at all. If there were manifest cause to open at the point of injury, it may be granted that it were well to do that first, but it should be remembered that in this class of injury the mischief is apt to be chiefly on the opposite side of the skull, with perhaps none, or but slight, fissure at the point of receipt of the injury. If the force is such as to crush in the skull at the point of injury, *contre-coup* symptoms are not often observed. The experiments of Felizet show the rationale of these so-called *contre-coup* injuries, and whv, though the skull is sometimes fractured on the opposite side, much more frequently lesions of the cranial contents take place there. On account of the

elasticity of the skull as a whole, compression of one side by a blow causes a corresponding falling of the opposite pole. Being less elastic and more friable than bone, the brain and membranes are more liable to laceration. It would seem the most rational course in these cases to trephine at the point indicated by the focal symptoms, and open at the site of injury only in case of clear indications for so doing.

c. There is crossed paralysis, facial paralysis on the same side, and mono- or hemiplegia on the side opposite to the site of injury. The indication remains to trephine over the motor area implicated, though the prognosis is bad, as the facial paralysis indicates an extension of the fissure to the base, involving the temporal bone.

d. The symptoms are associated in a complex fashion, and without connection with any determinable cranial lesion. There is probably extensive brain contusion, and the prognosis is always obscure. There is no rational basis for operative interference, and the treatment must be along the general lines indicated in the first category.

3. With, or more frequently without, local signs of fracture, there arise localized cerebral symptoms of compression indicating, most frequently, rupture of the middle meningeal.

In these injuries often the patient has not been rendered entirely unconscious or has remained so but a few moments. He may have been able to get up and walk about some. In any event, after the initial stupor has passed off, there is seen to be no paralysis. If now, after such a free interval, whether of some minutes' or some hours' duration, a slowly progressive hemiplegia develops, renewed loss of consciousness, depressed or stertorous respiration, perhaps dilatation of the pupil of the injured side, the indication is clear to at once open the skull at the proper point, evacuate the compressing clots and seek to control the hemorrhage. At the operation one of three conditions may confront us: *a.* By far most commonly an extradural hemorrhage from the middle meningeal, and generally from the anterior branch. This is the most satisfactory condition, because if promptly recognized and the artery tied or controlled, the brain is ordinarily not injured, and the prognosis good. *b.* If on opening the skull at the point of election, no extradural clot is found, but the dura is tense and bulging into the wound, perhaps showing a dark bluish color, on opening the dura a subdural clot is found, the clot should be removed with more care and with less attempt to follow up the thin diffuse margins, which may injure the brain or excite grave cortical hemorrhage. *c.* It may be, after the dura is opened, that but a thin layer of blood covers a bulging dark cortex, indicating an intracerebral hematoma, in which case the cortex must be incised, the clots evacuated; if bleeding continues, tamponade of the cavity. The prognosis in the latter, particularly the last, variety of intracranial hemorrhage is most grave, and the treatment far less satisfactory than in the extradural variety.

There are Signs of Fracture of the Base, but no localized Cerebral Symptoms.—Ecchymoses appearing without other cause beneath the conjunctivæ and eyelids, the mucosa of the pharynx, or in the mastoid region, are often quite pathognomonic of fracture through the respective fossæ. Hemorrhage from the ear, nose or pharynx may be cautiously taken as evidence of fracture, when an extracranial source of the bleeding is fairly excluded, and the less frequent escape of cerebrospinal fluid, when demonstrated, is conclusive. The

paralysis of cranial nerves is also frequently sufficiently characteristic in its course to justify alone or in connection with other symptoms, the diagnosis of fracture.

Slight fractures of the base of the skull probably often occur without any diagnostic symptoms. I find many physicians look upon fracture of the base as almost necessarily fatal, and point to eventual recovery as proof that the diagnosis of fracture was erroneous. Even Gross¹ says: "Fracture of the base, if at all severe, is seldom followed by recovery. I myself, out of at least a dozen instances of this kind, witnessed only one in which the patient was saved."

I can recall at least half a dozen instances in which the evidences of fracture were clear, and yet the patients evidently recovered. In one case in particular, a large array of surgeons and specialists agreed with me and reported to the railway company that the patient would die, yet he finally recovered. There is no reason why fissure running into or across the base of the skull should necessarily be fatal, and under proper care and treatment many such cases do recover. Deroubaix² says: "The prognosis in fracture of the base is much more favorable than formerly taught; some surgeons of the present day even assert that there are more recoveries than deaths."

Next to severe concussion and brain laceration, the chief causes of death are hemorrhage and infection. Operative interference has never in my experience been of avail in these cases, i. e., in the absence of focal brain symptoms, though the condition would seem to indicate intracranial pressure probably from hemorrhage. In a man who remained unconscious at the end of ten days, I trephined low down in the temporal region and removed some clots from the middle fossa. He regained consciousness somewhat for several days, but finally died and the autopsy showed deep inaccessible brain abscess from infection through the ethmoid.

In short, for the most part, the preventable deaths from these injuries are due to infection. If the concussion and brain contusion has not been sufficient to destroy life, these patients would survive if infection, usually through the nose and ear, could be prevented. Unfortunately our best endeavors are, in the nature of the case, very imperfect, since anything like a sterilization of the nasal, pharyngeal and aural cavities is entirely impracticable. None the less, a careful initial cleansing and continued care of the ear, nose and throat in all fractures of the base is perhaps not yet sufficiently practiced.

Occasionally a brain abscess develops later and may be located by inference or by symptoms, and opened with some prospects of success. It is sometimes several months after the injury before the symptoms of abscess arise. The three instances falling under my observation did not succeed because there were other foci, discovered only at the autopsy, which could not be located or reached. In other words, infection in fractures of the base is for the most part too acute and diffuse or too deep-seated to be relieved by operation, and even the rarer chronic and localized suppurations arising from this cause are apt to present either difficulty in localization or multiple foci so that after the surgeon has been fortunate enough to open and drain a pus cavity, he finds at the autopsy that one or more others have escaped him.

Fracture of the Vault with Wound.—This condition always calls for more or less operative interference. In all cases the whole head should be rendered as aseptic as possible, the wound cleansed and enlarged sufficiently to well explore the seat of fracture. These injuries are

so various that only general principles can be enunciated, but it may be asserted that it is well to open the skull sufficiently to remove all fragments, clots and foreign bodies and to elevate depressed areas.

In this class of injuries the head has already been more or less opened for us, and it often remains only to carefully pick out the crushed pieces with forceps and elevator and smooth up rough edges and spicula with rongeur or chisel. If the breach in the cranial vault is less complete, a small trephine hole partly placed on the sound border gives us *entré* to the depressed area. In opening these already crushed crania, the elevator, chisel, small trephine and rongeur forceps are quite sufficient. There appears to be no practical way yet devised to avoid the loss of the protective bony wall in these cases, at least primarily. Whatever may be said of autoplasty or heteroplasty, it will, I think, be conceded that such operations are not often practicable in traumatic cases unless as secondary procedures. The conditions are not favorable to the perfect healing in of a foreign body, and the patient suffering from a recent skull fracture extensive enough to call for remedy of the defect is in no condition for a prolonged autoplasmic procedure. Furthermore, experimental studies and practical results leave it very open to doubt whether any of these methods fulfil their real practical object, viz., avoidance of cortical irritation, any better on the whole than simple aseptic healing without irritation.

Our technique in intracranial surgery is still extremely defective in two regards: 1, in not yet having perfected an easy, rapid and safe method of opening the skull; 2, in our inability to prevent a more or less welding of all the tissues, brain, membranes and scalp into one scar, which often proves a source of cortical irritation.

While large bony defects of the cranial vault are not without their very manifest inconveniences, it may be doubted whether the loss of bone is per se the cause of irritating symptoms. It is quite clearly the cohesion of the cortex and superficial parts that is most objectionable. Some years ago Park advised the use of gold leaf between the injured cortex and the dura. I believe he has since found it impracticable. In two very favorable non-traumatic cases I employed it. Although both ran a perfectly aseptic course, there soon—three and four weeks—appeared a fluctuating, painful swelling which had to be opened, evacuating a quantity of serum, and this continued to reopen until the gold foil was wholly removed; I therefore ceased further trial of it. Minter³ reports similar results. Some one proposed the use of egg membrane as an absorbable material for this purpose, and I also made use of it twice in trephining for traumatic epilepsy, with precisely similar results. The wounds healed perfectly, but at the end of two weeks a painful swelling appeared, and the egg membrane had to be removed. In one case the wound was re-opened, the serum evacuated and, as I supposed, the egg membrane all removed, the wound reclosed and the patient was sent home much improved, but as is usual in such cases, *not* entirely cured of his epilepsy. A swelling reappeared under the scalp, and the family doctor some weeks later opened it and another considerable piece of egg membrane came out, after which the wound permanently closed.

McKosh⁴ reports a case which he trephined for epilepsy in which in the center of a mass of dense connective tissue he found some blackish particles, which proved on examination to be fragments of rubber—the remains of rubber tissue put in at a previous operation

to prevent adhesion of the cortex. The scar tissue surrounding it, which was removed, represented a tumor the size of a walnut.

From my own brief experience and such reports as have come to my notice I am convinced that the insertion of foreign substances between the dura and cortex is wholly objectionable. That far from preventing adhesions it usually increases them by the irritation which it excites, even under the most favorable conditions.

One object of removing blood clots is to prevent cyst formation, and foreign substances would appear more objectionable than blood, and I think experience has proven them to be so. So far as adhesions of the cortex and dura are concerned we may safely rely, for the best possible results, on securing the most rapid aseptic healing, after the greatest possible conserving of the dura, and, as far as possible, stitching it carefully together with fine catgut. In closing the head, as in closing the abdomen, the best results follow the most accurate approximation of the different tissues, layer by layer. But where, as in the present case, the bone is necessarily fragmented and wholly removed from its vascular connections the defect may as well be left, at least for the present, but approximating the other structures as accurately as possible and securing healing with the least excitation of connective tissue. When the defect is small and the periosteum preserved, especially in children, bony repair takes place.

Some have laid stress on replacing trephine buttons, or even advised covering the defect with a mosaic of the fragments removed, and it is true that they sometimes appear to succeed. However, there are two objections to the practice: 1. Especially in traumatic cases these pieces often undergo necrosis and have to be removed, and when they thus delay union they excite connective tissue proliferation and, in addition to failing in their object, leave a less favorable cicatrix. 2. The histologic observations, after bone implantation, by Barth⁵ and others show that pieces of bone which have been separated entirely from their anatomical surroundings, when returned to their former place, or placed in another defect in the human skeleton, indeed may grow, yet in all cases undergo necrosis.

The trephine button, about the fifth day, is found adherent to the dura by a deposit of fibrin, while the chinks and spaces about it are filled with fibrin. The nuclei of the transplanted bone cells appear as empty spaces or are seen to undergo degeneration. Now an active proliferation of connective tissue begins over the periosteum and dura mater; young granulation tissue grows into the spaces of the dead bone button, absorbs the fibrin coagulum, incloses in its meshes and vascularizes the dead bone as a porous foreign body. Almost immediately—sometimes after the seventh day—a deposit of new bone over the dura mater begins, which is deposited in lamellæ through the dead bone. It is this constant deposit of new bone through the dead button that is peculiar to the first few weeks. This goes on steadily from week to week as the dead bone becomes replaced by the living; it goes on without any anatomic appearance of the old bone being absorbed; it much resembles cartilaginous bone formations as observed in fetal long bones. According to B., this process is found in all cases where the button is not cast off as a sequestrum; it heals thus only when it fits well into the defect; the whole process takes perhaps two months, under favorable circumstances; he replaced buttons after maceration in potash and staining with boiling carmin; they healed in the same manner as fresh implanted pieces.

Von Eislesberg, Fraenkel and others appear to hold the

same views. The latter claims that all organic material becomes adherent to the dura and that only inorganic material, into which granulations from the dura can not enter, prevent adhesion. From the time of Paré attempts have occasionally been made to implant metallic plates into skull defects, and gold, silver, platinum, aluminum and many other substances have been tried. Of late years interest in the matter has revived and the practice apparently increased. The general opinion appears to be that celluloid is the best material. Among the good qualities of the material are cheapness, lightness, ease of shaping with scissors and its being a relatively poor conductor of heat. Dr. Curtiss suggests that aluminum plates might be absorbed in the course of years under the alkalinity of the blood serum. It is not, however, my intention to go deeply into this question, since I believe the use of such plates is not as yet to be advised in primary traumatic cases, and, in any case, it is still an open question whether they really accomplish their main object of preventing irritation of the cortex. Hence it has appeared to me that the best results in cases where the skull is crushed in by accident are likely to follow the greatest possible conservation of bone, periosteum and membranes consistent with efficient work, with accurate adjustment of the soft parts, especially of the dura and the periosteum, and rapid aseptic healing. In operating through an intact or simply fissured skull, however, as for rupture of the meningeal artery, the matter is quite different. Under such conditions the trend of surgical opinion is strongly toward a more ideal opening and closure of the cranium, and the use of trephines, rongeurs, etc., which sacrifice considerable areas of bone and slowly produce, often, quite inefficient access to the cavity, are deprecated. In such cases osteoplastic resections of large bone flaps (Wagner, 1889) has many advantages, and is strongly to be advised. It is more easy and certain to find and to ligate vessels and to remove clots by this method. But, of probably far greater moment, it is the only method which fully preserves the integrity of the skull and prevents adhesion of the dura. It is certainly the ideal method of closing the skull. As yet the chief difficulty lies in the technique of executing it skilfully.

There is little question but the chisel is the most practicable instrument for making these bone flaps. When one has become skilful in its use the skull can be opened accurately with great rapidity to almost any desired extent, and the tools are cheap, portable and easily kept in order. One has only to perfect himself into a good workman, and he has always full command of the situation. Unfortunately there is a great objection to this otherwise facile and simple instrument for opening the cranium. The concussion of the mallet is more or less dangerous, especially when intracranial pressure exists, so that a majority of the most experienced in brain surgery, including Horsley and Keen, protest against its use. Various saws have been invented for this purpose, of which Van Arsdale's appears to be theoretically very perfect. While I have not perhaps had sufficient experience with this apparatus to speak dogmatically upon its worth, I have worked with it sufficiently to discover some of its defects, and to fear that I shall never be able to learn to use it with satisfaction. In the first place, the apparatus is quite complicated and expensive, an objection of no great consequence if the practical excellence of its work were commensurate with the outlay and care. The vibrations of the necessarily rather stiff cable render the saw hard to direct with precision, but it is the tendency of the saw to get stuck in the circular

groove in the bone, being removed with great difficulty, that I have found the most discouraging. While very ingenious the saw would appear entirely unnecessarily complicated in constructing it to cut in a circle. There is no especial reason for making osteoplastic flaps circular, in fact, rectilinear flaps are I believe entirely preferable, and I believe Van Arsdale's saw, if simplified to cut a plain straight line, may prove to be the instrument for which we are looking. In any event there is little doubt that the difficulties of osteoplastic resection of the skull will be surmounted. In Germany, where for a time the chisel was so much used, there appears to be a tendency to combine the use of circular saws and chisel, sawing through the outer table and the diploe and finishing with the chisel. In my limited experience on the living skull and the cadaver, I have found it much easier to make the flap rectilinear; then with a very small trephine four holes are made at the respective angles, after which the flap may be completed by the chisel, or by a wire saw passed from one hole to the other between the skull and the dura and cutting from within outward.

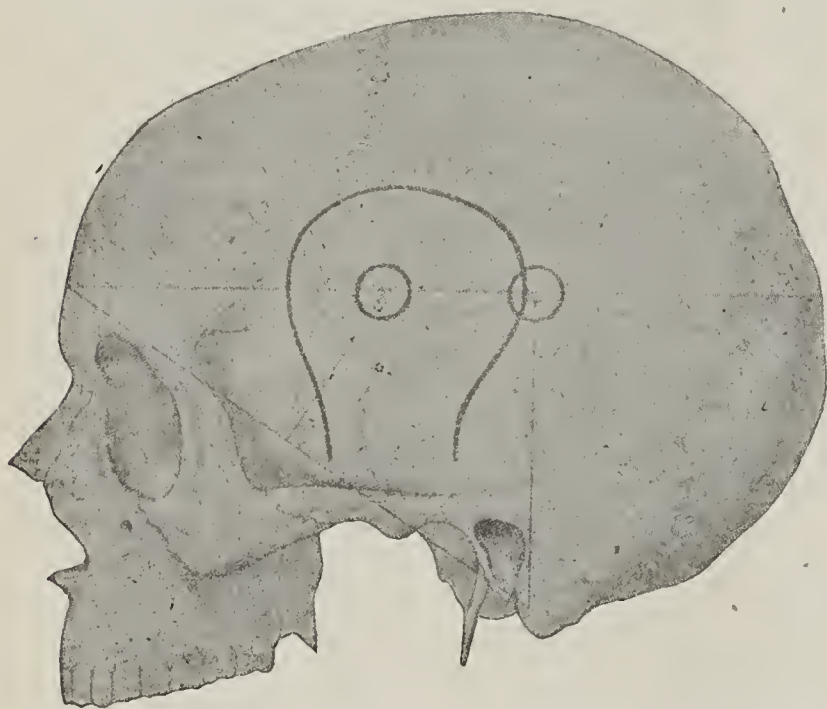


Diagram showing the command of the middle meningeal artery by Wagner's osteoplastic resection, also the method of locating the anterior and posterior branches of the artery in trephining according to Steiner.

Of course every method yet devised has its advantages and disadvantages. The only disadvantage of Gigli's wire saw is in carrying it from one opening to another and getting it buried in the bone without wounding the dura. This danger is not greater, and as easily overcome, as the liability to similar accidents by other methods. Its advantages I think on the whole clearly distance all other instruments as yet devised: 1, exceeding simplicity and cheapness; 2, very considerable rapidity; 3, the saw-cut is exceedingly fine, doubtless the finest that can be made by any method, and as will be seen by the specimen presented, may be cut as beveled as desired so that the resected piece of bone fits back more accurately than if cut by any other method with which I am acquainted.

By the osteoplastic method of operating for intracranial hemorrhage, the matter of localization becomes very simple. A flap with its base just above the zygomatic arch and its summit rising above the inferior temporal ridge, amply commands both branches of the middle meningeal artery, and can scarcely fail to give us the desired access to all operative cases of intracranial hemorrhage. By going well down toward the zygomatic arch, it gives the best command of the middle fossa,

or if symptoms indicate pressure on the lower portion of the motor area, it may be placed a little higher. However, it is well to locate and mark by some of the common methods the probable location of the vessels, as it reassures the operator in marking out his flap. The method of Steiner is very simple and as accurate as any. He draws a line from the middle of the glabella to the apex of the mastoid process and erects a perpendicular at the center of the line. Where the latter intersects a third line, passing horizontally through the glabella, there is the anterior branch of the middle meningeal; where a vertical line passing in front of the mastoid intersects the horizontal line, there is the posterior branch.

In emergency surgery, simplicity of methods both in diagnosis and operative technique are of great importance. The fissure of Rolando is readily located by finding its superior end, at one-half inch behind half way from the nasal fossa to the occipital protuberance, from whence it runs downward and forward at an angle of 67.5 degrees for a distance of $3\frac{3}{8}$ inches. This angle is readily measured by Chene's method of folding a square piece of paper so as to get an angle of 45 degrees, one of the leaves being again folded so as to get an angle of 22.5, which, added to the first, marks an angle of 67.5 degrees. This paper applied to the skull enables us to trace the Rolandic fissure with sufficient accuracy for operative purposes by the large openings now in vogue.

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THE RELATION AND POSITION OF PELVIC ORGANS. EXAMINATION OF PATIENTS.

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While we know definitely the approximate size and exact structure of the various organs of the pelvis, there is still a great deal of cloudiness and misunderstanding about the true relations and positions of these organs. As an example, one will frequently hear it stated that there is no such thing as a normal position, or even an approximate position of the uterus! If the uterus were an unimportant organ, if it did not have the highest function to perform that is required of any organ, we might, at first thought, think that this one organ did not have a place in which it might be considered at home. Inasmuch, however, as it is such an im-

important organ, we have a right to assume that it possesses a place, and that it is not simply cast into the pelvis, anywhere, and allowed to occupy any position not already occupied by a functioning bladder or rectum. A prominent gynecologist, in discussing this subject recently, considered it necessary to give the bladder and rectum right of way over this important organ. If it were necessary and reasonable for nature to make such a bungling job of her handiwork, she would have done so, but when it is not necessary nor reasonable, we have a right to assume that she has not. Here it is not reasonable, and she has constructed her organs in such a way that each may normally functionate without interfering with the other. I investigated this subject with great care in the early part of my practice, and made it the basis of my inaugural thesis for entrance into the Chicago Gynecological Society, in 1885. After studying the works of Schultz, Fritsch, and Savage, and after making a minute comparison of the frozen sections of Henle, Fürst, Braune, Heitzmann, Hart, Piragoff, Ruedinger, investigating the theories of Emmet, Garrigues, and others, I arrived at a conclusion which seemed to me inevitable, and, too, which seemed to put me in accord with what nature would be likely to do if she were able. At that time I advanced my

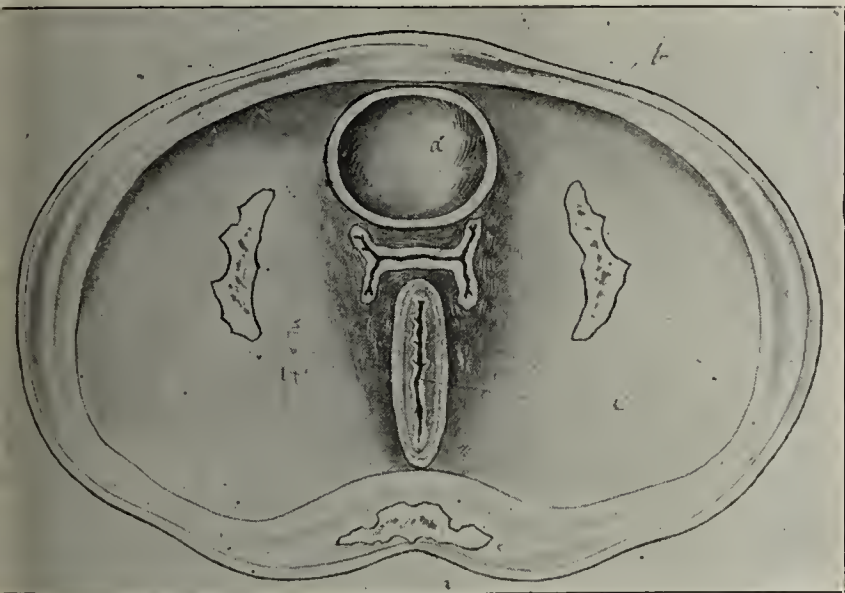


Fig. 1.—*a*, Bladder; *b*, vagina; *c*, rectum; *d*, sacrum.

opinions on the subject, and subsequently on observing the position of the uterus in over 1000 laparotomies, and in the bimanual examination of many others, I am convinced that my opinions expressed in my early thesis were substantially correct, and am prepared to announce that they were substantially based on facts.

The bladder and rectum, contrary to the belief of many writers, perform their normal functions without interfering with the position of the uterus. They dilate and contract in functioning, without pushing the uterus into different locations about the pelvis. A simple fact in their methods of collapse and distension makes this possible. By consulting the simple schematic illustration of Henley, of a horizontal section of the pelvic floor, and making that apply to a section of the pelvis at the cervix and bladder level (Fig. 1), you will find that the bladder and rectum each collapse with the long diameter anteroposteriorly, so that they both occupy as much of the anteroposterior space of the pelvis when they are empty as they can possibly do when they are normally distended. This obviously makes it unnecessary for either organ to interfere with the uterus, as far as the anteroposterior space of the pelvis is concerned, as long as the normal action is maintained.

If you will consult Fig. 2, which represents the normal

relation of the pelvic organs with the rectum and bladder empty, according to my ideas, you will notice that the free upper wall of the bladder does not lie in contact with the anterior wall of the uterus. That space, when not occupied with the bladder, normally distended, is filled with light, constantly moving, small intestines. These act as movable upholstery, surround the uterus on all sides, equalizing the abdominal pressure, and fill the necessary vacuum. If the uterus rested on the free superior wall of the bladder, as represented in Fig. 3, that important organ would never have a minute of equilibrium, but would constantly be moving about as the bladder filled and emptied, and as the cervix would remain comparatively stationary, the intra-abdominal pressure would impinge on a different portion of the uterus almost every minute of the day. At the time when the bladder would be empty, the intra-abdominal pressure would be exerted on the whole posterior portion of the body of the uterus in such a way as to positively interfere with the normal distension of the bladder.

My reasons for believing that the uterus occupies, approximately, the position that I have depicted in the drawing, Fig. 2, are the following:

1. Because it is the only position that the uterus can occupy in which it would not be subject to constant, important changes in position, with the normal changes in the bladder and rectum.

2. In this position the intra-abdominal pressure impinges on, or just posterior to, the narrow crest of the uterus, in the direction of its line of axis, and in such a way as to equally distribute the force to all of its supports; and the organ in this position does not receive the whole impulse of the intra-abdominal pressure at one point, but it is equally distributed to all parts of its surfaces and is divided by its lateral, posterior and anterior supports.

3. On opening the abdomen, in laparotomies, the uterus, when not pathologic, almost invariably lies in the position I have described as normal, with the space between it and the bladder filled with light coils of small intestines.

By again consulting Fig. 2, it will be observed that the vagina is parallel with the brim of the true pelvis, the uterus lies in a direction at right angles to the vagina, so that its fundus is on a line with the plane of the superior strait of the pelvis, and just half way between the promontory of the sacrum and the symphysis pubis, with the cervix directed backward, lying within an inch and a half of the hollow of the sacrum. The bladder, when collapsed or moderately distended, is a triangular-shaped body; not flat like a plate, nor contracted into a sphere. The base of the triangle corresponds to the peritoneal surface, the apex to the urethra. The anterior wall corresponds to the symphysis, to which it is loosely attached; the posterior or inferior wall corresponds to the anterior wall of the vagina, to which it is more intimately attached. The rectum, when empty, collapses with the long axis of its diameter in an anteroposterior direction.

The sacro-uterine ligaments prevent the cervix from extreme excursions forward. The anterior vaginal wall prevents the cervix from going too far backward, and the round ligaments restrain the fundus of the uterus from backward dislocation. The vaginal column, the rectum, and the perineum act as a lower floor or cushion for the uterus, while the peritoneum envelops the whole organ above and the broad ligaments restrain it laterally. Its free peritoneal portion is surrounded by coils of small intestines. Finally, this organ, which represents

the principal organ of generation, is surrounded by a bony wall, second to no other wall of protection, except that one which was found necessary to place around the brain. Thus, an organ of paramount importance, it is protected within by elastic guys and cushions, and from without by a bony case.

LYMPHATICS OF THE FEMALE PELVIS.

As gynecologists, it is important that we should know something of the lymphatic distribution from the female pelvis. From a practical standpoint we can cover this in a word. Practically, we should know what route the lymphatics take in leaving the pelvis, so that we may know what glands filter them. (Fig. 5.) The lower end of the vagina and the vulva is drained through the deep and superficial inguinal glands respectively. (Fig. 5a.) Enlargement of these glands, from infection or malignant metastases, would indicate that the source of the infection invasion was in the vulva or lower vagina. The upper two-thirds of the vagina, and the

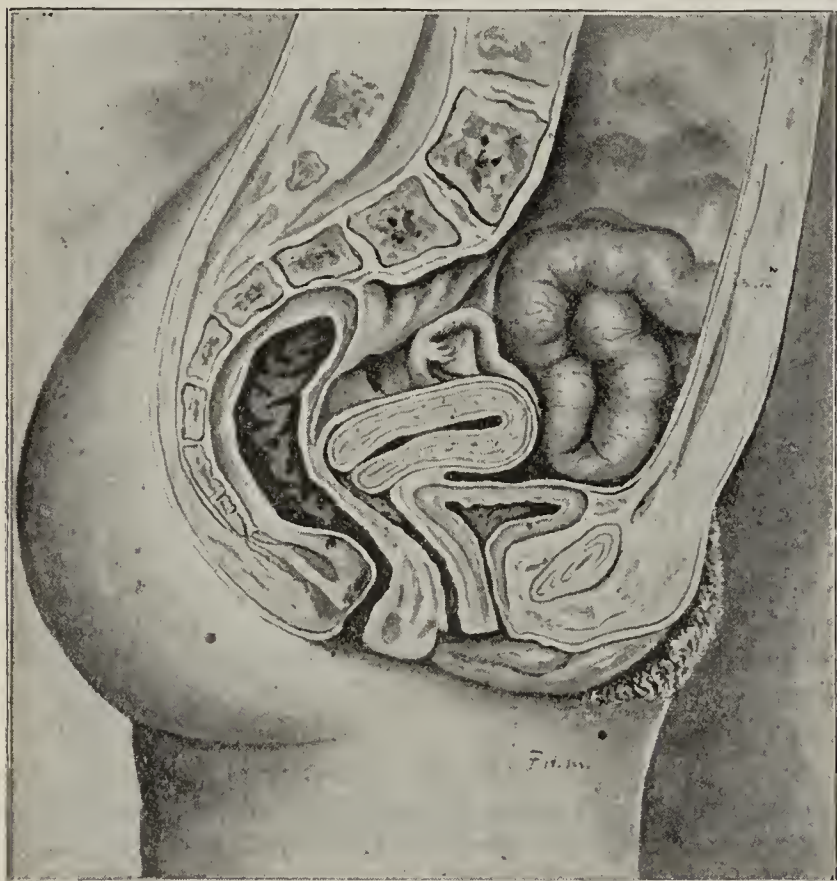


Fig. 2.—Author's schematic drawing of normal relation of pelvic organs.

cervix uteri, and a portion of the body of the uterus, are drained through the obturator and the deep iliac glands (Fig. 5b), while the lymphatics of the fundus, of the uterus and the Fallopian tubes and ovaries are filtered through the lumbar glands. (Fig. 5c.)

BLOOD-SUPPLY.

Three things particularly interest us in the blood-supply to the pelvis:

1. The arterial supply to the pelvic organs is derived from widely separated points, and it is provided with the freest anastomoses. This appears to be a wise provision to guard against the possibility of depriving the important organs of the pelvis of blood, as a result of a simple accident to any of the parts. For instance, one-third of the blood-supply to the uterus passes through the spermatic or ovarian arteries (Fig. 6), which spring directly from the abdominal aorta and travel a long distance before reaching the organs they supply, while two-thirds of the blood-supply arrives through the uterine arteries from the internal iliac vessels.

2. The veins of the uterus contain no valves.

3. The left spermatic or ovarian vein enters the general circulation at a disadvantage, as it enters the left renal vein at right angles, while the right spermatic vein enters directly the vena cava at an advantageous angle. This fact has a practical bearing, as it partly accounts, no doubt, for the fact that the left appendages are more often diseased than the right.

THE NERVE-SUPPLY.

The female pelvic organs are so abundantly supplied with nerves, both of the spinal and sympathetic varieties, together with numerous nerve ganglia, that this part of the nervous system has been called the abdominal brain (Fig. 7). It interests us to know that the hypogastric plexus, in its continuation below, forms the pelvic plexus, and that from the pelvic plexus arises the vaginal, the uterine, the vesical and the hemorrhoidal plexuses. It interests us to know that these various groups of nerves are intimately connected with each other, and that they are directly formed from the long chain of



Fig. 3.—Improper illustration, showing uterus too far forward so as to interfere with bladder, and rectum collapsed laterally.

sympathetic cords and ganglia which flank the spinal cord, from, and including, the brain above, to the coccyx ganglion below. It especially interests us to know that these groups of nerves communicate with and are, to a degree, under the influence of the spinal nerves, and therefore the cerebrospinal centers. It is also interesting to know that they have nerve centers of their own in numerous ganglia, distributed about in the course of their branches, and therefore have power to originate independent influence among the organs of their distribution. Thus, the uterus and its appendages possess nerves, 1, of sensibility in the sensory nerves of the cerebrospinal center; 2, nerves of motion in the motor nerves from the cerebrospinal center; 3, communicating nerves, which connect the sympathetic plexus of nerves directly with the cerebrospinal centers, and with other plexuses, by direct communication of fibers, and through the general sympathetic chains; and 4, through nerves receiving their influence directly from the ganglia located in or about the organs.

The study of this great abdominal and pelvic brain is one of great interest and profit to the gynecologist.

because there is nothing corresponding to it in the male which is worthy of comparison with it. It is conspicuously obvious to the thinking man why this is. The uterus, with its great function which makes woman mother, demands this second brain.

THE USE OF THE PELVI-ABDOMINAL BRAIN.

This large network of nerves has many duties. It provides for the intelligent nutrition of these organs from birth to puberty. In this respect the action is common in both sexes. At puberty these nerves provide for the beginning of menstruation. Here the ganglia develop and the automatic cycle of menstruation is cared for. Automatically the nerves of nutrition provide for an enlargement of the pelvis, development of the external and internal genital organs, the enlargement of the breasts, and the storing up of adipose tissue as emergency food for the offspring of the woman.

The sensory nerves of the organs of generation develop *pari passu* with all these changes; the sexual instinct and the powers of sexual gratification are provided for. When conception occurs the wonderful work

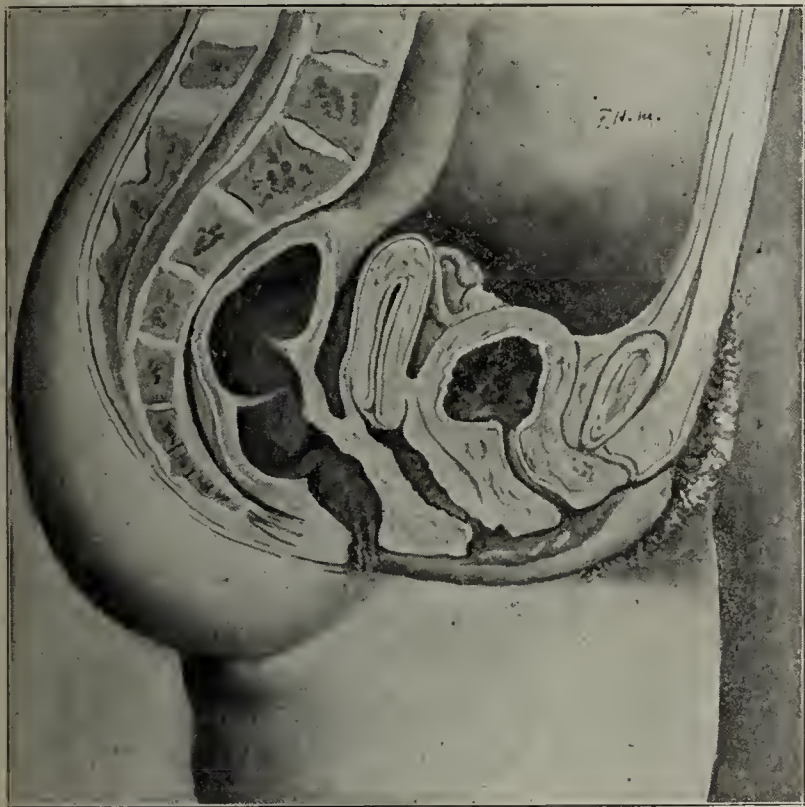


Fig. 4.—Illustration after Savage. Shows uterus too far back. Bladder collapsed like a ball.

of the abdominal brain begins. Through its communicating branches it must immediately negotiate with the heart for more blood for the new requirements for nourishment in the embryo; with the stomach and intestines, with the former to digest more food, with the latter to increase its assimilation; with the breasts for preliminary changes to provide for the required development in their milk glands, and through the cerebro-spinal nerves with the brain, to increase hunger and to develop the affections of the mother for her developing offspring. As the fetus grows, automatically, must the uterus be developed; must other organs of the pelvis and abdomen be carefully prepared to make room for the rapidly growing uterus; must menstruation be stopped; must the ligaments of the pelvis be softened; must the pelvic outlet be gradually prepared for the inevitable birth. All develop, gradually, automatically and intelligently, and as it becomes more complex, is less under the control of the higher brain. It finally becomes the function alone of the nervous system, not connected with the intelligence of the individual. Then the most remarkable thing of all occurs! On a given day, when

the time is ripe, without warning, independent of the woman's intelligence, the wonderful labor of birth begins! The cervix is caused to soften and dilate, the muscles of the uterus begin to close around its burden, the head of the child is crowded into the pelvis, the glands of the genital tract everywhere begin to secrete an abundance of lubricating fluid, the cervix fully dilates, the head reaches the sensory nerves of the perineum, and for the first time in months the woman is called on to assist in the great work of bringing forth her child. She is almost compelled to contract the great voluntary muscles of the abdominal wall, and at last the great nervous intelligence of the abdomen has succeeded in its task and has brought forward a child. Finally this network of nerves and ganglia brings forth involution. It expels the placenta, it sends forth a final gush of antiseptic fluid, it contracts the uterus until its great

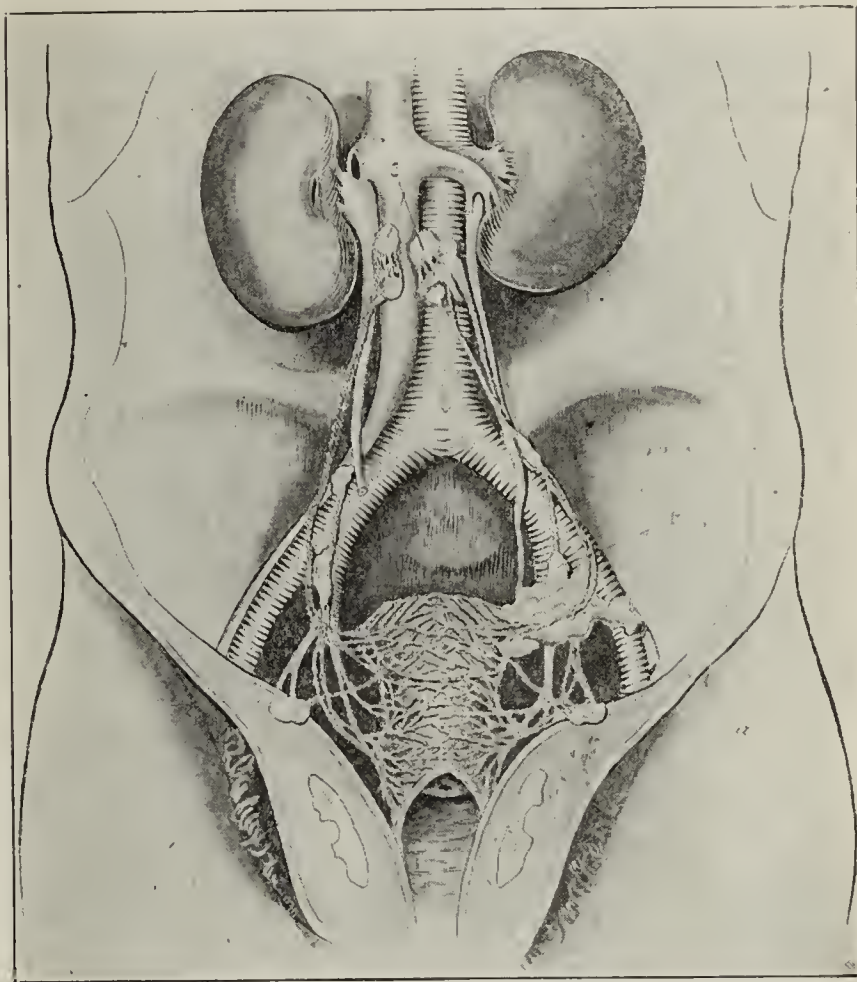


Fig. 5.—Lymphatics of the pelvis. a, Deep inguinal glands; b, deep iliac glands; c, lumbar glands.

valveless veins can not bleed, it causes a rush of blood to the already prepared breasts. This it does immediately. In two days the breasts secrete milk, in two weeks the active nutrition in the pelvis has changed the uterus from an organ of pounds in weight to one of as many ounces, the enormously distended external genitals contract and the woman is again, after nine months of most wonderful experience, a normal woman nourishing her offspring.

The practical side of the fact of the wonderful development of the nerve plexuses in the female pelvis and abdomen, it seems to me, is easy to recognize. This intricate mechanism of nerves which works on automatically in health without friction or pain, or consciousness of its activity to the individual possessing it, accomplishing such remarkable results, is capable of becoming one of the most complicated nests of torture one can imagine, if for any reason the normal arrangement becomes disturbed. It is like a telephone system in a great city, with its many wires, stations and substations, with its short-distance and long-distance 'phones, which when in perfect order are a marvel of

perfection, but which after an accident that destroys a station or grounds a system of wires, immediately becomes a hopeless confusion.

A displacement of the uterus, or a center of infection within its walls, has the effect of disturbing the endings of a large number of communicating nerves; this will result in false impression being conveyed to the heart, lungs, stomach, intestines and brain. As these impressions are not regulated, the functions of these various organs will become erratic and unsymmetrical. In one, the functional activity will become increased, in another decreased. This lack of harmony will soon bring disaster to the nutrition of the body, this will weaken the central nervous system, the will power will be decreased, and in a short time we will have a poorly-nourished, weak, hysterical woman, with but little apparently in the way of local disturbance to account for it all.

HISTORY OF CASES.

Nothing can be of more importance in pointing to a diagnosis in given cases than that which is contained

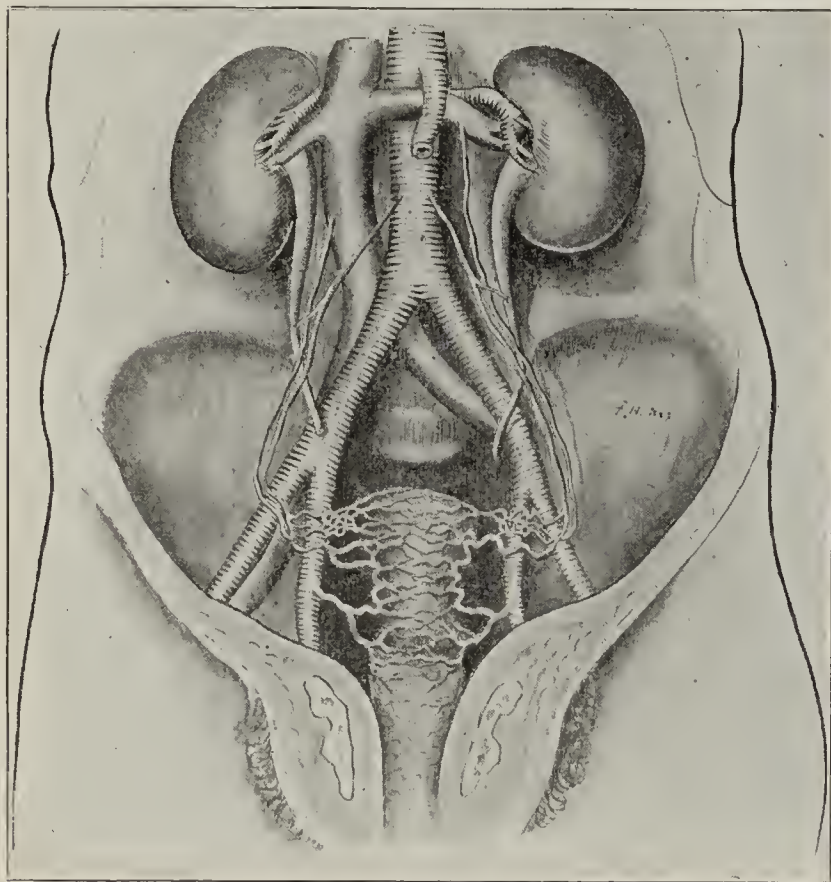


Fig. 6.—Blood supply to female pelvis.

in a well-gathèred history. A blank form should be employed, in order that a systematic method may be cultivated, and in order that nothing should be neglected. The necessity of a history is so obvious that I will not dwell on it further than to give one or two examples, which will illustrate its importance in arriving at conclusions.

A young woman will state in the history that at the first menstruation she experienced, it was accompanied with excruciating pains of one or two minutes' duration, and with intervals of rest between of five to ten minutes, that the pains gradually grew less and less, and finally ceased with the termination of the flow. We know here that some form of obstruction existed in this case, and from beginning at the first menstruation it was probably due to non-development of the uterus, with an acute anterior flexion.

A woman gives a history of perfect health up to the time she was married three months ago. Suddenly, after a few weeks of irritation about the vulva, some burning at urination, some discharge from vagina, she had a

severe excruciating pain in one side of the pelvis, she went to bed and had a fever; swelling and extreme tenderness of the lower abdomen, chills and sweats, and the doctor treated her for inflammation of the bowels or peritonitis. She finally recovered partially, but has never been free from pelvic pain or irritation since. She has become thin, nervous, despondent, hysterical and an invalid! This woman was infected after marriage by the gonococcus, the infection extended into the tubes, and finally, from overdistension of the pus-tubes, the

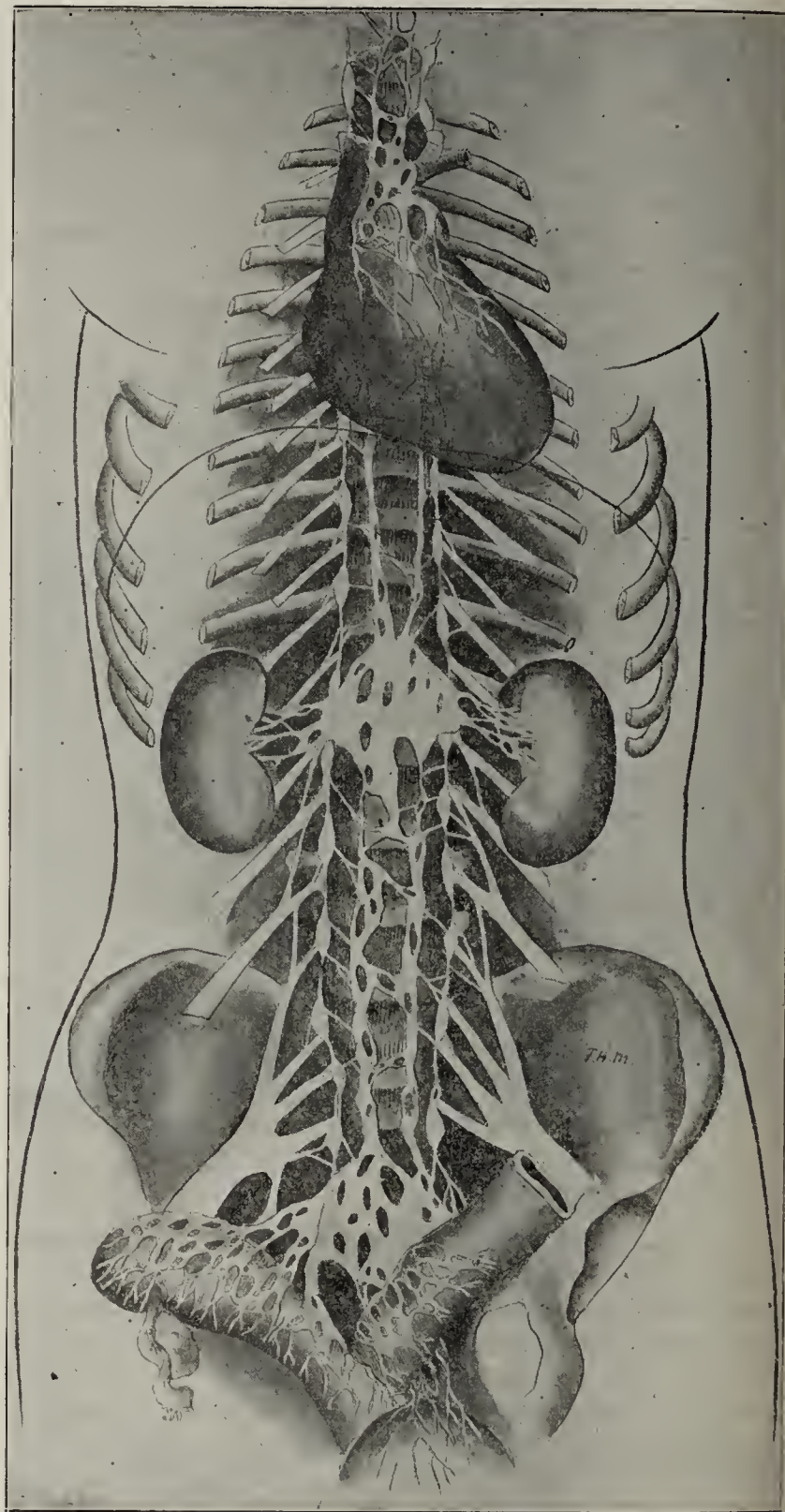


Fig. 7.—Nerve supply to female abdomen and pelvis.

The author respectfully refers the reader to Prof. Byron Robinson's original drawing of the nervous system of the female abdomen.

peritoncum was invaded and localized peritonitis developed, the pus cavity was closed off and the peritonitis limited by a wall of adherent intestines and omentum.

A third gives a history of perfect health through a long life of usefulness and child-bearing, and finally reaching a well-earned rest two years before, at the age of 50, by the appearance of the menopause. Within two months, after having been free of menstruation for two years, a gush of straw-colored fluid came from the vagina. This has been repeated two or three times,

and once or twice there has been some bright blood. The discharge has been on the increase some; it has become offensive; she has been losing flesh rapidly; she has had some uterine pain of a steady sharp character. A peculiar change of complexion has developed. She has become unusually weak! This woman has given us the classical history of carcinoma of the uterus.

And so, there are many other stories which will come out in the histories, often making easy the task of diagnosis.

EXAMINATION OF PATIENTS.

The examination of a gynecological patient should be general and local. The *general examination* should be conducted in such a way as to discover if all organs outside of the pelvis are organically healthy. If there are symptoms which indicate that the eyes possess an error of refraction which should be corrected, we should certainly have that point cleared by some one in whom we have confidence. The heart and lungs, the stomach and intestines, should be thoroughly investigated. The condition of the blood, the condition of the urine, should

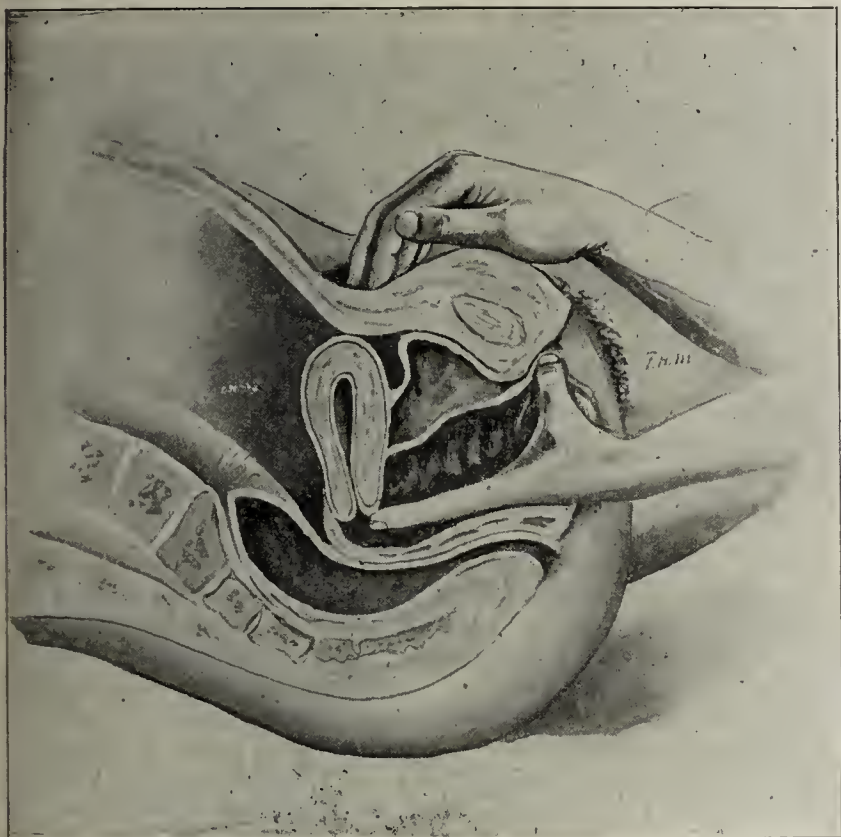


Figure 8.

both be passed upon by a competent judge. It is due to ourselves that we eliminate, or if it is impossible to eliminate, to at least recognize, any serious organic difficulty outside our own narrow specialty. Nothing can be more humiliating than to wake up to a failure, after giving a patient a long course of treatment, due to our carelessness in recognizing some gross lesion in another part of the body.

The *local examination* consists in inspection and manual manipulation, and the examination with instruments. With a patient lying in a horizontal position, with the limbs fixed so that the bottoms of the feet are resting firmly on the table, with the clothing removed, with the exception of the loose under-garments, the abdomen should be carefully inspected and palpated. The pelvic region is first inspected and carefully palpated. Unusual enlargement of the uterus, or abdominal growths of large size, will immediately be recognized. The abdomen should be examined for free fluid. The region of the appendix should be carefully palpated in every case, with the idea of determining any indication of tumor. This is accomplished by the examiner

standing at the right side of the pelvis and firmly pressing on the abdominal walls near the center of the abdomen, below the umbilicus, and drawing the palmar surfaces of the two hands employed, with less resistance to the right side, allowing the muscles to gradually slip from beneath the fingers. Where a marked induration exists, percussion will give valuable information.

An attempt should be made in every case to palpate each kidney. A normal kidney is with great difficulty palpable. Any marked enlargement of the kidney or displacement is easily recognized. The operator, in attempting to palpate the kidney, should stand on the side of the patient of the particular kidney to be palpated, and should place his left hand beneath the patient's loin, just external to the spine, and just below the short ribs, and the other hand is placed on the abdomen near the center, at, or just above, the umbilicus, and as the upper hand presses firmly, it is drawn toward the operator. This movement will engage the kidney if it is palpable. The same maneuver is carried out on the opposite side.

The next point of importance to palpate, is the region of the gall-bladder. An enlarged gall-bladder can frequently be palpated.

The systematic examination of the abdomen, in every case keeping in mind these prominent points, soon establishes a habit which will make an operator acute in detecting minor changes, and many things will be revealed which would never come out in a simple bimanual examination of the pelvis.

The patient should now be brought to the end of the examining table, with her two feet supported on the stirrups, and the buttocks at the edge of the end. The examiner separates the limbs and makes a systematic inspection of the external genitalia. The clitoris is first examined, and the presence or absence of adhesion between it and the prepuce. The meatus of the urethra is next examined. The presence or absence of infection is estimated by the appearance of the mouths of Skene's glands. The presence of polypi or a condition or displacement of the urethra is noted. The large and small labia surrounding the vulva are next inspected for signs of pathology. The mouths of the ducts of the vulvovaginal glands are carefully scrutinized for signs of infection. The perineum is next carefully examined, and its strength estimated by palpating it between a finger placed in the verge of the anus and another in the vagina. The anterior and posterior vaginal walls are observed in order to detect signs of prolapse.

The digital examination of the internal pelvic organs is now in order. (Fig. 8.) The index finger of the left hand should be employed as a routine for the purpose; because the palmar surface of that finger will naturally be directed to the left side of the pelvis, where disease more often exists; because the index finger of the left hand can be trained to a higher sense of acuteness than the strong right hand; because it leaves the strong right hand for external manipulation, which frequently requires considerable strength and endurance; it makes the operator ambidextrous; it reserves the right hand for handling instruments, while they may be directed by the left.

The vagina is rapidly examined with a sweep of the finger; the cervix is then examined, and its size, consistency, and condition in regard to lacerations, or pathological growths observed by the sense of feeling; the position of the cervix in the pelvis is also noted, as this gives a clue to the position of the balance of the uterus.

The operator now attempts to fix the uterus between his finger in the vagina, steadying the cervix, and a hand placed on the abdomen, a short distance above the symphysis, in such a way as to reach the fundus of the uterus. With the uterus in normal position with the vaginal finger in front and beneath the cervix, the fundus can easily be grasped as represented in Fig. 8. If the fundus of the uterus is retroverted, it can be palpated by placing the vaginal finger behind the cervix and pressing the fundus down on it with the hand above. The operator, in making a systematic bimanual examination of the pelvic organs, must succeed in palpating and examining the exact position of the uterus before he can estimate the condition of diseased appendages, or expect to palpate the normal tubes and ovaries.

With the uterus thoroughly in hand, it is a simple matter to pass to the left or right, and examine the tube or ovary, or both, of the respective sides. If the tubes or ovaries are diseased and enlarged, it is comparatively easy, with practice, to grasp them between the hand on the abdomen and the finger in the vagina. When they are normal, and the abdominal walls of the woman are unusually thick, or unusually unyielding, they may not be palpated. Remember that the tube entering the horn of the uterus is soft and inelastic to the touch, that the ovary is deeper in the pelvis at a short distance from the uterus, spherical in shape, and elastic to touch.

Patients should be examined under an anesthetic, preferably ether, if conditions exist making it impossible to make a satisfactory diagnosis of the condition of the pelvis without.

FOUR CASES OF CALCULI IMPACTED IN THE URETER.

NEPHRO-URETERECTOMY. ABDOMINAL URETERO-LITHOTOMY. VAGINAL URETERO-LITHOTOMY.

(From the Gynecological Clinic of the Johns Hopkins Hospital.)

B. R. SCHENCK, M.D.

BALTIMORE, MD.

Among the first to recognize the importance of operative interference in cases of calculus impacted in the ureter was Henry Morris,¹ of London, who as early as 1884 set forth the important principles governing the operative treatment of these cases. Although a considerable number of cases of ureteral stenosis from calculus had been reported clinically, and many in post-mortem protocols, there are but three brief records of operations, previous to Mr. Morris's paper.

In 1882, Bardenhauer² reported the successful removal of a stone from the ureter, by retroperitoneal ureterotomy, after which the ureter was closed with fine silk sutures. The other two cases are very briefly mentioned by Emmet,³ in both of which calculi were impacted in the vesical end of the ureter, one being removed by cystotomy, and the other by vaginal ureterotomy.

Morris's case was that of a woman of 55 years, with a history of renal colic for thirty months, who for six days had had almost complete anuria. On digital examination of the bladder, a calculus was felt impacted in the orifice of the left ureter, and Morris points out that a vesical ureterotomy could have been done had the proper instruments been at hand. In discussing this case, the author says: "I know of no other case in which a calculus has thus been detected during life, although Dr. Rawdon,⁴ of Liverpool, has reported an interesting case, in which a calculus impacted in the lower end of

the ureter, was detected by a finger in the rectum, during life, and verified after death." The indications for digital exploration of the bladder, with a view to ureterotomy, are thus given. "As regards the question of surgical operation in which there is impaction in the ureter, there is no doubt but that in some of them the calculus could be removed by nephro-lithotomy or pyelo-nephrotomy. . . . and there is good reason to believe that with the more frequent resort to digital exploration of the kidney, through a lumbar incision, a calculus impacted in the upper end of the ureter will not infrequently be detected, and extracted through the loin. . . . Calculi impacted in the intermediate parts of the ureter are practically beyond the reach of the surgeon." In view of the subsequent history of ureterotomy and the rapid advances which have since been made, these quotations from this early paper of Morris are of much interest.

Among the earlier cases of operation for removal of calculi impacted in the ureter, which have been much quoted throughout the literature on this subject, are those of extraperitoneal ureterotomy reported by Kirkham,⁵ Ralfe and Godlee,⁶ and Twynam⁷ in 1889, and Cabot⁸ in 1890; those of intraperitoneal ureterotomy reported by Cullingworth⁹ in 1885, and Arbuthnot Lane¹⁰ in 1890; that of combined intraperitoneal and extraperitoneal ureterotomy by Hall¹¹ in 1890; and that of vaginal ureterotomy by Cabot¹² in 1890.

As the total number of operative cases in the literature is still less than ninety, very many of which are but briefly cited, it has seemed important to report, somewhat in detail, the cases which have come to operation in the gynecological department of the Johns Hopkins Hospital. To these are added the notes of a case recently occurring in the service of Dr. W. S. Halsted. The operation in each of these four cases was done by Dr. Howard A. Kelly.

CASE 1.—(Gynecological number, 6872.) Mrs. M. R., aged 29 years, was admitted to the service of Dr. Kelly, on April 25, 1899, complaining of pain in the left side, back and left lower abdomen, of three years' duration. The patient's family and past history was excellent; she had had four children and two miscarriages; the labors and puerperia were normal.

For the past three years she has suffered from intermittent attacks of dull aching pain in the left side and back, extending down into the left lower part of the abdomen. These attacks have occurred about once a week and usually last from three to four hours, being severe enough to require morphia for relief. The severest attack which she remembers was about one year ago, and this lasted about eight hours. The patient has noticed that the urine is very small in amount during an attack, and when the pain is unusually severe the secretion is almost completely suppressed. After the pain has passed away, however, the amount has sometimes been large, there having been voided as much as a quart in a short time. The urine has often been dark-colored, with a white sediment, but blood, brick-dust sediment or calculi have never been noticed. Micturition has never been painful. She gives no history of chills, fever, jaundice or nausea. The appetite has always been good, but the bowels have been somewhat constipated. There has at times been some headache and vertigo, but these symptoms have never been excessive. There has been no loss of weight and strength has been well maintained.

On physical examination the patient was found to be a well-nourished, young-looking woman. The abdomen appeared quite natural and was everywhere soft on palpation, the edge of the liver, spleen and kidneys not being felt. On deep pressure there was some tenderness in the left flank, but this was not marked. She described, very minutely, the location and direction of the pain during an attack, indicating this by drawing a line, beginning just below the twelfth rib on the left side, at the posterior border of the quadratus lumborum muscle, extending down to the crest of the ilium and thence anteriorly to a point just below the anterior superior iliac spine.

On admission the temperature was 98.6 F., and the pulse 100. The urine was clear yellow, with a specific gravity of 1017,

neutral, and contained a faint trace of albumin. Microscopically there were mucous cylindroids, a few pus cells, a few red blood-corpuscles and bladder epithelial cells, but no casts.

Previous to her admission to the hospital Mrs. R. had been seen by Dr. Kelly at his office, at which time a wax-tipped catheter was passed a few centimeters into the left ureter. On withdrawing the catheter there were definite scratch marks on the polished tip, from which the diagnosis of calculous stenosis of the ureter was made.

The day before operation the right ureter was catheterized, in order to ascertain the condition of the right kidney. In thirty minutes 8 c.c. of practically normal urine were collected, thus demonstrating the efficiency of the supposedly sound side.

Operation was performed May 5, 1899, by Dr. Kelly, with peritoneal and extraperitoneal incisions, nephro-ureterectomy, and drainage.

A catheter was passed into the left ureter and was distinctly felt to be gripped by, and then pass, one or more strictures in the lower part of the pelvis. The patient was then placed on the right side and an incision made midway between the crest of the ilium and the twelfth rib, anterior to the quadratus lumborum muscle, the peritoneum being opened just outside the descending colon. The right kidney and the upper part of the right ureter were palpated and found to be apparently normal. The left kidney seemed rather long, but normal, except for a deep depression in the center. The left ureter, on the contrary, was nodular, and enormously enlarged, being about the size of the descending colon. It was densely adherent at about the middle of the psoas muscle.

The enucleation was begun by shelling out the kidney, it being necessary to release numerous adhesions on all sides. After freeing and drawing the upper part of the kidney into the incision, the hilum was gradually tied off from above downward, taking care not to injure the large dilated pelvis. The renal vessels were tied separately with fine silk ligatures, divided, and the kidney freed, except around the pelvis, which was then slowly dissected free with scissors, as were about 5 cm. (2 inches) of the upper part of the ureter. This portion of the ureter was so firmly adherent to the peritoneum, muscle and cellular tissue that it had to be separated with great care, many small vessels being tied with catgut. The incision in the abdominal wall was then closed with catgut to each layer.

A second incision was now made, extraperitoneally, below the first and similar to that usually employed for tying the iliac artery. This extended mesially as far as the linea semilunaris, and was separated from the first incision by a bridge of tissue, about 6 cm. (2 2/5 inches) wide. The enucleation of the ureter was then continued downward to the brim of the pelvis, and over the bifurcation of the iliac artery, where it was again found densely adherent, and had to be freed by a process of slow dissection. While continuing the separation downward along the floor of the pelvis the peritoneum was inadvertently torn, as was also the ureter, close by the bladder, at the point of stricture. At this point a rough ovoid calculus, 3.5 cm. (1 2/5 inches) long and 1.5 cm. (3/5 inches) in diameter, was found completely occluding the lumen of the ureter.

The ureter was then cut off just below the calculus, and the kidney and ureter removed in one piece, the ureteral stump being closed over with catgut sutures. Considerable pus had escaped from the torn ureter, and, after thorough irrigation, a gauze drain was inserted from above, meeting another placed through the vaginal vault. A third drain was placed in the position of the kidney, and the remainder of the wound closed with interrupted silkworm and catgut sutures.

Ether anesthesia was used, the time of the operation being three hours and twenty minutes. The patient stood the operation well, the pulse at the end being 124 to the minute.

Five hours after, there was a condition of profound shock, requiring most urgent stimulation, but thereafter the convalescence was entirely satisfactory. The drainage tracts gradually contracted down, the remainder of the wound having healed per primam. At the time of discharge from the hospital, the twenty-sixth day, there still persisted a sinus, the size of the little finger, extending 10 to 11 cm. (4 inches) down into the pelvis, and discharging a small amount of thin purulent fluid. There was absolutely no pain and the general condition was excellent.

A letter recently received from Mrs. R. states that she is entirely free from pain, has gained twenty-seven pounds in weight, and is in excellent health.

ABSTRACT FROM THE PATHOLOGICAL REPORT (NO. 3127).

The kidney is altered in shape and is somewhat enlarged, being 13.5 cm. (5 4/5 inch) long. At the middle of the convex border is a triangular depression 1.5x2.5 cm. (1/2x1 inch) in size and 5 mm. (1/5 inch) in depth, whose base is rough and consists of dense fibrous tissue. The kidney substance itself is rough, presents well-marked lobulation, is slightly granular and the superficial blood-vessels are dilated. The cortex is dense in consistency, while the pelvis is filled with fluid.

On section, the upper portion is congested, but fairly normal, while at the lower pole the cortical and medullary portions are ill defined and the congestion less marked. Where the depression was noted externally, the renal substance has been replaced by a band of dense fibrous tissue, averaging 5 mm. (1/5 inch) in thickness. The pelvis is moderately dilated, its mucosa pale and smooth, except over the apices of the pyramids, where it is much congested.

The ureter is represented by a large, sacculated cylinder, 20 cm. (8 inches) long, and averaging 3 cm. (1 1/5 inches) in diameter. It is slightly kinked, and contracted at the junction of the first and second quarters, and again at the third and fourth, giving it somewhat the appearance of a string of sausages. The whole is enveloped in a mass of adhesions, containing lobules of fat. On pressure, it is partly fluctuant and partly firm and resistant.

On section, the ureter is of unequal caliber, presenting irregular intervals of dilatation and contraction. The lumen varies from 5 mm. (1/5 inch) to 1.5 (3/5 inch) in diameter. The walls are greatly thickened and edematous, in some places reaching 1.5 cm. (3/5 inch) in thickness. The mucosa is at intervals smooth, at others corrugated. In places it is anemic and thinned out, and in others congested and edematous. The lumen contains a small amount of seropurulent fluid.

Microscopically the kidney shows the changes commonly seen in advanced, chronic interstitial nephritis. Sections of the ureter show it to be ensheathed in a mass of adipose, and newly-formed connective tissue, rich in blood-vessels of moderate size, and showing a general leucocytic infiltration. The walls are greatly thickened, owing in part to hypertrophy of the smooth muscle, but chiefly to a thick tunica of connective tissue, external to the muscular coats. This tissue is very edematous and contains several foci of round cell infiltration. This coat in places is 7 to 8 mm. (1/3 inch) in thickness.

The mucosa lining the canal is also thickened. It presents the usual folds, and is covered in general by intact, transitional epithelium. Here and there over the summits of the folds it is thin, sometimes only one layer of poorly staining cells remaining, while at one or two points the surface is denuded of its epithelium. In sections taken at the level of the impacted calculus the lumen is dilated, the folds of the mucous membrane flattened, and the mucosa thinner than elsewhere.

The calculus is ovoid in shape, with tapering ends. The surface is rough, crystalline and of a yellowish-brown color. It measures 3x1.5x1.3 cm. (1 2/5x3/5x2/5 inch), and consists principally of calcium carbonate, with small quantities of calcium and magnesium phosphate.

CASE 2.—(Gynecological number 6598.) Miss K., aged 37 years, was admitted to the service of Dr. Kelly, Johns Hopkins Hospital, Dec. 22, 1898, complaining of a painful swelling in the right side of the abdomen. Except for irregular menstruation, she had always been well and strong until eight years before coming to the hospital, when she first noticed a swelling in the lower part of the right side, which she describes as having been about six inches long and four inches wide. This swelling came on rather gradually, attaining its maximum size in about one week, when, after persisting for three or four days, it gradually disappeared. During this time she felt miserable, was nauseated, had a constant frontal headache and a dull pain in the abdomen, with now and then sharp cramps in the region of the swelling. She does not remember having had fever, and does not recall having passed at any time either unusually small or unusually large amounts of urine.

The subsequent history has been that of a repetition of similar attacks, usually at intervals of three or four months. For the last three years, however, the tumor has been reappearing every three weeks, and for the past six weeks it has remained permanent. During the first few days of this last reappearance the patient had an unusually sharp attack of pain in the right side, was much nauseated, felt feverish and had slight diarrhea. Micturition has never been painful, and there has been no hematuria.

On admission to the hospital the temperature was 99.2 F.

and the pulse 100. The heart and lungs were normal. The abdomen was unsymmetrical, the right half and right flank being more or less completely occupied by an area of elevation, which rose to within 1 cm. (1/5 inch) of the costal margin, and extended 6.5 cm. (2 1/2 inches) toward the symphysis pubis. Its greatest prominence was at the level of, and 1 cm. to the right of, the umbilicus. On palpation no definite tumor mass could be made out, one simply feeling a distinct area of resistance, extending downward from below the costal margin. The percussion note over this area was flat. Rectal and vaginal examinations were negative.

Urine on admission: The catheterized specimen was smoky, with a small amount of reddish precipitate, consisting of a large number of red blood-corpuscles, a few leucocytes and a few epithelial cells from the bladder; specific gravity, 1023; reaction acid. A trace of albumin was present; sugar test negative.

Operation, Dec. 24, 1898, was performed by Dr. Kelly, with abdominal uretero-lithotomy, suture of the ureter with fine silk and drainage.

An oblique incision, 20 cm. (8 inches) long was made over the prominence of the tumor, beginning posteriorly and extending downward and to the left. The peritoneum was opened, exposing the large dilated pelvis of the right kidney, pointing out anteriorly, the kidney cortex, which was only .5 cm. (1/2 inch) thick, being confined to the upper and outer pole. A free incision was then made into the lower pole of the sac, evacuating 370 c.c. of pale urine, and with it a little flat, dark colored stone 6 mm. (1/5 inch) long. The sac was so large and irregular that a search for the opening into the ureter was unavailing. The colon was then pulled over and a further search on the outside of the sac made without result, until the ureter was picked up, with the ovarian vessels, at the pelvic brim, pulled down in order to make it tense, and then followed up step by step into the cellular tissue behind the colon.

When a point 3 cm. (1 1/5 inches) below the renal orifice was reached, two stones were plainly seen and felt, firmly lodged in the lumen of the ureter. The calculi were 12 to 14 mm. (1/2 inch) long, the lower one being a little the larger. The ureter below them was normal in size and appearance. As suggested by Israel, an attempt was now made to push the stones up into the pelvis of the kidney, in order to remove them through the pelvic opening already made, but this was impossible without tearing the ureter.

The ureter, at the level of the impaction, was then freed of all its connective tissue envelope, and by means of a rope of gauze passed beneath it, pulled down within easier reach. After making a longitudinal incision, through the ureteral wall over the lower third of the lower stone, an unsuccessful attempt was made to dislodge it. As it could not be moved, the incision was carried upward, exposing the whole stone, when it was lifted out with difficulty, on account of the firm adhesions to the ureteral wall. The upper stone could not be pulled down and extracted through this opening, it being necessary to continue the ureteral incision until it was 3.5 cm. (1 2/5 inches) long. The second calculus, also adherent, was then picked out, leaving behind a roughened ureteral wall, which was considerably thickened at this level.

The incision in the ureter was then closed with twelve fine silk sutures, placed about 3 mm. (1/8 inch) apart, great care being taken not to encroach upon the lumen of the tube. The opening in the renal pelvis was sutured with interrupted stitches of fine silk, and the wound closed, with lateral drainage from the peritoneal cavity.

As an anesthetic 420 gms. of ether were given, the time of operation being two hours and four minutes. Throughout the operation the condition of the patient was alarming, the respirations being shallow and the pulse weak and rapid—140 to the minute. The general condition, however, was somewhat improved by a submammary infusion of salt solution.

The fluid evacuated from the hydronephrotic sac measured 370 c.c. (12 oz.), had a specific gravity of 1006, and was neutral in reaction. It contained a trace of albumin, no sugar, and its urea equalled .0014 gms. per c.c. Microscopically there were a few red blood-corpuscles and leucocytes.

The patient rallied well from the operation, her highest temperature being 101 F., on the evening of the third day. During the first week after operation the urine contained considerable quantities of blood, but this gradually diminished, and at the time of her discharge the analysis was as follows: Dark amber, with a small amount of reddish precipitate, consisting of red blood-corpuscles, leucocytes, ammonium urate and triple phosphate crystals, and a few hyaline casts; specific gravity, 1015; reaction, neutral; no albumin; no sugar.

The gauze drain was gradually removed, beginning on the sixth day. Except at the point of drainage, the wound healed *per primam*, and the subsequent convalescence was uneventful. She was discharged from the hospital on the thirty-first day after the operation.

Since leaving the hospital the patient's health has been excellent. She has had no recurrence of the attacks of colic from which she suffered previous to the operation.

CASE 3.—(Gynecological number 7762.) Mrs. J., aged 32 years, the mother of two children, was admitted to the service of Dr. Kelly, April 24, 1900, complaining of a swelling in the left flank and of pyuria of long duration. Mrs. J. dated her illness back eleven years, but previous to that had always enjoyed excellent health. During these eleven years she has had repeated attacks of renal colic, most frequently on the left side, but occasionally on the right. These attacks have varied in frequency, sometimes coming as often as once a month, the last one, however, having been about eighteen months ago, when there was a severe attack of pain on the right side. At this time she was examined by Dr. Malloch, of Hamilton, Ontario, who discovered a tumor in the region of the left kidney.

For many years there has been more or less pus in the urine; sometimes the amount is very large and again the urine becomes much clearer for a time. Whether the size of the swelling in the left side corresponds to the amount of pus in the urine the patient does not know. She has never noticed any hematuria, but has been told that there was blood in the specimens examined microscopically. Dr. Malloch also reports that no tubercle bacilli have ever been found, although repeatedly examined for. So far as known, no calculi have ever been voided. Urination seemed to be normal, although possibly somewhat increased in frequency. Mrs. J. thought that the tumor had increased somewhat in size during the past year, but at this time she suffered no pain, and came to the hospital only because advised to do so by her physician.

On examination the patient was found to be a slight woman, fairly well nourished, but with a somewhat sallow complexion. The lips and mucous membranes were pale, the hemoglobin being but 60 per cent.

The abdomen was somewhat asymmetrical, the left flank line bulging abruptly under the costal margin, causing the floating ribs to be displaced laterally. Toward the median line another swelling was apparent, most prominent in the parasternal line, just to the left of the umbilicus and extending downward to within 5 cm. (2 inches) of Poupart's ligament. On palpation a distinct tumor could be felt, extending from beneath the twelfth rib on the left, mesially to within 2.5 cm. (1 inch) of the median line and downward to within 5 cm. (2 inches) of Poupart's ligament. This mass was semi-fluctuant, rounded, and at a point half way between the costal margin and the umbilicus a distinct notch could be felt. The tumor was quite freely movable, descended about 3 cm. (1 1/5 inches) on deep inspiration, and could be pushed for a distance of 5 cm. (2 inches) upward and to the left toward the position of the left kidney. It was slightly sensitive on deep pressure.

The abdomen was everywhere tympanitic, except in the region of this mass, which was uniformly dull on percussion. The right kidney was distinctly palpable. No induration nor tenderness could be made out along the course of either ureter.

On April 25, Dr. Kelly examined the bladder and catheterized both ureters, according to his method with the open cystoscope and air-distended bladder. A wax-tipped catheter was first passed into the left ureter and up into the renal pelvis. The urine began to flow in thirty seconds, and in five minutes 15 c.c. had collected. When the catheter was withdrawn scratch marks were plainly visible on the wax tip.

The right side was then catheterized, also with a catheter tipped with wax. Soon after entering the ureter a partial obstruction was met, but after careful manipulation the catheter could be pushed up into the pelvis of the kidney. On withdrawing the stylet urine immediately began to flow, and in thirty-five seconds 60 c.c. were obtained, thus demonstrating a definite dilatation of the upper ureter and renal pelvis. On withdrawing the catheter it was found to be engaged until within 12.5 cm. of the external ureteral orifice. Deducting 4 cm. (the length of the urethra) and 2 cm. (the distance from the internal urethral orifice to the ureteral opening) the obstruction was computed to be 6.5 cm. (2 3/5 inches) from the bladder. The wax tip, after withdrawal, showed several long, deep scratch marks.

Cultures were made from the separated urines and from the bladder. All three showed a pure culture of the bacillus capsulatus of Friedländer.

The urinary examinations were as follows: Average amount

voided in twenty-four hours previous to the operation, 1300 c.c.; light yellow, diffusely cloudy; specific gravity, 1008; acid; no sugar; albumin present to the amount of one-tenth of 1 per cent. Microscopically, very many pus cells were seen, no casts, no red blood-corpuscles, and no crystalline elements. The urea equalled 3 gms. to the liter.

Urine from the right kidney: April 25, light yellow, with a flocculent white precipitate; acid; no sugar; a trace of albumin. Microscopically, pus cells and a few red blood-corpuscles were seen, but no casts and no crystals. The urea equalled 4 gms. to the liter.

Urine from the left kidney: Very pale, diffusely cloudy; faintly acid; no sugar; albumin present in much larger quantities than on the right side, but the amount obtained was not sufficient for a quantitative test. The precipitate of pus was also much greater than on the opposite side. Microscopically, there were many pus cells, large epithelial cells from the renal pelvis, and a few red blood-corpuscles; no casts and no crystals. The urea equalled $2\frac{1}{4}$ gms. to the liter.

On April 27, a radiograph was taken by Dr. C. L. Leonard, of Philadelphia, who happened to be present in Baltimore at this time. The plate distinctly showed a shadow in the region of the left kidney and another, about the size of an almond, on the right side. This appeared to be located in the position of the right ureter, at the point where it crosses the pelvic brim, and therefore appeared higher up than the position made out by the catheter. As was later shown, this error was due to the obliquity of the rays.

Operation was performed April 28, 1900, by Dr. Kelly, with left lumbar nephrolithotomy.

An incision 8 cm. ($3\frac{1}{5}$ inches) long was made through the skin and subcutaneous fat, extending downward and forward, directly over Petit's triangle. By pushing the external oblique muscle forward and the latissimus dorsi backward the fibers of the internal oblique muscle were exposed. By separating these fibers the thin fascia of the transversalis muscle came into view, and was incised, exposing the perirenal fat around the lower third of the kidney. After tearing away a portion of this fat the renal pelvis was aspirated, considerable purulent urine withdrawn, and a calculus demonstrated. A blunt artery clamp was then thrust through the kidney substance, the opening thus made being slowly enlarged by blunt dissection. A large dendritic calculus was then removed, the stone being partially crushed during its extraction. This was followed by very free hemorrhage from the renal parenchyma. Failing to control this with sutures, the incision was tightly packed with gauze and a firm gauze compress applied to the wound, a portion of which had been closed with interrupted silkworm-gut sutures.

Chloroform was used for anesthesia, the time of operation being twenty-five minutes. The pulse at the end of operation was 64 to the minute.

The convalescence from the operation was very satisfactory. For three days there was an abundant discharge of urine from the sinus, the amount, however, decreasing until the packing was removed on the tenth day. The opening of the sinus caused the amount to increase, but after several days it began to diminish, and on the twenty-third day there was practically none, the patient voiding 2190 c.c. (70 ounces). The temperature on the third day touched 103 F., thereafter being about 100 until the twelfth day, when it became normal and remained so. The urine following this operation had practically the same characteristics as that previously passed.

On account of the profuse bleeding which took place during the operation, it was not deemed best to remove the calculus from the right ureter at that time. On the twenty-sixth day, however, the patient's condition was excellent, the pulse being 70 and the temperature 98.4 F., and the second operation was done.

Second Operation.—On May 23, 1900, Dr. Kelly performed an exploratory laparotomy with vaginal ureterotomy.

Before beginning the operation both ureters were catheterized. The left ureter was patulous and urine flowed freely from the catheter. On the right side the same resistance was met as at the previous examination. The right catheter was left in place.

An incision 12 cm. (5 inches) long was made in the median line of the abdomen. The left ureter was found to be of normal size, there being no evidence of thickening. On the right side the ureter above the pelvic brim felt normal, and careful palpation of the kidney revealed no stone. The right tube and ovary were adherent over the ureter low down in the pelvis. After the separation of these adhesions the calculus was found to be located about 6 cm. ($2\frac{3}{5}$ inches) above the vesical opening. A small bulb syringe was now attached to the cath-

eter, which had been left in the ureter, and the pelvis and ureter were distended with about 50 c.c. of boric solution, in order to move, if possible, the stone into a position more advantageous for extraction. It was found, however, to be adherent and could not be loosened. With the assistant's hand in the abdomen, locating and fixing the stone, it could be felt through the vaginal vault. An incision was therefore made with the sharp-pointed scissors through the vault of the vagina, and the tissues separated until the thickened ureter was encountered. This was then slit open with the "alligator" scissors and the calculus extracted with stone forceps. No attempt was made to suture the slit in the ureter.

The abdominal incision was then closed and a small iodiformized gauze drain placed, from the vagina, against the ureteral catheter, which was left in place.

Chloroform was used, the time of the operation being forty minutes. The pulse, at the end of the operation, was 68 to the minute.

The catheter was allowed to remain in the ureter for sixteen hours, and during this time it drained 650 c.c. of urine. It then became occluded and there was leakage into the vagina. However, this discharge ceased when the catheter was withdrawn and there was absolutely none until the gauze pack was removed, on the ninth day. There was then leakage until the fifteenth day, when it entirely ceased. In every respect the convalescence was perfectly satisfactory and the patient left the hospital on the twenty-seventh day. On that day the urinary analysis was as follows: Amount, 1920 c.c.; light straw color, slightly cloudy, with a small amount of sediment composed of pus cells and epithelial cells; specific gravity, 1010; reaction, acid; a faint trace of albumin.

The calculus removed from the right ureter was the size and shape of an almond. Its surface was rough and of a brownish-black color. The weight was 1.25 gms. (19 grains) and the dimensions $1.8 \times 0.8 \times 0.5$ cm.

The condition of this patient remained excellent until the latter part of August, when she developed the symptoms of an acute intestinal obstruction. She was operated on by a surgeon in Canada, but did not survive the operation.

CASE 4.—Mrs. R., aged 56 years, who was admitted to the service of Dr. Halsted, Oct. 19, 1900, had always enjoyed excellent health until the menopause, six years before. Since then her health has been poor, especially during the past two years, when she began to have edema of the ankles and continual drowsiness, with now and then severe headaches. Although she had frequently experienced a dull aching pain in the back, there were never any severe attacks until August, 1900, when she was suddenly seized with a "tearing" pain in the left side, radiating downward into the lower abdomen. Between August and October she had six similar attacks; with the last two, chills and fever. The last attack occurred one week before admission to the hospital. During the paroxysms there was burning pain in the bladder, after which the urine was scanty and highly colored. There was no history of hematuria or the passage of calculi.

The general physical examination was negative. On October 26, at Dr. Halsted's request, Dr. Kelly catheterized the left ureter with a wax-tipped catheter, which passed readily into the renal pelvis without resistance. Immediately on the stylet being withdrawn turbid urine began to flow and, in four minutes 30 c.c. were collected, showing a marked hydronephrosis. The patient was then placed on her right side and pressure over the left kidney caused 5 c.c. more to flow, distinctly more cloudy than the first portion collected. Cultures made from the urine as it flowed from the catheter showed the infection to be caused by the bacterium coli commune.

The catheter was then withdrawn 3 or 4 cm., and was felt to be grasped and then pass by an obstruction. It was then readily withdrawn and distinct scratch marks were seen on the wax tip.

The diagnosis of calculus of the renal pelvis, with associated hydronephrosis, was made on the following points: 1, scratch marks on the wax tip; 2, gripping of the catheter at a point high up; 3, large amount of urine collected in a short time; 4, infected urine. This confirmed the diagnosis which Dr. Halsted had previously made.

Operation, by Dr. Halsted, was performed Oct. 29, 1900—left lumbar nephrotomy.

After laying open the pelvis of the kidney, a careful search of each of the calices failed to reveal a stone. A waxed bougie was then passed down the ureter and was felt to meet an obstruction 27 cm. from the kidney, past which it was gently pushed. On withdrawal distinct scratch marks were found on the wax, demonstrating that the calculus, which had previously

been felt high up, had slipped down to a point only a few centimeters from the vesical opening.

A vaginal examination was then made by Dr. Kelly and a nodule felt, high up in the left fornix. The vaginal wall was friable and broke down during the examination, allowing the stone to be worked down for a distance of about 4 cm. The ureter was then incised and a rough calculus weighing 2 grs., and measuring 1x0.5x0.4 cm., pulled out by means of a small tenaculum. A gauze drain was inserted into the vagina.

The patient made an excellent recovery. There was leakage of urine into the vagina, abundant at first, but gradually becoming less, and ceasing entirely on the sixteenth day.

DIAGNOSIS.

Unfortunately the diagnosis of calculus stenosis of the ureter is most difficult. While lumbar pain, associated with anemia and a fixed point of tenderness, may give important clues to this condition, it is often quite impossible to make the differential diagnosis from renal calculus. When the stone can not be felt through the vagina, rectum or abdominal wall, as has been done in thin individuals, there are but two satisfactory means of diagnosis, that of catheterizing the ureters with a bougie tipped with wax, as was done in Cases 1, 3, and 4, and since successfully employed by Dr. Kelly¹³ in a case recently reported, and that of radiography, which in the hands of a few workers has given most excellent results. When the diagnosis can not be made by any of these means, resort must be had to an exploratory celiotomy, with direct palpation of the ureter, or a lumbar nephrotomy with probing of the ureter.

The impaction of stones, descending from the kidney, is due not only to their size and irregularity of form, but also to peculiarities of the ureter along its course, giving these well-recognized points of predilection for their arrest: 1, from 3 to 6 cm. (1 1/5 to 2 2/5 inches) from the kidney; 2, at the point where the ureter crosses the iliac artery; 3, at, or just above, the vesical orifice of the ureter.

In tabulating 84 operative cases, the position of the stone was found cited in 81. In 19—23.4 per cent.—the calculus was located within 6 cm. of the kidney; in 8—9.8 per cent.—at or near the pelvic brim; while 41—50.6 per cent.—were found within 5 cm. (2 inches) of the vesical opening, leaving but 16.2 per cent. for all other locations.

ROUTE FOR REMOVAL OF STONE.

The route to be selected for the removal of an ureteral stone depends of course upon the position of its impaction. If the calculus is located in the vesical portion of the ureter, i. e., that portion which traverses the bladder wall, it may be reached *per urethram*—in the female—the ureteral opening being either dilated or the mucosa slit sufficiently to allow the extraction of the stone. This has been accomplished 7 times, with 1 death. When located low down, within 2 inches of the bladder, the choice is between vaginal ureterotomy, reported in 13 cases, with 1 death; rectal ureterotomy, chosen by Ceci,¹⁴ whose patient died twenty-six hours after operation; vesical ureterotomy, of which there are recorded 5 cases, with 1 death; or ureterotomy through a perineal incision, done successfully once.

When the calculus is so situated that it can not be reached by any of these operations, the ureter should be exposed by an extraperitoneal incision, a longitudinal slit made in its wall over the stone, which is then extracted, and the incision closed with interrupted fine silk sutures. The possibility, however, of the coexistence of renal calculi, warrants the exploration of the pelvis of the kidney in cases where the extraperitoneal in-

cision is sufficiently high to allow the kidney to be brought out of the wound and palpated.

On the other hand, ureterotomy through an abdominal incision is a more dangerous operation, on account of the liability of infection, and less desirable, on account of the possibility of a more troublesome fistula, should a sinus result. Transperitoneal ureterolithotomy has been reported 5 times (including Case 2) with 1 death, whereas in 24 cases in which the route was extraperitoneal, there have been but 3 deaths. In case the diagnosis has been made through an abdominal incision it is advisable to make, as Thornton,¹⁵ Lloyd¹⁶ and Morris¹⁷ have done, a new incision in the lumbar region for the removal of the stone.

When the renal cortex is found to be degenerated and the pelvis and ureter infected, as in Case 1, here reported, nephro-ureterectomy is the most conservative procedure.

While many cases of stone impacted in the ureter have been noted clinically and in post-mortem protocols, a careful search of the literature has revealed but 80 reports of operations for the relief of this condition. A summary of these operations, including the four cases here reported in detail, follows.

Operation.		Cases.	R.	D.	Mortality Per Cent.
A.	Nephrectomy—				
	1. Lumbar	3	0	3	100
	2. Abdominal	1	1	0	
B.	Nephroureterectomy	4	4	0	
C.	Nephrotomy (including pyelotomy)—				
	1. Lumbar	16	11	5	31.2
	2. Lumbar combined with celiotomy...	2	2	0	
D.	Ureterotomy—				
	1. Extraperitoneal	21	18	3	14.3
	2. Extraperitoneal combined with celiotomy	3	3	0	
	3. Intraperitoneal	5	4	1	20
	4. Vaginal	12	11	1	8.3
	5. Vaginal combined with celiotomy...	1	1	0	
	6. Vesical	5	4	1	
	7. Rectal	1	0	1	
	8. Perineal	1	1	0	
E.	Removal of calculus per urethram.....	8	7	1	12.5
F.	Removal of calculus through an old sinus.	1	1	0	
		84	68	16	19

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Warm Baths in Cerebrospinal Meningitis.—Dr. Osler is treating cerebrospinal meningitis with warm baths every third hour, and lays great stress in the prognosis on the tendency to relapse, the "intermittent" type of old American writers. There have been 9 deaths in 23 cases treated. No case of meningitis in typhoid fever has been seen in the Johns Hopkins Hospital. At least 8 different germs have in recent years been reported as the cause of acute rheumatic fever, all of pyogenic origin. Not a single death directly due to rheumatic fever has occurred in the eleven years since the hospital was opened, yet it is responsible for more deaths than any single fever; 75 per cent. of cases of valvular disease of the heart are its sequels. In Baltimore, in 1899, 500 deaths were attributed to heart disease. The chief indication in the treatment is relief of pain, which is often promptly secured by the salicylates, especially in children. Morphine should be given freely. In protracted cases he looks out for gonococcus infection and arthritis deformans. The salicylates do not protect the heart.

THE DIFFERENTIAL DIAGNOSIS OF ECTOPIC PREGNANCY.

WITH ESPECIAL REFERENCE BETWEEN IT AND THAT OF
EARLY UTERINE ABORTION.*

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It may seem superfluous at the present day to read a paper on any topic in connection with ectopic pregnancy, for so much has already been written on the subject. But there is one phase of it which seems to me to have been overlooked, or at least not to have received the attention it merits. I mean the differential diagnosis, but more especially the differentiation of ectopic pregnancy from early uterine abortion.

The writer was the first to treat this matter at some length, in a paper published in the *New York Medical Record*, Nov. 5, 1898. The paper received such general appreciation that he feels warranted in bringing up the subject again before a class of men who usually see these cases before the specialist does and upon whose correct and prompt diagnosis the welfare, nay, the life of the patient frequently depends. He feels further justification, if such were necessary, in the circumstance that further experience has gained fresh examples whereby valuable lives have been jeopardized and even lost by confounding an ectopic gestation for an early intra-uterine abortion.

The gynecologist never finds himself in a more distressing and embarrassing position than when he is called in a case of serious intraperitoneal hemorrhage from a ruptured tubal pregnancy, which for days and perhaps for weeks has been treated by the family physician as a mere miscarriage. There is no other mistake which the doctor could commit which receives less charity at the hands of the laity, and still it is a mistake of which the most astute specialist is occasionally guilty. From this you will infer that I am not one of those men who think the differentiation is always easy, and that all we have to do to avoid the error is to pin our faith upon one or two so-called pathognomonic symptoms. In my opinion men have frequently fallen into error just because they have accepted the dictum of writers who have laid great stress upon one or other symptom of extrauterine pregnancy. One would consider "colicky pains," another irregular hemorrhage after an amenorrhea of longer or shorter duration as pathognomonic; but of this later on.

The classic symptoms of ectopic gestation, such as irregular uterine hemorrhage after a variable period of amenorrhea, sudden seizure of severe pain of a certain character, the expulsion of a decidual sac, the presence of a characteristic tumor at either side of the uterus or in Douglas's cul-de-sac, are rarely witnessed at the bedside. Where they are present, as they sometimes are, the diagnosis offers no difficulties. But that the apparent association of these symptoms may at times lead to error, the following case occurring in the writer's practice will forcibly illustrate.

CASES OF INFLAMMATORY CYSTIC TUMOR.

A medical friend asked me to see a young woman who had been married but a few months. She had passed her period for about three days, when she began to flow, at first slightly and later quite profusely, and continued for a much longer time than was usual with her.

The flow was rather irregular and was attended with severe pain which might be characterized as of a "colicky" nature. I found the patient moderately anemic, with a slightly distended abdomen. While the patient sat up in bed to urinate she had a fainting spell—a symptom upon which I had learned to place great reliance, excepting in very nervous patients, as a sign of intraperitoneal hemorrhage. On examination the uterus was found slightly enlarged, and to the left of it was an elastic mass the size of a hen's egg, which was very sensitive and apparently fixed. Owing to the great sensitiveness of the patient, the exploration of the pelvic cavity was attended with difficulty. I had no data to guide me as to whether the mass on the left side was of recent origin or not, the patient never having been examined prior to her present illness. Everything seemed to point to an early tubal pregnancy. Still, I took the precaution to say that, while the symptoms were indicative of that condition, it might be only a very early uterine abortion, associated with a cystic ovary. I advised that the patient be placed under narcosis for the purpose of a more satisfactory examination and for such surgical intervention as might be deemed necessary as the result of our findings.

This advice was adopted, as was also that of having another specialist present to examine her with me. As soon as she was under full anesthesia and relaxation of the abdominal walls was obtained, it was fairly easy to detect that the mass on the left side was cystic and probably was of the left ovary. After a thorough curettage, which removed very little tissue, the consultant was in favor of not doing anything more for the present and waiting for further developments. I prevailed upon him however to consent to my making an incision in the posterior vaginal vault, so that I could at one and the same time positively determine the character of the tumor and remove it. It proved to be a cyst of the size of a hen's egg, with very thin walls, and probably of an inflammatory nature. The adnexa were found moderately adherent, but otherwise apparently normal.

The patient made a satisfactory and afebrile recovery, and was out of bed at the end of ten days.

I have followed this plan of making an incision through the vagina into Douglas's cul-de-sac in quite a number of cases in which there was any doubt, and have always found it of great value. In more than one instance, had I not adopted this plan, the true condition would have been overlooked, for even under narcosis it was impossible by bimanual examination to determine the presence or absence of free blood in the peritoneal cavity. However, after making the incision and ascertaining the presence of a ruptured tubal pregnancy, unless the conditions were very favorable, the operation was completed by a suprapubic incision; but this is a digression.

These inflammatory cystic tumors are often cause of considerable anxiety, as is evidenced by the following case: I was examining a woman in rather prominent social circles one day in my office, for delayed menstruation and some discomfort in the lower abdomen. She was very stout and the bimanual examination was rather difficult. I found the uterus slightly enlarged and detected, to the left of this organ, a cystic mass the size of a mandarin orange. While palpating this mass it suddenly ruptured and the patient promptly went into syncope. It took some time before she rallied. I was in much dread that a tubal gestation sac had ruptured and that the effusion of blood into the peritoneal cavity

* Read before the New York State Medical Association, at the annual meeting, held in New York City, Oct. 15-18, 1900.

was the cause of the syncopal attack. I had the patient carefully watched for a couple of days, and as there was no recurrence of the syncopal attacks and no other symptoms developed, I concluded that the mass which had ruptured and disappeared was nothing more than one of those inflammatory cysts which occasionally accompany localized peritonitis and subacute metritis. The subsequent history of the case proved my conclusion to be correct.

ECTOPIC GESTATION VS. INTRAUTERINE ABORTION.

The following case in my own practice will show how easy it is to fall into the error of mistaking an ectopic gestation for an intrauterine abortion; and the importance of making an incision into Douglas's cul-de-sac when in doubt. I was called one morning to see a woman on whom I had performed an amputation of the cervix some years before. Her history pointed to a simple abortion at about the third week of pregnancy. A local examination seemed to confirm this diagnosis, for beyond a slightly enlarged uterus, with the cervix rather patulous, nothing was detected. It is true, the examination was not very satisfactory, owing to a thick abdominal wall and moderate flatulent distension of the intestines. She was admitted into St. Mark's Hospital to be curetted. When she was narcotized, on examining her I was surprised to find an ill-defined mass behind the uterus, which seemed to possess the characters of an inflammatory exudate. After curetting the uterus and removing considerable decidual tissue, I determined to ascertain the nature of the mass by vaginal exploratory incision. The mass proved to be made up of old and fresh blood clots; and as the ruptured tube was not accessible through the vaginal incision, I made an incision through the abdominal parietes and removed it. The patient made an uneventful recovery.

In the paper referred to I cited several instances in which the patients had been treated for weeks by the family physician, and had been repeatedly curetted for a supposed uterine abortion when the condition was that of a ruptured tubal pregnancy. Since then I have seen quite a number of cases in which a similar mistake had been made. I am not finding fault with the attending physicians for having made such an erroneous diagnosis, for as I frankly confessed, it is one we are all liable to make at times. But I do strongly condemn the plan usually adopted by the attending physicians in these cases—that of attempting to curette the uterus without general anesthesia. I say “attempting,” for in early cases of abortion it is impossible, in the majority of instances, to satisfactorily curette the uterus, to say nothing of the practical difficulties to do it under aseptic precautions, unless the patient is fully anesthetized. What is the usual result of such a procedure? The uterine hemorrhage persists and the physician concludes that he has not removed all the uterine contents, and curettes again, also without anesthesia, and perhaps is forced to repeat the operation a third time if the confidence and patience of his patient have not already been exhausted. In many instances after the first curettage, done under imperfect asepsis, the patient is made septic, and what was a favorable condition is probably converted into a hopeless one.

The general practitioner should therefore make it a rule never to undertake to curette for a supposed abortion without anesthetizing his patient. Every case of supposed early uterine abortion should be looked upon with suspicion, and unless the case is an especially clear

one and not requiring any surgical intervention, the patient should be anesthetized as early as possible. This is to be done first for the purpose of making a rigid and thorough examination to exclude an ectopic gestation, and secondly for the purpose of performing a proper curettage under satisfactory aseptic precautions.

The attending physician is often severely censured when the chief blame attaches to the patient, as is demonstrated in the following case. The patient, after a period of amenorrhea of seventeen days, began to stain; a week later she had abdominal pain, with the persistence of the slight flow. She made light of these symptoms and ignored the advice of her physician to be curetted. While at her place of business one day she expelled a mass which she asserted was the fetus; that it resembled the yellow of an egg and was not a mere blood-clot, as it failed to be broken up with the fingers. She triumphantly told this to her physician, and said: “I told you it would come away of its own accord; several others have on former occasions.” About three weeks later she was suddenly seized in her store, while in the water-closet, with symptoms of collapse. She was brought home with difficulty, in a cab, and I saw her at 10 p.m., about six hours after the foregoing event. She was extremely anemic, with a pulse of poor volume, about 120 to the minute. She was apathetic and did not seem to suffer any pain. The abdomen was very large and fat and quite hard. On vaginal examination an irregular mass behind and to the left of the uterus could be felt. The diagnosis of a ruptured tubal pregnancy was made and an operation urged. Consent was finally obtained to perform it on the following morning. When the patient was placed on the table for operation she went into profound collapse, from which she did not rally and died about an hour later. The abdomen was rapidly opened. It was found full of blood and swimming among the clots was a fetus of about ten weeks. The family severely blamed the attending physician because he said it was only a slight matter and required an insignificant operation. Had he taken the precaution to say that a curettage under full anesthesia was imperative just as much to make certain that nothing but a uterine abortion existed as to empty the uterus, he would have averted all reasonable grounds for complaint, and the life of his patient might have been saved.

The foregoing case is of further interest in that it shows that the onset of uterine hemorrhage, and even the expulsion of a decidual membrane, are not indicative of the death of the impregnated ovum. These phenomena occurred when the patient was pregnant presumably six weeks, while the fetus showed a development corresponding to the age of ten weeks.

SYMPTOMS OF INTRAUTERINE PREGNANCY.

We may now profitably take up an analysis of the prominent symptoms of extrauterine pregnancy, comparing them with those of early uterine abortion.

Uterine Hemorrhage.—The flow attending a ruptured tubal pregnancy is as a rule less profuse and more irregular than that which accompanies uterine abortion. It is more likely to occur as a mere show which comes and goes, while in uterine abortion the flow is more continuous. Still, there are numerous exceptions to this rule. I have seen very profuse uterine hemorrhage in tubal pregnancy, and Martin reports a case in which it was so severe as to even cause the death of the patient. On the other hand, a threatened uterine miscarriage may drag along for a time with a very scanty flow, which may even be irregular, coming and going as it

does in extrauterine pregnancy. I have now under observation a case of impending uterine abortion, in which the flow has been scanty for several days, in which it ceases during the night and while the patient is in bed. I recall other cases in which the slight flow would cease for a day or longer, even while the patient was up and about. However, when a woman has passed her period for a few days only and begins to have an irregular and scanty flow, a suspicion of extrauterine pregnancy ought to be entertained. On the other hand, I have seen cases in which rupture of an extrauterine pregnancy had taken place without the patient having missed a period. In one case rupture of the tubal pregnant sac had taken place seventeen days after the last menstrual flow, which apparently was normal in every respect. Similar cases have been recorded in the literature.

Pain.—A great many writers have laid great stress upon the "colicky" nature of the pain in extrauterine pregnancy. Some have gone so far as to deem it a pathognomonic symptom. Even if the same pathologic lesion occurred each time, and the sensations it produced were exactly similar, patients would describe them differently. But we know the lesions are variable; at one time there may be a rupture of the tubal sac, at another a mere expulsion of the fetal sac through the "ostium abdominale," constituting a tubal abortion; and again at another a hemorrhage into the tubal wall forming tubal mole. It is not reasonable to suppose that these different lesions would evoke exactly similar sensations, and as a matter of fact the character of the pain attending the termination of a tubal pregnancy is as variable as is the color of the chameleon. It may be sharp and lancinating, or it may be of a bearing-down character, as in dysmenorrhea, or it may resemble labor pains, or simulate an ordinary colic, or be characterized as a tearing, agonizing sensation which can not be endured; or, again, it may be of a throbbing nature, like that attending an inflamed ovary. The patients whom I have seen more frequently have described it as resembling the pain attending labor. It must not be forgotten in this connection that pain of any description may not form a prominent symptom of tubal pregnancy. In one of my own cases cited above, the patient made no mention of any pain, and in several other cases the symptom was confessed only after repeated questioning.

In my former paper I stated that the one symptom in my experience, that has afforded me the strongest clue, has been the occurrence of fainting spells with the attacks of pain. But I went on to say that too much reliance should not be placed upon this symptom, as it was frequently absent and was occasionally met with in uterine abortion in nervous and hysterical women. It was present in the case of early abortion, associated with an inflammatory cyst, reported in the early part of this paper. Still, with certain precautions, it forms a symptom of some value as indicative of intraperitoneal hemorrhage.

Expulsion of Cast.—The expulsion of a decidual cast or membrane from the uterus is an objective sign to which great importance has been attached. I can do no better than quote what I wrote on this topic in the article already referred to, inasmuch as increased experience has only confirmed the assertions made then. "In the first place there is no membrane discharged in a great number of cases, the decidua either being cast off in shreds or undergoing degeneration. In the second place it may be expelled unnoticed in the blood-clots. Thirdly, when questioned, the patient will often reply

that she has passed a membrane, when what she actually passed was a semi-organized blood-clot. Lastly, and most important of all, is the fact that even the most expert microscopist can not distinguish between the decidual cells of a uterine pregnancy and that of a tubal gestation. This fact nullifies the advice given by some authors to curette the uterus in a suspicious case and examine the tissues removed for decidual cells. Not alone would the findings of decidual cells form no proof even of uterine pregnancy, for so able a microscopist as Carl Ruge¹ has stated that in the absence of the pregnant state he found decidual cells in diseased conditions of the uterus."

How misleading the statements of the patient are, even though they be intelligent, regarding this point, is forcibly illustrated by the fatal case reported in this paper. The patient was experienced in such matters, having had several miscarriages, and she was positive that what she had passed was a very small fetus. This assertion helped to throw the attending physician off his guard. Of course the detection of chorionic villi in the expelled products would be positive proof that the gestation was intrauterine.

The local signs of early extrauterine pregnancy are not characteristic enough to be of any value to us in doubtful cases. It is very easy to overlook or rather to be unable to detect the slightly enlarged tube on bimanual examination, especially in the presence of a thick or rigid abdomen. On the other hand, an inflamed and enlarged tube may possess all the characters of a tubal pregnancy. Some authors lay stress upon the vagina being soft and lax, and on the pulsations of the vaginal arteries. These signs savor too much of finesse to form safe guides in perplexing cases.

SOURCES OF ERROR IN DIAGNOSIS.

The principal sources of error in the differential diagnosis of ectopic pregnancy, besides the condition already mentioned, are the following: 1. Irregular enlargement or sacculation of the pregnant uterus, forming apparently an independent tumor. 2. A retroflexed pregnant uterus with a long cervix; the elongated cervix being mistaken for the whole uterus, and the enlarged uterine body in Douglas's cul-de-sac being taken for the extrauterine sac. 3. Great flaccidity of the abdominal wall and marked thinning of the uterine, giving the impression as if the fetus lay in the free peritoneal cavity.

Time will not permit the full discussion of these at present. I would refer those interested in the matter to my first paper on the differential diagnosis of ectopic pregnancy.

CONCLUSION.

The points I have endeavored to bring out in this communication, and which I would like to have discussed, are: 1. The frequency with which ectopic gestation is diagnosed as early uterine abortion. 2. The advisability of looking with suspicion upon every case presenting apparently the symptoms of early uterine abortion, and if the case is not running a simple and natural course, to fully anesthetize the patient for a rigid examination and for the proper performance of curettage in the event of uterine abortion being present. 3. If after carrying out this plan there still be some doubt, the advisability of making a posterior vaginal exploratory incision to determine the presence or absence of blood in the peritoneal cavity and to be prepared to open the abdomen if the condition found calls for it. 4. The unreliability of the so-called pathognomonic signs or symptoms of ectopic gestation.

1. Centralblatt f. Gyn., 1881.

I. UNION FOLLOWING PATHOLOGICAL FRACTURE OF THE FEMUR DUE TO SECONDARY CARCINOMA.

II. SPONTANEOUS DISAPPEARANCE OF CARCINOMA OF THE LIP.*

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Spontaneous fractures have long been known to occur occasionally in the presence of carcinomata of various portions of the body. Particularly is this true of the harder varieties of carcinoma of the breast. Too much stress must not be placed, however, upon the older reports, because carcinoma and osteosarcoma were formerly confused under the generic term of "bone cancer."

It is generally admitted that these fractures may be due to metastasis or to abnormal fragility of the bones. The latter does not depend on the presence of carcinoma elements, but upon the development of a more or less general, simple osteoporosis, intimately but obscurely associated with the existence of the primary carcinoma, Richet and Verneuil being inclined to connect the phenomenon with the phosphaturia often existing in the later stages of carcinoma.

The bone most frequently broken is the femur, the humerus coming next, while multiple fractures are sometimes met with.

In spite of the peculiar nature of the accident, union occasionally takes place, and it would perhaps be seen more often if the average duration of life subsequent to the injury were greater.

In cases of simple osteoporosis repair is not infrequent, but it is extremely rare in the presence of secondary carcinoma. Ricard¹ even insists that but one unquestionable instance has been recorded (Küster); while Cornil and Ranvier² seem to doubt its occurrence at all. These, however, are extreme views.

Gurlt³ has collected thirty-eight cases of spontaneous fracture in cancerous individuals—3 men, 35 women—among which were ten instances of union, apparently a remarkably large proportion. But, as Ricard justly remarks, it is impossible to say in how many of these simple fragility existed without the local presence of malignant deposits.

In August, 1897, I examined a well-developed Swedish woman, aged about 35 years. There was a firm carcinomatous nodule of moderate size in the upper outer quadrant of the right breast, which had attracted the patient's attention some six weeks previously. The axillary glands were enlarged and the skin slightly adherent, although the nipple was not sunken. In operating, I removed the entire breast, a considerable portion of the pectoral muscles, including all the fascia, and the entire axillary contents. Union was by first intention.

The growth soon returned locally, although I did not see the patient again until April, 1898. I again operated, removing the remainder of both pectorals and a portion of rib, which appeared to be slightly involved, and skin grafted the large denuded surface.

The patient returned during the following August, about one year from the time of the first operation. There was no local recurrence, but severe pain existed in the dorsolumbar region, and especially over the left kidney posteriorly and the left external surface of the pelvis.

In turning over in bed the left femur broke at the level of the lesser trochanter, producing marked shortening and deformity. There had been no pain or tenderness as low down as this, and nothing to call attention to the process going on within the bone.

Believing the accident to be due to secondary carcinoma, I informed the woman's husband that union would not occur. Merely as a matter of comfort, and for the purpose of relieving

deformity, I applied extension to the limb, but did not re-examine it for four weeks, when I was astonished to find firm union.

Shortly after this the woman died, and I was able to secure the upper portion of the broken femur. The fragments were in perfect apposition, and so firmly united that no reasonable amount of force could move them in the slightest. Longitudinal section revealed a central carcinomatous deposit surrounded by a thin, hard shell of bone, which was smooth and of quite uniform thickness. This is not in accord with Volkmann,⁴ who says: "A certain amount of union can take place through the formation of periosteal bridges." Gurlt and Stimson also hold the view that repair occurs through the junction of "osseous spicula." Microscopic specimens demonstrated clearly that the tumor had invaded the bone by way of the Haversian canals, leaving numerous small islands of unaltered osseous tissue surrounded by the malignant growth (Fig. 1).

Secondary carcinomata which grow rapidly are manifestly more liable to cause spontaneous fractures, but when these accidents do occur with deposits of slower growth, union is probably more apt to follow. We may likewise assume that, other things being equal, the slower



Figure 1.

the growth the less the pain. There is also no pain in simple osteoporosis. Hence the absence of pain, or its presence in moderate degree only would have some bearing on the prognosis.

We are not justified in believing that the mere presence of the malignant deposit exerts an inhibitory action on the process of ossification. The case just reported would tend to disprove this. We have to assume that the causes of non-union are: 1, death of the patient before new bone has had time to form; 2, extensive destruction of bone; 3, separation of the fragments by growth of the carcinoma between their ends. In this connection there is reason to suppose that tumors develop more rapidly after fracture, owing to decrease of pressure and increase of mechanical irritation.

Some practical deductions from a general consideration of the subject are: 1. Spontaneous fractures may occur during the course of carcinomata, especially those of long-standing in the female breast. 2. They may or may not be due to metastasis. 3. Local pain points toward malignancy, while swelling is of little diagnostic value, as it does not often appear until after the fracture has

* Read before the American Surgical Association, May 3, 1900.

3. See the discussion which followed the lecture delivered by him, in London, Nov. 28, 1900, at a meeting of the Society of Arts.

occurred. 4. However unfavorable the circumstances may seem, we must not be too hasty in affirming that union will not take place, but if it does and if secondary carcinomatous deposit has been the cause of the accident, the fracture will certainly recur if the life of the patient be sufficiently prolonged.

SPONTANEOUS DISAPPEARANCE OF CARCINOMA OF THE LIP.

Cases of spontaneous disappearance of carcinoma are extremely rare, even in the presence of the toxins of erysipelas. As regards the lip, I have been unable to find mention of a single instance; in fact, as Quénu remarks, "The prognosis is grave in all epitheliomata of the mucous surfaces or of the intermediary zones." Fibrous carcinomas of the breast, however, occasionally undergo spontaneous cure, especially in old women (Billroth), and Kaposi⁵ asserts that superficial epitheliomata of the skin sometimes heal without treatment. Stoerck reports an epithelioma of the tonsil, which disappeared without interference, although recurrence took place in one year, necessitating resection of the lower jaw. E. Senger⁶ claims to have seen certain

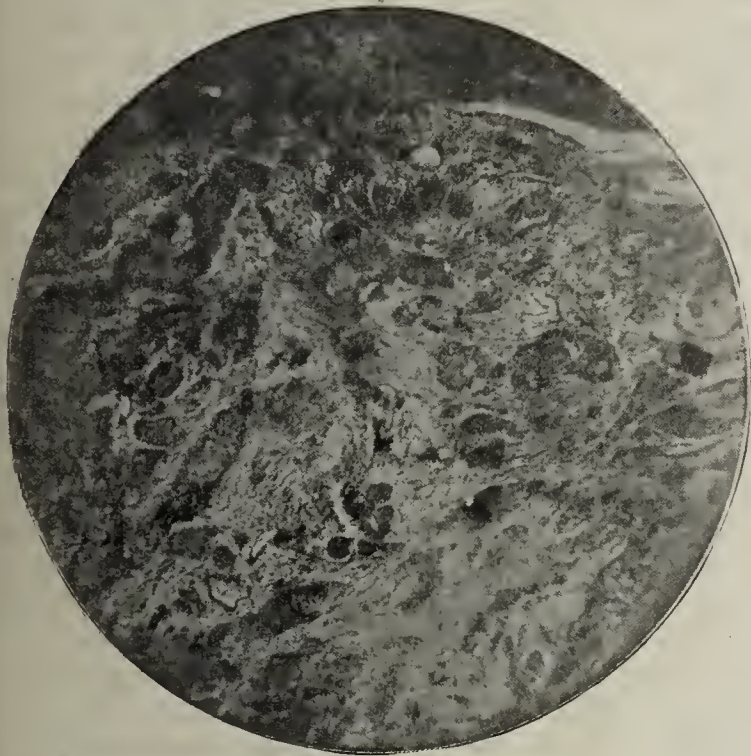


Figure 2.

tumors of the buccal mucous membrane, exhibiting all the microscopic evidences of carcinoma, vanish after the removal of jagged and irritating teeth. He agrees, however, with Gussenbauer, that they were probably not true carcinomata, the clinical evidence being, perhaps, more trustworthy than the microscopie in such cases.

In March, 1899, a man aged 38 years, came under my care in St. Anthony's Hospital, Denver. There was no history nor evidence of syphilis. Three years previously a small, superficial, indurated sore, covered with a crust, appeared on the right half of the lower lip, at the mucocutaneous junction. It remained about one year, sometimes almost disappearing, and then enlarging to its original size. Occasionally the patient would dislodge the crust with his tongue. No treatment of any kind was employed, and there was no attack of erysipelas, but the ulcer finally disappeared and did not return, leaving a slight, scarcely recognizable scar.

Less than one year later, and nearly two years from the beginning of the disease on the lip, a movable, glandular swelling was noticed in the right submaxillary region. Nine or ten months later this was removed, local recurrence taking place within three weeks. Two weeks later another operation was performed, but the progress of the growth was but temporarily checked.

At the time of my examination a large, inoperable, deeply ulcerated, indurated tumor existed over the right inferior maxilla, the neck, and the side of the face. Microscopic sections revealed a typical epithelioma (Fig. 2). The prolonged

administration of the toxins of erysipelas and prodigiosus produced no effect, and death shortly supervened.

I am well aware that microscopic evidence of the carcinomatous nature of the original ulcer of the lip is wanting in this case; but the circumstantial evidence is so strong as to admit of no reasonable doubt.

This anomalous cure might be explained by assuming:

1. Great general resistance to the invasion of carcinoma. We would then have to admit that this resistance was subject to variation at short intervals without apparent cause, or that it was much greater in the lip than in the submaxillary gland.
2. Slight virulence of the epithelioma. Here the hypothesis would be necessary that the virulence varied at different times and in different tissues.
3. The disappearance of some inhibitory product temporarily existing within the body. Which of these suppositions is correct must remain purely problematical.

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THE RATIONAL USE AND LIMITATIONS OF THERAPEUTIC MEASURES INTENDED TO PROMOTE THE ABSORPTION OF EXUDATES WITHIN THE EYEBALL. MEDICINAL MEASURES.*

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If there has been one branch of ophthalmology which has been neglected in our study and research, it is the general therapeutic measures. I know of only two works on the subject of general therapeutics in relation to the eye, which treat exhaustively—one is a little book called "Ocular Therapeutics," by Ohlemann, the other by Carl Ferdinand Graefe, father of the great Albrecht v. Graefe, and published in 1817. Ohlemann, in his preface says: "Since 1817 when Ferdinand Graefe wrote his 'Repertorium Augenärztlicher Heilmittel,' no attempt has been made to treat the remedial agents used in ophthalmology exhaustively, and to supply a treatise on the subject that might serve as a guide to the practicing physician. This is the more interesting when it is remembered that C. F. Graefe made the assertion that in no branch of therapeutics is the value so worthy of consideration as in ophthalmology."

We are very liable to lose sight of the fact that we are ophthalmic practitioners as well as ophthalmic surgeons, and we are prone to forget the general systemic remedies in our eagerness to use the knife and needle. Granting that general therapeutic measures have a certain usefulness in the cure of diseases in every organ of the body, why have we not given more attention and thought to this very pertinent branch, and some one of the profession in this line of practice directed his energy toward the compilation of an exhaustive text-book on this subject, which to my mind would be a most important adjunct to the literature we have regarding ophthalmology?

We all fully appreciate the dire necessity of administering general therapeutic remedies in certain ocular diseases dependent on causes which the ocular trouble

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is simply a manifestation of, sometimes grave systemic disorder, such as syphilis, tuberculosis, rheumatism, diabetes, etc., and in these troubles we could never hope to bring about resolution unless we resorted to the general therapeutic remedies; so, if this be true in any particular, why should it not be true in the great majority of ocular diseases, especially when it is remembered that here we have to deal with the most sensitive and delicate structure in the whole body, its blood supply being comparatively less than in any other organ; therefore, such blood should be of the purest kind, or laden with such remedies as will bring about the desired results.

It has been a custom for years, in the treatment of ocular diseases, for me to first put my patients under the best hygienic environment possible, and give such general remedies as we would naturally expect to obtain the best results from in so doing. In the consideration of general therapeutic measures intended to promote the absorption of exudates within the eyeball, the field is practically unlimited, and if I were to enumerate all of the different drugs which from time to time have been recommended to promote the absorption of exudates, they would probably fill a good-sized book, and as a "limitation" has been wisely placed on this subject by the Chairman of this Section, who kindly invited me to make this address, I will confine my remarks to those therapeutic agents which in my own experience have proved efficacious. It is entirely unnecessary to begin this subject regarding the fundamental principles of general treatment, as every practitioner of medicine will readily appreciate the reasons for so doing. In cases of severe inflammatory conditions of the eye, it is of paramount importance that the subject should be at rest, and in my estimation we neglect placing patients in bed quite too often. If we made it a rule rather than the exception, I feel sure that better and quicker results would ensue from treatment; not only from the fact of the patient being at rest, but from what this entails, such as avoidance of sunlight and dust, extremes of temperature and other recognized irritants. We must watch symptoms and treat them accordingly, giving attention to the circulatory and respiratory systems, and especially to the secretory and excretory functions, and not only must these be inquired into at the first examination, but they ought to be constantly watched during the whole course of the disease. The old custom of giving an active cathartic in the beginning of all inflammatory troubles is a good one, as there are very few cases in which they are not indicated.

If our patient is suffering from pain and is restless, these conditions should be relieved, as all excitement of whatever nature must be controlled in order to put one in a favorable way toward rapid recovery. Blood-letting is no doubt very beneficial in certain acute inflammatory conditions of the eyes; in acute iritis, for instance, the trouble is very frequently controlled, and the effect of the local instillation of atropin is clearly seen after drawing from two to three ounces of blood from the region of the temple. The method employed is largely a matter of indifference with me; whether the natural leech is used or the artificial one of Heurteloupe, so far as I can determine, is immaterial, the object being depletion of the parts; however, the artificial leech is not so disgusting to most patients, and from this fact alone is preferable. In any event, the patient must be in bed and remain there several hours if any benefit is to be derived from blood-letting. Of all remedies, the so-called alteratives exert a greater influence in the absorption of exudates than any other class of drugs.

by increasing nutrition and the constructive metamorphosis, and thus eliminate disease from the tissues. The iodids stand out pre-eminently as the most reliable; that they do promote absorption of inflammatory effusions and inflammatory thickenings is conceded. Iodid of potassium or iodid of sodium is generally given; the latter is usually better assimilated and does not produce the disturbance in the stomach which the potassium will sometimes bring about. The dose to be administered is very important; frequently I have patients who have been referred to me by physicians, and on questioning them in regard to the number of drops taken at home, they tell me they had been taking ten drops three times daily. This is perfectly absurd, because, if we would expect to obtain results from this remedy, the dose must be steadily increased to the point of iodism, and this point can not be reached by giving small doses, as iodid of potash is very rapidly eliminated from the system, unless perchance a patient is met with who has a peculiar idiosyncrasy in this respect. It is not an uncommon thing to give as much as 200 drops of a saturated solution of iodid of potassium three times daily at Hot Springs; of course, in conjunction with the hot baths larger doses can be borne here than elsewhere, but 1 to 2 drams can be taken at a dose without the baths and no bad effects be seen. It has been my experience to see exudates disappear time after time under the larger doses, when the smaller had no appreciable effect. It is necessary to give some form of mercury, in fact it is a routine practice with me to begin treatment with inunctions, and after a thorough course has been given the iodids are then administered. It is not the rule usually to give mercury, especially in tertiary syphilis, but my experience has taught me to rely on this remedy in all such cases, as better results are obtained after a thorough course of inunctions, and I consider mercury a very important factor in the absorption of exudates. One dram is rubbed into the skin each day, and this is continued until the point of ptyalism is reached, or, which is more important, the hemoglobin is decreased. Neuman, Nothnagel and others have demonstrated the effects of mercury on the blood, both in small and tonic doses, and in the larger ones. They showed that mercury in small doses increased the hemoglobin, but in large doses long continued it decreased this important element, hence was detrimental; therefore, it behooves us to use the microscope and be on guard lest we produce some serious trouble in the kidneys, as it has also been demonstrated that after long-continued use of mercury, casts are found in the urine, to disappear after the remedy is discontinued. When it is given by inunction, it does not have to pass through the portals of the liver and more readily reaches every tissue and organ through the white blood cells. Generally speaking, inunctions for three or four weeks in moderate daily doses carry the patient to the top of the hemoglobin hill, and everything beyond is hurtful. The blood should be examined at the beginning of a mercurial course, as well as the urine, and these ought to be watched during the whole time.

Mercury and the iodids are not alone beneficial in removing exudates caused by syphilis, but in many other etiologic conditions, so in these two remedies we have the sheet-anchor. Among the diaphoretics used to promote the absorption of exudates, probably pilocarpin has first place, as it will unquestionably produce profuse diaphoresis, and by so acting effusions are more readily absorbed; especially is this true if the patient will abstain as far as possible from liquids, not only during

the time the sweating process is in operation, but for hours afterward. Taken in $\frac{1}{4}$ -grain doses hypodermically, the effects are quickly seen; it is in those cases where prompt action is necessary that this drug is strongly indicated. The patient should be placed in bed before the injection is given, with woolen blankets under and over him to get the best results from this remedy, as the sweating process is thereby prolonged.

Salicylate of sodium is another remedy of marked virtue in the absorption of exudates, especially in cases of rheumatic origin or uric-acid diathesis. Thirty grains well diluted in water every four hours acts well in many cases. If one of the digestive ferments, such as pepsin, is given along with the salicylate, the distressing stomach disturbance often seen after large and continued doses of this drug will be greatly obviated. Aminoform is a remedy that I have recently used as a substitute for salicylate of sodium, as it was claimed that it did not produce the stomach disorder which large and continued doses of salicylic acid would bring about. It is soluble in water and is given in 10-grain doses every four hours. I have found it very beneficial in rheumatic iritis; it not only relieves the inflammatory condition, but also the pain which usually accompanies it.

In hydrotherapy we have the most valuable adjunct to the administration of internal remedies. The absorption of exudates is brought about through elimination, and certainly in hot baths this is shown most beautifully. The method employed at Hot Springs, in giving the baths and remedies, I believe to be superior to those of continental Europe, so I shall therefore give the routine way of prescribing them at Hot Springs. The natural heat of the waters from different springs ranges in temperature from 96 to 157 degrees F., so it is necessary to temper the hot water with water which the night before has been allowed to run into a "cold water" tank from the springs, and is therefore cold. The temperature of the baths is usually about 98 F., but if active diaphoresis is desired the temperature is sometimes increased to 102 F. The patient stays in the tub ten minutes, and during this time drinks two or three cupfuls of hot water. I may say that the bath-houses are so constructed and equipped that it is almost impossible for one to "catch cold" after the bath has been taken, as there are a series of rooms kept at different temperatures, the patient being taken from the tub to a temperature which is the same as the bath, or in case profuse sweating is desired, to a warmer room, and then to a cooler one, until finally he is in the same temperature as on the outside. After coming from the tub, an attendant with crash towels rubs him thoroughly, a bath-robe is placed around him and then he lies down on a wicker couch fifteen minutes or more with bath-robe and heavy towels over him, to go through the sweating process.

The place wherein the bath is taken constitutes a very important element, as it has frequently been my experience to see patients who have taken the baths in their rooms at the hotels with the same water, but under different conditions from the regular bath-houses, not do so well until a change has been made to the latter. When it is not possible for one to avail himself of the opportunity of taking the baths as just described, a special steam-heat apparatus has been devised for producing diaphoresis, but as I have had no experience with this method, I will not go into details; however, with proper precautions and surroundings I believe it to be reliable.

If mercury is indicated during the course of baths,

it is rubbed into the skin each day after the patient has taken the bath. This is done by a trained attendant, who, with rubber gloves to protect his hands, continues to rub until the mercury is thoroughly absorbed by the skin. The patient is not allowed to perspire freely during the course of mercury, only enough to keep the pores of the skin open for the reception of the drug. After the course has been completed, the patient is given vapor baths for a few days to eliminate any excess of mercury which may be in the system; he is then ready for the course of iodids, taking the baths usually through the entire course. It is better to have the inunctions administered by a trained attendant, as experience shows that the patient will not as a rule devote the proper time and attention to the rubbing.

In the internal administration of mineral waters to produce the absorption of exudates, I have had little experience, as usually the methods already described have been satisfactory. It is a question in my mind whether they exert their usefulness through any mineral properties they may contain, or whether it is in the great quantity of water taken into the system which will necessarily stimulate elimination.

The limitation of therapeutic remedies used to promote the absorption of exudates is very circumscribed in a way, and after all has been said, alteratives, mercury and iodids, pilocarpin, salicylate of sodium and the hot baths constitute about the whole number of remedies on which we can place much reliance. Exudates of specific and uric acid origin can without question be controlled, but in other cases we are frequently disappointed, do what we may in the case.

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SUPPURATING MASTOIDITIS, WITH THE REPORT OF CASES.

SUPPURATING OTITIS MEDIA, BOTH EARS; SUPPURATING MASTOIDITIS ON THE RIGHT SIDE, ABSCESS EXTENDING INTO THE DEEPER TISSUES OF THE NECK, AND EXTRADURAL ABSCESS.

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The following cases represent some of the various forms of mastoiditis resulting from epidemic influenza, and are instructive as they do not all present the uniform indications for operation.

CASE 1.—I saw this patient, a boy 6 years of age, May 1, 1897, in consultation with his family physician, Dr. G. L. Magruder, who gave me the history of a case of suppurating otitis media in both ears, resulting from epidemic influenza. The little patient was extremely emaciated, with a small and feeble pulse; there was a profuse purulent discharge from both external auditory canals, and over the right mastoid region, extending back toward the occiput and downward into the neck for several inches, there was a large boggy swelling, very sensitive to pressure; the right auricle was also very prominent. There were no brain symptoms, as far as could be ascertained. An operation having been decided on, the following morning, May 2, the child was etherized, and the head shaved in the region of the operation; an incision was then made in the swelling, commencing just above the auricle, and extending downward some distance on the neck. Following the free incision there was a profuse discharge of pus, which was found to be flowing from a fistulous opening in the upper part of the mastoid bone, the whole outer layer of which was in a highly necrosed state. This was removed with the chisel and gouge, and it was then discovered that the whole mastoid

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process was badly diseased. The pus, finding a second exit through a large fistulous opening in the tip of the process, had burrowed its way into the deeper structures of the neck.

With a sharp curette all the diseased bone that could be felt was removed, and in so doing the lateral sinus was exposed to nearly its full extent; but as it was soft to the touch it was decided not to make an exploration of it. In working upward, a collection of pus was discovered between the dura mater and the roof of the mastoid antrum, and, after a complete removal of all diseased bone in this region, the dura mater was found to have been exposed from $1\frac{1}{2}$ to 2 inches. The wound was thoroughly cleansed with a solution of bichlorid of mercury, 1 to 3000, and packed with iodoform gauze.

Before operation the thermometer by the axilla registered 99.4; after the operation, by the mouth, 103.2. The patient rested well during the night.

May 3, at 8 a.m., the temperature was 98.4; 12 m., 102.5; 8 p.m., 103. No record of the pulse could be kept, owing to the extreme irritability of the patient. He rested fairly well during the day, and did not complain of pain.

May 4, at 8 a.m., the temperature was 102; 12 m., 102.2; 6 p.m., 103.4. The patient was extremely restless during the day.

May 5, with Dr. Keen in consultation, the dressings were removed and a thorough exploration of the wound was made. There was some further diseased condition of the bone discovered and this was removed. The wound in the neck was further extended to within two inches of the clavicle. Although no further purulent collection was found, the tissues themselves were in a sloughing state: this was scraped away as thoroughly as possible, and the wound packed with iodoform gauze. Owing to the left mastoid process showing some redness and tenderness on pressure, a free incision was made back of the auricle, through the periosteum, and the antrum opened, but nothing beyond a high degree of congestion was observed, and the wound was then closed. At 8 p.m. the temperature was 105, and he was slightly delirious.

May 6, reports showed he had slept very little during the night. At 8 a.m. his temperature was 104.3; 12 m., 104.2; 8 p.m., 103.2.

May 7, at 8 a.m., the temperature was 103.3; 12 m., 103; 8 p.m., 103.4. There was little or no change in the patient's general condition.

May 8, at 8 a.m., the temperature was 100.4; 12 m., 100.4; 8 p.m., 101.4. The wound was dressed, and showed a decided improvement.

May 9, at 8 a.m., the temperature was 100.2; 12 m., 100.2; 8 p.m., 100.4. The patient was very much stronger and less restless.

May 10, at 8 a.m., his temperature was 99.4; 12 m., 100.1; 8 p.m., 100.4. The wound was dressed, the slough coming away in small pieces.

May 16, the slough having been detached in large masses, a healing granulating surface was left. The patient was etherized, the edges of the wound in the neck freshened and united by means of eight sutures. Good union was obtained, except for an inch of the upper portion of the wound, which was broken open by the constant movement of the child's head. The rest of the wound continued to be dressed every third or fourth day with iodoform gauze, and in the course of a few weeks gradually closed.

This patient made a slow convalescence, but finally made a good recovery, and is now in robust health, with good hearing for the voice and watch.

ACUTE SUPPURATING OTITIS MEDIA, SUPPURATING MASTOIDITIS.

CASE 2.—Alice, aged 4 years, was seen by me on Nov. 21, 1899. Her family physician stated that after an attack of influenza an abscess developed in the right ear. This was quite persistent, and did not yield to treatment. In the course of three or four weeks the mastoid commenced to show signs of being involved.

When first seen by me there was a profuse purulent discharge from the right external auditory canal. The mastoid was only moderately swollen, but quite tender on firm pressure. There was no elevation of temperature.

The patient was admitted to the Episcopal Eye, Ear and Throat Hospital, and on the following day the mastoid was opened. After detaching the periosteum the cortex immediately over the antrum showed signs of softening, while that over the remainder of the process was firm. The antrum was opened with a chisel, and was found filled with pus. The probe revealed an advanced state of caries, both toward the aditus, and in the cells as far as its tip. The cortex was removed as far as the tip of the process, and all diseased bone scraped away with the curette. The cavity was packed with iodoform gauze, which was carried well up toward the tympanum.

This patient made a rapid and uninterrupted recovery, and was discharged from the hospital at the end of the third week, cured.

ACUTE SUPPURATING OTITIS MEDIA.

CASE 3.—Eva A., white, aged 8 years, was admitted to the Episcopal Eye, Ear and Throat Hospital Jan. 1, 1899, giving a history of an acute suppurating otitis media on the left side, of three weeks duration, following an attack of influenza. No clear idea could be obtained as to the form of treatment adopted before entering the hospital, except that the physician had prescribed drops for the ear.

On admission the child was very much emaciated, exceedingly nervous, and with a temperature of 100 degrees.

On examination there was observed a profuse purulent discharge from the left external auditory canal; no swelling over the mastoid, but from about the tip of the process extending down into the neck there was a swelling about the size of a pigeon's egg, very painful to the touch. There was little or no sensitiveness over the mastoid process. After preparing the parts for operation, the child was placed under ether, and an incision, commencing just above the auricle, was carried down over the mastoid process into the swelling in the neck; in doing this a large quantity of pus was evacuated. After detaching the periosteum from the mastoid process, the cortex portion was found to be in a healthy condition; a curved probe, however, could be introduced at the tip of the process, and carried some distance upward. The antrum was then opened, found filled with pus, and, with the rongeur, the cortex as far as the tip was removed, revealing an entire breaking down of the mastoid cells, the pus finding an exit into the tissues of the neck through the very thin walls of the cell in the tip of the process. Caries was found to have extended upward for some distance, as well as toward the tympanic cavity. This was very thoroughly removed with a sharp spoon, and the cavity packed with iodoform gauze.

The temperature for several days ranged from 100 to 101, after which it fell to 99.4, but the slightest excitement would cause it to rise.

The subsequent dressings were conducted with some difficulty, owing to the exceedingly nervous condition of the child, but she finally made a complete recovery, and was discharged from the hospital at the end of the sixth week, with the wound completely healed.

CHRONIC SUPPURATING OTITIS MEDIA, SUPPURATING MASTOIDITIS.

CASE 4.—Bessie M., white, aged 13, on admission to the hospital, gave a history of a chronic purulent discharge from the right ear, of several years' duration. During a recent attack of influenza the discharge was greatly increased, and at the same time there was considerable swelling and tenderness over the mastoid process. There was also marked cerebral irritation, manifested by delirium, which passed off with the subsidence of the attack of influenza.

On examination, quite a profuse discharge from the right external auditory canal was observed coming through a large perforation in the posterior inferior quadrant of the membrana tympani. There was no pain over the mastoid, but she suffered from headaches referred to the right temporal region. On firm pressure over the mastoid there was slight pitting. Temperature was 99.2 F.

The patient was prepared for operation, and, on the day following her admission to the hospital, the mastoid was opened in the usual manner. The antrum was found filled with pus and granulation tissue. The caries, which was exten-

sive in this region, did not involve the lower mastoid cells, but extended upward and toward the middle ear cavity. This was completely removed with a sharp spoon, and the cavity packed with iodoform gauze. The day following the operation the temperature rose to 100, but dropped to normal on the following day, and remained so during the patient's convalescence.

This patient made a rapid recovery, and was discharged from the hospital in two weeks, cured.

SUPPURATING OTITIS MEDIA, SUPPURATING MASTOIDITIS.

CASE 5.—R. L. T., white, aged 24, consulted me on April 20, 1899, complaining of a suppurating otitis media on the right side, of six weeks' duration, following an attack of influenza.

On examination, a profuse creamy purulent secretion was observed, coming from the right external auditory canal; this, when cleared away, was observed to come through a perforation in the anterior inferior quadrant of the membrana tympani. This membrane was very much swollen and congested. The upper and posterior wall of the canal bulged somewhat. There was no swelling, and no pain over the mastoid process, except a very slight sensitiveness on firm pressure over the tip; but no more pain than was caused by the same amount of pressure on the tip of the corresponding mastoid process. The temperature was 100.

The patient was admitted to the Episcopal Eye, Ear and Throat Hospital the same day. Not being quite sure as to any mastoid involvement, he was kept under observation. On the second day after admission the temperature rose to 101.3, with little or no tenderness on pressure, and no swelling of the mastoid. He, however, complained of severe headache referred to the right temporal region. Believing there was an abscess in the mastoid process, he was prepared for operation, which was done on the following day.

On stripping the bone of its periosteum, the cortex was found in a healthy condition, but as soon as the antrum was opened pus flowed most profusely from the opening. This continued to flow for some minutes, without any diminution, but it finally gave way to a severe hemorrhagic flow, and it was only after the continued use of hot applications that this could be checked. As soon as this was done, however, the opening was enlarged, and the whole mastoid process was found to be one large pus cavity. The cortical portion was removed as far as the tip, and all earies, which was also found extending into the tympanum, was scraped away. In doing so the lateral sinus was exposed to nearly its full extent, but was found intact and in good condition. The middle ear and mastoid cavities were irrigated with a solution of bichlorid of mercury, 1 to 3000, and packed with iodoform gauze. His temperature on the evening of the operation fell to 98 F., and during his convalescence ranged from 98.4 to 99.4.

This patient was discharged from the hospital at the end of the third week, with the mastoid wound not quite healed, but otherwise well, and with normal hearing.

In selecting these cases from my service in the Episcopal Eye, Ear and Throat Hospital, it was with the view of presenting different phases of mastoid disease complicating epidemic influenza, and with the hope that they might elicit some discussion that would enable us to formulate some definite rules which will enable us to decide when to operate.

Depopulation of India.—Since 1896 it is estimated that five millions have died in India from causes due to the famine. In western India matters are far worse. The latest advices from Simla say the census returns of the central provinces show a decrease of over a million since 1891, when an increase of a million and a half might have been expected. The Oodeypoor State returns show a decrease of 840,000 or 45 per cent. of the population: the State of Bhopaul shows a decrease of 808,000; the District of Banda a decrease of 124,000, and soon in Bombay City the population will have diminished by 50,000. The localities which have escaped the plague show a satisfactory though uneompensating increase. Madras, for instance, has gained 8 per cent. over 1891.

REMARKS ON THE AFTER-EFFECTS OF OPERATIONS FOR THE REMOVAL OF ADENOID TISSUE AT THE VAULT OF THE PHARYNX.*

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In view of the great frequency of operations for the removal of adenoids from the nasopharynx, it is a little surprising that serious accidents or sequences are not more often heard of. For this reason it might seem superfluous to the philosopher for any one to attempt the awakening of apprehension over so simple and safe a surgical procedure as this one; still, it is not by any means entirely devoid of grave complications. Having met with a few cases where the operation was followed by troublesome results, it will not be amiss to bring the subject before the Section for discussion.

Classification.—For convenience of consideration, cases of adenoids or lymphoid hypertrophy at the vault of the pharynx may be classified as: simple, or those cases presenting enlargement or overgrowth of the lymphoid tissue at the vault of the pharynx only; and, complex, or those cases in which the enlargement is either dense or encapsulated and accompanied by hypertrophy of the faucial tonsils, the peritonsillar tissue and possibly the turbinated bodies. The untoward effects of removal of adenoids—either with the curette or forceps—may be classified as immediate and remote. The immediate effects may be considered as: hemorrhage; injury to pharynx; reactionary acute inflammation affecting the pharynx, larynx and tonsils, ear, accessory cavities; and sepsis.

Among the remote effects may be considered subacute disease of the pharynx, chronic diseases of the ear, diseases of the accessory sinuses, and tuberculosis.

Hemorrhage.—This, to an alarming extent, is not frequently encountered, excepting in hemophilia; nevertheless, there are several cases of fatal hemorrhage on record. There are but few reliable premonitory signs. Among them may be mentioned a highly vascular and villous character of the overgrowth and a cachectic or scorbutic appearance of the patient. Sometimes, however, a very smart hemorrhage may follow the evulsion of a hard lobulated mass of adenoids. Whenever suspicious indications are present the growths should be removed by means of the galvano-cautery loop applied at a red heat.

Effects.—Unnecessary injury to the nasopharynx or Eustachian tubes may be produced by either a badly-adapted curette or the exercise of too much force. Cutting forceps, as well as the curette, may be made to produce similar results. Unusual reactionary inflammation, however, of the parts operated on, and also of neighboring regions, such as the middle ear, faucial tonsils, accessory cavities and larynx may occur under the best management. The writer has met with several unfortunate occurrences of this sort which could not be properly accounted for. In one case the operation was followed by a very severe peritonsillitis, and, in another, "a run" of facial erysipelas. In each of these cases the ordinary antiseptic precautions were taken, and the subjects were apparently in good condition. The writer saw two cases, in consultation, of severe peritonsillitis following adenoid operations in patients who were suf-

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fering at the time from gonorrhea, and one case of severe laryngitis following curettement. More than ordinary reactionary inflammation is likely to follow all such operations if the patients are just recovering from influenza, diphtheria or the exanthemata. Indeed, it has been pointed out, by many writers, that these operations should be avoided during the prevalence of influenza, diphtheria and other epidemic infectious diseases. Inflammation of the middle ear and accessory sinuses may follow these operations. Such unfortunate circumstances, however, usually pass off in a few days, but may remain as subacute catarrhal inflammations or terminate in purulent inflammation. A few cases of general sepsis following these operations are recorded, but, happily, not many. The writer has seen one case, with meningeal symptoms, which terminated fatally. Among the remote effects sometimes ascribed to adenoid operations are subacute and chronic inflammation of the middle ear or accessory sinuses. The middle ear, however, suffers much more frequently than the other regions mentioned. Inflammation of the middle ear, under some circumstances, will follow the operation, notwithstanding great care in the manipulation. The general supposition is that these untoward effects are always due to a lack of antiseptic precautions, such as improper cleansing of the nasopharynx and incomplete sterilization of the instruments used. I think, however, that this criticism in many instances is unjust, for I have met with cases of this sort where every possible preliminary antiseptic precaution has been taken. A few cases have been reported of chorea and other neurotic affections having followed these operations in weakly children. The writer has never met with any such instance and is inclined to regard the appearance of such affections at such a time as merely coincidental. Much has been written concerning the induction of tuberculosis of the nasopharynx, and tuberculous adenopathies, by adenoid operations. Several well-authenticated cases in Europe and in this country have been reported. The writer, however, has never met with a case excepting in subjects who were some time previously tuberculous. Undoubtedly this danger has been very much overrated, judging from the very few well-established cases reported. One can easily understand that an operation of this sort, upon a tuberculous child, may lead to an outbreak of the disease in the nasopharynx, or in its vicinity. It seems unnecessary, however, to add that a practitioner of good judgment would hesitate to remove adenoids in such a patient unless the necessity were very pressing, and, when such is the case, it is obvious that the galvanocautery should be selected in preference to the curette or the forceps. With the complicated cases—such as those attended by hypertrophy of the surrounding lymphoid tissues and turbinates, the question often arises as to whether all of this tissue should be operated on at once or by successive stages. In the writer's experience the reactionary inflammation can, as a rule, be measured by the extent of the wounded tissue. It seems to me that it may be laid down as a rule that much more trouble may be expected after an operation including the removal of the adenoids, faucial tonsils and peritonsillar tissue at once, than if only one of these regions be operated on at a time. Notwithstanding this, if the subject be healthy and the surrounding circumstances favorable, there can be no serious objection to clearing out the whole obstruction to the pharynx in the majority of instances. Regarding the regrowth of adenoids, the consensus of opinion seems to be that

regrowth seldom takes place when the tissue has been thoroughly removed. The writer, however, has met with three instances of such an event after thorough removal of the hypertrophied tissue at the vault of the pharynx. This experience coincides with that of several other laryngologists, and is a point which certainly deserves attention.

MEDICAL TREATMENT OF ACTINOMYCOSIS.

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In presenting the following cases of actinomycosis I have selected, with one exception, only those in which I have been able to verify the diagnosis with the microscope. My chief object in reporting them is to call the attention of the profession: 1, to the frequency of the disease, especially in agricultural communities; 2, to direct attention to a mode of treatment that has proved very satisfactory in all the cases coming under my observation for the past two years:

CASE 1.—Mrs. D., aged 29, a farmer's wife; had good health prior to her present illness, but for two years hard lumps or swellings had from time to time appeared about the lower jaw. Four times the swellings had been incised and cleaned out with a sharp spoon. After this procedure the disease would be quiescent for a month or two, and then the swellings would recur.

At the time I was called to see her, Aug. 24, 1898, she was very much emaciated, with marked pallor. The lungs, heart, liver, spleen and kidneys were normal except for polyuria; her appetite was poor, there was constipation, and she was seven months advanced in pregnancy, and troubled with insomnia. She presented an enormous swelling of the right side of the face. A sinus that would admit the little finger led down to a piece of nickel-sized, denuded bone of the lower jaw. The sinus was lined with ill-nourished granulations, and discharged a thin whitish pus. The surrounding tissues were very firm, almost bony hard; surrounding the area of hardness and gradually shading off was a zone of edema, involving the temple, right cheek, upper and lower lips to the median line. Trismus was marked; she could scarcely separate the teeth.

During the week before my visit the swelling had been very painful, the pain being so intense as to prevent her sleeping for three or four nights. Prior to that time she had suffered comparatively little pain. The second lower right molar was carious. The temperature was 101.

I directed that the sinuses be washed out with peroxid of hydrogen, followed by Lugol's solution. Internally I gave iodid of potash grains v, four times daily, with laxatives, and began the injection of 15 minims of a 1 per cent. solution of iodid of potash into the tissues. The effect was very striking. Three days after the first injection the swelling had subsided, the pain had almost entirely disappeared and the temperature had fallen to the normal; it never went above 99 degrees during the subsequent course of the disease.

The patient reported that in a few hours after the injection there was an increase in the swelling, but it began to decline after twelve hours, and at the time of my visit, three days after the hypodermic, the swelling was decidedly less than at my previous one. I mention this because I have since found it a constant manifestation following the injections, i. e., a temporary increase in the swelling, reaching its acme in about six hours, remaining stationary for about six hours, and beginning to subside in twelve. By the end of the third day the swelling had disappeared, with a decided decrease of the original swelling.

Her subsequent recovery was rapid and uneventful, except for iodism, which appeared in March, 1899. She had been taking 15 grains of iodid four times daily and had been given hypodermics every three or four days during October and

November, every six days during December, three times in January, and three times in February, 1899.

By March 1 the swelling and induration had almost entirely disappeared, and the trismus was gone. I left off the iodid and the symptoms of iodism quickly disappeared. July 29, Aug. 12, and Sept. 15 I gave her hypodermics to clear away the last vestiges of the swelling and induration. The patient had in all forty-one hypodermic injections.

I neglected to state that she was delivered Oct. 23, 1898, after a normal labor which was followed by a perfectly normal puerperium. The urine, low in specific gravity, showed some albumin all through September, but this disappeared by November, 1898, and the specific gravity returned to the normal. This patient has presented herself for examination several times since the last-named visit, but has never at any time shown any evidence of the disease. A noticeable feature of the case has been the improvement in the scarring; from a large, depressed, adherent scar, the case now presents a movable, scarcely noticeable one. The general health is excellent, with no vestige of the local trouble.

CASE 2.—N. R., a male, aged 28, came to my office March 18, 1899, for examination and operation. His general health had always been good. For two years he had had a sinus $2\frac{1}{2}$ inches in length running horizontally beneath the skin, just above the hyoid bone, discharging a thin white pus; the surrounding tissues indurated. The pus showed the ray-fungus under the microscope, as did also the granulations. The internal organs and urine were normal. I advised iodid of potash internally and hypodermically, and injected the sinus with peroxid of hydrogen, followed by Lugol's solution.

The patient declined treatment, as he expected to be married in two weeks, and insisted on an operation. I opened the sinus, curetted thoroughly, cut away all suspicious tissue with the scissors, covered up the wound by sliding the skin, put in a silk thread drain and dressed it antiseptically. I removed the drain on the third day, injected the wound with a 1 per cent. solution of iodid every day, and began the administration of iodid of potash internally. The wound healed perfectly and promptly, much to my surprise, as experience has taught me that these old sinuses about the neck rarely heal up promptly; by March 28 it was entirely healed. He continued the iodid for two months. A recent letter from him says he is well, with no evidences of the trouble.

CASE 3.—A. B. N., aged 63, a farmer, consulted me first on June 26, 1899. His previous health had been good. Sept. 1, 1898, he was sitting on a board fence with his thumb-nail resting on the top board. A neighbor came along and rudely jerked his hand, tearing the nail off. During the autumn months he gathered his corn with the thumb imperfectly protected, and was also at this time treating a lumpy-jawed cow. The ungual phalanx of the left thumb was very much enlarged, hard, and ulceration over the matrix of the nail. As I picked up his hand to examine it my eye lighted on a sulphur-yellow granule in one of the granulations. I removed it, and under the microscope it showed the ray-fungus.

I put him on iodid of potash and gave him peroxid and Lugol's solution for a wash, to be used twice daily, and directed the wound covered with borated gauze. I administered, hypodermically, a 1 per cent. solution of iodid of potash every third or fourth day. The secondary swelling following the hypodermic administration of the iodid was so painful that after two weeks he insisted on an operation, and I amputated the thumb. The subsequent course was uneventful, and there has been no recurrence. My mistake in the case was, I believe, in giving 15 minims of the solution; if I had only given 5 minims every third day I feel that the hypodermic medication might have been more satisfactory.

CASE 4.—F. M., aged 70 years, an attorney, suffering from diabetes mellitus, frequently picked his teeth with a straw. He consulted me first in June, 1899. He had noticed a swelling the size of a hazlenut on the lower jaw two months before, and had consulted a dentist, who said his trouble was dependent on an improperly filled tooth; he removed the filling, but was unable to detect anything wrong with the tooth or establish any connection between the tooth and the swelling. I found a

hard, firm filbert-sized swelling on the outer aspect of the lower jaw, corresponding to the lower, left, first molar tooth. I incised the swelling and found a small collection of pus, thin, whitish, containing whitish-yellow granules. The microscope showed actinomyces. I cleaned out the abscess cavity with peroxid of hydrogen, swabbed it out with tincture of iodine and packed it with iodoform gauze, treating it daily for two weeks, every other day for four weeks. Recovery was gradual, but apparently perfect, at the end of two months.

CASE 5.—I was called to see A. H., a farmer and stock feeder, aged 53, on June 14, 1899, Dr. Clearwater in attendance. Prior to this illness his general health had been good. For one year he had been annoyed by a dry, irritating cough, with no expectoration, and during the preceding three years had frequently assisted in the treatment of big-jawed cattle. For four days prior to my visit he had suffered from headache, malaise, slight febrile movement, dyspnea and aggravated cough. Two days after the onset of his illness, after a violent paroxysm of coughing, he felt something in his throat that he thought was a piece of timothy straw. Its presence occasioned a choking sensation, and he thought he swallowed it. Following this paroxysm he began expectorating blood-stained pus with a very offensive odor. He would be attacked by a violent paroxysm of coughing, after which he would expectorate freely.

At the time I saw him he was pale, his pupils dilated, his voice feeble, although the patient was about the house. Anteriorly, on the right side, there was an area of dullness, a finger's breadth out from the sternum, reaching from the first intercostal space to the third rib, and shading off laterally. The resistance to the finger was marked. Bronchial breathing, and large and small mucous râles were present. Posteriorly, there was a corresponding area in the right interscapular region, with similar physical signs, the axillary region dull in the upper part; aside from the above-described area and an occasional râle, the lungs were free. The heart was slightly dilated, the sounds normal. The liver and spleen were normal. The urine had a specific gravity of 1022 and was acid, with a trace of albumin, indican, granular casts, uric acid and wide mycelial threads with clubbed ends. The albumin increased until September, then began to decline. Indican was usually present in small amounts. Casts were found until the middle of September, when they disappeared. The mycelial threads with clubbed ends were prominently present until the last week in August. I introduce this detail because of the continued presence of this unusual vegetable organism in the urine.

Nothing was to be found in the mouth or throat, and no carious teeth. The temperature was 100.5 F., the pulse 96. The patient was expectorating a very offensive purulent matter, made up macroscopically of gray, grayish to yellow and black expectorate. Insomnia and anorexia were marked symptoms. The anorexia was due to the foul taste left by the expectorate.

I was impressed by the comparatively low temperature, the macroscopic appearance of the sputum, the circumscribed, marked resistance, and the history of the suspected piece of timothy straw, and advanced the diagnosis of abscess of the right lung, from a foreign body lodged in the right bronchus, with secondary peribronchitis, and gave as my opinion that there was an actinomycotic infection. Later I was able to demonstrate with the microscope the presence of the ray-fungus in the sputum, and verify it by repeated subsequent examinations.

I ordered iodid of potash, 5 grains every four hours, alternately with capsules containing quinin and salicin, had iodine vaporized constantly in his room, and every three hours had him inhale a mixture containing creosote and oil of eucalyptus.

He ran along with aggravation of his symptoms coincident with the formation of pus in a new focus, and a decline of symptoms with the escape of pus, but his symptoms growing graver and general condition worse as time went by. His weight had declined from 150 to 105 pounds, with increased feebleness, pulse below 100 during June, from 100 to 120 during July, and during the last week in July never below 114.

The temperature was progressively higher, ranging in June from 99 to 101 degrees; in July from 99.5 to 102, occasionally 103.5 degrees. August 10 I began the injection of a 1 per cent. solution of iodid of potash, one-half dram every third day, in addition to the other treatment.

He had refused this treatment up to this time, and only consented to it because he believed there could be but one result, viz., speedy death, unless something stopped the course of the disease. The area of dulness in the right lung had increased, and pleuritic sounds were to be heard over this area. An area of dulness could be detected posteriorly on the left side, corresponding in location to that on the right. So desperate was his condition that Dr. Matthews, of Chicago, who saw him with me, and confirmed the diagnosis, said that he would die in one week; an opinion that was concurred in by Dr. E. T. Hall, the physician in charge, and myself.

We made the injection with a large hypodermic exploring syringe, after preparing the surface with scrupulous care to avoid pus infection. After determining the point of greatest dulness, we introduced the needle detached from the syringe; if blood flowed freely through it—or if the patient expectorated freely of blood, as he did on several occasions—we would withdraw the needle and reintroduce it (a little precaution that I have found useful in injecting the thyroid). We never injected more than one-half to 1 dram, for we feared the traumatism to the tissues from the distension might result disastrously.

The result of this change, or rather addition to the treatment, was very striking. In three days his strength and general appearance had improved. After the second injection his temperature never went above 101 and his pulse 104. He was given, in all, twenty-five injections. After each there would be a temporary increase of dyspnea, cough and temperature for six hours, followed by marked improvement after twelve hours. Three days after the physical signs would be noticeably improved. The area of dulness on the left side described, disappeared after the third injection into it.

In October he presented himself at my office with dulness on the right side in front. The lungs were clear posteriorly. He was anxious to leave off the injections, in fact he had not had one for two weeks. I directed him to return home and resume them. He had two anteriorly at intervals of three days, and each contained one-half dram. Twelve hours after the second injection the irritation of the right lung left him "as if by magic"—his own words—and he has never had any cough or expectoration since.

Dec. 15, 1899, his weight was 165 pounds. He was well nourished, with no cough nor expectoration, and no pulmonary dulness nor râles were present. His heart, liver, spleen and temperature were normal, his pulse 72. I have had occasion to examine him several times since December, 1899, and have never been able to detect any evidences of the disease.

I take this opportunity to thank Dr. E. T. Hall, of Plano, Iowa, for his valuable assistance in the care and reporting of this case.

CASE 6.—I was called to see T. P., aged 30, a conductor on a freight train, March 4, 1900, Dr. Severs in charge. His previous health had been good. One month before, the lower right wisdom tooth, carious for some time, began to ache, and he had it extracted. Almost immediately he was seized with a most excruciating pain, which was relieved after several hours by heroic doses of morphin.

The jaw swelled very rapidly, increasing until it became enormous; but, after the first few hours, the pain was moderate. The temperature varied from 100 to 102 degrees. The swelling had been incised at four different times, giving vent to small accumulations of pus. The second, and later the first molar on the right side, were erupted by granulation tissue.

At the first time I saw him he was emaciated, with prostration marked, and he was confined to his bed, taking very little nourishment and presenting an enormous swelling of the right side of the face, especially the lower jaw, with two sinuses leading down to the bone, the one admitting a lead pencil, the other the index finger, both filled and pouting with

granulations and discharging a thin whitish pus containing whitish-yellow granules. Trismus was marked. From the second lower bicuspid, rearward, the alveolar process exhibited a fungous mass of granulations, discharging the same character of pus. The swelling over the jaw was stony hard, and surrounded by a zone of edematous swelling that partially closed the right eye, puffed out the cheek, thickened the lips and extended on the lower jaw to the median line.

There was numbness on the distal or anterior side, and the circulation was interfered with, as evidenced by the slow return of blood when it was driven out by pressure. There was no glandular involvement. I made a diagnosis of actinomycosis, based on the history, symptoms and clinical picture, and was able to verify it by finding the ray-fungus in the pus. His temperature was 100.5, pulse 114, the lungs, heart, liver and spleen normal. The urine, whose specific gravity was 1018, was acid, with no albumin, but phosphates in excess and with wide mycelial threads with enlarged rounded ends like those found in Case 5. I put him on iodid of potash every four hours, ordered the sinuses syringed out with peroxid of hydrogen followed by 50 per cent. Lugol's solution, and covered with borated gauze; the mouth washed every two hours. Hypodermically I administered 15 minims of a 1 per cent. solution of iodid of potash directly into the infiltrated tissues. At first I pushed the hypodermic medication, administering it daily, and injecting at three or four points, but the sequent swelling, described previously, deterred me, and I finally settled down to injections every third day. I was especially anxious to push treatment in this case because I feared the opening in the mouth might lead to the invasion of the internal organs.

Progress has been favorable and rapid. Improvement was first noticeable in the general condition, then locally. When the injections are given every third day there is a noticeable diminution in the size of the swelling by the third day. During the progress of the disease I increased the iodid to 10 grains four times daily, and on several occasions I cauterized the granulations in the sinuses with nitrate of silver to favor drainage and destroy with the granulations some of the organisms. Examination made April 27, 1900, showed the internal organs and urine normal. The sinus in the mouth had been closed for one week, the outside sinuses for two weeks. Three pieces of necrosed alveolar process had been removed from time to time. The swelling was very much diminished in size, the induration almost gone.

CASE 7.—D. C. B., aged 41, a banker and cattle dealer, of robust health. Fourteen years ago noticed some swelling about the angle of the lower jaw on the left side. He had been engaged before that in the care of lumpy-jawed cattle. Four years ago he presented himself to me with an indurated swelling on the outer aspect of the lower jaw, just below the articular neck, the size of a small hickory nut, and another just behind the ascending ramus, connected, but not intimately, with the inferior maxilla. There was no suppuration. He had suffered for sixteen years from a troublesome wisdom tooth on that side. I made the diagnosis of actinomycosis, and ordered iodid of potash, 30 grains daily, and iodine ointment locally.

This was followed by decided improvement, but he left off the treatment in one month, and before the swelling had entirely disappeared. At times since then there has been temporary enlargement of the swelling, followed after a time by subsidence, but showing a progressive enlargement. He consulted me April 7, 1899, when the swellings were noticeably larger than when last seen, the induration marked, some trismus, no glandular enlargement, temperature normal. His general appearance was that of one in robust health. I cite to show that pure actinomycosis is non-suppurative.

Actinomycosis is defined as an infectious disease, usually chronic in its course, rarely acute, occurring in man and animals and caused by the growth in the tissues of actinomyces—the actinocladothrix—giving rise usually to swellings resembling sarcoma.

History.—Langenbeck found actinomyces in 1845, in

an abscess with caries of the vertebrae in man, and Lebut, in 1848, in a thoracic abscess. Bollinger, 1877, published his cases in cattle. In 1878, Israel published two in man, and in 1879 a third case. Ponfick, in 1882, wrote an article giving the history of several in man, and establishing the identity of the disease as seen in man and cattle. Belfield was the first to make a study of the disease in cattle in this country. Murphy, in 1892, reported the first case of actinomycosis in man published by an American author. Since that time numerous ones have been reported by various observers.

Etiology.—The disease is caused by the entrance of the actinocladothrix into the tissues. An open wound is necessary for the entrance of the cryptogam. With an open atrium, and the organism present, it may gain access to any part of the body, the skin, mucous membrane of the mouth, alimentary canal or respiratory tract. A carious tooth or an inflamed gum afford especially inviting points of entrance, due to the fact that they offer and maintain a wide-open door and are the parts most frequently brought in contact with the organism, which is carried into the mouth on grain or grass, straw or seeds; it may be inhaled or taken in with the drinking water. Hence farmers should be cautioned against the common customs of chewing or picking the teeth with straws or eating raw grain.

The literature and personal observation make me confident that the disease may be inoculated into the tissues of man from diseased beast or man. Murphy reports a case where the disease was presumably acquired from a dog, and Ponfick one following the bite of a louse. Numerous cases are reported in man after contact with big-jawed cattle. You will recall that Cases 3, 5, and 7, reported above, show that the patient had, prior to his illness, been engaged in caring for big-jawed cattle. Three cases have been reported where the disease was presumably carried by kissing.

Bacteriology.—The etiologic factor, as stated, is the actinocladothrix. According to authorities there are three distinguishing morphologic elements: 1, club-shaped formations; 2, a centrally-placed net-work of fungous filaments of varying shape and size; 3, fine coccus-like bodies.

My observation is that the club-shaped formations are often absent, or, more properly speaking, I have rarely found them present. The dichotomizing threads are frequent and may often be found running out from a common center, reminding one of a tuft of tickle-grass. The fine coccus-like bodies are, according to my observation, the most constant and characteristic element. You will often see these Meischler's corpuscles in contact with threads in such a way as to make you doubtful whether the organism is properly classed a cryptogam.

In staining I used Gram's method in most cases. Picrocarmin is a very practical stain, staining the fungus yellow and the other tissues red. I have, in common with many observers, found it difficult to study the organism in pus, and have found that treating the pus with a weak solution of caustic potash, say 1 to 2 per cent., was of great practical value in baring the organism. Ether may be used for the same purpose, but did not prove so satisfactory in my hands.

Pathology.—Almost every organ in the body has been named as the seat of primary actinomycosis. The most common points of entrance are: 1, the lower jaw; 2, the lungs; 3, the cecum. An analysis of five hundred cases showed that 55 per cent. occurred in the head and neck, 20 per cent. in the thorax and lungs, 20

per cent. in the abdomen, and in other parts 5 per cent.

Wherever the process is found, the microscope shows round cells with epithelioid and often giant cell infiltration, associated with connective tissue proliferation. The disease never extends in the direction of the lymph stream, but may grow into a vein or large lymphatic, and a fungous mass containing the organisms be carried to a distant organ.

The constitutional symptoms are not very marked in cases of actinomycosis unless there is combined with the ray-fungus one or more of the forms of pus organisms. Cases of advanced actinomycosis, even when complicated with pus formation, offer a striking contrast to cases of tuberculosis, sarcoma or carcinoma that have progressed to the same extent in the comparatively slight degree of pallor, emaciation or cachexia.

The temperature is but slightly or not at all elevated in cases of actinomycosis uncomplicated by septic processes. Even when sepsis is present the temperature runs low compared with the local manifestations. This is due, in my judgment, to the interference with absorption of the ptomains by reason of the dense infiltration of the tissues. The absence of glandular enlargement in actinomycosis is in striking contrast to the marked glandular enlargement found in tuberculosis and carcinoma.

Locally, the actinomycotic nodules or swellings are, as a rule, strikingly firm and hard, with a surrounding area or zone of edema. When the jaw is the seat of the trouble, associated with the induration there is a marked degree of trismus due to the muscular infiltration.

As a result of the infiltration of the tissues the nerves are compressed, giving rise to anesthesia and numbness; hence pain is only exceptionally a prominent symptom. In fact the reverse is true, the swellings being strikingly free from pain and sensitiveness. The painlessness of the swelling serves to distinguish it from phlegmon or carcinoma. In Cases 1 and 6 the pain was very intense for a short time, but subsequently they ran a comparatively painless course. The compression of the blood-vessels from the infiltration, as stated, gives rise to a surrounding zone of edema, and obstructs the circulation as evidenced by the slow return of blood after pressure on the swelling.

When the induration nears the skin or mucous membrane, the covering becomes red, later purplish and puffy, followed by spontaneous opening of the abscess. Its opening leaves a ragged wound, filled with pouting granulations which, as the process recedes, leaves a large ragged sinus leading down to the subadjacent bone or abscess cavity.

The density of the infiltration may be more nearly appreciated if we recall that when the process occurs in the jaw, the teeth are frequently erupted by the granulations. With the further subsidence of the process the tissues retract and contract, presenting a dense, scar-like feel. It is surprising, however, to see how perfectly the tissues are restored to their former consistency and elasticity with perfect recovery. I have seen extensive losses of substance about the jaw recovered from with strikingly little scarring.

The pus poured out, usually scanty in amount, varies in appearance with the associated pus germ, but in all cases is characterized by the occurrence of small bodies, pin-point to pin-head, rarely split pea in size, varying in color in different cases, from light gray to yellow, now and then green or black. These bodies contain the characteristic organism, and are made up largely of collec-

tions of them. Sometimes these bodies are surrounded by a calcareous covering.

The following summary from Murphy, bearing as it does chiefly on the symptomatology, I take the liberty to introduce here: 1. The growth of the disease is very indolent and sluggish except in the peritoneal cavity. 2. It is accompanied by very little pain. 3. The microbe does not produce a ptomain capable of causing a rise in temperature. 4. Pure infection with actinocladothrix is not accompanied by pus. Pus means secondary infection by streptococcus pyogenes. 5. The amount of infiltration around each nodule of granulation and its sero-purulent contents is very great compared with the small contents. 6. The greater the amount of suppuration the more malignant and rapid the progress of the disease. 7. Diffusion of the actinomyces *in loco* and by entrance into the blood-stream are the modes of extension; never the lymphatics and glands. Its extension is greatest in the direction opposite to the course of the lymphatics. 8. After evacuation of the contents the nodules heal rapidly, but recur in a few weeks if the germs are not all removed. 9. Fatal symptoms are tardy in appearing, the dense infiltration acting as a bar to the disease.

Treatment.—The weight of authority has, until the last three years, been decidedly in favor of surgical measures in the treatment of actinomycosis. All surgical authorities are agreed that anything short of complete removal is ineffective, if not positively detrimental. During the past three years the trend of the profession has been in the direction of medical treatment for this class of cases.

If we will impartially review the literature, we will be forced to admit the great value if not advantages of the treatment by iodid of potash. Since the iodid was first suggested by Thomasson, in 1885, for the treatment of actinomycosis in cattle, case after case has been reported in man and beast cured by its use. The United States Government Commission at Chicago, in 1893, reported 63 per cent. of recoveries in beef cattle suffering from actinomycosis where iodid of potash was administered to them. Berard, of France, says in recent cases 25 per cent. are cured by iodid alone, and 75 per cent. cured by combined surgical measures and the administration of iodid of potash. In chronic cases he reports one-third cured by iodid of potash.

The above report made by Berard, in 1897, certainly does not represent the present position of the iodid. A résumé of the literature of to-day would give a much higher percentage of recoveries. In fixing the percentage of recoveries under iodid, the first difficulty to be met is the frequent combination of surgical and other measures with it; the second, the lack of thoroughness in its administration; and third, the lack of long-continued administration. In the limited literature at my command I find sixty-three cases reported cured by the use of iodid alone, and only two cases where the iodid failed after a fair trial. A number of these were inoperable. The actinocladothrix is not destroyed by the iodid, but its growth and reproduction seem to be retarded. In view of these facts, the theory has been advanced that the iodid increases the fighting properties of the phagocytes.

I have, at the risk of being tedious, gone into this synopsis of the history of the use of iodid of potash in this disease because I feel that we have in this drug a most valuable agent for its management, and that one who subjects his patient to a hazardous surgical opera-

tion before giving the iodid treatment a thorough trial has taken unwarranted liberty with the life of his fellow man.

A case of actinomycosis of the lungs is reported cured by the internal use of oil of eucalyptus, and inhalations of the same drug three times daily. In estimating the value of any form of medication or surgical procedure in this disease, we must not lose sight of the fact that many cases of spontaneous recovery are recorded.

Various local measures have been used with advantage. The sinuses have been injected with peroxid of hydrogen and solution of iodine, the exuberant granulations cauterized with nitrate of silver and solutions of this nitrate injected into the sinuses with evident advantage. In the local treatment I try to control the suppuration and close the sinuses as quickly as possible, for, in common with other observers, I am satisfied that the disease yields much more promptly and satisfactorily to the iodid in the absence of suppuration.

Parenchymatous injections of a 5 per cent. solution of permanganate of potash, a 5 per cent. solution of carbolic acid—15 to 45 minims—and a 1 per cent. solution methyl violet have all resulted in cures.

Billroth reported a cure after the injection of tuberculin. The results of Gautier by the electrolytic action of a galvanic current of 50 milliamperes through two platinum needles on a 10 per cent. solution of iodid of potash injected into the actinomycotic induration—with success in his hands—do not seem to have been received with favor. Gould's "American Yearbook of Medicine and Surgery," for 1897, contains a brief résumé of two cases treated by Rydgier, and reported in the *Wiener Klinische Wochenschrift*, of Sept. 12, 1895. The treatment was by the injection into the tissues of a 1 per cent. solution of iodid of potash. From this report I adopted the plan of treatment which served me so well in Cases 1, 5 and 6.

I have adhered to the 1 per cent. solution: 1. Because that strength of solution has the greatest osmotic power, i. e., the greatest power of penetrating the tissues. 2. I have feared that a stronger solution might prove injurious to the tissues.

I have used the limited amount, viz., 15 minims, because I feared the damaging influence on the tissues of too much distension, and because the reaction seemed to be too marked when a greater quantity was used, or more than one injection employed. I think the increased edema after the injection, if too great, may retard absorption. I have not made use of any other drug, hypodermically, because I have been satisfied with the results.

In conclusion, I trust we have added some testimony to establish the following positions: 1. That actinomycosis is not an uncommon disease. 2. That, where pure, it is a non-suppurative, afebrile, comparatively painless, slow-progressing disease. 3. That the clinical signs and symptoms are often pathognomonic. 4. That the club-shaped bodies, single and in asters, are often absent, the threads more frequently present, and the coccus-like bodies most constantly present. 5. That combined surgical measures and the administration of the iodid of potash give the best results. 6. That iodid of potash administered internally cures a large percentage of cases. And, finally, that the interstitial injection of iodid of potash into the infected tissues exerts a strikingly salutary influence over the disease.

Since preparing this article my attention has been called to an article published by Ruhräh, of Baltimore,

in the *Annals of Surgery*, vol. xxx. He has collected all the American cases of actinomycosis, sixty-five in number, reported to January, 1899. His statement that "the thoracic cases do badly, as a rule, no matter what treatment is followed," is in accordance with the prevailing opinion of the profession.

TROPICAL ABSCESS OF THE LIVER.

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With the continuous residence of our army in the tropics and the constant return to the United States of scores of invalided soldiers, the subject of tropical diseases has assumed new importance to the medical profession of this country. Probably no subject has been brought so intimately to its attention as that of abscess of the liver. Its relation to dysentery is known, and the frequent development of liver abscess late in the course of this disease explains its appearance so often in the United States.

From the earliest times dysentery has been the scourge of armies, but in our own campaign in the Philippines we have had superimposed on the malevolent influences of the massing of great bodies of men together the presence of an endemic disease. The record of the First Reserve Hospital in Manila for one year—March 1, 1899-1900—shows that dysentery and diarrhea were the cause of more than one-fifth of the sickness in our army. In this year there were treated at this hospital alone 2251 cases of diarrhea and 1391 of pronounced dysentery. Dysentery and diarrhea followed directly the course of the rainy season. During June, July and August the sick report was crowded with these cases. Often whole companies would be stricken as with an epidemic. The sudden chilling and exposure of the first rains made the number of cases during the month of June more than three times as great as that of any other month. With the American in the tropics dysentery is always present, and with it abscess of the liver. The conditions which favor the development of the one makes more evident the existence of the other.

Numerous statistics demonstrate this fact. In 3680 dysentery autopsies made in various tropical countries and reported by Manson, 21 per cent. showed abscess of the liver. The exact number of cases among our own troops can not be definitely stated, but the prevalence of the disease and its intimate relation to amebic dysentery is well shown by the examination of the records of ninety-six dysentery autopsies performed at the First Reserve Hospital, Manila, during the year 1899. Abscess of the liver was present in twelve cases—over 12 per cent. While this number is a small one on which to base a statistical opinion, yet it gives very nearly the correct estimate of the percentage of liver abscesses developing in cases of chronic tropical dysentery among Europeans. The native population in the Philippines rarely develops this disease, although dysentery is common among them. Not a single case of liver abscess was seen among the natives in my own experience in the islands, and I am informed by well-educated Spanish and Philippino physicians that to them the disease is almost unknown.

The life led by Europeans in the tropics doubtless explains the frequency of liver abscess. Overeating and overdrinking, together with lack of exercise, favor hepatic engorgement, and the sudden chilling and exposure incident to the first few months of residence fur-

nishes the exciting cause in the development of an acute amebic dysentery.

Although dysentery is without doubt a cause of tropical abscess, the part played by the ameba coli in its development is as yet undetermined. Whether it was a cause or a result in our own cases we have no evidence to offer. All were of the amebic type of dysentery. The organism was either found in the stools or the pathologic picture was so typical that search was not made for it. From the pus of the abscess, or the abscess wall itself, there is record of the ameba in only five cases. This should not, however, lead to the conclusion that the organism had not been present in the remainder, for most of these cases were long standing, with great destruction of liver substance, and a sufficiently persistent search was not made in every one. Only one case of liver abscess was not dysenteric, but was apparently a multiple idiopathic abscess. There was no history of dysentery or diarrhea, nor any postmortem evidence of previous amebic infection, and the organism could not be obtained from the liver pus.

Of the 13 cases on our records, 5 were single and 8 were multiple abscesses. As Manson¹ very aptly remarks: "Whether the resulting abscess be single or multiple is more or less a matter of accident. If the weakened liver is efficiently inoculated at one point only, there will be only one abscess; if at many points, then there is multiple abscess."

The right lobe was most commonly affected. In only 2 instances was the left involved. Five cases of abscess of the liver came under our observation clinically; 3 were multiple abscesses in which nearly the whole liver substance was destroyed; 2 were large single abscesses. All 5 were operated on, and only 1 recovered.

In the diagnosis of abscesses of the liver symptoms are of but little value. Local signs and the detection of pus by aspiration establishes the diagnosis. Great emaciation and an anemic jaundice are apparently commensurate with the destruction of liver substance. The word anemic is applied to this jaundice to indicate a peculiar "diluted," faded, almost dusky, yellow color of the skin common in these cases. A hectic temperature, a rapid running pulse, with the early development of typhoid symptoms are in proportion to the amount of pus present; for there seems to be no tendency to limit absorption in abscess of the liver. Sordes soon collect on the teeth and lips, and mental hebetude develops early. The pulse is rapid and running, often being out of all proportion to the temperature. It may remain at 140 to 160, or even higher, for weeks just before death. Constipation is the rule, with offensive gray-colored stools, but diarrhea is common late in the disease. A leucocytosis is generally present, but is of little value in the diagnosis as it is very often associated with localized peritonitis, or involvement of the mesenteric glands, in cases of chronic dysentery. Often the local and general symptoms of abscess may develop from a patch of necrosis without the formation of pus. In these cases it is evident aspiration would fail to detect the infected area in the early course of the disease. Two cases came to autopsy from dysentery, and the abscesses would have undoubtedly developed had life been prolonged. A localized peritonitis is present in most cases of long duration. Involvement of the diaphragm is evidenced by persistent cough with increased pain on deep inspiration. Rupture of the abscess into the pleura, with involvement of the lung, is the commonest form of spontaneous evacuation; two of our autopsies showed

1. Tropical Diseases, p. 364.

this condition, and it was present in one operative case.

The great increase in the area of liver dulness, not only above and below, but particularly to the left of the median line was found in all of our cases. Persistent pain over the whole liver region, with a point of local tenderness just below the margin of the ribs in the anterior axillary line is present in most cases. Local bulging, increase in the width of the interspaces, with local edema of the right side makes abscess most probable, but aspiration alone establishes the diagnosis. In our cases a long needle of goodly size was used, so that the thickened pus might be drawn through it. A general anesthetic was given and the needle introduced in the mid-axillary line in the eighth interspace and passed in five or six different directions to its full extent. If this failed to detect pus additional punctures were made both in the right and left lobes, for very often a liver abscess may not be detected by the ordinary puncture in the eighth interspace. This condition was present in one of our cases, and it was not until additional punctures had been made near the median line below the ribs that an abscess was discovered in the left lobe.

In order to determine the extent of liver accessible to aspiration from this point a series of liver punctures were made with long needles, postmortem. The needles were left in situ and dissection carried down through the liver substance, when it was found that not one-half of the organ was accessible from the eighth interspace. In one case an echinococic cyst the size of a small orange lay in the posterior inferior portion of the right lobe toward the median line, and entirely escaped detection.

From these facts we were led to the conclusion that additional punctures other than in the eighth interspace must be made before an abscess of the liver can be excluded in the diagnosis. With ordinary care there is little danger of injuring the gall-bladder, or the large vessels, and with strict asepsis the operation is entirely justifiable as a means of differential diagnosis. Not an untoward complication resulted in twenty-one cases of aspiration. The presence of pus once established makes operation imperative. Only a limited number of patients recover; not from the fact that the operation is difficult, but because the abscess is generally multiple, or, if single, involves a great amount of liver substance, and comes to the surgeon only late in the course of the disease. Unless there is evidence of pointing, it is best to excise a portion of a rib and drain from the side, as there is thus less danger of infection and greater facility in gaining access to the abscess cavity.

Even in most extensive liver abscesses the lower anterior border of the liver is often not involved, the infectious process being confined to the substance of the organ. In many instances the abscess can be reached only with the greatest difficulty by the incision below the costal margin. By excising a portion of the eighth or ninth rib in the mid-axillary line there is almost no danger of infection, but little shock and the freest possible drainage in the most dependent position. Large double drainage tubes are used. The removal of a portion of a rib not only gives more room for exploration, but insures against compression of the tubes as the case progresses. If the liver is adherent, and the peritoneum or pleura thus protected by adhesions, the abscess may be opened at once. If there is danger of infecting either, a delay of forty-eight hours is obviously wise. The instruction to "stitch the capsule of the liver to the margin of the wound" is more didactic than practical. Rarely, if ever, can this be done, as the liver capsule—

particularly that of an inflamed liver—is so friable that no stitches will hold, and but little protection would be afforded if they did. Simply packing the wound with iodoform gauze and waiting forty-eight hours will accomplish the desired result. On account of free hemorrhage in opening a deep-seated abscess the thermocautery may be used, but this is rarely necessary, as access can be readily gained to the abscess cavity by puncture with the finger or a blunt instrument. Severe hemorrhage if it occurs, can be controlled by packing. Usually it is best simply to drain the abscess at operation and to use no irrigation for forty-eight hours, owing to the weakened condition of the patient and the danger of infecting the pleura or peritoneum. Normal salt solution, sterile water or weak antiseptic solutions should be used, as absorption is very great and strong antiseptics are dangerous. Under daily irrigation with such solutions the discharge will completely disappear in a surprisingly short time—a week or ten days even for a large abscess. Free stimulation and most nourishing foods are particularly essential in the after-treatment.

Case 10,635.—April 20, 1900, Private T. S., Co. F, 42d U. S. V., was seen. He had never been sick since childhood until six weeks before, when he was attacked with diarrhea. The symptoms of dysentery rapidly developed, and on his admission, April 25, he was passing from five to twelve bloody mucous stools a day. His temperature was 101, tongue dry, brown and cracked, pulse 140 and thready. The spleen was slightly enlarged, and the abdomen tympanitic and tender on pressure. A point of great tenderness was evident just below the ribs over the region of the gall-bladder. The liver extended from the fourth interspace to the level of the umbilicus, $1\frac{1}{2}$ inches below the costal margin in the right mammillary line, and about three inches to the left of the left median line. He was in a condition of mental hebetude, and complained of little pain except at bowel movements. The blood count revealed a leucocytosis of 18,000. Widal's reaction was negative and the plasmodium malarie was not found. Under ether, an aspirating needle was inserted through the eighth interspace and pus was found on the first puncture. An incision $1\frac{1}{2}$ inches long was made over the eighth rib, 1 inch of the rib excised and the abscess at once opened and drained. More than one pint of fetid liver pus escaped. The abscess cavity was not irrigated until the second day, and then daily irrigations of sterile water were begun. The pus had completely disappeared on the tenth day and the man was out of bed. Recovery was complete. Amebæ were found in the abscess cavity.

Case 8215.—Sergeant J. D., Troop E, 11th Cav., for many months had had chronic dysentery. On admission, Nov. 21, 1899, he was having from four to ten stools daily, his temperature was hectic, 99 to 102, pulse 138 and weak, and he was very weak and greatly emaciated. For several weeks he had had marked tenderness over the region of the gall-bladder: this had greatly increased. Intermittent hiccup and a persistent dry cough were troublesome, and suggested involvement of the diaphragm. The liver extended 1 inch below the costal margin in the nipple line, and there was marked bulging at this point and marked edema of the whole right side.

No aspiration was made in this case, as pus was evident—either an abscess or a suppurating gall-bladder. An incision was made one inch below the ribs in the nipple line, down to the peritoneum. This was found adherent, and so the abscess, very large, "big as your head," was at once evacuated. The cavity was irrigated with normal salt solution and three large drainage-tubes inserted. The pulse was so weak during operation that three pints of normal salt solution were given intravenously and one pint by hypodermoclysis. Despite this and the freest stimulation, the patient steadily grew worse, and died five days later. The autopsy showed multiple amebic abscesses, which had destroyed nearly the whole liver substance.

Case 4786.—Private Wm. H. H., Co. K, 13th U. S. Inf., had never been ill until Aug. 4, 1899, when he developed a severe case of acute dysentery. From the onset his temperature was

unusually high—103 to 105. The discharges were of the characteristic mucus and blood, and so frequent that he was constantly on the bed-pan—more than forty movements in twenty-four hours. Almost from the first he complained of pain over the region of the liver. The organ rapidly enlarged, and by the twelfth day the whole right side was edematous. Aspiration revealed the presence of pus and incision was made in the mid-axillary line, excising a portion of the eighth rib. Only a small amount of pus was evacuated. The patient never rallied from the operation, and died on the thirteenth day. The autopsy showed one small abscess with several necrotic patches throughout the substance of the organ, which would undoubtedly have formed additional abscesses had the patient lived.

Case 10,741.—G. M. W., a clerk, was seen March 7, 1900. There was no history of dysentery or diarrhea. The patient had been in the Orient five months, and in fair health until about four weeks before, when he rapidly lost weight without assignable cause. On admission to the hospital, March 7, he was much emaciated and of a peculiar dusky, jaundiced color. His temperature was subnormal and his pulse rapid and feeble. Pain over the liver was constant, with the point of greatest tenderness one inch below the costal margin in the mammillary line. The organ was very much enlarged, extending four finger breadths below the ribs. Under ether the aspirating-needle revealed pus. An incision $2\frac{1}{2}$ inches long was made below the costal border in the right nipple line. The liver was found adherent to the parietal peritoneum. On attempting to open the abscess such free hemorrhage occurred that the wound was packed with iodoform gauze and partially closed with silkworm gut sutures. Further operative procedure was delayed forty-eight hours, when it was intended to open the abscess with the Paquelin cautery. However, on separating the capsule from the diaphragm, about one pint of pus was evacuated. A drainage of double tubing was instituted, and the patient left the table in a very weak condition and died forty-eight hours later. The autopsy showed multiple abscesses of the liver involving nearly its whole structure. They varied in size from one to five inches in diameter and contained peculiarly fetid pus. There was no previous history or evidence of dysentery, nor could the ameba be found. Apparently the case was one of multiple liver abscess following general hepatitis. The mesenteric glands were much enlarged and the spleen was septic.

Case 220.—Private C. F. B., Co. 1, 4th U.S. Inf., gave a history of chronic dysentery of several months standing, but on the date of admission considered himself cured of that disease. His present illness began so insidiously that he could not state the time of its onset. During the preceding month he had lost greatly in weight and suffered from a constant steady pain in the epigastrium. On admission, the temperature was subnormal and his pulse rapid and feeble, with a dry brown tongue and mental hebetude, and his skin a dusky jaundiced color. The liver was much enlarged, extending fully three inches to the left of the median line and $1\frac{1}{2}$ inches below the ribs. Aspiration at the eighth interspace, in five or six directions, failed to detect pus, so the needle was introduced into the left lobe from a point just to the right of the median line, $\frac{1}{2}$ inch below the costal margin. Here puncture was successful and an incision was made down to the liver. The capsule and parietal peritoneum were adherent and a large abscess was opened and drained, with no irrigation. The patient rallied from the operation, but died on the fifth day. The autopsy revealed a large single abscess occupying the whole left lobe. It had perforated the diaphragm, and opening up the pleura had set up a septic pneumonia. Healed amebic ulcers were found in the intestines, but the ameba coli could not be distinguished.

Migration of Needles.—The *Medical Press and Circular* for April 24 reports the removal of about sixty needles from a domestic, aged 16, who says that five years ago, on a wager, she swallowed four or five packages. No inconvenience was noticed until recently, when the needles presented, usually by the head, in various portions of the body.

THE PREVENTION OF INSANITY.

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The necessity for more radical measures for the prevention of insanity must be manifest to any one who will judiciously consider the question of its rapid increase; for while there has been some attempt to minimize this important question, yet it is capable of easy demonstration that insanity has increased out of all due proportion to the increase in population in the last thirty or forty years. The statistics of Great Britain show that the proportion of insane to the whole population in 1860 was 1 to 523, and in 1890, 1 to 320; and in Illinois the proportion of insane to the population is about 1 to 400.

Preventive measures must come from the States. The learned and self-sacrificing profession to which we belong can show the way, but the state must compel people to walk therein. The state has assumed the care and maintenance of the insane; indeed, has made it a criminal offense for any one to restrain them without the consent of her courts. Inasmuch as the state has assumed this great responsibility, it is her duty, in the interests of altruism and of economy, to use every possible means for the prevention of insanity; to find out how this may be done; to educate the people as to methods of doing it and to enforce those methods. The state should, through her State Board of Health, furnish the people with information that they can comprehend as to the causes of insanity, and with methods that may be applied for its prevention; and the state should be as ready, with the same paternal power she uses in smallpox, cholera, etc., to enforce those methods that have the approval of the medical profession. The state should make her insane hospitals schools for the instruction of medical students in insanity. The state should, by competent authority, select by competitive examination senior students in medicine from our medical colleges, and place them in the hospitals for the insane as medical internes. At least half a dozen can be placed in each hospital for the insane in this state. These internes should remain at least one year, receiving board, lodging, and a small gratuity at the end of the service, and by this means at least thirty physicians every year, with mental attainments of a high order, will be sent forth with a good clinical knowledge of insanity, its prevention and its treatment, and become so many prophylactic centers in as many communities. But a few years would be necessary to have, from one end of Illinois to the other, an abundance of well-skilled medical men competent to solve this great problem.

The state should assist in providing treatment for carefully selected cases in wards connected with the hospitals now to be found in every city and almost every town in the state. Admission to these wards should be by the same rules as apply to any other disease. The family of the patient would make but little objection to the prompt treatment of the case in such a manner, while it would decidedly object to the patient being sent to a hospital for the insane by a jury trial at some distant point, and especially to-day when our hospitals have become political machines for the reward of political favors. The patients in these hospital wards, under such scientific treatment as they may promptly obtain, will recover in very much larger proportion than is

possible now, when the prejudices of the people, the court proceedings, and the management of these institutions are all barriers to their prompt and successful treatment. Provision for the treatment and care of the acute cases of insanity near their homes is very much better than the building of palatial institutions in favored localities in the state.

The time allotted to this paper will only permit a very superficial consideration of the prevention of insanity in detail.

At the head of causative factors must stand heredity, that great biologic law by which living beings repeat the character of their ancestors, the sum of ancestral influence directly transmitted, whether as a specific tendency, or as a deficient vitality, or both; "that tyranny of organization," as Maudsley puts it, in them from which no one can escape, that destiny which unconsciously and irresistibly shapes our ends, and some have sought to minimize it and to substitute for it what they call tradition. This heredity is not necessarily the heredity of insanity, for nervous diseases, as is well known, undergo transmutation in transmission, so that any neurosis may be the basis of insanity. Heredity as a factor in the production of insanity can be reached radically by only two methods: 1, the regulation of marriage; 2, the asexualization of the degenerates; or both. But in order that either one of these methods may be established, there must be a great deal of educational work done by the medical profession.

My attention was called a few days ago to a prominent stock raiser in Kentucky, who refused to purchase a bay stallion, a very valuable animal, because back in the fifth or sixth generation one of his progenitors had bred gray. This stock raiser married a woman whose brother at the time was insane, and whose father and grandfather died insane. Fortunately in this case, so far there has been no progeny. Some say that the regulation of marriage is an utter impossibility. Such people forget that in Illinois to-day marriage, to a very limited degree, is regulated, and all we need to do is to extend the regulating powers of the present law to make it meet the indications of the present conditions. Asexualization, as is known very well, can be accomplished without danger to life, without producing deformities, without destroying sexual desire, by ligating the Fallopian tubes on the one hand, and the seminal ducts on the other.

It is not necessary for me to emphasize the fact that a mother with this neurotic inheritance, when she becomes pregnant, must be carefully guarded during the whole period of gestation, placed under the very best hygienic rules and conditions, compelled carefully to avoid the use of narcotic drugs and stimulants; and when her child is born, if possible, a healthful wet nurse should be provided, and in its early days, careful training, so that as the child grows older he may have a robust body. His education should be largely directed to producing a body with fine muscular development; his intellectual training should be carried on with the greatest possible care, and an occupation should be selected for him which will be the least likely, by its extraordinary demands, to dethrone his reason.

It is unnecessary for me to consume time by saying that our educational system in the public schools, so far as the great bulk of neurotic children is concerned, is sadly deficient. We know the causative effects of syphilis, of tuberculosis, of infectious and miasmatic diseases, of the arthritic diatheses, of the effect of intoxicants, not only voluntary intoxication by alcohol and numer-

ous similar drugs, but by auto-intoxication through physiological instability, defective metabolism, defective gland secretion from the alimentary tract, the liver and kidneys. We know the effect of deficient alimentation, and for all these several important factors we are familiar with the preventive measures.

WHEN SHOULD WE OPERATE IN APPENDICITIS?

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So much has been written on the subject of appendicitis, that I have hardly the temerity to proceed and I am sure I would not have if it was not for the memory of many cases that I feel could have been saved and others "in futuro" that never will until some of the general practitioners rise above their prejudices. I believe it is the duty of all operators to agitate this subject until the correct position of operative procedures is thoroughly appreciated. If men who do not operate and meet these cases would have in mind septic ones and their serious termination—if not in death, they go on to abscess, drainage, ventral hernia, and a long convalescence—as well as catarrhal ones with their recoveries, then much will have been accomplished. To diagnose and correctly appreciate the uncertain cases is the most essential feature. Like other surgical conditions that invite procrastination, appendicitis may lead us to a serious or fatal termination. I purpose treating only one feature of the disease, and that the old one, namely, shall we operate in all cases, or shall we follow an expectant line of treatment? There are many able men in favor of both expedients.

Important Factors.—There are important factors in every case that the general practitioner should consider, viz.: Are the symptoms clear-cut and urgent? Is it a primary or recurring case? How far advanced is it? What is the opinion of the patient's friends or advisers? Has some one in the vicinity had a slight catarrhal attack of appendicitis, or other local disease with the character of appendicitis, which has ended in recovery without surgical interference, or has surgical interference in some neglected or fulminant case ended fatally? Either condition will have a material effect on the family and friends in deciding concerning an operation. Then there is the clinical experience of the one in attendance and the class of cases he has met, the question whether or not he does surgery, whether he is opposed to calling in a consultant, how many cases he has had and their outcome, and lastly, whether he concludes his consultant is advising an operation purely because he is desirous of performing it.

There is no fair comparison between the eminent specialists of the large centers, whose every utterance is law to so many, who have such a wide territory to draw from that their patients and even their professional brethren do not know of their results, and the practitioners of smaller places. We general practitioners are most excusable—with our limited opportunities—for the feeling of anxiety and apprehension that comes with each case of appendicitis, when we review the great variation in the views of our most eminent men. One will say, "Operate at once;" another, "Be conservative and follow an expectant line of treatment that you may have the advantage of an elective operation;" while still another equally eminent man says that operative

procedures are seldom indicated. Errors of judgment will occur with us all, but these conditions must be met and corrected by men of the greatest experience. I am sure that mistakes, if properly interpreted, are powerful for good.

Indicative Symptoms.—What symptoms are of service to us in reaching a conclusion that we should operate in a case of appendicitis? Temperature, pulse, respiration, general or localized pain, vomiting, sudden onset, tenderness in the immediate region of the appendix, the facial expression, the presence of a tumor, rigidity of the abdominal muscles, edema of the abdominal walls, distension of the abdomen, tympanites and chill, are all at one time or another observed in appendicitis. The pulse, temperature, respiration, nausea and vomiting are in no sense a guide in the first stage because different patients react so differently to the first impressions of the toxins. The pain is at first referred to the umbilicus or epigastric region, and then after a few hours settles down in the region of McBurney's point; you can readily appreciate that the exact point varies according to the location of the appendix. Later, we may have a severe paroxysm of pain, which so many characterize as the time at which the rupture occurs; it is of value in that it indicates the time at which the alarming symptoms commenced.

The presence or absence of pus in an inguinal tumor is a condition which must be considered very carefully in estimating the value of the symptoms; as an acute general peritonitis may appear in a case of appendicitis in which the general cavity is not protected, or a perforated appendix may be walled in by lymph which is barely sufficient to close the opening or surround the slough. It is of interest to note that the abdominal muscles protect an inflamed appendix by their rigidity, and that they do so regularly, and that they do not protect in the same way an inflamed ovary or tube, only an inch or two distant, but remain normally relaxed.

The rigidity of the abdominal muscles is an important symptom, and when associated with the anxious facial expression and rapid pulse, I always feel that there is trouble ahead. In late cases increased edema of the abdominal walls, with distension of the abdomen and progressive inflammation, marked at first by a rise in temperature, which is shortly followed by a fall, with a weaker and quicker pulse, is characteristic of a diffuse septic peritonitis; this condition, preceded by a severe paroxysm of pain in that region, indicates a ruptured appendix, which may be diffused or walled off. A chill sometimes occurs at the onset, again at the stage of perforation, and later if sepsis supervenes.

Remarks.—During the past year I have been called in consultation in nine cases of septic appendicitis which succumbed to the disease, and which, I believe, could have been saved if those in attendance had acted along the lines of our present conclusions in these cases. I have also operated on at least a dozen cases of fulminant appendicitis, during the same period, sent to me by another class of observers, without a death, and in five of this number rupture had occurred though it was not thirty-six hours from the initial symptoms. How can we avoid the fatality of the first variety? Only by the attending physician associating with himself, when in doubt, some one thoroughly familiar with these cases, and so being in a position to differentiate the catarrhal from the septic cases, and thus reaching those requiring operative procedure early.

OPERATING UNDER X-RAYS.

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The removal of foreign bodies which have been accurately located by the fluoroscope or skiagraph has come to constitute every-day operations in surgical work. I have not, however, as yet seen any report of a case in which the surgical work itself was done under the light furnished by the x-ray and with the aid of the fluoroscope. Having had one such experience I deem it worthy of presentation to the profession.

George E. R., aged 9 years, was shot July 4, 1899. The bullet was a Flobert and entered just above the right patella. The injury seemed to be slight and the wound healed by first intention. Some three weeks later, the joint beginning to give him trouble, an examination was made by his physician, Dr. S. M. Sherman, of this city, who thought he detected the bullet under the skin at one side of the patella. He cut down upon the supposed bullet, but found nothing. I saw the case for the first time on July 25, at the office of Dr. Early, an expert radiographer. With the fluoroscope the bullet could be seen with very great distinctness, as the boy lay on his back, on a line with the upper border of the patella and apparently resting on the upper portion of the articular surface of the inner condyle of the femur. It could be seen very distinctly and its removal was apparently a matter of great ease. A skiagraph was made which verified the view afforded by the fluoroscope.

The bullet, which seemed to be superficial, was located on the opposite side of the patella from that which had been operated on by Dr. Sherman a few days before. The operation wound was suppurating freely. Under an anesthetic, administered by Dr. Sherman, an operation was made for the removal of the bullet, July 29. A small incision was first made and enlarged as necessary, but notwithstanding a most thorough search no bullet could be found.

The only explanation that could be offered of the failure to find the bullet was that it was free in the joint and had simply changed its location during the intervening period. The patient was therefore returned to Dr. Early's office and the fluoroscope again used July 30. This showed the bullet at the back of the joint, but movable; its position could be shifted by rolling the boy upon his abdomen. Since it was plain that the position of the bullet varied with changes in the position of the limb, it was evident that unless we wished to open the joint widely the operation must be made with the use of the fluoroscope. Accordingly preparations were completed and the operation made on the following day.

The bullet was located at the bottom of the joint, the patient lying upon his back. When he was rolled on to the abdomen the bullet dropped down a little but could not be brought to the dependent portion of the joint. The joint was therefore opened through a small lateral incision, and a pair of delicate forceps introduced, hoping to catch the bullet. The operation consisted in an attempt to catch a shadow with a shadow. In order to determine the position of the bullet and also of the point of the forceps, it was necessary to locate them in two planes, and this could only be done by rolling the patient back and forth from back to side, so as to get two views. With great difficulty the bullet was finally grasped, when it was found to be impossible to withdraw the forceps with the bullet in its grasp owing to the approximation of the articular surfaces. The bullet was therefore pushed up to the opposite side of the joint and extracted through a minute counter-opening.

All things considered, I never performed a more difficult operation. The room was necessarily dark, the day was hot, and the noise of the machine was almost intolerable, while the fear of infection from the suppurating wound, which was in close proximity to my own incisions, was constantly before me.

Fortunately, although there was some inflammatory exudate present in the joint at the time of operating, there was no infection from the outside. The incision was closed carefully without drainage, a splint applied to secure fixation, and recovery was entirely uneventful, the ultimate motion of the joint being perfect.

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THE PROTOZOON OF CANCER.

After some three or four years' work the New York State Pathological Laboratory at Buffalo, established by the state for the purpose of studying the etiology of cancer, proclaims, through its director, Dr. Harvey R. Gaylord,¹ that the cause of cancer has been found to be a protozoon or animal parasite. This article represents the official report of the laboratory to the legislature of New York. Reports of this announcement have been referred to previously in *THE JOURNAL*.² The facts in the case, on the study of which interest as to the nature of certain bodies observed in cancers was aroused, are briefly as follows: An adenocarcinoma, probably originating in the appendix, spread to the peritoneum, underwent mucoid degeneration, and the peritoneal cavity was filled with a clear, straw-colored fluid. A quantity of this fluid was secured under aseptic conditions and found to contain a large number of small hyaline bodies which changed their form and size under the microscope and passed through a cycle of development to what appeared to be a spore-forming stage. This fluid was injected into the abdominal cavity of a dog and a guinea-pig, producing a marked peritonitis, the exudate containing similar bodies to those mentioned above. Some of the bodies were observed to send out pseudopods toward air-cells in the microscopic preparation. Peritoneal fluid from the case of peritoneal carcinoma was also injected into the jugular vein of a guinea-pig, which, when killed fifty days later, had numerous white nodules in the lungs, and on microscopic examination these nodules proved to be beginning foci of adenocarcinoma. Peculiar bodies were found in the cells of the splenic follicles and in the cells of the tumors of the lungs. Efforts to cultivate these bodies failed at this time. Later cultivation experiments are said to have been more successful, but unfortunately no details are given in this article. Following these experiments much study was given to fresh scrapings and hardened sections of cancers. Bodies interpreted as parasites were found with almost unvarying constancy in all cancers examined. Observations seem to indicate that the bodies increased very rapidly just before or soon after death. Several forms are described, the earliest being round like a coccus, then a larger form much like oil drops, but not giving all the reactions of

fat, then an ameboid, nucleated form resembling a clear leucocyte, and finally a spore sac, seen mostly post-mortem, in which the young forms arise. The so-called cancer milk of the older writers is said to consist of an almost pure culture of these bodies. The development of the smaller forms was followed in hanging-drop preparations through the ameboid and nucleated stage into the spore-sac. In sections of fixed preparations only the small forms remain demonstrable and appear as the fuchsin bodies described by Russell in 1890, and believed by him to be yeasts or blastomycetes.

In the efforts to determine the nature of these bodies or organisms, full consideration is given to the work of Sanfelice, Russell and many others who champion the blastomycetic theory of the origin of cancer. Gaylord reviews the principal features of this work, which has formed the subject of reviews and abstracts in the columns of *THE JOURNAL*.¹ Plimmer's work of demonstrating certain peculiar "cancer parasites" or "Plimmer's bodies" in 88 per cent. of 1278 carcinomas is considered at length. Plimmer's bodies, as revealed by his special method, are rounded bodies of diverse size, with a central portion not unlike a nucleus, yet differing in staining reactions from ordinary nuclei, a body, and a capsule. Budding forms are rarely seen, and sometimes there is merely a capsule with central dot or dots. Russell's bodies as a rule are homogeneous. With the aid of Plimmer's method Gaylord and his associates were able to substantiate Plimmer's claim that these bodies are present in carcinomas; they also found them in sarcomas and even in histologically non-malignant adenofibroma. Plimmer's bodies could not be found in other tissues, such as the lesions of bacterial and blastomycetic infections. As is well known, hyaline bodies morphologically indistinguishable from Russell's bodies occur sometimes in great abundance in a variety of lesions other than tumors and even in the normal tissues. Gaylord found Russell's bodies quite numerous at the periphery of growing tumors and in adjacent lymph glands, even when these were free from metastases. He calls attention to the similarity between Plimmer's bodies, especially as seen in the fresh condition, and certain appearances in carcinoma described by Sjöbring and by Eisen as protozoa. And in the next place he traces a direct morphologic relationship between Plimmer's bodies and those of Russell. Failing to find in tumors any structures that could be considered as blastomycetes, and an elaborate series of culture experiments with tumors proving of uniformly negative results, Gaylord reaches the conclusion that Plimmer's bodies, Russell's fuchsin bodies and the forms regarded by others as protozoa are identical with the organism—a protozoon, he thinks—studied in the fresh state and referred to in the beginning of this article. He finds that the protozoon of cancer repeats many of the developmental stages of the "vaccin organism" of Gorini

1. Am. Jour. of Med. Sci., 1901, cxxi, 503-539.

2. JOURNAL A. M. A., April 6, 971 and 979.

1. May 27 and Dec. 2, 1899.

and of Funk, which is regarded as a protozoon. Numerous animal inoculations have been made with carcinomatous and sarcomatous material of different sorts. The experiments are to form the subject of a subsequent report. It has been found, however, that animals are readily infected; they become emaciated and die at varying intervals, sometimes not until several months after inoculation. The lesions are not striking. A moderate amount of fluid occurs in the peritoneal cavity and there is enlargement of the abdominal lymph glands. The peritoneal fluid, the organs, and the blood contain large numbers of "the parasites" when examined fresh. One dog showed a large lymphoma of the spleen. Another dog inoculated with sarcoma showed typical metastases in all of the regional lymph nodes. Two guinea-pigs and two rabbits, inoculated in the jugular vein, showed similar lesions in the lungs to those in the guinea-pig mentioned in the foregoing, and these are all interpreted as beginning adenocarcinoma of the bronchi. One guinea-pig presented lesions regarded as primary carcinoma of the lungs and liver, and one dog a lymphoma of the spleen following inoculation with dried lymph nodes from a case of carcinoma. In all these animals the tumor cells contained "the characteristic forms of the parasite."

Similar organisms are said to have been found in syphilis. All organs, including the blood of all patients dying from cancer, contain large numbers of the organisms, which are present in the peripheral blood in all cases of cancer cachexia. A large amount of work along the lines suggested by the results here summarized is foreshadowed, and if the expectations of the Buffalo laboratory are fulfilled we are on the verge of an era in which the protozoa will occupy a large part of the field of etiologic investigation. But we must not expect too much. The exact nature of the organism, or group of organisms, spoken of by Gaylord as protozoic in character, is not settled. The developmental cycles have not yet been traced by authoritative zoologists. Its occurrence in so many different conditions and the production in animals of different lesions are bewildering, to say the least. Definite, distinct, typical tumors with metastases, regional and general, have not been produced in convincing numbers and with convincing regularity. That many of the cell inclusions in carcinoma are not satisfactorily explained on the score of degenerations can not be doubted, but the claim that Russell's fuchsin bodies, Plimmer's bodies, and the protozoon forms and blastomycetes of other authors are all parts of the developmental cycle of one organism rests as yet upon too purely a morphologic basis to be accepted without hesitation.

LEUCOCYTOSIS IN TYPHOID FEVER.

It has become generally appreciated that, while in ordinary, uncomplicated cases of typhoid fever, the number of colorless corpuscles in the blood is, as a rule, diminished, or at any rate not increased, leucocytosis

develops in the presence of complications; so that the discovery of this condition should put the clinician on his guard and stimulate to increased watchfulness. Systematic and repeated examination of the blood in cases of typhoid fever may thus be the means of detecting complications that might otherwise be unsuspected or be discovered only when they had reached a point at which relief could be afforded with difficulty, if at all. The presence or absence of leucocytosis, further, may be a most valuable diagnostic guide when perforation of the bowel is suspected or more or less well-defined symptoms of this condition have already developed. The importance of this sign under such conditions resides in the increased success with which surgical intervention for perforative peritonitis is being attended when the operation is undertaken early, before the inflammation of the peritoneum is too extensive or the constitutional disturbance too profound.

That leucocytosis, like other diagnostic aids is, however, not an infallible guide in this connection, is shown by several observations of more than ordinary interest, recorded by Dr. Colin K. Russell,¹ from the medical clinics of the Montreal General and Royal Victoria hospitals. He reports one case presenting doubtful signs of perforation of the bowel with a leucocytosis of 28,000, in which operation was performed, a perforation found and sutured and recovery followed. In a second case, in which definite signs of perforation were present, with a leucocytosis of 12,000, operation was likewise undertaken, the bowel sutured and recovery ensued. In a third case, on the other hand, in which classic symptoms of perforation developed, the colorless blood-cells numbered only 6100 and 4800 in two examinations at intervals of four days. Operation was undertaken, the ruptured bowel sutured, but the patient succumbed. In a fourth case in which pain and rigidity developed in the abdomen, chiefly in the left lower quadrant, a leucocytosis of 16,000 was found on one occasion and one of 13,000 on another. Operation, however, failed to disclose any indication of perforation or peritonitis. The wound was closed and healed without complication, the patient recovering promptly. The colorless blood-corpuscles averaged in three counts after the operation less than 10,000. A fifth case was attended with pain in the right iliac fossa, of sudden development and progressive intensity, and gradually developed rigidity, marked tenderness and distention and 17,000, 14,000 and 10,500 leucocytes to the cubic millimeter on three occasions. On operation no perforation was found, although two of the ileocecal glands were unusually tense and swollen. The wound was closed and the patient made an uninterrupted recovery. In a sixth case pain developed suddenly in the left hypochondrium, with tenderness on pressure, but without rigidity or tenderness elsewhere. The pulse remained unaltered, but the leucocytes were found to number 12,000 to the

1. Boston Med. and Surg. Jour., April 18, 1901, p. 374.

cubic millimeter. The general condition grew worse, some tenderness developed also in the right iliac fossa and the pulse became accelerated. On repeated examination the colorless blood-corpuscles numbered 12,000 to 14,000 per cubic millimeter. On account of the doubt operation was deferred, but sudden collapse developed, with signs of peritonitis, vomiting, rigidity, great tenderness and rapidity of pulse. The colorless blood-corpuscles now numbered 32,000. Operation was undertaken, but the patient succumbed.

As a result of these experiences the following series of conclusions seems justifiable: In the presence of perforation it is a general rule for leucocytosis to occur, the degree of which, however, may vary within wide limits. The increase in the number of leucocytes, while appearing early, as a rule, may not be at all marked until general peritonitis and collapse have supervened. There may be an utter absence of leucocytosis in the presence of marked perforation and peritonitis; in fact, the number of colorless blood-corpuscles may be lower than normal. With typical signs of perforation and a definite leucocytosis, no such complication may be present, and an operation may be performed unnecessarily. A marked degree of leucocytosis may also attend complications other than perforation, for example, bronchitis, cholecystitis, etc. In the presence of pain and tenderness of the abdomen coming on suddenly in the course of an attack of typhoid fever—and in the absence of evidences of cholecystitis or other definite complication—and of a distinct leucocytosis, even without other symptoms of perforation, an exploratory operation is justifiable, even advisable, thereby obviating the danger of a fatal issue from too great a delay.

THE CLINICAL PICTURE NOT ALWAYS SUFFICIENT FOR DIAGNOSIS.

For some time the opinion has prevailed that the typical clinical picture of an infectious disease corresponds to the activity of a single typical organism. The clinical picture of many infectious diseases is usually a characteristic one, reappearing with satisfactory regularity in various epidemics and in isolated instances. Hence it would seem quite logical to conclude that diseases of this character always are caused by the same specific organisms. But the relations between the clinical picture of disease and the cause of disease are probably not as simple as apparent at first sight. As pointed out by Petruschky,¹ in a consideration of this question, the peculiarities of pathogenic organisms and of the individual patients modify greatly the relations between cause and disease as presented by the clinical picture. The varying virulence of the organisms and the varying susceptibility of the animal and human beings naturally lead to often great variations in the clinical manifestations. The comma bacillus does not cause severe cholera in all persons; there are mild forms of cholera, and comma bacilli may pass through the intestinal canal

without causing any noticeable symptoms. Not only may diphtheria bacilli persist in the throat for long periods after an attack of diphtheria, but the bacilli may be found in healthy persons who have not had diphtheria, and the bacilli may be so persistent that it is practically impossible to remove them for good. After recovery from typhoid fever the typhoid bacillus may persist in the urine in enormous numbers even for years. These examples, and others are not hard to find, show that the active cause of a disease may be present, but not the disease.

On the other hand there may be present the clinically typical picture of a distinct infectious disease without its specific organism being present. Such cases are cleared up only by means of the most searching bacteriologic study. "Cholera nostras" may present the identical symptoms of Asiatic cholera, but it is not Asiatic cholera etiologically. Certain streptococcus infections of the throat reproduce perfectly the clinical picture of genuine bacillary diphtheria, and Petruschky claims that croupous pneumonia may be caused by a variety of organisms, especially streptococcus longus and Friedländer's bacillus. In this case, however, it is always possible that the pneumococcus may have escaped detection. Pleuritis, peritonitis, cystitis, cerebrospinal meningitis, etc., may be caused by various different bacteria, the clinical and even the anatomical pictures being quite alike. The clinical differentiation of typhoid fever is difficult. It took a long time before it was separated from other fevers. Miliary tuberculosis and meningitis are even now distinguished from typhoid with great difficulty, the definite diagnosis at times being made only after careful bacteriologic examination. Recently it has been indicated that other bacteria than the typhoid bacillus, namely the so-called para-typhoid bacilli, may produce the clinical symptoms and signs of typhoid fever. As has recently been made clear, dysentery may undoubtedly be caused by several different micro-organisms.

One conclusion that may be drawn from the foregoing considerations is that, strictly speaking, the recognition of the clinical picture of an infectious disease is not always sufficient for its diagnosis. The clinical picture owes its existence to the infecting agent. The clinical examination as ordinarily done can not possibly reveal with certainty the cause of the clinical and anatomical disturbances, and it must be accepted that bacteriologic examination is essential for the scientific diagnosis of an infectious disease. In order to emphasize this aspect of diagnosis Petruschky urges the introduction of an etiologic nomenclature. An exact nomenclature would spur to renewed study and to bacteriologic examination in order to establish exact etiologic diagnosis. Streptosis, staphylosis, spirillosis, plasmodiosis, bacillosis are some of the terms he suggests, which may be modified in various ways to meet the special indications. It is a well-known fact that our nomenclature can not be changed through the spasmodic efforts of any one

1. Zeitschrift f. Hyg. u. Infektionskr., 1901, xxxvi, 151.

reformer, be the reasons ever so just. And yet we believe that all thoughtful physicians are in hearty sympathy with all effort that tends to make diagnosis more definite, and out of this feeling there may in time spring a more precise terminology than the present.

THE ASSOCIATION OF AMERICAN PHYSICIANS.

The sixteenth annual meeting of this medical body, just held in Washington, D. C.—where all its meetings are held—seems to have been exceptionally successful from the point of attendance as well as in the scientific program and discussion. In the president's address, Dr. William H. Welch, of Baltimore, made the significant observation that the day for formal addresses before bodies like this had passed. It would be well if this sentiment became more general, because much valuable time is consumed in the delivery, and much valuable space in the printing, of introductory addresses of but little real value. Dr. Welch emphasized that while the opportunities for research in the more technical branches of medicine at present are unexcelled in this country, yet scientific work of an advanced character in clinical medicine had not developed as much as might be wished. As has been pointed out in the columns of *THE JOURNAL*,¹ the majority of our large hospitals are not yet organized in such a way as to render the proper sort of post-graduate work in clinical branches practicable and inviting. Dr. Welch recommended the introduction of the system of hospital residents as an important step toward the development of clinical post-graduate work. The essential point is that under the hap-hazard and too frequently political methods of appointing hospital staffs no regular, systematic plans for training young men in clinical medicine have been developed.

Many papers worthy of special note were presented and discussed. The work of Dr. Reed² and his associates on the etiology of yellow fever, the main facts of which are now quite generally known, has been corroborated and supplemented by more recent investigations, the results of which were presented at the meeting by Dr. Reed. It seems to be definitely settled by these researches that the cause of yellow fever is present in the blood of those attacked, that it is inoculable by certain mosquitoes, and that it is not transferable by fomites. Hence a large part of the mystery of the etiology of yellow fever has been removed, and the remark, in the discussion of Dr. Reed's presentation, that next after the discovery of anesthesia these demonstrations in the etiology of yellow fever are the most important medical discovery made in this country, is probably not at all an extravagant statement.

Dr. Billings's remarks on the progress of pernicious anemia, as illustrated by the course of the twenty cases reported by him at the meeting in 1900, were received with interest. Longer periods of improvement than

ordinarily taught have been observed, and also the fact that with decided exacerbation in the condition of the patient large numbers of nucleated red blood-cells appear in the circulation. The spinal cord lesions of pernicious anemia were also discussed.

The demonstrations of specimens of experimental and spontaneous acute and hemorrhagic pancreatitis by Dr. Flexner and Dr. Opie are noteworthy because it was shown that the disease may be studied experimentally, and especially because Dr. Opie's specimens illustrated the intimate relation that appears to exist between pancreatitis and calculi in the ampulla of Vater.

Dr. Herter presented important work on the relation of acid intoxication to the development of diabetic coma. By special chemical methods the amounts of organic acids in the urine, especially di-acetic and B oxybutyric, may be measured accurately. In diabetes the amounts of these acids may increase to such an extent that they are not neutralized by bases. Such increase precedes and coincides with diabetic coma, so that the methods offered afford a practical method for recognizing the onset of this most dangerous complication. Sugar determinations alone have no particular prognostic significance.

Finally mention may be made of the fact that the members of the recent commission sent by the authorities in Washington to investigate the plague in San Francisco gave a summary of the results of their investigations. With these the readers of *THE JOURNAL* are familiar already. The great value of the work of the Commission was freely recognized.

The foregoing may serve to indicate the high character of the work of this meeting of the Association, a more detailed account appearing in our Society Reports.

A CORONER ON DOWIEISM.

The verdict of a Cincinnati coroner¹ in the case of a girl who died under Dowieite neglect is worth quoting from. After giving the history of the case and the cause of failure of their treatment as given by the Dowieites, viz., that it was due to disobedience in not perfectly using the light which they claimed she had received from God, he says: "Their explanation, if it reflects the teachings of their church, implies the existence of an angered Deity, who refused the petition for restoration to health to a smitten child because of a fancied disobedience. Such doctrine is unnatural and unmerciful; it destroys the solacing influence of prayer and makes religion the merest travesty." He then goes on to say that while the state does not dictate the treatment of the sick, it favors the calling in of men of skill and science whose efforts have arrested the spread of disease, and pleads, for the sake of those afflicted, the use of human aid, which he says has more in it of religion in these cases than all the prayers for the repetition of the miracles of Scripture. It is a pity he could only plead, and did not hold for some punishment the false teachers and inhuman parents who claimed to see a just punishment of the victim in the results of their own cruelty and neglect.

1. April 13, 1901, p. 1048. 2. *Jour. A. M. A.*, February 16.

1. *Lancet-Clinic*, May 4, 1901.

A DISHONEST REFERENCE.

We recently printed, in the Current Medical Literature Department of THE JOURNAL, a brief abstract of a paper—from the pen of a Chicago physician—on medical advertising, that appeared in a leading eastern medical weekly. The abstract baldly reproduced some of the more striking opinions and some of the criticisms, made by the writer, of the advertising methods by which the spirit of the Code of Ethics is evaded and its provisions surreptitiously violated. We are somewhat shocked and surprised to find this abstract quoted *verbatim* as an expression of opinions in a “review of a current medical literature article” by “the highest ethical authority of the country,” in an alleged quotation from the remarks of a disgruntled Leadville physician. The flagrant dishonesty of such use of a simple uncritical résumé of a published paper is self-evident; the supposition that it was honestly taken as the expression of opinion in a “review” is too untenable.

THE HOLMGREN TEST.

In the text-books on ophthalmology the Holmgren test for color-blindness is generally mentioned as the most satisfactory and practical; in some of them other tests are scarcely even mentioned. The efficacy of the worsteds has become as it were an established dogma of ophthalmology, that it is almost heresy to question, and any mistake or even hesitation in sorting them is held to be enough to establish the existence of an irreparable color defect. Dr. Edridge Green, however, is one of the heretics, and in a recent article¹ he reiterates his views and quotes a number of authorities to show that he is in respectable company. It is not his object, he says, to point out in what ways the test is defective, as he has done that elaborately enough elsewhere, but to quote the similar views of others, including some of those who had hitherto opposed him. Among these are Dr. Anderson Critchett, the president of the British Ophthalmological Society, Mr. T. H. Bickerton, one of the former advocates of the test, Dr. Karl Grossman, St. Clair Buxton and others, and he points out internal evidence of its insufficiency in the report of the Committee of the Royal Society, on the basis of which it was adopted by the Board of Trade. In its summary of cases detected it includes five where the wool tests failed, but none that passed all the lantern tests; hence the presumption of the superiority of the latter. While he is convinced that Holmgren's test causes the rejection of many normal sighted persons, and that three divisions of the dangerously color-blind nearly always escape detection by it, Green only asks for a renewed careful and unbiased inquiry. It is a reasonable demand and should be acceded to, and there is unquestionably good reason for it. The Holmgren test certainly is about as far as possible from reproducing the actual conditions where color vision is demanded, and this alone should be an efficient argument against it. A test on which the safety of the public may depend, to say nothing of justice to the individual tested, should be reliable beyond reasonable criticism. It should take into account quantity as well as quality of color vision, and should fairly

meet all the actual conditions where a perfect sense of color is required. There are so many points in regard to color vision yet unsettled that any dogmatic adherence to a questioned method would seem like the worst kind of false conservatism.

SOME ODDITIES IN SUICIDE.

A young man, an ardent advocate of “Christian Science,” recently committed suicide rather than be prescribed for by a physician. It is one of the anomalies apparently of that special sort of faith, that it has no confidence in itself in competition with medical practice. If a physician gets the case it would seem that “Christian Science” or Dowieism goes to the wall in the belief of their adherents. Hence the suicide, and the general opposition they have always shown to medical interference. Disease does not exist, according to Mrs. Eddy, but apparently the baleful action of drugs or even of a physician's advice is a reality. Like the victim of persecutory delusions, who kills himself for fear of death, such “Christian Science” paranoiacs commit suicide actively or passively for fear of medicines. Unfortunately the most of them are only too ready at all times to commit homicide on some unfortunate babe or irresponsible invalid. Another case of attempted suicide of some medical interest in its sequelæ is reported in the newspapers. A millionaire finding life burdensome cut his throat, it is said, “in an earnest and painstaking manner.” A physician, called in by outsiders, sewed up the wound and saved his life. When he sent in his bill, however, there was trouble; not only was it considered exorbitant, but there was no authorization for the services rendered; they were uncalled for and unwelcome, and being thus gratuitous in one sense should be so in the other. The defense certainly would have been good for most services thus bestowed, but the case did not come to trial, being finally settled out of court. It is unfortunate in some respects that the medicolegal questions involved could not have had a judicial decision, such for example as the right to claim a fee for professional services demanded as an act of humanity or to prevent crimes. Suicide, if we are not mistaken, is or has recently been a felony under New York law and the defendant here may have had reason for not wishing this point to be too much elaborated. The case is an interesting one at least in its suggestiveness.

PESTIS MINOR.

A suggestion that will carry the more weight as coming from the editorial columns of the *Journal of Tropical Medicine*, for April 15, is at first sight a little startling. It is that we have occurring in various civilized communities occasional cases of a disorder at least closely allied to true plague. The writer gives the account of a case, with bacteriologic examinations, that occurred in a European hospital, so far as could be ascertained, without any history or suspicion of contact with plague cases. He classes this case as pestis minor, with a bacillus allied to that of true plague, and says. “What are we to infer from this and other cases which have occurred? The conclusion seems obvious, namely, that in Europe at the present moment sporadic cases

1. The Lancet, April 13.

of pestis minor are occurring which are unrecognized and excite no suspicion of their true nature. We have become familiar with the term 'glandular fever' of late years, and it is possible that the illnesses of many children with febrile symptoms and general adenitis are being grouped under this head, which, were they as carefully tested as the boy referred to in this article, would exhibit bacteriologic indications justifying their being placed in the plague category as pestis minor." If, as the writer says, plague may exist in a sporadic form and pass unrecognized, the idea that there are unpleasant possibilities where they are perhaps least suspected is hardly avoidable. It is true, he claims that pestis minor is a fairly well-defined ailment that may precede, run concurrently with or continue after true plague as well as occur independently, and quite distinct from pestis ambulans which is only a mild form of the latter, though the two are frequently confounded. It seems also to be the case that, as in the boy referred to, the bacilli may be few in number and wanting in the virulence of those of true plague. In this we have a parallelism with certain other diseases that apparently exist in attenuated or modified forms; the question is whether this is a modified form of true plague and whether there is any possibility of its giving rise, under favorable conditions, to the more virulent type. Thus far there is no real evidence that it does, and the isolated character of such a case as the one reported would indicate no connection between the two. It is stated that no plague was known to exist in the city or even in the country where the case occurred. On the other hand, however, we can not ignore the possibilities of unrecognized cases or means of infection, and it has been charged that many unreported cases of plague have occurred in European ports. There are evidently many points in regard to the plague yet to be elucidated, and this question of pestis minor, the conditions and frequency of its occurrence, and its connection with the severer types is one of them.

Medical News.

CALIFORNIA.

Dr. Albert H. Taylor, San Francisco, has sailed for Europe. He will take post-graduate work in Vienna.

Cooper Medical College, San Francisco, graduated a class of 27, April 23. Rev. Bradford Leavitt delivered the address to the class, on "A Man's Duty to His Mind."

Health Officer Dr. John A. Colliver, San Bernardino, resigned April 20, and Dr. Charles A. Maekechnie was elected in his stead. Dr. John N. Baylis was elected permanent chairman of the board of health.

French Hospital Changes.—With the change of superintendent of the French Hospital, San Francisco, certain changes in the staff have become advisable. On April 17, Dr. F. Dudley Tait was re-elected surgeon and Dr. F. P. Canac-Marquis, formerly of St. Paul, Minn., gynecologist; Dr. Marcus W. Fredrick, oculist; Dr. Martin Krotoszyner and Dr. Casimir F. Pawlieki were elected to the staff.

DISTRICT OF COLUMBIA.

Dr. Luther H. Reichelderfer, Washington, has been appointed superintendent of Garfield Memorial Hospital.

Howard University Medical Department, Washington, held its commencement exercises, May 8, and graduated a class of 19, which included 3 West Indians and 1 Burmese.

The Episcopal Eye, Ear and Throat Hospital, Washington, has purchased a lot for its new buildings, at an expense of \$9500. The erection of the new buildings, will be begun as soon as \$25,000 has been subscribed to the building fund. Of this amount more than \$3500 has been already secured.

The late Dr. Samuel C. Busey, Washington, bequeathed his collection of Washingtonia to the Columbia Historical Society, and the remainder of his miscellaneous library to the Washington Free Public Library. He further directed that his medical library, instruments, and appliances be presented to some public hospital or medical association, institution, or library, on condition that the recipient provide proper rooms therefor.

ILLINOIS.

A bill has been passed authorizing the erection of a permanent hospital at Camp Lincoln, near Springfield.

The new building of the Cottage Hospital, Peoria, was saved from destruction by fire, by the timely discovery of combustibles so prepared that the building probably could not have been saved had the fire been started. It is supposed that the labor troubles which have delayed the completion of the building are responsible for the attempted crime.

Chicago.

Dr. George W. Webster has been appointed a member of the State Board of Health, to succeed Dr. M. Meyerowitz, resigned.

Dr. William T. Belfield was elected president of the American Association of Genito-Urinary Surgeons, at the meeting at Old Point Comfort, Va., May 1.

A hospital for its employees and for the residents of the vicinity is to be constructed at a cost of \$50,000 by the Crane Company, at Judd Street and Twelfth Place.

The Cook County Hospital Investigation has closed. The following is the report of the grand jury: "From the evidence submitted to us we are glad to state that, in our judgment, the charges of general bad management, neglect and cruelty were not sustained."

Public Health Conditions.—These are fairly satisfactory. With the exception of measles the contagious diseases are all of a mild type and their mortality, especially that of diphtheria, is unusually low. Some increase of the influenza and pneumonia organisms is reported, undoubtedly due to the recent dry and dusty condition of the atmosphere.

Effect of Speculation.—The Department of Health says speculation is beginning to tell on the death-rate. For the week ended May 4 the deaths numbered 566, or a mortality per 1000 of 16.77 per annum. For the week previous the deaths were at an annual rate of 13.55 per 1000, and for the week ended May 5, 1900, 1498. Heart disease, pneumonia, Bright's disease and consumption accounted for 87 of the total excess of 109 deaths of this week.

Streets Should be Watered not Sprinkled.—The economy of water for public uses is peculiar to Chicago. With the most abundant supply of any large city, upward of 190 gallons daily for every man, woman and child, against an average of 118 for other large American cities and less than 40 for European cities—there are no fountains to wash and cool the air nor running streams in the gutters to catch the dust from street and sidewalk. It is little wonder that catarrh is universal and dust diseases more prevalent than elsewhere. The proposition to flush the streets into the sewers after they have been swept, says the Health Department, should be carried into effect forthwith as a sanitary measure of the first importance.

INDIANA.

Dr. W. C. Duddenhausen, Evansville, has been appointed house surgeon at the Good Samaritan Hospital, Lexington, Ky.

Important Omission.—It was discovered on May 1 that Representative Minturn's amendment to the Wood medical law, exempting from its provisions practitioners of osteopathy, electropathy, hydropathy and massage, had been cut out and does not appear in the printed acts requiring such practitioners to obtain licenses from the State Board of Medical Examiners. An investigation is in progress.

KANSAS.

Dr. Charles L. Ebnoter, Downs, has been elected a member of the city council.

Smallpox.—During March 1612 cases of smallpox were reported in the state, with 8 deaths. Four new cases of the disease were reported to the Topeka Board of Health April 18. On account of the increase of smallpox in Iola, the City Board

of Health is considering the advisability of forbidding all public gatherings.

Reforms in Care of Insane.—The board of charities will divide the three insane asylums into special institutions. The new asylum at Parsons will be used for the care of epileptic patients; the Topeka asylum for incurables and the Ossawatimie institution for convalescents, or patients who can recover. Instead of erecting one large building at Parsons, it has been decided to build a number of cottage buildings, enough to hold from fifty to eighty patients each. The cost of their construction will be a little more than if one large building were erected, but the board thinks the results will justify the increased cost.

KENTUCKY.

Dr. George B. Young has succeeded **Dr. H. R. Carter**, in charge of the Marine Hospital, Louisville.

The new Isolation Hospital for Flemingsburg and Fleming County has been completed and now has about ten patients.

Louisville National Medical College held its thirteenth annual commencement April 10. Miss Prima A. Fitzbutler delivered an address on "Specialists."

Dr. Emmett B. McCormick, Owensboro, has been removed from the superintendency of the Western Kentucky Insane Hospital, Hopkinsville, on account of alleged improper conduct. Dr. McCormick states that he will sue those who have conspired to secure his removal and promises interesting disclosures in his final official report.

MARYLAND.

Dr. S. F. Thomas has been appointed health officer of Frederick City.

Hagerstown has three cases of smallpox in two houses. Dr. Fulton has directed the local board to vaccinate all laborers going to the town.

Baltimore.

The Health Department reports 188 deaths for the week ended May 4, an annual death-rate of 18.07 per 1000.

Suit against the city has been brought by a woman to recover \$10,000 damages for alleged unskilful and careless vaccination stated to have caused paralysis in her left side.

Dr. Melvin S. Rosenthal, formerly assistant quarantine physician, has returned after a study tour of thirteen months in Europe, during which he took special courses at Berlin and Vienna.

The Maryland General Hospital, belonging to Baltimore Medical College, has been placed in charge of the Sisters of Charity, eight in number, from various convents. This will not interfere with the nurses' training school of the college.

Trained nurses are being added to the various dispensaries, to attend the physicians during examinations and operations. This is required now by the Board of Charities through which all appropriations to hospitals and dispensaries are made.

An Experiment Station.—A building for this purpose is being erected in the courtyard of the Health Department. It will be stocked with animals for bacteriologic and antitoxin experiments by City Bacteriologist Stokes, and Secretary Fulton of the State Board of Health. The experiments will be directed for the present toward observing the effects of pneumonia and typhoid fever antitoxins. The antivivisectionists have protested against it.

Baltimore Medical College.—This institution conferred the doctorate degree on a class of nine-six, April 23. The following were elected to places on the resident staff of Maryland General Hospital: Dr. E. H. Hayward, resident physician; Dr. M. MacCallum, first assistant; Dr. W. C. Abel, second assistant; Dr. J. S. Woodward, third assistant; Dr. G. H. Dill, lying-in hospital resident; Dr. H. F. Gorsuch, alternate assistant.

MISSOURI.

State Board of Health.—The governor has appointed as members of the State Board of Health, Drs. Benjamin G. Dysart, Paris; A. W. McAlester, Columbia, and Winn F. Morrow, Kansas City.

Weltmer and Kelly, the "absent" healers of Nevada, who plead guilty to practicing medicine without a license, were fined \$1500 each by the judge of the Federal Court, Kansas City, April 26.

For failing to report smallpox two physicians of South St. Joseph were arrested April 29, on warrants sworn out by the city physician, who attributes the spread of the disease to such neglect.

New City Hospital, St. Louis.—The building commissioner estimates that six of the fourteen buildings contemplated for the new City Hospital will be completed this year, costing \$300,000. The buildings erected will be the isolation ward, two surgical wards, one surgical operating building, laundry and power house building, kitchen and employees building. These will accommodate 200 patients and 63 employees.

NEW YORK.

American Congress of Tuberculosis.—Drs. John H. Pryor, Buffalo, Frederick C. Curtis, Albany, and Alfred Meyer, New York, have been appointed delegates to represent the state at this Congress, to be held in New York City, May 15 and 16.

State Mortality.—According to the monthly bulletin of the State Board of Health, there were 11,913 deaths from all causes and a death-rate of 19.2; a decrease from a daily rate of 394 in February to one of 384. During the first three months of the year there have been 35,529 deaths, including delayed returns, a daily rate of 395, which exceeds that of the same months in 1900 by 12 deaths daily.

Increase of Insanity.—The State Charities Aid Association, in its eighth annual report, calls attention to the alarming increase of insanity in the state, altogether out of proportion to the increase in population. The average rate of increase per year is 700, and it is estimated that by next October accommodations must be provided for 2100 additional patients. There are now 22,000 dependent insane in the state. The report suggests that, in order that the insane may receive the benefit of the best medical skill at the outset, reception hospitals be established, where better opportunity would be given for careful observation and intelligent classification before distributing the patients to the various state hospitals. It proposes to establish such a reception hospital in New York City, under the charge of the Manhattan State Hospital, thus doing away with the insane pavilion at Bellevue Hospital. Eminent neurologists and alienists have already signified their willingness to serve as attending and consulting physicians to such a reception hospital if it is established in a reasonably accessible locality.

Smallpox.—The monthly bulletin of the State Board of Health says that the matter of chief interest affecting the health of the state continues to be smallpox and epidemic influenza. The bulletin states that smallpox exists in nineteen separate municipalities of the state at this time. In most of them it has no foothold and will disappear with the recovery of the initial cases. In some it has established itself widely from failure to discover the first case. From the health officer's standpoint chicken-pox is an untenable diagnosis, at this time; many prolonged epidemics would have been prevented by holding to this. "Cuban itch" is a name given to outbreaks like that of Brockport, lasting for weeks until a well-marked case has shown it to be smallpox, as it always proves to be. La grippe with eruption has also been a mal-diagnosis. The extraordinary mildness of the type of smallpox now prevailing should make health officers guarded even in the least suspicious case. Every acute eruption, papular in quality, on the hands and face, following even a slight initial fever, should be suspected and isolated. With insignificant cases come some typical cases, severe and even fatal; otherwise it might almost be ignored. There were thirty-nine deaths from small-pox during the month, two in Gloversville, the rest in New York City.

Buffalo.

Dr. George A. Himmelsbach and wife have sailed for a three-months' visit to Europe.

New York City.

Dr. Carlo Savini has been made a Chevalier of Italy, for professional services rendered to a friend of the King of Italy.

Dr. Edward W. Lambert recently left for a continental tour, to include Russia.

Dr. Roger S. Tracy has retired from the position of registrar of records in the Health Department, after thirty-one years of service in that office. He is responsible for the present system of keeping records of vital statistics in this city, a system which has been followed in others.

Edward N. Gibbs Memorial Prize Fund.—The trustees of the New York Academy of Medicine announce the receipt of \$10,000 from Mrs. Sarah Barker Gibbs and Miss George Barker Gibbs, for the establishment of the Edward N. Gibbs Memorial Prize Fund, the income to be awarded triennially to the physician of regular standing, in the medical profession of the United States of America, who shall present the best original essay on the etiology, pathology, and treatment of the diseases of the kidney.

New York Pathological Institute.—In spite of indignant protests from eminent scientific men both here and abroad, politics has gained entrance to the Institute. The medical director, Dr. Ira Van Gieson, has been making strenuous efforts to secure an injunction restraining the State Commission in Lunacy from removing him from office, although the institute has no funds and has been practically legislated out of existence. The members of his staff have submitted their resignations to take effect when he is removed.

OHIO.

Dr. David B. Steuer and wife, of Cleveland, sailed for Europe May 4.

By the will of the late Dr. Ellis Jennings, St. Elizabeth's and Deaconess hospitals, Dayton, each receive \$2000.

Dr. Alexander J. Erwin, Mansfield, who spent the winter in Egypt and recently has been visiting the eye, ear and throat clinics of Paris and London, has returned to Mansfield.

Dr. Starling B. Wilcox, assistant surgeon U. S. army, has succeeded Acting Assistant Surgeon Najib Taky-ud-Deen, U. S. Army, as surgeon of the hospital at Columbus Barracks. Dr. Wilcox recently returned from Manila, and Dr. Taky-ud-Deen is under orders for the Philippines.

Cincinnati.

The Medical College of Ohio held its commencement exercises, May 7, and graduated a class of fifty-eight.

Laura Memorial Medical College held its commencement exercises May 2, when five young women were graduated. Dr. A. H. Freiberg delivered the valedictory.

Miami Medical College held its commencement exercises May 1. A class of twenty-five was graduated. Dr. E. W. Mitchell delivered the valedictory. The meeting of the Alumnae Association was held in the evening.

Cincinnati College of Medicine and Surgery held its semi-centennial and annual commencement exercises May 1. Sixteen were graduated. Dr. W. H. Wenning delivered the valedictory. The alumni of this institution held their annual meeting in the afternoon and appointed a committee of ten to devise means for raising \$30,000 for the erection of a new college building.

Prompt Action Saves Life.—Considerable interest has been aroused in this city by the prompt and commendable action of a physician. A child, about 2 years old, had swallowed at least an ounce of rather strong carbolic acid, and when taken by the mother to the hospital was then *in extremis*. The child was so young and the throat and esophagus so swollen by the acid that no tube could be passed. The doctor succeeded in passing a small catheter, and filling his mouth with olive-oil, forced several ounces of this through the tube into the child's stomach, and then sucked out the mixture, repeating the operation several times. The child has made a complete recovery and the doctor, beyond anesthesia of the mucous membrane of the mouth, was none the worse for his trying ordeal.

PENNSYLVANIA.

West Penn Hospital, Pittsburgh, has elected Drs. Ewing W. Day and Lawrence Litchfield, Pittsburgh, as members of its staff.

Through the will of Henry Amole, of West Nantmeal township, a residual legacy will revert to the Chester County Hospital and Chester County Insane Asylum.

East Side Hospital, Altoona.—A number of Altoona physicians have taken the first steps toward starting a private hospital at Altoona, and have agreed to pay \$20 a month each until the hospital is self-sustaining. Among the organizers are Drs. George A. Ickes, Elmer E. Neff, Frederick H. Bloomhardt; William M. Findley, Joseph D. Findley, James E. Smith and Charles W. McConnell.

Philadelphia.

Dr. William E. Hughes, professor of clinical medicine at the Medico-Chirurgical College, gave a reception to the medical society of the college, at his home, May 1.

A Committee of Physicians.—Provost Harrison, of the University of Pennsylvania, has appointed the following committee to assist him in promoting the welfare of the University: Drs. James Tyson, Thomas J. Yarrow, D. M. Cheston, Radcliffe Cheston, George S. Gerhard, Richard Cleeman, James Darrach, Frederick A. Packard, Edward L. Duer, William R. Dunton, Theodore Fassitt, Joseph Leidy, Charles A. Oliver, Thomas C. Potter, Charles Seltzer, Wharton Sinkler, A. P. DuSmith, Samuel Stryker, J. B. Walker and Matthew Woods.

Pay Hospital for Contagious Diseases.—Through the energetic efforts of Drs. J. Madison Taylor, George M. Gould, Edwin Rosenthal and others the pay hospital for contagious diseases will soon be a reality. The plans for the building have been made and the contract will be let within the next few weeks. Five acres of ground have been purchased. The plans call for the construction of three fireproof buildings, one each for smallpox, diphtheria and scarlet fever, and three isolated cottages, each of which shall contain four rooms for the treatment of other contagious diseases. Each ward of the hospital proper will contain twelve rooms for patients.

A Large Medical Fee.—Concerning the medical fee of Dr. Browning, noticed in last week's JOURNAL, he advises us that the \$190,000 was made up of the monthly accounts rendered to the patient, and the total named was simply a total of the bills rendered. As an inducement Mr. Magee—the patient—offered Dr. Browning double his regular charges for night service, to give him exclusive attention at nights, and while the Doctor rendered his bills at regular charges each month, Mr. Magee, according to his promise, crossed out the regular charges for night service and doubled them, certifying the bills thus changed by him. By this change of his own, had the executors paid these bills, they would have paid, without public knowledge, \$317,000. During the twenty-one months he was under treatment the patient received nearly 5200 hours of the Doctor's service, and nearly 3200 hours of this was attention at night.

GENERAL.

Quarantine exists against the City of Mexico, according to press reports, on account of the typhus fever prevalent there.

The Surgeon General of the U. S. Marine-Hospital Service has received a report from the chief quarantine officer of Cuba, under date of April 23, stating that there were, at that time, no known cases of yellow fever on the Island of Cuba.

The antivaccination bill that recently passed both houses has been protested against by Honolulu physicians, through the Honolulu Medical Society. A committee was appointed to ask the governor to exercise his veto.

Epidemic Among Indians.—A disease said to be similar to smallpox is epidemic among the Indians of Sitka and Baranoff Island, on which the ancient capital of Alaska is situated. Three deaths have occurred. Sitka physicians do not agree as to the nature of the disease. No case has occurred among the whites of Sitka so far. The same disease is said to prevail among the Indians of South Eastern Alaska.

CANADA.

Dr. James Stewart, of Montreal, at the meeting of the American Association of Physicians, was elected vice-president.

Montreal's civic health committee has ordered that the three hundred prisoners in the common gaol be vaccinated, as some of the prisoners slept recently in a smallpox-infected house.

Convocation Exercises were held at Dalhousie University, Halifax, on the 30th ult., when ten graduates in medicine received their degrees, one of them being a woman, the first Halifax lady to take this degree at Dalhousie.

The Longue Pointe Asylum, in the province of Quebec, has just been completed, and has accommodation for 2000 patients. The nursing staff consists of 200 sisters of the church. The cottage plan has been followed in the construction.

Montreal General Hospital.—During April, 210 patients were admitted, 190 discharged and 23 died, the greater number of deaths occurring within three days of admission. The average daily number of patients in residence was 153. In the out-door dispensary department there were 3136 consultations.

Samaritan Hospital.—This Montreal institution, in its annual report for the past year, shows 110 in-door patients. During the year 142 operations were performed, and only 5 deaths occurred, 3 of which followed operations, thus giving a death-rate of a little over 2 per cent. There were 250 out-door patients.

Smallpox in British Columbia.—In connection with the progress of the smallpox patients in the province of British Columbia, Dr. Fagan, the provincial medical health officer, reports very satisfactory progress. Dr. Fagan recently visited the Kootenays, and at Phoenix, Cranbrook, Moyle, Fernie, Michel, Nelson and Rossland there were cases of smallpox, but all necessary precautions were being taken. No general quarantine now exists against any of these towns. At the St. Eugene Mine, where one case existed, seventy-five men were isolated, but allowed to carry on their work.

The Ladies of Carberry, Manitoba, thought they would have a hospital for that town, but apparently everything is not working harmoniously as the male part of the population, the professional and business men are antagonizing the proposition, and the town council has refused any money for the purpose. The adjoining township of North Cypress voted \$500 for the purpose, but hedged the vote around with such conditions that the ladies could not accept it. It will be interesting to watch who will win out in the fight, as "have a hospital we must," say the ladies, and now and again such determination means something.

Victoria Asylum for Women.—Arrangements are being rapidly made for the opening of the Victoria Asylum for Women, at Coburg, Ont., in September next. Dr. McNichol, of Coburg, has been appointed superintendent, and Dr. Harriet Cockburn, of Toronto, assistant physician, the Ontario government thus recognizing the claims of women physicians, the first instance in Ontario. Dr. McNichol has retired from private practice and is familiarizing himself with asylum work in the different asylums of the province. Dr. Cockburn has had considerable experience in hospital work, having been at one time connected with the Dakota State Asylum for the Insane.

Action of Medical Council.—Some 700 of the 2400 or 2500 doctors practising in Ontario have had their names erased from the register of the Medical Council, as reported in these columns a few weeks ago. On May 3 a deputation representing these delinquents waited on the Ontario government to protest against the action of the Council. The deputation, composed mostly of practitioners outside of Toronto, was headed by Dr. Sangster, of Port Perry, himself a member of the Council and the leading spirit in this matter some ten years ago. They claim that the profession is not properly represented on this body and hence their action in refusing to pay their annual fee of \$2. As a matter of fact the Medical Council is composed of thirty members, thirteen of whom are representatives of the colleges and universities and the homeopathic body. One hundred of the delinquents have paid up in full. The balance expect that the government will have the Medical Council stay proceedings until the annual meeting of that body in July.

Contagious Diseases of Animals.—This question is receiving attention at the hands of the minister of agriculture. A bill is before the House of Commons which will amend the act respecting these diseases among animals, and will prohibit the selling or putting off of an animal suffering from infectious or contagious disease, or the meat, skin, head, horns or other part of such animal under a penalty not exceeding \$200. The amendment will permit the minister of agriculture, by regulation, to exempt from the operation of this section, the meat, hide, horns, hoofs or any other part of an animal, where he is satisfied infection can not be communicated by the sale of such. A further amendment provides that where an animal has been found to be infected with any infectious or contagious disease, and such animal is afterward slaughtered while in an infected place or in quarantine, the meat of the animal may, notwithstanding anything in this act, be sold and used for human food, if previous to such sale or use it is certified by any lawfully appointed health authority having jurisdiction in that behalf, that it is not affected with such disease.

FOREIGN.

Progress of the Plague.—During the week ending April 20 in Cape Town, Africa, 46 new cases of plague occurred and 28 deaths therefrom, this making the total number of cases up to that date 449, with 182 deaths. The two following days, April 21 and 22, 7 and 12 new cases respectively were reported. In Bombay, reports for the week ending March 30 ascribe 886 deaths to plague, showing a decline in the death-rate in every district in the city. In Calcutta, on April 1 and 2, there were 127 and 162 new cases respectively, with 129 and 158 deaths. In the Patna district, in Bengal, 2529 fatal cases occurred during the week ending March 23, and there was an increase of 147 the subsequent week. Reports from Mauritius, for the week ending April 18, show 2 new cases there, with no further deaths.

PARIS LETTER.

Cocain Injections and Narcosis.

Intrarachidian injections of cocain as a means of producing narcosis are as much as ever the subject of discussion. The discussion as to their true value and as to whether they can supersede ether and chloroform has entered on a more acrimonious phase. At the meeting of the Academy of Medicine,

March 19, Professor Reclus, who has always been the champion of cocain as a means of performing such operations as kelotomy and laparotomy, discussed this method. He is not in favor of it as practiced at present, and he said that in some cases one is unable to insert the needle into the rachidian space and in others the needle is stopped up, or anesthesia does not take place for some unknown reason. In others anesthesia only comes on after half an hour, or disappears after a few minutes. Untoward symptoms may be seen, such as tremulation, nausea, vomiting, seen in one out of every two or three cases, paralysis of the anal sphincter with consequent incontinence, paraplegia and intense headache lasting several days. In some cases syncope may supervene, and there have been several cases of death. If some, like those of Julliard, of Tuffier, can not be laid to the account of cocain, the same can not be said of those of Humbert, Dumont, Jonnesco, King, where the use of cocain has been the real cause of death. When one considers the small number of operations compared to the number of accidents, one is obliged to admit that it would be premature to abandon the older methods. At a meeting held a week later, Professor Laborde, who is a well-known physiologist in France, indicated the results he had obtained by observing the effects of injections of cocain on animals. There are two periods of intoxication observed: In the first there is extreme hyperexcitability, the animal trembles, is agitated and even has convulsions; the second period is characterized by analgesia without tactile anesthesia. Intrarachidian injections, when used on man, can not prove quite harmless, as they disturb the equilibrium of the intrarachidian pressure. It should be remembered that the patient does not remain quiet after the injection, and as the cephalorachidian liquid is always in motion, cocain may be made to act on the bulb and even the brain. According to Professor Laborde, this method is, therefore, a dangerous one and cocain should only be used locally.

Dr. Reclus' remarks at the Academy of Medicine caused some comment and he, therefore, wrote a letter to the *Presse Medicale*, as follows: "Some of my provincial colleagues seem to consider my report altogether too conservative. I hardly think this can be said, as I have studied the technique of the intrarachidian injections and after having tried them have found they offered most distinct disadvantages. The day they are shown to be less dangerous than the use of ether or chloroform, I shall be glad to adopt such a method." Dr. Reclus added to this a letter he had received from Dr. Bier, which is of interest as showing that the first to use these injections in Europe is not satisfied with the technique now employed. Dr. Bier writes: "I am glad to find that I agree so thoroughly with you, the master of anesthesia by cocain. Such as the method is used in France, it can not be employed. It was hardly necessary to perform 1200 operations; the first six had sufficed to enlighten me. I cannot understand such enthusiasm, which is not quenched by so many disagreeable accidents. I would advise such operators having the injections performed on themselves, as I have done, and they might then change their mind. I have abandoned my first method after this experience, but I have continued my researches with due prudence, and I believe I can now recommend a new technique which I will describe at the Medical Congress held in Berlin on the 11th of April. If, however, you should wish to have some details on this subject before then, I am ready to send you all particulars." Dr. Reclus added that he thought it wise not to keep so good a promise for himself, and ended his letter by saying that perhaps his colleagues would stop making lumbar injections, until a safe method had at last been described. Dr. Reclus's letter could not remain unchallenged, and Dr. Tuffier, who is at the head of those who use these injections in France, wrote a letter which appeared in the following number of the *Presse Medicale*.

In it he said he did not wish to answer the criticisms made against his technique, but to indicate on what ground the debate should take place. The use of cocain as indicated by Corning and Bier is dangerous. He did not find it necessary to gather together 1300 observations, the first six had sufficed. His enthusiasm would have been sufficiently calmed by the description of the technique used and of the accident which happened to the author of the process when it was tried upon himself. Dr. Tuffier adds that his own technique does not show such imperfections. His method is sufficiently simple to have obtained the favor of his colleagues in all lands, and physicians and accoucheurs have adopted it. Every day a hundred of these injections are made, and Dr. Tuffier is convinced

that they are harmless. If certain surgeons wish to perform rash operations, he can in no wise be held responsible for their failures or their scorn, but, for those who have followed out his method in all its details, he begs of them to publish their complete statistics, for which he will hold himself responsible.

Intraraehidian injections of cocaine as a therapeutic agent have been tried recently by Dr. Achard, who has injected as much as 2 centigrams into the spinal column in cases of sciatica. Professor Marie, one of Chareot's best known pupils, has been trying it recently, but in smaller doses. In one case, where a man was suffering from sciatica, he injected 5 milligrams of cocaine, and there was a noticeable improvement very soon after, the man being able to get up and walk about without any appreciable pain.

Congress of Neurologists.

The next congress of neurologists will be held in August, at Limoges, under the direction of Dr. Ballet, of Paris. Reports will be read on the following subjects: "Pathologic Physiology of Muscular Tonicity and its Causes;" "Modifications of Reflexes and of Contracture in Lesions of the Spinal Cord;" "Acute Delirium in its Clinical, Pathologic and Bacteriologic Aspects."

Sanatoria for Consumptive Workmen.

There exist in Germany forty-nine sanatoria for workmen suffering from consumption, but none had been founded in Alsace-Lorraine, until the president of Lorraine, the baron of Hammerstein, recently inaugurated one of these institutions at Alberschwiller. It will be followed by the opening of others. This establishment, founded by private subscriptions, is very well conceived, can receive about sixty workmen, and is furnished with electric lights and sterilizers of the latest pattern.

Blood in Pneumonia.

Dr. Prochaska, of Zurich, has been making some researches recently on the blood in pneumonia, and found the pneumococcus in all cases examined. He says the reason why so many have failed to find any is that not enough blood was examined. A fact which struck him was that in several cases the pneumococcus did not cultivate for twenty-four hours in bouillon. No other microbes were found.

Foreign Body in Trachea.

At a recent meeting of the Academy of Medicine, Dr. Piechaud, of Bordeaux, described a most interesting method he followed out in the extraction of a foreign body from the trachea in a child 3 years old. He had swallowed a nail two months before, and the latter had got fixed in the left bronchial tube on a level with the hilum, as was shown by radiography. Slow tracheotomy was performed, with narcosis, and a catheter made of soft iron was slowly pushed down the trachea and connected with a strong electromagnet. After six attempts, the foreign body was removed and the canula was suppressed two days after. The child made a good recovery.

Vermicular Oxyures in the Appendix.

At this same meeting Dr. Moty spoke of the frequency with which vermicular oxyures are found in the appendix, when removed for appendicitis. It should be noted, however, that to be able to discover them, it is necessary to open up the appendix immediately after the operation, without washing it, as in this way one can examine the parasites alive and moving about. Cold water kills and deforms them almost immediately. In three cases out of five operated on recently for severe forms of appendicitis, they seemed to be the only cause. It might therefore be said that parasiticide cathartics form the best method of treatment in such cases, and that one should intervene surgically only when one is obliged to.

Pregnancy in Smallpox.

Dr. Roger, who has charge of the smallpox service at Auber-villiers, has had occasion to treat eleven pregnant women who were delivered in his service. The children seemed to be perfectly well when born, but on taking their temperature, it was found below normal. In some cases it went down to 31, 30, and even 28 C. Three children died four, six, and eleven days after birth, having as the only symptom hypothermia and jaundice. Another showed signs of an eruption like that in scarlet fever. In the seven other cases the evolution of the disease was more complete. The elements of smallpox were seen. The temperature went up generally before the appearance of the eruption. Then four or five papules were formed, which were filled with a small quantity of turbid liquid; they dried up very fast. Death took place two or three days later. Only one child lived. Dr. Roger remarked that the symptoms observed were akin to those in rabbits when inoculated with the disease.

Correspondence.

Adhesive Rubber Dam.

CHICAGO, May 6, 1901.

To the Editor:—Dr. J. B. Murphy, in *THE JOURNAL* for May 4, presents an article entitled "Adhesive Rubber Dam for the Prevention of Possible Infection at the Site of Operation," in which he recommends a device invented by me, i. e., the rubber dam for protection of the skin around the field of operation. Dr. Murphy states that he has used it with gratifying results at Mercy Hospital. Since "imitation is the sincerest kind of flattery," I am accordingly highly pleased to see commendation of my method emanate from an authority so favorably known to the profession. I was somewhat surprised, however, not to find any mention of my work on this subject. After a careful perusal of Dr. Murphy's paper I therefore could but conclude that the Doctor, though he is undoubtedly a diligent reader of current medical literature, is ignorant of my work. The following few lines will give a short resumé of the memoirs I have had published in regard to protection of the skin during operation, by means of an adhesive, thin rubber dam, and reference to which may also be found in Reed's "Text-book of Gynecology" (N. Y., 1901, p. 102): "F. B. Turck covers the abdominal wall with a sheet of rubber dam," etc.

The first preliminary report on my method of protecting the field of operation appeared as the result of extensive experimental work, in *THE JOURNAL*, June 9, 1900. The following are quotations from this article: "The indications are therefore: 1, to prevent, as far as possible infection from the skin and contact of the skin with the hands, instruments, sponges, etc.; 2, to protect the skin from becoming contaminated by pus or visceral contents. To meet these indications I have devised an improved laparotomy sheet, made of thin rubber dam which is fitted closely to the body and is illustrated by the accompanying cut. (Fig. 1.)" "The former (rubber sheet) is so arranged as to fit closely and does not interfere with the field of operation." The article was entitled: "Improved Methods and Details in the Care of Patients During Surgical Operations," and was profusely illustrated.

The second memoir, in which I gave a lengthy and detailed resumé of the work done by others and myself, on the subject of infection of operative wound from the surrounding skin and laparotomy sheets, was presented to the Thirteenth International Medical Congress, Paris, in August, 1900, and appeared in the *N. Y. Medical Record* of August 11, 1900. In this paper a detailed description of my laparotomy was found, from which the following is quoted: "This (laparotomy sheet) is made in different sizes, each with an opening which may be placed directly over the site of incision or it can be left to be opened by the surgeon as an artificial skin."

The third paper from my pen, describing my improved laparotomy sheet, appeared in the *Philadelphia Medical Journal* of March 30, 1901, p. 622, and reviewed the experimental and clinical observations of others and myself in regard to wound infection during operation and shock: "I have shown" (continues the article, on page 623) "by my own experiments and those of other observers, that the skin of the abdomen is a source of infection. It was shown that these germs can not be removed even by our most painstaking aseptic procedures. That the microorganisms found are in a measure 'nonpathogenic,' but if the vitality is reduced by shock or otherwise, these so-called non-pathogenic microorganisms may produce infection and death. To prevent these germs from gaining access to or infecting the abdominal cavity, I described a method of covering the abdomen with an 'artificial skin' or thin rubber dam sheet that is made to adhere fast to the skin; hence, I designated the method by the appropriate name 'artificial skin.' (*New York Medical Record*, Aug. 11, 1900, p. 208). I have also had rubber sheets made, with an opening already formed, to fit closely to the body and securely fastened so that the same sheet may be used over again. For practical purposes, the artificial skin which I previously described is more simple, as all that is necessary is to take a piece of this rubber dam and

cement it to the skin like a surgeon's adhesive plaster. I have used various cements; simple bisulphide of carbon will dissolve the rubber and cause a sheet of rubber to adhere to the skin. I have had several special cements made for the purpose. A thin rubber cement is useful. I have tried a cement made of galvanum. Rubber and balsam, when sterilized, forms a firm adhesive sterile plaster to fix the rubber to the skin. It can be easily removed. When the artificial skin is thus cemented, over the skin of the abdomen or any other operation area, it forms a perfect protection from infection and lessens the danger of shock that may result partly from the evaporation of the wet skin." Yours truly,

FENTON B. TURCK, M.D.

Priority in Forward Dislocation of Mobilized Urethra.

NEW YORK CITY, May 1, 1901.

To the Editor:—Dr. C. H. Mayo's admirable article in THE JOURNAL of April 27, contains a most practical and concise review of the several operative methods of dealing with hypospadias. The Doctor gives me full credit for my new method of forward dislocation of the mobilized urethra, but he also lays himself liable to misinterpretations when he says that "Professor von Hacker devised the new method shortly afterward."

With no desire to appear as criticising Dr. Mayo's brilliant work, I avail myself of it to clear up any possible misunderstanding, and incidentally emphasize the greater sense of justice we, in America, manifest toward each other.

Literature clearly shows that I reported my first operation Oct. 4, 1897, (see Reports of the *New York Deutsche Medicinische Gesellschaft* for that date). My first article describing my operation was published in the *New Yorker Medicinische Wochenschrift* for November, 1897. My second article on the subject (illustrated), containing some minor modifications, was printed in the *New York Medical Journal*, Jan. 29, 1898. Von Hacker described my operation, as his own of course, nearly, one year after he had learned of my first publication and six months after he had received from me a reprint of my second article. That he could, and did, completely ignore the published work of a mere humble American surgeon like me is comprehensible, for there are many in Europe who "perfume" their intellect by not grasping that anything good can come from our far-off land. And when they borrow it, hide, bone, and hoofs, then they have discovered it. It seems singular, however, that no heed was paid to my operation in this country until it came back trade-marked as "made in Europe," with von Hacker's name.

That my reclamations in Germany did not bear much fruit is evident by the fact that the leading German text-books on surgery show that they were kept ignorant of the true state of affairs. One of the authors, however, wrote me that he will remedy the error. Zuckerkandl, for instance, calls the method the "Hacker-Beck," and Tillmanns brings von Hacker to the foreground, showing at the same time four illustrations of Bardenheuer, who—admirabile dictu—devised the modification of using a trocar to tunnel the glans, instead of a bistoury, as advised by me. Koenig says that "Beck advised the method first," but creates the impression that von Hacker had suggested it at about the same time. But this is not all.

How American inventions are sometimes treated abroad is best illustrated by the "Jahresbericht ueber die Fortschritte auf dem Gebiete der Chirurgie," edited by Hildebrand (page 901, 1899), where H. J. von Bonsdorff exploits this most miraculous logic: "Von Hacker and Bardenheuer invented the method of forward dislocation of the mobilized urethra, etc., at the same time Beck of New York, used a similar method. But his being published in the *New York Medical Journal*, which is nearly inaccessible to us, we must assume that von Hacker, Bardenheuer, and Beck (Beck always figures as a kind of tolerated appendix) invented the same method at the same time. Similar remarks were found in the *Centralblatt f. Chirurgie*, by a Russian surgeon, which, however, were refuted in this country by Fowler.

It has touched me deeply to see that my American confrères stood up against these careless statements, Fowler, Valentine,

and Parham taking energetic steps, for which I take this opportunity of expressing my gratitude. That their efforts had a retrograde effect became evident by the fact that Marwedel, of Czerny's clinic at Heidelberg, followed their examples by giving an exhaustive description of my method (*Ueber die Beck'sche Methode der Hypospadias-operation*) in the same *Klinische Beitræge* where von Hacker made his remarkable publication. I am indebted to the author for giving me fullest credit for my method, and especially for setting down the facts about von Hacker, as they are evident from literature. From this essay it may also be seen that Czerny had performed my operation a whole month before von Hacker did it, according to the latter's own statement. If von Hacker's principles as to the rights of an inventor would be introduced in general, namely that the first imitator of the invention should be credited with it, then there would be no reason, why my method should not be properly called Czerny's or Marwedel's. Yours very respectfully,

CARL BECK, M.D.

Antiseptic Treatment of Smallpox.

DETROIT, MICH., May 2, 1901.

To the Editor:—In THE JOURNAL of March 16, page 771, there is an abstract of a paper of mine. If the abstract is allowed to stand without further comment it will injure me in my claim to priority in the antiseptic treatment of smallpox. By it the medical profession might infer that I had only suggested a "local (antiseptic) method treatment," whereas the whole burthen of my endeavor as to treatment since January 14, 1895, at which time I delivered an original paper on the pathology and antiseptic treatment of smallpox, before the Detroit Medical and Library Association—has been to induce medical men to evolve a complete and perfect treatment in which antiseptic baths should be the principal and effective part employed in the management of variola.

On the same date, 1895, I originally announced the principle that the true smallpox only extends so far as the vesicular stage, and that the vesicles are simply infection-atria through which pus germs and saprophytes are intruded to the structure of the true skin and to the general system, thereby causing septicemia and death. I then affirmed that asepsis and antiseptics of the epidermis, especially by means of antiseptic baths, would avert such calamitous results. It is my opinion that I was the first to announce this theory.

I assumed charge of the smallpox hospital at Detroit on Jan. 22, 1895, with the intention of demonstrating my theory as to the pathology and treatment of smallpox, but I found myself grievously handicapped by the assaults of the whole newspaper press in the city, and by fierce political rancor in which I was innocently but unfortunately involved. Finally I retired from my hospital position on March 10, having been legislated out of office by an act of the state legislature.

While in the hospital the demonstration of my proposed antiseptic treatment by baths was obviously impossible. I was compelled to limit myself to the treatment of a patient by only applying antiseptics—in the fluid form—to the hands and forearms, and subsequently wrapping them with borated cotton, all the particulars of which have been repeatedly published. The result of this experiment confirmed the truth of my theory.

On the subject of my theory and its practical demonstration, I presented a paper to the Michigan State Medical Society in 1896, and it was published in the *Medical Record*, July 18, of the same year.

A re-affirmation of my theory of the pathology and the antiseptic treatment of smallpox, together with an account of my practical work, was read before the Detroit Medical Society on November 7, 1900, and published in *The Physician and Surgeon* for January, 1901, from which your abstract was made.

It is clear to me that my avowal of my theory and of the exemplification of it, in 1895 and in 1896—and later—gives me priority as elucidating the true pathology of smallpox, and makes me the original author of what may aptly be termed the antiseptic treatment of the disease. Yours very respectfully,

ALONZO BRYAN, M.D.

Association News.

The Reorganization of the American Medical Association.

At the last meeting of the British Medical Association, an active propaganda was inaugurated looking to a change in the constitution of that body. Many of the members have become dissatisfied with the governing body which is known as the Council, claiming that the latter has lost sympathy with the rank and file of the association. This was brought to a focus last summer by a proposal to increase the powers of the Council. This failed, and was followed by the appointment of a committee to consider the best means of reorganizing. The association is said to number nearly 17,000 members, but only about two-thirds of these are members of branches. Both those who favored the resolutions conferring greater powers upon the Council and those who opposed them felt that the general meetings of the association were not suitably organized for an expression of the views of the great body of members. In the last conclusion of the committee, the majority of the members of the AMERICAN MEDICAL ASSOCIATION will heartily agree. The attempt to govern this great body along the primitive lines of a town meeting has utterly failed. The failure of a parliamentary body composed of from one thousand to two thousand is apparent at every session of the AMERICAN MEDICAL ASSOCIATION in which business matters are discussed. Upon this point our English brothers seem to be practically agreed. In the report of the British association's committee it is recommended that a special body be created from the various branches of the association, who shall attend the annual meetings and have their expenses paid. They shall vote upon all matters of a medico-ethical sort, and consider all business excepting that of finance and the editorial management of the journal. The present Council is to be continued, but the number of *ex-officio* members is to be diminished; it is to act as a sort of upper house, the delegates to be created under the new rule acting as a lower house. The Council is to have the power of referendum. The voting power of the delegates is to be regulated by the strength of the division which they represent. The AMERICAN MEDICAL ASSOCIATION is sadly in need of a change in the organic law relating to the formation of the governing body. The method of representation has remained the same since the organization of the Association, at a time when the number that commonly met in its annual gatherings was not larger than one of our smaller State medical societies. At present, those state, district and county societies that are in affiliation with the Association are entitled to send one delegate for each ten members upon the rolls. It so happens that the multiplication of special societies, particularly in cities, has resulted in the same man joining several; consequently his name is counted as an individual in each separate organization. The number of delegates to which Chicago, with her numerous special societies, would be entitled would make nearly one-half the local profession who are members of local societies delegates to any meeting if they take out certificates. As a matter of fact, a large number attend without the necessary certificate, as it is almost meaningless. Should they desire to take part in the proceedings and vote on the floor of the convention, there is no difficulty in their doing so, and many do without knowing the rule that those who are delegates alone are entitled to vote. A calling of the roll is such a hopeless task that it has only been attempted once or twice in the last ten years. A method of conducting business in this way would seem ludicrous if it was proposed to initiate it, but long custom has permitted the Association to drift along without any special direction. Fortunately the drift has been on correct lines, and the necessity of change has not been forced to the front. Each year, however, the Association feels more and more the cumbersome methods which are now used, and the time is ripe for the discussion of important changes. A few years ago what was known as a business committee was organized, composed of the executive members of each section. This has disposed of much business that formerly came before the general body. The work of the committee has grown in importance, and it is

found to be composed for the most part of men who are interested in the scientific work of the Association, it being composed of ex-chairmen of the sections and not those interested in the politico-ethical subjects which have formed the principal topics of debate in the general session for many years past. The present delegate system should be abandoned, as it is cumbersome and useless. Its place should be taken by a smaller body, organized somewhat upon the lines of the new committee which is to be formed in the British Medical Association. Such a smaller governing body would represent the body of the profession. It might be composed of a single delegate from each state, his voting power being based upon the number of members residing in the state. This would create a small, compact body that would be representative of the profession. It could meet at the times of the general session and matters could be referred to it, and it could initiate legislation which was thought to be for the good of the entire Association. It need not interfere with the present committee of the sections, which would still have jurisdiction over the conduct of the meetings and scientific work, and it need not interfere in any way with the board of trustees of THE JOURNAL, who have charge of the finances and the editorial management of the publication. Such a governing body combined with the referendum would unify the Association, reduce its constitution and practice to a consistent basis, and further the interests of the Association.—*Medicine*, May, 1901.

Election of Delegates.

Delegates have been recently elected to the AMERICAN MEDICAL ASSOCIATION as follows: By the Douglas County (Wis.) Medical Society, Dr. John Specht, West Superior, and Dr. L. A. Potter, South Superior; by the Franklin County (Pa.) Medical Society, Drs. A. H. Strickler, Waynesboro; Jos. Frantz, Jr., Waynesboro; A. W. Thrush, Greenvillage; J. W. Croft, Waynesboro; and Jas. H. Montgomery, Chambersburg; by the Marion County (Ohio) Medical Society, Drs. O. W. Weeks, H. L. Uhler and A. M. Crane.

Section on Laryngology and Otology.

Address of Chairman. John N. Mackenzie, Baltimore, Md.
Remarks on the Treatment of Laryngeal Tuberculosis. P. S. Donnellan, Philadelphia.
The Treatment of Laryngitis. O. T. Freer, Chicago.
Edematous Laryngitis with Report of Case. J. S. Gibb, Philadelphia.
Types of Membranous Pharyngitis. W. E. Casselberry, Chicago.
Total Extirpation of Thyroid Gland. G. F. Cott, Buffalo, N. Y.
Foreign Bodies in the Bronchi. F. J. Quinlan, New York City.
The Manifestations of Luetic Disease in the Upper Respiratory Passages and Ear. W. Scheppegegrell, New Orleans, La.
Title to be Announced. J. O. Roe, Rochester, N. Y.
Title to be Announced. Robert Levy, Denver, Colo.
Observation on Intranasal Contract and its Consequences. J. E. Schadle, St. Paul, Minn.
The Relation of the Middle Turbinate Body to Chronic Nasal Diseases. C. S. Baker, Bay City, Mich.
The Pathology of Inflammation of the Posterior Part of the Nasal Septum. J. L. Goodale, Boston.
Asthma as a Result of Nasal Conditions: Treatment, etc. J. H. Farrell, Chicago.
The Effect which the So-called "Catarrhal" Disease of the Nose and Throat may Have upon the General Health. C. M. Cobb, Lynn, Mass.
Empyema of the Frontal Sinus. E. Fletcher Ingals, Chicago.
Diseases of Accessory Sinuses. E. L. Shurly, Detroit, Mich.
Anomalies of the Frontal Sinus and their Bearing on Chronic Sinusitis. Redmond W. Payne, San Francisco, Cal.
Carcinoma of the Nasopharynx. Chevalier Jackson, Pittsburg, Pa.
Sarcoma of Nasal Passages, with Report of Case. Dunbar Roy, Atlanta, Ga.
Case of Epithelioma of Upper Respiratory Tract. S. A. Oren, Lanark, Ill.
The Supratonsillar Fossa. J. Homer Coulter, Chicago.
An Unusual Anomaly Affecting the Faucial Tonsil. George L. Richards, Fall River, Mass.
Traumatic Affections of the Uvula. H. Seymour Oppenheimer, New York City.
The Pathology of Adenoids in the Adult. A. T. Mitchell, Vicksburg, Miss.
The Diagnosis and Treatment of Mastoiditis. E. B. Dench, New York City.
Mastoiditis after Subsidence and without Recurrence of Tympanic Disease. Hiram Woods, Jr., Baltimore, Md.
Experiments on Fresh Cadaver in Relation to Suppurative Otitis Media and Mastoiditis. F. C. Todd, Minneapolis, Minn.
Gelles's Test. Norval H. Pierce, Chicago.
Report of a Case of Suppuration of the Parotid Gland with Suppuration of External Auditory Canal. F. A. Packard, Philadelphia.
Report of Case of Unusual and Interesting Tertiary Manifestations. G. Hudson Makuen, Philadelphia.
Dangerous Hemorrhage after the Removal of Enlarged Tonsils and Adenoids, with Report of a Case. A. C. Getchell, Worcester, Mass.

The Rationale and Technic of Pneumatic Aural Massage. B. Alex. Randall, Philadelphia.
Title to be Announced. C. W. Richardson, Washington, D. C.

Section on Pathology and Bacteriology.

TUESDAY, JUNE 4—2 P. M.

Giant Cell Embolism of Pulmonary Capillaries. Alfred S. Warthin, Ann Arbor, Mich.
Effect of Direct, Alternating and Tesla Currents and X-rays on Bacteria. F. Robert Zeit, Chicago.
Demonstration of Specimens, Slides and Photomicrographs of Uretero-intestinal Anastomosis. F. Robert Zeit, Chicago.
Primary Sarcoma of the Esophagus and Stomach. William Travis Howard, Jr., Cleveland, Ohio.
Demonstration of the Van Gehuchten-Nelis Histologic Reaction for Hydrophobia, and Remarks on Hydrophobia in Ohio. A. P. Ohlmacher, Gallipolis, Ohio.
A Case of Complete Agenesis of the Central Visual System. Wm. G. Spiller, Philadelphia.
Carcinoma of the Lung. E. R. Le Count, Chicago.
The Influence of Structure and Locality on Pathologic Processes. J. S. Foote, Omaha, Neb.

WEDNESDAY, JUNE 5—9 A. M.

DISCUSSION ON THE ROLE OF CERTAIN OF THE NONGRANULAR AND GRANULAR SOMATIC CELLS IN INFECTION.

Technics. The Origin, Fate and Significance of these Morphologic Elements. H. F. Harris, Atlanta, Ga.
The Plasma Cells in Acute and Chronic Infection. W. T. Councilman, Boston.
The Endothelial Cells in Acute and Chronic Infection. E. R. Le Count, Chicago.
The Eosinophilic Cells in Acute and Chronic Infection. Maximilian Herzog, Chicago.
The Mast Cells in Acute and Chronic Infection. Herbert U. Williams, Buffalo, N. Y.
Isolation of Bacillus Typhosus from Unusual and Interesting Localizations. O. McDaniel, Minneapolis, Minn.
Notes on the Bacteriology and Morbid Histology of Cerebrospinal Meningitis. L. B. Wilson, Minneapolis, Minn.

WEDNESDAY, JUNE 5—2 P. M.

Report on Cultures from Two Cases of Dysentery. F. F. Westbrook, Minneapolis, Minn.
A Study of a Fetal Stomach with Special Reference to the Origin of Acid-Secreting Cells. W. A. Evans, Chicago.
Report of a Case of Hypernephroma of the Kidney. W. A. Evans and Wm. Becker, Chicago.
Some Studies of Venoms and Antivenin. Joseph McFarland, Philadelphia.
Some Unusual Adenocarcinomas of the Breast. J. Clark Stewart, Minneapolis, Minn.
An Undescribed Abnormality of the Bile-Ducts. J. Clark Stewart, Minneapolis, Minn.
Reports of a Case of Primary Carcinoma of the Appendix, and a Case of Lymphosarcoma of the Intestine, with a Discussion of the Etiology of the Latter. S. M. White, Minneapolis, Minn.
On the Etiology of Carcinoma. G. Fütterer, Chicago.
On the Growth of Epithelium. Leo Loeb, Chicago.
On the Nature and Significance of Granular Degeneration of Red Corpuscles. Alfred Stengel, C. Y. White, and William Pepper, Philadelphia.

THURSDAY, JUNE 6—9 A. M.

Study of an Epidemic Among Guinea-pigs in the Laboratory. V. C. Vaughan, Ann Arbor, Mich., for Louis M. Gelston.
The Influence of Boric Acid and Borax on Milk Bacteria. V. C. Vaughan, Ann Arbor, Mich., for William H. Veenboor.
The Influence of Formaldehyde on Milk Bacteria. V. C. Vaughan, Ann Arbor, Mich., for Arthur J. Hood.
Streptothrix Infections of Human Lung: a General Consideration of the Subject. Simon Flexner, Philadelphia.

Section on Cutaneous Medicine and Surgery.

TUESDAY, JUNE 4—2:30 P. M.

Address of Chairman: Ancient and Modern Conception of Syphilis. William L. Baum, Chicago.
The Relations of the Menstrual Function to Tertian Diseases of the Skin. L. Duncan Bulkley, New York City.
Pathology and Treatment of Cutaneous Cancer with Special Reference to its Non-parasitic Nature. M. L. Heidingsfeld, Cincinnati, Ohio.
The Increasing Prevalence of Contagious Skin Diseases. Henry W. Stelwagon, Philadelphia.
Syphilis and its Relations to Blastomycetic Dermatitis. Henry G. Anthony, Chicago.
Adenoma Sebaceum of the Non-symmetrical Type of Darier. William S. Gottheil, New York City.
Notes on a Case of Keratosis Follicularis (Psorospermiosis). Joseph Zeisler, Chicago.

WEDNESDAY, JUNE 5—2:30 P. M.

Lantern-Slide Demonstration on Skin Cancer. M. L. Heidingsfeld, Cincinnati, Ohio.
Lantern-Slide Exhibition Showing the Clinical, Pathological, and Bacteriological Features of eleven Cases of Blastomycosis of the Skin. James Nevins Hyde and Frank Hugh Montgomery, Chicago.
Lantern-Slide Demonstration of the Exanthemata, from Original Photographs. William Thomas Corlett, Cleveland, Ohio.
Demonstrations of Case: Lupus Erythematosus Treated by Hot Air. A Case of Leprosy in a Man Born in, and Who Has Never Been Outside of Minnesota. Burnside Foster, St. Paul, Minn.
Epidermolysis Bullosa Hereditaria. Louis E. Schmidt, Chicago.
Report of a Case of Epithelioma of Long Duration and Beginning in Early Manhood. William Frick, Kansas City, Mo.
Notes on Recent Cases of Extragenital Chancres. L. Duncan Bulkley, New York City.

THURSDAY, JUNE 6—2:30 P. M.

Squamous Erythroderma. Augustus Ravogli, Cincinnati, Ohio.
Phototherapy in Cutaneous Medicine. A Preliminary Communication. William S. Gottheil, New York City.
Lichen Hypertrophicus. David Lieberthal, Chicago.
Feigned Skin Diseases. George W. Davis, Kansas City, Mo.
Clinical Features of Blastomycetic Dermatitis as Observed in Three Cases by the Author. A. W. Brayton, Indianapolis, Ind.

New Members.

The following is a list of new members for April:

ARKANSAS.

Stark, L. R., Little Rock.
Dibrell, E. R., Little Rock.
Richter, Arthur J., Pine Bluff.

CALIFORNIA.

LeDoux, Jos. Alphonse, Los Angeles.
Church, B. F., Los Angeles.

CONNECTICUT.

Park, Chas. Edwin, New Haven.
Miles, Henry S., Bridgeport.

GEORGIA.

Smith, Jefferson Gilbert, McDonough.

McAfee, John C., Macon.

ILLINOIS.

Newcomb, W. K., Champaign.
Wells, Harry Gideon, Chicago.
Rideout, Wm. J., Freeport.
Williamson, Geo. L., Homer.
Ludewig, Wm. H., Rock Island.
Grinker, Julius, Chicago.
Sims, Jas. M., Crab Orchard.
Jaquith, Walter A., Chicago.
Beam, Wm. O., Moline.
Fair, Jno. F., Freeport.
Beal, Albert M., Moline.
Wood, Chas. M., Chicago.
Morton, John B., Ridgefarm.
Miller, G. E., Hanover.
Hutchins, Linda Krape, Orangeville.
Strohecker, Samuel Martin, Chicago.

INDIANA.

Etta, Charles, Summitville.
Furniss, H. W., Indianapolis.
Rietz, P. C., Evansville.
Winans, Henry M., Muncie.
Newman, Miles N., Ossian.
Wilson, Hubert W., Michigan City.

IOWA.

Cole, J. F., Oelwein.
Lewis, Eugene R., Dubuque.
Nims, Chas. H., Cedar Falls.
Hofstetter, Geo., Lyons.
Fairchild, David S., Jr., Clinton.
Embree, Ed., Winterset.
Oliver, A. J., Muscatine.
Wertz, J. B., Marion.
Sartell, Erasmus N., Harper's Ferry.
Walker, H. L., Cedar Rapids.
Grimwood, Walter H., Ft. Madison.
Braunwarth, Emma L., Muscatine.

KANSAS.

Lowdermilk, R. Claude, Galena.

KENTUCKY.

Garland, Sherrill J., Louisville.
Johnson, Eugene Yates, Louisville.
Moore, Geo. W., Ashland.

MAINE.

Lincoln, Jas. Otis, Bath.

MARYLAND.

McCrae, Thos., Baltimore.
Barrett, H. G., Baltimore.
Cullen, Thos. S., Baltimore.

MASSACHUSETTS.

Wheeler, Emma H., New Bedford.
Comey, Perley P., Worcester.
Goodwin, J. J., Clinton.
Underwood, Geo. B., Gardner.
Parker, Ralph N., Lowell.

MICHIGAN.

Dockery, M. F., Sagola.
Dewar, John B., Cedar Springs.
Tutton, Henry V., Benton Harbor.
Willis, Geo. H., New Troy.
Sowers, Chas. Newton, Benton Harbor.

MINNESOTA.

Gillett, Arthur I., St. Paul.
Kelly, B. W., Aitkin.
Lewis, J. M., Minneapolis.
Dampier, C. E., Crookston.
Bettingen, J. W., St. Paul.
Bacon, Russell S., Montevideo.

Wilson, Wm. F., Lake City.
Heise, W. F. C., Winona.
Coulon, B. M. J., Owatonna.
Cool, Daniel M., Faribault.

MISSOURI.

Stauffer, Wm. H., St. Louis.
Zwart, B. H., Kansas City.
Stapleton, Fielding P., Albany.
Bowline, Benj. F., Bagnell.
Deutsch, Wm. S., St. Louis.

MISSISSIPPI.

Martin, Edw. Hamilton, Clarksdale.

McElroy, Jas. B., Stovall.

NEBRASKA.

Peterson, Alfred O., Omaha.
Wood, Ruth M., Lincoln.
Mattice, Richard I., Omaha.

NEW YORK.

Becker, Edouard Waterbury, Troy.
Jones, David Hughes, New York City.
Otto, Jacob S., Buffalo.
Schminke, Jno. C., New York City.
Murphy, John, New York City.
Metzger, J. I., New York City.
Carlisle, Robt. Jas., New York City.
Ross, John, New York City.
Jelliffe, Smith Ely, New York City.
Jarecky, Herman, New York City.
Probasco, E. B., Glens Falls.
Wells, Jos. E., Brooklyn.
Livingston, Alf. T., Jamestown.

NEW MEXICO.

Crossen, Francis, Albuquerque.

NEW JERSEY.

Richardson, Emma Miller, Camden.

OHIO.

Obrist, J. W., Beaver.
MacMillan, Wade, Cincinnati.
Cadwallader, J. C., Cincinnati.
Phillips, Jas. McIlvaine, Columbus.
Husted, Eugene G., Beaverville.
Bradford, Wm. N., Cambridge.
Brown, Mark A., Cincinnati.
Gillespie, Paul, Wyoming.

OKLAHOMA.

Holbrook, Ralph W., Perkins.

TENNESSEE.

Kane, Elizabeth C., Memphis.
Moore, Alfred, Memphis.
Burke, Robert A., Dyersburg.

TEXAS.

Hathcock, Alf. L., Palestine.
Ferguson, Aug. D., Emmet.
Stephens, Ernest L., Ft. Worth.
Alexander, C. M., Coleman.
Simpson, Chas. W., Waxahachie.

PENNSYLVANIA.

Bonebreak, John S., Martinsburg.
Clark, John, Smethport.
Pfaltzgraff, S. K., York.
Bishop, Frederick J., Scranton.
Ravenel, Mazuck Porcher, Phila.
Knipe, Reinhold, Norristown.
Morris, A. F. B., Pittsburg.

RHODE ISLAND.

Peckham, Frank E., Providence.

VIRGINIA.

Plecker, W. A., Hampton.
Feild, Edw. Evarard, Norfolk.
Old, H., Norfolk.
Jones, Herman Ewart, Roanoke.

VERMONT.

Twitchell, Marshall C., Burlington.

WASHINGTON.

Loe, A. O., Seattle.
Blalock, Nelson G., Walla Walla.

WISCONSIN.

O'Connor, D. J., Green Bay.
Hewitt, M. R., Milwaukee.
Cutler, John C., Verona.

Report of Committee on Transportation.

The Committee on Transportation reports that the following rates and time limits have been granted to the AMERICAN MEDICAL ASSOCIATION, the Military Surgeons of the United States, and the American Academy of Medicine, which meet between May 30 and June 7.

The Western Passenger Association has granted throughout its territory, including Colorado and Wyoming, a one fare plus \$2 for the round trip from all points beyond 200 miles of St. Paul; from all points within that radius a fare and a third for the round trip will apply. Tickets will be on sale from points 200 miles and over from St. Paul, May 27 to June 3, inclusive; from points within 200 miles, tickets will be on sale from same date to June 4 inclusive. Returning tickets will be honored from May 29 to June 15, with extension as herein explained, tickets both ways to be used for continuous passage only, in either direction. Form of ticket will be of iron-clad signature form, providing punch description of passenger. Return ticket is to be executed by joint agent at St. Paul upon payment of a 50-cent fee to be used at all points from which the local one-way rate to St. Paul is more than \$6. From points within that radius open form of local excursion ticket is to be used. Exchange orders require execution by joint agent. Extension, return limit of ticket sold at points from which local one-fare rate to St. Paul is more than \$6, may be extended to leave St. Paul up to and including July 15, 1901, by depositing tickets with joint agent not earlier than May 29 nor later than June 15, and upon payment of execution fee at the time of deposit, all other conditions to remain unchanged. The Committee is trying to secure a stop-off privilege at Milwaukee, June 11-14, for the Neurological Society.

The Central Passenger Association so far has granted a rate of one fare and a third on the certificate plan, but have not decided on date of sale or time limit of ticket. Your Committee is urging the adoption of the time limit granted by the Western Association and a Milwaukee stop-over. Further action in this association will be published in THE JOURNAL.

The Southeastern Passenger Association, up to this date, May 4, has come to no decision on the question of rates.

The Trunk Lines Association has granted a rate of one and a third fare on the certificate plan, out-going tickets to be sold May 25 to June 5, inclusive. Tickets must be deposited with railroad special agents at St. Paul promptly on arrival, together with the certificate secured when ticket is purchased; return ticket will be issued not later than June 11 on presentation of certificate duly signed at the meeting by the local transportation committee and special agent of the company upon payment of one-third the regular first-class fare; certificates or return tickets are not transferable; railroad certificate obtained at the time out-going ticket is purchased must invariably be presented for reduction in rate on return ticket. The Committee is urging the adoption by the Trunk Lines Association of the time limit agreed to by the Western Passenger Association. We are also urging the stop-off privilege at Milwaukee June 11-14 and the Trunk Lines Association has submitted this question for final decision to Mr. Eben E. MacLeod, chairman of the Western Passenger Association, for final decision.

The New England Passenger Association has granted a fare and a third for the round trip, certificate plan. Tickets will be on sale May 25 to June 5 inclusive; tickets returning sold on presentation of certificate in proper form not later than June 11; continuous passage over same route is required in all cases. Your Committee is urging upon them the importance and necessity in the interest of the St. Paul Meeting the adoption of the time limit granted by the Western Passenger Association. All rates quoted, apply jointly to the meetings of the Military Surgeons of the United States, the American Academy of Medicine and the AMERICAN MEDICAL ASSOCIATION which are in meeting May 29 to June 7. The Committee hopes to secure the Milwaukee stop-off concession applied for. The Committee will report in each subsequent publication of THE JOURNAL.

H. L. E. JOHNSON, Chairman, Washington, D.C.;

MILES F. PORTER, Fort Wayne, Ind.;

I. N. LOVE, New York City.

Deaths and Obituaries.

Samuel G. Dorr, M.D., of Buffalo, N. Y., 1875, died at his home in that city, from angina pectoris, April 28, aged 60. He served as a recruiting agent in Livingston County during the Civil War, was prominent in politics for twenty years, and appointed postmaster of Buffalo in 1899. At one time he was an active practitioner in the eastern section.

William Wallace Welch, M.D., Rush Medical College, Chicago, 1846, died from paralysis, April 29, at the Soldiers' Home, Quincy, aged 79. During the Civil War he was surgeon of the 53d Illinois Volunteers, and later Chief of Staff of the Surgeons of the Army of the West. After the war he settled in La Salle and practiced there and in Galesburg.

Horacio Guzman, M.D., University of Pennsylvania, Philadelphia, formerly minister from Nicaragua to the United States, later secretary and acting director of the Bureau of American Republics, an expert Spanish-English and English-Spanish translator, died suddenly in Washington, D.C., April 23, aged about 50 years.

James A. Summerville, M.D., Faculty of Medicine of Queen's University and Royal College of Physicians and Surgeons, Kingston, Ont., 1866, a founder of the Menominee River Hospital, Marinette, Wis., died from cerebral meningitis, at the hospital, April 25, aged 60.

Howard M. Bloch, M.D., College of Physicians and Surgeons of San Francisco, 1898, who, after graduation spent eighteen months in special work at Johns Hopkins University, Baltimore, and then went to Berlin for further study and research, died recently in Berlin, after a short illness.

Percy M. Graham, M.D., Jefferson Medical College, Philadelphia, died at his residence in Philadelphia, April 23, aged 40, as a result of an injury to the head received while a student. He had been blind for fifteen years, and with the loss of sight came ill-health, which persisted until his death.

Irving C. Rosse, M.D., University of Maryland, Baltimore, 1866, of Washington, D.C., died there May 3, aged 54. He was an authority in mental diseases, a writer of repute, and surgeon of the U. S. Steamer *Corwin*, on two Polar expeditions.

Robert W. Greenleaf, M.D., Harvard University Medical School, 1885, of Boston, and a member of the AMERICAN MEDICAL ASSOCIATION, died suddenly at Ipswich, Mass., April 28, aged 46.

Albert Hare, M.D., College of Physicians and Surgeons, Baltimore, 1883, of McKeesport, Pa., died April 26, at Tarentum, Pa., after an illness of a year, aged 45.

George Matthias Swain, M.D., College of Physicians and Surgeons, N. Y., 1870, of Chatham, N. J., died April 26.

E. L. Gilliam, M.D., died recently at Letart, W. Va., aged 60 years.

Societies.

COMING MEETINGS.

- American Medical Association, St. Paul, Minn., June 4-7.
- Arkansas Medical Society, Hot Springs, May 14-16, 1901.
- Medical Association of Montana, Great Falls, May 15-16, 1901.
- Michigan State Medical Society, Battle Creek, May 15-16, 1901.
- Iowa State Medical Society, Davenport, May 15, 1901.
- Indiana State Medical Society, South Bend, May 15-17, 1901.
- New Hampshire Medical Society, Concord, May 16-17, 1901.
- Medical Association of Missouri, Jefferson City, May 21-23, 1901.
- Illinois State Medical Society, Peoria, May 21-23, 1901.
- Medical Society of North Carolina, Durham, May 21-23, 1901.
- Connecticut Medical Society, Hartford, May 22-23, 1901.
- North Dakota Medical Society, Fargo, May 22-23, 1901.
- Kentucky State Medical Society, Louisville, May 22-24, 1901.
- Medical Society of West Virginia, Grafton, May 22-24, 1901.
- American Laryngological, Rhinological and Otological Society, New York City, May 23-25, 1901.
- American Laryngological Association, New Haven, Conn., May 27-29, 1901.
- American Pediatric Society, Niagara Falls, N. Y., May 28, 1901.
- American Gynecological Association, Chicago, May 28, 1901.

American Climatological Association, Niagara Falls, N. Y., May 30, 1901.

American Association of Military Surgeons of the United States, St. Paul, May 30, 31, June 1, 1901.

American Academy of Medicine, St. Paul, Minn., June 1-3.

National Con. State Medical Examiners and Licensing Boards, St. Paul, Minn., June 3.

Association of American Medical Colleges, St. Paul, June 3.

American Medical Editors' Association, St. Paul, June 3.

Minnesota State Medical Society, St. Paul, June 3.

American Proctological Association, St. Paul, Minn., June 4-5.

American Dermatological Association, Chicago, June 4-6.

Rhode Island Medical Society, Providence, June 6.

International Association of Railway Surgeons, Milwaukee, June 10-12.

Medical Society of Delaware, Lewes, June 11.

Oregon State Medical Society, Portland, June 11-12.

American Medico-Psychological Association, Milwaukee, Wis., June 11-14.

Maine Medical Association, Portland, June 12-14.

Massachusetts Medical Society, Boston, June 12.

Colorado State Medical Society, Denver, June 18.

American Orthopedic Association, Niagara Falls, June 18-20.

Medical Society of New Jersey, Allenhurst, June 25-27.

Wisconsin State Medical Society, Waukesha, June 26.

Geneva County (Ala.) Medical Society.—This Society met on April 3, at Geneva, and elected Dr. Alpheus B. Jernigan, Geneva, president.

Iowa State Medical Association.—The semi-centennial meeting of this Association will be held in Davenport, May 15-17. Dr. Robert E. Conniff, Sioux City, in the chair.

Medical Society of New Jersey.—The State Medical Society will hold its annual meeting at Allenhurst, June 25-27, under the presidency of Dr. John D. McGill, Jersey City.

New Hampshire Medical Society.—The one hundred and tenth annual meeting of this Society will be held in Concord, May 16 and 17, President William Thayer Smith, Hanover, in the chair.

Detroit Physicians' Association.—Under the new constitution, this Association met April 29 for its annual session, and re-elected Dr. Guy L. Kiefer, president; Dr. Henry L. Obetz, vice-president, and Dr. Walter J. Cree, secretary.

Michigan State Medical Society.—The thirty-sixth annual meeting of this Society will be held in Battle Creek, May 15 and 16, under the presidency of Dr. Philo D. Patterson, Charlotte. Headquarters will be at the Post Tavern.

Golden Belt (Kan.) Medical Society.—In addition to the announcement of election of officers in the last issue of THE JOURNAL, Dr. Edgar L. Simonton, Wamego, and Enos R. Cheney, Gypsum, were elected vice-presidents of the Society.

Detroit Medical Society.—On April 24 the election of officers of this Society took place, with the following result: Dr. Delos L. Parker, president; Dr. F. Lydston Newman, vice-president; Dr. Wadsworth Warren, treasurer, and Dr. Louis J. Goux, secretary.

Howard County (Md.) Medical Association.—At a meeting of this Society held at Ellicott City, April 23, Dr. John M. B. Rogers, Ellicott City, was elected president; Dr. W. W. L. Cissell, Highland, vice-president, and Dr. William B. Gambrill, Albertain, secretary-treasurer.

Belmont County (Ohio) Medical Association.—The bi-monthly meeting of this Society was held at Bellaire, April 24. Dr. John A. Heinlein, Bridgeport, the newly-elected president, was installed, and delegates to the AMERICAN MEDICAL ASSOCIATION were elected.

Waller County (Texas) Medical Association.—The physicians of Hempstead, Texas, met April 23 and organized this Association, with the following officers: Dr. James H. Morrison, president; Dr. Thomas T. Erwin, vice-president; Dr. L. Lee Mahan, secretary, and Dr. Cecil W. Le Grand, treasurer.

Somerset County (N. J.) Medical Society.—The annual meeting of the Society was held at Somerville, April 25. Dr. William H. Merrell, South Branch, was elected president; Dr. Sewell O. B. Taylor, Millstone, vice-president; Dr. Aaron L. Stillwell, Somerville, secretary, and Dr. John P. Hecht, Somerville, treasurer.

Indiana State Medical Society.—The fifty-second annual session of this Society will be held in South Bend, May 15-17, under the presidency of Dr. George W. McCaskey, Fort Wayne. Dr. John A. Wyeth, New York, will deliver an address on "The Making of a Doctor," and the subject of the president's address will be "Physiology the Basis of Clinical Medicine: A Plea for Scientific Methods."

Illinois State Medical Society.—The fiftieth anniversary of this Society will be held in Peoria, May 21 to 23, under the presidency of Dr. George N. Kreider. The local committee and the Peoria City Medical Society are making extensive preparations for the entertainment of visitors.

Macoupin County (Ill.) Medical Association.—The semi-annual convention of this Society was held at Shipman, last week. Dr. John R. Ash, Brighton, was elected president; Dr. William L. Penniman, Shipman, vice-president, and Dr. J. Palmer Matthews, Carlinville, secretary. The next meeting will be held in Greenfield, in October.

Berkshire District (Mass.) Medical Society.—The annual meeting of this Society was held at Pittsfield, April 25, at which Dr. Morgan L. Woodruff was elected president; Dr. Stephen C. Burton, vice-president; Dr. Lawrence C. Swift, secretary; Dr. William L. R. Paddock, treasurer, and Dr. William W. Leavitt, librarian, all of Pittsfield.

Clark County (Ind.) Medical Society.—At the meeting of this Society at Jeffersonville, April 23, the following officers were elected: Dr. Harry C. Sharpe, Jeffersonville, president; Dr. Cadwallader Jones, Charlestown, vice-president, and Dr. J. Trueman Davis, Jeffersonville, secretary and treasurer. Delegates to the AMERICAN MEDICAL ASSOCIATION were also chosen.

Brainard District (Ill.) Medical Society.—The twenty-fourth annual meeting of this Society was held at Lincoln, April 25. Dr. John R. Barnett, Lincoln, was elected president; Dr. W. P. Walker, Mason City, vice-president; Dr. Katherine Miller, Lincoln, secretary, and Dr. Charles C. Reed, Lincoln, treasurer. The Society will hold its next meeting at Springfield in July.

Southwest Missouri Medical Association.—The semi-annual meeting of this organization was held in Springfield April 25. Dr. Hilliard J. Rowe, Willow Springs, was elected president; Dr. Richard W. Paris, Lawrenceburg, vice president; Dr. William P. Patterson, Springfield, corresponding secretary, and Dr. Henry Shuttee, West Plains, treasurer. The next meeting will be held in Joplin, in October.

American Medico-Psychological Association.—The fifty-seventh annual meeting of this Association will be held at Milwaukee, June 11-14, under the executive charge of Dr. Peter M. Wise, New York. The sessions will be held at the Hotel Pfister. The annual address is to be delivered by Dr. Warren P. Lombard, of the University of Michigan, on the subject "Reinforcement and Inhibition of Nervous Processes."

Toronto Clinical Society.—This Society held the final meeting of the season on May 1. The following officers were elected: President, Dr. James F. W. Ross; vice-president, Dr. Edmund E. King; treasurer, Dr. William H. Pepler; recording secretary, Dr. George Elliott; corresponding secretary, Dr. Arthur A. Small; executive committee, Drs. Herbert J. Hamilton, Henry B. Anderson, William B. Thistle, Herbert A. Bruce and George A. Bingham.

Association of Military Surgeons of the United States.—The tenth annual meeting of this Association will be held in St. Paul, Minn., May 30 and 31 and June 1, headquarters being at the Ryan Hotel. Dr. Alexander J. Stone, surgeon-general of Minnesota, will preside. The meetings will be held in the House of Representatives and Senate Chamber. The Central and Western Passenger Associations have made a rate of one fare plus \$2 for the round trip.

Alumni Association of the Medical Department of the University of Buffalo.—The twenty-sixth annual meeting of this body was held April 27, and the following officers were elected: Dr. Frank H. Moyer, Moscow, president; Drs. Alfred W. Bayliss, Buffalo; Alfred W. Henckell, Rochester; Fridolin Thoma, Buffalo; Henry S. Benham, Honeoye Falls and Jane W. Carroll, Buffalo, vice-presidents; Dr. Thomas H. McKee, Buffalo, secretary, and Dr. Herman K. McGroat, Buffalo, treasurer.

Medical and Chirurgical Faculty of Maryland.—The one hundred and third annual meeting of this body was held at Baltimore, April 23-25, Dr. Samuel Theobald, Baltimore, presiding. The following officers were elected: Dr. J. McPherson Scott, of Hagerstown, president; Drs. Harry Friedenwald, Baltimore, and Dr. Brice W. Goldsborough, Cambridge, vice-presidents; Dr. J. Williams Lord, Baltimore, secretary; Dr. Thomas A. Ashby, Baltimore, treasurer, and Drs. William Osler, John D. Blake, L. McLane Tiffany and H. B. Jacobs, executive committee.

National Association for the Study of Epilepsy and the Care and Treatment of Epileptics.—The first annual meet-

ing of this Society, which has for its objects the promotion of the general welfare of all sufferers from epilepsy; the stimulation of the study of the causes and of the methods of cure of this disease; the advocacy of the care of epileptics in institutions where they may receive a common-school education, acquire trades and be treated by the best medical skill for their malady, and rendering assistance to the various states in America in making proper provision for epileptics, will be held in Washington, D.C., May 14 and 15, under the presidency of William Pryor Letchworth, LL.D.

Charity Hospital of the Louisiana Alumni Association.

The annual meeting of this body was held in New Orleans April 22-24. Clinics were held by Drs. Charles Chassaignac and Frederick W. Parham on the first day; by Drs. Ernest S. Lewis and P. Emile Archinard the second day, and by Drs. John E. Elliott and Rudolph Matas the third day. Dr. Louis LeBeuf, New Orleans, was elected president; Dr. Jackson J. Mayo, Lafourche, vice-president; Dr. William H. Seeman, New Orleans, secretary, and Dr. S. W. Stafford, New Orleans, treasurer.

Erie County Society for the Prevention of Tuberculosis.

A meeting of this recently organized Society was held April 5. The following were chosen as directors for one year: Mayor Conrad Diehl, Dr. Ernest Wende, Dr. Lee H. Smith, president of the Society of Natural Sciences, Dr. Mary I. Denton, president of the Investigating Club. Directors for two years: Dr. John H. Pryor, trustee of the New York State Sonumotive Hospital, Dr. J. C. Thompson, Rev. Thomas A. Donohue, Dr. Albert H. Briggs and Dr. William G. Bissell. Directors for three years: Dr. Benjamin G. Long, Rev. O. P. Gifford, D.D., Dr. James S. Smith, Dr. Henry Hopkins and Dr. Charles E. Congdon. Officers of the ensuing year were chosen as follows: Dr. Benjamin G. Long, president; Dr. Henry R. Hopkins, vice-president; Dr. William G. Bissell, secretary, and Dr. Albert I. Briggs, treasurer.

Louisiana State Medical Society.—The twenty-second annual meeting of this Society was held in New Orleans, April 8 to 20. Dr. Frederick W. Parham, New Orleans, presided. Nearly 100 delegates registered the first day, and 51 applicants were elected to membership. The president, in his address, deplored the transfer of the quarantine station at Dry Tortugas from the U. S. Treasury to the Navy Department, which would mean its transformation from a quarantine and dispensary station to a coaling station. He suggested that the Society enter a vigorous protest against this action. Dr. Luther Sexton, New Orleans, discussed the topic: "Is the Tendency Toward Prescribing Proprietary and Patent Medicines Increasing; and What will be its Final Effect Upon the Professions of Medicine and Pharmacy?" He arraigned physicians for prescribing remedies of unknown formulæ, and druggists for recommending and selling patent medicines. His paper provoked a spirited but one-sided discussion. The Society will hold its next meeting in Shreveport. Dr. T. Edgar Schumpert was elected president and Dr. Isaac M. Callaway, vice-president, both of Shreveport.

Texas State Medical Association.—The thirty-third annual meeting of this ASSOCIATION was held in Galveston, April 23 to 26. Dr. Berthold E. Hadra, Dallas, presiding. The committee appointed to present eighteen names to the governor for members of the State Examining Board reported as follows: Dr. Joseph W. Scott, Houston; John H. Evans, Palestine; Thomas J. Bell, Tyler; Don Juan Jenkins, Dwingerfield; J. T. Wilson, Sherman; J. C. Loggins, Ennis; Taylor Hudson, Belton; Richard H. Rush, De Leon; Matthew M. Smith, Austin; John C. Jones, Gonzales; Joseph H. Reuss, Cuero; Frank Paschal, San Antonio; P. C. Coleman, Colorado; Walter Shropshire, Yoakum; Sam R. Burroughs, Buffalo; William R. Blalock, McGregor; Arthur C. Scott, Temple; and Asa B. Gardner, Bellville. Of these the governor will select nine for appointment. The Association decided to adopt as a basis of affiliation of county and district societies, the adoption of the Code of Ethics of the AMERICAN MEDICAL ASSOCIATION; the payment of ten cents a member into the treasury of the state association, and that one delegate to the state association be allowed for societies of fifty or less members; and one additional delegate for each additional fifty members or fraction over thirty. The following officers were elected: Dr. Taylor Hudson, Belton, president; Drs. Samuel C. Red, Houston, James W. Nixon, Gonzales, and William A. Watkins, Kemp, vice presidents. Delegates to the AMERICAN MEDICAL ASSOCIATION were also appointed. The next session will be in El Paso, April 4, 1902. The Association recommended that the AMERICAN MEDICAL ASSOCIATION hold its 1902 session at Houston.

ASSOCIATION OF AMERICAN PHYSICIANS.

Sixteenth Annual Meeting, held in Washington, D. C., April 30 and May 1 and 2.

Address of President.

DR. WM. H. WELCH, Baltimore, Md., delivered this address, at the opening session, comparing the present conditions in medicine with those at the time of the organization of the Association.

Peculiar Cardiac Sound.

DR. HOBART AMORY HARE, Philadelphia, in a paper on this subject, described a peculiar sound noted during systole, one inch to the right of the sternum and the same distance to the left of the nipple, on a level with the latter. The sound is somewhat similar to presystolic friction sound and increased by excitement and fear. He considers it evidence of abnormal myocardial action, and finds it often in depression after la grippe. He considers it of value in the diagnosis in the beginning of pulmonary tuberculosis.

Cardiac Hydrothorax.

DR. ALFRED STENGEL, Philadelphia, in his paper on this subject, considered the causes and clinical features of this condition, especially treating hydrothorax of the right side. He reported his observations on 100 patients suffering with disease of the heart, 17 of whom presented hydrothorax. Of these latter, 5 presented it on the right side and 3 on the left, and at some time during the affection it was bilateral in 9. In 2 it began on the right and was afterward bilateral. He thinks it may be traced to the obliterated lymph channels or venous pressure.

Aortic Insufficiency.

DR. W. S. THAYER, Baltimore, Md., discussed the Flint murmur in aortic insufficiency, referring to Flint's first description of this murmur in 1862, as presystolic and confined to the apex. From his observations on patients presenting the murmur in the Johns Hopkins Hospital, he has found that since May 1889, 74 cases with aortic insufficiency were noted postmortem, and the history shows that at some period in their illness, in 45, the rumbling murmur was confined to the area of the apex. Mitral stenosis was noted in connection with aortic insufficiency in 12 of the 45; 33 of 58 cases of aortic insufficiency presented the Flint murmur, and no abnormality could be detected in the mitral valve in 17 of the 33. His observations on the physical signs in 22 patients presenting mitral stenosis without complications show that the aortic thrill was present in 54.5 per cent., a sharp "snappy" first sound in 68 per cent., and in 81 per cent. of presystolic murmur. Acute rheumatism or chorea existed in 13 of the 33 patients who gave the Flint murmur, and in more than 50 per cent. arteriosclerosis was clinically shown.

Cardiac Degeneration.

DR. BEVERLEY ROBINSON, New York City, considered chronic myocarditis and fatty degeneration of the heart, believing that the differentiation of these two conditions is usually difficult. He enumerated the symptoms of cardiac weakness. He considers intestinal antiseptics of value. Where there are attacks of dizziness, the etiology is not understood, and the pulse is weak, missing occasional beats, the commencement of fatty degeneration is perhaps indicated and iron and arsenic are of use, also strophanthus and strychnia. He treated the etiology in detail, for example obesity, gout, syphilis, senility, mental strain, etc., all of which he considers as factors. The changes may be fibrous instead of fatty in the senile, and there may be hypertrophic dilatation, while we are quite likely to have thickened and tortuous arteries, with urine of low specific gravity, diminished in amount, but not containing sugar or albumin.

Pernicious Anemia.

DR. F. P. HENRY, Philadelphia, at the last year's meeting of the Association, presented his observations on a number of cases of this affection and this year reported thereon. He thinks it is unnecessary to consider megaloblasts pathognomonic. In addition to the blood findings in the diagnosis, we should rely on general signs and symptoms. He says, too, that

as the nucleated cells are found in other conditions, they do not mean the presence of pernicious anemia only.

DR. FRANK BILLINGS, Chicago, presented charts showing the progress made by a number of patients suffering with pernicious anemia, reported by him last year; 10 of the 20 patients died during the year and 4 are still under observation. He pointed out that a large number of nucleated red cells appear with marked decline in the patient's condition, though there have been a few exceptions to this. He also cited a case where the patient developed the typical lesions of the spinal cord previously observed by others in pernicious anemia.

Splenic Miliary Tuberculosis.

DR. D. B. STEWART, Philadelphia, reported a case of acute splenic miliary tuberculosis in a nurse, who, fatigued from caring for a typhoid patient, acquired la grippe and then nursed a tubercular patient before completely recovered from la grippe. The condition originated in the spleen and the patient lived sixty-eight days, dying of generalized miliary tuberculosis, the spleen being markedly involved.

Cyst of the Omentum.

DR. A. JACOBI, New York City, presented a cyst of the omentum removed from a child of 2 years. The condition was at first believed to be tuberculosis of the peritoneum, and success followed repeated tapplings of the abdomen for a year, the tumor recurring, and then disappearing after each tapping.

Lead Poisoning.

DR. ALFRED STENGEL, Philadelphia, considered the degenerative type of red blood-corpuscles found in lead poisoning. He views it as a granular degeneration, which can be detected by its reaction in the presence of certain basic aniline dyes, for instance, thionin. The granules are round or club-shaped and may be seen in normal red corpuscles or in those of irregular shape. They may be distributed in clumps and be as large as eosinophile granules. He does not find them in freshly drawn blood and does not consider them mitotic remains of nuclei. They are always present where lead poisoning is well evidenced, and are larger the more severe the case.

Neurasthenia and Melancholia.

DR. M. ALLEN STARR, New York City, discussed the toxic origin of these affections, classifying them as four types: 1. Where anxiety and worry are the cause. 2. Those where over-exertion is the principal factor. 3. Those with neuronic evidences of beginning degeneration. 4. Those in which the etiology is toxic. In the latter type there is headache, irritability, lack of concentration, regurgitation, eructation, constipation, etc. The patient feels better from noon until 9 p. m., and then awakens at 4 a. m. with depression, which remains with him through the morning, this cycle repeating itself over and over. He associates this with gastro-intestinal absorption and hence ascribes a toxic etiology. He follows out a digestive and eliminative treatment with calomel freely repeated in 1/10 grain doses, combined with podophyllin in 1/4 grain doses, Carlsbad salts and salicylate of sodium at breakfast. He also sees to intestinal antisepsis, baths, massage and rest.

(To be Continued.)

CHICAGO MEDICAL AND CHICAGO NEUROLOGICAL SOCIETIES.

Joint Meeting held April 5.

The president of the Neurological Society, Dr. Hugh T. Patrick, in the chair.

The subject for discussion was "Epilepsy."

Epilepsy; Its Definition, Pathology and Symptomatology.

DR. ELBERT WING read a paper on this subject, saying: The definitions found in the literature of this subject are of two classes. Those in one do not define anything, but are mere generalized statements applicable to several diseases and of no value. The others are carefully worded, exact definitions. Examples of the first class are: "Epilepsy is a sudden, rapid, excessive, occasional and local discharge of the cerebral cortex." "It is a syndrome of nervous and mental symptoms appearing under a variety of pathological states." "The best representa-

tive of the other class is that of Gowers: "The term epilepsy is applied to a disease in which there are convulsions of a certain type, or sudden loss or impairment of consciousness, but in which the convulsions are not due to active brain disease, to reflex irritation, or to abnormal blood states, and in which isolated loss of consciousness is not due to primary failure of the heart's action." In their discussion of the subject, all writers practically accept the conditions of Gowers' definition, and it may be affirmed: 1. That impairment or loss of consciousness is the fundamental phenomenon in a paroxysm of epilepsy. 2. That convulsions of a purposeless type may or may not accompany the disturbance of consciousness. 3. These phenomena must not be due to active brain disease, blood states, reflex irritation or primary failure of heart's action; that is to say, it is possible to distinguish attacks of idiopathic epilepsy from attacks which closely simulate epilepsy, but which occur in connection with other diseases.

Diagnosis and Variations of Epilepsy.

DR. HAROLD N. MOYER spoke of the "Diagnosis and Variations of Epilepsy as Ordinarily Recognized." Epilepsy is easily identified when the convulsive attacks are typical. Unfortunately, the family physician often, and the consultant almost invariably, relies on the descriptions of lay people for the sequence of events in the seizure. Epilepsy is a symptom-complex, but unlike chorea and other symptomatic disorders of the nervous system, any of the features which make up the attack, may be absent in a particular case. The definition of epilepsy by Donath seems to be as satisfactory as any so far proposed: "An abnormal excitement of the cerebral cortex which increases suddenly, is periodical in its manifestations, has a typical course and disappears rapidly. Whether the attack occurs without unconsciousness and amnesia, depends upon the strength and extent of the irritation." He thinks the ordinary classifications of grand mal and petit mal are provisional only as they relate to the severity of the convulsions, the one type shading into the other, but such a definition is useful. A lapse of consciousness is the most constant feature in an epileptic seizure, but it may be absent even in cases which are characterized by convulsions, though the latter is very rare. In petit mal the loss of consciousness is very slight, or may not occur at all. Jacksonian epilepsy is commonly understood to mean those attacks which begin in a limited area of the cortex and extend by continuity. Sometimes the convulsions become general with a loss of consciousness, but more frequently they are only partial.

In conclusion, emphasis was laid on the importance of the early recognition of epilepsy. In too many instances the family physician shrinks from the diagnosis and not infrequently the family is advised that a single convulsion, even though it have all the epileptic characters, is due to a disturbance of the stomach, or constipation or other trivial cause, or, if it occur in a child, that the condition will be outgrown. This leads to a false sense of security and a failure of early treatment in this disease, when it is curable.

Hereditary, Mental and Allied States, Including Psychological Epilepsy.

DR. SANGER BROWN read a paper on this topic. He thinks suddenness and violence of phenomena in epilepsy are suggestive of chemical reaction. Therapeutic measures founded on the theory that the disease is due to an excess of diminution of this or that organic substance in the economy have been disappointing. Heredity may be divided into similar and dissimilar; similar implies the existence of epilepsy in ascendants, while dissimilar heredity refers to such ancestral diseases as insanity and imbecility. Authors do not agree as to what diseases should be included in the list of dissimilar hereditary influences. Some include tuberculosis, migraine and hysteria. All agree that insanity and imbecility are by far the most important factors. Accepting the latter limitation, Gowers finds either similar or dissimilar heredity in 35 per cent. of all cases, and of these two-thirds are similar, and one-third dissimilar, with a slight preponderance of females. Similar heredity is more often transmitted through the mother, and the heritage prefers the sex of the parent from which it was derived. That

the disease is due largely to an inherited defect of the nerve elements, rendering them unduly stable, and conformably the fact that a majority of all hereditary cases begin during the same period, would be expected when the instability of the nervous system during childhood, youth and adolescence is remembered. The author's experience neither confirms nor contradicts the statement that cases of hereditary epilepsy are more amenable to treatment than those devoid of that feature.

The psychic or mental manifestations were divided into those momentarily preceeding or terminating in other phenomena, or those extending over a period ranging from a few minutes to a few days prior to the seizure or seizures, those which alone comprise the individual attack, and those which are the result of the fits either momentarily or remotely, and finally, a class of cases in which the mental disorder is of such a nature that it might be more properly regarded as an association with rather an expression of epilepsy. Of the first class, the most common are those which momentarily precede the fit, and fairly constitute the mental or psychic aura. To mention these in the order of their frequency, those cases come first in which a familiar environment seems strange, and next those in which the surroundings seem a repetition or at least peculiarly familiar.

Treatment of Epilepsy.

DR. DANIEL R. BROWER, discussing this phase of the subject, said the prophylaxis of epilepsy demands much more attention than it ordinarily received. A convulsion in the infancy of a child of neurotic inheritance is often the first manifestation of an epileptic tendency, and deserves serious attention. Children of this tendency should be relieved from severe nervous and mental strains. They should be kept from the use of alcoholics, opiates, coffee, tea and tobacco in early age and adolescence, and from sexual irregularities and excesses. Phimosi, errors in vision, diseases or deformities of the upper air-passages, or any other abnormality may demand attention and correction. The question of occupation is an important one, and parents must sacrifice their ambitions for such children in order to secure their bodily and mental welfare. The prophylaxis of post-traumatic epilepsy requires the prompt and judicious treatment of every head injury. The speaker discussed the prevention of individual seizures, treatment during an attack, and the care and treatment between the seizures. Hydrotherapy is an important aid to treatment. A vigorously active skin means a more perfect elimination of toxins. A tepid bath with an abundance of soap is ordered twice a week; temperature 125 F., and a cold douche of an average temperature of 75 degrees daily, to be followed by vigorous friction. Cerebral galvanization is of value. Large electrodes should be used, and a current strength of from one to three milliamperes, and daily if possible. Two steps in this cerebral galvanization are: 1, the current is passed longitudinally, the positive over the forehead, and the negative over the nucha; and 2, from temple to temple; the séance should last about ten minutes. Some form of gymnastics should be ordered for the great majority of cases. The bromids still hold the first rank in the treatment. They must be used with proper precautions, and bromism avoided. They must be used for a long time. No patient can be called cured until the seizures have been stopped for at least five years. Their curative action requires the production of their full physiologic action, but not their toxic. He rarely exceeds one dram (4.00) a day, and is of the opinion that one dram and a half (6.00) should not be exceeded in any case. A serious objection on the part of some patients to the use of the bromids is the acne which they produce, a result that depends less on the dose than on the idiosyncrasy of the patient. Taking the mixture with a very large amount of alkalized water diminishes the amount of it, as does also the addition of liquor sodii arsenatis in from three to five minims (0.20 to 0.30) to each dose. The arsenic, by its alterative and tonic qualities, aids the cure. In ordinary cases the iodid of sodium should be given in five grains (0.30) three times a day in the bromid mixture. In the syphilitic cases it should be given in the largest dose that is possible. When the moderate doses of the bromids fail to stop the seizures, he advises a dose of grs. x to grs. xx of chloral at bedtime, often with benefit. Acetanilid is

synergistic to the bromids, and when administered in grs ii to v, three times a day, will sometimes be of service. The opium-bromid treatment has not been satisfactory in his hands. Glonoin and the nitrite of sodium are valuable remedies against the petit mal attacks, when given in conjunction with the bromids. The best intestinal antiseptics are salol, salicylate of bismuth and guaiacol carbonate. As to tonics, strychnin, arsenic, hypophosphites, phosphoric acid and iron are at all times of service. He gives iron, preferably the bromid, in half grain doses three times a day, whenever the hemoglobinometer indicates it, and then it is of great value. The results that have followed cervical sympathectomy, oöphorectomy, ligating the vertebral arteries, and the carotid arteries, have not been such as to justify advising them. If epilepsy is essentially a disease of the cell bodies, of cortical neurons, and a proliferation of the neuroglia, then all such operations are unscientific.

The colony system is the highest ideal for the treatment of these unfortunates. The proof of this is overwhelming in results obtained both at home and abroad.

DR. MAXIMILIAN HERZOG spoke on the general pathology and special histopathology of epilepsy, rehearsing the various theories and hypotheses that have been advanced relative to this affection.

DR. SYDNEY KUH said he tried the withdrawal of salt, which in Dr. Brower's hand gave such good results, and his results were absolutely negative. The same is true of adonis vernalis. He has tried them both in a number of cases in this way: He has given the bromids when the bromid treatment alone was unsuccessful and added the adonis vernalis to it, and there was not a single case in which the addition of adonis vernalis yielded better results than the bromids alone would have done. He agrees with Dr. Brower as to the combination opium-bromid treatment. In some cases this combination yields favorable results for a short time, but whether they are not due to the psychic factor more than anything else is doubtful. For some years he has in every case in which the use of bromid was indicated, employed the bromid of strontium, and after an experience comprising hundreds of cases in which this drug was given, he feels that it has certain advantages over the bromid of sodium, bromid of potassium, bromid of ammonium, or a combination of these three. The bromid of strontium has not the same tendency to produce irritation of the gastro-intestinal tract that all the other salts have, more or less. In cases of neurasthenia, with nervous dyspepsia and loss of appetite, he has frequently seen a pronounced increase of appetite after the administration of small doses of bromid of strontium. It is much less liable to produce acne than other forms of the bromid.

The continued use of large doses of the bromids have a tendency to produce mental impairment. Frequent epileptic seizures almost invariably lead to terminal dementia sooner or later. The surgical treatment of epilepsy has been unsatisfactory, and a good many cases are being operated on that should not be.

DR. JACOB FRANK spoke briefly on the surgical aspects of epilepsy. Eleven years ago he presented a series of cases of Jacksonian epilepsy before the Society, after operations, and at that time remarked that operations for epilepsy would never become popular, for the reason that if patients recovered from the surgical operations, they would still be unfit to discharge their duties as business men or as men earning livelihoods. If a surgeon undertakes an operation for the relief of epilepsy, his duty should not end by merely opening the skull and the dura, but the brain should be explored. He cited a case in which he believes that if the surgeon had explored the brain at the time he operated the patient would have recovered.

DR. HENRY GRADLE dwelt on reflex epilepsy of peripheral origin, and mentioned two or three interesting cases.

DR. FREDERICK LEUSMAN narrated the case of a young man, a confirmed masturbator, in whom epilepsy developed, complicated by hemorrhoids. The hemorrhoids were removed, and the vena dorsalis penis excised for about an inch on each side, with the result of cessation of the epileptic seizures.

DR. L. HARRISON METTLER emphasized the importance of making, if possible, an early diagnosis. Recently he saw a

statement, from one of the highest and latest authorities, that a diagnosis of epilepsy could not be made on the first or a single attack. There is no doubt that in some cases it is impossible to make an early diagnosis of epilepsy, for the reason that it so closely simulates in some respects hysteria, uremic convulsions and other manifestations. In making an early diagnosis of epilepsy physicians should be extremely careful about expressing their opinions to the relatives of patients until a more positive history can be had, preceding the first attack.

DR. JULIUS GRINKER alluded to the prevention of marriages among epileptics. Although it is not known that epilepsy is transmitted directly from father to offspring, yet investigations have shown that hysteria, insanity, and other mental defects are found in idiopathic epileptics. It is not possible that an epileptic may produce another epileptic? Epileptics who have married have become much worse as a result of their marital relations. A woman, whom he treated some years ago with the bromids, for epilepsy, and who was able to stave off the attacks for months, got married, shortly after which the attacks returned three times a week. She finally consulted him as to whether or not marriage was to blame for the recurrence of the seizures, and he replied in the affirmative. In two cases he had substituted borax for the bromids with beneficial results. Inasmuch as most epileptics are benefited by bromids, the cases in which he had an opportunity to try the opium and borax treatment were naturally few, and this explains in a measure why Dr. Brower only tried this treatment in a few cases with unsatisfactory results. He would suggest that it be not entirely condemned in a disease like epilepsy, in which so little can be accomplished with any kind of treatment.

WILLS' HOSPITAL OPHTHALMIC SOCIETY.

Meeting held in Philadelphia.

Dr. P. N. K. Schwenk in the chair.

Primary Sarcoma of the Iris.

DR. CONRAD BERENS presented a case illustrating the secondary stage of primary sarcoma of the iris. The patient, a young man, who was free from any symptoms and obtainable history of syphilis or tuberculosis, first noticed the affection some three years previously. Imbedded in a partially degenerate and comparatively uninflamed iris-tissue were five irregular tumor masses, over and through which some fine vessel ramifications could be plainly seen. The plane of the iris was pushed forward. The pupillary area, which was slightly distorted, contained some meshes of glistening lymph. The crystalline lens occupied its normal position. No view of the fundus could be obtained. Intra-ocular tension was increased to plus two. There was no ciliary tenderness. Based upon these findings and the fact that the therapeutic tests for syphilis and tuberculosis had been unsuccessfully applied, Dr. Berens felt certain of the diagnosis, and believed that it would be proven after enucleation.

DR. FRANK FISHER tended to the opinion that there might be an iridocyclitic element in the case.

DR. WILLIAM W. MCCLURE agreed in the diagnosis, giving a number of differential points between the one almost certain and the other possible processes.

DR. CHARLES A. OLIVER, while fully agreeing in the etiology of the condition was disposed to place the main bulk of the growth in the ciliary body.

Embolism of the Central Retinal Artery.

DR. FRANK FISHER exhibited a series of water-color sketches of several stages of a case of embolism of the central retinal artery. The patient, a young subject with a mitral murmur, gave the usual history of sudden blindness. Besides the characteristic eyeground of the affection, all of the main retinal blood-currents, both arterial and venous, were found to be interruptedly flowing in their proper directions; the curious fact being that the venous currents were traveling with twice the rapidity of the arterial.

DR. W. W. MCCLURE stated that he had had the opportunity to see two cases in their very earliest stages. One of the early changes he had found consists in a lead-tinted area bounded

upon its superior and inferior borders by two fine vascular twigs that are not ordinarily observable, giving the area of infiltration a caudate form. The second of his cases, which but partially closed the arteries, showed broken blood currents in the two principal veins running in the direction of that which is pursued by the ordinarily contained blood.

DR. SCHWENK had seen six clinical cases of central retinal artery embolism, one of which occurred in Dr. Harlan's service at the hospital, and showed the vascular beadings. His experience had been that vision seldom if ever returns in the pronounced type of the disorder.

DR. CHARLES A. OLIVER was greatly interested in the double rapidity of the venous current seen in Dr. Fisher's case, and spoke of the difference between trophic and functional disturbances found in these cases, drawing attention to the two forms of vascular circulation in the human retina. He made mention of the possibilities of endarteritis, vessel spasm and thrombus in such cases, and did not deem a differential clinical diagnosis as entirely certain in every instance as the several conditions might be coexistent.

DR. WALTER L. PYLE called attention to several cases in ophthalmic literature, in which, although there was complete embolism of the central artery, a small sector in the field of vision was preserved; ophthalmoscopic examination showing a cilioretinal artery supplying the corresponding retinal area.

DR. FISHER did not believe that there was any collateral retinal circulation. He considered the most remarkable feature in his case to be the visibility of both the arterial and the venous circulation in the retina at the same time. He deemed prognosis as to vision doubtful when an embolism is situated within the retina, as it is not likely to undergo absorption in such a position.

Successful Extraction of Manganese Steel from the Crystalline Lens.

DR. P. N. K. SCHWENK showed a 45-year-old man in whom he had successfully removed a piece of manganese steel from the left lens. The points of interest in his case consisted in the facts that the form of steel imbedded in the lens substance was but feebly attracted by the magnet, and that much of the lens matter, which had appeared transparent at the time of the removal of the foreign body, afterward became opaque and greatly swollen.

DR. MCCLURE gave the details of a case of steel in the lens in which, before making the corneal section with a von Graefe knife, he created a path or track through the lens fibers with a Hay's needle, for the escape of the foreign body. After this was done it was but necessary to bring a magnet tip to within two inches of the external wound, the foreign body fairly leaping out of the eye through its open pathway. The lens mass was then expressed without any trouble. Recovery was uneventful, a corrected vision of two-thirds of normal being later obtained.

Removal of Congenital Cataract.

DR. C. A. OLIVER exhibited a 9-year-old Hungarian boy, from whom he had successfully removed two congenitally opaque lenses by free discission, obtaining a corrected vision of normal in each eye. The case was of interest as showing the good effects of diametrically opposed forms of treatment in the two eyes, necessitated by an attack of secondary glaucoma from stoppage of lymph flow caused by a blocking of the pupillary area. He did not consider such a complication of any great moment in the young, otherwise healthy, eye as it rapidly subsided under appropriate treatment without any damage to the organ.

DR. SCHWENK presented a case of congenital cataract in a white male 30 years of age, the interesting point being that three brothers were similarly affected, while three sisters had normal eyes. Ten days previous, a free discission of the right lens was done. The lens rapidly swelled and several opaque pieces of lens matter fell into the anterior chamber. One week later, although intra-ocular tension was normal and the eye was quiet, much of the remaining lens material was extruded by means of a grooved spud. At present the eye is practically well.

The Immediate Result of Mules' Operation.

DR. C. A. OLIVER showed the immediate results of a Mules' operation in a case of panophthalmitis. The patient was a 23-year-old sailor who had lost his eye about a year previously from gonorrheal infection. As a large area of the sclerotic coat at the upper corneal limbus was softened and infiltrated, he took advantage of excising this part while converting the circular corneal area into a lozenge of sufficient size to admit the placing of the glass ball into the scleral cavity. In less than five days, without any reaction, the conjunctival sac was clean and the eyeball freely mobile. In accordance with a suggestion from the senior resident surgeon of the hospital, he had most successfully employed pressure bandages instead of the usual iced compresses. He will order a properly adapted artificial eye for the patient as soon as the socket becomes fixed in size.

PHILADELPHIA PATHOLOGICAL SOCIETY.

Dr. Frederick S. Packard in the chair.

Cerebellar Lesions.

DR. WM. G. SPILLER read a paper entitled "Cerebellar Lesions without Cerebellar Symptoms." The first specimen presented had been found at autopsy by Dr. W. S. Wadsworth, in the case of a man who had not presented any physical ailment. The man had been found in an unconscious condition, death following later. On examination the left vertebral artery was found to be smaller than the right, and there was considerable sclerosis of the left cerebral hemisphere.

Specimen No. 2, presented to him by Dr. W. E. Robertson, was from a woman 39 years of age, who had been addicted to alcohol. The patient was the mother of four children. She had for a long period complained of severe pain at the base of the brain which was always worse after each confinement. After the last labor the pain became more severe. In this case there had been some renal insufficiency. Her death had been sudden. At the autopsy the brain had been found congested and a tumor was present at the base of the brain, a portion of the growth extending into the fourth ventricle. The upper portion of the growth was cystic. She had never suffered from vertigo. The third specimen was from a patient 62 years old. During life the mind had been clear. Death was due to exhaustion. At the autopsy a tumor of the corpora quadrigemina was found.

DR. W. E. ROBERTSON, in discussing the second specimen, stated that the patient had suffered from albuminuria, and that she probably had marked nephritis. The eye-ground had never been examined.

DR. D. J. M. MCCARTHY said that he is studying a specimen of brain presented to him by Dr. S. Weir Mitchell. He has found a cystic glioma which involved the superior and inferior vermis without having produced any cerebellar symptoms.

Malignant Endocarditis.

DR. D. L. EDSALL presented specimens from a case of "Malignant Endocarditis." The patient was a girl of 18 years of age, and in whom the diagnosis was difficult. When admitted to the hospital she had considerable fever, tremor of the hands and cyanosis. The thyroid gland was considerably enlarged. She had been taking thyroid extract for some time, and it was at first thought that some of the symptoms might be due to thyroidism. Stenosis with regurgitation was present at the mitral leaflets. Some time later the blood was examined and showed the leukocytes to range between 7000 and 26,500. The cardiac dulness was continuous with the splenic dulness, and in the latter region pain was present. Blood had been taken from a vein and cultures showed streptococci, etc. At the autopsy the heart was found enlarged, and the pericardium adherent. On the mitral leaflets vegetations were present giving rise to almost complete obstruction. The kidneys and spleen showed infarcts, and a septic thrombus of the femoral vein was found.

DR. ALBERT WOLDERT spoke of a case of endocarditis occurring in his clinic at the St. Joseph's Hospital, the patient a

girl of 9 years. On examining the heart a loud and rough systolic sound was heard. There had been slight inflammation in one ankle and one knee which had subsided within a few days. Afterward high and irregular fever with sweating and chilly sensations came on, and anemia was profound. In many respects it resembled a case of malignant endocarditis, but the child recovered, which argued against this view.

DR. W. E. ROBERTSON spoke of a case of endocarditis affecting the pulmonary valves, and in which the typhoid state had been present.

Melanotic Sarcoma.

DR. M. B. HARTZELL presented specimens of "Pigmented Epithelioma or Alveolar Melanotic Sarcoma." The tumor had been removed from the eyelid of a patient about 40 years of age. The growth was about the size of a pea and slightly ulcerated. It first appeared about 4 years ago, and at that time resembled a freckle. The neoplasm was composed of large cells with round or oval nuclei, the cells of which were arranged in an alveolar shape. A few giant cells could also be found. These growths probably belong to the epitheliomata, and are apt to lead to metastasis.

Sarcoma of Lung.

DR. NEWLIN presented a specimen of sarcoma of the lung. The patient had been under the charge of Dr. Arthur V. Meigs, of the Pennsylvania Hospital. In 1896 the man had been operated on for a tumor located in the scapular region. Another operation became necessary a year later. In 1899 the left arm, scapula, and clavicle were removed. In February, 1901, another operation was performed, but some time later he suffered from hemorrhages and death occurred. At the autopsy a fibrous, whitish tumor was found in the right lung, which showed consolidation. The pleura on this side was adherent. The aortic valves were thickened. Numerous fibrous nodules were found in the spleen. The mesenteric glands were infiltrated. The capillaries of the liver were dilated. The tumor was for the most part made up of spindle cells.

Sections of Blood-Vessels.

DR. ARTHUR V. MEIGS exhibited "Sections of Blood-vessels." The speaker stated that he had frequently had trouble in obtaining clear-cut sections of blood-vessels on account of the shrinking which always occurred postmortem. This change would also produce more or less twisting of the nuclei. In order to overcome this he has made a series of glass tubes the size of the blood-vessels, which can be inserted inside the vessels, while they are being hardened. After being imbedded complete and smooth sections can be made. By this method all the different coats of the arteries and their relations can be accurately studied.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON PEDIATRICS.

Dr. W. L. Stowell, chairman.

Pathology of Typhoid Fever.

DR. MARTHA WOLLSTEIN briefly discussed this subject. She said that while water is the most frequent means of conveying typhoid bacilli into the human organism, milk plays a not unimportant part in children, and air conveyance is recognized by Osler as explaining certain epidemics. There is abundant evidence that the typhoid bacilli pass through the placenta and infect the fetus. The bacilli have also been found in the rose spots constituting the typhoid eruption, and in the urine in 25 per cent. of the cases examined in this way during the third week of the disease. For convenience, she divided the intestinal lesions found in children into the three following classes: 1, cases without characteristic intestinal lesions; 2, cases exhibiting few and limited lesions, and 3, cases presenting as deep and as extensive intestinal lesions as in the severest ones in adults. The number of red blood-corpuscles diminishes steadily until convalescence begins.

Value of the Widal Reaction.

DR. JOHN LOVETT MORSE, Boston, read a paper on this subject. He said that in 253 cases observed at the Boston City

Hospital, having a clinical diagnosis of typhoid fever, this reaction has been absent in only ten, thus giving 4 per cent. of failures. A dilution of one in ten has been employed in these examinations, and the time limit imposed was half an hour. He concluded that the Widal reaction was present in at least 95 per cent. of all cases, but seldom present before the second week of fever. Repeated negative tests were not sufficient to exclude typhoid fever, but a negative reaction followed by a positive reaction, using a dilution of one in fifty, is "the strongest possible proof of the existence of typhoid. In a series of 164 cases of typhoid fever in children, this reaction has been positive in 77 cases. As a general rule, it is obtained rather earlier in children than in adults, and is weaker and more evanescent the younger the subject. The evidence of typhoid afforded by the reaction in early infancy is not quite as conclusive as in later life, because of the possibility of an infection *in utero*. It has been demonstrated that the agglutinating power is transmitted through the mother's milk, even after very long periods, but when so conveyed it soon disappears from the infant's blood.

DR. W. P. NORTHRUP reported an interesting case of an infant of 9 months in whom the Widal reaction was absent, although the case was clinically one of typhoid, and two or three other members of the same family were at that time in the hospital with undoubted typhoid, as shown by the clinical symptoms and by the presence of the Widal reaction. The speaker also commented on the fact that in many years of service among thousands of children in the New York Foundling Hospital, where the conditions are such as to be favorable to the introduction of typhoid in connection with children "farmed" out, he and the other attending physicians have not met with one undoubted case of typhoid fever among these children.

DR. E. LIBMAN said that an extensive experience with this reaction in both children and adults has demonstrated its great diagnostic value in cases simulating pneumonia and meningitis.

Meeting held April 4.

Dr. George L. Peabody, vice-president, in the chair.

The Duty of the Public to the Medical Profession.

DR. D. B. ST. JOHN ROOSA pointed out the many achievements of medical science in the nineteenth century as a reason for the public taking an interest in the work of the medical profession.

DR. WILLIAM H. THOMSON thought the public's lack of appreciation partly due to the erroneous belief that the practice of medicine is only a trade, and the medical profession a close, selfish and jealous corporation. He pleaded for the introduction into all our high schools, of instruction in the elements of anatomy and physiology in order that educated people may be able to appreciate at their true value the absurd claims of osteopaths, "Christian Scientists" and quacks in general.

DR. ANDREW H. SMITH enlarged upon this line of thought, averring that the medical profession is largely responsible for the gullibility of the public in all things medical, by failing to disseminate popular information regarding what the science of medicine has actually accomplished and is constantly doing. The world at large has a right to know these things, and it is our duty to tell them in language which they can understand. A more frank and open course would inspire confidence and silence criticism, now too often made because of ignorance.

DR. A. JACOBI said that the public is sufficiently appreciative of what it understood or thought it understood, and that physicians as a class are too apt to become so engrossed in their business as to neglect their duties as citizens.

MEDICAL SOCIETY OF THE STATE OF TENNESSEE.

Sixty-eighth Annual Meeting, held in Nashville,

April 9, 10, and 11.

Address of President.

DR. J. A. CROOK, in his Presidential Address, stated that the state society was chartered by a special act of the legislature of Tennessee on Jan. 9, 1830, and held its first meeting in Nashville the first Monday in May, 1830. From these beginnings he said there are at present about thirteen hundred

regular medical societies in the United States alone. If he were asked what, in the last century, has contributed most to the enlargement and extension of medical knowledge, and has been the most potent factor in promoting its far-reaching benefits, he should unhesitatingly answer, the medical society, by the stimulus it has given its members to put forth great efforts toward scientific research. The physician learns and advances in his profession in three ways: By reading textbooks and medical journals; by his own personal experience and by observation, and by the experience of his brothers as related in medical societies. Personal contact carries with it the privilege of asking questions, witnessing demonstrations, and becoming thoroughly familiar with the subjects under discussion. Attendance on societies broadens one's ideas and views, prevents one from falling into old ruts, and gives him a higher and nobler view of his calling. The interchange of ideas quickens perceptions, awakens mental activities and brings out the best there is in us. The champion of a new faith or a new discovery must stand in front of the torch-light of past experience and present knowledge; he must endure unflinchingly the scalpel of interrogation, suffer calmly the probe of criticism, and when the ordeal is over and he has had the opportunity of defending his position, his wounds may be closed with the stitches of apology, and they will usually heal by first intention. Many a bump of self-esteem that would enlarge to the dignity of a cyst, if its owner stayed at home, is punctured readily enough with the bistoury of an exploratory question, in the amphitheater of the medical society.

This is an age of organization and progress, and if the medical profession would keep pace with others and reach the highest destiny, it must combine forces and intellects and strive to reach a common and definite aim. Instead of having four or five hundred names on the roll in Tennessee, there ought to be two thousand, and this result will be obtained when the public is given to understand that the status of the physician is fixed by his profession, and that to be an active member in his own county and state medical societies, as well as the AMERICAN MEDICAL ASSOCIATION, at least is not only an honorable distinction which no one can afford to disregard, but likewise an imperative duty which he owes to his profession; when, in short, the public shall have been given to understand that membership and active participation in medical societies is a much better criterion of professional fitness and eminence than loafing in the back-room of drugstores and relating wonderful professional achievements to the habits of such places, then will the medical profession be regarded with a respect it has never hitherto received. And when doctors find that membership in medical societies is regarded as an index of higher professional attainments and a greater devotion to the welfare of humanity than anything else, just that soon will the question of organization be settled, and instead of the officers of medical societies being obliged to beg and implore physicians to join and take an active part in such organizations, they will be only too glad to enroll their names in order to secure the honor and prestige connected with such membership.

The ablest and most renowned men in the profession—the men who have given honor and dignity to their special calling, have ever been those who have most regularly attended the medical societies.

Another way in which the medical societies have been of value to the public is in raising the standard of medical education. Through their efforts nearly every medical college in the United States has raised the requirements for admission to a higher plane, and those for graduation to attendance on four years' course of lectures. Thus the public is assured of a more cultured, better educated and better competent class of physicians as the years roll on.

Finally, in order for the Tennessee State Medical Society to accomplish its best results and secure its greatest influence, a medical society should be organized in every county in the state, to which should belong every regular practitioner in that county. Every regular physician in the state should be interested in the general welfare of the profession, and every county society should be brought into a close relation with the state organization. To obtain recognition for its demands, the

society must increase its membership until all regular physicians are connected with it. It should then make its influence felt in all that pertains to the public welfare, and act as a unit in all matters that tend to accomplish the objects for which it was organized.

The following officers were elected for the ensuing year: President, Dr. Deering J. Roberts, Nashville; vice-president for East Tennessee, Dr. William B. St. John, Bristol; vice-president for West Tennessee, Dr. L. A. Yarborough, Covington; vice-president for Middle Tennessee, Dr. J. B. Murfree, Jr., Murfreesboro; secretary, Dr. A. B. Cooke, Nashville; treasurer, Dr. W. C. Bilbro, Murfreesboro.

Memphis was selected as the place for holding the next annual meeting, the second Tuesday in April, 1902.

Therapeutics.

Treatment of Tuberculosis.

Solis-Cohen, in *Merck's Archives*, states that the best anti-tubercular agents are the iodine and the creosote groups. The first group is better adapted to the early stages, the second to the later stages. He regards iodoform as the best agent of the first group and it should be given in comparatively large doses and over long periods. Begin with one-half grain doses three times a day and increase gradually until within two or three months the dose reaches five grains daily. He recommends the following formula:

R. Iodoformi	gr. i-iii	06-20
Strychninæ sulph.....	gr. 1/40	0015
Arseni iodidi.....	gr. 1/12	005
Balsami Peruviani.....	gr. ii-v	12-30

For the Obstinate Diarrhea in Tuberculosis

The following is recommended:

R. Ichthoformi	gr. v	30
Tannalbin	gr. x	60
Bismuthi subgallati.....	gr. x	60
Codeinæ	gr. 1/4	015
Ol. menthæ pip.....	m. 1/4	015

M. Ft. chartula No. i. Sig.: One such powder every two to six hours.

Ichthoform is a compound of ichthyol and formaldehyde. It is a blackish-brown powder, odorless and tasteless. It is insoluble in water.

Cough in Phthisis.

Daly, in the *New York Med. Jour.*, recommends for the hard, dry cough of phthisis the following:

R. Camphoræ	gr. ii	12
Heroin	gr. 1/12	005
Creosoti	m. i	06

M. Ft. pilula No. i. Sig.: One as needed to control the cough.

Apocodein in Constipation.

Combemale, in *Progrès Médicale*, recommends the following formula:

R. Apocodeinæ hydrochloridi.....	gr. viiiss	45
Aq. destil.....	℥iiss	48

M. Sig.: Inject thirty drops subcutaneously.

The properties of apocodein are very similar to apomorphin. It is prepared from codein by a process similar to the manufacture of apomorphin from morphin.

Bromids in Epilepsy.

L. P. Clarke, of the Craig colony of epileptics, as noted in *Amer. Med.*, draws the following conclusions concerning the use of bromids in epilepsy: The bromids still hold the important place in treatment of epilepsy. Tonics must accompany their administration. The bromid must be given gradually to ascertain the patient's tolerance; baths, high enemas, alimentary antiseptics, massage and electricity are absolutely essential to bromid-medication. Salt starvation or semi-salt starvation is a great adjunct to bromid treatment.

[In administering tonics with bromids, Beecherew recommended the *Adonis vernalis*, in the form of the infusion, in combination with the bromids as a heart and vasomotor stimulant. *Adonis vernalis* is somewhat similar to *digitalis* in its action, but not so powerful. Flechsig advised the administration of opium, preceding the use of bromids. He commenced with one-quarter to one-half grain of the pulverized opium and gradually increased the dose until the patient was taking a daily dose of five or six grains at the end of six weeks; then he employed the bromids.]

As a Douche in Leucorrhea.

Burtenshow, of New York, in an article in the *New York Med. Jour.*, states that a troublesome leucorrhea in the majority of instances will be checked after a very few applications of the douche, due to the toning up of the vaginal and uterine mucosa. The water may be used without any medicament whatever, but if the accompanying leucorrheal discharge is profuse, a tablespoonful of the following mixture can be added to the last quart of water remaining in the douche bag at the termination of the injection:

R. Pulv. albuminis		
Zinci sulphatis		
Aeid. carbolicæ		
Sodii biboratis, āā.....	℥i	32
Aquæ	℥vi	192

M. Sig.: Use as above stated.

He further states that large hot water vaginal irrigations should never be employed by healthy pregnant women, for the reason that they reduce the bactericidal power of the vaginal secretions.

To Produce Diaphoresis.

Von Graefe recommends the following combination to produce diaphoresis:

R. Pulv. camphoræ.....	gr. ss to iss	03-09
Pulv. opii.....	gr. 1/4-1/2	015-03
Potassii nitratis.....	gr. iv	25
Sacchari	℥ii	8

M. Ft. chartula No. i. Sig.: One powder to be taken in a hot drink at bed time.

As an Antiseptic and Lubricant for Instruments.

Prof. Necker, in *Jour. des Practiciens*, states that the following combination possesses sufficient antiseptic properties and is a splendid lubricant for use on instruments to be introduced into the vagina or urethra:

R. Hydrarg. chloridi corros.....	gr. 3/10	02
Aquæ	℥vi	24
Pulv. saponis.....	℥iiss	48
Glycerini	℥vi	24

M. Sig.: As an application to instruments.

Treatment of Gonorrhea by Hot Saline Solutions.

Dr. Woodruff, as noted in the *Med. Press*, states that he has derived excellent results from the use of hot saline injections in the treatment of gonorrhea. He administers these injections as hot as can be borne every two or three hours and sometimes as often as every hour. He gives no medicine by the mouth and states that the average duration of the disease is from ten to twelve days.

Treatment of Ascites.

Dr. A. H. Bigg, of Detroit, in *Med. Record*, has used the following prescription containing elaterium or rather its active principle elaterin:

R. Elaterin	gr. 1/15	004
Strychninæ sulphatis	gr. 1/40	0015
Glonoini	gr. 1/200	0003
Ext. digitalis	gr. 1/4	015
Caffeinæ citratæ		
Pulv. earyophylli āā.....	gr. i	06

M. Ft. cap. no. i. Sig.: One capsule every three to six hours.

Dr. Bigg emphasizes the importance of pushing the treatment. Four to six copious evacuations per day may be maintained by the above formula until permanent relief is obtained.

The Administration of Digitalin.

Dr. Martinet, of Paris, as noted in *Ther. Gazette*, states that digitalin is generally prescribed in France by means of the following formula:

R. Crys. digitalin (chloroformic).....gr. xv 1
Glycerini3x 300
Aq. destil.....3v 150
Alcoholis (95 per cent.) q. s. ad.....Oii 1024
M. Sig.: Fifteen drops in water three times a day.

Treatment of Cutaneous Pruritus.

Eichhorst recommends the following outline of treatment for cutaneous pruritus:

As an ointment.
R. Acidi carbolici.....gr. 75 5
Lanolini3vi 24
Adipis3vi 24

M. For inunction twice daily.

Friction with lemon juice or ablutions with dilute vinegar affords relief. Internally the following is given:

R. Potassii bromidi3iiss 10
Ext. belladonnæ.....gr. ivss 27
Acidi carbolici.....gr. xv 1
Ext. glycyrrhizæ q. s.

M. Ft. pil. No. 1. Sig.: One pill four times a day.

A New Treatment for Anorexia.

Robin, of Paris, according to the *Ther. Gazette*, states that the pure solution of sodium persulphate is of great benefit in treatment of the ordinary forms of anorexia as well as in consumption. The drug is given as follows:

R. Sodii persulphatis.....3ss 2
Aque3x 300

M. Sig.: One soup Spoonful a half hour before lunch and dinner.

Treatment of Smallpox.

Dr. Legrand, as noted in *Ther. Gazette*, states that one frequent symptom of smallpox is considerable gastric intolerance with frequent vomiting of bile. In such conditions the following combination is recommended:

R. Cocainæ hydrochloratis.....gr. ii 12
Syrupi etheris
Syrupi codeinæ
Aq. menth. pip. āā.....3ii 64

M. Sig.: One dessertspoonful every hour.

For general treatment he uses the following formula:

R. Ammon. acetatis.....gr. xlv 3
Tinct. opii.....3i 32
Elix. cinchonæ3ii 64
Elix. simplicis q. s. ad.....3vii 224

M. Sig.: One soup Spoonful every hour.

Calcium Chlorid in Treatment of Menorrhagia and Typhoid Enterorrhagia.

The coagulating properties of calcium chlorid have been utilized by a French confrère, according to the *Semaine Méd.* of March 20, as a prophylactic measure against menorrhagia, in the cases in which the menstruation is painless but the flow excessive. He prescribes for a week before the expected period two table Spoonfuls a day of the following:

R. Calcii chloridi.....3iiss 10
Syrupi3xv 60
Aque3vi 180

M. Sig.: Two tabespoonful a day.

This treatment repeated each month for two or three times has always cured the pathological excess of the menstrual flow. Nephritis is a contraindication. The enterorrhagia in typhoid fever is also favorably affected by calcium chlorid. Mathien reports eight cases successfully treated by an injection once or twice a day of a liter of water at 48 C. containing 4 gms. of calcium chlorid, supplemented by 2 gm. administered by the month in an aqueous solution during the day, and measures to immobilize the intestines. These hot injections clear the intestines of extravasated blood and thus suppress a new source of intoxication and fever.

Medicolegal.

Compensation for Cold and Neuralgia.—The Court of Civil Appeals of Texas holds, in *Houston, East and West Texas Railway Company vs. Jackson*, that a judgment for \$500 in favor of a passenger wrongfully expelled from a train, can not be considered excessive in amount where he got wet and contracted a cold and had neuralgia by reason of the exposure and was confined to his bed for fifteen days.

Seven Thousand Dollars for Loss of Leg.—The fourth appellate division of the Supreme Court of New York holds, in the personal injury case of *Cosselmon vs. Dunfee*, that \$7,000 cannot be said to be an excessive award of damages for the loss of a leg by a young, healthy man, taking into account also the pain and suffering he endured, where he was so injured as to require the amputation of the leg between the knee and hip.

Thirty-five hundred Dollars for Permanent Injuries.—In *Mowbray vs. the Brooklyn Heights Railroad Company*, the second appellate division of the Supreme Court of New York holds that where a man of about 50 years of age was thrown out of a carriage by its being run into by a street car, and was permanently injured, his condition growing progressively worse from the time of the accident, and he had contracted doctor bills aggregating nearly \$600, verdict in his favor for \$3500 could not be considered so unreasonable as to warrant this court in interposing its judgment for that of the jury. The nature of the injuries are not further described.

Not All Ambulances Given Right of Way by Ordinance.—In the case of *Dillon vs. the Nassau Electric Railroad Company*, an action brought to recover damages for injuries sustained by a passenger in a street-car that had a collision with an ambulance, the second appellate division of the Supreme Court of New York holds that it was reversible error to instruct the jury to the effect that the ambulance had the right of way. There was a city ordinance giving the right of way to "ambulances of the department of health," and the ambulance in question was under the jurisdiction of that department. But it did not belong to the department, and the court holds that there was not sufficient evidence to establish the fact that this ambulance was within the ordinance. If the ordinance related to all ambulances, there was no reason apparent, it says, why general words should not have been used embracing all, for it is assumed that all the ambulances in use are in some sense under the jurisdiction of the health department.

When no Presumption of Suicide—Use of Verdict.—The Supreme Court of Michigan holds, in the case of *Wasey vs. the Travelers' Insurance Company*, that it was error to instruct the jury that the presumption was that the insured did not commit suicide, whether sane or insane, when he was insane and the evidence showed that his insanity was of a nature usually attended with suicidal tendencies. It is to do violence to the facts, the court declares, to say of a man thus afflicted, for example suffering from melancholia agitata as the insured was shown to be, that there is nevertheless a presumption that he did not do the thing which men in his state usually or commonly feel impelled to do. Moreover, the court takes the ground, contrary to some authorities, that the verdict of a coroner's jury was not admissible as original evidence of the fact that the insured committed suicide. In other words, it says that it can not see any good reason why such a verdict should be either conclusive or evidence against a stranger to the proceeding.

Cannot Testify as to Patient's Mental Capacity.—The Supreme Court of California holds, in *re Nelson's Estate*, that, under the provisions of the Code of Civil Procedure, a physician can not testify as to the mental capacity of a patient he had make a will where his information on the subject was acquired by him from the patient and from observing him

while he was in attendance upon him for the purpose of prescribing for him as his physician. It says that the information which a physician acquires from his patient for the purpose of prescribing for him is given for the benefit of the patient alone, and not for the purpose of creating a right in others.

Imbecility as Defense to Crime—Province of Experts.—The Supreme Court of Missouri, Division No. 2, holds that the law in its more particular bearing on the homicide case of *State vs. Palmer* was very fairly presented to the jury by instructions that mere weakness of intellect will not shield one who commits a crime, and that here, although the jury might believe from the evidence that the defendant was mentally deficient in some degree, yet unless they were reasonably satisfied by the evidence that, at the time the alleged crime was charged to have been committed by him, his mental faculties were so weak, and his mind so deficient, that he was unconscious at the time of committing the act that it was wrong, and that he ought not to do it, and that he had not the ability or mental capacity to choose between right and wrong, they should find him guilty as charged in the indictment. Every man is presumed to be sane, and to possess a sufficient degree of reason to be responsible for his crimes until the contrary is proven, and where insanity or mental incapacity or imbecility is interposed as a defense the law requires the defendant to prove to the reasonable satisfaction of the jury, and, to establish such defense, it must be proven, to the reasonable satisfaction of the jury—that at the time of committing the act the defendant was laboring under such defect of reason, from natural deficiency or disease of the mind, as not to know the nature and quality of the act he was doing, or, if he did know it, that he did not know he was doing what was wrong. But a case where weak-mindedness, usually called "imbecility," is the defense, the court considers very different from one where the defense is insanity either in acute or chronic form, and it declares that the rule is not applicable which holds that where a habitual chronic state of insanity is shown to have existed, extending all through the life of the defendant, the burden of proof is on the state to show a lucid interval at the time of the killing. Furthermore, the very point at issue being whether the defendant could distinguish right from wrong in doing the act charged as criminal, the court holds that this was for the determination of the jury, and an expert could not be allowed, by answer to an improper question, to usurp the province and functions of the triers of the facts. An expert witness, it says, can not be asked his opinion as to whether the accused was capable of judging between right and wrong, nor to express an opinion that the accused acted under an insane delusion or was impelled by an irrepressible impulse. And an expert witness may give his opinion as to the state of mind of the accused, but not as to his responsibility, that being a question for the jury. And, it adds, it has been generally, if not universally, held, in cases where the objection has been made that the question covered the point in issue, that the experts can not be asked the broad question whether they considered the person whose sanity is being litigated is out of his mind, or whether his mind was so affected as to be unfit to transact business; or to give their opinions on the whole case, as it would necessarily include a determination of the facts. Moreover, the court thinks that the testimony of a physician who has not studied the progress of the disease in question, and whose opportunities have been limited for observing the personal habits and conduct of the person whose sanity is questioned or who is alleged to be an imbecile, possesses little, if any, value.

Not Libelous to Contradict Physician About Smallpox.—The Court of Appeals of Kentucky says that the substance of the petition, in the action for libel of Manire against Hubbard and another, was that the plaintiff was a physician, with a large and lucrative practice, and that the defendants, knowing this fact, had, on a certain date, falsely and maliciously caused to be published in a certain newspaper a writing, signed by them, stating that there were no cases of smallpox in a certain town, nor had been, as set out in the letters of the plaintiff and another physician, published in said newspaper; that the negroes who were said to have the smallpox had no breaking

out nor eruption until the attending physician, the plaintiff, applied a salve to their faces, and caused it to break out, "meaning thereby that the plaintiff had committed an unprofessional and disgraceful act as a physician." To this petition the defendants interposed a demurrer, which the lower court sustained. This made the sole question to be determined on appeal the one of whether or not the words in the original petition were libelous. The rule, which the court of appeals quotes, is that, to sustain an action for libel, the plaintiff must allege special damage, or the nature of the charge must be such that the court can legally presume that he has been degraded in the estimation of the public, or has suffered other loss, either in his property, character, or business, in his domestic and social relations, in consequence of the publication. Words which are published in connection with one's profession or calling, which impute to him ignorance generally in his business or profession, or such ignorance or incapacity as unfits him for its proper exercise, are actionable per se, or in and of themselves; but it is not ordinarily actionable to charge one in a business or profession with want of skill or ignorance in a particular transaction. And it was not libelous, the court holds, for the defendants to publish that there were no cases of smallpox in the town mentioned, as this was a question upon which laymen, as well as professional experts, were entitled to entertain and might express an opinion. The additional words, "That the negroes who were said to have the smallpox had no breaking out until the attending physician applied a salve to their faces, which caused it to break out," the court further holds, did not of themselves convey the meaning which the plaintiff would attribute to them. There was no charge that this was improper treatment, or that it was resorted to from any corrupt or wrongful motive on the part of the plaintiff. Nor does the court think that the words necessarily of themselves imported that the plaintiff was guilty of unprofessional conduct, or reflected upon his integrity. Wherefore, the court is of the opinion that the words complained of were not actionable per se, or in and of themselves, and it holds that, in the absence of an averment of special damage, the petition was not good on demurrer, and, consequently, that the demurrer was properly sustained.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

American Medicine (Philadelphia), April 27.

- 1 *An Analysis of My Vaginal Ablations in 181 Cases of Pelvic Inflammation and Uterine Fibroid Degeneration. W. R. Pryor.
- 2 *The Good and Bad Effects Obtainable from Digitalis Used as a Therapeutic Agent. (Concluded.) William Henry Porter.
- 3 *Logic of Hydrochloric Acid Therapy, Restoration of Lost Gastric HCl Secretion by Medical and Surgical Methods. (Concluded.) John C. Hemmeter.
- 4 *Hyperplastic Colitis: Extirpation of the Entire Colon, the Upper Portion of the Sigmoid Flexure and Four Inches of the Ileum. Howard Lilienthal.
- 5 *The Value of Intestinal Antiseptics with Simple Aseptic Pads in Obstetric Practice. Harriet E. Garrison.
- 6 *Gastroptosis. Alexander McPhedran.
- 7 Pneumonia—A Historical Review of its Treatment. William C. Johnson.

New York Medical Journal, April 27.

- 8 *On Tenonitis and Tenonothecitis Prolifera Calcarea. Carl Beck.
- 9 *Combined Intranasal and Extranasal Operation for the Correction of a Congenital Concave Vertical and Lateral Deformity of the Nose, with the Report of a Case. Burton S. Booth.
- 10 *Hospital Appointments. Are They Open to Women? Helen McMurchy.
- 11 *A Contribution to the Explanation of the Nature of the So-called Predisposition to Infection with Staphylococci. F. W. Gaertner.
- 12 *Pneumonia, Its Proper Management in Children; Hygienic, Drug, and Dietetic Details. Louis Fischer.
- 13 *Peripheral "Anesthesia-Paralysis"—Report of an Unusual Case of Bilateral Brachial Paralysis Occurring During Narcosis (for Appendicitis). Walter M. Brickner.
- 14 The Relation of Arterial Changes to the Heart. Beverley Robinson.

Medical Record (N. Y.), April 27.

- 15 *Experiences with Tracheotomy. John Rogers, Jr.
- 16 Recurrent Vomiting of Nervous Origin. Louis Fischer.
- 17 *Tobacco as a Factor in Glycosuria. Heinrich Stern.
- 18 Pityriasis Versicolor of the Face. William S. Gottheil.
- 19 *An Extreme Case of Simple Anemia. Rolfe Floyd and William J. Gies.
- 20 Albuminuric Retinitis in Pregnancy; Premature Labor; Death in Utero of Twin Child; Puerperal Convulsions; Hemiplegia; Acute Mania; Death. Joseph N. Study.

Philadelphia Medical Journal, April 27.

- 21 *Scurvy in Infants. Louis Starr.
- 22 *Notes on Leukemia with a Report of Three Cases. Charles S. Jewett.
- 23 *Clinical Experiences with Adrenalin. Emil Mayer.
- 24 Obstructions and Tabulated Report of the Result of One Hundred and Fifty Operations for Appendicitis. Leon Brinkman.
- 25 *Points Connected with the General Etiology, and Pathogenesis of Diabetes Mellitus. Heinrich Stern.

Boston Medical and Surgical Journal, April 25.

- 26 *Remarks on Anesthesia—General, Local and Spinal. Maurice H. Richardson.
- 27 *Experience in Search of a Cure for Asthma in the Far Southwest; With Observations on the Comparative Value of Different Sections in Respiratory Diseases. Robert Bell.
- 28 *Chorea During Pregnancy. F. S. Newell.
- 29 *Notes on X-Light. William Rollins.
- 30 A Special Form of Phlegmon of the Neck. F. P. Emerson.

Medical News (N. Y.), April 27.

- 31 The Study of Internal Medicine. William Osler.
- 32 The Relation of the Student of Medicine and the Recent Graduate to the Field of Surgery. George Ryerson Fowler.
- 33 The Medical Man in the Navy. W. K. Van Reyphen.
- 34 The Municipal Health Department System, and more Especially in Reference to its Advantages and Disadvantages as an Opening for the Young Medical Graduate. Arthur R. Guerard.
- 35 The Advantages of Examining for Life Insurance. Brandreth Symonds.
- 36 The Outlook for the Young Physician in State Hospital and Sanitarium Work. Carlos F. MacDonald.

Cincinnati Lancet-Clinic, April 27.

- 37 Practice of Obstetrics in Cincinnati at the Present Day. Magnus A. Tate.
- 38 *A Case of Congenital Typhoid. Mark A. Brown.

St. Louis Medical Review, April 27.

- 39 *Review of Hydrophobia. C. Fisch.
- 40 *Recent Changes in the Pasteur Treatment. John C. Morfit.

Medical Age (Detroit), April 10.

- 41 Food Adulteration in its Relation to the Public Health. H. W. Wiley.
- 42 Remarks on Case-Taking and Methods of Diagnosis: Locomotor Ataxia. D. R. Brower.
- 43 Cod-liver Oil and How to Give it. A. N. Bell.

Virginia Medical Semi-Monthly (Richmond), March 22.

- 44 So-called "Conservative" Treatment of Appendicitis. I. S. Stone.
- 45 A Case of Papillomatous Cyst in a Child Four Years and Nine Months Old. Manning Simons.
- 46 Extrauterine Pregnancy, with Report of a Case of Simultaneous Pregnancy in Both Tubes. C. R. Robins.
- 47 Dietetic Hematuria, with Some Remarks upon Oxaluria as a Cause. John D. Thomas.
- 48 Infant Feeding. J. Edward Tompkins.
- 49 Epidermic Medication—Vel ubi Irritatio ibi Fluxus. A. B. Brooking.

April 12.

- 50 One Hundred and Twenty-five Consecutive "Abdominal Operations" Occurring in My Service with Dr. George Ben Johnston, with Remarks. Charles R. Robins.
- 51 Unsanitary Condition of the Virginia Penitentiary. Charles V. Carrington.
- 52 Albuminuria without Manifest Organic Renal Lesions. W. A. Deas.
- 53 Some Interesting Cases of Headache Due to Nasal Trouble. Joseph A. White.
- 54 Pathology of the Liver. M. D. Hoge, Jr.
- 55 A Case of Severe Mastoid Neuralgia. John Dunn.

The Ophthalmic Record (Chicago), April.

- 56 *Some Results of Dr. Allport's Sight Tests Applied to Chicago School Children. Chas. C. Krauskopf.
- 57 *Gonorrheal Ophthalmia with Complications. Report of Cases. Albert E. Bulson, Jr.
- 58 *A Case of Non-comitant Ribbon-like Keratitis, with Remarks. M. F. Weymann.
- 59 The Dioptric Power of the Cornea: A Reply to Dr. Weiland's Criticism. W. N. Suter.

Interstate Medical Journal (St. Louis), April.

- 60 Aphasia; Sclatica; Neurasthenia; Progressive Muscular Atrophy Associated with Locomotor Ataxia; Multiple Neuritis; Brown-Sequard's Paralysis; Progressive Muscular Atrophy. Daniel R. Brower.
- 61 Briefs on the Surgery of the Genito-urinary Organs. G. Frank Lydston.
- 62 Use of Silver in Surgery. Edward Wallace Lec.
- 63 "Powder Monkey." J. J. M. Angear.
- 64 Etiology and Treatment of Diabetes Mellitus. Frank M. Floyd.
- 65 Report of Case of Primary Lupus of Tongue. John C. Murphy.

Archives of Pediatrics (N. Y.), April.

- 66 The Blood in Infancy and Childhood. (To be concluded.) Alfred Stengel and C. T. White.
- 67 *Enteric Fever in Childhood. Wm. L. Stowell.
- 68 An Unusual Case of Erythema Multiforme. Floyd M. Crandall.
- 69 Duodenal Ulcer in an Infant of Ten Months. Vanderpoel Adriance.
- 70 Apparent Cure of a Case of Frequent Convulsions, Probably Epilepsy. Anna R. Lapham.
- 71 A Case of Head-nodding Associated with Spasmodic Torticollis. John H. Jopson.

Western Medical Review (Lincoln, Neb.), April 15.

- 72 *A Consideration of the Different Operative Procedures in the Treatment of Displacements of the Uterus. O. Beverly Campbell.
- 73 Removal of the Superior Maxilla Through the Mouth. Alexander Hugh Ferguson.
- 74 Two Cases of Cesarean Section and one of Rupture of the Uterus in which Abdominal Section was Necessary. J. Clarence Webster.
- 75 The Origin and Uses of the Appendix, Together with a Short Treatise on Appendicitis. Wesley Jones Morrison.

Cleveland Journal of Medicine, April.

- 76 On the Value of the Leucocyte Count in the Diagnosis and Prognosis of Appendicitis, with a Report of Cases. E. H. Season.
- 77 Report of a Case of Abscess of the Brain in a Child Sixteen Months Old. F. E. Bunts.
- 78 Exophoria as a Cause of Asthenopia. William E. Bruner.
- 79 A Large Rhinolith. John M. Ingersoll.
- 80 Two Unusual Cases of Intubation. M. Borts.
- 81 Report of a Case of Hysterectomy for Fibroid with Retained Placenta, Two Cases of Extrauterine Pregnancy, and a Case of Laparotomy for Intussusception with Recovery. B. F. Skeel.
- 82 Case of Club-foot in an Adult. William E. Wirt.
- 83 Cases of Diphtheria Treated by Antitoxin. W. E. Hart.

Medicine (Chicago), April.

- 84 *Intrauterine Periods of Stress. Jas. G. Klernan.
- 85 *Intestinal Suture, All Knots Inside. F. Gregory Connell.
- 86 Acute Intussusception in an Infant; Operation, Recovery, Relapse in Three and One-half Months; Second Operation, and Recovery. Philip Schuyler Doane.
- 87 *Is there Such a Constituent of the Urine as "Ureine?" Walter S. Haines and Charles S. Woods.

Kansas City Medical Record, April.

- 88 Report of a Case of Perforating Wound of the Eyeball. J. W. Sherer.

Women's Medical Journal (Toledo, Ohio), March.

- 89 Hyperesthesia of the Uterus During Pregnancy. Heiga Ruud.
- 90 The Medical Woman's Temptation and How to Meet It. Jennie G. Orem.

New Yorker Medicinische Monatsschrift, March.

- 91 Dammschutz bei der Geburt der Schultern. Gustav Schlirmer.
- 92 Ein Fall von Actinomyces. Leonard Weber.
- 93 Ueber den Therapeutischen Werth der Eisensomatoxe. L. A. Ewald.

Medical and Surgical Monitor (Indianapolis), April 15.

- 94 Dental Neuralgia. S. H. Creighton.
- 95 Unusual Forms of Hemophilia—Report of Cases. John L. Masters.

Texas Clinic (Dallas), January.

- 96 Surgery as a Specialty. Samuel E. Milliken.

Indiana Medical Journal (Indianapolis), April.

- 97 Problem of Appendicitis from the Medical and Surgical Points of View. Robert Abbe.
- 98 *On the Advantages of the Early Removal of Benign Tumors. E. D. Clark.
- 99 Judicial Autopsy: Death from Angina Pectoris. R. N. Todd.
- 100 Case Report—Exophthalmic Goiter. Charles A. Stafford.

Iowa Medical Journal (Des Moines), April.

- 101 Inflammation of the Sigmoid and Colon. R. D. Mason.
- 102 Ethics in the Diagnosis and Treatment of Venereal Diseases. A. R. Rogers.

Medical Sentinel (Portland, Ore.), April.

- 103 Some Points Often Overlooked in the Diagnosis and Treatment of Common Fractures of the Long Bones. R. C. Hill.
 104 Abortion and Infanticide from Medicolegal Standpoint. W. W. Watkins.
 105 Earache: Aniline in Aural Surgery. John A. Donovan.
 106 Report of a Third Series of Twenty-five Operations for the Radical Cure of Hernia. J. B. Eagleson.

Medical Examiner and Practitioner (N. Y.), April.

- 107 Tetanus. Thos. C. Craig.
 108 Exceptions to the Rule. G. S. Stebbins.
 109 *Diagnosis and Prognosis of Chronic Interstitial Nephritis. Edward F. Wells.
 110 *Methods of Examining for Industrial Insurance. W. S. Royce.
 111 Practical Observations on Infantile Diarrhea. F. H. Pirnat.

Medical Times (Philadelphia), April.

- 112 Gynecological Conduct. W. Oakley Hermance.
 113 On the External and Internal Employment of Argentamine. Dr. Bergel.
 114 Aspirin. A. A. Nefe.

St. Louis Courier of Medicine, April.

- 115 Mesogastrium—Omentum Majus. (To be concluded.) Byron Robinson.
 116 Pott's Disease of the Spine—Diagnosis and Treatment. D. W. Marston.
 117 Appendicitis—Intracapsular Fracture of the Neck of the Femur. Robert T. Morris.
 118 Hysterical Astasia-Abasia in a Child Aged Two Years and Four Months. M. W. Hoge.

Maryland Medical Journal (Baltimore), April.

- 119 *Epidermolysis Bullosa Hereditaria, with Report of the First Case of the Disease in the Negro Race. Henry Lee Smith. Notes on the Blood and Vesicle Cells. Thomas R. Brown.
 120 *Koplik's Spots: Their Value in the Diagnosis of Measles, Particularly in Private Practice. John Zahorsky.
 121 *Mycosis Tonsillaris. Hughlett Hardcastle.

Dominion Medical Monthly (Toronto), April.

- 122 Popular Delusions about the Insane. Daniel Clark.
 123 The Surgical Treatment of Cleft Palates. Truman W. Brophy.

Vermont Medical Monthly (Burlington), March.

- 124 Abdominal Palpation in Obstetrics. Frederick E. Clark.
 125 Coughs: Their Suppression and Cure. Louis DeLorne.

American Journal of Obstetrics (N. Y.), April.

- 126 Notes on Vaginal Celiotomy; with Report of Cases. Thomas J. Watkins.
 127 *On Puerperal Infection: With Special Reference to Douching and the Practical Value of Bacterial Examination. Augustus Wadsworth.
 128 *Alexander's Operation: A Method of Picking up with Ease the Round Ligament at the External Abdominal Ring. LeRoy Broun.
 129 On the Importance of Precise Definitions of Diphtheria in the Valuation of Antitoxin Therapy. Adolph Rupp.
 130 Treatment of Prolapsus Uteri. E. E. Montgomery.
 131 *The Relation of Ovarian Disease to Insanity and its Treatment. A. T. Hobbs.
 132 *Cerebral Injuries During Birth as a Cause of Infantile Mortality. E. E. Morse.
 133 Double Ectopic Pregnancy, Both Sides Ruptured: Operation; Recovery. George H. Noble.
 134 *Ovarian Cyst and Suppurating Hematocele. Salpingitis with Obscure Localizing Symptoms. George E. Shoemaker.
 135 *Cancer of the Cervix and Pelvis Following Supravaginal Hysterectomy. Charles P. Noble.
 136 Dermoid and Other Cysts of the Ovary: Their Origin from the Wolffian Body. (To be continued.) Samuel W. Bandler.

Colorado Journal of Medicine (Denver), March.

- 137 Rest or Open-Air Exercise in the Treatment of Phthisis. Which? J. Frank McConnell.
 138 Two Cases of Cranial Injury. J. A. Patterson.
 139 Attitude and its Relation to Diseases. H. A. Armstrong.

Carolina Medical Journal (Charlotte), April.

- 140 General Remarks on a New Method of Treatment. (Heroin). I. H. Gardner.
 141 The Treatment of Gastric Ulcer. Charles W. McIntyre.
 142 Pathology of the Liver. M. D. Hoge, Jr.
 143 Use of Bromids in Hysteria, Delirium, etc. J. S. Murphy.
 144 Some Practical Suggestions in Therapy, the Result of Personal Observation. B. M. Baker.

American Journal of Surgery and Gynecology (St. Louis), April.

- 145 *Treatment of Acute Peritonitis. Byron Robinson.
 146 Report of a Successful Splenectomy. T. A. Ashby.
 147 *Anomalies of the Mesentery as a Causation of Ileus and of Appendiceal Abscess in the Left Iliac Fossa. Valdemar Pleth.
 148 *Normal Menstruation. Geo. J. Engelmann.
 149 A Case of Papillomatous Cyst in a Child Four Years and Nine Months Old. Manning Simons.

- 150 *The Treatment of Cancer of the Female Breast. James Bell.
 151 Wandering Kidney. Emory Lanphear.
 152 Poisoning from the Application of Tincture of Iodin and Alcohol to the Cervix Uteri. G. Leo Hagen-Burger.
 Pacific Medical Journal (San Francisco), April.

- 153 Inflammation of the Mastoid Process. B. F. Church.
 154 No Specific Cure for Tuberculosis. Ethan H. Smith.
 155 A Brief Contribution to the Treatment of Gonorrhea. M. Schirman.

- 156 Subarachnoid Injection in Case Where General Anesthesia Could Not Be Carried Out. J. F. Conlan.

Texas Medical Journal (Austin), April.

- 157 Two Unique Cases of Renal Hemorrhage. J. P. Oliver.
 158 Some Remarks on Abdominal Surgery. A. L. Hathcock.
 159 Placenta Previa. E. D. Stokes.

Canada Lancet (Toronto), April.

- 160 Notes on Hydrochloric Superacidity, with Reports of Cases. Graham Chambers.

- 161 Latent Appendicitis. J. A. Grant, Jr.
 162 Radical Cure of Large Umbilical Hernia. W. J. Hunter Emory.

Kingston Medical Quarterly, January.

- 163 Myxadenitis Labialis. G. C. T. Ward.
 164 The Causation of Tuberculosis. W. T. Connell.
 165 Diagnosis of Tuberculosis. John Herald.
 166 Climatic Treatment of Pulmonary Tuberculosis. A. R. B. Williamson.
 167 Laryngeal Tuberculosis. J. C. Connell.
 168 Osteosarcoma of Forearm. W. G. Anglin.
 169 The Outlook of Medicine. E. Ryan.
 170 Melanosarcoma of the Female Urethra. D. E. Mundell.

AMERICAN.

1. **Vaginal Hysterectomy.**—The vaginal radical operation, while apparently abandoned by some of its early advocates, is considered by Pryor as far superior in the greater proportion of operations now performed through the abdomen. Analysis of his cases shows that he has had 83 per cent. of cures and no mortality, and not by picking his cases or applying the operation where conservatism might have succeeded. In many cases sepsis was so profound that intravenous infusion was necessary before he could operate. He furnishes a tabulated statement of 183 cases thus operated on and almost all cured.

2. **Digitalis.**—Porter's article ends with the following: 1. The composition of digitalis is, chemically speaking, very complex, and some of its active principles antagonize others. 2. The different preparations differ widely in their composition and action. 3. Its cumulative action is due to its contracting the arterioles, thus shutting off nutrition. 4. It is both a useful and dangerous remedy; and one that has a very limited range of usefulness. 5. It is only of use in lesions of the mitral valve, and even then only for a short time. 6. It should only be used when there is low arterial tension and marked venous engorgements, and as soon as these conditions are overcome its action should be suspended. 7. As a diuretic it is only of value when there is low arterial tension, venous engorgement and obstruction to the exit of blood from the kidney. 8. Acting upon the normal, and in all diseased conditions in which there is obstruction to the exit of blood from the kidney, it decreases the excretory activity of the renal glands, and impairs their nutritive activity. 9. If pushed to its fullest extent it may completely arrest the functional activity of the renal glands.

3. **Hydrochloric Acid Therapy.**—Hemmeter believes that hydrochloric acid may be usefully employed in supplementing the digestive work of the stomach and bringing about normal conditions for duodenal digestion. Whenever it is indicated he would give 20 drops of diluted U. S. P. HCl in two ounces of water every fifteen to twenty minutes, beginning fifteen minutes before the meal, taking 20 drops during eating and 20 drops one-half hour after. The medicine should always be taken through a glass tube and the mouth rinsed with a weak solution of sodium carbonate afterward. Strong gelatin capsules, as suggested by Dr. C. D. Aaron of Detroit, would be good. For improving the appetite it is best given in small doses, 10 to 20 drops in three ounces of water on an empty stomach before meals. He has some doubt as to its disinfectant and antiseptic effect, as it can not be given in sufficient quantity when given with meals. Decided fermentation in the stomach is best met by lavage with HCl in the form of a 6 to 1000 solution. HCl is contraindicated when the normal gastric secretion is aug-

mented, and there are cases where there is a special hyperesthesia, not dependent on hyperchylia. The amount required for the gastric digestion of albumin is enormous, as he says here, and it is not possible that the glandular layer can secrete the requisite amount when the transit of food into the duodenum is obstructed. When gastric secretion shows absence of free HCl and it is not due to atrophy of the mucosa, one of the best methods of restoring the secretion is by lavage with a solution of HCl, three to four parts to 1000 of warm water. The diet should consist largely of foods requiring a considerable amount of HCl for digestion as these are effective stimulants for the gastric secretion.

4. **Hyperplastic Colitis.**—The case reported is of interest on account of final recovery after extensive operations including extirpation of the entire colon, the upper portion of the sigmoid flexure and four inches of the ileum.

5. **Intestinal Antiseptics with Antiseptic Pads in Obstetrics.**—Garrison concludes his paper as follows: In all obstetric cases having a normal contracted uterus with a patulous os which does not rest against any part of the vaginal wall that pure blood may constantly flow over the endometrium and vagina, cleansing them from all bacteria, bathe the vulva with antiseptics and keep it covered with an aseptic pad. Have a *prima via* free from obstructions and constantly cleansed with antiseptics. If this regime is carefully carried out 99 per cent. of the patients will make an uninterrupted recovery, and vaginal and uterine douches should be omitted until near the close of the puerperium when they will be agreeable to the patient.

6. **Gastroptosis.**—A common mistake as regards gastroptosis, according to McPhedran, is that it is considered infrequent, and another error is in the assumption that when it exists it must give rise to grave disturbances. He reports cases and sums up his conclusions as follow: 1. Gastroptosis frequently exists without giving rise to any discomfort. So long as the functions of the stomach are performed efficiently no symptoms will arise from its abnormal position. 2. The symptoms of gastroptosis are due to the protracted retention and decomposition of food in the stomach with the local irritation and constitutional poisoning resulting therefrom. 3. In the condition known as Glénard's disease the gastroptosis or splanchnoptosis plays only a part, often a minor one, in the production of the symptom-group. In not a few instances the splanchnoptosis is rather the result than the cause of the condition.

8. **Tenontitis and Tenontotheitis Prolifera Calcarea.**—The case reported by Beck was at first sight like an osteosarcoma of the hand. The Roentgen rays, however, revealed the true condition. The third metacarpo-pharyngeal joint was the seat of the focus of inflammation; the first phalanx was grown together with the metacarpus in a laterally dislocated position; the cortex of the condylar side was totally destroyed. The tumor was well outlined in the skiagraph, showing calcareous areas. The condition is described by the author as a much degenerated (cheesy) tissue in the state of necrosis which seemed to have a sort of magnetic effect on dissolved calcareous salts, causing them to amalgamate. The condition was analogous to those found in tuberculous foci of the lungs and not infrequently in endocarditis and pericarditis, in old pleuritic bands, etc. The tendons and sheaths appear to be seldom the seat of predilection for calcareous deposits, as in this case, and he suggests for this heretofore unknown condition the names "tenontitis" and "tenontotheitis prolifera calcarea."

9. **Nasal Deformity.**—Booth describes and illustrates a case of deviation of the septum with undeveloped nasal bones, producing saddle-back deformity, and to some extent involvement also of the ethmoidal and sphenoidal bones. While he was not anxious to operate, he first corrected the septal deviation and later, after this had been held in the proper position, he made a longitudinal incision along the dorsum of the nose loosening the nasal bones and elevating them, holding them in their proper position by gauze packing, and relieved the pinched-like appearance by means of a curved needle armed with a piece of antiseptic catgut which was made to take a circuitous

course in the following manner: The needle was inserted in the deep tissue at a point corresponding with the lower border of the compressor muscle on the left side of the nose; it was directed upward and made its exit about three quarters of an inch above its entrance. It was then passed over the dorsum and made to enter the deep tissue of the right side at a point corresponding with the point of exit on the left side, passing downward in a shirring-like manner, emanating at a point opposite the point of entrance of the left side. The ends were now tied carefully, pulling the soft tissue up so as to fill in the depressions. This being done, the skin was brought into place and held there by a subcutaneous suture, silkworm gut being used; the nose was dusted over with aristol and dressed, the patient placed in bed and kept there twenty-four hours, at the end of which time she was allowed to get up, and the wound was dressed. The results were favorable, as shown by the illustrations. He remarks that he thinks the combined use of cocaine and adrenal capsule as a local anesthetic hemostatic in correcting septal deviation is preferable to general anesthesia since there is less danger from heart failure or respiratory troubles and there is an absolute lack of hemorrhage.

10. **Hospital Positions.**—MacMurchy gives a list of the hospital positions open to women in Great Britain and in the country, and also elsewhere so far as they could be obtained. The total number is 559, government, municipal and hospital, and 11 positions have been recently opened to competition.

11. **Infection Predisposition.**—Gaertner has investigated and performed experiments to determine the relation of predisposition to infection observed in some cases, especially in anemia. He finds, by taking the results of all of his experiments, that anemia consequent on bleeding or starving produces a quicker and greater lack of resistance to infection than in the normal animals, and concludes that the conditions which favor this predisposition to infectious diseases have to be looked for in the hydremia of anemia.

12. **Pneumonia in Children.**—In infantile pneumonia Fischer would give, at the beginning of the fever, 1 drop dose of tincture of aconite every hour, with or without spiritus Mindereri in one-half teaspoonful doses until diaphoresis is produced, also calomel until the liquid green stool is produced, which is important as stimulating the bowel and kidney action in view of the possible complication of nephritis. Water should be given *ad lib.*, as it is valuable in carrying off toxic products and stimulating the urine and diaphoresis. An occasional dose of castor-oil or calomel is advisable to clear out the swallowed sputum from the intestinal tract. This eliminative plan of treatment should be carried on through the whole course of the disease. Antipyretics of the coal-tar series are all cardiac depressants and therefore should be accompanied with stimulants. He has made it a rule not to give them at all, but rely altogether on hydriatics and if the temperature gives rise to nervous symptoms, a tub-bath is advantageous, beginning with 90 F. and gradually cooling to 70 but not prolonged usually more than five minutes. Vigorous rubbing while in the bath will stimulate the circulation and prevent collapse. In very young and delicate infants it is advisable to give a few drops of Hoffman's anodyne just before the bath. Mustard baths are also useful as a circulatory stimulant and diaphoretic. German mustard should be employed. It is best used by sewing about one ounce in a small bag of cheese-cloth, immersing this a few minutes before placing the child in the bath, adding enough water to make a full bath covering up to the knees. The duration should be about twenty minutes and marked local hyperemia be produced. Intense dyspnea is best relieved by dry cups over the thorax, three on each side, above and behind, to be repeated in a few hours if relief has been afforded thereby. Oxygen can be best obtained by ventilation, excluding all needless persons, opening the windows, but screening from drafts and enforcing absolute quiet. Codein should be given only to produce sleep when natural methods fail, and then in about 1/10 gr. doses, repeated in an hour or two if no effect is produced for a child 1 year old younger and older children in proportion. In a toxemic condition we should stimulate by good Tokay wine or whisky.

diluted, and lastly the sheet-anchor of the treatment should be nutrition; to feed our patients milk, good soups, egg albumin, etc.

13. Anesthesia-Paralysis.—The paralysis which is observed after operations and credited to the anesthetic or conditions during anesthesia is noticed and a case, which Brickner claims to be the fifth in the literature, reported. While none of the views as to the causation of the condition seem entirely satisfactory to him, the traumatic element is evident, and he deduces the following conclusions: 1. The care of the arms is as important a part of the anesthetist's duty as is the administration of the narcotic. They should never be allowed to hang over the edge of the table. This position threatens the musculo-spiral nerves by pressure, and the entire plexus by stretching. 2. Rotation and superextension of the head should be exercised only while emergency requires it. 3. Prolonged pressure of any kind should be avoided, be it that of an assistant's hand or body, or that of a harness. When used, the shoulder strap of a leg-holder should pass over the tip of the shoulder, or over a large pad of cotton wool on the neck; or, best of all, should be held by an assistant—the anesthetist can usually spare a hand to pull the strap up from the body from time to time. It should be remembered that this apparatus has occasionally caused paralysis in a leg, as in one of Garrigues's cases. 4. The common practice of drawing the arms alongside the head, however, much it may contribute to the convenience of the anesthetist and the comfort of the operator is a bad one, and should not be tolerated. Remembering that in some of the cases reported (25) the arms were lying alongside the body during the operation, the safest rule to follow is to avoid allowing either arm to remain for more than a few minutes in any one position, however innocent that position may appear to be.

15. Tracheotomy.—Seven cases with 4 laryngotomies and 10 tracheotomies without a death are reported by Rogers. In the majority the operation was done under difficulties and in great haste. He specially dwells on this point as showing that the fear of the operation is comparatively groundless. The greatest difficulty was from struggling, in most of his cases, and in most the cricoid cartilage was divided. This, if a canula is worn, leads to bad cicatricial contraction, but he thinks this can be overcome by dilatation with urethral sounds until specially made intubation tubes can be put in. Cocain should always be used when controllable, but children or patients who can not be kept quiet require chloroform and he has used it with no bad effects. Laryngotomy, except for tumor, is absolutely useless, but the high operation has some distinct elements of safety. Low tracheotomy has only the doubtful advantage of a less probability of subsequent stricture above a long-retained canula, but there is some danger of wounding veins, and hemorrhage. If a large vein were injured death from asphyxia might occur before it could be secured. The lower the fistula the more difficult it is to pass the intubation tube by it and to keep the lower end of the instrument from slipping out and catching the wound. This is the objection to the low operation, leaving the stenosis to be overcome afterward by intubation. In general, and especially for emergencies, and chronic stenosis to be subsequently treated by intubation, the high operation is best. Granulations are often heard of as serious dangers in cases of long retained canulae, but Rogers thinks this complication can not be common as it was not met with in any of his cases.

Tobacco and Glycosuria.—Stern finds that the habitual and excessive use of tobacco increases the existing glycosuria, and is occasionally though less frequently a cause of the condition. It may influence the pre-established pathologic output of urinary glucose in the following ways: 1. By protracting the duration of transitory glycosuria, and by imparting to alimentary mellituria a certain degree of chronicity. 2. By increasing the quantity of dextrose in the twenty-four hours' urine, in the transitory as well as the chronic forms of glycosuria. 3. By transforming the lighter degrees of chronic glycosuria into the graver forms. Cases of alimentary glycosuria prolonged by the excessive use of tobacco are not at all uncommon and he has repeatedly demonstrated this by experi-

ments on individuals. Several of these are reported. The literature is scant in this regard, but a few authors suggest the withdrawal of tobacco. Nicotin poisoning is not, he thinks, the leading cause, at least, of this effect. The main poison contained in tobacco, and one whose toxicity has not been fully appreciated, is carbonic oxid gas. It is always present, especially with cigar smoke, and habitual and excessive indulgence may produce chronic carbonic oxid intoxication. The glycosuria often follows chronic poisoning from this substance, while in the acute, non-lethal intoxication, it is always limited in degree as well as duration. CO poisoning originating from excessive cigar smoking is persistent as long as its causative factor continues.

19. Simple Anemia.—The history of the case reported by Floyd and Gies is one of extreme simple anemia, which showed in the beginning; H.B. 12 per cent.; R.C. 750,000; W.C. 3300. Under maximum dosage of 39 gr. of sulphate of iron, and 1/10 gr. of arsenious acid, the appetite became normal with subsidence of all symptoms, in seven weeks, the treatment being entirely suspended. The blood continued about the same while under observation for a year and a month after convalescence had been established. The case is classed as simple anemia on account of the rapidity and degree of recovery. The urine and feces were closely examined and a case of pernicious anemia is given in comparison. The similarity of the blood in the two cases was striking, the clinical features also. The authors think that the comparison demonstrates that the differentiation of primary anemia into simple and pernicious can not be made, especially in severe blood lesions merely by examination of the blood count, but that clinical features must weigh equally with it in establishing a diagnosis. To obtain a satisfactory classification of anemias it will be necessary, besides counting and studying the peripheral blood: 1, to understand the life history of the blood cells, which can be accomplished only through study of the physiology and pathology of the blood-making and blood-destroying organs; 2, to investigate more thoroughly the interrelations between the normal and diseased processes occurring in the blood and those occurring in the other body tissues; 3, carefully to correlate the results of such studies with those obtained by clinical experience.

Infantile Scurvy.—Starr attributes scurvy in infants to continued deprivation of fresh food; the quality of the freshness is an important one. He classifies the faulty foods as follows, in the order of their potency: 1. The different proprietary infant's foods administered without the addition of cow's milk. These foods are responsible for the greatest number of cases, and which variety most readily induces the disease depends chiefly on the extent of employment or the fashion at the time. 2. Proprietary foods employed with the addition of insufficient quantities of cow's milk. 3. Oat-meal or wheat gruel, barley and other farinaceae administered with water alone or with water and insufficient cow's milk. 4. Condensed milk and water. 5. Sterilized milk; properly modified milk mixtures subjected to a temperature of 212 F. from thirty minutes to an hour or more. 6. Too dilute milk and cream mixtures; laboratory mixtures with too low albuminoid percentage. These explain the greater frequency of infantile scurvy in the well-to-do infants than in the poor. The symptoms and conditions are fully discussed and also the treatment. The essential features of the latter is the employment of a food composed of cow's milk, cream, water and milk-sugar, properly proportioned to the age of the infant and given, so far as the cream and milk are concerned, in the natural fresh state, not passed through a separator and not sterilized. Pasteurization and pre-digestion at a temperature of 115 F. are valuable in certain cases, but should never be employed when the cream and milk are properly handled at the dairy and can be kept clean and sweet and when the infant's digestion is even moderately active. The addition of fresh ripe fruit juices, orange juice especially, is useful, and when it can be taken, as is usually the case, without diarrhea. When orange juice can not be obtained scraped apple, fresh grape juice and grapes without the skins and seeds in addition to the dietetic treatment are useful. Inunctions of limbs with warm olive-oil may be a help and per-

haps some preparation of iron like ferrated elixir of cinchona. If there is great prostration, strychnia and alcoholic stimulants should be administered and all complications should be met as they arise. The article includes a tabulated statement of cases of infantile scurvy occurring in the author's practice in the last ten years.

22. Leukemia.—Three cases are reported by Jewett, who discusses the theories and thinks that the evidence is strong enough to make it difficult to doubt the infectious nature of at least the acute forms. In one of his three cases there was apparently a heredity, as it seems a brother and sister also died from a similar cause. He doubts the existence of anemia infantum pseudoleukemica as a distinct entity, and points out the difference in his two infantile cases from the description of this disease.

23. Adrenalin.—Mayer concludes from his experience with adrenalin in nasal disease that: 1. Adrenalin solutions supply every indication in rhinologic practice for which the aqueous solutions of the extract have been hitherto applied. 2. They can be used in sterile form. 3. They remain unchanged for a long time. 4. A solution of 1 to 1000 is very strong and is all sufficient for operative cases, and 1 to 5000 or 1 to 10,000 for every purpose of local medication. 5. They may be safely applied to persons of every age and of either sex. He believes that in isolation of the blood-pressure-raising principle of the suprarenal glands we have an epoch-making discovery.

25. Diabetes Mellitus.—From a study of the mortality statistics of New York City for eleven years, Stern finds that out of 1867 deaths from diabetes mellitus about one-half occurred in females, which is contrary to the usual ideas. It is a rare affection in infancy and early adolescence. In very early ages the most cases were males, though during the rest of early life the proportion of the sexes were about equal. As regards race the colored seem to be very free from it, while the Jews and Irish composed fully one-half of the cases. The disorder is not especially common among well-to-do. It occurs mostly among the working classes. He attributes the various glycosurias to one or more of the following causes: 1. To excessive ingestion of carbohydrates—alimentary glycosuria. 2. To diminution, or functional disturbance, or excessive or abnormal disintegration of the erythrocytes—glycosurias following the introduction of poisons and toxins, or the perverted function or removal of certain glands and organs—hematogenic glycosuria. (Pancreatic diabetes—Seegen's grave diabetes). 3. To traumatism—neurogenic glycosuria. 4. To interference with the glycogenic function of the liver to the extent that the ingested carbohydrates are not utilized normally—common or hepatogenic diabetes. 5. To a general protoplasmic deterioration and plasmolysis—diabetic deterioration. The latter part of his paper is given the description and discussion of the hematogenic glycosuria and diabetic deterioration, which he calls the most typical of diabetic diseases.

26. Anesthesia.—The bad effects from anesthesia are first noticed, which Richardson thinks are largely due to over-confidence and non-experience. He has never seen a death from ether itself, and he thinks that while there may have been such due indirectly to it, their number is extremely small. Only urinary suppression and pneumonia seem to him important. When a patient dies after a severe operation, even with these symptoms, it is an unwarrantable assumption that death was due to the anesthetic and not to the operation. It is absurd to say that pneumonia developing three weeks after the operation was owing to anesthesia. Only such beginning directly after recovery can be fairly said to be thus due. The subcutaneous use of cocain would be much more perilous than ether, accidents from the use of which come from disregard of danger signals and from over-etherization, not from the intrinsic dangers of the drug. General anesthesia is strongly contra-indicated under some conditions. The most important are the abdominal conditions or dangers which threaten the patient's life by regurgitation into the throat during profound anesthesia or when patients are operated on with full stomachs. Heart disease is usually regarded as a contraindication to general anesthesia, but that is not according to his experience.

His chief anxieties have come from diseases of the lungs, but he is inclined to think that this anxiety is seldom justified by facts. Failure to breathe is a serious matter, and it is fortunate, and in this fact lies the great safety of ether, that a patient, with healthy lungs at least, always reacts to artificial respiration. Local anesthesia has worked well in advanced general peritonitis and dislocations, and in the few cases where he has tried it. Local anesthesia is to be preferred for all trivial operations where thoroughly applied. By such he means removal of small tumors, aspiration, amputation of fingers and toes, etc. He doubts the propriety of local anesthesia in operations like appendectomy, radical cure of hernia and major amputations. As a rule simple weakness does not contraindicate general anesthesia. It is rather the stout, flabby patient, past middle life, who has the accidents. He doubts whether in the acute febrile diseases the dangers of general anesthesia will be avoided by local or spinal cocainization. These new methods, however, have a reasonable application in some, as previous experience has shown, who bear general anesthesia badly. Another class of cases inviting disaster under general anesthesia comprises operations on the deep cervical phlegmons, tumors close to the trachea, involving or pressing on the laryngeal nerves. The imperative operations on the larynx and trachea are included, and the gravest emergencies may arise. He thinks the new method may be more serious than general anesthesia has been found to be, and doubts whether, after fifty years of use like ether or even chloroform, it will show a safety to be compared with them.

27. Asthma.—Bell considers the climate of Arizona altogether the best for chronic respiratory diseases, and Tucson the place above all others he would choose. It is mild, dry and comparatively windless. New Mexico also has several desirable places corresponding closely with those in Colorado, but Arizona is the most favored. He advises physicians to send patients there only in the first stage of their diseases as the second and third stage cases rarely recover.

28. Chorea During Pregnancy.—Newell says that true chorea is a definite complication of pregnancy, though it does not in the majority of cases depend on previous chorea of infancy, but upon special predisposition, either hereditary or acquired. The general opinion is that it is a neurosis due to stimulation of the utero-ovarian plexus. However this may be, it may be said that the organism is in a state of unequal equilibrium ready for the stimulus which causes the outbreak. This state is closely related to hysteria and it is the predisposing cause. Previous infectious diseases may prepare the ground; auto-intoxication, however, is so frequent that it is hardly necessary to call them into account. Pregnancy alone is to be considered the direct cause. Some more or less violent nervous shock is possibly the starting-point. The symptoms are described, both mental and physical. The disease usually lasts during the whole term and, while rare, is important both to the mother and the child. The drugs usually employed are sedatives, bromids, chloral, morphia, and alteratives as arsenic and iron. A case is reported. In conclusion the author remarks in regard to the frequency; out of 11,000 cases in the Lying-in Hospital, of Boston, there have been 12 cases of chorea; 11 of these were primiparae and gave a history of previous attacks during childhood, and none of these were serious.

29. The X-ray.—The fact that *x*-light tubes deteriorate from use is noticed, and Rollins concludes that the most important study to be made in regard to them is to find how they may be made to keep the character of the light constant. Meanwhile the best way to excite an *x*-light tube is to use surges of millions of volts and many horse power, each surge lasting for not more than a millionth of a second.

38. Congenital Typhoid.—Brown reports the case of a child prematurely born while its mother was suffering from typhoid fever. The child's temperature was 101 when born and rose steadily to 103, afterward falling. The child grew weaker and weaker, and died in two weeks. On the ninth day after birth the Widal reaction was obtained complete in forty-five minutes. The autopsy showed enlarged spleen, enlarged mesenteric glands and characteristic healed ulcers in the ileum.

The case is reported on account of the rarity of congenital typhoid. The fact that miscarriage was produced by the disease of the mother, and that the child went nearly to full term in spite of the essential improper nourishment bears out the statement of the comparative mildness of the disease in the young. He has found but a few cases similar to this in the literature.

39. Hydrophobia.—Fisch reviews the facts in regard to hydrophobia as far as known, with a study of the Pasteur treatment, and concludes that there are many problems yet unsolved in regard to it. The germ, which is cellular since it does not pass the Chamberland filter, is yet to be discovered, and another question is how those persons can be saved in whom the period of incubation is too short to outrun the outbreak of rabies by means of the Pasteur treatment. Still another question is how are we to treat fully developed rabies?

40. Hydrophobia.—Morfit notes the recent advances in the Pasteur treatment, especially the fact that the cord of a fixed virus rabid rabbit can be kept in glycerin for at least three weeks, thus diminishing the expense of the technique of this treatment.

56. Sight Tests in School Children.—Krauskopf gives some results of Dr. Allport's sight tests in Chicago school children, and states the relation between school life and sight, briefly as follows: "The slighter eye defects are found to increase rapidly during the first three or four years of school life, and of this increase school conditions and work seem to be in some degree the cause. Following these years is a period when natural conditions of growth and development overcome all unfavorable forces both in and out of school, resulting in a rapid improvement in the eyesight; while later through high school life no material increase or decrease can be detected. The more serious cases seem also to show the effects of early school work and to continue to increase steadily throughout school life, but for this, especially when the visual acuity is exceptionally low, it does not seem just to hold the schools responsible." The special points of the examinations are discussed, quoting particularly the abnormal relationships between general development, mental and physical, and eyesight, etc. The conclusions are offered as tentative, but are given, he says, for what they may be worth as suggestions.

57. Gonorrheal Ophthalmia.—Four cases of this disorder are reported by Bulson, who says that, given a case of disease, verified by microscopic examination, the first thing to be done is, if the edema of the lids is marked, to divide the outer canthus, and prevent pressure on the cornea. The next is thorough flushing with an antiseptic solution to keep the parts free from infective material. He insists on having a relay of nurses and thoroughly washing the infected eye every fifteen minutes night and day. In no other way can the eye be kept free from purulent discharge. The skilled nurse can manage this without thoroughly arousing the patient if he is asleep. Special caution is given not to touch the cornea with anything for fear of producing an abrasion and introducing infection. If panophthalmitis has set in, evisceration is always preferred to enucleation, owing to the danger of meningitis, and he thinks the latter unjustified except in very rare cases.

58. Non-comitant Ribbon-like Keratitis.—From a study of the cases reported Weymann infers: "1. That ribbon-like keratitis arises from trophic disturbances in the lymph spaces of the anterior layers of the parenchyma. 2. That, as a result, Bowman's membrane suffers and thus produces epithelial hypertrophy in the same manner as a low grade of irritation in a wound would produce unhealthy granulations. 3. That calcareous degeneration is an accidental result, but that desiccation being most easily effected in the line of palpebral fissure, the typical bands would naturally appear there first."

67. Typhoid Fever in Children.—The records of 61 cases of typhoid fever in children form the basis of Stowell's article. Most of the cases were sporadic and the etiology not often clear; 24 of these occurred in 10 families, and he thinks carelessness may have caused the spread of the disease. The youngest patient was 9 months old; the majority occurred in older children. Of the dispensary cases, 17 were females, 28

males. The temperature frequently varied from the typical, and several curves are shown. Convulsions were not frequent, nor was delirium a constant symptom. Apathy and mental dullness are common even in the very young. Headache is often present and epistaxis very common, usually during the first week. Twice he has seen the eruption almost universal; it usually appeared about the eighth day, about the time the temperature reached its height. Compressibility and non-resistance of the pulse are diagnostic. Both leucocytes and erythrocytes are diminished in the blood, unless pneumonia occurs, when there may be a decided increase. The hemoglobin is greatly reduced, but the anemia is frequently of a type from which recovery is rapid. In 95 per cent. of the cases the Widal reaction was positive; its only disadvantage is its late occurrence. Of the usual digestive symptoms, tympany is less constant in children than in adults. In two cases there was intestinal hemorrhage. At the beginning children are apt to be constipated; later there may be a slight diarrhea. The spleen is apt to be enlarged, though he can not give the percentage. The kidneys, like other organs, are disturbed; he finds the diazo reaction a helpful diagnostic test; the urine is usually not much concentrated. The complications observed were relapses in 3 cases, scorbutus, parotitis, varicella, and pneumonia. The average duration was twenty-three and a half days, though it extended to forty-one days without complications in one case. There were no fatal cases in the 61 children. The treatment should be such as husband strength and favors speedy convalescence. Diluted milk to avoid coagulation, broths, custards, gelatin preparations and eggs were given. The medicinal treatment was largely directed to intestinal antiseptics with attention to the stimulation of the heart. Alcohol was used only as a dietetic in convalescence. With the coal-tar antipyretics the effect on the circulation had to be carefully watched, but he would not hesitate to give them in certain suitable cases. He relies more on sponging than baths; there is less trouble from fright or danger of collapse in the weak. For antiseptics he uses mercuric bichlorid 1 to 1000 for washing the hands, thermometer, etc., and if permanganate of potash is used it lessens the risk of mistaking the solution; for the excreta, chlorid of lime, a stock solution of 8 ounces to a gallon of water. Of this solution 1 ounce added to a gallon of water is used for disinfecting stools or soiled linen. There is no routine medicinal treatment. Whether the food is liquid or solid is of less importance than that it is properly assimilated. Heart stimulants should be reserved until actually needed, and we should guide the disease we can not stop.

72.—See abstract in THE JOURNAL of January 12, p. 127.

84.—See THE JOURNAL report of meeting of Chicago Academy of Medicine, pp. 1270-1272.

85. Intestinal Suture.—The various methods of suturing the intestine are reviewed at length by Connell, who refers to a method of enterorrhaphy devised by him and published in the *Philadelphia Medical Journal* in 1899, which is illustrated again in the present article. Its special advantage is that all the knots are left inside the lumen of the intestine and are therefore more easily disposed of. The method is in some respects similar to the Maunsell method, but does away with the necessity of a second excision and invagination. This circular enterorrhaphy with all the knots in the lumen has been performed in eleven instances, by Franklin H. Martin, Wylls Andrews, A. H. Ferguson, W. E. Schroeder, Emil Ries and himself. In three cases recovery did not take place, but in none of these could death be attributed to the method of suture. See THE JOURNAL, xxxv, p. 1150.

87. Ureine.—Haines and Woods criticize Moor's alleged discovery of ureine and, from numerous tests, conclude that it is simply a strong aqueous solution of recognized urinary solids and of chemicals used on the urine. While Moor's article shows evidence of its errors to the skilled chemist, they are not so apparent to the rank and file of the profession, and therefore this criticism is offered.

98. Early Removal of Benign Tumors.—The early removal of benign tumors is advocated by Clark to lessen the danger of their becoming malignant, to avoid damaging im-

portant structures by pressure and on account of the less risk of operation at an early stage of their growth, and the avoidance of unsightly scars from their removal. Each of these points is discussed in detail.

109.—See abstract in *THE JOURNAL* of April 13, p. 1060.

110.—*Ibid.*, p. 1061.

119. **Epidermolysis Bullosa Hereditaria.**—The first case so far as known, in the negro race, of this rare condition, is reported by Smith, who gives a summary of the literature. The blood examination in this case was made by Brown, who found a general and local eosinophilia, which he thinks is in accordance with the pemphigus nature of the disease. The blood count in this case closely corresponds with that of the case reported by Columbini, the only other one in which the blood count is given.

120. **Koplik's Spots.**—These spots, according to Zahorsky, are a furfuraceous desquamation of the mucous membrane, and entirely analogous to the desquamation of the integument. So far as observation has extended this is present in measles alone, but it is not uniformly found in this disease. Occasionally the spots are entirely absent in mild cases. Their presence is exceedingly fleeting in many cases and they may be removed by the process of chewing of food. They also may fail to be detected on account of imperfect light. In the cases in his clinic, where they are not found, careful examination is made. If the post-cervical glands are enlarged and the prodromal fever has been very short and there is no trace of the Koplik spots, the disease is diagnosed rubella. If, however, prodromal fever lasts longer and the glands are only slightly enlarged the disease is assumed to be measles, even if the spots are absent. Often in place of the bluish-white spots very minute purple and dark red spots may be seen. These show the places where the scales have been removed. There is no question as to the value of Koplik's spots when present, but their absence does not exclude measles. The earliest sign of measles is a typical rash on the mucous membrane. Sometimes it may be readily recognized, particularly on the palpebral conjunctiva.

121. **Mycosis Tonsillaris.**—Hardcastle considers this disease rare and of interest because of the possibility of its being confused with follicular tonsillitis, though this does not occur with any one who has ever seen a case. The distinguishing points are the small milk-white spots elevated above the mucous membrane instead of the yellowish spots under or at the level of the mucosa in the tonsil. The lack also of constitutional symptoms of inflammatory disorders, which are not present in this disease, is of value. The eradication of the growths is difficult and can as a rule be only accomplished through curettage and the cautery, the galvanocautery being the better. The diagnosis can always be determined by microscopic examination.

127. **Puerperal Infection.**—Wadsworth holds that by careful technique uncontaminated specimens of secretion can be obtained from any portion of the uterus or vagina for examination, and diagnosis be quickly and readily made. It is only exceptionally that pathologic organisms are found in the vagina, and the apparent pathologic appearances here only suggest, with a variable degree of probability, the presence of such organisms. Bacteriologic tests only can decide. Exceptionally, pathologic bacteria may live and maintain their virulence during pregnancy and labor. After labor their conditions, growth and maintenance are more variable and the puerperal uterus is more exposed and vulnerable, and in those cases where natural resources of the vagina have failed and bacteria are persistent energetic antisepsis is required. Ordinarily the douche does not insure sterility. This can only be secured by similar methods, with obvious qualifications, to those used for the skin and hands. The douche may even reduce the natural protective resources of the vagina, enabling pathogenic organisms to establish themselves, and it may also carry other organisms. Therefore, routine douching before and after labor is irrational, ineffective, and often dangerous. The alkaline secretion of the uterus, including the cervix, is free from bacteria, though organisms have been found in the cervical canal without exciting any apparent reaction. The pregnant and

puerperal uterus is also usually free, though after the first few days of the puerperium organisms are more often present. Occasionally bacteria invade the uterus from other parts of the body. The pathologic reactions of bacterial growths are the result of either a toxemia or an infection, but apparently not all toxemias of the puerperium are bacterial. It is believed that changes in the exudate, blood clots, etc., may give rise to products which when absorbed produce intoxication. The nature and virulence of the bacterial species may greatly influence the processes and lesions, while the contraction of the uterus may also have its influences on diseased conditions. The various forms of infection in the early stages, when proper treatment is available, can only be distinguished by bacterial examination. In toxemias not due to pathogenic organisms the results of uterine douching are immediate and effective and attended by little danger, but where pathogenic organisms exist the process may be exaggerated or disseminated. The danger of this is greatest in the first days of the puerperium when the exposed tissues and sinuses offer the least resistance. If bacteriologic examination establishes the presence of pathogenic bacteria in the uterus indications for radical operation may be more accurately determined early in the course of this process. The indications and contraindications for the various forms of curettage are practically the same as those for uterine douching. The use of antistreptococcic serum is irrational and ineffective, especially in cases where organisms other than streptococcus are often present. Practically the routine management of cases should be freed as far as possible from all procedures which interfere with the natural resources of the body, which in the vast majority of cases are sufficient protection against bacterial invasion. In a few exceptional cases requiring interference this should be determined and directed by bacterial examination.

128. **Alexander's Operation.**—The author's technique in shortening the round ligament is described in detail, his special points summarized as follows: "1. Make a clean-cut incision down to the aponeurosis of the external oblique muscle—reaching the aponeurosis rather to the inner side of the ring than directly over it, thus affording an easier recognition of your location. 2. Bear in mind the presence of the superficial fascia, and that its density varies from such a thinness as to be hardly recognized to one of such thickness as to be readily mistaken for the aponeurosis not yet reached. The fibers of the aponeurosis are in large bundles, all running in one way. Those of the superficial fascia are finer and more closely woven. 3. Expose to a clear view both pillars of the external abdominal ring when distinctly marked. If indistinct, as in small rings and in instances of dense intercolumnar fascia, expose clearly the anatomical position. With this in view the pillars and ring can be recognized by touch." In a note Brown says that he finds this operation described in Keith's work on "Operative Gynecology" (1900), with the exception of his cutting the nerve. He was not previously aware of Dr. Keith's method of operating.

131. **Ovarian Disease and Insanity.**—Hobbs' article is similar to his other published papers, attributing remarkable results to operations on the female genitals in the various forms of insanity.

132. **Cerebral Injuries During Birth.**—The extensive infantile mortality is attributed by Morse to compression of the skull or its contents during birth. This pressure may be from uterine contractions, either short in time or severe in character and of less severe character and more prolonged or by compression by instruments. He thinks that a child after delivery by forceps through a contracted pelvis has very little chance of life and if living is practically sure of being feeble-minded or idiotic. Our strongest hope in such cases at the present time lies in symphysectomy. He hopes in the future that the induction of premature labor in such cases will obviate the necessity of all destructive operations on the child and all cutting operations in the mother.

134.—See abstracts in *THE JOURNAL* of February 16, pp. 462 and 463.

135.—*Ibid.*, p. 462.

145. **Peritonitis.**—The principle of treatment of peritonitis advocated by Robinson is to give physiologic rest to the intestinal tract. This is done by allowing no food or fluid to pass the mouth, keeping the patient absolutely still in bed, not even getting up for defecation or urination, giving 1/16 gr. of morphin sulphate at intervals of two to four hours, applying cold to the abdomen by rubber tube coil, or continued heat by means of corn meal poultices. For the thirst he would give rectal injections, and allow the patient to apply wet gauze to the lips. No ice should be allowed. All nourishment should be given *per rectum*. Cathartics should be avoided. By this method he prevents the spread of infectious material by peristalsis; the peritoneal exudate surrounds the germ, and sterilizes and plugs the visceral perforation. If food has been in the stomach it would be wise to wash it out. This method of treatment bridges the patient over dangerous periods to a quiet condition when operation is practically safe.

147. **Mesenteric Anomalies.**—After reporting a case of ileus with postmortem, Pleth accounts for the conditions by an anomalous growth of the mesentery due to the inner arm of the umbilical loop crossing the upper arm behind the same and then proceeding with its growth. The cecum and appendix therefore had to go through the mesentery, which, arising from the secondary lumbar vertebræ spreads downward toward the cecum, colon and small intestines. The root of the mesentery in this case was very short and this explained how a volvulus could be produced, the mesenterium commune thus formed permitting of free mobility and allowing the intestines to be twisted around it.

148. See abstract in THE JOURNAL, xxxv, p. 1500.

150. **Mammary Carcinoma.**—Assuming that carcinoma is primarily a local disease, extending by infiltration, by lymphatic extension and by metastasis, the only treatment which offers the patient any hope is removal of the growth, which should be early and complete. Bell's deductions are therefore that a sufficiently early operation will effect a cure in the best sense of the term and that in certain more advanced cases operation removing all the axillary structures, including the blood-vessels and the brachial plexus, from the level of the first rib outward, would effect a cure in many cases in which after any lesser operation, early recurrence, and hopeless miserable and distressing invalidism for a short time is all that remains for the patient. No breast tumor should be looked upon lightly, if there is the least possibility of its being a carcinoma or sarcoma, and the upper extremity should be sacrificed if it offers any hope of saving the life. He has always found, however, that patients dread the danger and manipulation and has not succeeded in carrying out this extreme operation thus far. He thinks that with the better surgical education of the public there will be less trouble in this respect, and some lives may be saved that are now lost.

FOREIGN.

The Lancet, April 20.

Carcinomatous Stricture of the Duodenum. H. D. ROLLESTON.—The author first describes a case in which a carcinoma with columnar cells existed in the third section of the duodenum, where the mesentery crosses over it, producing stricture and carried the patient off. The diagnosis was at no time sufficiently positive to justify a laparotomy in a man so gravely ill. Rolleston describes the different forms of carcinoma of the duodenum according to the location: Carcinoma in the first part of the duodenum is rare. In the 40 collected cases it was affected alone in 8 and only with the second part in 5 more. It is exceptional that carcinoma of the pylorus extends in this direction. He says, however, practically the same clinical picture is seen in carcinoma of the pyloric end of the stomach. The commoner disease will generally be the one diagnosed. It is therefore called juxta-pyloric carcinoma of the duodenum, or another name is supra-ampullary carcinoma. It may develop on a former ulcer, as in the stomach, though since ulcer of the duodenum is usually situated in the first part, where carcinoma is rare, this can hardly be considered an important factor. The most frequent form of primary duodenal carcinoma is that in the second part of the duodenum. Of the 40 collected cases

the growth was limited to the second part in 24, while in 5 others the first part was also invaded. If it occurs in the upper part of the second portion, above the liver or biliary papilla, it will give rise to much such symptoms as pyloric carcinoma, but if it involves the papilla, the flow of bile will be interfered with and jaundice or other complications arise, and if it is well below the biliary papilla it will give rise to obstruction with biliary vomiting. It has a special tendency to arise in the mucous membrane covering the papilla, but this must be differentiated from carcinoma arising inside the papilla or in the ampulla of Vater. This preference of site is possibly due to some fetal displacement or intrusion of the epithelial cells during the development of the parts. An innocent papilloma is sometimes seen in this situation, and the author thinks that carcinoma may subsequently develop from such a growth. He thinks the possibility of impacted gall-stones having any causative effect seems improbable, though Dickinson has recorded the association of the two conditions. Carcinoma of the third part of the duodenum is the least frequent of all; in the 40 collected cases, not including the present one, it was only found in 3. The symptoms are those of intermittent obstruction, as in the case here reported. It thus resembles pyloric obstruction except for the presence of bile and pancreatic juice in the vomit, and their occurrence should at once suggest carcinoma, or gastric biliary fistula. The vomit should be tested for trypsin by seeing whether fibrin is digested in alkaline solution. In this way the diagnosis between the two conditions may be made.

When to Operate in Perforative Peritonitis. ARTHUR C. ROPER.—The four cardinal signs on which Roper depends for the diagnosis of perforative peritonitis are, for the first few hours after its occurrence: 1. Rigidity. 2. Tenderness. 3. The presence of fluid. 4. Free gas in the peritoneum. To these should be added pain and signs of collapse. If first seen several hours after the occurrence, there may be rigidity giving place to distension and immobility in respiration. Tenderness may be still present, though not so general. Free fluid is probably increased and neither feces nor wind have passed per rectum. This remarkable amelioration of symptoms may deceive even skilful men. The thing to do in the stage first described is to make the diagnosis, give anodynes and prepare for the operation. The diagnosis may be somewhat difficult. There is usually a history, but the appendix is usually the offending organ and we have here, as a rule, a particular tenderness at McBurney's point. In the second stage careful attention to the condition of the abdomen alone can save one from mistakes. Taking the temperature is of great importance because the absorption of pus or its toxins causes a well-marked rise. What we want to know is whether the appendix is perforated in a situation where adhesions will form and cause only local trouble, or whether there will be a general septic peritonitis. We also wish to know if the appendix is in its usual position since in rare cases it runs inward toward the middle line of the abdomen and over the peritoneum. The things to be looked for are: 1. The condition of the patient, the pulse, temperature and aspects. 2. The condition of the abdomen. 3. The presence or absence of swelling. Taking the second point first we should make sure whether distension has occurred and whether the peritonitis causing it is general or local. The first we can see at a glance, and percussion showing actual dullness on both sides would indicate that peritonitis is more than a local one and that fluids are accumulating in the general cavity. Ordinarily, however, dullness is first on one side. We must not infer, however, that peritonitis is necessarily general because distension is general, and if we find that contractile power is left in the bowel we infer that the general abdominal condition is not very bad. The presence of definite tumor without distinctive signs of pus in it is a relief. The pulse and temperature must be closely watched. In sthenic cases where the patient's face is flushed, he is alert and has no delirium, we can afford to wait, especially if we can feel a distinct swelling and the distension is not alarming, but it is just as well to be prepared and know just what we are awaiting. If, watching such a case, the temperature suddenly falls without improvement in the pulse, imme-

diate operation should be decided on, as it means sloughing of the appendix at least and may mean something worse. The asthenic cases are more serious, not those which are moribund where nothing can be done, but where there is profound disturbance, pale or sallow complexion, and rapid, small, compressible pulse and only a small rise in temperature and any evidences of septic poisoning, we should arrange for immediate operation, but Roper specially suggests that he does not operate during shock, as he does not wish to add the shock of operation to that already existing. He would prefer to rally the patient with opiates and stimulants. As regards opiates, he prefers opium to morphin, which he thinks is more of a bowel paralyzer. If possible, he makes the diagnosis before giving opiates. If that can not be done he gives opiates and sees the patient again in four to six hours. In a case of gastric perforation four hours is too long to wait. While making sure of the seat of trouble one would be doing right in insisting that no opiates be given except in the physician's presence until he has arrived at the diagnosis.

Causation and Treatment of Profuse Epistaxis in People Beyond Middle Age. GEORGE COATES.—Five cases of profuse epistaxis in elderly people are described by Coates, who discusses the causes. In all these cases the sequence of events which led up to epistaxis was generally alike: 1. Long continued high arterial pressure. 2. Some sudden cardiac failure, such as the giving way of the valves or loss of power of the cardiac wall. 3. Over-filling of the whole venous system, the weakened heart not being able to sufficiently empty engorged veins against the high arterial pressure due to contracted arterioles. 4. Leakage of the over-filled veins. He says the proper method of treatment of these cases is to empty the over-filled veins. If we can relax the walls of the arteries and help the enfeebled heart this should be done, but this is impossible by giving heart tonics at first. Nitroglycerin is quite effective; nitrite of amyl might be more so. He says: "Finally, by recognizing profuse epistaxis as a symptom of a sudden though mostly temporary heart-failure, there is no danger of commencing valvular disease being overlooked and the patient being considered as one who only requires a little surgical treatment. In some cases it is possible that the alteration in the circulation causing the epistaxis may also cause cerebral symptoms, but here, again, the cerebral symptoms are mostly not the cause or the result of the epistaxis but only the result of the circulatory conditions leading to the epistaxis."

Journal of Laryngology, Rhinology and Otology, March.

Atresia Auris Congenita. HUNTER TOD.—Three cases are reported and illustrated; two in which there was bilateral deformity and the third unilateral with very slight auricular deformity. This generally accompanies these cases and is attributable to arrest of development. Congenital aural fistula is rare, only four cases being found; it is much more frequent in normal ears, and auricular appendages are almost as rare. The hearing power is rarely entirely destroyed; complete deafness is exceptional. In some cases the hearing power is found to be increased if the mouth is kept open. He speaks decidedly against the value of operation and sums up his conclusions briefly as follows: "1. The deformity is not hereditary, and the cause is not known. 2. It occurs rather more often in females, and is more often unilateral than bilateral. 3. One may get accompanying deformities, chiefly due to maldevelopment of the parts in connection with the first and second branchial arches. 4. The labyrinth is rarely affected. The hearing varies, but is present to some extent, though slight. Hearing-tests give practically the same results as those in an uncomplicated middle-ear affection, but more marked. 5. Embryological, pathological, and clinical observations prove operation to be useless. 6. Something more, perhaps, can be done by careful non-operative treatment and by early and assiduous instruction in speaking and lip-reading."

Bulletin de l'Academie de Medecine (Paris), April 2.

Four Cases of Cured Glioma of the Retina. LAGRANGE.—The first patient was a boy of 2½, and the tumor on removal proved to be a neuro-epithelioma. The papilla was completely included in the process, but the lamina cribrosa formed a bar-

rier behind, beyond which it did not pass. The cure has persisted seventeen months to date. In the second case there has been no recurrence during the 2½ years that have elapsed since the ten-months' babe was operated on. The optic nerve was not involved. The retina was completely detached from the choroid coat and the gliomatous masses had proliferated on the external surface of the retina. The choroid and iris were intact. The glioma seemed to have developed from the outer granular layer while the inner layer was normal. The third case was in retrogression when first seen, cured by enucleation in January 1900. The choroid was not involved in the tumor, which proved to be a glioma, the generic term applied to all embryonal neoplasms of the retina, although in this case the tumor was closely allied to an epithelioma or angiosarcoma, retrogressing into a fasciculated fibroma. The child was 6 years old, which confirms the assumption that glioma of the retina is less malignant the older the child. The fourth case was a traumatic endophytic glioma in a girl of 9. The entire retina was involved in the process and the posterior portion of the vitreous contained fibrils infiltrated with altered retinal cells. The tumor developed from the inner granular layer. The child has been cured for more than a year.

Prophylaxis of Tuberculosis. LANCEREAUX.—Reviewing 2192 cases of tuberculosis in his service Lancereaux finds that alcoholism was evident in 1229, and he also notes that 853 out of 1984 chronic drinkers were tuberculous. He mentions that the tubercular localization was in the right apex in the great majority of cases, and that the lobular or caseous form predominated over the granular. In his entire experience he was able to find only 46 cases in which contagion was manifestly the cause of the tuberculosis, and only 93 in which hereditary influences seemed to be a factor. Next to alcoholism, an insufficient supply of air is the most potent factor in the evolution of tuberculosis, and Lancereaux concluded his address urging legislation to prevent overcrowding, by more stringent building regulations.

April 9.

Mineral Composition of the Human Fetus. HUGOUNEQ.—During the first six month of pregnancy mineral elements enter very little into the composition of the fetus. In the last three months, however, such an amount of mineral substances is taken up that at birth the fetus takes away from the maternal organism as much as 100 gm. of mineral elements. This includes .268 gm. to .294 gm. of metallic iron, of which probably 50 to 60 per cent. is in the form of hemoglobin. Most of the balance is stored in some organ, as has been determined on other mammals, probably to compensate for the insufficiency of iron in the maternal milk. With the exception of the mineral elements required for the blood and bones, the other mineral constituents are practically in the same proportion at all stages of fetal life. The research on which these assertions are based included incineration of the cadavers of eight fetuses or new-born infants.

Bulletin de la Soc. d'Electrotherapie (Paris), March.

Tardy X-Ray Burns. OUDIN.—This writer has had occasion to observe three cases in which, five or six months after exposure to the x-rays, evidences of injury became manifest. The lesions presented the same appearance and also the slow evolution of the severe burns that have been noted, commencing on an average two weeks after the exposure. In one of the patients there was slight immediate pigmentation, but the burn developed on the opposite side of the abdomen, under the influence of a trifling traumatism—an injection of serum. In the third case, six months had elapsed after exposure, with no evidences of a lesion, when under the influence of a local hot douche—not hot enough to burn—the vast, characteristic ulceration commenced and progressed. These facts have convinced Oudin that the x-ray burn is a secondary trophoneurosis, analogous to mal perforans or decubitus acutus and the cutaneous affections described by Charcot as hysteric ulcerations. An ulceration on the mamma, which appeared in a young hysteric in consequence of a violent emotion, and persisted for months rebellious to all treatment, resembled in every respect the tardy x-ray burn on the mamma of Oudin's first patient.

some of the x-ray burns he has examined, the patients had not pains along the nerve supplying the region. The lesions in some cases followed the nerve, instead of being limited to the parts exposed.

Presse Medicale (Paris), April 13.

Typhoid Pyonephrosis.—GARNIER AND LARDENNOIS.—Only three cases of actual pyonephrosis of typhoid origin have been observed in France. Garnier reports a fourth case. Pains in the left hypochondrium were a noticeable feature of a moderate case of typhoid fever, in a man 31 years of age. They persisted after defervescence and were occasionally accompanied by an intense, transient, febrile paroxysm. A month after the pains became more severe and they sometimes radiated from the lumbar region to the testicle, simulating nephritic colic, the attacks terminating with the expulsion of a few thick clots of pus containing the typhoid bacillus. Pus was still evident in the urine after an extensive nephrotomy, and the pains and continuous remittent fever persisted with occasional febrile exacerbations. The kidney was removed and found large, nodular and dotted with abscesses. The patient died in progressive cachexia and the other kidney was found in much the same condition. The pyonephrosis induced by typhoid bacilli may affect the entire kidney or may be limited, but it can scarcely be differentiated until convalescence commences. Pains in the lumbar region, tumefaction of the kidney and intermittent pyuria are the principal symptoms, although the latter may be absent. Nephrotomy should be done early and the organ extensively opened. This operation may prove sufficient if all the pockets can be evacuated. It answers the need of the moment and allows the functions of the other kidney to be tested. If the affection progresses and the other organ is intact, an early secondary nephrectomy is urgent.

Revue de Chirurgie (Paris), April.

Physiologic and Cytologic Study of Hemothorax. T. LUFFIER AND G. MILAN.—The increase in the size of the effusion which becomes evident toward the fifteenth day, is not due to the continuation of the hemorrhage but to a serous exudate. It is not, therefore, an indication for operation. Neither is the fever an indication for surgical intervention when it is moderate, as it is not of microbial origin but purely dynamic and due to absorption. Persistence of polynuclear cells in the effusion after the 25th day, however, is suggestive of suppuration. The latter may also be suspected in case the polynuclear cells, instead of diminishing daily, increase in numbers or remain stationary. By that time they ought to be less numerous than the lymphocytes and mononuclear cells. The correct treatment of traumatic hemothorax is capillary puncture about the fifteenth day, at the moment when the blood is sufficiently diluted and the pulmonary wound sufficiently cicatrized to prevent a new hemorrhage when the pressure is removed from the lung. One case of moderate, aseptic hemothorax from which the above deductions were made is described in detail. The corpuscles in the effusion remain alive and are reabsorbed into the circulation, the serous effusion diluting the blood and preventing coagulation.

Hydatid Cysts in the Argentine Republic. H. VEGAS AND D. J. CRANWELL.—The Argentine Republic is one of the countries in which hydatid cysts are most prevalent. The general mortality therefrom is about 11.11 per cent. Marsupialization and drainage are slow but by far the surest method of treatment. Extraction of the germinal membrane with suture without drainage is exceptionally indicated in cerebral or external cysts when extirpation is impossible on account of adhesions. The writers' experience includes 952 cases. In 27, several organs were affected at once; in 641 the liver, in 54 the lung; in 15 the brain; in one each the mediastinum, mamma and thyroid body, and in 4 the bones. Most of the cases occur in the province of Buenos Ayres.

Experimental Study of Fractures of the Upper Jaw. R. LEFORT.—The extensive and arduous experimental research reported in this article establishes the fact that severe fractures of the bones of the face are subordinate to certain very simple laws and can be classified in a certain number of well-defined

types. Knowledge of these types will singularly facilitate the investigation and exact diagnosis of fractures which too frequently are overlooked, to the detriment of the patient and sometimes also of the surgeon. These types are described in detail and profusely illustrated in Le Fort's article, commenced in the February number of the *Revue*.

Primary Tuberculosis of the Parotid Gland. P. LECENE.—The case described is the ninth on record of a primary tuberculosis of the salivary glands. The symptoms usually indicated a mixed tumor; occasionally facial paralysis suggested a malignant neoplasm. In others the affection was diagnosed as tubercular adenitis. Even after the operation, the diagnosis was possible in some cases only under the microscope. Total extirpation is the only treatment whenever possible, but the facial nerve must be spared. All the parts involved must be removed and with the curette this usually can be done without injury to the facial nerve or the vessels.

Centralblatt F. Chirurgie (Leipzig), April 6.

Treatment of Irreducible Luxations of the Lower Jaw. KRAMER.—Instead of resection in cases of severe and irreducible dislocation of the lower jaw, severing the stretched muscles will sometimes bring the jaw into place without further trouble. In a case described, after dividing the masseter and external pterygoid muscles and the external lateral ligament, the luxation was corrected without trouble.

April 13.

A Magnesium Murphy Button. V. CHLUMSKY.—A small ball of perfectly pure magnesium introduced into the stomach or intestine becomes corroded in two, and disappears entirely in eight to sixteen days. An intestinal button of magnesium, on the pattern of the Murphy button, is completely dissolved in eight to ten days after a gastroenterostomy, if the patient is given a little weak solution of hydrochloric acid to hasten the process. Owing to its absorbability the button can be simplified, much to its advantage. Chlumsky states that his experiences on patients and dogs confirm the superiority of this magnesium button over the original appliance.

Muenchener Med. Wochenschrift, April 9.

Transfusion of Animal Blood in Therapeutics from a New Point of View. A. BIER.—The many severe symptoms that follow the transfusion of animal blood have caused the rejection of this measure as inevitably dangerous, but Bier has been studying these symptoms and finds that they are all characteristic of the invasion of the organism by an infectious agent. The blood-corpuscles of the heterogeneous blood evidently act like foreign bodies which the vital energies of the organism rally to repel, and thus an actual "aseptic infectious disease," as he calls it, is produced by the transfusion. It is followed by a chill, fever, sweat, possibly albuminuria and hemoglobinuria; the foreign corpuscles are agglutinated and dissolved, like bacteria, and the spleen becomes enlarged. Afterward, in the same way as during convalescence from an acute infectious disease, metabolism is stimulated and the appetite increased. The idea occurred to him that these phenomena and processes might be utilized for therapeutic purposes. The alteration in the composition of the blood might possibly confer bactericidal power on it, and the sudden, intense, transient hyperemia, the subsequent, protracted, serous saturation of the internal organs and the skin, and the augmented metabolism and appetite, could not fail to benefit certain chronic, sluggish, infectious processes by giving them a general shaking-up, as it were, and thus allowing the recuperative forces of the organism a chance to work. Experiences with certain drugs suggest the possibility that the changes induced might be most pronounced at the point of the morbid processes. Reasoning from these premises Bier applied the transfusion of defibrinated lamb's blood as a therapeutic measure in eleven cases of advanced, incurable tubercular affections. The amount injected at a time ranged from 4 to 20 c.c., never enough to cause more than a trace of albuminuria. All the patients mentioned that their faces felt as if they would burst. They were informed that they would experience transient swelling and flushing of the face, pains, chills, fever, etc., and that

these symptoms were part of the treatment. The appetite returned after a single injection and became ravenous in nearly every case. The fever did not cause lassitude; the patients felt well and enjoyed their meals even while it lasted. The lamb's blood was injected in a vein of the arm, the aperture in the needle eccentric to the point. One case is reported in detail, the patient a young carpenter with extensive open tuberculosis of the sacro-iliac symphysis on both sides. The first four injections—a total of 55 c.c. in five days—failed to cause any symptoms of intolerance for two days, then urticaria developed all over the body, lasting for three days. Ten days after the last injection 10 c.c. were transfused, the ordinary train of transfusion-symptoms developed and with them a ravenous appetite. The transfusion was repeated about 12 times in the course of four months. Patient gained in weight and the extensive, bilateral suppuration in the pelvic abscesses and fistulae became nearly dried up, while the patient was able to be up and about without discomfort. One day 2.5 c.c. were injected followed as usual by transient dyspnea, backache and burning of the face. The same amount was injected as these symptoms subsided, followed by slight pains. Then 5 c.c. were injected and caused no disturbance, and an additional 10 c.c. induced merely slight dyspnea. A total of 20 c.c. blood was thus transfused in twenty-five minutes, and after the first portion caused no disturbances. This suggests that the dissolving substances in the patient's blood were used up by the first small amount of blood transfused. Four cases of lupus showed such prompt and remarkable retrogression of the lesions after systematic transfusion that Bier remarks he would call them cured if it were not for the disappointments that followed the alleged cures with tuberculin. He has also been testing this measure in cases of inoperable malignant neoplasms and promises some interesting communications when his observations are completed. One case of acute sepsis, and another of pyohemia, both very grave, were not influenced by the injections and succumbed to the progress of the disease. As lamb's blood is the least toxic, Bier suggests that the effect might be enhanced by using the blood of other animals.

Multiplicity of Primary Malignant Tumors. NEHRKORN.—Several cases of multiple carcinomata have been observed at the Heidelberg clinic. In one there was a carcinoma on the temple, another over the orbit and a third behind the ear. In a second patient two carcinomatous nodules a few centimeters apart developed on one temple. In a third a carcinoma had developed on the ear subsequent to chronic eczema and otitis, while an adenoma developed on the lip. Another patient was recently operated on and a carcinoma of the mamma removed at the same sitting with an adenoma of the uterus. Schiller published recently a case in which a spindle-celled sarcoma of the epiglottis coincided with an epithelioma of the tongue. The latest case observed by Nehr Korn was that of a woman of 59. A melanosa sarcoma of the rectum was removed and a carcinoma of the uterus at the same time. The patient died and the autopsy showed numerous sarcomatous metastases of the viscera. He concludes from his experience and that of others that multiple carcinoma-formation has been established in a few special cases. Usually it seems to be a mere coincidence.

A New Point of View for the Treatment of Whooping-Cough. G. SPIESS.—The causal agent of whooping-cough induces an irritation in the throat which causes the coughing by reflex action. If the lining of the throat could be rendered insensible, the reflex action would not be induced. The anesthetic effect of cocain is transient, but orthoform is a substance which induces a hypoaesthesia sufficient for the purpose and lasting several hours. Spiess therefore treats whooping-cough by insufflating orthoform with a bulb powder pump, the patient inhaling as the powder is blown into his throat. The relief is immediate, and infants and children make no resistance to the measure as they learn that it is painless. It is also beneficial in certain other affections of the upper air-passages.

April 16.

Acute Serous Meningitis. J. HEGENER.—The number of cases of acute serous meningitis on record is still very small.

The affection is differentiated by the complete recovery after evacuation of the excess of cerebrospinal fluid, although the symptoms may have indicated severe purulent meningitis. Hegener recently operated on two patients with symptoms of pressure on the brain complicating an old and severe disease of the middle ear, retarded pulse, headache, optic neuritis etc. All the threatening symptoms vanished after opening of the subarachnoid space and the gradual oozing of a large amount of serous fluid. In one case the parts involved in the ear affection had all been removed except the diseased labyrinth in which no pus was found. It healed completely and spontaneously, after the escape of the serous fluid. In one of the cases optic neuritis appeared nine days after the incision in the subarachnoid, and subsided four weeks later. If lumbar puncture had been done instead of the subarachnoid incision and subsequent continuous drainage, it would have been necessary to have repeated it several times in one case, as the symptoms of pressure on the brain did not entirely subside until after eight days.

Tuberculosis a Toxicosis. E. KLEBS.—It has been established that market butter may contain tubercle bacilli. Klebs asserts that it may also contain the toxins of the tubercle bacilli and describes various experiments which indicate such to be the case. He considers his personal experience suggestive in this respect. He was spending the summer in a healthy Swiss village when he noticed that an ulcer cruris and eczema of the hands, from which he had suffered ten years previously, had recurred with their pristine intensity, although no external agents could have irritated them. He finally traced their origin to the unusually large quantities of butter he was eating, made up his mind that they were tubercle bacilli toxins, and cured them with his "tuberculocidin" which neutralizes these toxins. Experiments on guinea-pigs showed that the butter contained a virulent toxin which killed the animals with the characteristic lesions and hypothermia characteristic of tubercular toxins. He is convinced that tuberculosis, besides being an infectious disease, is at the same time a toxicosis.

Treatment of Rhachitis with Suprarenal Substance. M. HOENIGSBERGER.—Suprarenal extract has no influence on rhachitis except as a measure that benefits the health in general. It accomplishes the latter by raising the blood pressure by its vasoconstricting action on the vessels, and by its retarding and regulating action on the heart and pulse owing to its action on the vagus centers.

Rinsing Out the Stomach in Children. I. STEINHARDT.—The general practitioner is urged to make more frequent use of lavage of the stomach in the gastro-intestinal disorders of infancy. The technique is simple; it can do the child no harm and is indicated in all cases of acute digestive disturbances in small children rebellious to the ordinary measures. In nearly every case more or less marked improvement is the prompt result.

Treatment of Gout with Quinic Acid. SALFELD.—Quinic acid seems to possess the property of dissolving or transforming the deposits of uric acid in genuine gout so that they subside or are eliminated with no trouble to the organism. A combination of quinic acid and piperazin has been tested by Salfeld on several patients, and he is much impressed with its therapeutic value. It has no effect on articular rheumatism and is thus an excellent differentiating medium.

Treatment of Fibrinous Pneumonia. HORNUNG.—The points emphasized in this communication are the danger of alcohol in any form in pneumonia, as it has the same paralyzing effect on the vasomotor centers as ether and chloral and the pneumococcus toxin itself, while it is of the utmost importance to keep these vasomotor centers intact. Another point emphasized is the benefit to be derived from faradization of the thorax with a rolling massage-electrode. The constant interruption of the current exerts a kind of massage on the cells which materially stimulates the circulation and hence relieves the heart. The electrization is grateful to the patient and has never failed in Hornung's experience, even in the severest cases of disturbed compensation.

Wiener Klinische Rundschau, April 7.

Etiology of Delirium Tremens.—A. ELZHOLZ.—It is probable that the excessive use of alcohol generates in the body a toxic substance, analogous to the toxins of the pneumococcus or other infectious agents. Elzholtz is inclined to believe that alcohol is itself the antidote for this metabolic toxic substance when the alcohol is suspended or an insufficient amount ingested, when the toxic action has full sway and the clinical picture of delirium tremens results. He calls attention to a symptom of delirium tremens which has been hitherto overlooked. It indicates that the toxic substance generated has an influence on the mucous membranes. He has found a catarrhal affection of the conjunctiva accompanying delirium tremens in more than 50 per cent. of his cases since he began to look for it a few years ago. It may be very slight or may attain the proportions of a muco-purulent conjunctivitis, but in every case it vanishes with the termination of the attack of delirium tremens. No complications on the part of the eye accompanied it in any case. He cites an instance in which an incipient attack of delirium tremens was arrested by a pint of beer which the patient drank just before he was taken to the hospital. There was no delirium for two days after his admission, when it again burst forth with renewed energy. The alcohol proved an antidote for the toxin and annulled its influence, but when the effect of the alcohol passed off the delirium recurred.

Congenital Stenosis of the Pylorus in Infants. A. KOEPPEN.—This condition should be called a "cramp of the pylorus," rather than stenosis, and is a nervous phenomenon on an inherited nervous soil. The treatment should be the strictest hygienic-dietetic measures from the first indications of the trouble. Medicines do little good, as narcotics can not be given in amounts sufficient to ensure a permanent effect, and as purgatives merely serve to increase the cramp. Koepen has never derived any benefit from lavage of the stomach, but recommends the application of dry heat to the abdomen, possibly with a thermophor or hot flannel cloths. The child is often fed, and held in an upright position until eructation occurs, which may require fifteen minutes or even longer. The food should contain very little casein, little sugar and not much fat, in order not to favor the tendency to cramp. All mixtures of cow's milk are injurious on account of the proportion of casein. When careful supervision of the food, etc., and the course of the trouble, show the impossibility of even a minimal absorption of food, then the little patient should be operated on as a last resort, without waiting for or even enquiring as to the degree of the stenosis or the extent of the hypertrophy. Gastro-enterostomy is the only operation that prevents a recurrence of the trouble as it removes the foundation for the injurious consequences of the congenital, local constitutional anomaly to which the cramp of the pylorus is due in these cases. This article was commenced in No. 9.

Alcoholism in Childhood. M. KASSOWITZ.—The writer of this communication, which was presented at the International Anti-Alcohol Congress, states that he and others have known instances of epilepsy, delirium tremens, dropsy, etc., in children follow the continued use of alcohol, not only when ingested in excessive amounts but also frequently after the moderate use of wine or beer and even after the small doses of brandy which are considered by many persons as not only harmless but directly beneficial. These experiences testify to an abnormal susceptibility on the part of the childish nervous system and organism to the effects of alcohol. The depressing influence of alcohol on the child's capacity for study has also been directly demonstrated.

April 14.

Hemorrhage After Operations on the Tonsils. SEIFERT.—In the two cases of angina phlegmonosa described, the incision was followed by violent hemorrhage, but Seifert arrested it by plugging the wound with cotton or gauze. The tampon was left over night and definitely checked the hemorrhage in one patient. In the other the flow of blood was renewed when the tampon was removed. The wound was irrigated with an antiseptic solution and the tampon replaced, with no further disturbance. Tamponing the wound is a simple and effective

measure for arresting post-operative hemorrhage from the tonsils, if skillfully performed, and renders ligature of the external carotid unnecessary.

Wiener Klinische Wochenschrift, April 4.

Injections of Paraffin for Prolapse. HALBAN.—In four cases of cystocle Halban injected a half ring of paraffin between the wall of the vagina and the bladder in order to form a kind of a pessary to prevent the prolapse. He injected about 20 to 25 c.c. and inserted a pessary for twenty-four hours to make the paraffin cool in the desired shape. The results have been extremely satisfactory.

St. Petersburg Medicinische Wochenschrift, March 19.

The Growing Old of the Heart. K. DEHIO.—As the blood-vessels grow old, the changes in their structure cause corresponding functional and anatomic changes in the heart. It increases in size and weight to enable it to keep pace with its increased task, but at the same time the circulation is retarded, keeping the pulse slow. Dehio describes a simple apparatus with which he tested the power of the heart to respond to extra tasks. The foot is fastened to a weight hanging from a pulley on a post at the foot of the bed. Drawing up the leg raises this weight of 4090 gm. to a height of 40 cm. Young and healthy persons could do this fifty times a minute with no apparent effect on the heart's action, which remained rhythmic and even, although the pulse was 114 to 120 and the limb much fatigued. Less robust persons wearied in six minutes and the pulse rose to 132 or 140, but the heart's action was regular. Elderly persons, on the other hand, found it impossible to keep up the exercise more than a few minutes on account of dyspnea, palpitations or excessive sweating, but at the same time the pulse persisted slow, the beat ranging from 76 to 102, arrhythmic in several cases. The heart is incapable of accelerating its beat as occasion demands, as is possible in the young and healthy. The contractions are less frequent and there is less volume to the beat owing to the diminished automatic energy. The latter is due principally to the myofibrosis to which Dehio has previously called attention. The essence of this process is a disappearance by atrophy of the muscle fibers of an originally primarily hypertrophied heart, and the substitution of the atrophied muscle fibers by interstitial connective tissue.

Queries and Minor Notes.

"CHRISTIAN SCIENCE" UNIVERSITY.

CAVE SPRINGS, GA., April 19, 1901.

To the Editor:—Is there, or was there, eight or ten years ago, a legal medical college or medical department of a university known as the "Christian Science University of Chicago?" If there is or was such, can its graduates practice in Georgia. I. S.

Ans.—We have never heard of the institution, and we doubt very much whether its graduates could practice in Georgia under present laws. According to a recent decision of Judge Lumpkin, of Atlanta, editorially commented upon in the *Savannah Press*, no one not regularly graduated from a medical college can legally practice there.

SURGEONS ON OCEAN LINERS.

BART, ME., April 23, 1901.

To the Editor:—To whom should one apply for a position as Surgeon on an ocean liner? What is the average salary such positions offer and the general requirements for applicants?

H. B. H.

Ans.—Appointments on ocean steamers are made by the officials of the company, to whom inquiries should be addressed. The requirements are usually five years of practice or its equivalent in hospital experience. In British steamers British qualifications are necessary. Usually the salary is small, but there are often certain perquisites, head-money, etc., which will increase it perhaps to something like \$100 a month.

SECRETARIES OF HEALTH BOARDS.

SAC CITY, IOWA, April 27, 1901.

To the Editor:—Please favor me with a list of the secretaries of the state boards of health of Michigan, Nevada, South Dakota, Wisconsin, New Mexico, California and Texas. L. E. M.

Ans.—Michigan: Dr. B. D. Harrison, Sault Ste. Marie. Nevada:

Dr. S. L. Lee, Carson City. South Dakota: Dr. A. E. Clough, Madison. Wisconsin: Dr. H. M. Ludwig, Richland Center. New Mexico: Dr. T. P. Martin, Taos. California: Dr. C. C. Wadsworth, 1104 Van Ness Ave., San Francisco. Texas: Appointment not yet published.

OSHKOSH, WIS., April 25, 1901.

To the Editor:—Please give the names and addresses of the secretaries of the state medical boards of examining surgeons for Michigan and Indiana.

A. B. C.

ANS.—For Michigan, see above. The secretary for Indiana is Dr. W. F. Curryer, Indianapolis.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., April 18 to 24, 1901, inclusive:

Charles N. Barney, contract surgeon, detailed a member of an examining board at Fort Monroe, Va., to relieve Captain F. R. Keefer, asst.-surgeon, U. S. A.

George E. Bushnell, major and surgeon, U. S. A., leave of absence granted.

Thomas C. Chalmers, major and surgeon, Vols., recently appointed, to report at San Francisco, Cal., for transportation to the Division of the Philippines.

William H. Corbusier, major and surgeon, U. S. A., member of a board in New York City, N. Y., to investigate the suitability of the transport *Terry*, for service as a hospital ship in the Philippine Islands.

William D. Crosby, major and surgeon, U. S. A., member of a board in New York City, N. Y., to investigate the suitability of the transport *Terry* for service as a hospital ship in the Philippine Islands.

Charles R. Gill, captain and asst.-surgeon, Vols., sick leave granted.

Leonard K. Graves, captain and asst.-surgeon, Vols., recently appointed, leave of absence granted.

George P. Heard, contract surgeon, from Birmingham, Ala., to post duty at Fort McPherson, Ga.

Willis J. Raynor, captain and asst.-surgeon, Vols., recently appointed, leave of absence granted.

Milton Vaughan, captain and asst.-surgeon, Vols., recently appointed, from the Department of Cuba, via San Francisco, Cal., to the Division of the Philippines.

Franklin F. Wing, contract dental surgeon, from Washington, D. C., to San Francisco, Cal., en route for service in the Division of the Philippines.

PROMOTIONS AND APPOINTMENTS, ETC., OF ARMY MEDICAL OFFICERS, REGULARS AND VOLUNTEERS.

The following promotions, retirements and deaths in the Medical Department, U. S. A., and appointments to positions as surgeons and asst.-surgeons, U. S. Vols., have been recorded in the Adjutant-General's Office, War Department, Washington, D. C., from March 15 to April 15, 1901. The appointments, etc., up to March 15, consequent on the passage of the army reorganization bill of February 2, 1901, were published in THE JOURNAL of April 6, last:

Regular Army, Promotions.—Captain W. B. Banister, asst.-surgeon, to be surgeon with the rank of major, April 2, 1901.

Regular Army, Retirements.—Colonel A. A. Woodhull, asst.-surgeon-general, April 13, 1901, by operation of law, act of June 30, 1882; Captain Jefferson D. Poindexter, asst.-surgeon, with the rank of major, April 13, 1901, for disability incident to the service.

Regular Army, Deaths.—Major William R. Hall, surgeon, April 2, 1901, at Manila, P. I.

Volunteers, Appointments.—The following captains and asst.-surgeons, U. S. A., to be surgeons with the rank of major: George D. De Shon, March 14, 1901; William F. Lippitt, jr., March 21, 1901; James M. Kennedy, March 21, 1901; James S. Wilson, March 27, 1901; Ogden Rafferty, April 6, 1901; Charles F. Mason, April 9, 1901; James D. Glennan, April 9, 1901; Thomas U. Raymond, April 9, 1901; also Captain Edward A. Romig, asst.-surgeon 40th Infantry, March 28, 1901, and Frederick A. Washburn, Jr., of Massachusetts, March 28, 1901.

To be asst.-surgeons with the rank of captain: James G. McKay, of Pennsylvania, March 13, 1901; Thomas W. Jackson, of Pennsylvania, March 15, 1901; William Alden, of Massachusetts, March 15, 1901; Willis J. Raynor, of Colorado, March 22, 1901; William B. Summerrall, of Georgia, March 21, 1901; Thomas K. Mullins, of Alabama, March 21, 1901; Ernest K. Johnstone, of California, March 19, 1901; Julius A. Escobar, of New York, March 19, 1901; Frederick, A. W. Conn, of Pennsylvania, March 23, 1901; Simon J. Fraser, of California, March 23, 1901; Reuben M. Bonar, of Ohio, March 27, 1901; Wharton B. McLaughlin, of Texas, March 28, 1901; Thomas T. Jackson, of Texas, March 28, 1901; James W. Madara, of Kentucky, April 2, 1901; Milton Vaughan, of Arkansas, April 2, 1901; Nelson Miles Black, of Wisconsin, April 3, 1901; William O. Cutcliffe, of New York, April 6, 1901; George B. Lawra-son, of Louisiana, April 6, 1901; Albert H. Eber, of Michigan, April 4, 1901; James B. Cutter, of California, April 11, 1901; William H. Block, of Maryland, April 11, 1901; Robert E. Williams, of California, April 11, 1901.

Volunteer Promotions.—Captain Samuel C. de Krafft, asst.-surgeon, 28th Infantry, to be surgeon with the rank of major, March 26, 1901; Lieutenant Albert H. Eber, asst.-surgeon, 30th Infantry, to be asst.-surgeon with the rank of captain, March 1, 1901; Lieutenant John C. Greenewalt, asst.-surgeon, 33d Infantry, to be asst.-surgeon with the rank of captain, March 30, 1901; Lieutenant H. Brookman Wilkinson, asst.-surgeon, 34th Infantry, to be asst.-surgeon with the rank of captain, Feb. 28, 1901; Lieutenant George L. Hicks, Jr., asst.-surgeon, 38th Infantry, to be asst.-surgeon with the rank of captain, Feb. 20, 1901; Lieutenant Harold L. Coffin, asst.-surgeon, 39th Infantry, to be asst.-surgeon with the rank of captain, March 31, 1901.

Volunteers, Honorably Discharged on Account of the Muster-out of Their Regiments.—Major Francis A. Winter, surgeon, 37th Infantry, Feb. 20, 1901; Captain Thomas B. Anderson, asst.-surgeon 37th Infantry, Feb. 20, 1901; Major Ogden Rafferty, surgeon, 27th Infantry, April 1, 1901.

Navy Changes.

Changes in the Medical Corps of the navy, week ended April 27 Asst.-Surgeon J. B. Dennis, detached from the Naval Academy and ordered to the *Chesapeake*, May 2.

Asst.-Surgeon C. G. Smith, ordered to the *Vermont*, April 25. Medical Inspector F. Rogers, ordered to the *Brooklyn*, for duty as fleet surgeon of the Asiatic Station.

Surgeon W. F. Arnold, detached from duty at Olongapo, P. I., and ordered to the *New Orleans*.

Surgeon C. F. Stokes, ordered to the Cavite Naval Station to await the *Solace*.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended April 25, 1901:

Surgeon F. W. Mead, department letter of January 11, 1901 granting leave of absence for sixty days, amended so that said leave shall be for one month and twenty-four days.

Surgeon A. H. Glennan, to proceed to Tallahassee, Fla., for special temporary duty.

Surgeon W. P. McIntosh, to proceed to Ducktown, Tenn., for special temporary duty.

Surgeon W. J. Pettus, department letter of January 11, 1901, granting leave of absence for two months, amended so that said leave shall be for one month and twenty-seven days.

P. A. Surgeon C. P. Wertenbaker, to represent the service at meeting of Texas Medical Association, Galveston, Texas.

P. A. Surgeon J. A. Nydegger, to proceed to Cape Charles Venture, Va., for special temporary duty.

P. A. Surgeon H. S. Mathewson, to proceed to Ponce and Guayanilla, Porto Rico, for special temporary duty.

Asst.-Surgeon W. W. King, to proceed to Guayanilla, Porto Rico, for special temporary duty.

A. A. Surgeon L. P. Gibson, granted leave of absence for seven days.

A. A. Surgeon J. C. Rodman, granted leave of absence for seven days from April 24.

Hospital Steward Mark H. Watters, relieved from duty at Chicago, and directed to proceed to St. Louis, Mo., and report to the medical officer in command for duty and assignment to quarters.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague, have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended April 26, 1901:

SMALLPOX—UNITED STATES AND INSULAR.

Delaware: Newcastle, April 1-15, 4 cases.

Florida: Jacksonville, April 13-20, 6 cases.

Illinois: Chicago, April 13-20, 17 cases.

Kentucky: Cynthiana, April 17, 6 cases; Lexington, April 13-20, 4 cases.

Louisiana: New Orleans, April 13-20, 10 cases, 1 death.

Minnesota: Winona, April 13-20, 2 cases.

New Hampshire: Manchester, April 13-20, 7 cases.

New Jersey: Jersey City, April 14-21, 4 cases.

Ohio: Cincinnati, April 12-19, 7 cases; Cleveland, April 13-20, 46 cases.

Pennsylvania: April 13-20, Pittsburg, 1 case; Steelton, 3 cases.

Tennessee: Nashville, April 13-20, 1 case.

West Virginia: Wheeling, April 13-20, 1 case.

Philippines: Manila, March 2-9, 8 cases.

Porto Rico: San Juan, April 6, 13 cases.

SMALLPOX—FOREIGN.

Austria: Prague, March 23-April 6, 8 cases.

Belgium: Antwerp, April 6, 3 cases, 1 death.

China: Hongkong, March 2-9, 6 deaths.

France: Paris, March 31-April 6, 10 deaths.

Gibraltar: April 1-7, 2 cases.

Great Britain: England—Southampton, April 6-13, 3 cases. Scotland—Glasgow, April 6-13, 5 deaths; Leith, March, 31-April 6, 1 case.

India: Bombay, March 19-26, 12 deaths; Calcutta, March 16-23, 144 deaths; Karachi, March 9-16, 12 cases, 8 deaths; Madras, March 16-22, 10 deaths.

Mexico: Progreso, March 31-April 6, 4 cases; Yucatan, Merida, April 11, prevalent.

Netherlands: Rotterdam, March 31-April 6, 1 case.

Russia: Odessa, March 31-April 6, 13 cases, 1 death.

Spain: Corunna, March 31-April 6, 1 death; Vigo, March 1-31, 1 death.

YELLOW FEVER.

Colombia: Panama, April 8-15, 8 cases.

Haiti: Cape Haytien, March 23-30, 1 case, 1 death.

Mexico: Coatzacoalcas, April 1, prevalent.

Salvador: San Salvador, March 31, 4 cases 3 deaths.

CHOLERA.

China: Hongkong, March 2-9, 1 death.

India: Bombay, March 19-26, 4 deaths; Calcutta, March 16-23, 65 cases; Madras, March 16-22, 1 case.

Straits Settlements: Singapore, Feb. 26-March 2, 5 deaths.

PLAGUE—INSULAR.

Philippines: Manila, March 2-9, 8 deaths.

PLAGUE—FOREIGN.

China: Hongkong, March 2-9, 16 deaths.

India: Bombay, March 19-26, 886 deaths; Calcutta, March 16-23, 1,040 deaths; Karachi, March 19-26, 239 cases, 192 deaths.

Straits Settlements: Singapore, Feb. 26-March 9, 3 deaths.

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Original Articles.

AMPUTATION THROUGH THE HIP-JOINT WITH A SYNOPSIS OF 267 CASES IN WHICH THE AUTHOR'S METHOD WAS EMPLOYED.*

JOHN A. WYETH, M.D.

NEW YORK CITY.

From the dawn of surgery to within a very recent period, amputation at the hip-joint has been considered one of the gravest surgical operations.

In 1808 Earle¹ described it as "unjustifiable," and said: "I have seen it done and am now very sure that I will never do it unless it be on a dead body." In the third edition of his "Principles of Military Surgery," Hennen,² in 1829, said: "Obliged as we are, coolly to form our calculations in human blood, there is still something in the idea of removing the quarter of a man, at which the boldest mind naturally recoils. There is not one patient in a thousand that would not prefer instant death to the attempt." Even as late as 1881, Prof. John Ashhurst, Jr.,³ one of the highest authorities in modern surgery, wrote: "The removal of the lower limb at the coxo-femoral articulation may be properly regarded as the gravest operation that the surgeon is ever called upon to perform, and it is only within a comparatively recent period that it has been accepted as a justifiable procedure."

ORIGIN.

The origin of this amputation is involved in no little obscurity. Dr. Louis Coronat⁴ claims that at about the beginning of the eighteenth century a French surgeon, Morand, was the first to have the boldness to conceive the idea of severing the lower extremity from the body at the coxo-femoral articulation, and that the first operation of this nature was done by Laeroix, of Orleans, in 1748. It is now well known that this operation by Laeroix was in no sense an amputation at the hip. The ligamentum teres and the sciatic nerve were the only issues which had not completely sloughed away at the line of demarcation in a case of gangrene which destroyed the entire lower extremity, and these Laeroix divided with seissors.

In the fourth volume of "Sabatier's Médecine Opérative," published in 1832, there is an account of another operation of this character, done by Perault in the case of Francois Gois, a man 21 years of age, whose thigh had been crushed by the pole of a wagon. Septic infection followed by extensive suppuration and gangrene ensued until all the soft parts were dead and were separated from the bone—*le femur était disséqué de toutes*

parts. Through these gangrenous and bloodless soft tissues the amputation was made.

Mr. Frederick Treves, in Volume I of his "Manual of Operative Surgery," claims that Mr. Henry Thomson, surgeon to the London Hospital, was the first to perform this operation, about 1777, but the first clearly authentic record of an amputation at the hip-joint, through living tissues, is of one performed by Mr. Kerr of Northampton, in 1778, on a girl of 11 years, who was suffering from destructive osteo-arthritis at the hip and who survived the operation eighteen days.⁵ The early history of this procedure should not be passed over without mentioning the name of the French surgeon, Ravaton, who in 1743 clearly and distinctly proposed a method of amputation with disarticulation at the hip-joint, although he did not live to carry into actual practice the operation he devised.

Professor Ashhurst, writing in 1881, voiced the accepted opinion of surgeons when he said: "The most pressing risk in amputation at the hip-joint is that of hemorrhage," and with this fact in mind it is not surprising that the ingenuity of surgeons has been earnestly employed in devising means for controlling the circulation.

CONTROL OF HEMORRHAGE.

Beginning with compression of the aorta by digital or mechanical means, as advised by Pancoast, Lister, Abernethy, Donald Maclean and others, and later the intrarectal lever of Davy for compressing the common iliac artery against the pelvis, the first really valuable suggestion for controlling hemorrhage was that of Richard Volkmann, the distinguished German surgeon.⁶ In 1874 he reported three cases of hip-joint amputation in which he had used the Esmarch elastic bandage for driving the blood out of the member to be amputated into the body, and then had placed an elastic loop in the femoro-scrotal commissure, drawing the ends upward and outward, the anterior passing parallel with Poupert's ligament, the posterior near the gluteal fold, in which position it was held by an assistant. To further secure it in position loops of roller bandage were thrown beneath the rubber tourniquet in front and behind, and upon these, during the operation, upward traction was also made by an assistant. In two of these cases there was no hemorrhage. In one, Volkmann says, "a severe hemorrhage occurred which I succeeded in stopping by compression."⁷ Of the three cases two died. It may be that the hemorrhage in one case and the fatal result in two of the three operated upon discouraged surgeons at large from repeating this innovation of Volkmann's. But scant mention was made of it in surgical literature, and it is well known the method was not adopted.

In *The Lancet* in 1883, Mr. Jordan Lloyd advised the use of the figure-of-eight elastic bandage which included

* Read before the New York State Medical Association, October, 1900.

the posterior aspect of the thigh in its grasp and then passed over the rim of the pelvis, and around the body, making compression of the external iliac by means of a roller bandage placed over this artery. But this method, as in the case of Volkmann, did not meet with the consideration it deserved and failed to be generally adopted.

The use of the needle or skewer for the control of hemorrhage in amputation at the hip was first employed on July 28, 1880, by Trendelenburg, at the suggestion of Newman:⁸ "A steel needle 38 cm. long, 6 mm. broad, biconvex on cross section, and in the thickest portion or center 2 mm. thick, was inserted just below the anterior iliac spine and carried in the direction of the perineum, passing between the neck of the femur and the vessels, and emerging on the inner aspect of the thigh, near the perineo-femoral crease. A figure-of-eight ligature was then thrown over the ends of the needle and in front of the thigh, thus constricting the femoral artery and vein. The limb having been previously emptied of blood by the application of Esmarch's bandage as high as the middle of the thigh, a long knife

nerve. A piece of cord was passed under the heel and point of the needle, forming a figure-of-eight ligature."

Myles, of England, advised a slight modification of the Newman-Trendelenburg procedure. A steel skewer was passed through the thigh, the point entering an inch below Poupart's ligament, going external to the femoral artery and internal to the neck of the femur and emerging a little above the gluteal fold. An India-rubber cord in figure-of-eight fashion was then to be thrown over the ends of the skewer and the inner aspect of the thigh. The amputation was by lateral flaps.

Author's Method.—In theory and practice it is clear that any method of constriction which does not with absolute safety control all of the blood-vessels at the level of the hip-joint must prove unsatisfactory. In 1888 I removed the outer half of the clavicle, the glenoid, acromion, and coracoid processes, and part of the body of the scapula, together with the upper extremity, of a patient suffering from a large sarcoma of the head of the humerus. Not wishing to perform a preliminary deligation of the subclavian in its third division, I trans-fixed, with a stout mattress needle, the major pectoral

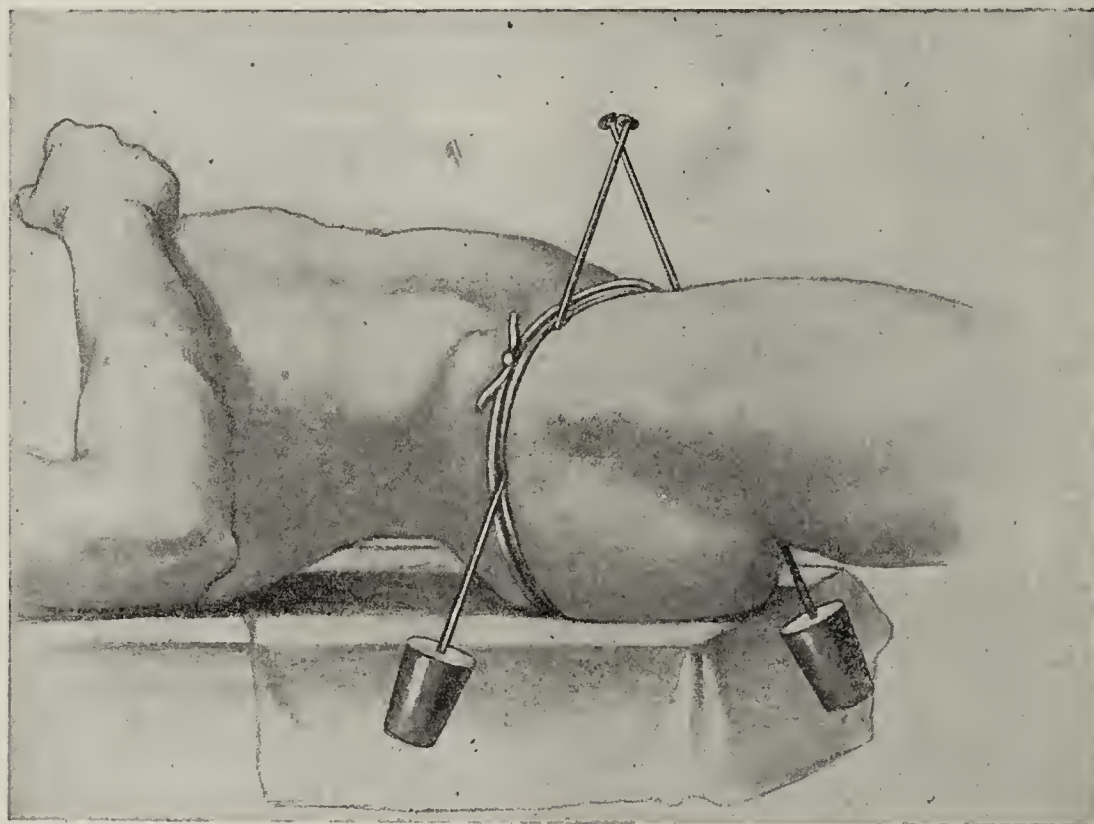


FIG. 277.—Hip-joint amputation. Pins and rubber-tube tourniquet in position. The Esmarch bandage has been removed.

From Text-Book on Surgery. Copyright, 1897, by D. Appleton & Co.

was carried through the front of the thigh 2 cm. beyond the needle and parallel with it (Lisfranc), and a flap formed by cutting by transfixion. The vessels were then tied, and the needle and figure-of-eight loop removed, and the head of the femur disarticulated. The needle was again introduced behind the bone, the figure-of-eight carried posteriorly, and the posterior flap then formed."

In 1886 (August 10), Dr. Muscroft,⁹ of Cincinnati, employed a somewhat similar method: "A needle one-eighth of an inch wide, slightly bent at the point, about the thickness of a dime and four inches long, was introduced perpendicularly into the front of the thigh about an inch and a half below Poupart's ligament. The exact point of entrance was one-fourth of an inch internal to the combined sheaths of the vein, artery and nerve. The point was pushed beyond the vessels, then turned outward until the needle had passed beyond them; the point was then pushed out through the integument. The needle was then behind the vessels and

muscle about three inches from the shoulder, and, at about the same distance from the joint on the dorsum scapulæ, I introduced a second needle in such a way that when I carried a strong rubber tube several times around the shoulder, above these needles, with strong traction, the compression was so great that hemorrhage was controlled during the amputation. It occurred to me at the time that the same plan was equally feasible at the hip. In February, 1890, I successfully applied this method in my first hip-joint amputation, and in the improvements which have been made on the original technique I believe I have demonstrated and established an operation in which hemorrhage in amputation at the hip-joint is as safely and as easily controlled as at any other portion of the thigh.

The patient should be placed with the sacrum resting upon the corner of the operating-table, the sound limb and arms being wrapped with cotton batting, and the body thoroughly protected from unnecessary loss of heat. The member to be removed should be emptied of blood

y elevation of the foot and by the application of the Esmarch bandage, commencing at the toes. When a tumor exists, or when septic infiltration is present, pressure should be exercised only to within about six inches of the diseased area for fear of driving the new elements or septic material into the circulation. After injuries with great destruction—crushing or pulpification—one must often trust to elevation alone, as the Esmarch bandage can not always be applied. In this last group of cases where hemorrhage more or less severe has occurred, the injection of a sufficient quantity of normal salt solution should precede any operation. Before the Esmarch bandage is removed the rubber tubing constrictor should be applied. The object of this constriction is the perfect occlusion of every vessel above the level of the hip-joint, permitting the flaps to be made, disarticulation to be completed and the vessels secured without hemorrhage and before the tourniquet is removed. To render the manipulation of the femur, in the process of disarticulation, free from the danger of the tourniquet slipping, I employ two strong steel needles or skewers, three-sixteenths of an inch in diam-

cepting the small quantity of blood between the limit of the Esmarch bandage below and the constricting tube above, the extremity is bloodless and will so remain.

In several instances surgeons have operated successfully and with satisfactory control of hemorrhage by using only one of the pins as above described—the outer—and by employing assistants to hold the rubber tubing in place. The operation has even been done successfully without the use of pins, but since these, if properly employed, are not at all in the operator's way, and since they render additional assistance unnecessary and assure safety by holding the tourniquet securely in place during the manipulations which are necessary to disarticulate the femur in the critical period of the operation, I hold they are essential in obtaining the best possible results.

In making the flaps no fixed rule can be laid down. The surgeon should always be guided by the conditions within the field of operation. The accepted principle that the danger from shock diminishes in proportion to the distance of the amputation from the trunk should not be overlooked. When done for osteomyelitis or for

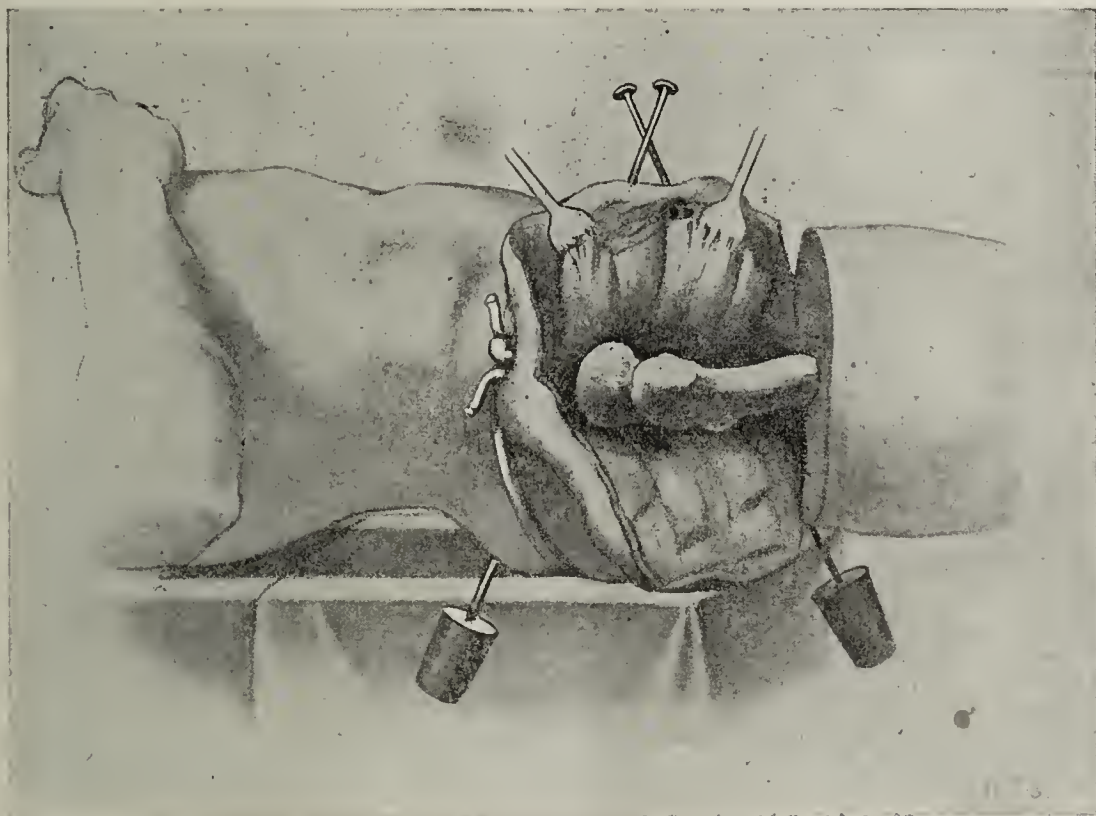


FIG. 278.—The same, showing the soft parts dissected from the bone and the capsule exposed.
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ter and ten inches long. One of these is introduced one-fourth of an inch below the anterior superior spine of the ilium and slightly to the inner side of this prominence, and is made to traverse superficially, for about three inches, the muscles and fascia on the outer side of the hip, emerging on a level with the point of entrance. The point of the second needle is thrust through the skin and tendon of origin of the adductor longus muscle one-half an inch below the femoro-perineal commissure or crotch, the point emerging just below the tuber ischii. The points should be shielded at once with cork to prevent any possible injury to the operator. No vessels are endangered by these pins. A mat or compress of sterile gauze, about two inches thick and four inches square, is laid over the femoral artery and vein as they cross the brim of the pelvis, and over this a piece of strong white rubber tubing one-half inch in diameter when unstretched, and long enough, when in position, to go five or six times around the thigh, is now wound very tightly around and above the fixation needles and tied. The Esmarch bandage is now removed and, ex-

cepting the small quantity of blood between the limit of the Esmarch bandage below and the constricting tube above, the extremity is bloodless and will so remain. In several instances surgeons have operated successfully and with satisfactory control of hemorrhage by using only one of the pins as above described—the outer—and by employing assistants to hold the rubber tubing in place. The operation has even been done successfully without the use of pins, but since these, if properly employed, are not at all in the operator's way, and since they render additional assistance unnecessary and assure safety by holding the tourniquet securely in place during the manipulations which are necessary to disarticulate the femur in the critical period of the operation, I hold they are essential in obtaining the best possible results. In making the flaps no fixed rule can be laid down. The surgeon should always be guided by the conditions within the field of operation. The accepted principle that the danger from shock diminishes in proportion to the distance of the amputation from the trunk should not be overlooked. When done for osteomyelitis or for

accident, where the conditions will permit, the soft structures should be divided at the junction of the middle with the upper third. A perpendicular incision commencing above the trochanter and carried down to the bone along the outer aspect of the hip and thigh should join the transverse incision. With the elevator, the muscles should be lifted from the bone or divided with a scissors or bistoury very close to the periosteum. When the capsule is reached this should be divided on its upper aspect, keeping the point of the bistoury always directed toward the center of the neck. The thigh should now be flexed on the abdomen, and after cutting across the capsule posteriorly, forcibly abducted and rotated until the ligamentum teres is ruptured, and the disarticulation completed. The leverage of the undivided femur is of invaluable aid in freeing the head of the bone from the socket. The vessels should now be tied with strong catgut.

In addition to the femoral arteries and veins, the following vessels must be secured: the saphenous vein, which on account of its proximity to the main trunk,

should be tied; the sciatic artery, which will be found near the stump of the sciatic nerve; the obturator, which is situated between the stump of the adductor brevis and magnus, usually about half way from the center of the shaft of the femur to the inner side of the thigh, the vessels being on a level with the anterior surface of the femur; the descending branches of the external circumflex two or three in number, usually found about an inch and a half outward and downward from the main femoral vessels beneath the rectus and in the substance of the crureus and vastus externus. The descending branches of the internal circumflex are insignificant and are usually in the substance of the adductor longus and between it and the adductor brevis and pectineus, only a little below the level of the femoral artery.

It is a wise precaution at this stage of the operation to loosen slowly the grasp of the tourniquet until the pulsation of the larger trunks is perceptible in order to be sure that none of the vessels have been overlooked. To prevent the oozing which is more or less extensive in operations through such large masses of muscular tissue, I introduce a wick of sterile gauze into the cavity

keeps farthest from the tumor and gives the healthiest flaps. When there is scant material to cover the stump it is even safer to err on the side of an unclosed wound and trust to granulation or grafting for ultimate closing. I employ silkworm gut sutures for uniting the flaps leaving no drainage excepting the ribbon of sterile gauze which is packed into the acetabulum and the space from which the bone was removed. It is usually withdrawn at the first dressing, about a week after the operation and its place taken by a small-sized drainage-tube.

In order to preclude the oozing which is likely to occur in such an extensive wound as an amputation at the hip necessitates, before tightening the silkworm gut sutures, I thoroughly dry out the flaps with sterile absorbent gauze, and while the constricting tourniquet is still in place, tighten the sutures and apply a light dressing of loose gauze which envelops the stump. Over this a gauze bandage is applied, making sufficient compression to prevent the transudation of serum or the oozing of blood. Additional loose gauze is now laid over the stump and is held there by firm compression with the hands of an assistant while the tourniquet is

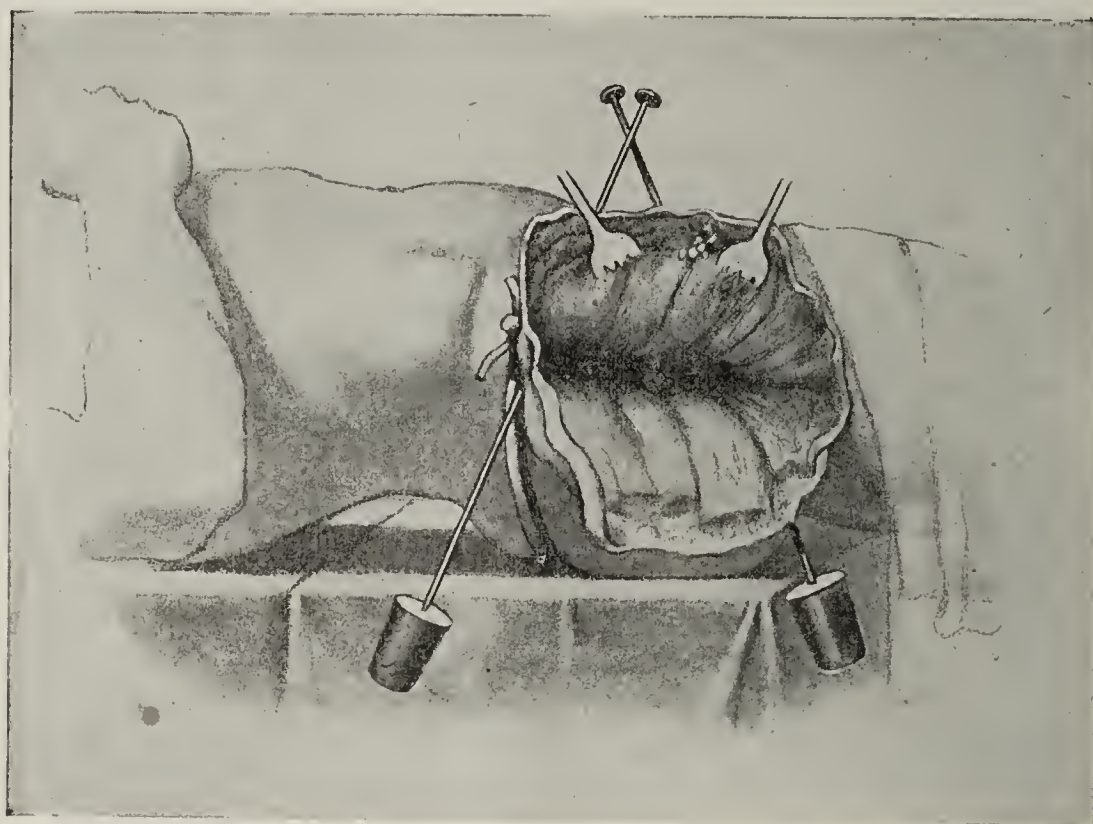


FIG. 279.—The same, with the disarticulation complete. Constrictor still in position.

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of the acetabulum, packing this thoroughly in the space between the muscles from which the bone has been dissected, leaving one end of the wick to pass out between the flaps for the purpose of its removal. In addition to this, with a long half-curved Hagedorn needle, armed with good-sized catgut, deep sutures are then passed through the stumps of the divided muscles, taking three or four inches in the grasp of each suture. In this way large masses of muscle are brought snugly together when these sutures are tied.

This method of forming the flaps and of disarticulating the femur was practically the operation devised by Ravaton in 1743, and was the method employed at Bardstown, Ky., in August, 1806, by Dr. Walter Brashear, the first hip-joint amputation made in the United States.¹⁰

When, from destruction of the parts by accident or disease, or from the proximity of a neoplasm, this ideal method is not practicable, any modification may be employed, preference being given to the incision which

loosened, and it, with the pins, removed. A figure-of-eight spica is then thrown over the stump and around the waist, the final turns of which give support to the stump and hold it snugly against the pelvis.

With these precautions I have not been troubled with the oozing which has been complained of by some experienced operators. It is a wise precaution to lower the upper extremity of the patient before removing the tourniquet, as this partial Trendelenburg posture takes off some of the pressure in the arteries at the seat of operation. In fact, in the case of injury where extensive hemorrhage has already occurred, it is better to operate with the patient in this position, even when the intravenous injection of salt solution has been employed.

Method of Digital Compression.—Within recent years two other methods having for their object the control of hemorrhage in amputation at or near the hip-joint have been successfully tried and are recognized by surgeons of reputation and experience. In a paper read at the meeting of the Surgeons of the Pennsylvania

Company, at Pittsburg, in 1888, Dr. J. J. Buchanan suggested the propriety of making an abdominal section under strict antiseptic precautions, and of having an assistant introduce the hand to control, by digital compression, the descending aorta, while the amputation was being made. This suggestion was received with favor by the surgeons then present, and afterward published in "Stemen's Railway Surgery" (1890). As with many other pioneers in surgery, Dr. Buchanan did not have the opportunity of carrying his operation into execution, but Dr. Neal Hardy, of Sandusky, Ohio, who was present at the meeting in Pittsburg, where Dr. Buchanan's paper was read, in November, 1890, applied it with success upon a male patient, 34 years of age. Applying this idea of digital compression within the peritoneal cavity, to the common iliac artery, Dr. Charles McBurney, of New York, has within recent years performed several amputations at the hip-joint, and has commended the procedure.

Method of Gradual Dissection.—Another method worthy of consideration by reason of the distinguished surgeon who commends it, Dr. W. L. Estes, of Beth-

will hold good when applied to the method advised by Dr. McBurney. Notwithstanding the too common assertion that opening the abdominal wall and invading the peritoneal cavity under aseptic precautions is not dangerous, and that the gridiron incision carries no risk of hernia with it, I insist and believe the vast majority of surgeons will endorse this position—that we should never enter the abdominal cavity when it can be avoided. Every minute of time unnecessarily lost and every unnecessary traumatism are factors in increasing the danger of shock, and this is the greatest danger in hip-joint amputation. Moreover, compression applied to the common iliac artery for anatomical reasons can not control the circulation in the field of operation as well as the constricting tourniquet when employed with the pins, for the reason that the free anastomosis with branches of the opposite iliac within the pelvis and upon the abdomen must, under the increased arterial pressure, cause the loss of a considerable quantity of blood, especially from the posterior flap.

Results of Author's Method.—The accompanying tables contain 267 cases of amputation at the hip-joint,

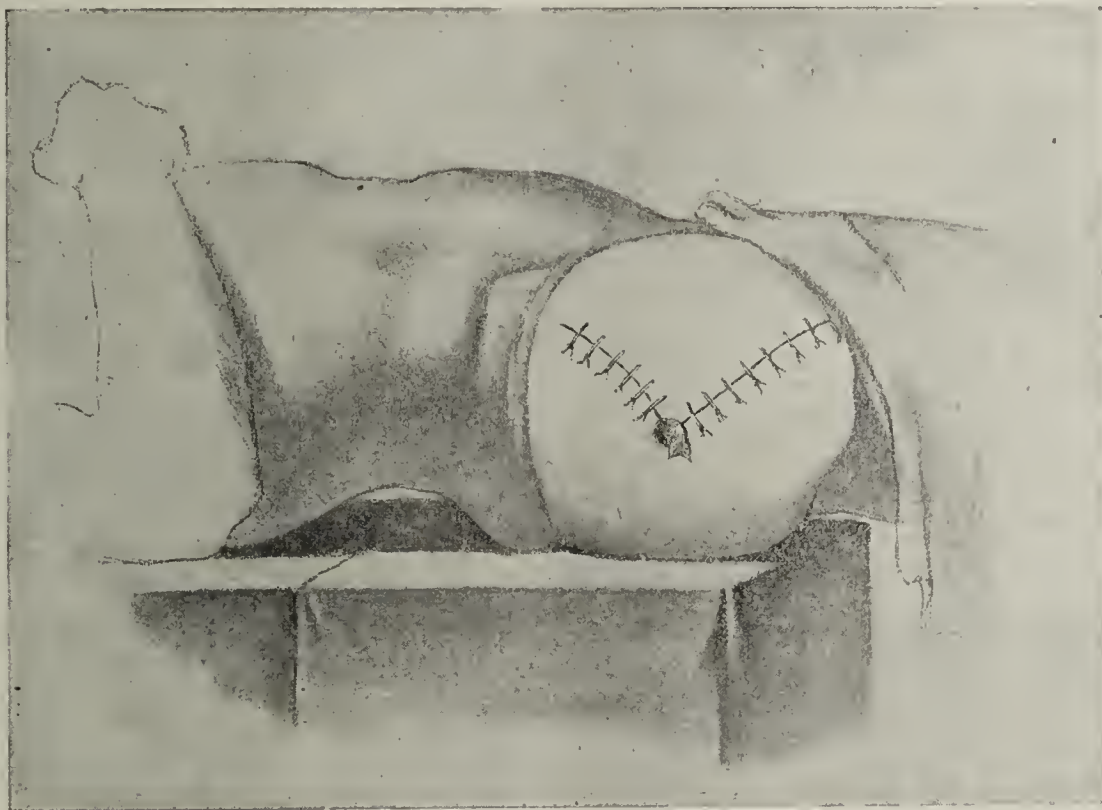


FIG. 280.—The operation completed
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lehem, Pa., is that of gradual dissection in which the femoral vessels are first exposed, tied and divided between two sets of ligatures. The flaps are then formed as may be indicated, and the soft parts divided as for any operation of the body where a tourniquet can not be employed, all known vessels being secured before they are divided and all others caught with the forceps as soon as severed.

Objections.—There are several serious objections to these methods which I insist do not hold good as compared to the method which I have advised. Compression of the abdominal aorta, as recommended by Dr. Buchanan, of Pittsburg, and practiced by Dr. Neal Hardy, of Sandusky, Ohio, is objectionable in the first place because it interferes very seriously with the general circulation and throws a dangerous volume of blood upon the heart and lungs. In Dr. Hardy's case, he says: "The patient during the operation became cyanotic, but was soon relieved on pressure being removed from the aorta." Again, it necessitates an unnecessary invasion of the peritoneal cavity. This latter criticism

in which the writer's method of hemostasis was employed. For convenience of study they are classified into three groups: 1, neoplasms, including sarcoma, carcinoma, epithelioma and one case of elephantiasis and probably one osteoma; 2, septic infections, including pyogenic ostitis or osteomyelitis, tuberculous ostitis or osteoarthritis, gangrene, cellulitis and ulcer; 3, injuries, with or without pyogenic infection.

In the group of amputations at the hip for neoplasms, all of which were malignant in character—with the exception of one case of elephantiasis and one of osteoma—there were 131 cases of sarcoma, 5 of epithelioma of the soft parts, and one reported as osteocarcinoma. None died in this group, excepting 14 fatal cases of the subdivision of sarcoma, giving the rate of mortality in disarticulation at the hip for sarcoma as 10.6 per cent., while for the whole group of 137 cases, the death-rate was 10.2 per cent. Of the fatal cases 1 was complicated with gangrene for two weeks before the operation, and had a rectal temperature of 104 at the time of amputation, and died of shock twenty-four hours

MALIGNANT NEOPLASMS; SARCOMA, CARCINOMA, EPITHELIOMA.

No.	Operator.	Date, Sex, Age.	Cause of Operation.	Result.	Remarks.
1	J. A. Wyeth	1890 M. 39	Osteosarcoma, middle lower third of femur.	Recover'd	Femur first divided at level of lesser trochanter. Sixteen days later head and neck of bone enucleated.
2	" "	1890 " 34	Neurosarcoma	"	Tumor of internal popliteal nerve was extirpated but recurred. Amputation at lower third of thigh; recurred and amputation at hip.
3	" "	1892 F. 17	Osteosarcoma	"	Amputation through lower third of femur had been done by Dr. Allen of Cleveland, Ohio. Recurred in stump. Died six months after operation from recurrence in abdominal viscera. No pulmonary symptoms.
4	" "	1894 M. 19	Osteosarcoma	Died . . .	Rallied well from operation; twenty-six hours later pulse suddenly rapid and weak. Injection of two pints warm saline solution. Death forty hours after operation. Ether was the anesthetic. No renal or other lesions. Wound not septic.
5	" "	1895 " 20	Osteosarcoma	Recover'd	Died one year after operation from "rapid pneumonia." Probably recurrence of sarcoma in lungs.
6	" "	1898 " 34	Sarcoma	"	Large sarcoma attached to trochanteric region of femur and infiltrating the soft tissues as high as the obturator foramen. This cavity was curetted in order to remove all suspicious tissues. The anterior incision was close to the tourniquet to get above the neoplasm. No recurrence two and one-half years after operation.
7	J. A. Wyeth and J. A. Bodine.	1895 " 18	Osteosarcoma	"	No subsequent history.
8	A. M. Phelps	1891 " 55	"	"	No recurrence in 1898.
9	" "	1895 " 16	"	"	No recurrence in 1898 when patient was last heard from.
10	Emory Lanphcar	1892 F. 28	Osteoma of femur	"	"
11	" "	1898 M. 19	Osteosarcoma	"	"
12	H. O. Walker	1892 " 19	"	"	"We have in this a safe and reliable method for controlling hemorrhage, which, in my judgment, is superior to any yet offered"
13	C. B. Naucrede	1892 " 32	"	"	Recurrence in stump and death six months after operation.
14	" "	1894 " 35	Sarcoma	"	Recurrence in stump and death within a year after operation.
15	" "	1894 F. 16	"	"	No recurrence two years after operation; no subsequent history.
16	" "	1895 M. 30	"	"	Recurred in lung and brain sixteen months after operation.
17	" "	1897 F. 16	"	"	Recurred in stump and general metastasis in nine months.
18	William F. Fluhrer	1890 " 18	Osteosarcoma of femur	"	Spontaneous fracture at middle of thigh, April 26, 1890. "As little blood was lost as in an ordinary amputation at the middle of the thigh." Recurrence in stump in about six months and death.
19	Charles McBurney	1890 M. 34	"	"	"No other appliance that has been suggested for the purpose could in any way compare in utility with that of Dr. Wyeth." No recurrence three months later. No subsequent history.
20	Frank Hartley	1892 F. 26	"	"	No recurrence two years later. No subsequent history.
21	Merrill Ricketts	1893 " 23	"	"	"The operation was entirely bloodless." Died eighteen months; recurrence at sacro-iliac synchondrosis.
22	" "	1894 M. 27	lower end of femur.	Died . . .	Death in ten hours in shock. Very little blood lost.
23	C. A. White	1891 " 23	Osteosarcoma	Recover'd	Patient was up and about after the operation, but on the twenty-seventh day was seized with pneumonia and died five days later.
24	W. W. Keen	1892 F. 30	"	"	Patient was five months pregnant at time of operation. "It was reserved for an American surgeon to devise what is undoubtedly the best method, and, in fact, what I think we can now call the only method of hemostasis in amputation at the hip-joint." Died in three or four years from recurrence in viscera. No mention of involvement of lungs.
25	M. J. Ahern	1892 M. 22	"	"	"
26	J. B. Murdock	1892 " 17	"	Died . . .	Death from shock twenty-two hours after operation. "I believe this method to be the best and the one destined to supersede all other methods for temporary arrest of hemorrhage."
27	J. McFadden Gaston	1890 " .	"	Recover'd	Death on the twenty-sixth day from septicemia. "There was absolutely no trouble from hemorrhage, and I feel satisfied that with this process all bleeding may be prevented in amputation at the hip-joint."
28	A. J. McCosh	1892 " 27	"	"	"
29	F. W. Parham	1893 " 3	"	"	Not having the surgical pins in this child large glass-headed lady's hat pins were successfully substituted. Died from recurrence in lungs six months after operation.
30	" "	1899 F. 5m	Myxosarcoma of left knee	"	"The tumor seems to have existed at birth and had grown rapidly during the preceding weeks. Fourteen months later child well."
31	J. M. Holloway	1892 M. 27	Osteosarcoma	"	Patient was discharged from hospital on the tenth and went to his home, a distance of seventy miles, on the twelfth day.
32	R. T. Morris	1894 " 19	"Tumor" of thigh	Died . . .	Died eleven days after operation from tubercular peritonitis. Cause of death proved by autopsy. "While making the skin incisions, it was noticed that the limb was not completely exsanguinated, and the tourniquet was retightened, after which no bleeding resulted."
33	H. H. Vinke	1894 F. 16	Sarcoma of thigh	Recover'd	Used crutches in seven weeks. "Absolutely no loss of blood. There is probably no method which commends itself for simplicity and effectiveness so much as Wyeth's." Recurrence in two years in stump and mesenteric glands. Death.
34	J. S. Horsley	1894 M. 36	Recurring sarcoma of fascia of thigh	"	"No more blood was lost than in an amputation through the thigh. It remained for Dr. Wyeth to so perfect this method as to make this amputation practically a bloodless operation." Died in fourteen months from recurrence in lungs.
35	George W. Miel	1894 " 41	Osteosarcoma of thigh	"	"A very satisfactory means of controlling hemorrhage." Died in eight months from recurrence in lung. No recurrence in stump. Lancinating pains in chest at time of operation.
36	F. Tilden Brown	1894 " 22	Round-cell osteosarcoma involving triceps femoris.	"	"Hemostatic effect all that could be desired." Died within a year from recurrence in lungs.
37	Robert Weir	1895 " .	Sarcoma of femur	"	No recurrence up to February, 1898.
38	F. W. Murray	1894 " 18	"	"	Pins were by mistake made too small; they bent; caused hemorrhage. Died from recurrence in lungs about four years after operation.
39	W. T. Bull	1895 F. 5	Osteosarcoma of femur	"	Primary union; time of operation, 40 minutes. Died in seven months from recurrence in abdominal viscera.
40	Thomas R. Wright	1895 M. .	Sarcoma of knee	"	Died in eighteen months from recurrence in right lung.
41	" "	1896 " 50	"	"	Lost comparatively no blood Temp. 103 F. and pulse 120 before operation. Died in six months from apoplexy. Negro.
42	H. H. Grant	" F. 33	Chondroma with sarcomatous degeneration.	"	Enormous chondroma with sarcomatous degeneration; tumor weighed 65 pounds; operation lasted thirty-five minutes; bloodless except for oozing. "Method leaves nothing to be desired." No subsequent history.
43	" "	1899 M. 43	Sarcoma of knee	"	Died fourteen months after operation from recurrence in lymphatics of parts above Poupart's ligament.
44	W. R. Stewart	1895 " 35	Sarcoma	"	Was well November 19, 1896.
45	Eugene Boise	1895 F. 21	"	"	No loss of blood. Vessels nearly all tied before tubing was removed. "Method of amputation is all that could be desired." Disease recurred very early in lungs.
46	L. L. Shropshire	1895 M. 20	Sarcoma, lower middle of left thigh.	"	Operation done in 30 minutes. Not over one ounce blood lost. Patient left hospital in two weeks; living and well February, 1901.
47	Howard Lilienthal	1896 " 16	Chondrosarcoma, from trochanter down.	"	"Method was employed to my great satisfaction."
48	J. D. Rushmore	1896 F. 14	Sarcoma of femur	"	"
49	R. Matas	1896 M. 49	Sarcoma	"	No recognizable recurrence when last heard from, eighteen months after operation, but he was reported as developing "consumption," and very probably this was a metastatic process in the lung.
50	W. D. Hamilton	1895 F. 48	"	Died . . .	Neoplasm involved knee and lower end of femur. Died from shock in 5 hr.
51	" "	1899 M. 56	"	Recover'd	Tumor of thigh. No recurrence February, 1901.
52	" "	1900 F. 16	"	"	"

MALIGNANT NEOPLASMS; SARCOMA, CARCINOMA, EPITHELIOMA.—(Continued.)

No.	Operator.	Date, Sex, Age.	Cause of Operation.	Result.	Remarks.
53	Charles S. Hamilton.	1899 F. 32	Sarcoma	Recover'd	No recurrence in March, 1901—two years. Patient has borne a healthy child since operation.
54	Wm. H. Noble	1896 M. 21	Osteosarcoma of head of tibia.	Died...	"Operation completed—patient in bed in forty-eight minutes. Died in collapse four hours later. Operation was absolutely bloodless, but the oozing afterward from the capillary vessels was very great, certainly half a pint, if not more, being lost."
55	W. B. Van Lennep . .	1894 F. .	Sarcoma	Recover'd	Died two years later with what was reported to Dr. L. as "acute lung trouble," or metastasis in lung. "Thorough occlusion of every vessel below the hip."
56	"	1895 " 24	"	"	
57	"	1896 M. 56	Epithelioma...	"	"No hemorrhage, no shock, no fever." (Association Francaise de Chirurgie, 1897.) Recurred in stump one month after leaving hospital.
58	M. Banby, Toulouse, France.	1897 " 37	Sarcoma	"	
59	L. L. Hill.	1893 " 35	Osteosarcoma.	"	Tumor measured forty-four inches in circumference.
60	Thos. F. Chavasse. . .	1896 F. 39	Endosteal sarcoma	Died...	Neoplasm involved lower third of femur, where fracture had occurred six months previously. Death from shock in ten hours.
61	"	1896 " 29	"	Recover'd	Intravenous injection of fifteen ounces of saline fluid. Patient was six months pregnant. Dead fetus aborted one month after operation. Died thirteen months later from recurrence in left lung. Stump not affected.
62	"	1899 M. 56	Periosteal Sarcoma	"	Neoplasm of lower third of femur, where fracture occurred three days before amputation. Soft parts infiltrated high up, necessitating division of muscles at level of acetabulum. One pint saline fluid. Died in eleven months from recurrence in both lungs. The stump was unaffected.
63	"	1899 F. 23	Endosteal sarcoma.. . . .	"	Neoplasm infiltrated head of tibia, right knee-joint and belly of semi-membranous muscle. Eight months pregnant. Premature labor ten days before operation. Died in twelve months from recurrence in both lungs. Stump was not affected.
64	L. M. Tiffany... . .	1900 " 16	Osteosarcoma.	"	Time of operation thirty minutes. Recurrence in stump and death about six months after operation.
65	W. H. Gilbert.	1899 M. 42	Carcinoma of shaft of femur.	"	
66	John B. Deaver. . . .	1899 F. 24	Sarcoma of femur.	"	Extensive burn of this extremity. About twenty years later epithelioma developed in cicatrix. Negro.
67	Robert G. Le Conte. .	1900 M. 18	Osteosarcoma, left femur . .	"	
68	Jas. G. Garrard. . . .	1897 " 37	Epithelioma of lower half of left thigh.	"	Living two years later. Very little shock in either of Mr. Heaton's cases.
69	George Heaton, Birmingham, England.*	1896 F. 29	Periosteal sarcoma.	"	Left semi-membranosus muscle. Died in fourteen months from recurrence of growth in stump.
70	George Heaton... . .	1898 M. 17	Round-celled sarcoma of muscles.	"	
71	J. F. Binnie.	1898 " 32	Sarcoma of femur.	"	Died several months after operation from recurrence.
72	W. E. Parker.	1895 " 23	Osteosarcoma of femur . . .	"	Living at last report, six months after operation.
73	E. D. Martin, New Orleans.	1895 F. 35	Sarcoma of knee	"	Six months later died with recurrence in stump.
74	E. D. Martin.	1896 " 40	Sarcoma of femur	"	Both operations practically bloodless. No shock. No further history.
75	J. M. Maury.	" M. 54	Sarcoma	"	
76	Wm. B. Coley.	1897 E. 11	Periosteal sarcoma of femur	"	Neoplasm followed ten years after gunshot wound of femur and was situated near the knee. Suspicious signs in stump when patient left hospital. No subsequent history.
77	"	1898 M. 6	"	"	Hemorrhage completely controlled. Rubber tubing left on until vessels had been tied, then slowly released, thus reducing the loss of blood to a mere trifle. No further history.
78	"	1898 F. 13	Chondrosareoma of femur.. .	"	Died in six months from recurrence in lungs and abdomen.
79	"	1898 M. 49	Sareoma of thigh (soft parts)	"	Died from recurrence in two years. Location of metastasis not given.
80	"	1899 F. 24	Sarcoma of thigh, fascia and muscles.	"	Died from recurrence in stump and iliac fossa eighteen months later.
81	"	1900 M. 45	Osteosarcoma of femur following fracture.	"	No recurrence January, 1901, about eighteen months.
82	R. W. Stewart	1895 . 35	Sarcoma, lower end of femur	"	Disarticulation completed in six minutes. No recurrence January, 1901, six months after operation.
83	"	1900 . 47	"	"	
84	G. K. Dickinson . . .	1894 F. 50	Sarcoma of thigh.	Died...	No recurrence after two years.
85	W. C. Dugan	1894 M. 40	Osteosareoma of condyle of femur.	Recover'd	Less than an ounce of blood lost in either of these cases.
86	"	1898 " 17	Osteosareoma of shaft.	"	Gangrene commenced two weeks before operation. Rectal temperature was 104. Died in twenty-four hours.
87	B. F. Curtis.	1898 " 50	Recurrent sarcoma.	"	Operation lasted thirty-five minutes. No recurrence in seven years.
88	Leonard Freeman . .	1896 " 49	Central osteosarcoma of lower third of left femur.	"	To facilitate disarticulation "the thigh was flexed on abdomen and adducted while the capsular ligament was cut on the posterior inferior portion." Died from recurrence in abdominal viscera (glands and liver) in eighteen months.
89	D. C. Hawley.	1896 " 21	Osteosarcoma, femur.	"	Neoplasm recurred after local extirpation. Disease not in stump. Death in few months.
90	J. H. Oliver.	1900 " 45	Epithelioma of anterior and outer surface of thigh, involving shaft of bone.	"	Spontaneous fracture while turning over in bed a few days before operation, Sept. 20, 1896. Rectal injection hot salt solution before operation.
91	J. J. Clausen... . .	1894 " 22	Periosteal sarcoma, l. femur	"	No recurrence in July, 1900.
92	Carl Beck.	1896 " 54	Osteosarcoma, right femur. .	"	No recurrence in 1900. Spontaneous fracture before operation.
93	H. A. Sifton.	1895 F. 39	Sareoma	"	Died two months later from recurrence.
94	M. B. Herman.	" M. 24	"	"	No subsequent history obtainable. Negro.
95	C. B. Schoolfield . .	1895 F. 65	Sarcoma, lower end of femur.	"	
96	Hunter P. Cooper. . .	1897 M. 30	Osteosarcoma of femur. . . .	"	Died two years later. Recurrence in pleura or lung.
97	"	1899 " 40	Large epithelioma of skin of thigh.	"	Died one year later with recurrence; location of recurrence not stated.
98	W. S. Elkin.	1894 " 14	Osteosarcoma of femur. . . .	"	No recurrence in eight months; no later history obtainable.
99	George R. Fowler. . .	1893 " 15	Sareoma of lower end of femur.	"	Tumor measured twenty-six inches in circumference.
100	"	1899 F. 20	Sarcoma of femur	"	Living and well two years later.
101	R. H. Whitehead... .	1895 M. 16	Sarcoma of femur	Died...	Inguinal glands removed.
102	Wm. D. Hilliard . . .	1898 F. 44	Osteosarcoma of left thigh. .	"	"The simplest and safest method at our command." Recurred in liver eighteen months after operation.
103	Ernest Laplace. . . .	1900 M. 26	Sarcoma of knee	Recover'd	Sail-maker's needles were used in absence of the steel pins. A Jordan Lloyd figure-of-8 was added for security. During the operation one of the needles gave way under pressure of the constricting rubber-tube, necessitating the tightening of the figure-of-8 bandage. Died in eighteen months from recurrence in lungs.
104	J. J. Buchanan. . . .	1899 " 13	Sarcoma of femur	"	Died eighteen months later from recurrence in viscera.
105	"	1899 " 35	Epithelioma...	"	No bleeding. Died on night following operation. Cause not known.
106	Floyd W. McRae . . .	1899 " 13	Osteosarcoma of right femur	"	Unfortunately patient had severe hemorrhage just before she was brought into the operating room and was considered almost hopeless from any standpoint. Amputation perfectly bloodless. Died in short time; shock.
107	"	1899 " 17	" left	"	Patient extremely weak at time of operation. About 2 oz. of blood lost.
108	W. B. Rogers... . .	1899 F. 37	" femur . . .	Died...	No blood lost. Death from recurrence in lungs six months later.

* See a third by Mr. Heaton at end of tables.

MALIGNANT NEOPLASMS; SARCOMA, CARCINOMA, EPITHELIOMA.—(Concluded.)

No.	Operator.	Date, Age, Sex.	Cause of Operation.	Result.	Remarks.
109	W. B. Rogers...	1899 F. 31	Sarcoma of thigh.	Recover'd	Primary amputation for sarcoma of leg. Disarticulation at hip on account of recurrence. No subsequent history.
110	Harry M. Sherman . .	1891 " 14	Myelosarcoma, neck of femur	"	Patient living and without recurrence Sept. 24, 1900.
111	" "	1896 M. 41	Spindle-cell sarcoma, thigh .	"	Death from recurrence in lungs fifteen months later.
112	" "	1897 " 29	Giant-cell sarcoma, neck and head of femur.	Died...	Sarcoma also involved the acetabulum. This was curetted. Death in four hours.
113	" "	1897 F. 17	Small round-cell sarcoma of thigh.	Recover'd	The skin holding the pins began to tear as the disarticulation was finished. Operator made direct compression of femoral artery and completed the operation successfully. Died from recurrence in lung three months later.
114	" "	1900 M. 8	Sarcoma of tibia and femur involving knee-joint.	"	Recurred within one year in scalp, orbit and elsewhere.
115	Charles K. Briddon. .	1894 " 18	Sarcoma of femur	"	So little blood was lost that the patient suffered scarcely at all from shock. Recurred fatally one year later in the abdominal glands and viscera of abdomen and lungs.
116	" "	1897 " 15	Sarcoma of femur, high up. .	"	No subsequent history.
117	" "	1898 F. 35	Sarcoma of thigh.	"	No recurrence in March, 1901, about two and one-half years after operation.
118	" "	1899 M. 30	" "	"	No recurrence two years after operation (March, 1901).
119	" "	1900 " 23	" "	"	
120	E. W. Holmes.	1895 F. 10	Osteosarcoma of femur. . . .	"	Died from recurrence eleven months later.
121	" "	1899 M. 23	" "	"	Still living and well.
122	" "	1899 F. 22	" "	"	Died four months later from recurrence in lungs.
123	Jacob Geiger	1897 M. 13	" "	"	Tumor weighed 29lb. Died nine months later from recurrence in lungs.
124	John B. Walker. . . .	F. 19	Myeloid sarcoma of thigh . .	"	
125	Wm. Jones	1891 M. 35	" " femur	"	
126	F. A. Dunsmoor. . . .	1897 M. 25	Sarcoma, lower third, r femur	"	No recurrence at this date, three years after operation.
127	" "	1897 F. 50	Sarcoma of upper third of femur.	"	Patient recovered from operation. Died from general exhaustion thirty days later.
128	A. C. Bernays	1896 " 3	Sarcoma of femur. Soft, rapid growth.	Died...	Shock.
129	" "	1898 M. 18	Sarcoma of thigh.	Recover'd	Died twenty months later from recurrence in lungs.
130	" "	1900 F. 16	Elephantiasis.	"	
131	" "	1895 " 17	Periosteal sarcoma of femur.	"	Patient in good health in 1900.
132	J. D. Griffith	1897 M. 21	Sarcoma of femur	"	Tumor of enormous proportions (shown in accompanying cut). Patient living and well in March, 1901, nearly four years after operation.
133	" "	1898 5	" "	"	No recurrence in two and one-half years after operation.
134	" "	1898 9	" "	"	
135	J. H. Oliver.	1900 F. 49	Spindle-cell sarcoma, lower fourth of femur.	"	Hemorrhage under absolute control.
136	George Heaton	1900 M. 17	Mixed round and spindle-cell sarcoma of left femur.	"	
137	" "	1901 " 35	Vascular osteosarcoma of middle of femur.	"	

SEPTIC INFECTION; OSTITIS, ARTHRITIS, OSTEO-ARTHRITIS, TUBERCULOSIS, GANGRENE, CELLULITIS, ULCER.

No.	Operator.	Date Sex, Age.	Cause of Operation.	Result.	Remarks.
1	J. A Wyeth...	1892 M. 28	Tuberculous osteo-arthritis of femur and acetabulum.	Recover'd	Extensive infiltration and burrowing of pus sinus. Ankylosis of end of femur to the diseased acetabulum, necessitating the chisel to detach it.
2	Samuel H. Pinkerton..	1892 M. 17	Tuberculous osteo-arthritis of femur.	"	
3	" " "	1892 M. 10	Tuberculous osteo-arthritis of femur.	"	
4	" " "	1892 M. 42	Extensive necrosis of femur; osteitis.	"	
5	" " "	1892 M. 43	Extensive necrosis of femur; osteitis.	Died...	Death twelve hours after operation from shock; no hemorrhage.
6	" " "	1892 M. 17	Ostitis of femur.	Recover'd	
7	A. M. Phelps.	1891 M. .	Long-standing, destructive osteo-arthritis.	"	
8	" "	1892 M. .	Osteomyelitis of entire femur.	Died...	Death from exhaustion 12 hours after operation; condition of patient so bad that operation contra-advised, but performed at earnest request of parents.
9	" "	M. 11	Osteomyelitis	Recover'd	
10	" "	1899 F. 18	Tuberculous osteo-arthritis .	"	Patient almost moribund from prolonged sepsis at time of operation.
11	Emory Lanphear. . . .	1890 M. 9	Osteomyelitis of femur. . . .	"	"Wyeth's bloodless method, by which failure to control hemorrhage seems to me to be impossible."
12	" "	1892 M. 15	Osteomyelitis of femur. . . .	"	
13	" "	1893 M. 28	Osteomyelitis of femur. . . .	"	
14	" "	1897 F. 27	Osteomyelitis	"	
15	H. O. Walker... . . .	1893 M. 21	Osteo-arthritis.	"	
16	" "	1893 M. .	Osteo-arthritis.	Died...	Death from exhaustion in four hours; no hemorrhage.
17	Jolm B. Deaver	1893 M. 20	Osteomyelitis of femur. . . .	Recover'd	
18	J. Ewing Mears.	1892 M. 10	Osteo-arthritis of hip	"	
19	A. E. Malloek.	1892 M. 30	Osteo-arthritis of hip	"	Operation lasted thirty-five minutes.
20	R. L. Swan	1893 F. 19	Osteo-arthritis of hip	"	
21	C. B. Nanerede... . .	1898 M. 50	Osteomyelitis of femur; suppurating arthritis.	Died...	Patient had had a compound fracture which became infected and had suppurated with varying profusion for thirty years. He did well after the operation, but on tenth day quite suddenly developed symptoms of cerebral apoplexy and died in coma
22	" "	1893 M. 31	Osteomyelitis of femur. . . .	Recover'd	
23	John B. Deaver	1890 F. 20	Chronic osteo-arthritis. . . .	"	
24	S. B. Fowler	1890 M. 54	Traumatic osteitis of femur; bed-ridden for fifteen years.	"	Recovery without suppuration; no hemorrhage; patient now living(1896).
25	W. W. Van Arsdale... .	1896 M. 13	Osteomyelitis.	"	Destruction of soft parts of thigh with suppuration; patient was extremely septic.
26	F. W. Parkham.	1895 M. 29	Osteomyelitis of entire femur	"	Amputation through upper third; two weeks later amputation at hip.
27	Charles K. Briddon... .	1897 M. 33	Tuberculous osteo-arthritis .	"	
28	Charles S. Hamilton... .	1899 M. 14	Tuberculous ostitis.	"	Casts and albumen in urine. Greatly exhausted from prolonged sepsis.
29	Wm. H. Noble.	1897 M. 26	Osteomyelitis.	"	Traumatic osteo-arthritis of knee and myelitis of femur necessitated amputation at middle of thigh, later above this, and finally at hip.
30	" " "	1897 M. 29	" "	"	Operation lasted thirty-two minutes.
31	W. B. Van Lennep. . . .	1896 M. 14	General septic infection of left leg and thigh.	"	
32	L. L. Hill	1893 M. 60	Osteomyelitis.	"	Gunshot wound of right knee in the Civil War. Immediate amp. at knee.
33	Chas. G. Levison	1899 M. 40	Tuberculous osteo-arthritis .	"	
34	" "	1899 M. 23	" "	"	Myelitis extended through the entire length of the femur.
35	T. P. Webster	1899 M. 40	" "	"	Acute pyogenic infection following tubercular osteo-arthritis. Patient much exhausted by prolonged sepsis. Transfused about three quarts normal salt solution during operation.

No.	Operator.	Date, Sex, Age.	Cause of Operation	Result.	Remarks.
36	Thos. F. Chavasse* (England.)	1897 F. 14	Osteo-arthritis.	Died. . . .	Death from exhaustion on fourth day. Intravenous injection of half a pint of saline fluid.
37	" " "	1897 F. 24	" "	Recover'd	Syme's amputation for osteitis in 1895; one year later amputation at knee; six months later at hip.
38	" " "	1899 F. 26	Tuberculous osteo-arthritis of left knee-joint; septic infiltration of thigh.	"	Same patient. Pint of saline fluid injected.
39	" " "	1899 F. 8	Tuberculous osteo-arthritis.	"	Excision of head of femur two years before. Half a pint of saline fluid injected. Amyloid degeneration of liver and kidneys.
40	" " "	1900 M. 23	" " "	"	Head of left femur excised Feb. 13, 1899.
41	G. F. Shears.	1896 M. 26	Osteo-arthritis with general septic infiltration.	"	"The very great mortality could be materially reduced by the general adoption of this method."
42	Horace Packard.	1897 M. 30	Osteomyelitis.	"	
43	G. K. Dickinson	1899 M. 33	Gangrene of right thigh	"	Four months later gangrene occurred in left leg. Gangrene caused by thrombosis and phlebitis. Condition desperate.
44	" "	1900 F. 65	Gangrene.	Died. . . .	Preliminary amputation above knee, but as the muscles here were necrotic, disarticulation at hip was done. Died from exhaustion and shock in five hours.
45	H. H. Grant.	1900 F. 28	Osteitis, right femur.	Recover'd	Amputation in lower third two years before. Hip was ankylosed.
46	R. H. M. Dawbarn.	1895 F. 30	Osteomyelitis.	"	
47	" "	1898 F. 10	Tuberculous osteo-arthritis.	"	Died one year later with pulmonary tuberculosis.
48	L. S. Pilcher.	1900 M. 30	" " "	"	Perfect control of circulation.
49	George P. Jessup	1898 M. 30	Osteo-myelitis of femur	"	
50	J. William White	1896 M. 14	Total necrosis of femur. . . .	"	
51	" "	1896 M. 14	Total necrosis of femur, with pathological fract. of thigh	Died. . . .	There was extensive necrosis of right humerus and shoulder joint. Patient greatly exhausted by prolonged suppuration and sepsis. Died 7th day.
52	" "	F. 6	Destructive osteitis of femur	Recover'd	Upper third of bone almost entirely destroyed; neck fractured during disarticulation. No difficulty in removing head of bone.
53	Lewis C. Boshier.	1897 M. 7	Osteomyelitis, right femur. . . .	"	Spontaneous fracture before operation.
54	" "	1899 F. 9	" left femur.	"	
55	Manning Simons.	M. 30	Gangrene.	Died. . . .	Patient at time of operation was exhausted by prolonged general septicemia. The gangrene was caused by occlusion of the femoral vessels.
56	" "	M. 18	"	"	Aneurysm five inches in diameter involving external iliac and femoral arteries. Extensive hemorrhage occurred from the diseased vessels after the tourniquet was removed. Died from hemorrhage and shock.
57	" "	1899 F. 35	Osteomyelitis.	"	Died three days after operation from exhaustion and chronic septicemia.
58	George E. Brewer.	1898 M. 56	General septic cellulitis, with destruction of soft parts.	"	Patient extremely septic at operation, which was followed by temporary improvement. Secondary infection of flaps ensued, necessitating revision, which ended fatally.
59	" "	1898 M. 50	Diabetic gangrene.	"	Wound healed quickly. Patient died suddenly at end of second week. Supposed apoplexy.
60	" "	1899 M. 45	" "	Recover'd	
61	" "	1899 M. 40	Osteomyelitis.	"	
62	E. F. Robinson, U.S.A., Philippine Islands.	1900 M. 29	Gangrene.	"	Gangrene caused by deligation of external iliac artery on account of aneurysm. Collateral circulation was so complete that tourniquet had to be employed.
63	Wm. Perrin Nicolson.	1896 M. 35	Large ulcer in cicatrix of burn.	"	Extensive ulcer of right thigh, caused by burn in youth, undergoing seeming malignant change.
64	M. B. Herman.	" M. 20	Gangrene.	"	
65	" "	" M. 30	" " " "	Died. . . .	Recovered from operation. Died from pneumonia one week later.
66	" "	" M. 35	Tuberculous osteitis.	Recover'd	
67	" "	" M. 40	Extensive septic infection of thigh (cellulitis).	"	
68	Hunter P. Cooper.	1894 M. 16	Osteomyelitis of femur.	"	Whole shaft of femur destroyed. Highest temp. after operation 99.5° F.
69	" "	1897 F. 13	" " " "	"	"Operation at college clinic. Patient removed in ambulance immediately to her home. This method marks an epoch in modern surgery."
70	Wm. D. Hilliard.	1898 M. 60	" " " "	"	Osteo-myelitis of thirty-five years' duration from gunshot wound at Gettysburg, 1863. Perfectly bloodless.
71	W. B. Rogers	1895 F. 16	Osteo-arthritis of hip-joint	"	
72	" "	1895 M. 38	Rapidly developing gangrene	Died. . . .	Died 40 hr. after operation from general septic infect'n prior to amputat'n.
73	Harry M. Sherman†.	1895 M. 7	Tuberculous osteo-arthritis	Recover'd	
74	" "	1897 M. 14	" " " "	"	
75	" "	1897 F. 8	" " " "	"	
76	" "	1898 M. 10	" " " "	"	
77	" "	1898 F. 13	" " " "	Died. . . .	
78	" "	1898 F. 19	" " " "	"	
79	S. T. Hunkin	1898 M. 6	" " " "	Recover'd	No bleeding from upper tissues.
80	Charles K. Briddon.	1897 M. 33	" " " "	"	
81	Tilman Ramsey	1900 M. 34	Osteomyelitis of femur.	"	
82	George F. Wilson	1898 M. 11	" " " "	"	Epiphysis and joints also involved (not tubercular).
83	" "	1898 M. 15	" " " "	"	
84	" "	1899 F. 21	Gangrene of extremity.	"	
85	Wm. Jones.	1894 M. 65	Tuberculous osteo-arthritis of hip.	"	
86	Charles H. Frazier	1900 M. 21	Tuberculous osteomyelitis (with arthritis?).	"	
87	Andrew C. Smith	1895 M. 68	Osteitis of femur.	"	
88	J. D. S. Davis	1897 F. 13	Tuberculous osteomyelitis of femur.	"	The entire upper half of femur and the acetabulum were involved. The diseased surfaces of the cotyloid cavity were removed. Cured.
89	" "	1898 M. 11	Tuberculous osteitis of head of femur.	"	
90	A. C. Bernays				

† See additional case by Dr. Sherman at end of tables.

the neoplasm involved the acetabulum and the pelvis, which necessitated curettage of an extensive region, death following from shock, within four hours. In a sixth case there was no shock nor hemorrhage; the patient died suddenly, from asphyxia, twelve days after the operation; no post-mortem was made, and the cause of death was unknown. The other 8 died in shock from four to twenty-six hours after the operation.

INJURIES WITH OR WITHOUT PYOGENIC INFECTION.

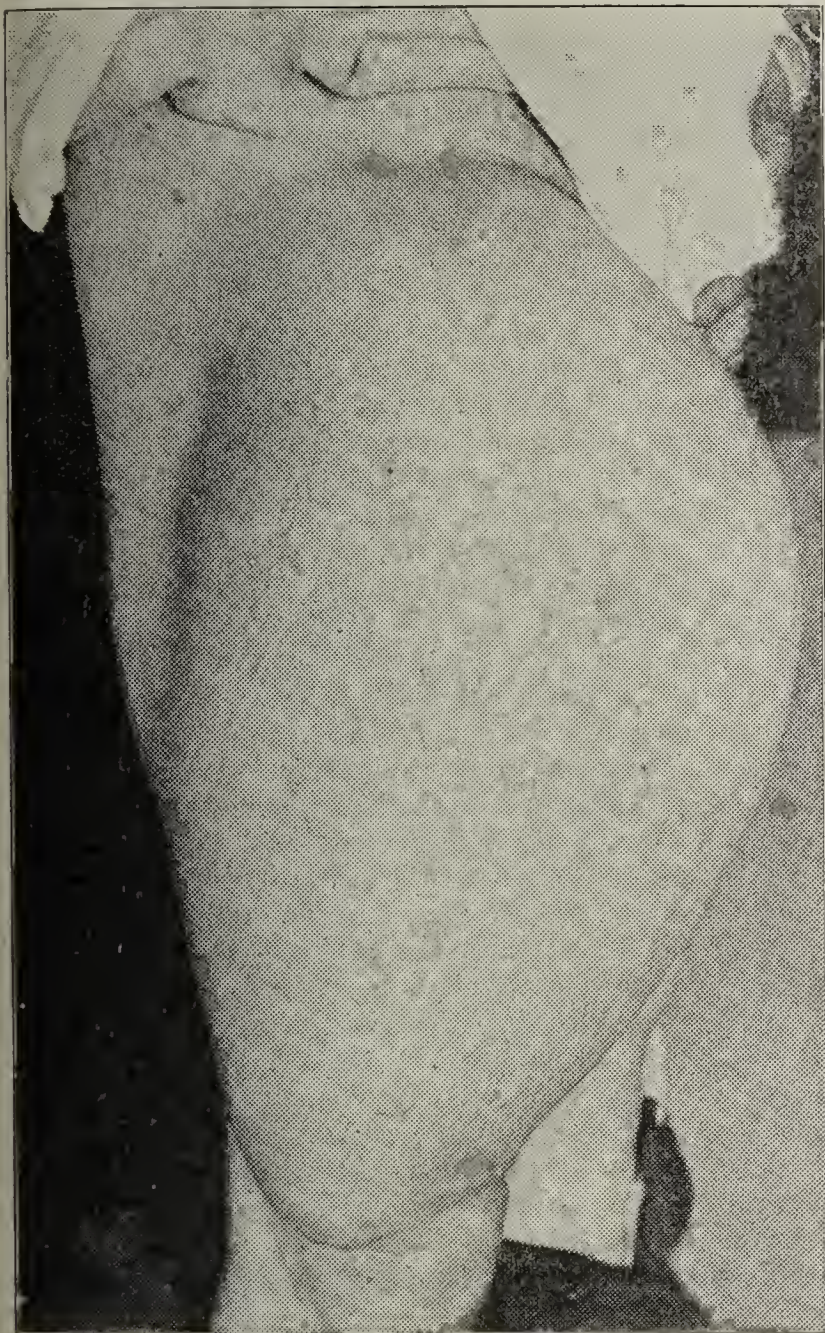
No.	Operator.	Date, Sex, Age.	Cause of Operation.	Result.	Remarks.
1	Samuel H. Pinkerton.	1892 M. 6	Compound, comminuted, gunshot fracture of femur.	Died. . . .	Two hours after operation, death from shock.
2	G. A. Baxter	1891 " 17	Railroad pulpefaction of r. foot, leg; l. lower extremity as high as middle of thigh.	"	Patient rallied well; four hours later raised himself to reach a glass of water, and instantly expired; no bleeding after operation.
3	" "	1896 F. 4½	Crush of leg and thigh by car wheel.	Recovered.	Operation immediate. Car wheels passed twice over this extremity, crushing bone, with extensive laceration of soft tissues.
4	W. Johnston	1892 M. 39	Railroad pulpefaction of lower extremity as high as middle of thigh.	Died. . . .	Death ninety hours after operation from shock and exhaustion. "There was not one drop of arterial blood and only a slight venous oozing from the muscular tissue."
5	J. D. Thomas.	1891 " 18	Femoral vessels divided in Scarpa's triangle by red-hot iron bar, impend. gangrene.	"	Great hemorrhage from the accident. On seventh day after injury, amputation; death thirty-six hours later; no bleeding after operation.
6	A. Schachner.	" 55	Fracture of femur; gangrene.	Recovered.	First dressing six days after operation.
7	Daniel Strock.	1894 " 35	Limb pulpefied.	Died. . . .	Railway crush; including upper third of thigh. Hemorrhage entirely controlled. Patient died of shock. Patient bled profusely before admission to hospital.
8	R. Matas	1894 " 27	Traumatic gangrene.	"	Entire lower extremity gangrenous with great edema. General septicemia. "Saline infusion alone prevented death on the table."
9	" "	1898 " 58	Crush by machinery	"	Extensive comminution of bone and pulpefaction of soft parts. Kidney lacerated. Died from shock
10	George W. Crile	1898 " 26	Injury of hip and thigh. . . .	Recovered.	Crushed under railway train. Considerable hemorrhage at time of accid't.
11	Wm. B. Van Lennep .	1897 " 46	Compound comminuted fracture of right thigh.	Died. . . .	Died from shock within a few hours.
12	L. L. Hill.	1894 F. 14	Gunshot wound.	"	Died in eighteen hours from shock.
13	Chas. G. Levison. . . .	1899 M. 50	Crush by elevator.	"	Operation twenty-four hours after accident. Gangrene in one lower extremity extending almost to the hip; the opposite leg was gangrenous to the knee. Pulse before operation 160. Hemostasis complete. Duration from beginning to end, twelve minutes. Died six hours later.
14	W. S. Bickham.	1895 " 48	Comminuted gunshot fracture of femur; upper third.	Recovered.	Saline infusion.
15	" "	1897 " 50	Crush and pulpefaction of thigh; gangrene.	Died. . . .	Gangrene of entire extremity as high as seat of wound.
16	W. E. Parker.	1895 F. 8	Railroad crush	"	Hemorrhage well controlled. Died in 12 hr. from shock. "Good quantity of salt solution injected, but the good effect was only temporary."
17	George L. McCoy. . . .	M. 35	Severe crush by machinery.	Recovered.	Severe hemorrhage at time of accident. Two pints saline fluid injected in vein at elbow before operation. He rallied from profound shock.
18	G. K. Dickinson. . . .	1892 " 25	Compound comminuted fracture.	Died. . . .	Died in shock. Hemostasis complete. Subcutaneous injection of saline fluid by rectum. No intravenous injection.
19	W. C. Dugan.	1896 " 30	Railroad injury	"	Thigh was amputated for injury at upper and middle third. Secondary hemorrhage occurred and stump was cut through higher up, and the fragment of bone disarticulated. Died eight hours after last operation.
20	B. Hatchett.	1891 " 31	Legs crushed under car wheels.	"	Died 48 hours after operation. Internal injuries. One extremity amputated at hip, the other just below knee. Absolutely no loss of blood.
21	H. A. Sifton	1897 " 45	Railroad crush of thigh	"	Intravenous saline injection, 2000 c.c. before amputation. "I have often used saline injections before operating in severe railroad injuries with most gratifying immediate results. I have, however, observed symptoms in some of the fatal cases after its use which I have thought might be due to the direct effect of the fluid upon the blood."
22	" "	1898 " 22	Railroad crush of thigh with compound dislocat'n of hip.	Recovered.	
23	E. F. Robinson, U. S. A., Philippine Islands.	1900 " 62	Gunshot wound of femur; explosive effect.	Died. . . .	Died in twelve hours from shock. While under ether and before operation one pint normal salt solution was given by hypodermoclysis. During operation the pulse became very weak and one quart of salt solution injected into veins, followed by marked improvement in heart action. Symptoms of shock supervened about seven hours later, and a pint more was thrown beneath the skin.
24	E. A. Neely.	1900 " 41	Gunshot wound of femur. . . .	Recovered.	Operation four months after injury. Although patient was in bed from prolonged septic absorption, he stood the amputation so well saline injection was not required.
25	Wm. Perrin Nicolson.	1896 " 22	Railroad crush.	Died. . . .	Operation performed when condition of patient was bad on account of other injuries. Hypodermatic injection of salt solution. Died in shock five hours later.
26	P. B. M. Miller	1898 " 21	Gunshot wound of thigh. . . .	Recovered.	Charge of large bird-shot entered the thigh over trochanter major, carrying away all the bone here except a fragment the size of an English walnut which was lodged beneath Poupert's ligament. Patient greatly exhausted from hemorrhage and three days' journey to reach assistance. No intravenous injection of saline solution.
27	George R. Fowler. . . .	1900 " 29	Compound fracture of femur with destructive osteitis.	"	
28	Wm. D. Hilliard	1896 " 35	Railroad crush.	Died. . . .	Compound comminuted fracture of thigh with great laceration of soft parts and much hemorrhage. Amputation eight hours after injury. Perfectly bloodless. Died of shock in a few hours.
29	Frank D. Smythe. . . .	1898 " 32	Railroad crush.	"	Left thigh crushed and soft parts pulpefied. Salt solution injected before operation. Died from shock day of operation.
30	P. J. Kirschener	1899 " 33	" "	"	Died twelve hours after operation.
31	H. C. Deaver	1900 " 22	" "	Recovered.	
32	George R. Dean.	1894 " 35	" "	Died. . . .	Car wheel crush and pulpefaction of thigh, involving the ilium and outer rim of the pelvis. Severe hemorrhage, with profound shock. No infusion. Died in three hours from shock.
33	" "	1896 " 24	" "	Recovered.	Comminution of femur from knee to middle third of thigh, with pulpefaction of soft structures to near hip.
34	R. Harvey Reed	1895 " 28	Crush of leg and thigh.	"	
35	" "	1896 " 30	" "	Died. . . .	
36	" "	1898 F. 10	" "	Recovered	

Under the heading of septic infection, 94 hip-joint amputations were made. As recorded, they are classified as follows: Pyogenic osteitis or osteomyelitis—not tuberculous—36, with 5 deaths, a mortality ratio of 14 per cent.; tuberculous osteitis or osteoarthritis 41, with 4 deaths, or 9.7 per cent.; gangrene—moist and diabetic—12, with 6 deaths, or 50 per cent.; general cellulitis 3, with 1 death, or 33 1/3 per cent.; ulcer from breaking down of an extensive cutaneous surface 2, with recovery; total for septic infections, 94 cases, of which 16 died, or 17 per cent. Practically all the fatal cases were in a condition of great exhaustion due to prolonged sepsis, or they died from causes not directly

referable to the operation. Of the five fatal cases in the first group, 1 was in such a seemingly hopeless condition that the operation was not advised. It was only done at the urgent insistence of the child's parents. The second case was almost equally emaciated and anemic from prolonged septic absorption. A third fatal case was complicated with a fracture which had existed for several months before the operation, while a fourth died of cerebral apoplexy on the tenth day, the cause of death not being referable to the operation. For tuberculous osteitis and osteoarthritis—or hip-joint disease—4 out of 41 died, or 9.7 per cent. There were no serious complications in these 4 fatal cases,

although they were weakened by the prolonged sepsis and waxy degenerations which are characteristic of tuberculosis in the bones. The operation was undoubtedly the immediate cause of death in each of these.

In the case of gangrene, as one would naturally suppose, the death-rate was exceedingly high, 6 of the 12 ending fatally. In 1 of these a preliminary amputation was made above the knee and, as the muscles were gangrenous at this level, a second operation of disarticulation at the hip-joint was done, followed by shock and immediate death. In the second case, in which an aneurysm five inches in diameter involved the external iliac and femoral arteries, while the hemostasis was complete during the operation, exhaustive hemorrhage followed the removal of the



Osteosarcoma of femur.

tourniquet, the bleeding coming from broken-down vessels at the seat of the aneurysm. The patient was septic and greatly exhausted by reason of the gangrenous condition of the entire lower extremity. In the third, the patient died from pneumonia, a week after the operation. Two other fatal cases had prolonged septicemia, to which, with the added shock of the operation, they quickly succumbed. A sixth case of diabetic gangrene had practically recovered from the operation, but died from cerebral embolism at the end of the second week. One case of cellulitis died out of 3, the fatal one being extremely septic and anemic at the time of operation. Improvement followed, but secondary infection of the flaps took place, necessitating a revision which was followed by death. One case of extensive ulcer result-

ing from the breaking down of scar tissue following a burn in youth was of doubtful diagnosis, but was classed as an ulcer because no demonstration of epithelioma was made.

In the third group, injuries with or without septic infection, there are 36 cases with 23 deaths, a mortality ratio of 63.9 per cent. Twenty-four disarticulations at the hip were performed on account of extensive injuries to one or both lower extremities by railway trucks or heavy machinery. Of these, 16 died, a mortality ratio of 66.6 per cent. When we consider the character of these injuries and the unfavorable conditions to which the patients were subjected, this high rate of mortality is not surprising. Hemorrhage more or less severe occurred in all cases, and it was difficult, and at times impossible, to overcome the shock which supervened. It is more than probable that had the intravenous injection of a saline solution been made before all of these were subjected to operation, the ratio of mortality would have been decreased, since the majority of the fatal cases died in shock and before septic infection was observed.

CASE 2.—Here the right leg and foot and left lower extremity were crushed as high as the middle of the thigh. Amputation was performed at the hip on one side, and at the knee on the other. The patient died in shock four hours afterward.

CASE 3.—This patient presented a crush of the leg and thigh by a car wheel, with extensive laceration of the soft tissues. Operation was immediate, and he recovered.

CASE 4.—Pulpifaction of the lower extremity, as high as the middle of the thigh was present here and the patient died in ninety hours, from shock.

CASE 7.—Here there was crush and pulpifaction as high as the upper third of the thigh. Profuse hemorrhage occurred before admission. The patient died of shock within a few hours.

CASE 10.—A crush of the hip and thigh with considerable bleeding at the time of admission was followed by recovery.

CASE 16.—Death in twelve hours, from shock. Salt solution was injected into the veins.

CASE 19.—This patient recovered from the first operation, but secondary hemorrhage ensued. Amputation at the hip-joint was followed by death in eight hours, from shock.

CASE 20.—Death in forty-eight hours, here followed one extremity amputated at the hip, the other just below the knee. There were also internal injuries.

CASE 21.—This patient died within a few hours, from shock. Salt solution was injected into the veins.

CASE 22.—This case was a crush of the thigh, and compound dislocation of the hip. The patient recovered.

CASE 25.—This patient died of shock, in five hours. Salt solution was tried hypodermically. The patient's condition was practically hopeless on account of other injuries.

CASE 28.—Here a railroad crush presented great laceration and much hemorrhage. Amputation eight hours after injury resulted in death in shock within a few hours.

CASE 29.—This was also a railroad crush, of the left thigh, the soft parts pulpified. Salt solution was injected into the veins. Death followed in twenty hours, from shock.

CASE 30.—This patient died in twelve hours, from shock.

CASE 31.—Recovery resulted.

CASE 32.—Crush and pulpifaction here involved the thigh and the ilium and outer rim of the pelvis, with severe hemorrhage. The patient died in three hours, from shock.

CASE 33.—Here the femur was crushed from the knee to the middle third of the thigh, with pulpifaction of the soft structures to near hip. Recovery followed.

CASE 34.—A crush of the leg and thigh was here followed by recovery.

CASE 35.—Death followed a crush of the leg and thigh in this case.

CASE 36.—Recovery was the result after a crush of the leg and thigh in this instance.

MACHINERY CRUSHES.

CASE 9.—This patient presented extensive comminution of bones, pulpification of the soft parts, and the kidney lacerated. Death in shock followed.

CASE 13.—A crush in an elevator was followed by operation twenty-four hours after the accident. Gangrene had supervened in one extremity, almost to the hip, and in the opposite leg to the knee. The patient died in six hours, from shock.

CASE 15.—Crush and pulpification of the thigh, with gangrene of the entire extremity as high as the seat of the wound, resulted fatally.

CASE 17.—A severe crush by machinery, with extensive hemorrhage at the time of the accident, resulted in recovery. Two pints of saline fluid were injected into the veins.

COMPOUND COMMINUTED FRACTURES.

CASE 6.—Comminuted fracture with gangrene was followed by recovery.

CASE 8.—Traumatic gangrene of the entire lower extremity existed, with great edema and general septicemia. The patient died. Saline infusion alone prevented death on the table.

CASE 11.—This patient died in shock after a few hours, in a case of compound comminuted fracture of the right thigh.

CASE 18.—This patient presented a compound comminuted fracture, received subcutaneous salt solution, and by rectum, but died in shock.

CASE 27.—This compound fracture with destructive osteitis was followed by recovery.

GUNSHOT WOUNDS.

CASE 1.—A gunshot wound, compound comminuted fracture, with immediate operation, resulted fatally in two hours, from shock.

CASE 12.—This gunshot wound, with extensive lacerations and hemorrhage, caused death in eighteen hours, from shock.

CASE 14.—The same, with compound fracture of the upper third, with saline infusion, resulted in recovery.

CASE 23.—This patient received a gunshot wound with an explosive missile. While under ether and before operation, a pint of normal salt solution was given under the skin. During the operation a quart was injected into the veins, followed by marked improvement of the heart's action. Symptoms of shock supervened about seven hours later, and a pint more was thrown beneath the skin, but he died within twelve hours, from shock.

CASE 24.—In a gunshot wound of the femur, operation was not done until four months after injury. The patient was in bad condition, from prolonged sepsis. No saline injection was used. Recovery followed.

CASE 26.—A gunshot wound caused by a charge of bird-shot entering over the trochanter shattered the bone. The patient was greatly exhausted from hemorrhage and a three days' journey to reach assistance. No intravenous injection was made. He recovered.

CASE 5.—This patient had gangrene resulting from division of the femoral vessels by a red-hot bar of iron. Gangrene ensued on the seventh day, before amputation was done. Death resulted in thirty-six hours, from shock.

In addition to the foregoing I have two cases of railway crush of the thigh and hip in which the same method of hemostasis was employed, in which the femur was divided in one instance at the lesser trochanter, and in the other one and one-half inches below this point. There were extensive lacerations of the gluteal region beyond the level of the hip in one of these cases, while in the other the right leg and thigh bones were crushed to pulpification to within eight inches of the hip-joint. This patient was not discovered until several hours after he was run over by a train of cars, remaining on the cold ground throughout a greater portion of the night. He was then brought fourteen miles to the hospital, when the amputation was made. These two cases of recovery would reduce the death-rate to 60.5 per cent., but since they are not disarticulations, I have not included them in the statistics. The oper-

ators were Dr. P. B. Barringer, Charlottesville, Va., and Dr. A. W. Knox, Raleigh, N. C.

I have an additional and very instructive case occurring in the practice of Dr. George E. Brewer, in which the method of hemostasis was employed for gunshot wound of the middle and upper third of the thigh, but as the bone was divided near the lesser trochanter and disarticulation not performed, I have not included it in the statistics. This injury was inflicted with a soft-nose missile of high velocity, striking the femur about the middle, comminuting this bone from near the knee to the trochanter, with extensive destruction of the muscles by reason of the explosive effect of this form of bullet. The pins were extemporized from fence wire and the hemostasis was reported as complete.†

Of the 267 cases of disarticulation at the hip-joint for all causes herewith reported, 53, or 19.8 per cent., died. Every fatal case is recorded, and this list includes a number that died from intercurrent disease, such as pneumonia and apoplexy, although the cause of death was not justly referable to the operation. Several died from sepsis, one on the twenty-sixth day, which, as Mr. Chavasse of the Birmingham General Hospital remarks, "was an avoidable cause of death."

In many of the accident cases, while it was none the less the duty of the operator to give the patient this last chance for life, the extensive mutilations, such as the crushing of one or both lower extremities under car wheels or in machinery, and the exhausting hemorrhage which occurs in most of these, together with grave injuries of the viscera, made a fatal termination almost inevitable. Moreover, in the fatal cases in which the amputation was done for the relief of moist and diabetic gangrene, the prognosis was almost as unfavorable as after the most extensive injuries. In Ashhurst's "International Encyclopedia of Surgery," issued in 1881, Dr. F. C. Shepperd gives to that date a total of 633 cases of amputation through the hip for all causes, with a mortality ratio of 64 per cent. In *The Lancet* for March 5, 1892, Mr. Frederick Page gives 16 cases in which the amputation was done by other methods for disease in the Royal Infirmary, Newcastle-on-Tyne, with a ratio of mortality of 37.5 per cent. The death-rate for disease in the statistics herewith given is 17 per cent. Dr. John Erdmann, of New York, collecting the figures of eight hospitals of this city, gives 18 cases done by all methods with 8 deaths, mortality ratio of 44.4 per cent. Of these 18 cases, in 7 the method of hemostasis here advised was employed, and all of these recovered, leaving in this list 8 fatal cases in 11 amputations done by other methods. Asepsis must share with the improved hemostasis the credit of this diminished rate of mortality. These 267 amputations were performed by 123 different operators, and under all the varying conditions of civil and military practice.

The simplicity and efficiency of the method is evident in the fact that from the country practitioner with inefficient assistance and limited experience in major

† In the "Medical and Surgical History of the War of the Rebellion," there is given a list of all amputations at the hip-joint done in military practice to the date of the issue of that volume. They are divided into: 1, primary; 2, intermediary, and 3, secondary periods, and re-amputations.

There were 53 amputations in the primary period—within the first twenty-four hours after receipt of the injury—with two recoveries, a death ratio of 96.2 per cent. Of those done in the intermediary period, i. e., during the inflammatory stage and reckoned from the third to the thirtieth day, both inclusive, there were 32 cases, with 3 recoveries, a mortality ratio of 90.6 per cent. In the secondary period, i. e., after the entire abatement of the acute inflammatory stage and after the thirtieth day, there were 31 operations with 4 recoveries, a mortality ratio of 87 per cent.

surgery, to the metropolitan surgeon with all the accessories of the modern technique, it has almost without exception met with full approval and adoption. The few objections which have been advanced, as for instance the difficulty of disarticulation, and the free oozing from the large muscular surface divided, can no longer hold in the present improved technique of the operation. We all agree with Mr. Chavasse, who says, in his excellent article already quoted, that "it is quite possible and probable that cases operated upon by a variety of surgeons will show a larger mortality-rate than if one particular surgeon had had the entire experience, and we are justified in concluding that an improved modern technique of operating which includes the antiseptic and aseptic methods, has reduced the mortality of a formidable procedure to such really small dimensions that in suitable cases there is no longer any actual excuse for procrastination, and that we are justified in urging operation in cases which up to now we have been content merely to recommend."

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THE OCULAR EXPRESSION OF INTRANASAL LESIONS.

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Ocular symptoms are not uncommon attendants of focal suppuration of the nasal cavities.

Although admittedly more frequent, it is by no means established that such local suppuration starts invariably in one or several of the pneumatic accessories of the nose. Focal suppuration may also begin, in a smaller number of cases, in the mucosa without implication of the sinus cavities, especially in the inferior, anterior portion of the middle meatus and even of the septum nasi.

It is also certain that various ocular symptoms which attend so many intranasal lesions—because they are so frequently and commonly met with—are looked upon as transitory and uncertain reflex phenomena, and are regarded of little diagnostic importance. For this reason they do not receive the attention they deserve, and are often peremptorily disposed of as not worthy of much consideration. Nevertheless, telling evidence that a better knowledge of the interdependence of the symptoms of intranasal and ocular lesions is at hand, is being constantly furnished by numerous contributions from rhinologists as well as oculists—each from his point of view adding practical suggestions which must serve the common purpose of more accurate information of diagnosis and a more successful therapy.

Within the range of this brief communication, no reference will be made to the ocular symptoms in general. These are on the whole fairly well known. Mention will be confined to certain phases of more uncommon intranasal lesions which, so far as their ocular expressions

are concerned, have not been fully described. It must furthermore be stated that the observations and conclusions about to be mentioned, bearing on this point and of common interest to both specialties, are here considered wholly from the standpoint of the ophthalmologist; also, that the successful management of ocular symptoms in cases of this class is unsatisfactory or impossible until their dependence upon a nasal lesion is recognized.

Two classes only, of intranasal lesions, will be considered. They both furnish the oculist with perplexing experiences and with unlooked for disappointments.

The first group includes certain chronic lesions which invade the anterior region of the middle meatus of the nose—the most anterior cells of the ethmoidal labyrinth—bulla ethmoidalis, the region of the uncinate process, hiatus semilunaris and infundibulum.

The point of interest is that the morbid changes which are enacted and account for persistent ocular phenomena are attended by a lesser or even an entirely negative expression on the part of the nose. Often a most careful search must be made before a focal suppuration of the mucosa of the nose or of the air-cells of the locality is discovered. In some cases cystic distention of the cells, with choking of their contents and plugging of their ostia, caries of their bony walls and even the remote sequences of former morbid processes—solidification or rarefaction of the framework of the bone—are found; in others, all tangible evidences are absent until revealed by an exploratory operation undertaken mainly for purposes of diagnosis.

It must also be remembered that the region in question is often the seat of an anomalous individual development to which a congenital legacy of syphilis or scrofulous and rachitic manifestations during early life, afford the necessary predisposition. The growth and subsequent development of the ethmoidal labyrinth are so altered that excessive and abnormal crowding or impaction of the anterior and lateral air-cells results. It can furthermore be assumed that in such cases more or less interference with the physiologic purposes must follow, and that the declaration of any morbid process may be attended by rather uncommon symptoms.

Clinical Expressions of Lesions.—Two principal clinical expressions of lesions of this region of the nose on the part of the eyes are met with:

1. Persistent injection of the vessels of the ocular conjunctivæ with prominence and distention also of the muscular branches, often accompanied by passive edema of the retrotarsal folds. The palpebral conjunctiva does not ordinarily participate in this vascular engorgement. There is no abnormal secretion in quantity or quality, but there is present much functional distress of the eyes. Not infrequently there is observed a retraction of the upper lid and that peculiar stare which is so generally associated with a retarded lid action due to disordered innervation of the sympathetic fibers.

2. The other or second clinical expression dependent on the same or a similar intranasal disturbance, consists of a group of far more unmanageable and persistent symptoms. In cases of this class, the most persistent neuralgic phenomena, not conspicuous because of their severity, but mainly for their persistent nagging features, are present, associated with the most distressing functional disturbances of the eyes.

Any continued effort in reading, or other close work, produces prolonged and severe suffering. This is most pronounced during the early part of the day and wears

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away toward its close and at night. The pain is neuralgic in character. It is referred to certain points along the inner wall of the orbit, the eyeball and the brow. The most uniformly present points of pain are those along the inner and upper orbital wall. They can be easily discovered by passing and pressing the finger against the inner wall of the orbit at a short distance from the free margin. Exposure to bright light, sudden changes of temperature, over-heated air laden with dust or irritating vapors—in fact, anything which may irritate the mucous surfaces of the nose through external agencies, as well as internal ones resulting from excessive mental fatigue, an overwrought nervous system from worry or other reasons, are the exciting causes for this persistent suffering referred to the eyes and frontal regions.

As already stated, most subjects of this class are neurasthenics in the fullest sense of the word. For this reason there is present an almost interminable train of nervous phenomena—functional and transitory—but nevertheless excessively annoying to the sufferer.

This is an incomplete account only, of the ocular symptoms. The description of these cases is not complete until a brief mention is made of the pathologic changes which are responsible for them, so far at least as they are at present known or understood. It must also be admitted that not until the nose is regarded as furnishing a possible starting-point and cause for the ocular lesions, can such cases be satisfactorily managed. The most searching examination of the eyes, followed by the correction of any optical error or muscular anomaly, no matter how trivial, will fail to bring about even partial relief from the annoying symptoms. The experience of every oculist furnishes one or many instances of this class. Doubtless, in all or most of these cases—for this should be the rule in every case of persistent irritation of the conjunctiva or neuralgic disturbance without tangible cause on the part of the eyes—a careful examination of the nose has been made. Such examinations are often attended with negative results. Even in those cases referred for more accurate examination to the rhinologist which are sent back with a negative opinion—that the nose offers no positive evidence of a morbid process sufficient to account for the annoying symptoms—efforts should not be abandoned to seek and find the cause for the annoying eye symptoms in the concealed localities of the nose referred to.

My experience has long made me familiar with these cases. In one of the earlier observations, the general conclusion so frequently confirmed, that lesions of the frontal sinus and anterior ethmoidal cells are commonly associated, was not upheld by the disclosures of surgical intervention. The frontal sinus was found normal in size and the mucous lining healthy. The obstinate neuralgic symptoms persisted. By accident, later, I discovered a focal suppuration in the anterior portion of the middle meatus of the nose. Careful probing led to the discovery of denuded bone and empyema of the cells. These were broken down, thoroughly curetted and free drainage established. The symptoms speedily subsided. Recent observations have added to this accidental discovery. In my experience with these cases I can only confirm what has been already established by others that the lesion on the part of the nose is frequently a local suppuration which begins in the mucosa. It may, in certain cases, be independent of it, but it is generally associated with a latent empyema, caries of the walls, hyperostosis or rarefaction of the air-cells of this locality.

It will also be found that in a larger proportion of cases of this class, with the symptoms described, there is not an implication of the frontal sinus, but the pathologic changes are enacted in the region of the infundibulum, hiatus semilunaris and outlets of the air-cavities of the anterior locality of the ethmoid. These are often latent clinically and, for this reason, difficult of discovery even if the most careful methods of examination are followed.

Another point which deserves to be emphasized—as far as my personal observations are concerned—is that in most of these cases congenital causes, or those which exert their baneful influences early in life—syphilis, rickets, scrofula, etc.—often furnish the individual predisposition for these obscure intranasal lesions and their ocular attendants.

The second group refers to cases better understood and unmistakable so far as the diagnosis and general character of the nasal and ocular lesions are concerned.

There is invariably present in these cases a focal suppuration in the nose—of the inferior meatus, inferior turbinate—or of the adjacent cells of the ethmoid and frequently of the maxillary sinus. The nasal lesion, however, because of the dominant ocular symptoms, does not receive adequate attention.

The cases referred to are those which are considered the most unmanageable of tear-sac and nasal duct lesions. Chronic suppuration with fistulae of the tear-sac and granular degeneration of its mucous linings are present, together with thickening of its walls, vicious bone-ulceration and sequestration on the part of the osseous portion of the nasal duct, focal suppuration of the inferior meatus of the nose, ethmoidal labyrinth, maxillary sinus, etc.

These are the cases in which the radical extirpation of the tear-sac by cauterization or excision, with or without removal of the lachrymal gland, is necessary. The removal of the lachrymal gland may not be necessary in all cases. If the removal of the tear-sac is thoroughly accomplished, and if the nasal lesion at the same time receives the attention it deserves, good and permanent results can be obtained without it. For this reason, the removal of the lachrymal gland should not be resorted to in surgical ventures of this kind, until it has been demonstrated that this is a necessary measure.

The method which has furnished me with the best results includes, in addition to the most radical extirpation of the tear-sac—excision, curettage—equally thorough attention for the nasal lesion.

Briefly described, the operation which has been practiced successfully in numerous instances, consists: 1, in the destruction and obliteration of the canaliculi or entrance to the dilated and suppurating tear-sac, by the aid of the galvanocautery. This is followed by excision of the tear-sac through a large incision until every vestige of the soft parts, the circum-saccular thickenings and fistulous tracts, etc., are removed. The osseous canal—the most important feature of the operation—is now widened with chisel, mallet and curette until a free, funnel-shaped communication with the nose has been secured and every trace of carious or sequestered bone has been thoroughly removed. The adjacent smaller cell or cells of the turbinates, as well as the cells of the ethmoidal labyrinth, are next opened, explored and, if necessary, curetted until the floor of the inferior meatus is reached. The inferior and middle turbinate are as thoroughly removed as the judgment of the surgeon may direct, to bring about a large and free cavity. The external wound is closed with sutures.

The advantage of this method is that the external wound closes and heals up rapidly, and drainage or whatever subsequent treatment may be necessary, is accomplished with ease through the nose. The after-treatment is much shortened and less painful, and the resulting scar much less conspicuous.

A BRIEF NOTE ON THE PATHOLOGY, DIAGNOSIS AND TREATMENT OF NASAL ACCESSORY-SINUS AFFECTIONS.*

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It is now generally recognized that affections of the nasal accessory sinuses are more common than they were formerly supposed to be. Many physicians still hold the opinion, however, that neither their frequency nor import are as yet fully appreciated. By careful examination many a case of supposed rhinitis will be found to be associated with, and dependent upon, a chronic, or acute, sinusitis. This is particularly the case in the condition known as purulent rhinitis in children, where the sinusitis is the rule rather than the exception. Moreover, the proper treatment of the sinus disease will result in great amelioration, if not complete cure, of the so-called purulent rhinitis. If it be true that a chronic purulent rhinitis is due to, and maintained by, a chronic sinusitis, and if we accept the view that atrophic rhinitis is a sequel of chronic, purulent rhinitis, then it is evident that we must consider chronic sinusitis a very important factor in the etiology of chronic atrophic rhinitis. Certain it is that careful examination will reveal the presence of chronic sinusitis in a very large percentage of the cases of atrophic rhinitis, and equally certain is it that, in order to get relief from the atrophic rhinitis in such cases, we must first cure the sinusitis. Indeed, even in those cases of atrophic rhinitis that do not seem to be associated with chronic sinusitis, it is very probable that a sinusitis was present earlier in the progress of the case, but had gradually subsided and disappeared. Nasal polyps will often be found associated with chronic sinusitis, and we find it frequently necessary to treat the sinuses after removal of the polyps, for we can almost certainly predict that, without such after-treatment, a return of the polyps will occur. The pathologic changes that take place in the unobstructed nostril, in cases of deviation of the septum—which I have described in another paper¹—frequently lead to sinusitis. A deviated septum will also frequently cause a chronic sinusitis on the obstructed side. All cases of deviated septum, therefore, should be carefully examined for existing sinusitis, and if this condition is present it should be relieved either before or after operation for the deviation. It is a good rule of practice, in all cases of obstructive or septic conditions of the nasal chambers, to suspect and carefully examine for existing sinus-disease.

There is one class of chronic sinus affections which I desire to mention more particularly, for as yet but little attention has been called to them. These are cases where the nasal outlets of the sinuses have become obstructed, not by gross pathologic lesions, such as

polyps, deviated septum, etc., but rather by swelling and thickening of the mucous membrane at the nasal openings of the sinuses, or again by small masses of granulations, or even by inspissated mucus obstructing the openings. This class of cases closely corresponds to cases of closure of the Eustachian tube from similar causes; indeed, in a certain sense the tympanum, or middle ear, may be considered an accessory sinus, with the Eustachian tube its rather long drainage-tube. The obstruction to the openings of the sinuses in this class of cases may be a complete and fairly permanent one, or the openings may be open at times but becoming obstructed by slight causes, such as coryza. Within the past few years many such cases appearing subsequent to attacks of influenza have been observed.

When the nasal openings of the sinuses are closed, either temporarily or more or less permanently, in the manner just described, certain pathologic changes will take place in the mucous membrane lining the obstructed sinus. In some instances, these pathologic changes lead to inflammation, with its usual course, resulting in suppurative sinusitis with the common symptoms of this condition. In other instances, a chronic congestion of the membrane seems to be the result. I am also of the opinion that retention of gases in the obstructed sinuses is present in some cases, and, in others, that the air in the closed sinuses becomes rarefied, thus causing a chronic congestion of the lining of mucous membrane.

The diagnosis of this class of cases is greatly aided by the subjective symptoms, pain in the head being the most prominent one. This pain may be described as one that is more or less continuous, frequently worse upon arising from bed in the morning, wearing off somewhat during the day; a headache that is usually increased by leaning forward, or stooping—usually described by the patient as dull or boring in character; one that is usually increased by colds in the head, that frequently is made worse by exposure to cold winds, etc., that is frequently present even during sleep—a pain that is accompanied by a sense of heat in the face or forehead. This feeling of heat is particularly felt when the patient is agitated. During the summer season, or in clear weather, or when living an open-air life, this pain is often ameliorated. In winter, cold and chilly weather, or when the patient is run down in health, it is usually more severe. The situation of the pain varies with the particular sinus affected. If the frontal sinus alone is involved, the pain is felt in the forehead or over the eyes. If the anterior ethmoidal sinuses, the pain is usually located at the root of the nose, near the inner angle of the eye, or is felt deeper, apparently back of the inner portion of the eyeballs. If the posterior ethmoidal cells are at fault, the pain is usually referred to the temporal region, at times also to the vertex, or back of the eyeballs. It has seemed to me that pain from affection of the sphenoidal sinuses is frequently felt in the back of the head. As it is not infrequent for several of the sinuses to be affected at the same time, the pain may be referred to several of the regions mentioned. It may be said, however, that the pain in these sinus affections is nearly always a localized one, although several localities may be implicated at the same time. The patient occasionally complains of the head pain as a whole. In some cases the pain is unilateral, resembling migraine, one entire side of the head being involved, and, quite usually, when this is the case, it is always the same side that pains. In some cases, when

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the obstruction to the sinuses is not permanent, the patient may be entirely free from pain in the head at times, and may remain so for a longer or shorter interval, but should the patient "catch a cold" in the head, the pain returns, located in the same places as those in which it was previously felt. It may then continue permanently, or be repeated at longer or shorter intervals. The diagnosis is aided by the fact that pressure over the affected sinus—particularly when the frontal or anterior ethmoidal sinuses are involved—will usually elicit tenderness and pain.

Inspection of the nares will frequently reveal an obstructive lesion, such as deviated septum, polyp, enlarged turbinals, etc. At times a thickening or slight curvature of the superior anterior portion of the bony septum is the only obstructive condition to be observed. This produces, however, sufficient narrowing of the upper portion of the nasal chambers to cause blocking of the sinuses, whenever the soft tissues are swollen. Not infrequently a tenacious, whitish muco-pus, or sero-purulent discharge, may be extracted in long, thin threads. Discharge, however, may be entirely absent in many cases, and some of these may suffer from the most severe and persistent pain in the head. Transillumination is at times a valuable aid to the diagnosis, but is not always a reliable one.

In the treatment of acute or chronic inflammation of the nasal accessory sinuses, attention must be given: 1, to providing proper drainage to the affected sinus; 2, to the proper treatment to the disordered lining membrane. In order to carry out such treatment, various surgical procedures are in many cases found to be necessary. It is not my purpose, however, to discuss the operative and medical treatment at this time, but I desire merely to draw attention to the great importance and desirability of opening the natural outlets to the sinuses whenever possible, and this I would advocate even when we have found it necessary to do the so-called radical operations. When we succeed in getting a natural outlet open, it is naturally inclined to stay open, whereas, all artificial openings tend to close very quickly. Many of the milder chronic cases of sinusitis—and nearly all of the acute cases—are capable of being quickly cured, if the natural nasal openings of the affected sinus are opened and kept open, and appropriate local and general treatment instituted. In order to obtain this opening and drainage through the natural outlets of the sinuses, all intranasal obstructions of the openings of the sinuses should be removed. Obstructive deviations, or spurs of the septum, should be corrected, enlarged middle turbinals should be reduced in size; frequently the amputation of the anterior portion of the middle turbinal is necessary. Polyps should be thoroughly removed by evulsion. At times, small polyps, situated high up in the nares, are found to cause the obstruction. Masses of granulations choking the sinus openings are to be treated in a similar manner.

Finally, I desire to draw attention to the excellent results obtained from forcibly syringing the openings and sinuses with hot dry air used under pressure. In a large number of cases I have been able by such use of hot dry air to open obstructed sinuses very quickly, giving the patient great and, in many instances, quick and permanent relief from pain, immediately increasing the drainage and removing the retained secretions.

I first drew attention to the hot-air syringe, which I employ, and the method to be employed in its use, in a paper² presented to this Section at Philadelphia in

1897. Subsequently I have published other results with further description of the process.³ The air is used as hot as the patient can bear it. The nasal chambers are thoroughly cocainized, and at times the cocain applications are to be followed by the use of the aqueous solutions of the suprarenal capsule. On account of the small size of the tube, an air pressure of from 30 to 40 pounds is usually needed, and the hot air is applied to the openings and forced directly into the sinuses. At times a small catheter aids in accomplishing this purpose. Acute sinusitis treated in this way, aided by hot water applications externally, low diet, purgation, attention to the digestion, etc., will usually yield in a few days. The milder cases of chronic sinusitis likewise yield readily, and in the particular class of cases of partial or complete closure of the outlets, which I have described, and when uncomplicated with sepsis of the sinus, the relief is obtained very speedily, although the symptoms may have been present for months or years.

THE REDUCTION OF TEMPERATURE IN FEVERS BY EVAPORATION BATHS; WARM WATER BEING USED FOR BATHS.

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The method of using cold in fevers described below is the same which I presented at a meeting of the American Association of Physicians in 1895.¹ Since that time I have given some hundreds of baths by this method, chiefly in typhoid fever, and the results have been so good that I desire to take up the subject again.

I shall not attempt any detailed presentation of the cases in which this method of reducing the temperature was employed, but merely indicate the principles upon which its successful use depends; for if these are clearly understood, and the directions carefully followed, satisfactory results will ensue. It is necessary that the physician should demonstrate to the nurse exactly what is required to be done; if after this demonstration the reduction in the temperature is not on an average of 2 degrees for each bath, there has probably been some failure to fulfil the conditions essential for success.

Cold as an Antipyretic.—It is universally agreed that cold is our best and safest antipyretic; but the method of applying it by a cold bath taxes the strength of the patient; the lack of conveniences in ordinary practice for such a bath, and of persons who know how they should be given, as well as the objections made by the patient and friends, are obstacles to its use.

Temperature Reduced by Evaporation.—My purpose is to show how the temperature can be reduced by the use of cold by a more comfortable method than the cold bath. The essential points are that the body be covered by a layer of thin gauze on which warm water is sprinkled; the temperature of the body is reduced by the evaporation of the water, and this evaporation and cooling are promoted by a current of air.

The rapidity of the cooling depends to a considerable extent upon the dryness of the air and the volume of it at our disposal. In Boston, for example, during the season when the houses are heated, the percentage of moisture indoors is low; and during the summer months, though the percentage of moisture may be two or three times as much as during the winter months, by means

3. Phila. Med. Jour., May 7, 1898; also Sept. 9, 1899.

1. A More Comfortable Way of Using Cold in Fevers; Trans. Am. Assn. of Physicians, 1895.

2. JOURNAL A. M. A., Oct. 2, 1897.

of open windows the volume of air at our disposal is large. Either a smaller volume of dry air or a larger quantity of more moist air will serve the purpose, as the quantity of water the air has to take up in the use of this method is not large, and its absorptive power is required only at intervals. The doors of the room should be open, and in warm weather also the windows. Exceedingly favorable conditions would be found in dry, warm climates.

Principles of the Method Tested by Experiment.—To gain some idea of the efficiency of this method of cooling and the best way to employ it, I took a large bottle, holding rather more than a gallon of water, the temperature of which was 104 F.² The bottle was wrapped with surgical gauze—having about sixteen threads to the inch—which was sprinkled with water at the temperature of the room at short intervals, and fanned continuously by an electric fan. In this way the reduction in the temperature of the water in the bottle during half an hour could be ascertained under varying conditions. From such experiments—they do not represent all of the conditions present in the body—it was found that the water in the bottle could be cooled about 28 F. below its initial temperature of 104 F. in one-half hour, the temperature of the air in the room being 70 F. This method is similar to the one which has been used for many centuries in hot, dry climates to cool drinking-water.

Number of Layers of Gauze.—I also varied the number of thicknesses of gauze covering the bottle, and found that one or two thicknesses of gauze gave better results than several; four or six, for instance. It is of importance to have the covering for the surface to be cooled a suitable one; something which will hold a thin layer of water on the surface without keeping it warm. The gauze serves this purpose and likewise increases the amount of surface from which evaporation takes place.

Amount of Evaporation Produced with and without Fanning; Electric Fan and Hand Fan Compared.—I found that the reduction in temperature was much greater if the wet gauze were fanned than when evaporation took place unaided by this process. I likewise compared the amount of the cooling of the water in the gauze-covered bottle which took place when an electric fan was used to create a draft, with that obtained by hand-fanning; in the latter case two palm-leaf fans tied together to stiffen each other were used. I found that, under the same conditions, the temperature of the water in the bottle was lowered much less in half an hour by the hand-fanning than by the electric fan. In private practice it is quite feasible to use a hand fan; but in a hospital ward an electric one is better, as to fan several patients a number of times a day would tire the arm of an attendant.

Ice Water Compared with Warm Water.—The use of ice water to moisten the gauze suggested itself to me. I therefore placed two of the gauze-covered bottles in the same current of air, one of them being kept wet with water at 100 F., the other with ice water (32 F.) and at the end of half an hour the difference in temperature of the water in the bottles was only 1 degree, a difference of about 5 per cent. This experiment was repeated, using the cold water on the bottle which had previously had warm water, with the same result. This slight increase in cooling by sprinkling the patient with cold instead of warm water does not offset the discomfort of shock which not cold water only, but even cool

water gives, and of which patients complain. By using warm water to moisten the gauze, and continuing the current of air one or two minutes longer, we can readily obtain fully as much cooling as when cold water is used for the slightly shorter period. If for any reason this shock to the nervous system is desired, cool water may be used.

Use of Alcohol.—I also tried moistening the gauze with alcohol—95 per cent.—instead of water, and found that the temperature of the water in the bottle was not much more reduced in half an hour than it had been when water was used on the gauze; the difference between the two was about 10 per cent. This did not seem to me sufficient to offset the inconvenience of alcohol, as much more alcohol would have to be evaporated to obtain the same amount of cooling, the latent heat of water being much greater than that of alcohol, which is inflammable and expensive, leaves a stuffy odor in the room and may irritate the skin.

The principle underlying this method is made more evident when we consider that the cooling which takes place when 5 c.c.—one teaspoonful—of water are evaporated at 104 F. represents roughly the reduction in temperature of a quart of water cooled from 104 F. to 99 F., or the cooling of more than a gallon of water 1 F. The heat taken to evaporate a pint of water is sufficient to cool 289 pounds of water about 4 F.

Test to Determine whether the Heat was Withdrawn from the Water in the Bottle or Air of the Room.—To ascertain whether the heat which evaporated the water was withdrawn from the air of the room, which was usually about 70 F., or from the body of warm water in the bottle, the amount of water which was evaporated in half an hour from the surface of a large bottle covered with gauze, when fanned, was measured, and it was found by calculation that the amount of heat lost by the water in the bottle was due chiefly to the evaporation of the water sprinkled on the bottle. For example, it was demonstrated, in one experiment, that 4000 c.c. of water—the amount contained in the bottle—at 104 F. were cooled 22.5 degrees in half an hour, and that 108 c.c. of water were evaporated. Standing in the room, a similar bottle of water lost 4.5 degrees. To lower the temperature of 4000 c.c. of water 18 degrees requires the evaporation of 70 c.c. of water; as not more than 108 c.c. of water were evaporated in all, it is evident that most of the heat needed to evaporate the 108 c.c. came from the warm water in the bottle and not from the air.

Effect of Warm Water on the Body.—By first cooling the outer layer of the body for a few minutes, by the evaporation of water warmer than the patient—about 115 F.—and then momentarily warming the surface thus cooled by sprinkling again with warm water, we may draw the blood to the surface and send it back cooler to the interior of the body, and thus by the alternate dilatation and contraction of the superficial blood-vessels, we may accomplish more reduction in temperature than by continuous cooling of the skin. That is, physiologically, there are advantages in moistening the gauze on a patient from time to time with water warmer than the patient, rather than with cool water, which would not be apparent in a simple physical experiment. To cool a fever patient by applying warm water rather than cold, seems paradoxical, but it is the better way, and is more acceptable to the patient.

Brandy or whisky administered before giving the bath would promote the dilatation of the superficial blood-vessels.

2. The experiments were also repeated on a larger scale, using copper cylinders instead of bottles, with good results.

Method of Giving Bath.—A rubber cloth or woolen blanket is put under the patient; strips of coarse gauze such as is used for surgical dressings are then placed on him, of sizes suitable to go fully three-fourths around each leg and arm, and the trunk; when moistened they should cling closely to the skin. There should be only one thickness of gauze. This is sprinkled with water³ at a temperature of 110 to 115 F., sufficiently often to keep the gauze wet, and the patient is fanned.

Duration of Bath.—It is well to begin with a bath of sufficient duration to evaporate a pint of water, and in subsequent baths to be guided, as to the amount of water to be used, by the effect of the previous one. In the later stages of typhoid fever one should remember that the same patient is more susceptible to the action of cold than he was in the earlier stage.

Amount of Water Evaporated a Guide rather than the Time taken.—The time required for evaporation varies with the amount of moisture in the air. If one pint of water is evaporated in one-quarter of an hour, the patient's temperature will fall about so many degrees, but if there happens to be a high percentage of moisture in the air of the room, a longer time is required to evaporate the same amount of water, say one-half hour, and there would not be quite so much lowering of the patient's temperature as when the evaporation occurs in the shorter time. Therefore it is better to be guided by the quantity of water evaporated rather than by the time.

Number of Degrees the Temperature may be Reduced.—The amount of heat withdrawn from the patient may be varied by increasing the duration or frequency of the baths.

Average Reduction of Temperature in Twenty-two Hand-fanned Evaporation Baths.—The average reduction in temperature of twenty-two baths by hand-fanning, given to patients with typhoid fever during July, 1893, was 2.6 degrees; the time required for each bath varied from fifteen minutes to one-half hour; and the amount of water evaporated was about one quart—at times much less, sometimes more. The temperature was taken in the mouth, and the lowest was sometimes not reached for one or even two hours after the bath; once the temperature fell 4 degrees, and once 5. The amount of moisture in the air while these baths were given was probably not far from 70 per cent. These baths are not so mild in their effects as to permit one to disregard the possibility of partial collapse in very weak patients, if pushed too far.

I have used this method in typhoid fever and pneumonia; the patients had less delirium and slept better; and it seems to me to combine safety, comfort, convenience and efficiency to a greater extent than other means of reducing temperature in cases of fever.

The following case illustrates the use of the evaporation bath: A. B., a strong man who had typhoid fever, with a temperature frequently above 103 during three weeks, was given the baths, with hand-fanning, two or three times a day, or whenever the temperature reached 103 F. Each bath was continued about one-half hour, and about one quart of water was evaporated at each bath. The average reduction in temperature of ten baths was 2.2 degrees. Twice during the period when these ten baths were given, a cold tub-bath—65 F.—was

given for fifteen minutes to the same patient, in place of the other bath; in one of the cold baths the temperature was reduced 3.1 degrees, in the second 2.6, an average of 2.8 degrees. The temperature may be reduced by the evaporation bath as much as by the cold tub-bath by increasing the number of evaporation baths given per day.

Evaporation Bath Compared with Sponge Bath.—In order to have some suggestion of the respective efficiency of the evaporation and sponge bath, I made the test described below. The sponge baths were given in the following way: The patient having been suitably arranged on a rubber sheet, a large sponge was dipped into a pail of water at 70 F., the excess of water squeezed out, and the patient sponged; the sponge was then squeezed out into an empty pail, dipped in a basin containing ice-water, to cool it, and squeezed out, then again dipped into water at 70 F., and applied to the patient. This makes a very good sponge-bath. Both kinds of baths were kept up for fifteen minutes.

For this comparative test I chose one ward, during a service at the Boston City Hospital, and had one-half the typhoid patients who were admitted to it during five weeks in the summer of 1893, sponged, as detailed above, and the other half treated by covering three-quarters of the body with a layer of gauze moistened at intervals by sprinkling with warm water, and fanned as already described. The patients were taken alternately. There were eight patients in all, four treated in each manner, each receiving a number of baths. I did not pursue the comparison on a large number of patients, as they had to be fanned by hand—if electric fans are used it would be less irksome for the attendants in a ward to give these baths than to give sponge-baths. The directions were to give a bath whenever the axillary temperature of the patient was 103 or over, but 102 would have been a better temperature to select. The rectal temperature was taken one-half hour after the bath, and on the average the temperature was found to be reduced by the sponge-bath rather less than .5 degree, and by the evaporation bath rather more than 1, and the reduction in temperature continued for a longer period after the latter bath had been given; but this comparison is based on too few patients to be exact. Now and then the temperature was reduced 2, 3, and in some instances 3.5 degrees by the evaporation bath.

To give some still further suggestion of what may be expected when the evaporation baths are used, I give the results in fifteen consecutive cases of typhoid fever, in which 235 hand-fanned baths were given: The temperature in each case cited was taken twenty minutes after the bath; the time of bath varied between fifteen and twenty minutes:

BATHS PER PATIENT, WITH AVERAGE FALL FOR EACH PATIENT.

Baths.	Temperature. Degrees.
17.....	2.56
25.....	2.70
1.....	1.40
3.....	
5.....	2.20
6.....	1.53
15.....	2.36
35.....	1.70
24.....	1.80
13.....	2.74
8.....	2.10
2.....	2.20
2.....	2.90
57.....	1.65
22.....	1.70

One patient, not included in the above table, was

3. I use a No. 1—not No. 4—Davidson syringe, onto which is screwed a small, hard-rubber nose about one inch long and one-half inch in diameter, perforated at the end with a dozen holes each about one-sixty-fourth of an inch in diameter. These tips are made by the Davidson Rubber Company, Boston. The gauze should be kept wet, and if the sprinkling is properly done, very little water reaches the blanket on which the patient lies.

given two baths, one of which lowered the temperature 3 degrees; the other caused a fall of 2.8, an average of 2.9 degrees per bath.

Summary.—The patients numbered 15, and were given 235 baths; there was an average fall of temperature, per bath, of 1.94 degree, 1.53 degree being the lowest average fall per patient, and 2.74 the highest average fall per patient; the least fall after a bath was .5 degree, the greatest, 4.8 degrees; the smallest number of baths to one patient was 1, the largest, 57; 5 times the temperature was higher than before the bath—the rise varying from .4 to .8 degree. Twice the temperature remained unchanged after the bath; in 1 case the bath had to be stopped on account of a chilly sensation during the process—the same patient had two other baths, after both of which she felt very uncomfortable.

Directions.—Briefly, the directions for giving evaporation baths are these: Give a bath whenever the temperature is 102 or 102.5 F. Have the patient lie on a blanket during the bath, cover him with one thickness of surgeons' gauze, which, when moistened, shall fit the skin perfectly, and sprinkle the gauze with water at about 115 F. Note the amount of water evaporated, and be guided by this in giving the bath, not by the time required to evaporate the water; the rapidity of evaporation depends largely on the amount of moisture in the air. Have as little clothing on the patient as possible, night and day, so long as the temperature is 102 F. or more; nothing more than a sheet; in private practice the patient may be without covering.

THE STREPTOCOCCUS PYOGENES IN GYNECOLOGICAL DISEASES.

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In 1899 I reported 7 cases¹ of pelvic inflammation operated on in the gynecological clinic of the Johns Hopkins Hospital, in which the streptococcus pyogenes was found to be the infecting agent. Since the publication of that article, and during my service in the hospital, 4 additional cases have been operated on in which this micro-organism was found to be the cause of the inflammatory process. Nine of the 11 cases presented certain features which were indicative of the etiology of the infection. The two exceptions were: 1, an infected myoma, and the other an abscess localized to the cul-de-sac of Douglas which had probably been secondarily infected from the intestinal canal. In 6 of these cases the peritoneal cavity was invaded at the operation and 2 patients, where this occurred, died, probably both from the resulting general streptococcic peritonitis. Attention will be called to this in reporting the individual cases. In the other 5 the peritoneum was not disturbed and all recovered. The high mortality in these cases where the peritoneal cavity was invaded, in contradistinction to the almost uniformly favorable results in celiotomies where the gonococcus is the infecting agent, should make the operator careful to distinguish between these two classes of pelvic infections. It is not always possible to positively know before operation, whether one will encounter the streptococcus or not, but there are certain definite characteristics of streptococcic pelvic inflammation and it is to emphasize these that I again call attention to these infections.

In studying our cases, 9 of the 11 gave definite histories of infection either at labor or miscarriage. The

2 exceptions were the case of infected myoma and the one of localized pelvic abscess in Douglas's cul-de-sac, to which attention has been previously called. The history is therefore of the utmost importance in making a diagnosis. As in the large majority of cases of streptococcic pelvic inflammation the lesion is a parametritis, I will here state the views of some of the more reliable investigators as to the etiology of this disease. Rosthorn says that while the gonococcus may invade the tissue beneath the mucosa, from a clinical standpoint one thing can be asserted, that in parametritis the gonococcus is not found. Bumm, in purulent parametritis, regularly found streptococci, more seldom staphylococci. Doleris and Bourges found, in fetid parametral pus two months after the acute symptoms had subsided, the streptococcus and the proteus vulgaris. Hartmann and Mörax found the streptococcus in 21 cases of purulent parametritis. Pfannenstiel, in all such cases operated on by Fritsch, found the streptococcus. Kleinknecht, in 5 cases of widespread parametral exudate, found a mixture of bacteria, staphylococcus albus with bacterium coli, streptococcus pyogenes and the staphylococcus aureus. Jayle found a mixture of the streptococcus with the staphylococcus and the bacterium coli. Bäcker had a case of influenza bacillus infection and Bumm one in which was the Klebs-Loeffler bacillus. Rosthorn found the streptococcus pyogenes and the staphylococcus pyogenes albus and aureus. The last-named author says at least two-thirds of such cases are of puerperal origin. Bernutz, in 104 cases, says 48 were of puerperal, 28 of gonorrheal, 20 of menstrual and 8 of traumatic origin. West gives 77 per cent. as puerperal; Buschbeck-Ettlinger, 74.3 per cent.; Grisole, 63 per cent.; Biegel, 55 per cent., and Cullingworth 21 out of 22 cases as puerperal.

The other causes besides the puerperium, according to Rosthorn, of parametritis are gynecological examinations, tents, pessaries, sounds, tampons, operations, excesses in venery, masturbation, use of anticonception sponges and pessaries, cold, hematoma which suppurate, suppurating myomata, dermoid cysts, echinococcus cysts, inflammation of neighboring organs—paracystitis, paranephritis, paraproctitis, paratyphlitis, caseous bone and suppuration of joints. The history should then, in the large majority of cases of streptococcic pelvic inflammation, point to a labor or miscarriage as the beginning of the complaint.

Of almost equal value with the history is the pelvic examination. The pelvic structures present certain characteristics which are almost unmistakable. These are, the situation of the mass, its consistency, and the intimate connection of the uterus to the walls of the pelvis. To get a correct idea of the site of the pelvic inflammatory mass of streptococcic origin it is necessary to bear in mind the routes of invasion in these cases. In nearly all, the streptococcus invades the surrounding tissues through the lymphatics. As shown by the work of Widal, König and others, when the extension may also take place through thrombosed vessels, through the circulating blood, or by direct extension as in abscess formation. The bacteria occasionally seem to extend along the mucous tract and thus enter the peritoneal cavity. This is probably of extremely rare occurrence. Only one of our cases indicated this as the route of extension and in this case (Case 4) there was also a lymphatic infection. The point of entrance of the streptococcus is usually some abrasion of the mucous membrane of the uterus or vagina or at the site of the adherent placenta. The tendency is for the infection

to follow the layers of connective tissue and fascia of the pelvis, and not to invade the adjacent layers. This is admirably set forth by von Rosthorn, in Veit's "Handbuch der Gynäkologie." Bearing these facts in mind the situation of the inflammatory mass is what one would expect. The bacteria going through the cervix or vagina cause a parametric exudate, abscess, or both.

I will not dwell upon the various situations of this parametric exudate further than to state that it lies in the connective tissue surrounding the uterus and vagina and beneath the pelvic peritoneum. It is deep-seated, may be situated in either broad ligament, and is usually unilateral. It may lie posterior to the uterus in the septum between the peritoneal cavity and the vagina, or extending higher may surround the rectum, or occupy the posterior portion of the pelvis on either side beneath the peritoneum. It may be ante-uterine, lying between the uterus and bladder, occupy the space of Retzius, or extending, may be situated higher along the anterior abdominal wall. Laterally, it may lie in the false pelvis on either side. Where the inflammatory process approaches the peritoneal cavity, the omentum, tubes, ovaries, and intestines become adherent and thus tend to protect the general peritoneal cavity from infection. We find this the case also where the point of infection is the placental site, and a similar protective inflammatory process is usually found when the invasion occurs through the tubes. When this protection does not take place a fatal general peritonitis is the result. The mass is nearly always asymmetrical. One finds a mass on one side of the pelvis and the other side normal to palpation, or a mass anteriorly or posteriorly and the remainder of the pelvic structures uninvolved. This asymmetry is in marked contrast to the condition found in gonorrheal infections where the process practically always involves both tubes. The superficial situation of the gonorrheal salpingitis in contradistinction to the deep-seated nature of the streptococcic pelvic infection is of the greatest value in distinguishing between the two.

The consistency of the mass is of the utmost value in making the diagnosis. This consistency is of bone-like hardness. While in the early stages of inflammation the exudate is softish, and after abscess formation this denseness may in a degree disappear, yet in the majority of our cases the extreme denseness of the exudate, even where there was abscess formation, called our attention to the probable nature of the infection. When pus is present it usually consists of a number of small abscesses situated in dense indurated tissue, and the palpation shows the bony consistency before mentioned.

When the lesion is a parametritis there is an intimate connection between the uterus and the pelvic wall. The immobility of the uterus is marked and the exudate can be felt extending directly from this organ to the pelvic wall. The diagnosis then can be made upon the following points: 1, the history; 2, the situation of the pelvic mass; 3, the denseness of the mass; 4, the immobility of the uterus and its connection by the exudate to the wall of the pelvis.

The streptococcus has, according to the history in some of my reported cases, the faculty of remaining alive and capable of culture a remarkably long time in the infected tissue. In one of the cases reported in my first article, the infection apparently occurred twelve years previous to the operation, and in one case reported now there was a definite history of infection two years before admission to the hospital. In the first case the

micro-organism was capable of being cultivated, and in the second the patient had, following the operation, a general streptococcic peritonitis which resulted fatally. In the other cases the micro-organism had remained alive for periods varying from ten days to twelve weeks. The two cases mentioned above emphasize the necessity of observing the same precautions against contamination of the general peritoneal cavity in infections of long standing as in those of recent origin.

In conclusion I will say a few words as to the operative procedure. As soon as the mass can be definitely located the operation should take place. The early operation here is as much indicated as in a streptococcic lymphangitis of the arm or other part of the body and for the same reason, i. e., to prevent the extension of the infection. It is unwise to wait for suppuration. When this occurs it is generally in the form of small abscesses scattered throughout indurated tissue, and one is consequently quite uncertain in many cases whether or not pus will be found at the operation. A free incision should be made extraperitoneally, the mass thoroughly broken up by means of blunt dissection so as to evacuate the abscess cavities, and drainage should be established. The location of the incision depends on the situation of the mass. If the mass is posterior to the uterus the incision is made in the upper posterior part of the vagina. If it occurs between the uterus and bladder, a similar incision anterior to the cervix is made. If in the space of Retzius, the incision is made suprapubically. In cases where the mass is in the broad ligaments or in the false pelvis the incision depends on whether it is deep-seated or not. In the former case a vaginal puncture is made lateral to the cervix, and this is dilated with a blunt instrument and the fingers until the mass is broken up. In these cases much care is necessary to avoid injuring the ureter and the uterine vessels. When the mass is in the broad ligament and can be reached from above, the incision is made parallel to Poupert's ligament, slightly above it and toward its outer end, and the dissection is carefully made so as not to enter the peritoneal cavity. Several of our cases were operated on by the latter incision. In one it was thought that the peritoneal cavity had been invaded, but an exploratory incision showed this not to be the case and revealed also the interesting fact that the tubes and ovaries were entirely normal. If the mass is situated still more superficially and in intimate relation to the abdominal wall, the incision is made immediately over it. When the operator is in doubt as to the origin of the infection, that he has thoroughly explored the mass, or there are signs of intestinal involvement, it is better to do an exploratory celiotomy, taking every precaution to avoid contaminating the abdominal cavity or the celiotomy wound. As an interesting example of this was a case operated on by me three years ago. The diagnosis was an abscess in connection with the anterior abdominal wall immediately above the pubes and of unknown origin. The abscess was incised and drained. The patient in a few weeks developed symptoms of intestinal obstruction, and died on the table at the second operation. It was then seen that the patient had carcinoma of the intestine. The carcinomatous mass had become adherent to the abdominal wall and the infection had gone out through the intestine at this point and caused the abscess. An exploratory incision would have revealed this condition and a resection of the intestine would have offered the patient a hope of recovery.

The cases which follow are well worthy of study as

illustrating the points which I have attempted to bring out in this and the preceding article.

CASE 1.—R. F., white, aged 32 years, was admitted June 14, 1899, complaining of abdominal pain and a mass in the left lower abdomen. Her past history was negative; menses regular, painless and profuse—the last period May 17. Married 14 years, she had had five children, the oldest 12 years, the youngest 3 months, and two miscarriages, the last one occurring one year before her last labor.

Present Illness: Her symptoms began soon after her last confinement. She thinks she had no fever nor chills, but was confined to her bed eight weeks with pain and burning at the site of the mass. She was nauseated, had no uterine hemorrhage, but anorexia; no urinary symptoms. She was constipated. Her temperature on admission was 99 F., and pulse 100. She noticed the mass in the left side immediately after confinement.

Examination: Chest normal; general condition good; abdominal walls flaccid, with a visible mass in the left hypogastrium. This mass extended from the pelvis to 2 cm. above the umbilicus. The mass, on the inner side was soft and cystic; harder toward the pelvic wall. There was visible peristalsis in the overlying coil of intestine, and tympanites over the upper and inner portions of the mass. The vaginal outlet was relaxed, the cervix in the axis of the pelvis, the os gaping. The uterus was low in the pelvis, anteflexed, small and drawn over to the left side of the pelvis. The right side of the pelvis was normal to palpation. On the left side was a mass the size of an orange, occupying the position of the ovary, which was exquisitely sensitive. This mass was slightly movable but intimately connected to a hard indurated mass which apparently formed part of the pelvic wall. The latter was as hard as bone and was also extremely sensitive. The diagnosis of neoplasm of the ovary was made on this examination. (The diagnosis of streptococcic parametritis had been made by me in the dispensary.)

Operation: (Operator, Dr. Stokes.) A median abdominal incision was made. The peritoneum was normal in appearance, the uterus and right appendages normal, the uterus drawn over to the left side by the left tube which was adherent. The end of the tube, the ovary, several coils of intestines, the left broad ligament, and the abdominal wall formed a mass which was as hard as "bone." A coil of small intestine was adherent along the left lateral face of the uterus. The tube from its uterine end to where it disappeared into the mass was normal in appearance. The gut where adherent was covered with what appeared to be a pyogenic membrane, and its wall was much indurated. The intestine was, by dissection, separated from the uterus. It was now found that the mass was formed by the gut, tube, and ovary being densely adherent to the pelvic wall. On separating the adherent gut from the pelvic wall a few drops of pus containing streptococci oozed up. The gut was not entirely separated and the ovary was not exposed. The pus did not seem to come from the tube. Gauze drains were placed over the adherent area and the ends were brought out through the lower angle of the wound and through an opening made into the vagina, posterior to the cervix. The upper end of the abdominal incision was closed.

Following operation the patient's pulse went up to 140 within twenty-four hours, and on the fourth day reached 160. The temperature rose steadily and reached 103 F.; leucocytes, 28,000. Vomiting and extreme restlessness were marked. She died on the fourth day. The diagnosis was general streptococcic peritonitis. At bacteriologic examination (Dr. Hunner) cultures showed streptococcus pyogenes.

The history of the case, the site of the mass and its hardness should have made the diagnosis sufficiently clear to have caused the extraperitoneal incision by which the mass could have been reached and drained.

CASE 2.—S. H., white, aged 31 years, was admitted March 16, 1900, complaining of abdominal pain. The past history was negative, the menses normal until her present illness, since the beginning of which they have been quite irregular, occurring every two or three weeks, with the flow increased in amount. Married four years, she has one child aged 2 years. Labor was instrumental, with laceration of the perineum. She has had no miscarriages.

Present Illness: This began two weeks after labor, two years previous to her admission to the hospital, the onset gradual, with dull aching pain in the left groin, with nausea, chills and fever. The abdomen was swollen at times, and at others she noticed a tumor. She became nervous, less in weight and strength, and suffered from constipation; no urinary disturb-

ance. Leucorrhea, variable in amount and non-irritating, existed for three months prior to admission. Examination of the chest and abdomen was negative; no note of vaginal examination.

Operation: March 17, 1900 (Operator, Dr. Kelly), an abdominal (median) incision exposed a mass at the left pelvic brim adherent to the sigmoid and left round ligament. On freeing these, the mass was found densely adherent to the pelvic wall, broad ligament and side of the uterus. The latter lay on the pelvic floor posterior to the mass. The right tube and ovary were normal. The uterus was separated from the mass with the escape of a small quantity of pus. The entire top of the broad ligament was thickened and infiltrated. The tube was not involved. The tube and ovary were removed and the round ligament sutured over the raw area. In enucleation, a hole 1 cm. in diameter was torn in the rectum. This was sutured with two rows of catgut sutures. Closures of the abdominal wound was without drainage. Drawings showed an ovarian abscess. The relaxed vaginal outlet was repaired.

At 2 p. m., March 18, her temperature was 104 F., pulse 120, and leucocytes 22,000. She was slightly nauseated. The abdomen was reopened at this time and the peritoneum found slightly injected; the cavity contained a small amount of free fluid. The peritoneal cavity was irrigated. From this time until March 24, when she died, the patient showed the typical signs of general peritonitis, nausea, distension, constipation, rapid pulse, elevated temperature. Autopsy showed general suppurative peritonitis, much necrotic tissue about the seat of the old abscess. The sutures of the rectum had given way partially, there being a communication between the gut and abdominal cavity. There is no report of the bacteriologic examination at autopsy. In the bacteriologic examination at operation (Dr. Hunner), cultures and cover slips from pus showed streptococcus pyogenes.

Although no note was made of vaginal examination at least two had been made. The history, the unilateral situation of the mass, and its induration should have caused a correct diagnosis prior to operation, and after the incision had been made it was still possible to have avoided the infection of the general peritoneal cavity. While in this case it is impossible to say whether the cause of death was due to the streptococcus or to an infection from the intestine, yet the immediate rise of temperature and the presence of the streptococci capable of culture indicate that this micro-organism caused the original general peritonitis, and that the infection of the catgut sutures with which the gut had been closed had caused the sutures to give way.

Immediately following operation an enema of 300 c.c. of salt solution was given by mistake. This may have caused the giving way of the sutures. The exploratory operation by Dr. Kelly, on the day after the operation, made with this in mind, failed to reveal any defect in the suturing. The probability is that the death was caused by a general streptococcic peritonitis complicated by an invasion of bacteria and fecal material from the rectum. It is worthy of note that the primary infection, according to the history, was two years prior to admission.

CASE 3.—F. L., white, aged 20 years, was admitted June 10, 1900, complaining of pain in the abdomen. Her past history was negative, also menstrual history. She was unmarried, had one miscarriage at the sixth month, on May 18, 1900, and leucorrhea for one year, non-irritating and non-offensive.

Present Illness: This began with the miscarriage, which was produced by means of a bougie, the fetus expelled on the fourth day, preceded by chills and fever. She got up on the fifth day, after labor and had been working until May 31, when, after a misstep, she began to have pains in the left ovarian region. Since miscarriage she has had a bloody vaginal discharge. On May 31 her physician, who was then first called, noticed a swelling the size of an egg in the left side. She had night sweats with slight fever, but no chills. She felt weak and had lost in strength and weight. General condition: good color; coated tongue; constipated; no fever. The urine contained some pus and albumin.

Examination: Chest negative; abdomen slightly distended and in the left lower quadrant was a tender mass the size of the fist and immovable.

Vaginal Examination: Uterus in antelexion, normal in size and fairly movable, the right tube and ovary normal. A hard irregular mass was felt in the left broad ligament, giving the characteristic induration of a parametric exudate. The left tube and ovary were thought to be involved. A diagnosis of streptococcal parametricitis was made in the ward.

Operation: June 11, 1900 (operator, Dr. Cullen), an incision parallel to Poupert's ligament toward its outer end and 2 cm. above it was made, with blunt dissection, avoiding entering the peritoneal cavity. On reaching the base of the broad ligament an abscess containing two ounces of brownish pus was evacuated, and the indurated tissue explored. In doing so it was thought that the peritoneal cavity had been entered, so an exploratory incision was made. It was now found that the peritoneal cavity had not been invaded. Both tubes and ovaries were normal. The abdominal incision was closed and protected, the other incision drained. The patient made an uninterrupted recovery, and was discharged perfectly well. At the bacteriological examination (Dr. Hunner), cultures and cover-slips from pus showed the streptococcus pyogenes.

The history, the situation, the consistency of the mass, and its relation to the uterus and pelvic wall all indicated the nature of the infection, and the correct diagnosis probably saved the patient from a general peritonitis of streptococcal origin.

CASE 4.—M. K., white, aged 38 years, was admitted Aug. 18, 1900, complaining of fever. Her family and past histories were negative, her menstrual history also. She had been married twenty years, with eight children, two miscarriages, the oldest child 19 years old, the youngest 12 days, but no trouble with any labor or miscarriage until the last labor. Leucorrhea was slight, non-irritating, and non-offensive.

Present Illness: This began one day after labor, twelve days prior to her admission, with fever—temperature 105 F.—and chills. The labor was normal, except that the attending physician delivered the secundines. With the fever was abdominal distension and griping abdominal pains. The distension soon subsided. Her general condition on admission showed no abdominal tenderness; the tongue was red and coated, appetite poor, slight nausea, cough, the patient of spare build, and pale, the mucous membrane of a good color.

Examination: Chest negative, except a few râles at the base of the right lung; abdomen full and soft, and, occupying its middle lower portion, was a rounded mass rising half-way to the umbilicus. The vaginal outlet was considerably relaxed with slight cystocele and rectocele. The fundus of the uterus was represented by a rounded irregular mass lying to the right of the median line and rising half-way to the umbilicus. The spleen was slightly enlarged. She was given hot boric acid douches, was kept in bed and ran an irregular temperature of 99 F. to 102 F. There was slight distension at times, and she had pains in the left groin. Her pulse was 90 to 100. Examination, August 31, showed marked tenderness in the left inguinal region, and palpation showed a small mass here: September 3, irregular masses were felt on both sides of the uterus. She at this date had a temperature of 103 F., and a leucocytosis of 48,000.

Operation: Sept. 6, 1900 (operator, Dr. Hunner), a median long incision was made, and the peritoneum found much congested and thickened. The omentum was plastered over the sigmoid, which was in turn firmly adherent to the left tube and ovary. The omentum was easily detached. The sigmoid was freed with considerable care and difficulty. Pus escaped from the left tube as the sigmoid was detached. The right tube was a pyosalpinx. The uterus, tubes and ovaries were enucleated. Three abscesses were found in the left broad ligament, one in its outer portion, another under the round ligament near the inguinal ring, and the third at the uterine base of the broad ligament. Each measured 2 to 3 cm. in diameter. The cervix was split and the pelvis well drained by gauze, some of which emerged from the lower angle of the abdominal wound and the remainder through the cervix. The patient made rather a tedious convalescence. She developed a pleurisy which finally cleared up and she was discharged Oct. 22, 1900, well. At the bacteriologic examination, the streptococcus pyogenes was found by microscopic examination, in the abscess, and grown on the various media. The same micro-organisms were found at various times during the convalescence, in the granulating wound.

This patient had in addition to the purulent parametricitis a double pyosalpinx, and it is the only one of our patients who showed this condition. This rendered

a hysterio-salpingo-oöphorectomy necessary. The diagnosis of a streptococcus infection had been made from the history and was partially confirmed by finding the abscesses in the broad ligament. Consequently extreme care was used throughout the operation to protect the general peritoneal cavity, and to this and the free drainage the patient owed her recovery.

In considering in this article cases of streptococcus infections I have dealt only with those of pelvic inflammation. As the large majority of these infections, having their origin in the genitalia of women, occur at labor or miscarriage, the general question of puerperal infections due to this micro-organism belongs more strictly to the obstetrician. There are, however, a class of cases which belong strictly to gynecology, and to these I have confined my attention. Since the introduction of aseptic midwifery cases of parametricitis have become comparatively rare, yet every obstetrician and gynecologist will occasionally meet with this affection. Certainly the large majority of them are due to the streptococcus pyogenes, which micro-organism has, however, the faculty of causing lesions in the pelvis which can not be classed under this head. Again, not all cases of parametricitis are due to the streptococcus. I have endeavored then to call attention to the characteristic signs by which the diagnosis of streptococcal pelvic infections which have extended beyond the uterus and which have not caused a general peritonitis or systemic infection can be made, and to the principles of operation.

MENIERE'S DISEASE WITH REPORT OF A CASE.

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In 1861 Ménière published, in the *Gazette Médicale de Paris*, a description of a group of symptoms which thereafter, when noted, received the name of Ménière's disease. The symptoms in general were progressive deafness, varying constant vertigo, tinnitus aurium and gastric disturbances. Since then cases have been reported at times on both sides of the Atlantic, but principally in Europe, and pathologic investigations have been made. The result, however, has been more or less discordant, principally in admission of a distinct disease with symptoms as described, and additionally in the exact nature and location of the lesion or lesions.

Thus Burnett¹ denounces the name of Ménière's disease as unjust and unscientific, defending his assertions by the fact that Flourens, in 1822, and Deleau,² in 1836, described aural vertigo more accurately than Ménière in 1861, Deleau being especially entitled to credit, as he located the disease in the middle ear. Furthermore, he says that the lesion in cases of aural vertigo with tinnitus and deafness has been found in his experience to be in the middle ear and relieved by removal of the incus and stapes. Again Eckert,³ in summing up his conclusions based on cases published up to the time of his writing, leans to the idea that the lesion is located mainly in the semicircular canals and depends principally upon a diseased state of the terminal apparatus of the acoustic nerve. Hughlings Jackson⁴ has found that hemorrhage frequently causes the symptoms. Ferrier⁵ believes that the lesion is irritative and located in one or more of the semicircular canals, the direction of the falls during an attack depending on the canal affected. Buzzard,⁶ on the other hand, thinks that the paroxysmal nature of the vertigo precludes

the probability of any structural lesion in the canals. Knapp⁷ regards the deafness for musical sounds in some cases as proof that the disease extends to the cochlea.

Regarding Burnett, it is apparent that he has confused—and the confusion is shared by many—the deafness, tinnitus and vertigo so often seen in cases of chronic middle ear affections, with the clear, orderly, typical train of symptoms in Ménière's disease. And the men to whom he would award the palm of priority have simply described these symptoms and not those properly classified under the name of Ménière's disease. The investigations of the other men mentioned, together with the more modern researches, point unmistakably to the labyrinth as the seat of the lesion irrespective of what part of the labyrinth may be involved.

That the semicircular canals are involved seems from their physiology to be reasonably certain. They are essential in the function of equilibration. The pressure of the endolymph upon the terminals of the auditory nerve produces an irritation of its filaments; the impression being transmitted from there by the nerves to their centers. If pressure be made on the round window, dizziness and an inclination to fall backward are produced by the transmitted pressure upon the ampulla of the posterior canal. Pressure upon the footplate of the stapes produces a rocking of the head from side to side through pressure transmitted to the superior canal and ampulla. The horizontal canal, owing to its location, can not have pressure exerted upon it. When strong pressure is made upon the fluid within the vestibule, simple vertigo results.

These physiologic facts easily account for the dizziness and tinnitus in middle ear affections, immobilizing the stapes in the round window either by direct impaction of the foot-plate or by pressure upon it from the incus. However, that this impression made upon the end filaments of the nerve by pressure, can not also be caused by a changed state of the filaments themselves is altogether untenable and not supported by pathologic investigation nor clinical facts.

Burnett⁸ has recently again reported the results of twenty-seven operations for removal of the stapes, which in every case gave relief. The cases being, as surmised of his previous ones, not true Ménière's disease, but probably otitis media, purulent and non-purulent forms.

Etiology.—Regarding the etiology of true Ménière's disease, age above 30 and the male sex seem to be factors. Syphilis and the rheumatic diathesis are probably the most frequent direct causes. Exposure, senile changes, blood changes as leukemia⁹ and simple anemia, hemorrhages, traumatic¹⁰ or idiopathic, serous effusions,¹¹ cerebral disturbances,¹² parotitis and influenza frequently factor directly in the causation. This list necessarily forecasts the pathology which is chiefly inflammatory with or without hemorrhages but, as far as can be learned, without the formation of pus. There is much obscurity as to the pathology and more work must be done to clear it up.

Symptomatology.—The symptoms are grouped about four cardinals, viz., vertigo, tinnitus aurium, progressive deafness and gastric disturbances. Vertigo appears first in the majority of cases, concurring in others with the tinnitus and deafness. These always follow a parallel course. Beginning usually in one ear they increase in severity for a time, remit, increase again and finally subside partially while the other side becomes affected. The tinnitus gradually grows worse till it finally ceases

in one ear and then in the other, complete deafness marking its cessation.

The deafness and tinnitus may be bilateral and appear suddenly, as illustrated in the classic case of Ménière, where a young girl having exposed herself during menstruation was seized suddenly with vomiting, vertigo, bilateral deafness and tinnitus, and died on the fifth day, the autopsy revealing a serous hemorrhagic fluid in the semicircular canals.

The vertigo begins usually with slight and transient attacks having a tendency to progress in severity, but following no definite interval in their recurrence, excepting that in the later stages the intervals are shortened. They may vary from one attack a month to four or five a day. Seemingly they are aggravated by overwork, sudden movements of the head, turning in bed, blowing of the nose, indiscretion in diet, constipation, excitement and changes in the weather. In character they show a great diversity in the same individual as well as in different cases. They may begin with a sensation of rotation or slanting of the head. There is a tendency to walk toward the side affected or fall toward that side in the paroxysm. Often the vertigo is a simple swimming of the head which may be subjective or objective: Subjective if the patient feels himself turning, objective if his surroundings revolve about him. During a paroxysm the vertigo increases, the tinnitus becomes loud and roaring or shrieking. The patient begins to fall and seeks support until the sensations abate. Consciousness is usually present in the attack and voices can be distinguished and understood. In the severer attacks consciousness may be wholly or nearly abolished. Total loss of consciousness is rare.

The onset, duration and course of the symptoms are in a great measure dependent on the etiology. Systemic influences produce a long course with gradual onset. Hemorrhages and traumatism, acute infectious processes and some forms of rapid syphilis produce a more or less sudden with a subsequent shorter course.

Gastric disturbances manifest themselves during the attack of vertigo. There is a feeling of wretchedness and nausea which ends in vomiting very much like an ordinary bilious attack. During the interval the stomach appears well in most cases, but a tendency to constipation is marked and presents an important consideration in the successful treatment of the disease.

Besides these symptoms, nystagmus, volitional tremor, loss of memory and weakness of the extremities are also noted. Nystagmus has been observed by Hughlings Jackson, Gruber and Jacobson. It is present with the nervous symptoms. Loss of memory and weakness are most marked in senile and rheumatic cases.

Recognition of the Affection.—The disease, owing to its anatomical location, is not well understood at the present time. Enough of evidence, however, is in to justify the opinion that Ménière's is a disease by itself, although rarer than supposed. Aural vertigo is a general term of which Ménière's disease is a particular form. It is a disease involving the terminal filaments of the acoustic nerve in the labyrinth, and follows a definite course tending to end in deafness. Pathologic changes in the middle ear may cause, in part, similar symptoms having, however, dissimilar sequence, course, termination and pathology. Besides this, Ménière's disease yields to non-surgical treatment in most of those cases in which the cause is ascertainable.

To differentiate it from middle ear disease with vertigo it should be remembered that this affection in its purulent form is accompanied by a discharge, has visible

lesions and a differentiating history. Besides this the tests of Gelle and Bing may aid in diagnosis. From epilepsy the incomplete loss of consciousness, the continuing of vertigo after the paroxysm and the loss of hearing make Ménière's disease easily distinguishable.

CASE.—In August, 1900, I was called to see Fernando M., aged 67, who was suffering from a so-called bilious attack. In attending him his relatives related the occurrence of similar attacks and gave me a partial history of apoplexy. Being dissatisfied with the correctness of the diagnosis I was requested to call and make an examination, which I did the following day. By that time the patient had entirely recovered from his attack, appeared well nourished, had good color and, as he stated, an excellent appetite. I solicited the following history: Twelve years ago he was taken sick with a rheumatic attack which recurred frequently until six years ago when, during one of these attacks, he had an apoplectic stroke, or an attack diagnosed as such at the time. The attack consisted of a sudden and almost complete loss of consciousness, which came on while he was sitting at the table eating supper. Dizziness ushered in the attack and noises in the ear were loud. No paralysis followed, and in two days he practically recovered, save for an inability to use his tongue as heretofore; it seeming thick and difficult to move, though mobility was possible. Sense of taste was not impaired. The tongue symptom gradually disappeared, but a year later he noticed a sensation of cold from his hips down, on both sides. His rheumatic attacks were located chiefly in the great toes of both feet and now there was a dull heavy sensation near the insertion of the gluteal muscles, which became more pronounced after walking or other exertion. Preceding this attack he had what he termed a nervous spell consisting of a general prostration during which he cried very much without cause; after this his feelings were greatly relieved. Similar emotional disturbances occur at the present time. Jokes and stories calculated to arouse his risibilities have just the opposite effect, and the very best humorous efforts of his friends have been followed with a profusion of tears.

Another rheumatic attack followed soon after, again located in the great toe. The patient continued with a sensation of cold and pain in the right hip, until two years ago, when he had the first attack of vomiting very similar to the one which I saw. Up to the present time he has had only two other attacks of vomiting. But at least once a month attacks of nightmare with partial unconsciousness occur, during which he sees various scenes of past life and from which it is difficult to arouse him.

The ear symptoms proper began three years ago, when he noticed a swelling and hyperesthesia about the tragus of the left ear. When he would touch this area a tingling sensation coursed over the skin and through the deeper structures, setting up a dizziness which causes him to fall unless supported. This sensation gradually diminished until it is now nearly absent. It never appeared on the right side. Eight months ago deafness and tinnitus first began in the left ear. There was never any discharge. No lesions are visible. Four months later the right ear became affected, the left getting better at the same time. The tinnitus was then confined to both sides, simulating the shrieking of a steam whistle, at other times the rushing of a swift stream about some obstacle; again, in listening for the ticking of a watch an imaginary ticking would be heard all day. Constipation was marked. He com-

plained of his legs being cold and kept them wrapped with blankets which at times seemed insufficient in quadruple thickness. Weakness and vertigo prevented him from walking more than thirty yards at a time when he would rest, after which a similar distance could be traversed. An inability to write began five years ago. It consisted of a volitional tremor, becoming coarser and more violent with increased effort. When at rest the hand is perfectly quiet. The left hand unaffected and serves the offices of the right. His reflexes are normal. This was the condition of the patient August 24. On the 26th he was placed on potassium bromid and hyoscin hydrobromate, 7 and 1/200 grains respectively three times daily. He continued this treatment until the end of September without any beneficial results, and was then placed on salicylic acid and potassium acetate, 10 and 5 grains respectively three times daily. From that time on he gradually improved. The improvement showed itself in the cessation of the tinnitus in the left ear, with marked improvement in the hearing of the same ear. The right ear, which at the beginning of treatment was totally deaf to the ticking of a watch, has heard this sound twice within the last week and the tinnitus in that ear has abated and changed location, being situated higher up near the anterior portion of the parietal bone.

No vomiting has occurred, and last week the patient was able to walk to my office and return to his home without discomfort and without a showing of vertigo. This distance one way is about one hundred and fifty yards.

Pilocarpin injections were used a week after the beginning of the salicylate treatment, but were abandoned on account of the great discomfort and little benefit they caused.

The patient, though improved, is not wholly cured, but the indications for a favorable progression are very good. The result will be subject to another report.

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THE FINANCIAL RELATIONS OF THE MEDICAL PROFESSION TO THE PEOPLE AND PUBLIC.*

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Medical men show more financial failures, when judged from a commercial point of view, than any other class, but this is not because the members of the medical profession are incompetent men, or do not earn a living, but because they have inherited a faulty system of doing business. Years ago, when the good old family doctor was in vogue, of which Ian Maclaren's "Willum M'Clure" is the type, the physician did not expect to lay up a store for his old age or the comfort of his family, but when his life's work was done, to be laid to rest by his neighbors.

* Read before the Semi-annual Meeting of the District Medical Society of Central Illinois, held in Pana, Oct. 30, 1900.

The time has come for a radical change in our methods. In the days before the rapid shifting of the population the shiftless methods of our fathers may have worked well enough, but now, when such frequent changes are taking place in the abode of our patrons, and ideal, honest manhood is so scarce, we are necessarily obliged to look more carefully after the collection of our accounts. But how many have any regularity about presenting these? How many refuse to treat the well-known deadbeats? It is easy to find those who say they do not treat this kind of people, but their goodness of heart, or some other cause, induces them to render them the desired service, for many are afraid to say "no" to these people for fear of hurting the feelings of some of their friends or relatives who may have given patronage in the past or who might otherwise do so in the future. This does not apply to the worthy poor, and I would not close my eyes to appeals for help in times of distress, for physicians must treat this class, found in every neighborhood. Christ said: "The poor ye have with you always," and I am not trying to fortify your hearts against such. Boerhaave said the poor were his best paying patrons, for God paid him for treating them. It has also been said that no medical man ever rose to eminence in the profession who refused attendance on the worthy and honest poor.

My desire is that a free and full discussion may be had on the following points: 1. There should be a better fraternal spirit in our dealings and associations with one another, so that we will consider ourselves friends and not rivals in medical practice. 2. A uniform fee-bill should be established, and this should be rigidly lived up to. 3. Companies and corporations should guarantee payment of bills rendered for services to their employees when injured while at work for them. 4. We should demand of the public authorities a just recognition in public affairs and a just compensation for our services.

The members of the medical profession have been imposed on, both by the people at large and by the public authorities, and are not receiving the just remuneration for services or the due respect from the public that they deserve. But the members themselves are almost wholly to blame for this state of affairs. If we had more of the spirit of Dumas' famous three guardsmen we would be far better off, i. e., "One for all and all for one." We should make ourselves felt as a united body, demanding our rights as one man in the voice of the whole profession, when we ask for anything of our lawmakers or of others. If we would make ourselves heard by united effort we could have almost anything we might ask for that is reasonable. Our inharmonious condition is due to lack of organization, and in consequence the profession does not receive that respect which it would if its members were well organized into an association controlled for the benefit of the whole; and in working for the profession at large each individual member would be helped financially and elevated to a higher plane of usefulness. As to our present condition, it is very little better now than it was many years ago, but who is to blame for it but ourselves? Every walk of life but that of medicine is represented in the names recently chosen for the Hall of Fame. Then let us consider this omission of the names of the great benefactors of the whole human race, like Morton, the discoverer of anesthesia, and McDowell, the great pioneer of abdominal surgery, and of Sims, the immortal gynecologist, ask ourselves the reason for it. The answer is: Because we are not united in a harmonious body, and so accomplish

little or nothing, while we continue to wonder why we are not recognized according to worth as other men progress.

The physicians of every community should organize an association for mutual protection, and each individual physician in that place who is recognized by the state board of health should be a member. Then the first thing should be the establishing of a fee-bill to govern the charges in that community, and next a list of the dead-beats should be made for the information of members. The fee-bill should be the standard for all charges, and when a charge is made it should be the one agreed on. If attendance is rendered the worthy poor, it may be for charity, but let the charges be made in good faith and lived up to. A fee-bill would be of inestimable help in settling with the chronic hagglers, and would soon educate the community as to what a fair charge is.

Another cause of complaint on the part of physicians is the habit of companies and corporations employing laborers who are often injured while at work, and expecting to have them treated by physicians who are given no assurance of pay by the firms employing the men. The employee is severely injured and laid up at home with increased household expenses consequent on his misfortune, and after he has returned to work he is so in debt that the physician is unable to get anything for months or years, and often never. If physicians were properly organized they could compel employers to see that they received their pay, but individually they have not the power to enforce this. I have had abundance of sad experience on this line, and have in vain sought redress. I also tried to get the local physicians to enter into an agreement to notify the employers, in this place, that we would hold them responsible for our fees in such cases, but some refused to sign. In these cases the physician in attendance well knows that it is utterly impossible for the head of the family to pay anything; in fact, he is more conscious of the necessity of giving the distressed family something out of his own scant pocket-book than rendering his bill, but the grocer and other creditors who have not seen the hardships of the family push their bills and collect them, while the doctor does not push his, and finally loses the entire amount.

Still another cause of complaint is the way that physicians are discriminated against by the public authorities. The county boards of supervisors have for years cut the bills sent them by physicians, after being ordered by their respective supervisors and duly sworn to, for treating paupers. While the patient treated may be a pauper, surely the state is not.

Again, when it comes to the settlement of estates, physicians' claims are not allowed by county judges until about the last thing. After the bills of the tailor, the undertaker, etc., are allowed, the physician comes in for his share "for treatment in a last illness." It often happens that a physician treats a patient for weeks and perhaps many months in a last illness, and when the family is convinced that there is no hope of recovery there is a change of doctors in order to get rid of paying the one who has stood by them in their long struggle.

About in the same category as the county pauper practice should be placed the new innovation, at least new for the small cities and villages, the so-called "club practice." A sick benefit society is formed, as I understand it, in a place, and contract with a physician for a small fee, a mere pittance, for stated services, to attend at the beck and call of the members who may need medical service. It generally happens that the most of the members of these societies or clubs are the prospective

fathers of soon-to-be-larger families, and desire attendance on their wives for a mere pittance as compared to what would be charged, and ought to be, for taking care of a case of confinement in the regular order of practice.

It is now time for the medical profession to form protective associations, so as to work together on all the lines which I have mentioned, and the one that I am in favor of forming first is one for the weeding out of dead-beats, and the devising of ways and means for the better collection of our just debts. Every kind of employment or profession has an organization for the better protection of its members except that of medicine, but there is a faint ray of hope, for the physicians in one or two cities and a county have begun the work and it is bearing good fruit. Physicians in Detroit, Mich., have formed the "Detroit Physicians' Business Association," and those of Murphysboro, Jackson County, Illinois, have formed "The Physicians' Protective Association." I have a letter from Dr. O. M. Ormsby, the secretary of the latter, saying that the physicians down there are well pleased with its workings and are collecting their debts thereby, and, what is of more importance, if possible, they are running their own business and have made themselves known and felt as a power in the affairs of their county in the matter of pauper practice, establishing fees and abating the nuisance of dead-beats and their class.

A STUDY OF THE ETIOLOGY AND PATHOLOGY OF RHEUMATISM WITH SPECIAL REFERENCE TO "RHEUMATIC DIATHESIS."*

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DES MOINES, IOWA.

The term "diathesis" has so little to commend its use in the scientific terminology of medicine that it is fast falling into disrepute. Indeed, it would seem that it is destined, sooner or later, to lose its place in medical nomenclature along with the "humors" of Galen. In view of the ambiguity of the term then, I will define diathesis as that hereditary condition of the body organism which appears to be present as a necessary initial factor in the production of the disease.

The disease which we ordinarily call rheumatism is only one manifested form of this malady. Indeed, there appear to be many varied conditions of rheumatism. Thus we may speak of rheumatism in a plural sense, in that it does not appear to exist as a single entity. It should be understood, however, that this construction is but a temporary one, and that, when we shall have solved the etiologic problem of their production, the diseases now placed outside this category, but which seem from their symptomatology to have a direct connection with acute articular rheumatism, will take their proper place in the nosology of diseases.

PART PLAYED BY DIATHESIS.

To what extent does so-called diathesis affect the etiology and pathology, and what may be implied by the term in connection with rheumatism? If we were able to explain the intricate problems of normal metabolism, if we could trace by any known chemico-physiologic law, the synthetic and analytic structure of the cell, and define the phenomena of life and death of protoplasmic mass, we might be in a position better to explain the enigma of constitutional vices. That they exist as a predisposing factor in the causation of dis-

cases, as well as an inhibitory factor in the repair of the disease conditions, can scarcely be denied. They have been variously described under the names diathesis, dyscrasia, predisposition, disposition, etc. Under the name of diathesis it has been taught that the inclination is an inherited one, and this has been recognized since the early history of medical science. The literal meaning of diathesis, when applied to the chemistry of the body, is that there is a tendency on the part of the animal economy to the development of certain diseases; by this it is not meant that the disease itself, but rather the family tendency to it, is transmitted. It need not strain a point to say that the condition may be an acquired one.

OTHER FACTORS IN THE CAUSATION OF RHEUMATISM.

This brings us to the consideration of some of the other factors said to enter into the causation of rheumatism. It was long thought, and is even held at the present day by some authorities, notably by Haig, that uric acid, retained in abnormal quantities within the system, was the cause of rheumatism and gout. That uric acid or its salts exist as a pathologic condition is undoubtedly true, but it would seem almost preposterous to conclude, from this fact alone, that it is *per se* the cause of these phenomena. It is by no means well attested that uric acid or its salts are constantly present in the blood stream even in well-defined cases. By a liberal perusal of recent literature I find the consensus of opinion of the best authorities to be that rheumatism is directly due to bacterial infection. Indeed, there is a strong tendency among bacteriologists to associate the infectious germ with all pathologic problems, and this association has in a measure been verified. Yet we are unable by this theory alone to explain many of the special and characteristic features of diseases, and especially have we found it so in the diseases under consideration. It would be to my mind more plausible to conclude that a relation exists between the biology of the infectious agent of rheumatism and uric acid formation, and that the presence of uric acid depends on the development of these germs. Diathesis, then, would appear to bear much the same relationship to rheumatism and gout, as so-called predisposition or dyscrasia does to other diseases which are not particularly hereditary in nature; as, for instance, tuberculosis, typhoid fever, malaria, etc. In other words, diathesis defines the conditions under which infection takes place.

In a paper published in the *American Medico-Surgical Bulletin* (1895), and recently republished,¹ Dr. Wm. H. Porter called attention to defective oxidation on the part of the system as the chief predisposing factor in bringing about the disease. He assumes that in the "so-called lactic or rheumatic condition as in the so-called uric acid or gouty state of the system, all the toxic products within the system, and all the abnormal products found in the excreta, are due to the imperfect oxidation reduction, or faulty isomeric transformation of the proteid constituents contained in the animal economy; that the carbohydrates if taken in ordinate quantities being easily oxidized is done so at the expense of the proteid constituents; thus producing suboxidation of the latter." He undertakes to disprove the existence of uric acid or its salts in the blood stream, and erect the hypothesis "that as a result of faulty nutrition there is developed an imperfect and abnormal transmutation of the proteid compounds, that as a result the substances are oxidized at an abnormal position instead of in the renal cells as normally occur." However, he goes further than to merely assume that

* Read before the Des Moines Pathological Society, Oct. 23, 1900.

suboxidation of the proteid constituents act alone as the only element in producing the disorders, and concludes that micro-organisms may in a measure be responsible, or rather that they so affect the food products in the alimentary canal, that they become abnormally oxidized in the cell protoplasm. By this ingenious theory he is able to explain, at least to his own satisfaction, all the different forms and types of the so-called rheumatic affections seen clinically. Each variety of infection he assumes to be due to its peculiar means of suboxidation, whether this be produced by a special bacteria or a combination of micro-organisms, or even, perchance, to a lack of micro-organisms in the alimentary canal. He assumes here that certain forms of micro-organisms are essential to proper digestion. He goes so far as to say that it seems quite probable that many of the toxic products are simply isomeric forms of the normal proteid molecule; he freely admits, however, the difficulty of isolation and proofs of this latter hypothesis. Thus the difference between this theory and the one usually accepted, relating to micro-organisms as the etiologic factor, is that the latter theory assumes that the infectious germ is carried by the blood current to remote sites, as cartilages and joints, for instance, where it deposits its germinal vesicle, which enters the system and completes another biologic cycle, ending again in a fully-developed bacillus.

The suboxidation theory, however, seems to have few supporters; indeed, it is absolutely at variance with modern accepted views as to the formation of uric acid. It would intrude upon the purposes of this paper to enter into a full discussion of the chemistry of uric acid, yet it would be incomplete without mentioning the researches of Harbaczewski,² Kossel, and others who have shown that uric acid is not derived from metabolism of the general proteid mass, but from nuclein; that is, it is the specific end-product of the nucleins contained in the nuclein of cells, and eliminated only when nuclein is broken up in the process of destructive metabolism. From this, then, we are led to believe that the rheumatic process is accompanied by increased metabolic activity, instead of suboxidation, which would signify a decrease, or a submetabolism.

It may not prove amiss here to touch upon the atavistic possibilities in connection with the production of uric acid diathesis. Much work is being done in this country and abroad just now in biologic research; and the literature along these lines is taking its place alongside of recognized scientific investigations. It is too much for us to say at the present time that it is probable that the ontology of the human animal will ever be satisfactorily worked out; but it is possible to draw the logical conclusion that many pathologic conditions are traceable to ancestral defect, far removed from any forms of life now known to exist. If uric acid is found in man only as a pathologic condition, may it not go to prove that this is an inclination or a partial reversion to the reptilian type in the metabolism of the cells? It is well known that the urine of the fetus and newly-born child contains an abundance of uric acid, and no one has to my knowledge attempted to explain the phenomenon. However, to those who have studied pathologic phenomena from this point of view, this fact alone offers strong confirmatory evidence of its having been a purely physiologic excretory product of our progenitors. Uric acid is a lower oxidation product than urea, but it must not be understood by this that uric acid is a precursor of urea; indeed, it is as much

of an end-product of proteid digestion as urea. It appears as a trace in urine under normal conditions, but it is so inconstant in its relations to urea that it may be said to resemble a vicarious product, having more the appearance of a progenic relic than the result of a well-defined physiologic function. Just why uric acid is the final excretory product in reptiles and birds, and urea as much the final product in man, is one of the unsolved problems of nature; but that the elements of normal metabolism in the avian or reptilian type are present in man only as a well-defined pathologic condition, is a well-established fact. With the same degree of reason we may propound the question: Why does destructive proteid metabolism stop short of ammonia, carbon dioxid and water, in either case? This leads to the question: To what extent, then, is the rheumatic condition inherited? It must not be forgotten that when the rheumatic condition is mentioned, it refers to all the allied group, gout included; for even though there is a great dissimilarity in the two conditions, I am constrained to believe that when we come to know more of the two diseases, it will be seen that they bear to each other a closer relationship than they are credited with at the present day. A careful examination of the literature on rheumatism in infancy would lead us to believe it exceedingly rare. Cheadle³ makes mention of two patients, one 4 weeks, and the other 23 days old, who were affected with acute rheumatism. In the second edition of his text-book on medicine, Strümpell reports one case which he met in Leipsic. R. Abrahams⁴ mentions two other cases, and reports three of his own, all in infants at birth. The first case resulted lethally on the eighth day. In the second recovery was apparently complete after six months' treatment with salicylates. Endocarditis was present in all three of the cases, and joint symptoms were difficult to make out. There was a decided rheumatic history in the mothers, and two of them had acute rheumatic fever at, or just prior to, the birth of the child. Joint symptoms in infancy, if present at all, are not apt to be detected; but on the other hand the heart appears to bear the brunt of the disease. Endocarditis is seldom present in the adult, except as a result of acute rheumatism or other rheumatic affections, and in infancy and in childhood it appears to hold true even to a greater extent. This brings us face to face with another question—that which relates to fetal life. Endocarditis has been discovered in many instances in the still-born child, and to my knowledge scarcely has an effort been made by clinicians to ascribe a cause; but since we have learned more of the true nature of the infection and its pathogenic predilection for the heart membrane, I would ask: Would it be a fantastic conclusion to say that rheumatic infection in the mother may be transferred to the fetus *in utero*, thereby causing its death? It has been proved that the heart is the target in infantile rheumatism, and this leads us to believe that there is a close relationship between chorea and rheumatism. Out of seventy-three autopsies collected by Osler,⁵ in deaths occurring from chorea⁶ sixty-two had well-defined endocarditis. In the same article he traces a direct rheumatic history in about 21 per cent. Cheadle⁶ finds that 65 per cent. of his cases give a definite rheumatic family history. Tonsillitis is often found to be associated with rheumatic symptoms, and some authorities have thought the tonsils one of the hiatus through which infection takes place. Frederick A. Packard⁷ has recently reported five cases of endocarditis following tonsillitis. His paper is well worth

a careful perusal, for tonsillitis as a cause of endocarditis is rarely mentioned in text-books. The connection between scarlet fever and rheumatism has been the subject of much discussion. It is thought by many that an etiologic relation exists between them. The erythemata are said to have a similar connection, and so has purpura.

PATHOLOGY.

From the foregoing it will be seen that the true pathology remains yet to be written. The existence of free uric acid or its salts in the blood stream is seriously questioned. They nevertheless do exist in the tissues in pathologic conditions. That the blood stream is the medium which carries the morbid agents to their various destinations in the body, there is no doubt. It is also true that the alkalinity of the blood is reduced, and at times it may very nearly approach acidity. There is a decreased number of red corpuscles, and they may transude through the capillary walls and produce ecchymoses. The blood has an abnormal tendency to clot, mostly on account of excess of fibrin. The urine is highly colored and has a high specific gravity. Uric acid is found in abundance, but there is little if any increase in the production of urea. The synovial fluid is abundant and of an acid reaction. The whole of the joint structure is more or less involved, and the articular surfaces become roughened. It is in the joint structures that the "battle royal" between the body cells and the infectious agents usually takes place. The latter, by a series of sorties, attack the system at one of the weakest points in its line of defense, and the debris of uric acid salts, the roughened cartilages, etc., tell the story of the great central conflict; while the abnormal vascularity and thickening around the joint structure point to the concomitant forage and skirmish actions, in the battle for supremacy between the body organism and the infectious agents of the disease. However, the infection may strike directly at the heart, producing none of the stereotyped symptoms of rheumatism except endocarditis. Among the conclusions I wish to draw from this study are: 1, that rheumatism is directly due to an infectious germ, and that the symptoms produced vary in accordance with the position and attenuation of these germs; 2, that these germs may at times complicate other disease conditions, as for instance scarlet fever, thereby causing rheumatic symptoms; 3, that the nidus of the germs may be located in the joints, which is usually the case, especially in adults, or more rarely in the heart, and quite frequently in the muscles; 4, that the uric and lactic acid found in these cases, are products, rather than the cause, of the disease, and that, of themselves, their presence is not pathognomonic of gout and rheumatism, in that they simply show the result of katabolism of the body cells, which condition may be brought on by numerous nutritional disorders; 5, that hereditary tendency, if carefully sought out, may be found in a large majority of cases; 6, that gout and rheumatism, although very dissimilar diseases, each possesses so many traits in common that we have been led to place them in the same family of diatheses. Both produce the same end-products of tissue metamorphosis, their nidi of infection have much the same location, and the pathologic conditions found therein are closely related. There is a tendency to cutaneous disorders in both diseases. I must remark here, however, that not all of the symptomatology of the gouty state described in books should be taken for granted; for under this head authors have

included almost every symptom to which our humanity is heir, from eczema to chronic gleet. True it is, they have all been found underlying gouty conditions, but there is nothing else to prove their relation to the gouty state. The difference between the gouty and the rheumatic subject is that one contains that special ingredient requisite to the propagation of the gouty poison, while that of the other harbors a rheumatic poison. I am of the opinion that both conditions are brought to the acute crisis by the agency of an infectious germ, the true biologic nature of which remains yet to be discovered. A further consideration of this part of this most interesting subject, however, would carry us far beyond the limits of this paper.

REPORT OF CASE.

Since the above was written, a case has been brought to my attention which so much engages the subject in hand that I can not forego the temptation to offer a brief report upon it. Not on account of its rarity, however, for it is such a one as is often seen and many times dismissed by the attending physician without serious consideration, if a physician's advice is even procured.

E. V., a girl 4 years of age, was brought to my office with the following symptoms: For two or three days she had suffered from a slight cold. Her head was much inclined to the left side, being slightly bent forward, and she was unable to rotate it upon the neck on account of pain. There was marked swelling of the muscles of the left side of the neck; slight pyrexia with an accelerated pulse. There was a history of "growing pains," and of rheumatic symptoms in the mother. The child played out of doors the next day, and on the third day had a slight rigor, and I was asked to see her again. I found the temperature at this time 101.5 F., and the pulse was much accelerated. I gave strict orders that the child be kept in doors and placed in bed. In the afternoon a symptom presented itself which served to alarm the parents more or less. The child, naturally somewhat nervous, became fidgety, and some of the muscles began to twitch, especially those of the lips and other facial muscles. The temperature being low, I was able to quiet the fears of the parents as to threatened "spasms," yet, indeed, I had graver fears of my own, lest genuine chorea might ensue. I accordingly ordered the dose of sodium salicylate which had been given from the onset, but in too moderate doses, increased to 20 grains a day. The temperature continued to rise for several hours until it reached 103.8 F.; by the next morning it was normal, and the heart's beat became slowly reduced from 130 per minute to 100, and even lower. She at no time would have been considered a seriously sick child. The appetite scarcely failed her, and no other symptoms were noted except that, on the fourth day, she complained of pains in the left arm and wrist. Upon examining the throat, I found the tonsils and pharynx somewhat inflamed. No complaint, however, had been made on account of this condition. It was difficult to make out any roughening of the heart's tone and, indeed, I do not believe there was any perceptible lesion present. I had little evidence on which to base my opinion, or rather fear, of threatened cardiac complication, except the rapidity of the pulse-rate—which is no proof at all—and the generally accepted opinion that rheumatism in childhood is prone to attack the heart. The diagnosis was carefully made by absolute exclusion; and considering the fact that, as soon as the increased doses of the salicylate began to take effect, the symptoms were brought promptly

under control, leaves little doubt in my mind as to the correctness of the diagnosis.

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A CASE OF ACUTE DERMATITIS CAUSED BY THE USE OF A HAIR-DYE HAVING FOR ITS BASE THE HYDROCHLORATE OF PARAPHENYLENE DIAMIN.

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On Jan. 30, 1901, Mrs. A. G., aged 44, married, a native of Venezuela, was referred to me by Dr. W. H. Haskin, suffering with a severe attack of dermatitis of the face, and a pruriginous, papulo-vesicular eruption on her arms and thighs. The forehead was swollen, red and shiny, with a few small vesicles near the margin of her hair. The eyelids, especially the upper, were puffy, the conjunctivæ slightly congested, the ears red and swollen; along the upper margins were numerous small vesicles filled with straw-colored fluid, which in places had exuded and formed granular crusts resembling "brown sugar." The nose and cheeks were slightly swollen. There was no eruption on the neck or chest, but the flexor and extensor surfaces of the forearms, and the anterior and inner sides of the thighs presented numerous small, slightly elevated papules, mostly perifollicular, and a few vesicles. The arms and legs were quite pruriginous at times. The face felt tense, uncomfortable, with some prickling sensations, especially marked in the eyes. The patient admitted having had a somewhat similar eruption at intervals during the past seven years, on her arms, legs and body. This eruption, diagnosed as an eczema, was always preceded by gastric and neurasthenic crises.

The distribution of the most intense phases of the eruption along the hair border and on the upper part of the ears suggested a closer examination of the hair; which, although very dark, showed signs of having been dyed in the temporal and frontal regions.

On questioning the patient, she admitted that for three weeks she had been using a French hair-dye; and a day or two after commencing its use she had experienced a prickling sensation in the eyes, followed by an intense inflammation of the entire face. This subsided to its present state.

This hair-dye dermatitis is well known at L'Hôpital Saint Louis, Paris, where it is very frequently met with in the out-patient clinic. Its zone-like distribution to the upper third of the face, the swollen eyelids, and the vesicles on the upper margins of the ear, give it an almost pathognomonic appearance, so much so that Fournier will frequently astonish the patient by saying: "Madame, you dye your hair; you use a dye composed of two liquids; you apply the dark liquid first and then the clear liquid." For such is the method of employing the hydrochlorate of paraphenylene diamine.

Cathelineau,¹ who made quite an exhaustive report on the accidents produced by the use of this dye, describes it as follows: The hydrochlorate of paraphenylene diamine is found in commerce in the form of red, mica-like scales, without appreciable odor; crystallizes

at 102 C., melts at 140 degrees, boils at 260, distills at 267, is soluble in water, alcohol and ether. All oxidizing agents transform it into quinone. This transformation takes place slowly on exposure to air, almost instantly on addition of oxygenated water, or some other oxidizing agent.

Reactions: If to a liquid containing the paraphenylene diamine one adds a small quantity of its isomere in meta and the bichromate of potash, there is produced the blue of toluidine, whose intense blue color is characteristic. A few drops of a solution thrown on a filter-paper which has been saturated with oxygenated water gives a dark red color which rapidly becomes black. A few drops of a diluted solution of nitrate of potash gives with it a greenish-yellow color which becomes dark.

Preparation: To obtain the paraphenylene diamine, one separates from the paranitroline which has been reduced by tin and hydrochloric acid, the reaction terminated, the tin is precipitated by hydrogen sulphide. The base is extracted by ether from the aqueous solution, rendered alkaline, purified by distillation and sublimation under a current of hydrogen.

Physiological effects: Paraphenylene diamine — $C_6H_4_2(NH_2)_2$ —has been studied in its physiologic effects on dogs by Dubois and Vigum² (1898) who used the pure drug alone by hypodermic injections, while more recently (1901) Laborde and Meillère³ have used the mixture as found in the dye, both by intravenous injections and subcutaneously. Their results agree in every point except the lungs, which the former found exsanguinated; the latter in a state of intense congestion. In doses of one decigram to a gram hypodermically administered to a dog, there was produced salivation, diarrhea and tenesmus, somnolence, difficulty of respiration, sneezing, coryza, abundant nasal discharge, hoarse voice, irritation of eyes, hyperesthesia of the conjunctivæ, with temperature falls, difficult gait, stiffness of the legs, opisthotonos, and death in twelve to twenty hours. The autopsy shows all the tissues darkly stained, the blood and muscles dark as "ink," the left ventricle in systole and empty, the liver brown to an almost violet tint. Meillère⁴ also calls attention to the dark mahogany-colored urine found in his experiments and also in his patient whose case he reported. This was not found to be the case in our patient, whose urine was light amber, acid, 1030, urea .026 per cent., no sugar nor albumin, excess of chlorides.

Method of using: In commerce the dye is found in two solutions, No. 1 containing an aqueous or alcoholic solution of the hydrochlorate of paraphenylene diamine, No. 2 containing oxygenated water. The dyeing is effected in two processes. A few cubic centimeters of solution No. 1, on a brush or sponge, are passed over the hairs to be colored; after a few seconds, another brush or sponge wet with solution No. 2 is used. The effect is almost instantaneous. There is produced quinone— $C_6H_4O_2$ —well known in organic chemistry, which gives off very irritating vapors at ordinary temperatures. The hair or beard has at first a violet tint which becomes darker under oxygenated water, by varying which tints varying from chataine to jet black may be obtained.

Clinical study: The seat of the eruption is almost always on the border of the hair, or upper lip in those who dye the mustache. The forehead, neck, ears, sometimes the entire face, the external surface of the arms, shoulders, back, even the entire body may be affected.

The eruption may come on after the first application, or not until after it has been used for months. Some subjects who do not have an eruption complain of a prickling sensation in the eyes for days after its use. The intense itching is another characteristic. This may be most marked in the scalp and is the usual precursor of the eruption, which appears as bright red plaques, with irregular borders along the margins of hair. The skin becomes thickened and also stretched, and the plaques disappear under pressure. The lids become swollen after a few days of itching. Under light desquamation the spots become pale and disappear, constituting the benign form. In the medium form, such as our case, with an eruption of bright red erythematous patches, with rare intervals of normal skin, the color does not disappear under pressure. In places there are urticarial elevations, papules, small vesicles filled with clear serum, or milky fluid; in places dried crusts, often yellow and impetiginous. The ears are swollen, the skin thickened, exuding serum where vesicles become broken. Itching may be so intense as to break sleep. There is slow return to normal, the skin remaining rough and edematous, desquamating for weeks.

Brocq,⁵ in addition to the above light and medium forms, describes a third or grave form with violent erysipelatoid eruption, with fever, adenitis, extensive desquamation, etc. He mentions the case of a young American woman whose entire body desquamated, who had great depression and fever, with prolonged convalescence and tardy recovery. He recommends that in view of the increasing number and severity of these cases, the law should insist upon a label stating that this substance is "dangerous for all persons who have had eczema or who have irritable skins." G. Tissot⁶ arrives at the conclusion that all hair dyes at present known are dangerous, that they may determine inflammatory or toxic accidents, and that it is necessary to regulate the sale, inasmuch as accidents are becoming more and more numerous as their use becomes generalized. The paraphenylene diamine he considers most constantly productive of accidents. Balzer⁷ relates a case of an eczematous eruption produced by the irritation from a dye used in hose, which dye proved on chemical analysis to be the chlorate of paraphenylene diamine. The eruption came on twenty-four hours after wearing new hose, which were dyed black, with red, yellow, and green stripes. There was violent itching and the back of the foot presented typical lesions of acute eczema—small papulo-vesicular eruption, and diffuse redness not extending higher than the ankles. The soles of the feet, while presenting no eruption, itched intensely. It was curious to remark that the eruption was in bands corresponding to the black and green stripes; there was no eruption corresponding to the red and yellow stripes. The chemist reported that it was precisely the black and green portions where the coloring matter was the paraphenylene diamine.

Résumé: The duration of eruption may be from several days to several weeks. Sometimes exacerbations may occur when one thinks the patient nearly well. In the etiology one must always take into consideration, as in all chemical or medical eruptions, the personal predisposition or idiosyncrasy, and avoid in the treatment any application containing resorcin, which Laborde and Mellièrè⁸ have shown often is used combined in the hair-dye, and under oxidizing influences becomes an irritating coloring product. The prognosis is in general good, but the patient should be warned

against continuance of the dye for fear of the grave form described.

Differential diagnosis: Confusion might arise with acute eczema, especially where patients usually deny the use of a dye. Nevertheless, the suddenness of the manifestations, enormous swelling of the lids, the metamorphosis of the physiognomy are good guides.

Treatment: The usual calnative agents employed against erythematous eruptions due to external causes may be used. The hair must be sacrificed in the grave forms, as the dye in the hair still acts as an exciting cause. As a question to be studied there remains the query, does the eruption appear on the body from transference of the irritant by the hands, from nervous erethism, or it is absorbed in quantities sufficient to cause systemic effects?

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DIFFICULTIES AND DANGERS OF ANESTHETICS.

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Ever since the first deaths resulting from the administration of ether and chloroform, there has been considerable discussion as to the manner in which they cause them. One of the most important contributions was that of the Hyderabad Commission, which concluded from its experiments on animals that chloroform kills by its effects on the respiratory system. Mellish believes that it exerts its bad effects primarily upon the circulatory system, an opinion which is supported by Leonard Hill. Practically all observers agree that chloroform causes lowering of blood pressure at all stages of the anesthesia. Ether produces a slower fall than chloroform. Whether the paralysis of the respiratory precedes or follows that of the circulatory systems is of but little practical importance, for the interval between them is so slight as to be almost imperceptible. The writer has in some cases observed a cessation of respiration before that of the heart's action, and in others the reverse condition. Leonard Hill has shown that there are two kinds of syncope, a primary and secondary. The former occurs in the very earliest stages, the latter later. It may be due to fright or other psychic influences. In some cases there seems to be no apparent cause. Respiratory difficulties may be spasmodic, asphyxial or paralytic. The two former occur more frequently during ether than chloroform anesthesia. The last-named danger is far more frequent after chloroform. When this takes place, the respirations gradually become slower and more shallow, the color of the face and lips becomes grayish, the pulse imperceptible, and the pupils widely dilated.

The group of symptoms in which the heart first shows the effects of an overdose of the poison—secondary syncope—differs but slightly from the above, and the anesthetist who closely watches the respiration, color of face, pupil and pulse of the patient from the time the anesthetic is begun will note even slight danger signals quite early. It has been the habit of the writer, in his own cases and when instructing others, especially when chloroform is to be administered, to call attention to the following points: Remove all foreign bodies from the mouth, also all constricting neck or waist bands. Talk reassuringly to the patients, or divert their minds by having them count slowly up to fifty. Do not permit any loud talking or noise of preparations to be heard by the patient. Do not begin to remove dressings or prepare the field of operation before the stage of relaxation. Examine the heart, lungs and the urine before every anesthetic. (This will be referred to later.) Note the size of the pupils, the character of the pulse in regard to pressure and frequency, and watch both pulse and respiration, and the color of the face during the entire operation, keeping the hand on either radial, temporal or facial arteries, as the engineer does his hand upon the throttle. The writer has been able a number of times to guard against a syncope by noting the manner in which the pulse decreased in frequency and force. The pupil is at first dilated moderately, then somewhat contracted, responding, however, to light; but when it dilates again, or, in other words, the secondary dilatation occurs, with failure to respond to light, that is one of the earliest symptoms of syncope. The anesthetist should pay absolutely no attention to the operation, and should not be changed during it.

TREATMENT.

The curative treatment of the immediate difficulties and dangers in the milder forms, such as spasm of the glottis, is to remove the anesthetic—usually it is ether which causes this. Forceps of the kind used by the laryngologists, with pieces of cotton, will easily remove any mucus which has accumulated above the larynx and causes cyanosis. This is best done by placing the patient's head—if it has not previously been so—on its side directly upon the table. At times it is necessary to force the jaws apart with a special (Heister) gag. It is seldom necessary, if care is taken, to hold the jaw up and forward to use a tongue forceps. For the more severe forms of danger, such as sudden heart or respiratory failure, we should have some system or order in which the various methods or remedies shall be applied. The writer usually employs the following mechanical means first, for there can be but little object in giving cardiac stimulants before there is a circulation to carry them to the heart.

1. The method of König, or massage of the heart. I have employed eight times with startling results. This consists virtually, by a number of pushing movements with one or both hands over the heart in exciting a ventricular contraction, and thus preventing the paralytic dilatation of the heart from taking place. This method was first suggested by Professor König, and is but little known in this country. As soon as the heart or breathing has ceased, the operator, by rapid "punchings" with the flexor surface of the half-closed hand, without lifting the latter from the chest wall, seeks to start up a contraction of the ventricles. I have saved three patients by this method alone during the past six months. It is really a shaking-up or massage of the heart. In a dog on which I performed a thoracotomy, the heart's

action ceased as soon as the thorax was opened. The König method was employed, while one hand was kept over the heart—from the interior of the chest. The effect of this shaking-up of the heart through the external jolting was remarkable. The organ began to pulsate and continued to do so for several minutes.

2. The next method, and one which can be carried out simultaneously by another assistant, consists in mechanically exciting respiration by the so-called pharyngeal reflex, by making rhythmical tractions upon the tongue. (Laborde method.) Insert a tongue forceps and pull the organ, by its tip, out of the mouth as far as possible, about sixteen times a minute.

3. As soon as possible, raise the foot of the table, say $1\frac{1}{2}$ to 2 feet, or bring the patient's head over the edge of the table, permitting it to hang down. At the same time, begin with artificial respiration. (After No. 1 has been employed.) Have two assistants—one on each side—bring a semiflexed arm down upon the lower portion of the chest, compressing this, then raising the arms above the head by extending them, and bringing them to the chest wall again.

4. By this time respiratory or circulatory paralysis will have either become permanent or temporary. If the latter, a few feeble pulsations can be felt and an occasional shallow breath be noticed. Now, an amyl nitrite pearl can be broken and its contents inhaled. Strychnin, $\frac{1}{30}$ gr., and digitalin in $\frac{1}{50}$ gr. doses can be given hypodermically; later whisky, atropin or ammonia.

5. Bleeding from a large vein, if the patient is plethoric, or the subcutaneous injection of a quart of normal—0.6 per cent.—salt solution, if there is any suspicion of a combination of syncope, with hemorrhage, is extremely valuable and rational.

6. Acupuncture of the heart has been tried as a last resort in two cases, by McArthur, with an encouraging result. Tracheotomy, stretching of the sphincter, irritation of the nostril, and electricity are of doubtful value.

To sum up: 1. Massage of the heart (König). 2. Rhythmical tractions of the tongue (Laborde). 3. Artificial respiration. 4. Cardiac stimulants. We should persist in our efforts, even in the most discouraging case, at least half an hour.

AFTER-EFFECTS.

In regard to some of the after-effects or dangers of anesthetics, many can be avoided by proper regard to their prevention. Before every anesthesia is begun the urine should be carefully examined for sugar, albumin and casts. This will only require a few moments, especially if a centrifugal apparatus is at hand, and may spare the operator a great deal of chagrin if a patient whose relatives he had assured that there was practically no danger should die within forty-eight hours of uremia. It has been shown conclusively by a number of investigators, both through experiments on animals and clinical observations, that both ether and chloroform have an injurious effect upon the renal parenchyma. My own observations on 110 cases about equally divided between chloroform and ether have been confirmed by a number of others. They were as follows: Ether and chloroform will cause albumin and casts in small amounts and number to appear after they have been administered to patients whose urine during repeated examinations was previously shown to be normal. This will occur more frequently after ether. Upon the diseased kidney it (ether) has a decidedly more harmful

action, causing in some cases acute suppression of urine, uremia and death. Chloroform, if administered during an operation or obstetrical case, as shown by Fraenkel, for a period of three hours or longer, may cause fatty degeneration of the renal cells and uremia. On the diseased kidney chloroform has a far milder action than ether, although occasionally a case of nephritis will be anesthetized with it and uremia follow, as in a case I observed a few weeks ago. Both, in cases of diabetes, will frequently increase enormously the sugar.

Another dangerous after-effect which can be avoided is pneumonia following ether anesthesia. A careful examination of the lungs will quickly aid us to diagnose a bronchitis or emphysema. Such persons bear ether poorly and should, if the heart permits, be anesthetized with chloroform. In regard to the latter organ, patients with heart trouble should be anesthetized either with ether or the A. C. E. mixture. In many hospitals abroad and in the East, the anesthetist is either a paid assistant, who remains for years, or is assigned to this task as an interne for many months. Slips are filled out for each anesthesia, stating the condition of the heart, lungs and kidneys before operation, etc. This is not impracticable even in small hospitals, and saves many a life.

CONCLUSIONS.

I have tried in the above to give a brief outline of the causes of syncope during anesthesia, their treatment, and some of the after-dangers or effects. Ether, with the exception of its bad effects upon the kidney, is by far the safest anesthetic. Chloroform kills quickly, ether slowly. The dangerous symptoms of the former are far less amenable to treatment than those of the latter. Children respond more quickly than adults to efforts at resuscitation.

A careful examination of patients is absolutely essential. In serious cases the urine should be collected for several days, and twenty-four hour specimens examined, especially in renal operations or laparotomies. Do not give one anesthetic, be it chloroform or ether, indiscriminately to every patient. We should consider age, condition and the nature of the operation. I append an excellent list, compiled by J. Frederick Silk, an English authority on anesthetics, which I have found very useful to remember: 1. *Age*.—Under 3 years, chloroform all through; between 3 and 12 years, A. C. E. mixture (alcohol 1 part; chloroform, 2 parts; ether, 3 parts); between 12 and 60 years, ether; over 60, induce with A. C. E. mixture, increasing the proportion of ether in long operations. 2. *Condition of patient*.—In the fat and plethoric, induce with A. C. E., and gradually increase the proportion of ether in long operations; in acute or very recent lung troubles, give chloroform all through; in chronic lung troubles—bronchitis or emphysema—give A. C. E. all through; in organic heart disease, if there is not sufficient compensation, e. g., pulmonary edema, use A. C. E. or chloroform, if compensated, ether; in marked atheroma, induce with A. C. E., and increase the ether proportion in long operations. 3. *Nature of operation*.—For an intracranial, give chloroform or A. C. E.; for those on the tongue and mouth, induce with A. C. E. and change for chloroform when the operation begins; in operations on the head and neck, begin with A. C. E., increasing the proportion of ether in long operations; in those on larger joints, always use ether, if possible; in abdominal, we do well with ether, but many prefer chloroform; in rectal and genito-urinary, use ether.

The writer can agree most heartily with most of the above, and would add, under No. 2, in kidney disease, use preferably chloroform, or A. C. E.

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THE VESICULAR MURMUR AND ITS RELATION TO PULMONARY HEALTH AND DISEASE.*

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My purpose in this writing is to individualize this one and only auscultatory sign as the criterion of pulmonary health, its absence as the positive proof of either functional or organic disease, also suggestions as to the most successful method of restoration and its application to the treatment of pulmonary tuberculosis.

In the auscultation of the normally acting healthy chest, two sounds are heard on inspiration, totally different in production, location and character. The first is the bronchial sound, caused by the friction of the inrushing tidal air, through the convective system of tubes, and is, in varying quality and pitch, always present in health and disease. It is first in regard to the time of its production in the inspiratory act, and, during the first eight to twelve years of life, is the only sound heard in health, the pulmonary system being as yet incomplete. The tidal air does not pass as such further than the third or fourth division of the bronchial tubes, consequently the murmur which follows the bronchial is entirely distinct from the bronchial in location and character, although wholly dependent on it for its production.

Where tidal air ceases, residual air commences, and fills the entire pulmonary system, the volume of which is increased about one-tenth by each normal inspiratory effort. It is this increment of tidal air imposed upon the residual air, which renders the air-sacs tense, and produces the vesicular murmur by the contraction and relaxation of their walls upon the residual air. Here the interchange of gases takes place, in accordance with the well-known law of diffusion, and the circle of the inspiratory act is complete.

The vesicular murmur begins as soon as the residual air is increased to the extent of rendering the air-sacs tense. In full breathing, it is heard before the tidal friction sound of the bronchi ceases, producing the bronchovesicular murmur, and is continuous after the bronchial sound ceases.

The production of the vesicular murmur may be prevented, or interfered with in part, by various influences and conditions of disease, some of which are not incompatible with a considerable degree of comfort and usefulness, for a limited period.

The conditions of this period, we are to take particular notice of, as it is the true pretubercular period.

We very commonly meet with cases in which the vesicular murmur is entirely absent, except in forced inspiration.

In women, this is very often the case, as a result of tight clothing, with the outward and upward movements of the chest, and the murmur can not be produced in the lower lobes of the lungs until the constriction is removed.

We often hear the expression "weak lungs," as ap-

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plied to people of sedentary pursuits, or to those who by heredity or environment are lacking in energy and vitality. I prefer to call them "lazy lungs," as better indicating an exact condition, and as a means of impressing the patient with the fact that by his own exertion he may have strong lungs. Lazy lungs are those in which the pulmonary function is imperfectly performed in the absence of all organic disease, resulting in a disproportion of blood and air in the lungs, the former being in excess, and its progress through the lungs being retarded.

As the blood current rushing into the heart excites it to forceful contractions, so too the air-currents, rushing into the lungs, with each inspiration increasing the tension of the alveolar walls, stimulates them to contraction as evidenced by the vesicular murmur. The necessity for a proper volume of air is just as important for the lungs as a due proportion of blood is required for a perfect and forceful contraction of the heart. The contraction of the air-sacs produces not only a more rapid interchange of gases, but also aids in the propulsion of the blood through the pulmonary capillaries, relieving stasis, and preventing exudates.

An incomplete pulmonary function produces blood stasis, and stasis produces exudation, which may take place into the bronchi, the intercellular spaces, and upon the surface of the pleura. When these exudates occur, there is more or less muffling of the vesicular murmur, and according to degree and location the production of râles, either bronchial or interpleural. That which is exuded into the intercellular spaces causes no sound, but interferes with the production of the normal vesicular murmur. These exudates often occur simultaneously, and are found most frequently in the apices, about the third intercostal space in front, and reaching directly through to the pleura in the interscapular space. These exudates, which are purely of a non-inflammatory character, when stirred by respiration, produce râles which are usually diagnosed as bronchitis, but in consideration of their etiology in obstructed circulation, more properly called bronchial catarrh, or catarrh of the apex, a result of pulmonary inactivity, a passive condition rather than an active process.

There are many direct causes of this passive condition. I have already mentioned the effect of tight clothing in women, which is so often persisted in to such an extent as to produce an arching of the sternum compensatory to the constriction. This takes place only in vigorous breathers, with good muscular development.

Sedentary occupations are productive of pulmonary inactivity. Underfeeding and overworking, the hard side of life, worry and care and many others; any one of the many influences in life which weaken the muscular system indirectly through the nervous and digestive systems, exerts a depressing influence on the respiratory system by decreasing the activity of the diaphragm and chest muscles, and thereby impairing the function of respiration, in the complete oxygenation and vitalizing of the blood, which process is announced by the vesicular murmur.

Big breathers are good eaters, and big eaters are good breathers as a rule, because the muscular and nervous systems are well nourished.

Tuberculous infection becomes a possibility only when the soil is prepared for the reception and propagation of the bacilli. Our attention has been directed so much during the past dozen years to the bacillus, and the means of combating it with drugs and serums, all of

which have proved of doubtful utility, that it seems to me that we should take a new departure, not only in our pathological views relative thereto, but also in our practice.

Much has been said and written in regard to "suitable soil," without defining exactly what that soil is, how it is produced, and how immunity may be acquired. It used to be taught that man possessed a surplus of pulmonary tissue, which was not always required to be in complete action, but was kept in reserve for emergencies. This was certainly a fatal mistake, for all that a tubercle bacillus wants for a comfortable home is a choked capillary bronchus, either the result of insufficient expansion of a lazy lung, or of an active process of congestion or inflammation. The tubercle bacillus fails in its attack upon healthy tissue; it succeeds only when it finds either functional or organic abnormalities.

Imperfect function, as evidenced by the absence of the vesicular murmur, must always result in organic disease sooner or later—not necessarily tuberculous—and it is all that is required, as the primary condition in furnishing a suitable soil for the bacillus in the pulmonary tissues.

The pulmonary apices are primarily infected as a rule, because they are not as continuously and thoroughly expanded as the middle and lower portions, consequently blood stasis occurs, producing exudation as revealed by the "mucus click." This symptom has been regarded by many good clinicians as a positive evidence of tuberculosis without the evidence of the microscope. I have seen many such cases of catarrh of the apices under the practice of systematic expansion make a complete recovery of the function, with the removal of all abnormal auscultatory sounds, and the return of the pure vesicular murmur which is the evidence of pulmonary health.

*We might as well try to strengthen a weak arm by carrying it in a sling, and by the administration of drugs, as to strengthen weak lungs by any and all the drugs known to medical art, without attention to the deficient function. In the treatment of such conditions we must use the same common sense which would guide us in the treatment of weak muscles or organs in any other part of the body.

Use, and use only, makes strong muscles and strong lungs. The better the oxygenation of the blood, the greater is its capacity for the reception of nutritious pabulum, with an increase of red corpuscles. The cold, livid finger tips become warm and of a healthy pinkish color, the appetite is improved, and every function is benefitted to a remarkable degree, with increase of body weight and endurance.

In the examination of the chest, our attention should be directed first, not so much as to what abnormal sounds are present, but as to the degree in which the normal sounds are present or absent, for the purpose of ascertaining whether an anatomical recovery may be obtained, in order that we may obtain a clinical recovery. In any impairment of pulmonary function, whether the microscope reveals the bacilli or not, it is safe always to suspect that such a development may occur, because the soil is prepared for the seed, and our efforts should be immediately directed toward the cleaning up of that soil, so that there shall be no suitable habitat for the bacillus. The vitality of the tubercle bacillus is very low, and unless it finds a location exactly suited to its growth and development it perishes.

If, according to Nuttall, a tuberculous patient expectorates about three billions of bacilli in twenty-four hours, certainly only a very small number find a suitable soil for their support, and yet when we take into account Naegeli's statistics in the pathologic institute of Zurich it appears that the infection is almost universal, as active or latent, being 97 per cent. of those over 18 years of age, with positive evidence at autopsies of non-fatal tuberculosis.

The human system then is able to resist the infection of tuberculosis in a very large majority of cases, and it must be from nature that we may expect to learn the method of successful treatment, for our art has failed by drugs and serums alone. Even should we be able to cure a specific case by tuberculin or other serum, what is to prevent a new infection if we leave the lungs in the same condition as they were in before the bacilli were rendered innocuous, for it is through the respiratory apparatus, much more than through all the other organs or tissues, that the infection is received?

This brings us to face the stubborn fact of the suitable soil, which Nature by its own processes succeeds in changing to an unsuitable soil, and as Vergely has tersely expressed it: "The soil is everything, the microbe nothing," and another, "that Koch's bacillus is not enough to produce tuberculosis."

There are no doubt other factors which go to make up this preparatory condition beside deficient pulmonary function. We may yet learn that good rich blood contains an antitoxin principle, which it may not always possess, particularly when deteriorated, and that the loss of this antibacillary power is the cause of the system succumbing in rapid miliary tuberculosis. Mays believes that tuberculosis may be primarily a neurosis, and adduces plausible argument in support of his theory, but from my present standpoint I look upon the neurotic condition as contributory to that condition of pulmonary inactivity which may be both a cause and an effect in the preparation of the suitable soil.

It can not be denied that the tuberculous infection is well-nigh universal, and that but few in comparison to the great number infected, live the average life of man, without at some time being infected by it. Autopsies made upon those dying of other diseases and by violence prove this.

The greater number of those infected recover without the knowledge of the fact of infection. Nature can and does get rid of the bacillus, and although there may not be a complete anatomical recovery, as indicated by the scars left after the healing of cavities, yet there is a complete clinical recovery, and full functional activity of all the remaining pulmonary tissue. Fibrinous exudations upon the pleural surfaces form adhesions between the opposing surfaces when there is deficient pulmonary activity, and, according to their closeness and thickness, prevent the expansion of the subjacent lung tissue, as evidenced by the muffling or complete absence of the vesicular murmur.

The starting-point of a tuberculosis may have been years before the actual onset of the disease, occurring in a pleurisy, or a pleuropneumonia, in which the exudates have not been absorbed, but remain as an organized barrier to perfect respiration, either in the lung tissue or on the pleura, and thus furnish the suitable soil for the bacillus. After the clinical recovery from a pneumonia or pleurisy, the closest attention should be given to the anatomical recovery, by systematic expansion of the lungs until the pure vesicular murmur

is heard without muffling, when there will be no soil suitable for the bacillus. The expansion of the lungs is very materially aided by cold friction baths. There is a direct nervous connection between the skin and the lungs.

The nervous center which governs inspiration is situated in the gray matter of the medulla, opposite the roots of the pneumogastric nerves, and the nerves which have their center here are the pulmonary branches of the pneumogastric and sympathetic, the latter containing fibers from the spinal cord, also the cutaneous nerves of the face, arising from the fifth cranial pair, and the cutaneous nerves of the body generally. Through these excitor nerves, a stimulating impression is made upon the center by cold friction baths, and this is immediately followed by deeper inspirations.

It is through the intimate nerve connections between the skin and lungs that such remarkable results in the treatment of tuberculosis have been obtained by Winternitz and others in hydropathic institutions, and distinguishes cold bathing as a most valuable adjunct in bringing about a clinical recovery of the lungs, in which the bacillus can not grow and in which the inspiratory act is complete in the pure vesicular murmur.

We should early discover the evidences of tuberculosis, in order to treat it successfully, but we should much earlier discover whether the soil in any suspected chest is prepared for the ever-present bacillus, and by attention to the function of the lungs put them in such condition that infection shall be an impossibility. This is to be done by systematic mechanical expansion of the lungs by appropriate exercises, by the daily use of cold friction baths, by regulation of the diet, by the administration of such medicines as shall strengthen the nervous system and enrich and invigorate the blood cells, by attention to the sanitary condition of the home, by the proper ventilation of living and sleeping rooms, by life out of doors, by cheerful surroundings and cheering company, by a full and clear statement of the case to the patient, concealing nothing of the dangers of such conditions, by the assurance of rapid improvement and perfect restoration to sound health, as a result of strict fidelity to the requirements as directed by the physician.

In a recent article, "On the Early Recognition of Tuberculosis," a physician detailed a series of symptoms which to me appear as very late symptoms. Clubbed fingers, emaciation, capricious appetite, cog-wheel rhythm, intermittent albuminuria, and hemoptysis present to me a picture far on the way to a dangerous and probably incurable stage.

The difficulty of diagnosis—of which much has been written—and the dangers of becoming tuberculous become as nothing if we accept the clinical evidence of an impaired function, producing the suitable soil for the bacillus, and when we act upon that evidence, in Nature's method of restoration, by opening up and clearing out every tube and cell, by systematic expansion of the chest.

Where purulent infection has taken place, as in an ovarian tube, or the appendix vermiformis, or in any locality of the body, we put in the knife, and clean out the cavity and thus get rid of the infection. In choked bronchial tubes, which are the starting points of the active process of infection, we can put in air, which is quite as incisive and effective in the relief of such conditions as the knife is in the others.

Why should we wait until the infection has been proved by the microscope, before commencing radical

treatment, when the clinical features of the case warrant us in declaring that such a chest is prepared for the bacillus, through imperfect function, or through exudations resulting therefrom. In this respect we have been leaning too much upon the evidence of the microscope, and too little upon equally as positive clinical evidence, of far more valuable diagnostic importance, viz.: imperfect function, as shown by the absence or muffling of the vesicular murmur. If we accept the clinical evidence, the fight with the bacillus can be easily carried to a successful issue outside the walls. But if we find that the bacillus has already taken possession, the fight will be longer and harder, and accompanied with many dangers, although it may yet be carried to a successful result if we follow the teachings of Nature, so far as we know.

It is impossible to describe in words the sound of the vesicular murmur. Every individual physician must acquire a knowledge of it through his own independent discovery, by carefully listening to many healthy chests, until his own senses are forcefully impressed with its character and language. It is a gentle breezy sound, exactly like nothing else in the world, but when thoroughly appreciated one of the most delightful sounds the ear can listen to, for it means absolute health; its absence, absolute disease sooner or later, unless restored by appropriate means intelligently directed.

The methods which I have used for many years were described in an article entitled "Personal Observations in Pulmonary Phthisis," published in the *Medical Record*, March 14, 1898, and in *THE JOURNAL A. M. A.*, Feb. 5, 1898. In the absence of more effective means, I still hold to the same methods, for the reasons there given.

The principle of the action of the pneumatic cabinet is correct, and indispensable in many cases, and should be applied where it is possible to obtain it, for it is a very difficult thing to wake up the almost paralytic chest muscles to perform their natural function, and is only obtained by persistent and continuous effort.

I have observed a very great lack of appreciation among medical men of the importance of this fundamental symptom of the vesicular murmur, and many lives are irretrievably lost by neglect of the methods required for its restoration, which otherwise might have been saved by prompt and early mechanical expansion.

ON THE RELATION BETWEEN THE VARIETY OF MICRO-ORGANISMS AND THE COM- POSITION OF STONE IN CALCULOUS PYELONEPHRITIS.

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No subject in renal diseases has been more discussed than calculus, especially as regards the etiologic factors involved in the production of the stone. Many theories have been held regarding the origin of stone in nephrolithiasis, but of these most have been finally abandoned from insufficient evidence; thus the idea that telluric conditions play an important rôle in this connection has been practically abandoned by all, as also the belief that gout was the most important etiologic factor in the development of such a condition, while Senator, Von Noorden and numerous other observers have definitely shown that the method of living and the variety of diet play, speaking generally, but a small part.

Our ideas regarding the formation of uric acid in

the body have undergone a marked change, through the work of Horbaczewski and Kossel, who showed that in a large number of cases, at least, the uric acid output was directly dependent on the amount of nucleins destroyed in the various vital and metabolic processes of the body.

That, however, simply an increase in the uric acid output is in itself not sufficient to bring about calculus formation is shown in the first place by the fact that in childhood, when the uric acid output is extremely high, renal calculi are extremely uncommon, while in various conditions, pathologic and otherwise, which are associated with an extremely high output of uric acid, such as splenomyelogenous leukemia, calculus formation is rarely met with. Also in cases of experimental phosphaturia, we practically never meet with phosphatic stones.

It will thus be seen that some other factor besides the formation of excessively large amounts of various of the chemical constituents of the urine is necessary for the formation of the different varieties of stone, at least in the great majority of cases. This conclusion and also the discovery of an albuminoid center or nucleus in the case of a number of stones, has led some observers to believe that the stone is formed by deposition of some of the urinary constituents about a proteid mass made up of epithelial cells, pus cells, red blood cells, etc. Comparatively recently, however, bacteria have been assigned an important rôle in this connection, due in the first place to the frequent association of calculus with certain forms of renal infection, and in the second place to the demonstration of bacteria in the center of a number of renal calculi. Thus, according to Harris, who has recently reviewed the subject, various micro-organisms have been found in the center of several renal calculi, by Galippe, in one case by Begoyne, and in an especially interesting case by Lenander, who demonstrated zoögleal masses of the colon bacillus in the center of a calculus composed of calcium oxalate and urates. Harris himself also reports three cases in which cocci or bacilli or both were found in the center of uric acid calculi; in these cases, however, cultures of the bacteria were not made, but their presence was demonstrated only by microscopic examination.

In all the cases which I wish to report, careful bacteriologic examinations were made of the urine, while the chemical composition of the stone was definitely determined in every case by the qualitative methods of chemical analysis usually in vogue. These cases, seven in number, were all those in which infection of the renal pelvis or the substance of the kidney was associated with the presence of stone, and in all cases except one the symptoms definitely pointed to the condition being unilateral, and this was subsequently verified by the bacteriologic, chemic and microscopic examination of the urine on either side. The means of making this examination was as follows: Through the cystoscope a sterile ureteral catheter with a sterile rubber cuff on its distal end was introduced into the ureter and, after the urine had been allowed to flow for a short space of time, the rubber cuff was withdrawn and a certain amount of the urine collected in a sterile test-tube from which, subsequently, the bacteriologic, chemic and microscopic studies were made. This method absolutely eliminates any chance of contamination from the bladder or from external sources if carried out with rigorous care. From the urine thus obtained, cultures were made upon agar plates, and from the colonies that grew thereon the species of micro-organism was determined

by the usual methods. As stated before, ureteral catheterization was practiced in all cases on the side which gave no symptom, and in all cases except one the urine from that side was absolutely normal, showing that the calculous pyelonephritis was unilateral while in the case of the infected side the urine always contained large numbers of pus cells and a smaller number of red blood and epithelial cells and a considerable amount of albumin, while the reaction of the urine from that side depended entirely upon the variety of micro-organism met with, being acid in the one case of calculous pyelonephritis due to the colon bacillus met with, and alkaline in five cases due to various micro-organisms which possess in a marked degree the ability to decompose urea. These seven cases are therefore subdivided into: 1, those where the urine from the affected kidney is alkaline and 2, where the urine is acid.

WHERE THE URINE IS ALKALINE.

Five cases have been met with and studied bacteriologically and chemically, in which the urine was alkaline, while in one other case, although there had been marked urinary alkalinity at the beginning of the trouble the infection had subsequently died out spontaneously and the urine, when examined by us, was acid and sterile. The history of the development of the infection in these cases is of extreme importance; in Case 1 the condition came on insidiously, without any apparent cause, and was subsequently followed by several typical attacks of renal colic. In Case 2 the onset had also been insidious, while the only symptoms present were dull pain in the back and right side for several years, and loss of strength and weight. In Case 3, where the condition had lasted for over fifteen years, the etiologic factors had been quite obscure, the condition developing after a protracted anemia, the exact cause of which could not be definitely determined although it was probably chlorotic in nature. The symptoms in this case had been pyuria and pain, first on the left side, subsequently on the right side also, and in the former case they became so great as to necessitate the removal of the kidney which was converted into a large pyelonephrotic sac in whose center a calculus was found. In Case 4, five months after a difficult instrumental labor, the patient complained of severe pain in the right renal region, which had been constantly present ever since (3½ years) associated with occasional attacks of sharp pain. In Case 5 the pyelitis was secondary to a cystitis occurring 2½ years after the development of the latter condition. The symptoms were almost constant severe pain in the right renal region, associated with a high grade of pyuria; while in the sixth case, where the infection had spontaneously died out, the patient had developed an acute ammoniacal cystitis after severe instrumental labor thirty years ago, followed shortly by symptoms of an infection of the left kidney; the urine remained alkaline or ammoniacal for many years, but for the past twenty years has been almost constantly acid, although it still at times contains enormous numbers of pus cells as if from some large sac which occasionally empties itself. The bacteria found in these cases were respectively as follows: Case 1, *B. proteus vulgaris*; Case 2, *B. proteus vulgaris*; Case 3, a white staphylococcus which rapidly decomposed urea and liquefied gelatin but slowly; in Case 4, the same white staphylococcus just mentioned; in Case 5, the *B. proteus vulgaris*; while in Case 6, as stated before, the urine was sterile.

In all cases except one, nephrectomy was performed,

the stone removed and the renal pelvis irrigated and drained; in the one exception mentioned several calculi were voided with the urine, so that it was possible in all cases to make a careful chemical examination of the stone. The chemical composition of the stone in all these cases was the same, the calculus being made up of the phosphates and carbonates of calcium and magnesium, although the proportion of the various salts differed in the different cases. In one case, that of the calculous pyelonephritis due to the infection of the *B. proteus vulgaris*, a culture was made under the most careful aseptic precautions from the center of the stone, and the *B. proteus vulgaris* was obtained therefrom in pure culture; in another case microscopic examination of the center demonstrated staphylococci—in this case the renal infection was due to the white staphylococcus previously mentioned—while in the third case, that in which the infection began thirty years ago and in which the urine had apparently been sterile for upwards of twenty years, no bacterial center was able to be demonstrated. In the other three cases the stones were not examined to see what was the exact condition present in their respective centers.

In one case the diagnosis was made in a rather unique fashion. Through the ureteral catheter there was injected into the renal pelvis of the affected side 15 c.c. of a .2 per cent. solution of hydrochloric acid, which was allowed to remain in the pelvis between ten and fifteen minutes; it was then analyzed chemically, when the marked amount of calcium and magnesium phosphate and carbonate present showed that the pelvis contained a calculus of that composition.

The condition in all these cases was, as far as could be judged from the careful study of the symptoms and the urine, one of infection of the kidney subsequently followed, sooner or later, by stone formation. A consideration of the findings in certain of the cases warrants us in the belief that the nucleus of the stone was a zoögleal mass made up mostly of the micro-organisms causing the infection, while the constant alkalinity of the urine caused by the urea-decomposing power of the micro-organism furnish the salts necessary for formation of the stone.

The extreme frequency of calculus in infections of the kidney brought about by such urea-decomposing bacteria is shown by the fact that, of all the cases of renal infection due to this class of bacteria, stone was found in all the cases but one which was an acute pyelonephritis of but two weeks' duration where, obviously, sufficient time had not elapsed for the deposition of the salts necessary to form the stone.

WHERE THE URINE IS ACID.

Only one case was met with in which stone was associated with a pyelonephritis due to a micro-organism which retained the normal acidity of the urine. This case was one of infection arising immediately after the formation of a uretero-vaginal fistula, which in turn had been produced by the trauma of a very severe, protracted instrumental labor.

The infection was due to the *B. coli communis*, and had been present for one year; the urine from this kidney was discharged entirely through the fistula, contained pus, blood and epithelial cells and considerable albumin and was always very markedly acid; from this urine a pure culture of the colon bacillus in considerable number was obtained. There had been absolutely no symptoms of stone, but, following upon a careful vaginal and rectal examination, a small calculus was passed

through the fistula, the chemical analysis of which was a mixture of uric acid and urates, the former largely in excess. The consideration of this case makes it highly probable that the stone was formed definitely because of the urinary infection.

Albarran has divided the cases of renal calculi into primary stones where the kidney is not the seat of infection, and secondary stones where bacteria are found in the renal pelvis; according to this classification our cases fall into the second group, although recently many have ascribed to bacteria the formation of stones of the first group, believing that a renal bacteriuria furnishes the focus about which the stones are built.

My series of cases, therefore, besides showing the definite relationship existing between the variety of micro-organism causing the infection and the chemical composition of the calculus, also adds more cases to the ever-increasing list in which to the presence of bacteria is to be ascribed the formation of stone; this is not only so in the case of renal calculi, but the causal relationship between bacteria and stone has been shown also in cholelithiasis, salivary, lacrimal and pancreatic stones, in rhinoliths and otoliths and various stones found in pathologic conditions of the respiratory tracts.

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COMPLETE INGUINAL EXTRAPERITONEAL HERNIA OF THE BLADDER; RECOVERY.

J. F. BALDWIN, A.M., M.D.

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Mr. D. H., West Mansfield, Ohio, aged 51, 5 ft. 6 inches in height and weighing 245 lbs., consulted me May 26, 1900. He stated that he had had an inguinal rupture for eight years, which he had been unable to retain with any form of truss. Ordinarily he had been able to reduce his hernia, but it had now been irreducible for forty-eight hours. The day before he consulted his local physician, Dr. Wanser, who administered an anesthetic but was unable to affect a reduction. He stated that he had noticed many times that he was unable to empty his bladder completely without lifting up the tumor.

The tumor was about the size of two fists and extended to the bottom of the scrotum. It was somewhat oval in outline and conveyed a sensation of fluctuation. It was tender and entirely irreducible. Although he was experiencing some pain, there was no evidence of an intestinal disturbance. I therefore explained to him that I thought the main mass of the tumor was omental in character, but that I should not be surprised to find his bladder involved. I based this statement of the involvement of his bladder on the fact that he had to lift up the tumor in order to completely empty that viscus. I advised immediate operation and assent was given. He was admitted to the hospital and the operation made an hour or two later.

I was assisted in it by my regular assistants, Drs. Shepard and Chapman, Dr. Willey, of Baltimore, Md., being present. The usual incision was made over the tumor, but this had to be somewhat longer than usual, owing to the great amount of fat which was present, an incision about 2 inches in depth being required to reach the external fascia. The tissues were carefully divided until what corresponded to a hernial sac was opened. This disclosed a fleshy mass adherent throughout. The adhesions, however, were easily separated and the mass brought up into view. The fluctuation which I had noticed and which I supposed was due to free serum in the hernial sac, such as is usually met with in cases of strangulation, was now found to be inside the extruded mass. Drawing the tumor down the finger was passed up to the neck when it was found that the extrusion had taken place apparently as in a direct inguinal hernia. The ring being enlarged somewhat, and the finger passed through, the diagnosis was arrived at very

promptly that the projecting mass was practically the entire bladder, since all that was left inside the pelvis was merely the neck. The bladder walls contained a thick deposit of fat so that the entire thickness seemed to be about one inch.

With a good deal of difficulty a pelvic receptacle was made by separating the peritoneum, and the bladder replaced. The replacement was only accomplished with the utmost difficulty, owing to the large amount of adipose tissue present. The patient was placed in the Trendelenburg position and so maintained for a considerable length of time before complete reduction was accomplished. The opening was then carefully closed in layers with kangaroo tendon. The hernial sac, which consisted merely of condensed connective tissue instead of peritoneum, was trimmed up and the fat brought together by plain catgut in two layers, with a subcuticular stitch for the skin. The wound was then sealed with collodion and a spika bandage applied.

Recovery was immediate and in every respect satisfactory. The patient reported at my office four months later, when everything was found in normal condition, the tissues being apparently perfectly strong and firm.

I have been able to find in the literature at my disposal but very little bearing on this most unusual form of hernia. In the *Philadelphia Medical Journal*, of June 30, 1900, there is a synopsis of an article by E. Martin, in the *Deutsche Zeitschrift für Chirurgie*, for February, 1900. In this Martin reports a case briefly as follows: A man, 51 years of age, had had a hernia the size of a small walnut in the right groin for some eight years past, present only at intervals and always easily reducible. Twenty-four hours previously the hernia had reappeared, this time larger and irreducible: the pain and acute symptoms led to the diagnosis of incarcerated omental or intestinal hernia. At the operation it was found that the hernia consisted of a portion of the bladder which had been protruded extraperitoneally, and which was easily replaced after the constriction had been relieved. The patient recovered. Martin, in this article, has collected from the pages of literature nine cases of strangulated hernia in which, as in his own case, the bladder alone was involved. In only one of these cases was a hernia of the bladder suspected before the operation was started, and it is plainly to be inferred from this report that in most of these cases, as well as in his own, the bladder was wounded before the mistake in diagnosis was discovered.

According to Martin's article, therefore, my own case makes the eleventh to be recorded. In my case, fortunately, the involvement of the bladder was suspected before beginning the operation, and hence that organ was looked after.

Cases in which the bladder has been involved in a hernia together with omentum and intestine are not so uncommon, but that the bladder alone should become extruded is certainly quite surprising, and for that reason such cases are well worth recording. In the case reported the thick deposit of fat in the bladder wall caused it to so closely resemble omentum that the surgeon, unless on his guard, would more than likely have incised it.

Taxing Poisons.—According to the *New York Times*, in an editorial with this caption. Sir Michael Hicks-Beach, Chancellor of the Exchequer, England, has received a suggestion from the food reformers that a tax be laid on poisons found in food and drinks. Arsenic in beer appears to be the main inspiration of the proposition. Parliament has certainly deemed it of enough importance to create a government commission, much to the consternation of the brewers. The value of the public laboratories is pointed out from the fact that the presence of arsenic in beer is a very recent discovery. The combination of a tax and a benefit is a rare one, as maintained by the editorial in question, but the argument is advanced that not much aid would be given to the replenishment of the imperial coffers since what it was sought to tax would disappear. "To smile but put the question by," virtually concludes the article, is the immemorial habit of a chancellor. Reforms, however, it may be added, are seldom advanced when criticisms regarding methods become too rampant.

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THE STATE OF THE CIRCULATORY ORGANS IN THE EARLY STAGE OF SYPHILIS.

Syphilis is one of the most conspicuous illustrations of the anticipation by empiricism of science, for although we have now learned to recognize the disease from its manifestations, and to apply almost specific medication, we are yet without positive knowledge as to its causative agent. It is, however, generally believed that this is a micro-organism, probably of vegetal origin, and that to the lodgment of this and the reaction thereby induced the local lesions are due, while the constitutional and remote phenomena are to be attributed to the toxic products of its vital activity. Clinical observation has shown that the affections to which syphilis may thus give rise, directly or indirectly, are almost limitless, no system or organ or tissue being exempt. An interesting clinical study of the circulatory organs in the early stages of syphilis has been made by Dr. Karl Grassmann,¹ in the course of which 238 patients were examined, with the result of showing that the normal function of the heart in the secondary stage exhibits, in at least two-thirds of the cases, principally in females, disturbances varying between clinically slight abnormalities and marked insufficiency of the heart. Such subjective disturbances as may be present are almost unexceptionally attended with objectively demonstrable deviations from the normal. Derangement of the pulse is exceedingly common, especially arrhythmia, and abnormal frequency, in the direction of increase or diminution. In 85 per cent. of patients with disturbances of normal cardiac rhythm the heart exhibited other abnormal manifestations. In addition to "nervous" disorders in cardiac action, actual neuroses of the heart—habitual bradycardia, tachycardia, angina pectoris—also occur in individual cases.

Frequently in the early stage of syphilis the function and the nutrition of the heart-muscle suffer, as indicated subjectively by palpitation, etc., and objectively at times by slight, at other times by more marked, insufficiency of the myocardium. A further sign of injury to the heart consists in the so-called accidental murmurs that are audible in about 40 per cent. of the cases. The weakness of the muscular wall of the heart results in a large proportion of cases presenting systolic murmurs in moderate, sometimes considerable, dilatation of the

heart, involving almost exclusively the right side, rarely both, exceptionally only the left ventricle. The clinical picture of functional mitral insufficiency develops with relative frequency, and it is not rarely observed to disappear in the course of antisypilitic treatment. The changes in the size of the heart, equally with the murmurs, are of varying character, although often, like the disturbances in the pulse, they are constant. Isolated cases suggest a possibility of the occurrence of fresh endocarditis, although the evidence is not complete. Exacerbations of chronic endocarditis also appear to occur now and then in the early stage of syphilis. Dry pericarditis was observed in one instance.

In a small proportion of cases there is increased resistance in the peripheral arteries, even in youthful patients. Nevertheless, in addition to syphilis, other etiologic factors capable of causing premature arteriosclerosis almost always play some rôle in this connection. In no case was aortic insufficiency or evidence of aortic aneurysm observed. The blood-pressure exhibits in almost all cases in the early stage of syphilis greater or less diminution, and exhibits variation in the course of mercurial treatment. Reduction in arterial pressure is likewise a sign of relative functional insufficiency of the left ventricle, just as the dilatation frequently present is a sign of that of the right ventricle.

Coincidentally with the existence of symptoms of secondary syphilis the hemoglobin percentage of the blood is reduced in almost all cases, rarely in marked degree. Such improvement as takes place occurs soon after administration of the first doses of mercury, while in the subsequent course, in some cases from the outset, further reduction in the hemoglobin takes place. The changes in the condition of the heart are not to be explained by chlorotic changes in the blood of syphilitics; at least clinical observation discloses no relation between the two. It is likewise beyond doubt that the various abnormalities in the function and the size of the heart are not attributable to the action of mercury, as they may occur before its administration. On the other hand, it can be shown in many cases that the existing alterations in the function of the heart improve or disappear in the course of antisypilitic treatment—from the slight disturbances in the pulse to functional valvular insufficiency.

In the absence of other etiologic factors, and on the basis of the observations made, syphilis is to be looked upon as the primary cause of the cardiac disturbances, which exhibit an analogy with those observed in connection with chlorosis, anemia, etc., especially with regard to complete restoration to the normal. It is certain that true combinations with ordinary chlorosis are also to be taken into consideration in explanation of the cardiac disturbances in the early stages of syphilis; in the majority, however, the syphilitic infection alone is responsible. The manner in which this affects the nervous apparatus of the heart, as well especially as

1. Deutsches Archiv f. Klin. Med., 69 B., 1, 2, 3, 4, H.

the fibers of the heart muscle, whether indirectly by impairment of the nutrition of the entire organ, or indirectly through the toxic substances that are developed in the body as a result of the activity of the syphilitic virus, is at present beyond solution.

STUDIES IN THE DIAGNOSIS OF BUBONIC PLAGUE.

Since we know positively that bubonic plague exists in San Francisco and that there is a likelihood of cases appearing in other large cities—a likelihood which must not be neglected—our immediate interest in various matters relating to the diagnosis of this disease has been markedly quickened. In the first place this fact stands out predominant, namely, that the scientific diagnosis of bubonic plague rests upon the bacteriological examination, and no other diagnosis is acceptable in this case but one of scientific accuracy and positiveness. When the plague appeared in Oporto in the summer of 1899, the Institute for Infectious Diseases in Berlin established a separate department for the study of the diagnosis of plague. Needless to say all conceivable precautions were instituted against the possibility of accidental infections. Courses in the diagnosis of pest have been given to physicians in order that there might be no lack of persons with practical experience in the bacteriological diagnosis of this disease. Especially the morphology and the pathogenicity of the bacillus of plague have been studied. In his report of the work of this department for 1899-1900, Kolle¹ refers to a number of interesting observations made during this period. The polymorphism of the bacillus is emphasized; it seems that this organism is especially unstable as regards its form—so-called involution-forms, branching organisms, clubbed swellings, etc., appear with great ease. Polar staining is always obtainable if the cover-glass preparations are brought into absolute alcohol for one minute and then rapidly dried before being stained with dilute aqueous solution of methylene blue. Cultures of plague bacilli are liable to rather sudden attenuations of virulence. Repeated passages through susceptible animals, such as rats, may restore the original degree of virulency. Kolle found direct inoculations of the healthy conjunctiva with the blood of the infected animals the quickest and most reliable method to pass the bacilli through a series of animals.

White mice die without exception when inoculated with an infected needle. A hemorrhagic infiltration forms with swelling of the adjacent glands and septicemia. About half of the mice fed with infected material died. In mice the spleen is rarely enlarged in plague. As in mice, rats that die after being fed with infected material show primary bubo in the submaxillary region as a rule. A larger percentage of the rats so fed died of plague than in the case of the mice. Hence it seems quite clear that rats may infect themselves under natural conditions by eating of plague cadavers.

Guinea-pigs are also very susceptible to injection with the plague bacillus. Minute quantities inserted within the peritoneal cavity cause fatal peritonitis. Indeed typical infection of guinea-pigs follows the placing of bacillary material upon the shaved skin; redness develops and small pustules not unlike vaccine pustules form, bacilli being present in the contents. Soon the regional lymph glands swell and become hemorrhagic; a purulent cord seems to run from the infected area in the skin to the glands. Bacilli are found in large numbers in the subcutaneous tissue, the glands, and the blood. In the spleen and occasionally in the lungs white nodules appear, very much like tubercles, and composed of cells and countless bacilli. In more chronic cases the centers of these nodules may disintegrate. Older cultures with reduced virulence may produce a chronic productive process in the mesentery and peritoneum.

Kolle and his associates determined this important fact, that for the demonstration of plague bacilli in various mixtures where but few may be present the placing of the material upon an area of shaved skin of guinea-pigs is the very best method. Infection takes place even when but few bacilli of slight virulence are present. Bacilli that are not pathogenic on direct injection into the subcutaneous tissue quickly cause fatal infection when rubbed into the intact and shaved skin of the abdomen. This peculiarity may explain some things in the infection of human beings with pest.

Cats also may be infected by eating material containing bacilli, and they may die from septicemia with primary bubo in the submaxillary region.

Efforts to produce infection of rats by means of vermin, especially fleas of these animals, failed entirely in the hands of Kolle. He is inclined to believe that the disease spreads among rats through the live rats eating parts of those dead from plague, but he finds the problem in regard to the fleas of sufficient importance to merit further investigation. Studies in immunization are also under way.

DEFORMING OR RHEUMATOID ARTHRITIS.

The need for greater refinement in the classification of acute and chronic diseases of the joints would seem to be obvious, and there is not wanting evidence of healthy activity in this direction. It would appear that in addition to acute specific infectious inflammation of one or more joints—which for the sake of convenience we may continue to designate “acute articular rheumatism”—there occur other joint-inflammations that result from infection with the causative agents of other diseases, as scarlet fever, influenza, gonorrhea, smallpox, pyemia, etc. Any of these articular affections may be followed by a chronic condition of the joints, and as to the propriety of designating them “rheumatic” there may be some doubt, although this chronic disorder may also be of insidious origin, apparently without antecedent local disease. From this chronic affection of the joints that known as deforming or rheumatoid arthritis

1. *Zeitschr. P. Hyg. u. Infektionskr.*, 1901, xxxvi, 397.

differs in several respects; and it seems not impossible that more than one disorder has been comprehended in this designation. In fact there has been distinguished from it a chronic disease of the joints that, although it presents certain superficial resemblances, differs essentially in beginning of the synovial membrane rather than in the articular cartilage.

There are certain reasons for believing that deforming arthritis is, in some instances at least, a disease of nervous origin, despite the fact that neither gross nor minute lesions of the nervous system have as yet been discovered. Thus, atrophy takes place in the muscles related to the affected joints, and further, somewhat analogous lesions occur in connection with a number of diseases of the nervous system, such as tabes dorsalis, syringomyelia, neuritis. In further support of the view that so-called deforming arthritis may really comprehend several different conditions is the fact that while in general the disease is most obstinately unyielding to treatment, occasionally most brilliant therapeutic results are obtained, and in some cases these have been brought about by measures directed toward the spinal cord. Thus, P. W. Latham,¹ in discussing this subject, cites a number of cases reported by Dr. J. K. Mitchell in 1831, in which relief of arthritic symptoms supervening upon injury to the spinal cord was afforded by the application of from eight to sixteen cups and abstracting as many ounces of blood from the neighborhood of the cervical or lumbar enlargement, or if this failed by the application of blisters in the same situation. Latham himself reports two cases of deforming arthritis in which great relief was obtained by continued counter-irritation over the spine. Dr. Henry Tucker² has reported a case of deforming arthritis in which remarkably beneficial results were brought about by protracted treatment with superheated air, and Dr. M. G. Tull³ has recorded almost parallel results in a case treated by the application of cold to the spine. The patient was an unmarried woman, 20 years old, who presented painful swelling about the ankles, with difficulty in walking, and deformity of the wrist-joints, which had resisted varied treatment, including superheated air. Dr. Tull applied a long ice-bag to the spine, at first for two hours at a time, morning and evening, and subsequently for one hour twice daily. Guaiacol carbonate, a preparation of lithium and a solution of iodine were also administered. The improvement was quite remarkable, the patient regaining her power of locomotion and being practically restored to health. A similar result was obtained in the case of a negro, 40 years old, who had been confined to bed for twelve months with pain, redness and swelling of the knees, wrists and ankles.

In view of the hopelessness with which cases of deforming arthritis are ordinarily looked upon, it would seem that a fair trial should be given to treatment by

means of the application of counterirritants and other remedial measures to the spine. Success in this direction would contribute to the establishment of the nervous origin of at least some forms of the disorder in question, and it can be conceived that it might further lead to the employment of the same measures in the treatment of other diseases both of the joints and of the spinal cord.

COMBINED MEDICAL AND SURGICAL CLINICAL INSTRUCTION.

Although the didactic lecture must ever hold a distinct place in the medical curriculum, it has already been in considerable degree superseded by clinical instruction. While applied knowledge is what the student must ultimately have, it will be more useful and more productive to himself and to others for being based upon a sound comprehension and a clear perception of the underlying principles and from an appreciation of its relations to other subjects. In the evolution of medicine into its various subdivisions it has been found that there are certain disorders that fall at one time or another into the field of more than one of the many specialties that have resulted from the division of labor, and it may be that medicine has thereby lost in profundity what it has gained in extent. The process of dissection having gone so far, the time now seems ripe for some attempt at a more intimate integration of the various branches of medicine. This necessity seems already to have been appreciated, and it has been given expression to by the establishment within recent years of publications devoted to subjects that may be looked upon as occupying what has been designated the border-line between one and another of the departments of medicine. In line with the same thought, combined demonstration in two subjects, for instance medicine and surgery, has occasionally been undertaken.

There are a number of disorders that are better studied and the better treated for the conjoint observation of both a clinician and a surgeon, and the student will be the better instructed for having the affection presented to him in its entirety, from beginning to end. Besides, the relations of clinician and surgeon are thereby rendered more intimate and mutually more helpful; and each has increased his respect for the ability and the powers of the other. Among diseases of the character under consideration, which from the present point of view may be looked upon as partly medical and partly surgical, are abscesses or suppuration or gangrene or perforation complicating acute or chronic infectious diseases, such as tuberculosis, typhoid fever, and appendicitis, the exanthemata, gastric ulcer, hydatid disease, abscess or tumor of the brain, thoracic, abdominal or intracranial aneurysm, accumulations in serous cavities, diseases of the gall-bladder and the urinary bladder, as well as the kidneys, malignant disease of the viscera, etc.

In a paper read before the Philadelphia County Med-

1. *Lancet*, April 6, 1901, 998. *JOUR. A. M. A.*, April 27, p. 1213.

2. *Trans. Phila. Co. Med. Soc.*, Nov. 1899, xx, No. 8, p. 273.

3. *Proc. Phila. Co. Med. Soc.*, 1901, xx, No. 3, p. 133.

ical Society by Dr. Robert G. LeConte, one of the surgeons to the Pennsylvania Hospital, he related a plan that he and his medical colleague, Dr. F. A. Packard, had carried out recently in a course of seven or eight lectures. The combined lecture occupied the greater part of two hours, a case or cases being exhibited; the etiology, pathology, symptomatology, diagnosis, prognosis, and the medical treatment being outlined by Dr. Packard. Then Dr. LeConte discussed the surgical treatment, which he at once proceeded to carry out before the class. If death resulted, the reasons for failure were pointed out, and the anatomic specimens were demonstrated. In this way both teacher and student obtained a complete clinical picture that was likely to remain fixed more permanently in the memory of each than the most lucid and interesting description. Such a method of teaching is, of course, not universally applicable. One difficulty resides in the fact that cases available for such conjoined treatment are not always to be had. Some objection might be raised further on account of the additional time required of each physician, but this is an individual matter and those whose desire it is to give the best instruction from both the student's and the teacher's view-point will not consider the sacrifice of time entirely uncompensated. From the pedagogic standpoint also the plan has everything to commend it, and so far as possible it should be amplified and its adoption encouraged.

RATES FOR THE ST. PAUL MEETING.

Attention is especially called to the report of the Committee on Transportation, concerning the coming meeting of the ASSOCIATION, printed in the last and this week's issue of THE JOURNAL. It will be seen that this year the ASSOCIATION has been treated in an unusually favorable manner by the various passenger associations, the Western having granted a rate of one fare and \$2 for the round trip for its entire territory, and the Trunk Lines and New England Passenger Associations a rate of one fare and a third. The rulings of the Central Passenger Association, as announced this week, have been changed and the more favorable rate of one fare plus \$2 granted. The time limits too are unusually favorable this year, extending to July 15, and so allowing ample time for the proposed excursion to the Yellowstone National Park immediately following the meeting. It is still hoped that concessions will be made by the Trunk Lines and by the New England Passenger Association.

WILD BEASTS IN INDIA.

A correspondent of the *Indian Medical Record* makes a vigorous protest against the Indian Forest Department's regulations, under which the extirpation of the homicidal wild beasts that infect that country is made impossible. He says the government forests and the game laws are practically responsible for the loss of thousands of human lives, and the ruin of cultivators, all for the benefit of a certain revenue and the sporting

proclivities of a privileged class. Shooting privileges are strictly restricted and the consequence is the wild beasts multiply. Owing to these laws he says some sections have become depopulated. The cultivator must not kill the animals that ravage his fields or endanger his own life and destroy his domestic animals, therefore, villages are abandoned and become overgrown with jungle, thus increasing the evils. There may be some reasons for forest preservation, but authorities who make and enforce laws that cost thousands of human lives needlessly, or for the sake of gratifying the sporting proclivities of a class, take upon themselves a serious responsibility. The few thousand lives annually taken by wild beasts may be a very small proportion of the two or three hundred million of India's population, but there is no excuse for their loss if it is in any way due as charged to special regulations made for the amusement of a privileged class. The Indian peasant needs protection against himself with his heathen zoophilism, and it is a pity that his civilized masters should add to his perils for the sake of their own recreation.

MENTAL CONTAGION.

Every little while some non-medical authority propagates a theory as to the contagion of mental diseases, and this is sure to be brought out if an asylum physician succumbs to such disorder. Association with minds diseased is then dilated upon and extensive generalizations are indulged in on very slim foundations. As a recent instance of this may be mentioned an editorial in a yellow journal *par excellence*, in an interior city, on the alleged mental failure of a prominent ex-asylum superintendent. The individual in question was over 80 years old and had suffered, we understand, from a shock of paralysis, two facts which would probably sufficiently account for such failures in memory, etc., as actually existed, but the chance was too good to be lost and the usual commonplaces had to be indulged in in regard to the perils of association with the mentally afflicted and a moral drawn on the mental effect of associations generally. About one person in about three hundred and fifty is insane enough to be counted as such, in the general population, and a rigid drawing of the line would probably increase this figure. It is extremely doubtful whether any much larger proportion than this could be found in those who are intimately associated with the insane, excluding, of course, relatives, and others who obviously share the same heredity and predisposition. There is such a thing as mental contagion; it is notoriously marked in hysterical cases, but there is very little evidence of any real transmission of serious mental disease, simply as such, to persons of healthy mental organization and not possessing any organic predisposition or heredity. The cause of insanity may be an infection, as is probably that of general paralysis or paresis which seems to be sometimes communicated from husband to wife, but the method here is not obscure and is purely physical. In the ordinary use of language we can not speak of insanity as contagious. These are commonplace facts, but the notion is occasionally in evidence even in medical journals and its correction is therefore not altogether amiss.

DIFFUSE PAPILLOMATOUS GROWTHS IN THE URINARY PASSAGES.

Busse¹ describes two examples of widespread tumor growth of histologically benign structure in the urinary tracts. In one of the cases the history extended over a period of twenty years, periodical hematuria being the most striking symptom. From the examination of specimens obtained by operation and also after death it was found that the mucous membrane of the pelvis of the right kidney, which formed a hydronephrotic sac, of the entire ureter and of the urinary bladder around the right ureteral orifice was the seat of extensive papillomatous proliferation of altogether benign character. In the second case the history of bloody urine and of pain in the left renal region extended over a period of seven years. There was a large hydronephrotic tumor of the left kidney, which was removed 4½ months before death. Examination of the kidney removed at the time of operation and of the ureter and bladder after death showed extensive papillomatous growths throughout the mucous membrane of the pelvis of the left kidney, the left ureter, and the urinary bladder, with hydronephrosis. In the bladder the tumor had become carcinomatous. As far as the history of these two cases goes, and based upon the results of the examination, it is most reasonable to conclude that the hydronephrosis was caused by obstruction of calculi or by strictures. There was in neither case any history of pyelitis or nephrolithiasis. These cases appear to belong to that category of tumors in which whole organs, or even systems of organs, are involved, e. g., the gastrointestinal tract, fibromas of the nerves, diffuse chondromas of the skeleton. The disease is rare. Busse mentions five other cases. The cause is wholly obscure.

"PARATYPHOID" FEVER — DISEASES CLINICALLY IDENTICAL WITH TYPHOID FEVER BUT CAUSED BY BACILLI OTHER THAN BACILLUS TYPHOSUS.

Schottmüller,² in a series of sixty-eight cases of suspected typhoid fever whose blood he examined bacteriologically, encountered five the blood of which contained bacilli differing in important characteristics from the bacillus of typhoid fever. In all these cases there seemed to be no occasion for any reasonable doubt that the clinical diagnosis of typhoid fever was correct. There was in no case symptoms nor signs incompatible with this diagnosis. The general clinical picture was that of typhoid fever of various grades of severity. The bacilli isolated from the blood, which did not contain typhoid bacilli, presented well-marked differences in cultural peculiarities from both *B. typhosus* and *B. coli communis*. They produced gas in glucose media and slowly alkalized litmus milk without causing coagulation. It is concluded that the bacilli isolated can not be regarded as typhoid bacilli, nor as colon bacilli, but as occupying middle ground. Typhoid serum did not agglutinate any of these bacilli which were promptly agglutinated by their own serums, the latter having, however, no effect upon typhoid bacilli, whereas colon bacilli were agglutinated. Assuming that the foregoing

observations are reliable—and observations of similar import are being recorded in various places—then it seems that not all cases clinically typhoid fever are caused by the typhoid bacillus. The cases here referred to were sporadic cases and the mode of infection is unknown. Schottmüller suggests the name "paratyphoid" ("paratyphus") for cases of this kind. Future observations must show whether the familiar clinical picture of typhoid fever harbors various diseases of different etiology, and it is obvious that careful bacteriological studies are necessary in order to clear up questions of this nature. It may be that when attention is turned toward this question close observations may detect differences in the clinical course of typhoid fever and "paratyphoid" fever.

CONGENITAL ANOMALIES OF THE PANCREAS.

The increased attention now being given to the pathological anatomy of the pancreas has served to create interest in the anomalies of this organ. According to Glinski¹ developmental anomalies of the pancreas may be divided into three groups: 1. The so-called pancreas minus, which consists of an accessory or supernumerary lobule connected with the head of the pancreas, being separated from the latter by a more or less distinct constriction. 2. Accessory pancreas, which is entirely separated from the main organ and generally situated in the wall of the stomach or intestine. When located in the intestine accessory pancreas may occur in the walls of intestinal diverticula, which, in some cases at least, appear to be dependent upon the accessory pancreas. They should consequently be distinguished from Meckel's diverticula. 3. Divided pancreas, produced by mechanical pressure especially by blood-vessels during development, the fusion of the separate evaginations of the intestine by which the pancreas is formed being prevented. In this case either the head or the tail of the pancreas is partially subdivided and separated into unequal parts by blood-vessels, the smaller part being connected with the main pancreas by means of the duct. In addition to these three main groups may be mentioned the unusual but exceedingly interesting anomaly of the pancreas known as annular pancreas—*pancreas annulare*—which is not discussed by Glinski; here the head of the pancreas completely surrounds the duodenum, which passes through the pancreatic tissue. There was a specimen of this anomaly exhibited by Hugo Summa, of St. Louis, at the meeting of the ASSOCIATION in Atlantic City, last June,² and more recently Dr. Tieken, of Chicago, presented a specimen to the Chicago Pathological Society.³ Dr. Tieken's specimen was remarkable for the fact that the encircling pancreas had caused an actual constriction of the duodenum, which presented a large fusiform dilatation above the point of narrowing. Anomalies of the pancreas are consequently of practical as well as of anatomical interest. As regards the genesis of the developmental anomalies of the pancreas, Glinski points out that pancreas minus, accessory pancreas, and pancreas divisum reproduce normal conditions in the lower vertebrates. The anomalies are all explainable on the score of disturbances in the

1. Virchow's Archiv, 1901, 164, 119-132.

2. Zeitschr. f. Hyg. u. Infektionskr., 1901, xxxvi, 368.

1. Virchow's Archiv, 1901, 164, 132-146.

2. THE JOURNAL, A. M. A., xxxv, 43. 3. Ibid., xxxvi, 908.

normal development of the three, possibly four, evaginations of the intestine which fuse to form the pancreas, the main mass being formed by the ventral evagination, the dorsal evaginations normally forming only the head. The duets of Santorini, which are found quite frequently in the head of the pancreas, may be regarded as remnants of the originally independent dorsal evaginations.

THE INFLUENCE OF OPERATION PER SE.

All surgeons of experience will have observed, and all readers of medical literature will be familiar with the fact, that not infrequently operative intervention is attended with results of a successful nature that can not be attributed directly to the measures practiced—in fact, sometimes only the preliminary steps are taken—but must be ascribed to some obscure action arising out of the exposure to light and air and other physical and mechanical influences; or else they must be considered coincidental. That such results are merely coincidental would seem negated by the frequency of their occurrence; and for the present we must accept the fact and await the explanation. Perhaps the most conspicuous illustration of the condition under discussion is the subsidence of the symptoms of tuberculous peritonitis after abdominal section, with or without considerable manipulation of the serous membrane or irrigation of the abdominal cavity. In the same way, after operations on the skull for the relief of epilepsy, in which no obvious lesion is found, the attacks may for a long time remain in abeyance. At times, also, the exposure of supposed malignant neoplasms that are found to be insusceptible of extirpation is sometimes followed by a cessation of growth and possibly a long period of latency. Of this last condition a most instructive instance is reported by F. B. Jessett,¹ in which, following gastrojejunostomy for the relief of vomiting and other symptoms associated with the presence of a tumor the size of a small cocoanut, completely occluding the pylorus and presenting the naked-eye appearances of a scirrhous carcinoma, the patient lived for eleven years, and on postmortem examination the tumor previously present was found to have disappeared. The patient was a woman, 56 years old, who had lost flesh rapidly and had suffered from intense pain. The tumor remained demonstrable for a long time after the operation, though gradually diminishing in size. Death resulted, as stated, after an interval of eleven years, from apoplexy, and on autopsy the stomach was found to present typical hour-glass constriction about its center, being adherent in this situation to the left lobe of the liver. At the constricted portion of the stomach the opening between the two resulting pouches barely admitted one finger. In addition to the communication artificially established at the operation, the pylorus, which was situated immediately behind the constriction, was still patulous, though somewhat constricted. A somewhat similar case has been reported by Demoulin and Tuffier² in which a hard swelling as large as an orange and thought to be a malignant growth developed in the epigastrium. On operation a tumor that felt

like a fatty growth was found about the pylorus and the adjacent parts of the stomach, and gastroenterostomy was performed. On the twentieth day after the operation the tumor could no longer be felt on palpation and the patient regained his usual health.

Medical News.

COLORADO.

Sufferers from tuberculosis are excluded from the public schools of the state by order of State Health Commissioner Clough, promulgated April 15.

A "healer" of Denver, who claims kinship to Jacob and Moses, and the power to cure disease by sending "vibrations to any distance," recently pleaded guilty to improper use of the mails and was fined \$25.

Gross Medical College, Denver, held its fourteenth annual commencement exercises April 25, graduating a class of fifteen. The doctorate address was delivered by Rev. R. F. Coyle, on "The Making of the Twentieth Century Man."

ILLINOIS.

Dr. Charles E. Crawford has been elected health commissioner of Rockford.

Dr. D. M. Landon, Burton, has been appointed surgeon of the Soldiers' Home, Quincy, vice Dr. John J. Golden, Mt. Vernon.

Dr. Chauncey H. Wilder, DeKalb, has been appointed first lieutenant and assistant-surgeon in the National Guard, and assigned to the Third Infantry.

The State Board of Health met at Springfield, May 11, and elected Dr. Charles B. Johnson, Champaign, president; Dr. James C. Sullivan, Cairo, vice-president, and Dr. J. A. Egan, secretary.

Chicago.

The proposed hospital for consumptives has received thus far for its building fund, \$22,983.50.

The Post-Graduate Medical School has elected Drs. Carl H. Andersen and Gordon G. Burdick associate professors of surgery.

The Chicago Surgical Society gave a dinner in honor of A. W. Mayo Robson, of Leeds, Eng., at the Chicago Athletic Club, May 15.

The Chicago Eye, Ear, Nose and Throat College has moved into its new quarters at Washington and Franklin streets. There is a commodious hospital and dispensary in connection with the college. It is located centrally and hence has no difficulty in obtaining suitable clinic material.

Dr. William Osier, Baltimore, Md., addressed the joint meeting of the Chicago Medical and Chicago Society of Internal Medicine May 15, on "The Natural Method of Teaching the Subject of Medicine." The annual banquet was given in the Auditorium the following evening.

Water Supply and Death-Rate.—It is hoped by the Department of Health that interest in the street-watering proposition will not be allowed to die out. From a sanitary standpoint running water is never wasted. It is the great diluent and purifier and the more of it that runs through the sewers the better for the public health. The comparison of Chicago's supply per capita with Boston's which has been made during the week, should be coupled with a comparison of the death-rates of the two cities. Last year the Massachusetts town, which is cited as a model of sanitary development, had a death-rate of 20.82 per 1000; Chicago's death-rate, on the same basis, was 14.68 per 1000, or nearly 42 per cent. less. It is not claimed that this great saving of life was due solely to the abundant water supply, but it undoubtedly helps.

Statement of Mortality.—The deaths for the week ended May 11 were 471, equivalent to an annual death-rate of 13.97 per 1000. The deaths of persons over 60 years of age were 109. Though there were 95, or one-sixth, fewer deaths recorded last week than during the week previous the death-rate among the aged still remains abnormally high. During the previous week the proportion of deaths among those over 60 years of age was 23.6 per cent. of the total deaths, and last week it was 23.1 per cent. This is an average of nearly 28 per cent. higher than the normal death-rate for this age with the present constitution of the Chicago population. With the increasing age of the popu-

1. *Lancet*, April 6, 1901, p. 1005.

2. *Bull. et Mém. Soc. de Chir. de Paris*.

lation this rate also naturally increases; in 1890 it was 12.2 per cent. of the total mortality, and ten years later it was 18.2 per cent.—an increase of nearly 50 per cent., or an average of 4.9 per cent. yearly. But this increase is by no means uniform; the panic of 1893 increased the rate by 7 per cent., it increased abnormally during the Civil War and again after the great fire of 1871. There has never before, however, been such an increase as the present, and a glance at the causes of death shows it to be due to what have come to be called the group of "American diseases"—Bright's disease, heart disease and diseases of the nervous system, the result of the rapid pace of American life. This is a matter over which sanitary administration has no control and the Health Department can only state the facts and point out the causes. The deaths from violence were 30, of which 12 were suicides, and respiratory diseases caused 164 deaths, including those from diphtheria and scarlet fever.

KANSAS.

Dr. Hubbard Linley, Atchison, has purchased a one-seventh interest in the Central Medical College, St. Joseph, Mo., and has been elected to the chair of abdominal surgery.

Smallpox.—Dr. W. B. Swan, secretary of the State Board of Health, has issued his smallpox report for April giving the total number of cases in the state as 1084, with 5 deaths.

Dr. John B. Dykes, Lebanon, has been appointed a member of the Kansas State Board of Health, by Governor Stanley, vice Dr. Samuel W. Williston, Lawrence, resigned.

State Board of Medical Registration and Examination.—The governor has selected the following as members of the board from lists submitted by the State Medical Society: Dr. Samuel W. Williston, Lawrence, for 4 years; Dr. Orson F. Lewis, Hepler, for 4 years, and Dr. George F. Johnston, Lakin, for 2 years.

KENTUCKY.

Dr. W. C. Black, Barbourville, major-surgeon of the Second Regiment, Kentucky State Guard, has resigned.

Burglars entered the house of Dr. J. N. McCormack, Bowling Green, May 8, and stole a valuable gold watch and chain.

Dr. W. Ed. Grant, Louisville, has sailed for Europe, to be gone four months, and Dr. J. Garland Sherrill, Louisville, will sail for Europe June 1 for a three months' tour.

Banquet to Dr. Hare.—A banquet will be tendered Dr. Hobart Amory Hare, of Philadelphia, upon the occasion of his visit to Louisville, by the profession of the city. He comes to Louisville upon the invitation of the Medico-Chirurgical Society and will deliver an address.

Medical Student Murdered.—W. L. Royse, a member of the graduating class of the Kentucky School of Medicine, was fatally stabbed by the janitor of that institution on the afternoon of the 9th. The janitor was intoxicated and noisy; an attempt was made by Royse to make him leave the building when, before the bystanders could interfere, he stabbed Royse in the breast, killing him instantly. An examination by the coroner showed that the blade severed the arch of the aorta.

LOUISIANA.

New Doctors.—The State Board of Medical Examiners held examinations, May 2 and 3, at Tulane Medical College, New Orleans, and granted licenses to practice to 70 of the 95 applicants.

Dr. Arthur Weber, New Orleans, who was recently elected a member of the City Board of Health, may be decided to be ineligible because there are already three physicians on the board and in the act creating the board it is stated that it shall consist of "five persons Three of the persons shall, if practicable, be duly registered and licensed physicians."

Tulane Medical College, the medical department of Tulane University, New Orleans, held its sixty-seventh annual commencement, May 1 and graduated a class of 115. In honor of the fiftieth anniversary of his connection with the institution Dean Stanford E. Chaille was made LL.D. In his address, Professor Chaille remarked that the medical and pharmaceutical graduates of the university numbered 3841, all but 768 of whom had been graduated during the time of his official service. Hon. Hannis Taylor, LL.D., delivered the doctorate address on "The Relation of the Medical Profession to International Law."

MARYLAND.

Baltimore.

The State Board of Medical Examiners (regular) held its semi-annual examinations in Baltimore, May 15-18.

Maryland Medical College, the sixth of the medical schools

of Baltimore to hold its commencement, graduated a class of thirty, May 15.

Dr. J. B. McCallum, of the Johns Hopkins Hospital, Baltimore, sailed for Europe, May 8, to pursue special studies abroad.

Dr. George W. Todd has resigned as superintendent of the Peninsula General Hospital at Salisbury, but will continue as a member of the medical staff. The directors are formulating a plan of reorganization to place the institution on a broader plane.

Association of American Institutions for the Care of Feeble Minded Persons, representing all such institutions in the United States and Canada, held a three days' session in Baltimore, May 16. On May 17 the delegates were entertained at the Maryland Institute for Feeble Minded, at Owings Mills.

Typhus Fever.—Two cases of this rare disease were discovered in the city last week. They were Lithuanians, and one died. The disease developed at Sparrow's Point, a river suburb of Baltimore, and probably resulted from contact with some sailors who had visited there. The cabin which they occupied was burned by the health authorities.

MICHIGAN.

Dr. Frederick W. Mann, Detroit, has been appointed surgeon-in-chief of the Michigan Central railroad, vice Dr. Donald Maclean, resigned on account of ill-health.

Detroit College of Medicine held its thirty-third annual commencement, May 9, and graduated a class of forty-five. Dr. William M. Donald, Detroit, delivered the address to the graduating class.

A mandamus was granted by the supreme court compelling Dr. Beverly D. Harison, Sault Ste. Marie, secretary of the State Board of Health, to recognize the authority of the newly-constituted State Board of Registration in Medicine.

Dangerous Communicable Diseases.—Including reports by regular observers and others, cerebrospinal meningitis was reported present in Michigan during the month of April, 1901, at 11 places; whooping-cough at 25 places; diphtheria at 55; measles at 62; typhoid fever at 69; smallpox at 139; scarlet fever at 153; and consumption at 209 places.

April Mortality.—There were 2999 deaths reported as occurring in Michigan during the month of April, equivalent to a death-rate of 15.3 per 1000 per annum. This number is 489 less than the number reported for the preceding month and 47 less than the number of deaths returned for April, 1900. There were 497 deaths of infants under one year of age, 175 deaths of children aged one to four years, inclusive, and 884 deaths of persons aged 65 years and over. Important causes of deaths were as follows: Tuberculosis, 241; typhoid fever, 32; diphtheria and croup, 42; scarlet fever, 17; measles, 5; whooping-cough, 15; pneumonia, 361; influenza, 142; cancer, 101; accidents and violence, 132. The principal decline for the month was shown in the deaths from pneumonia and influenza, which were considerably less than those reported for March. Small amounts of decrease were also shown in the deaths from typhoid fever and scarlet fever. For the first time in some months, no death from smallpox was reported.

MINNESOTA.

Clinton Hospital was destroyed by fire May 2.

St. Luke's Hospital, Duluth, has received a donation of \$5000 from John D. Rockefeller, and \$1500 additional from the employees of the Mesaba road.

A **State Sanatorium Commission** has been appointed by the governor to select a site for the new sanatorium. It consists of Drs. George S. Wattam; H. Longstreet Taylor, St. Paul, and James L. Camp, Brainerd.

The **Swedish Hospital** authorities have accepted the plans offered by L. A. Lamoreaux in competition and will proceed at once with the erection of a hospital building at Eighth Street and Tenth Avenue, South, to cost about \$40,000.

Physician Arrested.—For neglecting to notify the health authorities of a case of scarlet fever, a Minneapolis physician has been arrested, and an osteopath in the same city has been indicted for failing to report a case of smallpox, which he diagnosed as typhoid fever.

NEBRASKA.

Dr. Joseph H. Boyes, Hebron, has been appointed city physician.

Creighton Medical College, Omaha, graduated a class of twenty-eight, May 6. The doctorate address was delivered by Dr. Walter O. Henry.

Bishop Clarkson Memorial Hospital for Children, Omaha, has received a bequest of \$3000 to endow a bed, from the estate of the late Maria Sheldon Scammon.

NEW JERSEY.

New Hospital for Insane.—The new county insane asylum at New Lisbon is almost completed and the patients at Trenton will be transferred during May.

The Children's Seashore House at Atlantic City will re-open on June 1. During its incorporation it is stated that 22,000 patients have been cared for, and have been admitted without regard to creed, color, or nationality. This institution is dependent for its support on voluntary contributions.

Scarlet Fever in Pensauken.—The health authorities of Merchantville are much exercised over the existence of scarlet fever in Pensauken township, and it is feared that the disease will become more widespread unless the board of health of the latter place adopt more aggressive measures.

Smallpox.—Certain districts of New Jersey are at this time battling against smallpox. For two weeks past its presence has been known in Gloucester. At first the disease was pronounced chicken-pox, but as the patient died, the nature of the trouble became manifest. After the recognition of this case a search was made, and fourteen cases of smallpox found. It is now stated that the initial symptoms and signs were those of chicken-pox, which caused it to exist for some time before steps were taken to prevent it from spreading. It was decided to close the public schools as a precautionary measure. As a result of this state of affairs in Gloucester every practicing physician was ordered to appear before the board of health to explain why he had not complied with the law requiring that such diseases be reported. On May 8 two more deaths occurred from the disease, while 3 new cases were reported. On this date 600 employees in one factory were vaccinated. On May 6 three new cases of smallpox were found ten miles east of Vineland. It is believed that in this instance the disease was brought from New York. On May 4 a colored man from Haddonfield was taken to the Camden jail, where it was found that he was suffering from smallpox. This created a panic among the other inmates, which at this time has not entirely ceased. The jail has been placed in quarantine. The Camden City Medical Society, at its meeting May 7, passed resolutions commending the county physician and health authorities in their promptness in restricting the disease. On May 10 no new cases had been reported. The county almshouse and asylum at Blackwood has been placed under quarantine.

NEW MEXICO.

Dr. J. O. Cobb, U. S. M.-H. Service, Alamogordo, has been ordered to San Francisco, Cal., to make a report on bubonic plague.

Delegates to Tuberculosis Congress.—Governor Otero appointed the following physicians to represent New Mexico, as delegates to the American Congress of Tuberculosis, held in New York City, May 15-17: Drs. James J. Shuler, Raton; John H. Sloan, Santa Fé; E. B. Shaw, Las Vegas; George W. Harrison, and Francis Crosson, Albuquerque; C. G. Cruikshank, San Marcial, and George W. Bryan, Alamogordo. Dr. Crosson, Albuquerque, presented a paper on "The Sanatorium Treatment of Tuberculosis in New Mexico."

NEW YORK.

Dedication of Sanatorium for Consumptives.—On Memorial Day, Governor Odell, Vice-President Roosevelt, and other notable persons will assist in the dedication of the new sanatorium for consumptives belonging to the Montefiore Hospital. This sanatorium will accommodate 150 patients, and will be free. It is situated at Bedford Station, Westchester County.

Broadcast Distribution of Samples.—The Board of Health at Lockport is taking action against the pernicious traffic of leaving samples of dangerous nostrums at the doorsteps of houses. Two deaths have recently been attributed to taking these samples. A similar epidemic of sickness occurred among children in the east side of Buffalo, who ate sugar-coated pills in large quantities, thinking that they were candies.

Buffalo.

Dr. W. Scott Renner, who has been in Berlin for the past two months, has returned to Buffalo.

Dr. William Warren Potter will deliver the doctorate address at the commencement exercises of the Hospital College of Medicine at Louisville, Kentucky.

The anti-expectoration ordinance prohibiting expectoration on the floors of street-cars, public buildings or in any

public assembly place other than streets, sidewalks or parks is now a law. The maximum punishment is a fine of \$100.

Civic Sanitation.—Health Commissioner Wende has addressed a communication to the police and to the medical profession of the city asking their co-operation in maintaining a proper sanitary standard in the city during the Pan-American Exposition, and to be on the alert for any contagious disease, especially smallpox.

Dr. Ebenezer Johnson's Grave.—In connection with the disinterment of bodies from the old North Street Cemetery in anticipation of using the site for the erection of a state armory, it is a curious fact that there seems reason to doubt the location of the remains of Buffalo's first mayor, a physician, Dr. Ebenezer Johnson. A movement is now on foot for the erection of a suitable monument in his memory.

New York City.

Drunkenness in Bellevue.—Although strenuous efforts are being made to reform the service at Bellevue Hospital drunkenness among the help has been unusually prevalent. Since March 1, 173 have been discharged because of intoxication, out of a total of 562 employees. It is asserted that sober, responsible help can not be secured for the wages paid—\$10 to \$12.50 a month.

Smallpox on the Increase.—Smallpox is rapidly on the increase in spite of the efforts of the Health Department. In the first six days of May 107 cases were reported, and since that time there has been a daily average of a dozen or more cases. During the entire month of April only 199 cases were reported. Every section of the city is represented. In addition, each ocean liner brings about 1000 immigrants, many of them Italians, and they are furnishing many of the new cases. As a result of a general order issued by the chief of police all policemen in the city have been vaccinated within the last few days.

New York University vs. Loomis Laboratory.—Judge Truax, of the supreme court, has handed down a decision which terminates the litigation that has existed since 1897 between the New York University and the Loomis Laboratory, or rather the "Medical College Laboratory." According to this decision, the University must transfer to the Medical College Laboratory property valued at \$150,000. The New York University Medical College was established in 1841 and conducted independently of the University until the incorporation of the Medical College Laboratory in 1883. The new corporation carried on the school until Feb. 8, 1897, when the property was deeded over to the university without conditions. Judge Truax holds that the sole consideration for this transfer was the promise to leave the control of the school to the grantor, that this promise has not been kept, and that as a contract can not be repudiated and the one doing so keep what has been obtained under it, the university must return the property. The opinion also holds that the Loomis Laboratory, now connected with Cornell University, is not held in trust for the New York University.

OHIO.

The Cincinnati College of Medicine and Surgery held its fiftieth annual commencement exercises May 1, and graduated a class of sixteen.

Dr. Phineas S. Conner, professor of surgery in the Medical College of Ohio, and surgeon-in-chief to the Good Samaritan Hospital, has been appointed by the Superior Court a member of the Board of Trustees of the Cincinnati Hospital.

Cleveland College of Physicians and Surgeons held its fortieth annual commencement May 1, and conferred degrees on fifteen. Rev. Morgan Wood, D.D., in his address to the graduating class, reviewed the progress of medicine during the last half century.

H. M. Hanna Research Fellowship.—Mr. H. Melville Hanna, Cleveland, has given \$12,000 to the Medical Department of Western Reserve University, the income of which is to be paid by the occupant of the fellowship, who shall devote himself to specific original investigation in physiology or pathology under the guidance and approval of the heads of those departments.

Resignation of Dr. Rutter.—Dr. H. C. Rutter, manager of the Ohio Hospital for Epileptics, Gallipolis, has been requested to resign by Governor Nash. It is reported that Dr. Rutter's summary discharge of Dr. Albert P. Ohlmacher, pathologist to the hospital, was the cause of this action on the governor's part. Dr. Ohlmacher, in a circular letter, asks the opinion of the profession of the state regarding the continuance of the work of the laboratory.

PENNSYLVANIA.

Board of Health Discharged.—On May 7 the town council of Norristown dispensed with the services of the board of health of that city. A committee was appointed several weeks ago to investigate charges made against them, and failing to appear before council, this last action has been taken.

Dr. Hallie L. Ewing, Hastings, Neb., has been elected assistant physician in the women's department of the State Insane Asylum at Norristown. Dr. Ewing is a graduate of the University of Michigan, and has recently been connected with the Hospital for the Chronic Insane at Hastings, Neb.

Philadelphia.

The Medical Club of Philadelphia has issued invitations to a reception given at the Hotel Bellevue, May 23, in honor of Surgeon-General Walter Wyman, United States Marine-Hospital Service.

Dr. Alfred C. Croftan has accepted a position in connection with the Pepper Laboratory of the University of Pennsylvania, and has moved from Pasadena, Cal., to Philadelphia.

Dr. S. Lewis Ziegler has been appointed surgeon to the Will's Eye Hospital, to succeed Dr. George C. Harlan, resigned. Dr. Ziegler is a graduate of the University of Pennsylvania, class of '85, and has been assistant surgeon to the Will's Eye Hospital for the past seven years.

Dr. Thomas R. Neilson has been elected clinical assistant professor of genito-urinary diseases in the University of Pennsylvania. Dr. Neilson is a graduate of the University, class of '80, is secretary of the College of Physicians, and is connected with several hospitals of this city.

Nathan Lewis Hatfield Prize.—The committee on the Nathan Lewis Hatfield prize for original research in medicine, of the College of Physicians, of Philadelphia, has awarded to Professor H. F. Harris, M.D., of Atlanta, Ga., \$500 for an original research, conducted at the instance of the committee, entitled: "A Study of the Alterations Produced in the Large Intestine of Dogs by the Ameba Coli, by Heat, and by Various Chemie Substances, with Notes on the Anatomy and Histology of the Viscus."

Anniversary of Pennsylvania Hospital.—The celebration of the 150th anniversary of the founding of the Pennsylvania Hospital occurred May 1. The ceremonies began by an address from the president of the board of managers, who gave a review of the past history. Of nine representatives of Pennsylvania who signed the Declaration of Independence, two—Benjamin Franklin and John Morton—were for some time managers of the hospital, while Benjamin Rush served as a physician upon its staff for twenty-nine years. Among other eminent physicians who served on its staff and have only recently passed away are Drs. William Pepper, John Ashhurst, Jr., and Jacob M. DaCosta. The board has been reorganized as follows: Mr. Benjamin Shoemaker, president; James T. Shinn, secretary; Daniel D. Test, superintendent and steward; and Dr. John B. Chapin, superintendent of the insane department; Dr. Charles F. Mitchell succeeds Dr. Francis T. Stewart as chief resident physician. The medical staff has been filled by the appointment of Dr. Alfred Stengel to succeed the late Dr. J. M. DaCosta, and the surgical staff by the appointment of Dr. Robert G. LeConte to succeed Dr. Thomas G. Morton. Dr. Simon Flexner succeeds Dr. Henry W. Cattell as pathologist. Dr. Francis T. Stewart was appointed surgeon in the outpatient department to succeed Dr. Robert G. LeConte, who was promoted to the surgical staff. The Pennsylvania Hospital is the oldest hospital in America, and its property is worth several millions of dollars.

Emergency Detention House.—For the purpose of detaining persons in Philadelphia who may land from foreign ports, the State Quarantine Board has established an emergency house at Marcus Hook, capable of accommodating 500 persons. In this way the station will be enhanced in value in its work to prevent infectious or contagious diseases from gaining a foothold. The barracks consist of a frame building in which patients may be properly isolated. The pest-house with the crematory has been formally turned over to the officials of the State Quarantine Board. It is believed that this station is the second oldest in the world. The following statistics have been given out relative to the work done at this port during the past two years: Vessels inspected and passed, 2829; vessels spoken and passed, 180; vessels detained for observation, 34; vessels disinfected, 10; passengers inspected and passed, 35,509; passengers and seamen detained for observation and disinfection, 708; medical and surgical cases treated, 458; total number of vessels inspected, spoken and disinfected, 3053. The sta-

tion is open day and night, and is in charge of fourteen attendants, including the crew at the tug station. The physicians are Drs. John B. Ward, and L. T. Kennedy. The quarantine grounds are enclosed by a high fence and visitors are rigidly excluded.

GENERAL.

Another Sacrifice to Dowieism.—On May 13, a parturient woman died in Chicago from hemorrhage after an illness of two or three days, during which the only treatment employed was laying on of hands and prayer, both of which proved ineffective. Her infant also suffered martyrdom. Even the presence and prayer of Dowie himself are said to have been unable to cause hemostasis. Medical aid was refused, and the woman died. Her body was spirited away and embalmed by a convenient undertaker, but now the case is in the coroner's hands and a full investigation is promised.

Uniform Medical Legislation.—Dr. Emil Amberg, Detroit secretary of the Committee on Interstate Reciprocity and Uniform Medical Legislation of the National Confederation of State Medical examining and Licensing Boards, recently issued a short article on the subject. In brief, he summarizes the conditions which render uniformity of medical laws difficult, emphasizing especially the discrimination of states against medical graduates of other states, the non-uniformity of medical teaching, of length of course and requirements for matriculation and graduation, and the fact that many medical schools are the property of corporations, for the benefit of the few. One of the most serious questions to be considered is the manifest overcrowding of the profession. It is reported, he says, that there is one physician to less than 600 inhabitants in the United States; whereas the ratio in Great Britain is one to 1100, and in Russia one to 8500. There are in the United States, proportionately, six times as many practitioners as in Italy, about four times as many as in France and in Germany, and there are about 156 medical schools in our country to 20 medical schools in Germany. In aiming at "interstate reciprocity for the license to practice medicine and at uniform medical legislation" all points mentioned, besides others, must be considered.

CANADA.

Dr. Donald Hingston, son of Sir William Hingston, has been appointed superintendent of the Hotel Dieu Hospital, Montreal, to succeed Dr. St. Jacques, resigned.

Appointments.—Dr. C. M. Stewart, of Toronto, has been elected to fill the position of medical superintendent of the Protestant Hospital, Ottawa, and Dr. Richardson, of Brockville, has been appointed house surgeon.

Western University.—The spring examinations of this institution which is situated at London, Ont., were concluded on May 4. The past session has been the most successful in the history of the medical department, the increase in attendance having been most gratifying. Thirteen were graduated.

Medical Examinations.—Medical examinations began at Trinity University on May 10. Fifty-eight are writing on the final examination and forty-six at the primary. At Toronto University, fifty-three are writing in the final year, fifty-three in the third year, one hundred and three in the second, and one hundred and fifteen in the first.

Damages for Slander.—In a northern town two Ontario practitioners have been at loggerheads, owing to the younger one cutting into the practice of the older. A patient recently died under the care of the younger and the older offered to bet \$50 to \$100 that if a postmortem were made it would be found that the man had received the wrong treatment. Suit for damages for slander was brought by the younger, and the defendant had to pay \$200, the judge stating he would have allowed the full amount asked for (\$1,000), but for special circumstances.

The Janitor at McGill.—On Saturday morning, May 3, the medical building of McGill University was the scene of the annual presentation to Mr. Cook, the boys' best friend at McGill. "Cookie" was uniformed as usual in a dress suit of huge dimensions. He was presented with an address, in which all his beauties and achievements were eulogized and glorified. What was more acceptable, however, was a barrel of copper coin, from the boys of '03. It contained some \$35, to which Cook made an elaborate reply in Shakespearean verse. A procession was then formed, and Cook was marched around Montreal all morning.

Canadian Nurses' Association.—The bill to incorporate the Canadian Nurses' Association came before the House Private Bills Committee on the 9th inst., when the Hon. James

Sutherland advised that it be left over for another session, as it was discriminating against the smaller hospitals. This, Mr. Clark, of Toronto, objected to. Mr. Sutherland explained that he objected to a committee of nurses passing on applicants for membership, insisting that a medical board should conduct the examinations. He presented correspondence in support of his contentions. The bill ought to be redrafted. Eventually a series of amendments were proposed; and as the bill now goes to the house, the nurses are given exclusive power to conduct their affairs, but they are not permitted to say who shall not become members. The graduates of any incorporated hospital are eligible for admission, but a candidate may be required to pass an examination before becoming a member of the order. For this purpose power is given the president of each provincial council in Canada to appoint a board of physicians who shall examine candidates whose names are submitted.

Sir William Hingston.—A very pleasing demonstration took place at the Hotel Dieu Hospital, Montreal, on the 6th inst., the occasion being the fortieth anniversary of Sir William's entering the hospital as a surgeon. Sir William has now reached his seventy-third year, but still continues in active practice, having only that day performed two difficult operations at the hospital. The ceremonies opened with celebration of mass in the chapel of the hospital by Archbishop Bruchesi, after which the surgeons of the hospital presented Sir William with an address accompanied by an urn of great value. The students of Laval University then gathered in the operating room and presented their esteemed professor with an address, and Lady Hingston with a splendid bouquet. Then the sisters of the institutions also paid their respects to Sir William and presented him with some relics brought from France by Mlle. Mance over two hundred years ago, and still preserved by her successors. The party then proceeded to one of the large halls extemporized for a dining room, where an enjoyable time was spent. They then repaired to one of the larger wards, where the patients were assembled. Dr. St. Jacques, in the name of the patients thanked Sir William for the many services he had rendered them during his forty years' connection with the hospital. Sir William, in replying expressed his surprise at receiving thanks from the patients when he had always been engaged in cutting off their arms or legs or taking out their eyes. However, he thought that he had never performed an operation in all his life which he did not think in the interests of the patient. Thus terminated a most pleasing event in the history of medical work in the city of Montreal.

FOREIGN.

Plague in India.—The average number of deaths per week in India from this disease is approximately 11,000. It is decreasing in the southern part of the country.

Prime Minister Waldeck-Rousseau, of France, on account of the alarming spread of diphtheria, has issued a circular urging the prompt application of the antidiphtheria serum.

The painters of Grenoble, France, have instituted a strike against all their employers who use white lead (carbonate of lead); they demand the use of zinc white (commercial oxid of zinc), which is not poisonous.

Plague at Cape Town.—Up to May 13 there have been 610 cases of the bubonic plague, and 275 deaths. A large proportion of the cases have been Europeans, which evidently accounts for the comparatively low death-rate.

Death of Dr. H. Napias.—Paris has lost a prominent figure in Dr. H. Napias, who has been at the head of the department of "Public Assistance" since 1898. He died March 7 in his sixtieth year. He founded the "Société de Méd. Publique et d'Hygiène Professionnelle" in 1874, and most of his numerous works were in the line of professional diseases and public hygiene. He recently published a quarto of 834 pages entitled "L'Assistance Publique en 1900."

Professor Kohlstock, whose death is reported from Tientsin, where he was chief of the German medical staff, was recognized as an authority on tropical diseases and sanitary organization. He accompanied the East African campaign of 1889, and was Koch's companion in his expedition to South Africa to study the cattle-plague. Kohlstock personally superintended the vaccinations which resulted in the extermination of the cattle plague in the German provinces. He had been decorated with several orders.

Dr. Jean Foustanos, of Syra, Greece, has been decorated with an order conferring knighthood, by the government of Greece. Besides numerous important works on diseases in Greece, venesection, etc., he has founded and edits two medical

journals, one in Greek, which records the transactions of local societies and reviews foreign literature for the benefit of his countrymen; the other is published in French and presents to the scientific world the chief results of the works of members of the profession in Greece and Asia Minor. Both commenced modestly, but are constantly increasing in size and influence.

Deaths Abroad.—Other deaths reported are those of Dr. T. Wynen, assistant at the Marburg Institute of Hygiene, a victim of professional infection.—W. von Heineke, professor of surgery at Erlangen and one of the board that publishes the *Munchener Med. Woch.*—The Italian papers state that Dr. Gibelli, of Cagliari, was shot by a nurse at the surgical clinic.—Dr. Curel, of Cagnes, was stabbed by a former patient, and Drs. Ambrosi and Massari, of Naples, were assassinated in their sleep by an attendant.—The death of Dr. Panzeri, is announced, founder of the Milan Orthopedic Institute and of the *Archivio Ortopedico*.—Professor Sacchi, of Genoa.

PARIS LETTER.

Tuffier's Latest Article on Cocain Anesthesia.

Dr. Tuffier has kept his promise about answering the arguments brought against his method of anesthesia, and in the *Presse Médicale* of April 24, he has sought to justify the technique that he is now using at the Beaujon Hospital. In the article, that he published, he admitted that Leonard Corning was the first to have used the method. He had read his different memoirs on the subject and followed the speeches he had made before the Society of Surgeons of New York. He said he did not approve the manner in which his American colleagues had taken up the cudgels in his behalf, though he admitted that they were right in claiming the discovery. Corning had discovered this method of producing analgesia, he had seen its limits, its extent, the phenomena that accompany it and he had spoken of its application to surgery. But his memoirs remained ignored on the shelves of libraries. Still Tuffier added that he should not be influenced by the large number of German publications, nor feel the ironical comments that might be made, as he was quite willing to admit that Corning's name was inseparable from the history of intrathecal cocaineization. The chief merit of Bier is that he used this method for surgical operations, but Dr. Tuffier added that if he himself had been obliged to use his technique, he would not have dared to make any injections. Dr. Tuffier then went on to describe his operation and he insisted on the following points: the patient should receive the injection outside the operating room; the needle should be very small, and not have too long a point; the solution should be a 2 per cent. one of cocaine. Dr. Tuffier tried ordinary saline solution, without any result; eucain, which he found had all the disadvantages of cocaine without showing so great power; tropococain, which he tried on the recommendation of Schwartz, and which he found too weak. The puncture should be done on a level with the line which joins the two iliac ridges and the injection made very slowly, more than a minute being taken to inject one gram of liquid. Dr. Tuffier remarked that at the International Congress he had described the different accidents that might be seen, such as vomiting and headache. But as for cases of death during the operation, when Dr. Tuffier's technique has been carried out not a single one can be adduced. As for the six cases of death published by Dr. Reclus, there are two, those of Jullien and Tuffier, which prove doubtful even for Dr. Reclus; as for the other four, the first was just punctured and did not get a single drop of cocaine, but died of tubercular meningitis; the second died six days after the operation from acute tuberculosis; the third died after an amputation and there was no autopsy. The same degree of uncertainty can be felt about Jonnesco's and Keen's cases. Dr. Tuffier ended his article by saying that he did not wish to defend intrathecal injections against all other methods. He had lost but one patient from chloroform, so that he had no aversion to general anesthesia. He considered that this new means of anesthesia should be used in a limited number of surgical operations.

Cocain Injections in Therapeutics.

Several new cases of treatment by cocaine injections were cited by different members of the Society. Dr. Marie spoke of a patient suffering from lumbago, who was cured in eight minutes by an injection of 5 milligrams of cocaine. But in a case of recent neuralgia of the scapular region and in one of subacute rheumatism of the lumbar region, there were no results. Professor Debove said he considered lumbar puncture too delicate an operation to be used as yet in the treatment of lumbago, and as Dr. Merklen remarked, small saline injections

give results which are just as good. Professor Debove cited two cases, where lumbar puncture was of benefit in the treatment of gastric crises such as are seen in locomotor ataxia. A patient, suffering from acromegalia, was punctured while having an attack of this sort, and the pressure in the intrarachidian space was so great that a jet of liquid came out. About 30 c.c. were evacuated and the pain ceased. In a case of tabes the result obtained was as surprising. It should not be thought, however, that a radical cure can be obtained in this manner. Dr. Achard spoke of a case of abdominal zona where the pain was much relieved by the use of an intrarachidian injection of 2 centigrams of cocain, and also of a man suffering from syphilitic myelitis and consequent painful priapism, who was relieved of this latter symptom by an injection of one centigram of cocain.

Bier's Communication to the Berlin Congress.

One of the most important communications made at the Congress of Surgeons in Berlin was the address made by Dr. Bier. He admitted that he considered that the time had not as yet come for adopting it. His experiments were being carried out with certain objects in view—such as using eucain which has proved to be less dangerous than cocain. The brain and medulla oblongata should be protected as much as possible, and Dr. Bier has found it advantageous to place a rubber band around the neck without exerting too great a degree of constriction. This band is left in place two hours after the operation, but should not be used when there is any tendency to arteriosclerosis. Dilute solutions should also be employed, for instance 5 to 8 milligrams of cocain in 5 to 8 c.c. of pure water or water to which a certain amount of salt has been added.

French and German Methods.

Among the different communications made on other subjects, a certain number show that German and French surgeons are not of the same opinion on certain subjects. Most German surgeons, such as von Bruns, Limon, Czerny and Henle, consider that castration is the best treatment of tuberculosis of the testicle, whereas König, Gussenbauer and Bier believe in temporization before adopting such vigorous methods. German surgeons prefer vaginal hysterectomy in cancer of the uterus, and most of them believe it is best to defer the operation in appendicitis. Braun and Krause gave their statistics in the treatment of epilepsy by extirpation of the cervical sympathetic nerve, and the results adduced seemed far from satisfactory. Kocher gave a new series of a thousand operations for goiter with only fourteen deaths.

LONDON LETTER.

The Destruction of Rats on Shipboard by Sulphur Dioxid.

The fact that plague is conveyed by rats has led to the introduction of the following method of destroying them in ships. Sulphur dioxid gas is generated in a chamber in which sulphur is spread on a wire netting in the proportion of 1 pound to every 250 cubic feet required. The sulphur is ignited with the help of alcohol and the gas is pumped into the bottom of the space to be treated. A pipe from the top of the space brings air back to the generator. The oxygen in the treated space, for instance the hold of a vessel, is thus gradually replaced by SO₂. This gas being much heavier than air diffuses slowly and the rats retire before it. When the hold is opened they are found dead at the highest parts—those nearest the exit pipe. This is important because otherwise rats may die behind partitions. The only drawback of this method is the tarnishing of gilding.

Volvulus of the Ileum with Severe Intestinal Hemorrhage.

At the Clinical Society, Dr. J. H. Bryant described the case of a man aged 21 who was admitted to hospital with symptoms resembling intestinal colic which had come on after eating a large quantity of damson tart for supper. The lower abdomen was rigid and a hard mass was felt below and to the left of the umbilicus. During the next day the pain continued and in the evening, about 8 p. m., he became very collapsed and passed about a pint of bright-red blood and a large mass of undigested damson skins of about the size of a tennis ball. He was so blanched and collapsed that injections of strychnin and subcutaneous infusion of saline solution were ordered. During the night he continued to pass blood at intervals. On the following day he was still collapsed and became restless and delirious. He died on the fourth day. Just before death he brought up a large quantity of feculent fluid. Postmortem a volvulus of the ileum was found, 100 cm. of the gut being in-

involved, the lowest portion of which was 10.5 cm. above the ileocecal valve. The wall of the gut was much thickened and felt edematous. The direction of torsion is from left to right. Dr. Bryant has not been able to find a recorded case of volvulus in which so much blood was passed per anum. Hemorrhage in any form of intestinal obstruction excepting intussusception is of exceptional rarity. After the occurrence of the hemorrhage and the collapse the patient was thought to be suffering from localized peritonitis and possibly mesenteric thrombosis or embolism. Volvulus was not suspected. Dr. Zum Busch remarked that he had met with a similar hemorrhage from intestinal obstruction in a case of hernia. A man aged 74 had a hernia which became irreducible. Herniotomy was performed to relieve the constriction. Next day he passed almost a pint of pure blood. On the sixth day after operation he died suddenly from cardiac failure. Postmortem, no lesion was found to account for the hemorrhage.

Ureteral Calculus Simulating Vesical Calculus.

Mr. F. J. Steward described the case of a man aged 24 who had suffered for three years from attacks of painful micturition with hematuria. A week before admission to hospital the pain became more severe and the urine scarlet, and continued so. On admission there was much blood and a little pus in the urine. There were severe pains in the perineum and at the end of the penis, both during and apart from micturition. There was neither pain, tenderness nor fullness over either kidney or ureter. The bladder was sounded and two radiographs were taken, but with negative result. The case was thought to be one of encysted vesical calculus. The bladder was inflated with air and opened above the pubes, when a stone was felt impacted in the right ureter 2 inches from the orifice. The stone could not be moved down the ureter, so the wound was closed. Later a second operation was performed. An incision was made in the lower part of right linea semihumilis and the abdomen opened. The stone was pushed up the ureter to a point just above the common iliac artery. The ureter was incised and the stone removed. The incision in the ureter was closed by a continuous suture passing only through the outer coats; recovery followed. The calculus was cylindrical and weighed 9 gr. and measured one-half by one-third inches. It consisted of uric acid with a small deposit of phosphates in some places. The chief point of interest is the complete simulation of the symptoms of vesical calculus, there never having been a single symptom of an unilateral lesion. The suprapubic cystotomy was rendered extremely easy by the air distension, the peritoneum being lifted well up and the bladder reached with very little disturbance of the cellular tissue. The absence of the usual flooding of the wound on incising the bladder is another advantage of this maneuver.

The Cause of Beri-Beri.

The cause of that mysterious tropical disease, beri-beri, appears to have been at last discovered. Captain E. R. Rost, I.M.S., civil surgeon of Meiktila, Burma, has been investigating the connection between beri-beri and a microbe found in rice and Jowari grain, and in the rice liquor which coolies and sepoys drink. He concludes that this microbe is the cause of the disease. But he is not the first to make this suggestion. In May of last year Mr. Charles Hose, D.Sc., who is not a medical man, but a naturalist, who has contributed largely to our national museums, has handed to Dr. Strangeways Pigg, of Cambridge, a paper in which he stated the results of investigations which he had been carrying on for some years in Borneo. He had suffered from the disease and it was mainly to this circumstance that was due his attention to the subject. He found that in Borneo the disease was much more prevalent among men than among women, that it was frequently contracted on a journey in the jungles of the interior, was more prevalent at certain seasons, and frequently occurred in outbreaks among Chinese coolies. The women in Borneo, who very rarely leave the villages for any length of time, live mainly on freshly husked rice, while the men are frequently absent in the interior on rubber-collecting expeditions for several months, and live on rice, which they carry in bags, and which becomes mouldy in the damp climate. Similarly the rice supplied in gaols has been kept in bags for considerable periods, and is often mouldy. By microscopic examination Mr. Hose found a fungoid growth on this mouldy rice. He then tried the experiment of feeding three monkeys (*macacus nemestrinus*) on old rice. Two of the three developed the characteristic nerve symptoms of the disease, but not the characteristic edema of the legs. Thirty-nine Dayaks, who had contracted beri-beri during their expeditions were placed in villages where only freshly-husked rice was used, 33 recovered and 6 died. On

the other hand, of 128 who continued to live on imported rice and died. Mr. Hose has forwarded to Cambridge specimens of this mouldy rice for examination. It is reported that beriberi has broken out among the Chinese coolies employed in Christmas Island, which owing to its isolation has only recently become inhabited. This offers a unique opportunity for the scientific study of the disease which it is hoped the Government will take advantage of.

Correspondence.

Adhesive Rubber Dam.

CHICAGO, May 14, 1901.

To the Editor:—In reply to the criticism of Dr. Fenton B. Turck, in *THE JOURNAL* dated May 6, I regret exceedingly that the Doctor does not distinguish between the aseptic adhesive rubber dam described in my article and the rubber dam, not adhesive, which he advocated in *THE JOURNAL* of June 9, 1900, or the one mentioned in the *Medical Record* of Aug. 11, 1900, "being held in place with straps and buckles," to use the Doctor's description; or the one mentioned in the *Philadelphia Medical Journal*, March 30, 1901, p. 622, which latter article was published after the dam which I described was made and used publicly in my clinic, and after I had promised my article to the editor of *THE JOURNAL*. The dam I describe is not put on with bisulphid of carbon cement, nor with any of the Doctor's several special cements made for that purpose. The desirability of material for the prevention of infection from the skin was not original with Dr. Turck nor myself. The trouble with the Doctor's dam is that it lacks the elements to make it stick. If he will give the profession the name of the manufacturer and the date of manufacture of his adhesive rubber dam similar to that produced by Johnson and Johnson, I think the profession will appreciate it. I would further refer him to my correspondence between Mr. Truax, Elwood Lee & Co., and Bauer & Black, in our efforts to secure the adhesive rubber dam described in my article. Very truly yours,

J. B. MURPHY, M.D.

Anesthesia During Sleep.

ST. LOUIS, MO., May 4, 1901.

To the Editor:—In view of the fact that I have not been able to find a recorded case of a sleeping individual being placed under the influence of an anesthetic without first awaking, and also from the medicolegal bearing which such a record would have—an expert medical witness in the recent trial in New York City in the Rice Will Case having stated that such a feat was impossible—I report three cases in which I succeeded in accomplishing such anesthesia:

CASE 1.—Dr. T. C. Witherspoon, professor of surgery in the Marion-Sims College of Medicine, St. Louis, requested me to give chloroform to a healthy boy of about 4½ years for a small operation. On arriving at the home we found the child asleep and I proceeded to administer the chloroform, and the child went under its influence easily; only once did he make a move, and that was to turn his face away from the mask,

CASE 2.—I was to operate for circumcision, on a healthy boy of 8 years. Being a somewhat refractory child, when I was ready to operate I told him I would give him a piece of money if he would go to sleep and not bother me, and within thirty minutes after lying down he was sound asleep and I started the anesthetic, which was chloroform. He went under the influence easily, excepting only one moment, when he turned his face away from the mask.

CASE 3.—A boy of about 7 years, healthy, had sustained an injury around his left shoulder joint, the nature of which was impossible to determine exactly on account of pain and the rebellious nature of the child. I accompanied Dr. C. E. Walker, physician in charge. The boy was asleep when we arrived and I requested that he be not awakened. I began the administration of the chloroform and succeeded in bringing him under its effects without his so much as turning the face away from the mask as the previous subjects had done. The child slept sometime afterward, about three hours, and when he woke up

asked when the doctors were coming. He knew we were expected and fell asleep while waiting for us.

These three cases were all boys between the ages of 4 and 9 years, the anesthetic being ehloroform in each case, and at the time of their occurrence I was fresh from college, but had had considerable experience as an anesthetist. There being no difficulty encountered in any one of them I did not consider them out of the ordinary and do not think so yet.

P. G. PAUGH, M.D.

Association News.

Report of the Committee on Transportation.

The Committee on Transportation reports that the Central Passenger Association has changed its former ruling in the matter of rates for the medical meetings in St. Paul, Minn., May 30 to June 7, from one fare and a third, on a certificate plan, to the more favorable rate of one fare plus \$2 for the round trip throughout its territory. The Association has not, however, agreed to the stop-off privilege at Milwaukee, but grants the time limit and restrictions agreed to by the Western Passenger Association, to July 15, thus allowing time for the excursion from St. Paul to the Yellowstone National Park. The Committee yet hopes to get a subsequent ruling favorable to this stop-off. The Trunk Lines and the New England roads are considering the requests of the committee in the matters of rates and time extension, and their action will be promptly reported in *THE JOURNAL* when received.—H. L. E. Johnson, M.D.; Miles F. Porter, M.D.; I. N. Love, M.D., Committee on Transportation.

Reception and Ball.

On the evening of June 6, the physicians of Minneapolis will give a reception and ball in honor of the members of the AMERICAN MEDICAL ASSOCIATION, at 8 o'clock. It will be held in the Armory and Campus of the University of Minnesota, Minneapolis. All the buildings of interest to physicians will be illuminated and open for inspection.

Reception to Women Physicians.

The women physicians of St. Paul and Minneapolis, Minn., will tender a reception to the women physicians attending the St. Paul meeting, on Tuesday evening, June 4. They are requested to register at the headquarters for women physicians, 140 Lowry Arcade, as early as possible.

Book Notices.

THE THEORY AND PRACTICE OF MILITARY HYGIENE. By Edward L. Munsen, A.M., M.D., Captain Medical Department, United States Army. Illustrated by 8 Plates and Nearly 400 Engravings. Cloth. Pp. 971. Price, \$8.00. New York: William Wood & Co. 1901.

This book fills a want which has been seriously felt since April, 1898, when the army increased from 25,000 to 250,000 men and its medical force had to be correspondingly augmented. The rapidity with which this increase was effected gave no time for the extension of a practical knowledge of military sanitation from the experienced medical officers of the army to the hastily organized medical force attached to the volunteer army. The want of a good text-book on military hygiene was then fully realized. It may safely be said that if a work of the kind now under review had been in the hands of our hastily enrolled volunteer medical officers in 1898 and had been carefully studied by them much sickness and suffering might have been prevented. The author writes with a facile pen and his discussions of controverted subjects are carried on in a manner which gives the reader an easy appreciation of the views inculcated. The ground also is thoroughly covered.

The book opens with a consideration of the average physical proportions of the United States soldier, the method of examining candidates for enlistment and the conditions which disqualify for the military service. The value of systematic physical training in the development of the recruit and the best means for effecting this are fully discussed. Greater attention

has been given to the importance of physical training by the military authorities of foreign armies than by our War Department. The author urges the establishment of special schools for the training of instructors in gymnastics and physical exercises and the appropriation or allotment of money for providing and maintaining an adequately equipped gymnasium at every military post. Such preparation enables the soldier to undergo the fatigues and exposures incidental to active service with less risk of breaking down under them.

The water supply, rations, clothing and equipments of the soldier are next considered. The chapter on water deals only with the conditions met with in military practice. Hence no space is given to slow sand filtration or to mechanical filtration with alum as a coagulant as methods of purification, these being of more interest to the municipal hygienist than to the military sanitarian; but the filters used by our troops during the Spanish-American War, the Berkefeld, the Pasteur-Chamberland and the Maignen filters are described and illustrated, together with the Waterhouse-Forbes sterilizer now furnished to many of the commands on duty in the Philippines. The ration is exhaustively discussed even to the cooking of its various constituents, particularly on field service and the subject is taken up from another point of view in a subsequent chapter on the hygiene of hot and cold climates. Camps and their sanitary administration are well illustrated by diagrams and engravings of tents, huts, latrines and crematories for garbage and excreta. Posts, barracks, quarters and hospitals are also well illustrated by plans and engravings. The description of the lighting, heating and ventilation of these buildings, of their plumbing when connected with a sewerage system and of the ultimate disposal of the sewage necessarily loses much of the military tone as the principles and practice involved are the same in military as in civil communities. In a valuable chapter on military morbidity and mortality and another on the diseases of the soldier, the experiences of our own army during the years of peace preceding the Spanish-American war and during and since that outbreak furnish many of the illustrative statistics. An excellent article on disinfectants and their use follows the discussion of the infective diseases. Alcoholism, venereal diseases, insanity and suicide receive careful attention at the hands of the author who is, like most army officers, an ardent advocate of the recently suppressed canteen system. It is not possible, however, to do more than indicate the general scope and character of the work. Captain Munson's work has been well done and his Hygiene will no doubt be a standard for many years to come to all American students of military sanitation for the experiences and statistics of our own army, so largely cited in the work, will appeal to them with greater directness and emphasis than similar data derived from British or other foreign sources. The book has received the approval of Surgeon General Sternberg and has been adopted for use in the army.

HUMAN PLACENTATION.—An account of the changes in the Uterine Mucosa and in the Attached Fetal Structures during Pregnancy. By J. Clarence Webster, B.A., M.D. (Edin.), F.R.C.P.E., F.R.S.E., Professor of Obstetrics and Gynecology in Rush Medical College, etc., with 235 Illustrations. Cloth. Pp. 126. Chicago: Price, \$3.75. W. S. Keener and Co. 1901.

This work is a comprehensive study of the human placenta, and is based upon investigations conducted by the author during eleven years in the College of Physicians, Edinburgh; McGill University, Montreal; and Rush Medical College, Chicago: It covers a study of the uterus during the second, third, fourth, fifth sixth, seventh, eighth and ninth months of pregnancy, in the first and second stages of labor, in the third stage—removed by Porro-Cesarean section—and during various stages of the puerperium. In addition he has studied a number of complete abortions in the early weeks, as well as the placenta and membranes in the late months of pregnancy. In order to investigate the mammalian relationships of the human placenta the uterus was examined in various stages of pregnancy, in the mouse, rat, rabbit, guinea-pig, pig, sheep and cow. The book is illustrated with more than two hundred figures, the great majority of which are reproduced from drawings and

micro-photographs by the author. These illustrations demonstrate with accuracy the changes in the decidua and attached fetal structures throughout the greater part of gestation. The descriptive part of the work consists of 126 pages, including the bibliography. The press-work and the reproduction of the illustrations—almost wholly by the half-tone process—are quite satisfactory.

This work forms a most substantial contribution to the interesting department of embryology, with which it deals and in which there exist such great differences of opinion. It is believed that Professor Webster's interpretations of his results will go far toward the settlement of many of the disputed points, as for instance, that in regard to the origin of the syncytium, which is of special interest on account of its relations to the genesis of the so-called "Deciduoma malignum." There seems to be little doubt but that syncytium as well as the cells of Langhans' layer are of fetal epiblastic origin. The discussions of moot questions are all marked by a calmness and clearness creditable to the author's scientific spirit and learning. This is consequently an example of a kind of book which we have entirely too few in this country, namely the scientific monograph. As more extended scientific investigation is undertaken the need for this form of publication is sure to make itself felt. It would be an undoubted gain for scientific medicine in America if our medical book publishers could see their way clear to undertake the publication of monographs as has been done and is being done so satisfactorily in Germany and other countries.

Married.

E. E. PARKER, M.D., to Miss Dora Moss, both of Flora, Ind., April 30.

J. NUMA ROUSSEL, M.D., to Miss Amelie Dugué, both of New Orleans, April 30.

GEORGE E. SHAMBAUGH, M.D., Chicago, to Miss Edith Capps, of Jacksonville, Ill., May 1.

EDWARD A. BLOUNT, M.D., Nagadoches, Texas, to Miss Minnie Lewis, of New Orleans, April 23.

CHARLES LOUIS FINCKE, M.D., to Miss Mattie Ireson Brown, both of Brooklyn, N. Y., April 25.

FREDERICK N. C. GERAULD, M.D., Circle, Alaska, to Miss Huddleston, of Buffalo, N. Y., May 7.

HUGO A. ENGELHARDT, M.D., Houston, Texas, to Miss Elsie Tristram, of Brenham, Texas, May 1.

WILLIAM F. MALONE, M.D., to Miss Adelaide Peek, both of Milwaukee, Wis., at Chicago, April 30.

JOHN A. HARDY, M.D., Faeger, W. Va., to Miss Virginia T. Armistead, at Williamsburg, Va., April 24.

WILLIAM EDWARD ANDERSON, M.D., to Miss Pearl Horton Venable, both of Farmville, Va., April 30.

CORNELIUS ALLEN HARPER, M.D., to Miss Elizabeth Louise Bowman, both of Madison, Wis., April 22.

Deaths and Obituaries.

M. Albert Rhoades, M.D., Jefferson Medical College, Philadelphia, 1868, assistant demonstrator of anatomy, Jefferson Medical College; member and president for 11 years of the Reading Board of Health; for twenty-five years on the staff of St. Joseph's Hospital, Reading; sometime president of the Bucks County Medical Society and a member of the Board of Trustees and Judicial Council of the Medical Society of Pennsylvania. died at his home in Reading, where he had practiced for more than thirty years, May 4, after an illness of three years, aged 54 years.

Samuel Kuypers Lyon, M.D., College of Physicians and Surgeons, New York, 1868, while in a New York street, on his way to make a professional visit on May 4, was seized with a hemorrhage and expired soon after having been taken into a physician's office. He was for thirty years a surgeon of the

New York police department. and a fellow of the American Academy of Medicine. Besides being a member of the New York Academy of Medicine and the New York County Medical Association, he was identified with many other scientific bodies.

Harold Snowden, M.D., died at his home in Alexandria, Va., from paralysis, May 4, aged 65. After graduation in medicine and a brief practice he began newspaper work in 1852 upon the *Alexandria Gazette*, of which he was editor at the time of his death. During the Civil War he served as surgeon in the Old Dominion Rifles and later in the 17th Virginia Infantry. Dr. Snowden also served several terms in the Virginia Legislature.

E. Stanley Perkins, M.D., University of Pennsylvania, Philadelphia, 1869, who had practiced for many years in Germantown, a member of the faculty of the Medico-Chirurgical College and an examining physician of the Philadelphia Pension Board, died at Germantown Hospital, May 6, after an operation for peritonitis, aged 56.

George C. Jarvis, M.D., New York University, 1860, Surgeon of the Seventh Connecticut Infantry throughout the Civil War, for many years a consulting physician of the Hartford Hospital, and a member of the AMERICAN MEDICAL ASSOCIATION, died from pneumonia at his home in Hartford, Conn., April 7, aged 67.

David H. Bartine, M.D., University of Pennsylvania, 1862, surgeon of the 114th Pennsylvania Volunteers in the Civil War, a prominent physician of New Jersey and president of the Board of Health of Merchantville, died at his home in that place, May 3, from heart disease, aged 59.

William W. Walker, M.D., Tulane University, New Orleans, 1871, one of the early settlers of Schulenburg, Texas, died at his home in that place, May 5, from subacute peritonitis. He was a member of the AMERICAN MEDICAL ASSOCIATION.

Ephraim Lewis Warren, M.D., Berkshire College, Pittsfield, Mass., 1848, who had practiced medicine for more than half a century in Massachusetts, a veteran of the Civil War, died at his home in Melrose, Mass., April 27, aged 78.

Abraham Deyo, M.D., College of Physicians and Surgeons, New York, 1851, and for many years a practitioner in Newburgh and Gardiner, died at his home in that town, May 4, after a long illness following la grippe, aged 71.

Francis P. Griffith, M.D., Willoughby University, Willoughby, Ohio, 1845, who had practiced in La Grange, Ind., for many years, and was health officer of La Grange County, died at his home in that place, April 29, aged 82.

Elwin Humphrey, M.D., Western Reserve University, Cleveland, Ohio, 1865, who had practiced for nearly forty years in Akron, Ohio, died from apoplexy at his home in that city, May 4, after an illness of two days, aged 72.

Julius Boushey, M.D., Medical College of Ohio, Cincinnati, 1874, for more than twenty-five years a practitioner of San Francisco, died at his home in that city April 29, after a protracted illness, from lung disease.

Marcellus A. Alexander, M.D., University of Louisville, 1870, was found dead in his house in Okeene, Okla., April 30, apparently from chloroform poisoning. He was about 70 years of age.

George Reid Dinsmoor, M.D., Bellevue Hospital Medical College, New York, 1865, died after a period of invalidism of twenty-three years, at his home in Keene, N. H., April 28, aged 59.

Orlando Mitchell, M.D., Medical College of Indiana, Indianapolis, 1878, a prominent physician of Marshall, Ill., and a member of the board of pension examiners, died at his home, April 3.

John Thruston, M.D., University of Louisville, 1855, the oldest native born practicing physician in Louisville, died in that city, May 2, after an illness of three years, aged 75.

Leonard H. Coe, M.D., University of California, San Francisco, 1896, of Fresno, Cal., died April 24, at Denver, Colo., where he had gone in the hope of bettering his health.

John V. Martin, M.D., formerly a practitioner of Washing-

ton, Iowa, died in the State Hospital at Mount Pleasant, Iowa, May 2, after an illness of several months, aged 40.

William C. Harris, M.D., Central College of Physicians and Surgeons, Indianapolis, 1881, died suddenly from apoplexy at his home in Roachdale, Ind., May 1, aged 73.

Byron R. Evans, M.D., Starling Medical College, Columbus, Ohio, 1898, died at his home in Shawnee, Okla., April 28, from the results of a carbuncle on the neck, aged 33.

Frank M. Kirby, M.D., Columbus (Ohio) Medical College, 1882, of Rockford, Ohio, died at a private sanatorium in St. Louis, April 22, after a long illness.

Selton W. Stevens, M.D., Jefferson Medical College, Philadelphia, 1894, of Scranton, Pa., died April 25, a week after an operation for appendicitis, aged 39.

William Bovie, M.D., University of Michigan, Ann Arbor, 1858, died at his home in Augusta, Mich., from pneumonia, April 25, aged 73.

Frederic Wyland, M.D., Columbus (Ohio) Medical College, 1891, died at his home in Columbus, May 6, after a prolonged illness.

William D. Boozer, M.D., University of Nashville, 1874, died after an illness of ten years, at his home in Hogansville, Ga., April 25.

Felix G. Brown, M.D., Washington University, St. Louis, 1868, died suddenly at his home in Hutchinson, Kan., April 30, aged 57.

Tandy Allen, M.D., for the last ten years a resident of Kona, Hawaii, died suddenly at his home in that place, April 11, aged 44.

William M. Brunt, M.D., Kentucky School of Medicine, Louisville, 1891, died suddenly at his home in Eddyville, Iowa, April 24.

Francis T. McIntosh, M.D., Albany (N. Y.) Medical College, 1886, died at his home in Troy, N. Y., May 5.

Miles R. Biggar, M.D., Detroit (Mich.) Medical College, 1883, died at his home in Detroit, April 30.

Marion M. Pafford, M.D., Atlanta (Ga.) Medical College, 1895, died at his home, Cecil, Ga., May 6.

Societies.

COMING MEETINGS.

- American Medical Association, St. Paul, Minn., June 4-7.
- Medical Association of Missouri, Jefferson City, May 21-23, 1901.
- Illinois State Medical Society, Peoria, May 21-23, 1901.
- Medical Society of North Carolina, Durham, May 21-23, 1901.
- Connecticut Medical Society, Hartford, May 22-23, 1901.
- North Dakota Medical Society, Fargo, May 22-23, 1901.
- Kentucky State Medical Society, Louisville, May 22-24, 1901.
- Medical Society of West Virginia, Grafton, May 22-24, 1901.
- American Laryngological, Rhinological and Otological Society, New York City, May 23-25, 1901.
- American Laryngological Association, New Haven, Conn., May 27-29, 1901.
- American Pediatric Society, Niagara Falls, N. Y., May 28, 1901.
- American Gynecological Association, Chicago, May 28, 1901.
- American Climatological Association, Niagara Falls, N. Y., May 30, 1901.
- Association of Military Surgeons of the United States, St. Paul, May 30, 31, June 1, 1901.
- American Academy of Medicine, St. Paul, Minn., June 1-3.
- National Con. State Medical Examiners and Licensing Boards, St. Paul, Minn., June 3.
- Association of American Medical Colleges, St. Paul, June 3.
- American Medical Editors' Association, St. Paul, June 3.
- Minnesota State Medical Society, St. Paul, June 3.
- Indian Territory Medical Association, Vinita, June 4-5.
- American Proctological Association, St. Paul, Minn., June 4-5.
- American Dermatological Association, Chicago, June 4-6.
- Rhode Island Medical Society, Providence, June 6.
- International Association of Railway Surgeons, Milwaukee, June 10-12.
- Medical Society of Delaware, Lewes, June 11.
- Oregon State Medical Society, Portland, June 11-12.
- American Medico-Psychological Association, Milwaukee, Wis., June 11-14.
- Maine Medical Association, Portland, June 12-14.
- Massachusetts Medical Society, Boston, June 12.
- Colorado State Medical Society, Denver, June 18.
- American Orthopedic Association, Niagara Falls, June 11-13.

Medical Society of New Jersey, Allenhurst, June 25-27.
Wisconsin State Medical Society, Waukesha, June 26.

American Climatological Association.—The Eighteenth annual meeting will be held at the Cataract House, Niagara Falls, N. Y., May 30, 31, and June 1, under the presidency of Dr. Robert H. Babcock, Chicago. The program will include the president's address and papers on:

"Puerto Rico: Its Climate and Its Diseases," by Dr. Charles H. Alden, Assistant Surgeon-General, U. S. A., Ret'd.; "The Fevers of Florida," by Dr. Frank Fremont-Smith, Palm Beach, Fla.; "Climatology of Augusta, Ga.," by Dr. Thomas D. Coleman, Augusta; "Remarks on the Climatic Influences of Newport, R. I.," by Dr. W. C. Rives, Newport; "Nantucket and the Ocean Climate," by Dr. Harold Williams, Boston, Mass.; "Notes on the Climate of New York and New England," by Dr. Guy Hinsdale, Philadelphia, Pa.; "Some Observations on Southern California," by Dr. Samuel A. Fisk, Denver, Colo., and Dr. Norman Bridge, Los Angeles, Cal.; "Further Diagnostic Tests with Tuberculin," by Dr. Edward O. Otis, Boston, Mass.; "Two Cases of Aneurism of the Heart and one of Spontaneous Rupture of the Heart," by Dr. R. G. Curtin, Philadelphia, Pa.; "The Association of Tuberculosis and Syphilis," by Dr. F. I. Knight, Boston, Mass.; "A Case of Mechanical Obstruction of a Brouchus Simulating Rapid Phthisis," by Dr. J. B. Walker, Philadelphia, Pa.; "Piece of Meat in Brouchus—Disappearance by Absorption—Recovery," by Dr. Thomas W. Harvey, Orange, N. J.; "The Selection of Favorable Cases of Pulmonary Tuberculosis for Sanatorium Treatment," by Dr. E. R. Baldwin, Saranac Lake, N. Y.; "The Carrying out of the Hygienic Treatment of Pulmonary Tuberculosis Outside of Sanatoria," by Dr. Charles L. Minor, Asheville, N. C.; "Devitalized-air Toxæmia a Prime Cause of Tuberculosis," by Dr. Charles Deuison, Denver, Colo.; "Cases in which the Tuberculin Test seemed Justified and Decisive," by Dr. W. E. Casselberry, Chicago; "The Home Treatment of Tuberculosis," by Dr. Leonard Weber, New York City; "The Home Treatment of Tuberculosis," by Dr. Irwin H. Hance, Lakewood, N. J.; "The Importance of Early and Radical Climatic Change in the Cure of Pulmonary Tuberculosis," by Dr. Charles Fox Gardner, Colorado Springs, Colo.; "Clinical Aspects of Spa Treatment," by Dr. Beverley Robinson, New York City; "Analogous European and American Mineral Springs," by Dr. Guy Hinsdale, Philadelphia, Pa.; "The Relation of Sunshine to the Prevalence of Influenza," by Dr. Howard S. Anders, Philadelphia, Pa.; "A Case of Pulmonary Osteoarthropathy," by Dr. R. C. Newton, Montclair, N. J.; "The Physiological Influence of Climate on Nervous Diseases," by Dr. F. Savary Pearce, Philadelphia, Pa.; "The Use of Strychnia in Diseases of the Heart," by Dr. Abraham Jacobi, New York City; "The Cause of Death in Aneurysms of the Thoracic Aorta which do not Rupture," with report of two cases, by Dr. H. D. Arnold, Boston, Mass.; "The Etiology, Pathology, and Clinical Aspects of the Bovine Heart," by Dr. Leonard Weber, New York City; "The Hygienic and Mechanical Treatment of Heart Disease," by Dr. Boardman Reed, Philadelphia, Pa.; "A Case of Chronic Endocarditis," by Drs. Judson Dalaud and W. D. Robinson, Philadelphia, Pa.; "The Value of the Terms 'Cured,' 'Arrested,' and 'Improved' in Relation to Pulmonary Tuberculosis," by Dr. J. Edward Stubbett, Liberty, N. Y.; "The Increased Corpuscular Count of the Blood at High Altitudes, Especially on Rapid Ascent," by Dr. W. A. Campbell, Colorado Springs, Colo.; "The Influence of the Colorado Climate upon Pulmonary Hemorrhages," by Dr. Sherman G. Bonney, Denver, Colo.; "Proper Definitions of the Terms Following: 'Pre-tubercular or Prebacillary Stage,' 'Incipient Stage,' 'Moderately Advanced Stage,' 'Far Advanced Stage,' 'Improved Condition,' 'Arrested Condition,' and 'Cured or Apparently Cured Condition,' as Applied to Pulmonary Tuberculosis," by Dr. J. Edward Stubbett, Liberty, N. Y.; and "The Use of Guaiacoline in the Treatment of Pulmonary Tuberculosis," by Dr. W. W. Bulette, Pueblo, Colo.

Alumni Association of Creighton Medical College, Omaha, Neb.—The alumni, at their meeting, May 7, elected Dr. Edwin C. Henry, president; Dr. Rudolph Rix, secretary, both of Omaha, and Dr. Adda G. Wiley, South Omaha, treasurer.

American Laryngological, Rhinological and Otological Society.—The Seventh annual meeting of this Society will occur on May 23 to 25 in the New York Academy of Medicine, President Dr. Robert Cunningham Myles, New York City, in the chair.

American Orthopedic Association.—The fifteenth annual meeting of this association will be held at Niagara Falls, N. Y., June 11 to 13, under the presidency of Dr. Arthur J. Gillette, St. Paul, Minn. The sessions will be held in the parlors of the International Hotel.

Cape May County (N. J.) Medical Society.—At the annual meeting of this society on May 2 the following officers were elected: Dr. John S. Douglass, Tuckahoe, president; Dr. Joseph C. Marshall, Tuckahoe, vice-president; secretary, Dr. Nathan Cohen, Wildwood, secretary, and Dr. Randolph Marshall, Tuckahoe, treasurer.

Gulf Coast Medical Association.—The most important business transacted at the annual meeting of this Society at

Pass Christian, Miss., May 1, was the unanimous adoption of a resolution strongly protesting against the abolition of Dr. Tortugas as a marine quarantine station.

American Gynecological Society.—The twenty-sixth annual meeting of this Society will be held in the Fine Arts Building, Chicago, May 30 and 31 and June 1. Dr. Eli Varde Warker, Syracuse, N. Y., will preside, and Dr. Fernand Henrotin, Chicago, will deliver the address of welcome.

Denver Clinical Society.—This Society, which is composed entirely of women, gave its annual dinner, April 26, at which Dr. Mary Elizabeth Zakrzewska, Boston, the first woman to receive a medical diploma in the United States, was the guest of honor. Dr. Mary E. Bates acted as toastmaster.

Livingston County (Ill.) Medical Society.—This Society met for organization at Pontiac, April 27, and elected the following officers: Dr. James J. Pearson, Pontiac, president; Dr. Charles L. Hamilton, Dwight, vice-president, and Dr. John Ross, Pontiac, secretary and treasurer.

Alumni Association of the Detroit College of Medicine.—At the annual meeting of this body in Detroit, May 9, Dr. J. E. Davis, Detroit, was elected president; Dr. T. B. Scott, Vernon, vice-president; Dr. George C. Bassett, Detroit, financial secretary, and Dr. Charles T. Southworth Monroe, historian.

Clark County (Ohio) Medical Society.—The annual meeting of this Society was held in Springfield, May 2. The following officers were elected: Dr. Bennetta D. Titlow, president; Drs. Charles L. Minor and James A. Link, vice-presidents and Dr. William B. Patton, secretary and treasurer, all of Springfield.

Oklahoma Medical Association.—The ninth annual meeting of this Association was held in Oklahoma City, May 8, Dr. Charles W. Fisk, Kingfisher, presiding. Dr. Reuben D. Love, Perry, was elected president; Dr. John H. Scott, Shawnee, vice-president, and Dr. Eugene O. Barker, Guthrie, secretary and treasurer.

American Gastro-Enterological Association.—This Association held its fourth annual meeting in Washington, D.C., May 1, and elected Dr. John C. Hemmeter, Baltimore, president, Drs. William D. Booker, Baltimore, and Samuel J. Meltzer, New York City, vice-presidents and Dr. Charles D. Aaron, Detroit, Mich., secretary and treasurer.

Maryland Alumni of Baltimore Medical College.—The annual meeting and banquet of this Association took place at Baltimore, April 16. The following officers were elected: Dr. Edward L. Whitney, president; Dr. Gustav Goldman, vice-president; Dr. Thomas R. W. Wilson, secretary, and Dr. James C. Lumpkin, treasurer, all of Baltimore.

Alumni Association of University College of Medicine, Richmond, Va.—At the annual meeting of this Association, held in Richmond, May 2, Dr. Thomas M. Lippitt, U. S. Navy, was elected president; Dr. Charles R. Turner, Richmond, vice-president; Dr. Roshier W. Miller, Barton Heights, secretary and treasurer and Dr. Marvin E. Nuckols, Richmond, essayist.

Linton District (Mo.) Medical Society.—The twenty-ninth annual meeting of this Society was held in Mexico, May 7, when the following officers were elected: Dr. Arthur R. McComas, Sturgeon, presidents; Drs. R. Lee Alford, Vandalia, and Robert I. Gibbs, Hatton, vice-presidents; Dr. Edwin S. Cave, Mexico, secretary and Dr. Martin Yates, Fulton, treasurer.

Hudson County (N. J.) District Medical Society.—At the annual meeting of this Society, held in Jersey City, May 7, delegates to the State Medical Society and THE AMERICAN MEDICAL ASSOCIATION were appointed and the following officers elected: Dr. John C. Parsons, president; Dr. Henry H. Brinkerhoff, treasurer, and Dr. Charles H. Purdy, secretary, all of Jersey City.

District Medical Association of Central Illinois.—The twenty-seventh annual meeting of this Society was held in Pana, April 30, at which the following officers were elected: Dr. Thomas L. Catherwood, Shelbyville, president; Dr. Everett J. Brown, Decatur, and George W. Fringer, Pana, vice-presidents; Dr. John H. Miller, Pana, treasurer, and Dr. C. R. Spicer, Taylorville, secretary.

Association of Military Surgeons of the United States.—This Association will meet in St. Paul, May 30, under the presidency of Dr. Alexander J. Stone, St. Paul. The Committee of Arrangements offers the following program of entertainment: Thursday evening, reception at the Aberdeen Hotel; Friday evening, annual dinner at the Aberdeen Hotel; Saturday afternoon, carriage drive to Fort Snelling; Saturday evening, theater party at Metropolitan Opera House.

Alumni Association of the College of Physicians and Surgeons, Baltimore, Md.—The annual meeting of this Association was held in Baltimore, April 27, at which the following officers were elected: Dr. William J. Todd, Mount Washington, president; Drs. William Gombel and T. S. Lowry, Baltimore, vice-presidents; Dr. Charles E. Brack, Jr., Baltimore, treasurer, Dr. Harry Knapp, secretary, and Dr. G. W. Roehrer, assistant secretary.

National Confederation of State Medical Examining and Licensing Boards.—This body will convene in St. Paul, June 3, and requests that every state or territorial board whose duty it is to examine or license physicians intending to practice in the jurisdiction of the board, by whatsoever name it may be called, affiliate with the National Confederation. The meeting will be presided over by the president, Dr. J. N. McCormack, Bowling Green, Ky.

Kansas State Medical Society.—The thirty-fifth annual meeting of this Society was held in Pittsburg, May 1, 2 and 3. Dr. Lewis H. Mann, Topeka, was elected president; Dr. James W. Ryan, Coffeyville, vice-president; Dr. William E. MeVey, Topeka, recording secretary; Dr. James W. May, Kansas City, corresponding secretary and Dr. William E. Barker, Chanute, treasurer. The Society decided to establish and publish a medical journal in Topeka, and to meet for the 1902 session at Lawrence.

American Therapeutic Society.—The annual meeting of this Society was held in Washington, D.C., May 7 to 9. The following officers were elected: Dr. Reynold Webb Wileox, New York City, president; Drs. Howard H. Barker, Washington; Thomas E. Satterthwaite, New York City; and Leon L. Solomon, Louisville, vice-presidents; Dr. Noble P. Barnes, Washington, secretary; Dr. William M. Sprigg, Washington, recorder, and Dr. John S. McLain, Washington, treasurer. The Society will meet in New York City, May 2, 1902.

Western Alumni Association of the University and Bellevue Hospital Medical College, New York.—The first banquet of this Association is to be given this evening at the Sherman House, Chicago. Among those on the program to respond to toasts are, Rt. Rev. Charles E. Cheney, Mayor Carter H. Harrison, Drs. James F. Todd, Willis O. Nance, Oscar A. King, Joseph M. Patton, and James G. Kiernan, Chicago; Dr. Charles S. Bond, Richmond, Ind., Dr. Charles C. Hunt, Dixon, Ill.; Dr. Fred R. Belknap, Niles, Mich.; Dr. Edward W. Jenks, Detroit, Mich.; and Dr. Edward T. Laughlin, Orleans, Ind.

Nebraska State Medical Society.—At the annual meeting of this body at Lincoln, May 7, 8 and 9, the Society put itself on record as opposing the legalizing of the practice of osteopathy, and appropriated \$200 to test the constitutionality of the law passed by the legislature, which allowed osteopaths a standing. It adopted a resolution endorsing the proposed plan of reorganization as recommended by the Committee on Organization of the AMERICAN MEDICAL ASSOCIATION and instructed its delegates to assist in the movement. A committee on organization of the profession in Nebraska was also appointed. The following officers were elected: Dr. William B. Ely, Ainsworth, president; Dr. Allen B. Anderson, Pawnee City, vice-president; Dr. A. D. Wilkinson, Lincoln, recording secretary; Dr. H. Winnett Orr, Lincoln, corresponding secretary, and Dr. J. C. Greene, Lincoln, treasurer.

Ohio State Medical Society.—The annual meeting of this Society was held in Cincinnati, May 8, 9 and 10. Dr. Frank Billings, Chicago, and John A. Wyeth, New York City, delivered the addresses in medicine and surgery, respectively. The election of officers resulted as follows: Dr. Edmund C. Brush, Zanesville, president; Drs. E. Gustav Zinke, Cincinnati, Stephen S. Halderman, Portsmouth, James C. M. Floyd, Steubenville and William S. Phillip, Belle Center, vice-presidents; Dr. James A. Duncan, Toledo, treasurer, and Dr. P. Maxwell Foshay, Cleveland, secretary and editor.

American Association of Life Insurance Examining Surgeons.—This Association will hold its second annual convention in St. Paul, Minn., June 3, one day in advance of the meeting of THE AMERICAN MEDICAL ASSOCIATION. The members of the Association who may happen to be in St. Paul one day in advance of the meeting of that body, are cordially invited to attend the meetings, which will be held in the rooms of the Ramsey County (St. Paul) Medical Society, Lowry Arcade, corner Fifth and St. Peter Streets.

American Medical Temperance Association.—The tenth annual meeting of this Association will be held, June 5, at St. Paul, Minn. The association now numbers nearly two hundred

members, all of whom, with few exceptions, are members of THE AMERICAN MEDICAL ASSOCIATION. This association was organized in Washington in 1891, having for its special object the medical study of alcohol as a medicine and its value as a remedy in disease. Dr. N. S. Davis, of Chicago, has been president from the beginning. New studies of the effects of alcohol will be presented at the annual meeting by Dr. N. S. Davis, the president. Drs. Hall, Madden, Crothers, Stuver, Grosvenor, Webster, and others. The annual address will be delivered by Dr. Didama, the vice-president.

Mississippi Valley Medical Association.—It is announced that the dates of the next meeting of this association have been changed from September 10, 11 and 12, to September 12, 13 and 14, because the dates first selected conflict with another large association meeting at the same place. The meeting is to be held at the Hotel Victory, Put-in-Bay Island, Lake Erie, O., and the low rate of one cent a mile for the round trip will be in effect for the meeting. Tickets will be on sale as late as September 12, good returning without extension until September 15. By depositing tickets with the joint agent at Cleveland and paying 50 cents, the date can be extended until October 8. This will give members an opportunity of visiting the Pan-American Exposition at Buffalo, to which very low rates by rail and water will be in effect from Cleveland. Full information as to rates can be obtained by addressing the secretary, Dr. Henry E. Tuley, No. 111 West Kentucky Street, Louisville, Ky. Those desiring to read papers should notify the secretary at an early date.

Alumni Association of Albany Medical College.—At the twenty-eighth annual meeting of this Association the following officers were elected: Dr. Clarkson C. Schuyler, Plattsburgh, president; Drs. Israel S. Buckbee, Fonda, Daniel S. Cook, New York City, Nelson Everest, Gloversville and Robert B. Lamb, Dannemora, vice-presidents; Dr. Andrew MacFarlane, Albany, secretary; Dr. Robert Babcock, Albany, treasurer, and Dr. Harry S. Pearce, Albany, historian. Dr. Thomas D. Crothers, Hartford, Conn., retiring president, recommended the establishment of a college for the advanced study of medicine. "It is clearly evident," he said, "that a college of this character will be established here at a very early day, and every graduate will rejoice in it and warmly welcome such a school for exhaustive study and personal research into the higher problems of medicine." Dr. H. Judson Lipes, of Albany, was awarded \$100 in gold, the Clarkson C. Schuyler prize, for the best essay written by a graduate of the college. Four essays were submitted on the subject "The Influence of the Discovery of Bacteria to Disease on the Practice of Medicine Exclusive of Surgery."

American Medical Editors' Association.—The annual business meeting of this Association will convene at the library rooms of the Ramsey County Medical Society, Lowry Arcade, St. Paul, June 3. This Association, as implied in the name, consists of medical editors of the United States. Meetings are held annually, coincident with THE AMERICAN MEDICAL ASSOCIATION. The aims of this Association are the advancement of medical journalism, the foundation of an ethical press in medicine, and the improvement of the medical profession in general. A partial list of papers to be read includes the president's address, Dr. Alexander J. Stone, St. Paul, Minn.; "Relative Value of Medical Advertising," Dr. John Punton, Kansas City, Mo.; "Improvements in Medical Education," Dr. Dudley S. Reynolds, Louisville, Ky.; "Some Thoughts on the Ethics of Medical Journalism," Dr. Burnside Foster, St. Paul, Minn.; "Editorial Corps and Medical Journalism," Dr. George F. Butler, Alma, Mich.; "Relation of the Medical Editor to Original Articles," Dr. Harold N. Moyer, Chicago; and papers, subjects unannounced, by Drs. John V. Shoemaker, Philadelphia, and George H. Simmons, Chicago.

ASSOCIATION OF AMERICAN PHYSICIANS.

Sixteenth Annual Meeting, held in Washington, D. C., April 30, and May 1 and 2.

(Concluded from p. 1340.)

Uncomplicated Hemorrhage from the Pyothorax.

DR. A. JACOBI, New York City, reported the case of M. C., 7 years old, who had been ill for about a month previous to admission to the hospital, complaining of a languid feeling, slight fever, lack of appetite, occasional cough and some pain the right lung and down to the fourth or fifth rib, with flatness over the base. Puncture yielded pus. The next day resection was in the right side of the chest. There was marked dulness over

done and 500 c.c. of inoffensive pus flowed out unmixed with blood. Thiersch's solution was used for injection, and it returned with a little bloody pus when all of a sudden it was followed by the flow of a large quantity of pure blood. The cavity was irrigated and then it could be seen that the blood was oozing from disseminated tufts over the pulmonary pleura; some of these tufts were small, some quite large. The cavity was packed with gauze and when it was removed two days later there was another slight hemorrhage, after which granulation went on in the usual way. Search for malignant tumor was negative and there was no suspicion of tuberculosis. Dr. Jacobi said the case was unique in his experience and furnished an additional cause for hemorrhage into the pleural cavity. A search of the literature had brought out no further information on the subject, no similar cases, and his surgeon friends had seen nothing of the kind.

A Case of Pneumonia Complicated by Pseudomembranous Exudate on the Mucous Membranes of the Mouth, Tongue, Pharynx, Nares, Conjunctivae, Glans Penis, Anus, Etc., Caused by Diplococcus Pneumoniae.

DR. CHARLES CARY, Buffalo, N. Y., reported this case, remarkable in the occurrence during the course of an attack of acute lobar pneumonia in a boy of 11 years, of a profuse pseudomembranous exudate upon nearly all mucous surfaces of the body open to inspection. There was also evidence of extensive passive pleuritis and probably the involvement of the gastrointestinal tract throughout its entire length. The affection terminated in recovery by lysis. The pneumococcus was obtained in pure culture from the heart's blood, the organs and the exudate.

Notes on the Relapsing Fever of Hodgkin's Disease.

DR. J. H. MUSSER, Philadelphia, reviewed the literature and called attention to the paper of Ebstein on chronic recurring fever, and to the article in Nothnagel's System, on the same subject. Dr. Musser reported two cases, the characteristics of which were attacks of fever lasting from eight to twelve days, and alternating with periods of apyrexia. In both there was increase of the glandular swellings coincident with the fever which would rise rapidly to a great height, 105 or 106 F., and after ten days terminate by crisis. In the second case cultures and inoculations failed to disclose the nature of the disease, but the patient now has pulmonary tuberculosis. Dr. Musser concludes that this form of fever is in all probability an expression of the glandular form of tuberculosis to which Hodgkin's disease probably belongs.

The Acid Intoxication of Diabetes and its Relation to Prognosis.

DR. C. A. HERTER, New York City, spoke of the method of opposing the acids and bases as the best means of detecting the amount of acid in the urine. As a clinical help, the detection of the nitrogen of ammonia was of much value, but not absolutely reliable. He found that with the increase of organic acids, measured as oxybutyric acid, coma was imminent. Crotomic acid was always present and there was an increase for days, weeks or even months before the onset of coma. Coma develops if large amounts of oxybutyric acid persist, say quantities greater than 25 grams a day. When the urine contains little or no trace of organic acids, there is little prospect of coma, though other troubles may present themselves.

Metabolism in Diabetic Coma, with Special Reference to Acid Intoxication.

DR. E. P. JOSLIN, Boston, Mass., reported a case of fatal diabetic coma, and gave a detailed account of the chemical analysis of the urine from day to day, with special reference to the varying amount of organic acids.

A Study of Bubonic Plague Based on the Outbreak in San Francisco.

DRS. L. F. BARKER, Chicago, F. G. NOVY, Ann Arbor, Mich., and SIMON FLEXNER, Philadelphia, presented this report:

Dr. Barker opened the discussion with a consideration of the clinical aspects of plague, stating that it belongs to the group of septicemic infections or diseases in which the causative agent can in very susceptible individuals produce a general

sepsis without local lesion, but which in more resistant individuals gives rise to a disease characterized by local reaction without general sepsis. The character of the epidemic in San Francisco was like that which has prevailed during the early stages of all other epidemics. Thirty-one cases were definitely proven to be plague, and twenty-eight of these occurred among the Chinese. The ordinary cases of plague begin suddenly, usually with a chill, with fever that increases rapidly but has a curve characterized by intermissions and irregularities; the patient is nauseated, severe nervous symptoms follow and generally within twenty-four hours the bubo appears. The course of the disease is a continuous and progressive failure until death occurs, being the fourth and sixth days. The bubo develops differently from that accompanying venereal affections. The size varies, being sometimes as large as one's fist and occasionally so small that it can not be discovered by inspection or palpation. Buboec are most frequent in the groin, next in the neck and then in the axilla. The two principal types of plague are the bubonic and pneumonic forms, and a primary skin plague can probably be distinguished with a local lesion in the form of a carbuncle. In addition to these there is the plague septicemia, which may be divided into primary and secondary forms clinically. By the first is meant a septicemia produced by the entrance of the bacillus into the blood without the development of a bubo. In the secondary form there is a flooding of the blood by the plague bacillus, causing early death. In the early days of an epidemic and again toward its close there are usually found a number of mild cases, the patients not being sick enough to prevent their walking about. Such individuals are a source of great danger unless they can be isolated, for it has been proven that the urine and feces frequently contain the plague bacillus for as long as four or six weeks after apparent recovery. The pneumonic form of plague is characterized by a very bloody sputum containing immense numbers of the bacilli.

Dr. Barker referred to the great importance of recognizing the first case of plague, and said that no disease is easier of diagnosis if one can take the proper steps. This should consist in a bacteriologic examination of the sputum, the blood, the splenic juices and the bubo contents when present. Serum diagnosis is unreliable, except to show whether or not an individual has had the plague. He insists on the importance of regarding every case of fever occurring in a place where plague is suspected as being a case of plague until it is proven to be something else, and furthermore, the importance of believing at such times that every cadaver is one of plague until it has been bacteriologically examined. As to treatment, he said that if he should contract the disease himself he would promptly use the serum.

Dr. Novy considered the bacteriology of bubonic plague, reporting in detail the work done by the Commission in San Francisco to prove the nature of the disease seen there.

Dr. Flexner considered the pathology of this affection. He said that the glandular enlargements can not be mistaken for those occurring in any other disease. The bubonic condition is characterized by a peculiar hemorrhagic edema which is not limited to the gland, but involves its surrounding tissues for some distance and shows numerous foci of necrosis. The enlargement is due to multiplication of the cells normally present in the gland, in addition to the edema, and to the enormous growth of bacteria which is greater than in any other disease with the possible exception of the skin lesions of leprosy. The necrosis is due to the presence of toxins and bacilli in the blood-vessels. The pneumonia is usually lobular in character and the exudate contains enormous numbers of the bacilli, making up a very considerable part of the material which fills the alveoli and produces the consolidation. The changes in the spleen are those of acute splenic fever and the organ is enlarged occasionally to five times its normal size.

Dr. Flexner said that he expects to hear soon that plague has disappeared from San Francisco and that the statement when received will be reliable in that it will be based on bacteriologic demonstration, for the city and state authorities acting with the United States Government have carried out the recommendations of the Commission for the erection of a

public mortuary and for the establishment of a retention camp in which suspected cases will be kept under observation.

Experimental Yellow Fever.

DRS. WALTER REED and JAMES CARROLL, U. S. A., presented this report, Dr. Reed giving a detailed account of his recent work in yellow fever (*THE JOURNAL*, February 16), adding the histories of a number of cases not heretofore recorded. As in the first instances, however, they show very definitely that the poison of yellow fever is carried in the circulation and can be transmitted from one person to another by mosquito inoculations or by direct transmission of the blood hypodermically.

DR. GEO. M. STERNBERG, Washington, D. C., referred to the importance of these demonstrations, which have made clear a number of facts that have heretofore seemed contradictory. For instance, ships arriving from Havana without any cases of yellow fever aboard would be unloaded by stevedores, a number of whom would soon develop the fever. It is now clear how they succeeded in disinfecting such ships by sulphur dioxide. The burning sulphur destroyed mosquitoes hanging about on the ships, whereas it could not have produced disinfection if it were necessary to penetrate the cargo. This work also explains how yellow fever was contracted from passing ships with which no communication had been held. Dr. Sternberg referred to his own work in the effort to determine whether there is anything in the blood of yellow fever patients that would give the disease to others, and said that now that the intermediate host had been discovered he hopes it will not be long before the parasite itself is isolated.

A Case of Malarial Nephritis with Massing of the Parasites in the Kidney.

DR. JAMES EWING, New York City, in his paper pointed out that microscopic examination of the kidneys of fatal cases of malaria yield evidence of three main types of acute renal lesions occurring in this disease: 1. Acute degeneration of toxic origin, often reaching a degree in which exudation of blood serum into the tubules is added, is responsible for the vast majority of the cases of albuminuria in malaria. 2. An extreme form of acute degeneration with focal necroses which is seen in cases of hemoglobinuric malarial fever. 3. Massing of parasites in the renal capillaries with extreme degeneration of parenchymatous cells, hemorrhages and exudation into the tubules. This is seen only in severe estivo-autumnal infections.

Septic Infection Through the Stomach and Duodenum.

DR. WALTER B. JAMES, New York City, said that it is generally assumed that septic poisoning rarely takes place through lesions of the stomach and duodenum. Influences that operate against such are the inhibiting effect of the gastric contents on bacterial growth and the effective protective mechanism supposed to reside in the liver and to operate on such elements as find their way into the portal stream. The author was led to inquire into the subject through the occurrence in his practice of several cases in which the clinical picture, and in some instances the results of the postmortem, pointed to the existence of septicemia where it seemed probable that the portal entry for infecting organisms had been lesions of the stomach or duodenum. Dr. James reviewed the recent work to show that the evidence proves that the stomach and duodenum practically at all times contain large numbers of bacteria that are taken with the food and are in an active state capable of exerting their peculiar influences and producing a septic condition should a solution of continuity take place in the mucous membrane. Illustrative cases were given to show that severe and even fatal septicemia may have its starting-point in an ulcer or similar erosion in the mucous membrane of the stomach.

Two Cases of Streptothrichal Infection; One Bronchopneumonia, the Second Abscess of the Brain.

DRS. J. H. MUSSER and N. B. GWYN, Philadelphia, presented this paper. The first case was one of bronchitis of several weeks' duration, due to a mixed infection and terminating in bronchopneumonia, the sputum showing micro-organisms having the characteristics of streptothrix and also of the branching forms of tubercle bacilli. Inoculations and cultures did not show them to be tubercle bacilli. The second case

was that of a young man in whom the clinical features of tuberculous tumor of the brain and meningitis were present. There were no localizing symptoms. The patient had epileptic convulsions, and, after an illness of one week, died in coma. The spinal fluid was negative. At the autopsy a small abscess was found in the frontal lobe, which contained foul pus in smears of which the streptothrix was found.

Report on a Chemical Study of the Tubercle Bacillus.

DR. E. L. TRUDEAU, Saranac Lake, N. Y., presented this report. An assistant of his recently started a chemical analysis of the tubercle bacillus and obtained some very interesting results. He found the organism to be composed of about 30 per cent. of wax, which is undoubtedly the part which takes up the stains. The outside coating consists of cellulose, and he also found three proteids from which he separated a nucleic acid. A coloring matter of light pink shade was obtained and he was inclined to believe that the products of the nuclear proteid are the active portions of the organism. A glycogen was also isolated from the bacillus.

To What Extent is Urine a Suitable Solid for Bacterial Growth.

DR. WM. A. PARK, New York City, said that as the result of numerous tests it was found that the best growths occur in the neutral or slightly acid urines, but still there are certain urines that, without regard to the reaction, will not permit the growth of any bacteria. An effort was made to determine the amount of acid or alkali production by the bacteria. The colon bacillus made some alkali in albuminous urines. The staphylococci made more in diabetic urines, but the proteus made by far the most, changing some decidedly acid urines in a few hours into alkaline solutions. The practical bearing of this seemed to be that treatment might be aided in certain infections by keeping the urine decidedly acid.

Orchitis Complicating Fever.

DR. F. P. KINNICUTT, New York City, said that Osler observed this complication in only two of his first 800 cases of typhoid. Dr. Kinnicutt reported two cases occurring in 889 typhoid cases at the Presbyterian Hospital. Of the cases collected by Eshner, 35 occurred during the period of convalescence, and of these 13 went on to suppuration. Six presented, on examination, the Ebert bacillus, and only one the presence of any other pyogenic organism. Dr. Kinnicutt concludes that it is a rare complication of typhoidal origin which develops late in the disease or during convalescence, and terminates usually by resolution. Suppuration occurs in 25 per cent. of all cases. Atrophy of the testicle is a rare sequence and death has not been noted.

Notes on the Treatment of Some Forms of Cancer by the X-Rays.

DR. F. H. WILLIAMS, Boston, stated that the risk of producing burns is greater when using the x-rays for therapeutic than for photographic purposes, and their caustic action should be carefully guarded against. The cases he reported have all been examined by pathologists first to determine their cancerous nature. They consisted of epithelioma of the lid and hand and rodent ulcers. The cosmetic results were excellent. The treatment sometimes only requires a few exposures, and it can be conducted without the patient leaving off his usual occupation. The difficulties are that the apparatus is expensive and the treatment sometimes prolonged. In reply to questions from Drs. Bond and Peabody, Dr. Williams said he believed it was the x-rays and not the cathode rays which possess therapeutic value, and that the interposition of a cloth or any penetrable substance between the patient and the tube has no difference in the action of the rays.

Osteitis Deformans.

DRS. F. A. PACKARD and J. D. STEELE, Philadelphia, presented this topic. Dr. Packard analyzed the 67 cases from the literature, showing the preponderance of this affection among males and its greater frequency in old age, together with the comparative infrequency of association with malignant tumors as contrasted with the usual text-book statements. He reported a case with the characteristic changes described by Padgett.

The Spinal Form of Arthritis Deformans.

DR. WM. OSLER, Baltimore, Md., thinks we should recognize clinically three different grades of this disease: 1, the form occurring in young children, characterized by enlargement of the spleen and lymph glands; 2, the form in adults, characterized by atrophic changes; 3, the more characteristic form with the well-recognized changes of the disease. Sometimes all the joints of the body are involved and sometimes only a certain set of joints. He referred to one case in his care where only the feet and hands were involved. Dr. Osler gave particular consideration to the form in which the spinal column is chiefly involved, and which has raised the question whether some of these cases are not due to diseases of the nervous system. He does not believe they are separate and distinct diseases, but looks on them as a variety of arthritis deformans differing only from the other types in involvement of the spine itself, some ligamentous tissue and the posterior spinal nerve roots.

Certain Trophoneuroses and their Relation to Vascular Disease of the Extremities.

DR. B. SACHS, New York City, reviewed a special group of trophoneuroses heretofore generally believed to be due to changes in the nervous system, but in which careful examination of some cases had shown the trouble to have arisen in disease of the vessels rather than the nerves.

Personal Experiences in Cases of Jacksonian Epilepsy, with Special Reference to the Question of Treatment by Operation.

DR. J. J. PUTNAM, Boston, Mass., considers this form of epilepsy to be the only one that warrants surgical intervention, and he advises it although neurologists are more conservative on that point now than a few years ago. A focal lesion is not always found, but even in such cases operation frequently does good, perhaps through production of an inhibitory effect and the breaking of a vicious circle.

The Heredity of Appendicitis.

DR. F. FORCHHEIMER, Cincinnati, Ohio, reviewed at length the history of several families that exhibited genealogic charts to show the number of cases occurring in certain families and their evident inheritance.

The Importance of a Recognition of the Significance of Early Tuberculosis in its Relation to Treatment.

DR. E. L. TRUDEAU, Saranac Lake, N. Y., reviewed the history of his work at the sanitarium and the work of others to show that tuberculosis placed under treatment in its incipency will give about 75 per cent. of cures, whereas if these same patients are allowed to waste their opportunities for treatment until the disease is well advanced, a fatal outcome or a prolonged illness is almost certain. He laid particular stress on carefully investigating every case that shows a persistent, though irregular, afternoon rise of temperature of .5 degree or more. His experience has shown that the vast majority of patients seeking entrance to sanatoria apply too late to secure the best results, and he urges physicians in general to investigate their suspicious cases more closely, and to inform such patients of the nature of their disease so that they may secure proper treatment.

A Study of a Series of Cases of Burns.

DRS. J. G. ADAMI and J. McCRAE, Montreal, presented this report on experimental work that agreed in every particular save one with that published by Bardeen, of the Johns Hopkins Hospital several years ago. The authors did not find focal necrosis with the same regularity that Bardeen did, but the lesions were in all other respects similar to those of toxin infections.

Election of Officers.

The following officers were chosen: Dr. J. C. Wilson, Philadelphia, president; Dr. James Stewart, Montreal, vice-president; Drs. S. Solis-Cohen, Philadelphia, recorder; Dr. Henry Hunn, Albany, N. Y., secretary; Dr. J. P. Crozer Griffith, Philadelphia, treasurer; Drs. Frank Billings, Chicago, F. P. Kinnicutt, New York City, councillors; Dr. Wm. Osler, Baltimore, Md., member of the executive council of congress, and Dr. F. H. Williams, Boston, his alternate.

CALIFORNIA ACADEMY OF MEDICINE.

Meeting, April 30, 1901.

The president, Dr. D. W. Montgomery, in the chair.

Sacral Teratoma.

DR. JAMES F. McCONE presented a case, as follows: The fetus was one of twins. Its parents were not consanguineously related, and neither had suffered from infective fevers. The tumor grew from the post-anal region, and was in no way intimately connected with alimentary canal, or with sacrum or coccyx. The tumor was a flattened spheroidal mass 10 cm. in diameter, 6 cm. in thickness. It presented microscopically many varieties of tissue, areolar, myxomatous, glandular, nervous, muscular, etc. One part of the tumor had the general structure of small intestine, with its mucous membrane, villi, lymphoid follicles, and muscularis mucosa.

DR. C. A. VON HOFFMANN also exhibited a teratoma arising from the superior and inferior maxillæ, tissues of the neck, and sternum. Its largest circumference was 12 inches, and its circumference at its root was 11 inches. The mother was a strong woman 29 years of age, who had had a normal confinement in 1887. The monstrosity presented was born in December, 1900. It interfered somewhat with the passage of the head through the pelvis, which required the assistance of forceps. The placenta was small and normal, and the puerperium normal. He examined her on January 30, and found involution complete.

DR. D. W. MONTGOMERY said that he had seen a very interesting case of teratoma some years ago in the practice of Dr. McNutt, which differed from those usually seen in being malignant. It was situated on the abdomen, and caused the death of its host. They frequently appear at the sacral and occipital regions, which he thought were their most frequent location. They have to do with the embryonic layers, and contain enormous numbers of tissues. Some look like separate beings glued to the fetus born.

DR. McCONE protested against the name of sacral being given to these tumors, for they are in no way connected with the sacrum. It was the region where they appeared, and not the tissue of which they were formed, which had given them this name.

DR. H. BRUNN said that teratomas of the sacral region were more common than the one exhibited to-night by Dr. von Hoffmann; those having the location of the latter specimen, being quite rare. Sacral teratoma did not arise from the sacrum, but from the post-anal region. This one had no connection with the sacrum or the coccyx.

Subphrenic Abscess.

DR. T. W. HUNTINGTON reported a case as follows: "On April 17, 1901, the patient, A. M. F., was admitted to the Medical Service at the City and County Hospital, and the following history was recorded. A male, born in Illinois, age 54, occupation canvasser. Father died of tubercular disease. Family history otherwise unimportant. Uses alcohol and tobacco moderately. Previous history insignificant. Five days prior to admission was seized with violent cramps in upper abdominal region, attended by nausea. Hypogastric pain continued, and was present at first examination. There was persistent hicough for first two days, which ceased spontaneously. Bowels constipated, suggesting partial obstruction. Pain gradually increased. Heart seemed slightly displaced to the left. Slight dulness at left apex. Excursion of diaphragm not made out. Liver dulness could not be outlined. Spleen somewhat enlarged. Urinary examination negative. Leucocytes 6400.

The patient was transferred to my service April 23, 1901, without definite diagnosis. On examination the entire abdomen was found to be distended, tympanitic, and acutely sensitive. Patient seemed to be in great pain, but painful area had no definite limits. The distension over the region of the gall-bladder was markedly greater than at any other point amounting to a positive elevation of the abdominal wall at that point. Over this area there was tympanitic resonance which extended laterally to the axillary line. From this point posteriorly there was dulness. The temperature had ranged from 99 to 100. Pulse full, rapid and rebounding. Leucocyte count

14,400. Exploration was advised. The patient consenting, chloroform was administered and a vertical incision was made on the outer side of the right rectus, below the costal margin. On opening the peritoneum there was an escape of a considerable amount of gas. This was followed by an outpouring of nearly three quarts of foul-smelling rather thin pus. The abscess cavity was irregularly defined, and its limits could not be definitely determined, except by the examining finger. After extensive irrigation which was repeated many times it was found that the pus cavity was bounded below by the transverse colon. The entire outer surface of the liver was bathed in pus and a large amount escaped from the interspace between the stomach and liver. The diaphragm was forced upward to the level of the fourth rib, and externally against the chest wall. Thinking that there must be communication with the pleural cavity, a small portion of the eighth rib was resected in the axillary line, but at once found the diaphragm lying against the chest wall, and apparently acting as a barrier. This wound was accordingly closed. The abscess cavity was then drained, the original wound partly closed, and frequent irrigation of the cavity ordered. Patient rallied fairly well. Since the operation the temperature has ranged from 102 to 104. There has been a free discharge of pus. The patient has taken nourishment and stimulants freely. The diagnosis in this case was never made with any definiteness until an exploratory incision made a demonstration possible. The presence of gas overlying the pus reservoir and crowding outward the containing wall, was a marked feature. Probably a more careful examination of the patient in different postures would have suggested the presence of pus in large quantities, but the patient's condition was such as not to warrant prolonged examination. The origin of the abscess is still a matter of some doubt. From the first suspicions were centered upon the gall bladder, although the patient's history in no definite manner warranted this hypothesis. Careful search was made during the operation for the gall bladder, but it could not be made out. The sudden onset of the original attack furnishes some grounds for assumption of the presence of a perforating ulcer of the stomach, pylorus or duodenum. Subphrenic abscesses, or collections of pus within the lesser peritoneal enclosure may originate variously. They may be primary, that is have their origin in lesions of the stomach, pylorus, duodenum, transverse colon, liver, gall bladder, lungs, pleura, or pericardium. Keen reports one case as probably originating in the spleen as a sequel of typhoid fever. Osler and Lampe state that suppurative appendicitis is a frequent primary cause. Secondarily this condition may result from septic foci in the liver, which are metastatic manifestations following infective processes in remote organs. It seems probable that septic venous thromboses may occur in this locality outside of the liver, but this statement lacks confirmation on the part of observers. In one of my own cases a subphrenic abscess occurred seven days after the evacuation of an appendicular abscess. Surgical interference resulted in marked improvement temporarily, but the patient finally succumbed to a similar pulmonary involvement.

DR. J. H. BARBAT said that this case was of peculiar interest to him. The gas having a fecal odor might suggest the probability of the abscess being an appendicular one. Several years ago he had had subphrenic abscess in his own person which had been incised and drained, and enormous quantities of pus removed. It had finally healed over, but some years subsequently, he had had a well marked attack of appendicitis. His abdomen was opened, and a much thickened and firmly adherent appendix situated behind the cecum, was removed. These adhesions were very dense, showing they had existed for a long time. It was his opinion that his previous abscess originated in the appendix.

DR. H. M. SHERMAN said that he had seen an item within the last six or eight weeks in some journal, that subphrenic abscesses never follow appendicitis. He was able to refute that statement, however, as he had just lost such a case. He thought the presence of gas in Dr. Huntington's case would suggest a perforation of the duodenum or stomach.

DR. PHILIP KING BROWN said that he had autopsied two

cases, one was a subdiaphragmatic and pleural abscess, following appendicitis, and subsequently discharging through the mouth. The other case had followed more directly Dr. Huntington's report. It was a case of duodenal ulcer.

DR. HUNTINGTON, in closing, said there was no history of appendicular involvement; he had eliminated that. He had two theories to present as a cause, the first that it was a ruptured gall bladder, and the second, a perforation of the duodenum.

Acute Nephritis with Syphilis.

DR. D. W. MONTGOMERY exhibited a patient who had had an acute nephritis in the early stage of syphilis. The patient was an Irishman 49 years of age, and presented himself at the clinic with a very much indurated chancre on the belly in the median line, and just above the pubic hair, with immense swellings of the lymphatic nodules in both groins. A few papules, some papulo-squamous lesions, and a fading roseola of the skin. There were mucous patches in the mouth, he was drowsy, had headache, and a coated tongue. About the fifty-second day from the first appearance of the chancre he presented himself with marked edema of lower limbs, scrotum, and lower conjunctival folds. Urine was acid, specific gravity 1022, and large amount of albumen (one gram to the liter). Microscopic examination showed uric acid and oxalate of lime crystals, some pus corpuscles, hyaline, and granular casts. The patient had not been exposed to cold, nor was he a drinking man. He had not had scarlet fever, nor diphtheria, nor pneumonia, and his heart and blood-vessels were normal. He had never had gonorrhea, nor any other trouble with his urinary organs previous to the nephritis attack. He was sent to the Hospital where he remained about ten weeks, iodid of potash being continued in fairly large doses and on leaving, the urine was perfectly free from albumin and casts, nor have any ever been found since. He had been under treatment for syphilis at the clinic, at intervals, until the present time. This was an instance of acute nephritis occurring at an early stage of syphilis, and as he was not taking mercury at the time of the nephritic attack, and as he had since taken mercury without nephritis developing, it was clear that it was not mercurial nephritis. Other causes, such as exposure to cold, rheumatism, and gout, being eliminated, the author was reduced to accept syphilis as the etiologic factor.

X-Ray Burns.

DR. MONTGOMERY also exhibited a patient who came to him in March, 1901, suffering from a large X-ray burn on the belly, received the previous November, after an exposure of three sittings before a static machine. There was an irregular shallow ulcer with inflamed borders and covered with a yellow leathery, tightly adherent coating, which was very painful and tender. The patient said it had healed over a very considerable portion of its original area, but lately it had come to a standstill. Various ointments and lotions had been used, and finally a 10 per cent solution of lysol, which was found to be best for the control of the pain.

DENVER AND ARAPAHOE MEDICAL SOCIETY.

Regular Meeting.

Dr. H. G. Wetherill in the chair.

A Year's Experience with Cataract Extraction.

DR. EDWARD JACKSON reported, in detail, seven cases of cataract extraction, and made the following conclusions: All the cases may be classed as senile cataract, although two of the patients were under 50. In extracting nontraumatic cataract in young persons he has found the lens so soft that it could have been expelled through a much smaller incision. Three of the cases presented mature cataracts, one even somewhat hypermature. In three cases immature cataracts were extracted, in two vision was restored promptly, and in one not until a secondary operation had been done. His experience with ripening operation has been favorable without exception. But even if this were the universal experience, which it is not, he thinks it very doubtful whether the ripening operation would be worth doing in any considerable class of cases. The slight gain in the ease of extraction and brilliancy of

immediate result scarcely compensates for the additional period of waiting before the chief operation can be done. The extraction of immature cataract and its advantages apply only where vision has been greatly impaired or lost in the other eye. If in the other eye vision is normal or as good as the cataract extraction is likely to give, there is little reason for doing the operation before the cataract reaches maturity. The chief positive gain from extraction of monocular senile cataract is from the increased field of vision, and in this way the patient is saved from the dangers of accident that attend one who is blind in one eye. Besides, such cases will avoid the risks of hypermature cataract and of temporary blindness should the other eye become involved. He regards a hypermature cataract as a serious complication—the capsule becomes thickened, thus increasing the difficulty of extraction and rendering a secondary operation necessary and more difficult. In relatively young persons the cataract is quite white, making a very noticeable deformity. He uses a simple dressing which consists of a small loose mass of absorbent cotton held in place by one or more strips of adhesive plaster extending from the brow to the cheek. He has never seen any bandage that would retain the dressing with the same accuracy, with as little possibility of making pressure upon the eye, and as little chance of displacement or disturbance by turning the head on the pillow. Expulsive intraocular hemorrhage following lens extraction is a rare but utterly disastrous accident. In cases that seem to be in special danger of such hemorrhage he operates with the patient sitting up, and has kept them sitting up for several hours afterward. A secondary operation was done in but three of the seven cases. Cataract extraction has been less affected by the evolution of antisepsis than any other important surgical operation. We must disclaim the possibility of making the operation absolutely aseptic, and yet is there any other surgical measure that can show a better record as regards infection? His experience with the operation seems to teach the lesson that the line is yet to be drawn between essentials and non-essentials in the technique of aseptic surgery.

DR. G. M. BLACK said that instead of the adhesive plaster he uses isinglass plaster. He removes the dressing on the second day, relying on Nature to effect the cure.

DR. JOHN CHASE is averse to the use of adhesive plaster, because he has seen several patients remove the bandage. He prefers to operate on cataract cases at the home of the patient.

Important Sequelae Resulting from Delayed Operation in Appendicitis.

DR. A. S. LOBINGIER said that much has been written in a disconnected way concerning one or more of the various sequelae which may arise from appendiceal infection, but a broad and comprehensive treatment of the subject has yet to be written. The following sequelae are on record: lymphangitis; lymphadenitis, especially of the mesenteric and retroperitoneal glands; venous thrombosis involving right or left iliac or portal veins; Douglas's, tubo-ovarian, psoas, lumbar, perinephric, and subphrenic abscesses; septic hepatitis, cholangitis, and ulcer of the stomach with hematemesis; intrathoracic abscess; septic pneumonia; fecal fistula; intestinal adhesions, bands and obstruction; urethral obstruction and post-operative hemorrhage.

DRS. WARREN, HALL, GRANT and PERKINS each reported cases of formation of abscesses in various organs following appendicitis, and expressed themselves unqualifiedly in favor of early operative interference.

DR. JOHN S. MILLER said that surgeons may be divided with reference to appendicitis into a group of three: Those who would operate early, possibly before pus formation has taken place, those who wait for Nature's efforts to wall off the general peritoneal cavity, and the class who endeavor to tide the patient over the critical period and do an intermediate operation, viz., between attacks, when there is least inflammatory condition present. The two latter classes are faulty, in that theirs are the very methods which invite sequelae. He recalled a case in Professor Shuchard's clinic at Heidelberg, ten years ago, in which the abscess was simply opened and drained. The first sequel manifested itself a month later in the shape of a subphrenic abscess; the second sequel a few weeks

later in the form of a serous pleuritic effusion, in which streptococci could be traced.

MEDICAL SOCIETY OF RUSH MEDICAL COLLEGE.

April Meeting.

Tumor of Mediastinum.

DR. FRANK BILLINGS exhibited a patient with tumor of the mediastinum: John J., aged 39, married, a laborer, presented himself as a private patient on January 23. His family history was negative. His previous health had been good during his whole life, excepting an attack of bilious fever when 12 years of age. He uses alcoholic drinks very moderately; also tobacco moderately. He denied venereal disease.

A year and a half ago the present illness began with sharp lancinating pain in the right upper chest. This continued steadily, growing gradually worse until about three months ago, when he commenced having a sharp ache in the left upper chest. This was aggravated by exertion and was especially bad at night. This was accompanied with radiating pain in the left shoulder and down the inner side of the arm to the elbow. The pain is worse when lying down. It is also severe upon first moving about in the morning, but grows somewhat better after a little exercise. He has a dry cough aggravated by exercise and the dyspnea of exertion. The voice has never been changed in quality. The appetite is capricious but the digestion fairly good. The bowels are constipated.

He was 6 feet in height, weighing 135 pounds—a loss of 35 to 40 pounds from his normal weight. The skin was sallow and muddy, the general appearance one of cachexia. The eyes were negative, also the larynx. The superficial veins in the left pectoral region were dilated. Expansion of the chest was limited on both sides and apparently due to want of muscular power. The respirations were rather rapid and shallow. The apex-beat was visible and palpable in the sixth interspace in the nipple line. Dulness extended from the right sternal border at the top of the second rib to 1 centimeter outside the left nipple and upward on the left side to the third rib. No throbbing of the chest could be felt. At the apex of the heart a soft systolic murmur was transmitted downward into the seventh interspace and in the axillary line. No murmurs were heard at the base of the heart nor behind. The pulmonic and aortic second sounds were equal and not accentuated. The radial pulses were equal and synchronous, as were the carotids. The pulse was 96 per minute and occasionally intermitted. The lungs were negative, and also the abdomen. The urine was normal chemically and microscopically. The blood showed 4,200,000 red cells, 70 per cent. of hemoglobin and 8500 white cells.

This patient entered the Presbyterian Hospital on January 26, and many examinations have confirmed the findings named above. Recently the radial pulses have been unequal, the left the smaller with the patient sitting or standing, but they appeared equal when he was recumbent. With rest in bed he has become more comfortable until now he no longer suffers from pain of any importance in the chest. The physical findings are, however, the same, and an x-ray photo shows a mass in the mediastinum just above the base of the heart.

The diagnosis of mediastinal tumor is based on the fact that the patient denies venereal disease, has a family of healthy children, his wife has never miscarried, and his disease has been slowly progressive associated with loss of considerable weight accompanied with cachexia. Furthermore, by the fact that in spite of the pressure being great enough to interfere with the circulation in the vein and at a point which must be near the transverse arch of the aorta and therefore near the recurrent laryngeal nerve and blood-vessels of the left side, it has not produced a change in the pupils or larynx or pulse which one would expect to find in an aneurysm of the same region. On the other hand, the patient has improved with a rest and with moderately large doses of iodid, so that there is a possibility of aneurysm and the diagnosis of mediastinal tumor is therefore tentative.

Malignant Mediastinal Tumor.

DRS. E. FLETCHER INGALS and OTTO T. FREER presented the

history and pathologic specimen of a case of malignant mediastinal tumor occurring in a man about 35 years of age. The first symptoms, consisting of coryza and tickling sensation in the throat, had begun about four months before he came under observation. Dyspnea began about a month later and had steadily increased. At the end of two months there had been some swelling and congestion of the face, and he had first noticed distension of the superficial veins. There had been no real pain. When first seen the patient was strong and well nourished, but the cough was very troublesome and the dyspnea alarming if he lay down for a few minutes. There was dullness on the front of the chest over an area extending from the clavicles to the lower edge of the ribs, and laterally about three inches each side of the sternum, with flatness over the lower part of the right chest. The fluoroscope revealed a dark shadow nearly corresponding to, though somewhat larger than, the area of dullness. The respiratory sounds were absent over a large part of the dull area and the lower part of the right side, but nearly normal elsewhere. There were tracheal râles indicating compression of this tube. The superficial thoracic and abdominal veins were moderately enlarged, and on stripping the superficial epigastric veins the blood was seen to be flowing downward, because of obstruction of the superior vena cava. There were a number of slightly enlarged inguinal and cervical glands and the left vocal chord was paralyzed in the cadaveric position.

The patient grew steadily worse and died in about two weeks. Postmortem revealed a large anterior mediastinal sarcoma corresponding closely in size to the clinical findings. There were very slight changes within the abdominal cavity. There was a large collection of serum in the right pleura, extensive adhesions of the left pleura, and the heart and larger blood-vessels, together with the trachea, were much involved by the tumor mass. The very interesting pathologic changes were pointed out, which revealed the causes of the symptoms which had been present before death.

Calculi.

DR. ARTHUR DEAN BEVAN presented specimens of salivary stones, gall-stones, pancreatic stone, kidney stone, bladder stone, and reviewed the points in the etiology, pathology and natural history common to all of them. He also briefly reviewed the histories of the cases from which the specimens had been obtained. He stated that all true stones consisted of two substances of different origin: one the framework of organic material derived from the mucosa of the duct or reservoir in which the stone was formed; the second the crystallizable substances derived from the secretion of the gland in connection with this duct. He believes that the essential cause of true stone formation in any position is a catarrhal inflammation of the mucosa of mycotic origin.

In the case of salivary stones, in addition to this essential cause, i. e., mycotic infection, there is occasionally found, as a nucleus, a foreign body which has worked itself into the ducts of the salivary gland. The germs producing a catarrhal inflammation of the mucosa which lead to the development of salivary calculi gain access to the mucosa probably from the mouth, through an ascending inflammation. The finding of leptothrix and other germ forms by Klebs and Gallippe in salivary calculi seem to demonstrate this fact. One can not exclude, however, the possibility of such germs reaching the salivary glands and ducts through the circulation.

In connection with gall-stones, the same etiologic factors are present. The germs producing the essential catarrhal inflammation reach the mucosa of the bile-tract by an ascending inflammation from the intestines in some cases; in others probably through the blood carried to the liver. It is difficult to state which route is the more common as the germs usually found in gall-stones, the colon bacillus and the bacillus of typhoid, may reach the bile-tract by either route. Foreign bodies are occasionally, but very rarely, here, the nuclei of stone.

In connection with pancreatic stone, Dr. Bevan stated that the etiologic moments are practically the same as in gall-stone formation. He called attention to the difficulty of diagnosing pancreatic stone and to the probability that it is more common

than we have heretofore believed; also that it is probably an important factor in acute pancreatitis and fat necrosis. The development of the surgery of the pancreas within the last few years makes us hopeful that in the near future we shall be able to diagnose and operate successfully for pancreatic calculi. In 1885, when Charles T. Parkes first suggested and planned choledochotomy, it seemed to the surgeons of that day as difficult an undertaking as the removal of a stone from the pancreatic duct seems to us to-day, and yet choledochotomy soon earned for itself the position of one of the most successful and brilliant of surgical achievements.

In demonstrating a number of calculi from the urinary tract, he stated that we had here, probably, again the same etiologic factors, viz., a catarrhal inflammation of the mucosa of mycotic origin. There can be no question that the germs producing this inflammation may reach the mucosa by ascending the urinary tract or may be brought to the kidney or bladder by the blood. He believes the most common germ form here is the gonococcus, which represents the first route, and the bacillus of typhoid and the colon bacillus both probably representing the second.

The natural history and symptom-complex is very much the same in all forms of calculi; they may remain for years innocuous without giving evidence of their existence: if they do give evidence of their existence, it is either because, mechanically, from change of position or increase in size, they interfere with the patency of the duct or reach a point in the duct too small for their accommodation, as in the passage of a stone through the common duct or a stone through the ureter; or more frequently the cause of symptoms is the occurrence of a fresh infection of the mucosa—this infection favored by the presence of the calculus.

The x-ray is of great value in determining the presence of urinary calculi whether in the kidney, ureter, bladder or prostate. This means of diagnosing has not as yet been satisfactory in determining the presence of gall-stones excepting in a limited number of cases. Within the last few years much brilliant work has been done in kidney-stone surgery, thanks to this means of diagnosis.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Annual Meeting, held April 15.

Parker Syms, M.D., president.

Adenoma Sebaceum: Nevus: Lateris Sarcoma Cutis.

DR. WILLIAM S. GOTTHEIL presented specimens and patients. The first was a rare form of adenoma, most often found on the scalp. The second growth was in the axilla of a boy of 10 years. Microscopic examination proved the dark linear excrescences to be true nevus. Two men with sarcoma cutis were also shown. The lesions were particularly well marked and numerous on the lower extremities. The microscope showed no evidence of tuberculosis. The speaker said that under proper treatment with heroic doses of arsenic the prognosis in such cases is good.

Diagnosis and Surgical Treatment of Prolapsed Kidney, with a Demonstration of a Simple Method of Examination for its Detection.

DR. AUGUSTIN H. GOELET was the author of this paper. He said that the condition was much more common than generally supposed, because often overlooked in the defective methods of examination commonly employed. According to his experience, and that of others, prolapsed kidney is found in one out of every four or five gynecologic cases coming under observation. Of this number 50 per cent. suffer from this dislocation of the organ. The etiology is obscure. The symptomatology is extensive, and includes persistent intestinal distention, gastric irritability, fatigue on slight exertion, dragging in the loins, irritability of the bladder, and occasionally attacks of acute pain simulating renal colic. The examination should be conducted with the patient standing against a wall or table, with the body bent slightly forward rather than backward. As

the patient takes a deep inspiration, the examiner grasps the loin just below the ribs with the thumb and fingers of the left hand, and then having drawn the skin tense by a downward motion of the right hand, this hand is used to push the displaced kidney, if there be such, upward against the left thumb. Coughing sometimes facilitates these manipulations. A distended gall-bladder, an omental tumor or a mass of impacted feces may be mistaken for prolapsed kidney, but it should be remembered that the kidney is more movable than the gall-bladder and less tender, that omental tumors are usually associated with malignant diseases in other parts, and that impacted feces may be dislodged by appropriate treatment. Dr. Goelet is of the opinion that the only proper treatment for such cases of prolapsed kidney as call for interference is the operation of fixation, and he looks upon this procedure as nearly devoid of risk and very satisfactory in its results. The patient should be kept recumbent for three weeks after the operation.

DR. GEORGE TUCKER HARRISON said that in spite of the beauty of the method of examination just described, the physician would meet with many disappointments in diagnosis, particularly if he does not sometimes resort to ether narcosis. He also deprecates the undue enthusiasm of the present day in regard to these cases and their management.

DR. J. RIDDLE GOFFE said that for some years past he has made use of this method, which he learned from Dr. G. M. Edebohls. Like most other surgeons he favors operating so as to bring the substance of the kidney directly in contact with the muscle.

DR. GOELET said that his method differs essentially from that which he understood is employed by Dr. Edebohls. His results in the operations for fixation of the kidney have been just as good when he has not opened the capsule.

Officers Elected.

The following are the newly elected officers: Dr. Parker Syms, president; Dr. Alexander Lambert, first vice-president; Dr. Francis W. Murray, second vice-president; Dr. Ogden C. Ludlow, secretary; Dr. Charles E. Denison, treasurer; Dr. Charles S. Benedict, member of executive committee.

JOHNS HOPKINS HOSPITAL MEDICAL SOCIETY.

Meeting held April 15.

Dr. William H. Welch in the chair.

The Parasite of Cancer.

The meeting was given up to an exposition by Dr. Harvey R. Gaylord, chief of the New York State Cancer Laboratory at Buffalo, N. Y., of the organism which he believes to be the cause of cancer. The address was illustrated by drawings on the board and by lantern projections on the screen. Dr. Gaylord began by telling of the inception of the laboratory—the only one in the world exclusively devoted to the study of cancer—through the assiduous efforts of Dr. Roswell Park, who, being convinced by his personal experience that cancer is due to a parasite, induced the legislature of the state to make an annual appropriation. Three years ago Dr. Gaylord was placed in charge of the scientific part of the work. At that time fresh cancerous tissue was inoculated into the jugular vein of a dog. Twenty-two days later the animal died, when a distinct cancer was found in his lung. San Felice at this time arrived at the same result and cultivated a yeast as the cause. Russell and Plimmer, of England, did the same thing, and by injecting the culture into a dog caused a growth resembling a cancer. But upon repeating the experiment very many times these observers invariably failed to get the growth. In the one case they had succeeded in cultivating a yeast contamination. Repeating their experiments Dr. Gaylord proved the difference between their yeast protozoon and the true organism of cancer. The latter has a distinct cycle of development, slightly analogous to the plasmodium malariae, but precisely like the vaccine organism, i. e., it passes through seven stages. In its first stage it can not be distinguished from the cocci. In its highest form it has ameboid movements and appears like a leucocyte except that it has in it a number of

hyaline bodies resembling fat, but not true fat because not dissolved by ether or staining in osmic acid. These hyaline cells rise to the top in a hanging-drop, owing to their low specific gravity. By injecting into the cornea of a rabbit, it is found that the cancer protozoon and the vaccine bodies develop alike, but the former more slowly. Dr. Gaylord's method is to take the fluid from the abdominal cavity of patients operated on for cancer. This gives a practically pure culture of the protozoon, mostly in its hyaline form. One or 2 c.c. was inoculated in 100 animals, dogs, rabbits, guinea-pigs and mice and the same organisms were recovered from the various organs of the animals in every case examined. In 12 of the animals distinct cancers were formed. He thought that the amount of infectious material was too great for the animals in the other cases and they died from acute cancerous infection. Bacteriologic examinations were made in every case with negative results. Dr. Sjoebing, of Lund, Sweden, has succeeded in making a medium of human fat on which the protozoon grows and when inoculated into animals produces cancers. Toward the death of a person with cancer these bodies are found in the blood. Injected into animals, they may be recovered and reinjected indefinitely. In a piece of cancer dried for four months infection resulted on its injection.

Pfeiffer described this protozoon as the cause of cancer as far back as 1891, and has recently reached precisely similar results to Gaylord's, but by different methods. Sjoebing has also stated observations precisely similar. These observers, with Plimmer, San Felice, Funk, Eisen, of San Francisco, and others, deserve as much credit as any one, he said.

PHILADELPHIA PEDIATRIC SOCIETY.

Meeting held April 16.

President Dr. T. S. Westcott in the chair.

Indigestion in Infants.

DR. L. EMMET HOLT, New York City, by invitation, read a paper entitled "Some Forms of Indigestion in Infants, and Young Children, with Special Reference to their Dietetic Treatment."

The speaker stated that the chronic forms of indigestion in children required most attention on the part of the physician. In the majority of instances it is the method of feeding that determines the degree of digestion. Much harm to the digestive powers of the infant occurs during the first few days, and frequently when the infant is turned over to the physician a considerable period may be required to correct the dietetic errors already committed. As to the milk to be employed, he prefers percentage milk feeding. A common formula would be 1 per cent. fats, 6 per cent. sugar, and .5 per cent. proteids. With proper food the child should not suffer from colic, but should gain rapidly in weight. Infants frequently suffer from constipation, which in itself should not always be considered harmful. The use of purgatives for the purpose of controlling constipation frequently sets up a diarrhea which does more harm than the original trouble. In many instances it may be necessary to begin artificial feeding within the first twenty-four hours. Rarely has gastric dilatation anything to do with the existence of constipation in children. Few things are more irritating to a child's stomach than the organic acids—butyric—found in milk, when in abnormal amounts. In some instances it requires the addition of 25 per cent. of lime-water to neutralize the excessive acidity. Frequently stomach washing is demanded, and it is surprising to find such large quantities of mucus as are at times present in the stomach of young infants. Within the first few days, if vomiting be severe, often all that will be required is the administration of bicarbonate of soda in very weak solution. In one instance he gave barley water to a patient in whom indigestion had been pronounced, and with relief of the symptoms within twenty-four hours. The carbohydrates in this instance probably inhibited the development of acid fermentation. In some cases, when death occurs from apparent toxemia, the micro-organisms may not be found in the milk but may exist in the child. In one such instance the stomach was irrigated, and rectal feeding enjoined, with relief of this condition.

In some instances indigestion occurs with wet nursing. In one he found that the nurse's milk contained an excessive quantity of fats. Drawing the milk, skimming, and the addition of lime-water gave good results. Later the child was applied to the breast with rapid gain in weight. In inanition there is a great reduction in the amount of chlorids excreted. In instances in which diarrhea, greenish stools, fever and exhaustion are seen the milk may often be diluted so that the fats equal about 2 per cent. and the sugars 50 per cent. with immediate relief. When one kind of milk persistently disagrees with a child a change of food is indicated. In some cases it is best to take the child off of cow's milk entirely and give dextrinized or farinaceous foods. Rickets and scurvy may result from improper feeding. In some cases rectal feeding is of great importance. In such cases from 1 to 1½ ounces of peptonized milk may be given. In case of eructation of sour food rectal feeding may relieve the condition. Frequently the addition of a small amount of brandy to the peptonized milk may do good.

Sometimes dilution of the milk to reduce the fats is the very worst thing which can be done. Dr. Holt instanced a case in which this caused harm, and when the child was given milk with a very large amount of fat it thrived best. Each case demands a separate line of treatment. We must not be wedded to any one special line. Frequently the very opposite will prove the best.

DR. J. P. CROZER GRIFFITH expressed belief that the good results Dr. Holt always obtains are in part due to his close attention to the smaller details of infant feeding, and the close watch he keeps on the life of the patient. One should always personally inspect the napkins of infants when faulty digestion is present. We must not leave too much to the nurse. The proper system of feeding in great part depends on a correct insight into the condition present. As to the correction of constipation, it is usually best to let it alone, rather than give a medicine and cause diarrhea.

DR. E. E. GRAHAM has seen good results follow when cow's milk was prohibited, and albumin water or broths given. The peptonization of milk is probably not resorted to as frequently as it should be. Rectal feeding is frequently a valuable aid.

DR. FREDERICK A. PACKARD was glad to note that the speaker was not inclined to lay stress on the subject of bowel washing, which some advised being done every few hours.

DR. D. J. M. MILLER was impressed with the importance of proper feeding within the first twenty-four hours after birth. Milk mixtures, when too much diluted, may not always be borne best.

DR. J. MADISON TAYLOR thinks much depends on the adoption of common sense rules.

DR. ALFRED STENGEL believes that we have hardly reached that stage when the subject of infant feeding can be spoken of as depending absolutely on definite fundamental principles. We attempt to compare the results obtained in the case of diseased conditions with those prevailing during health. In his opinion probably the good results achieved in correcting the diet of adults depend not so much on the special kind of food but on the amount of it. In some instances this rule holds good in the case of children. He has frequently found that, by reducing the fats and proteids, and increasing the carbohydrates, disagreeable features subside. In other cases he has found that lavage gave tolerance to a special kind of food when not previously well borne.

DR. T. S. WESTCOTT spoke of a case in which cream had not been well borne. In this instance he could not give even a few drops of cream, but the same percentage of cream, when given as part of milk, was well borne. Later the cream could be gradually increased.

DR. HOLT, in closing, stated that he does not approve of giving cow's milk in cases of acute indigestion. The paper for the most part dwelt on the chronic forms of this condition. In one instance he has seen rectal irrigation kept up for many months, doubtless doing harm. The only symptom had been some mucus in the stools. He again wished to make the point that no fixed rule can be formulated so as to meet the indications in all cases.

Therapeutics.

Chorea Treated by Sodium Cacodylate.

Lannois has used sodium cacodylate in treatment of chorea, because of its innocuity, in relatively large doses. He gave it hypodermically in doses of .02 to .04 per day. He continued it for five days and began again after an interval of five days. Three weeks' treatment usually sufficed when other treatment failed. He records several cases in which good results were obtained by its use.

Sodium cacodylate is a white amorphous powder, soluble in water, frequently given subcutaneously, and is a good substitute for other arsenic preparations. It contains 48 per cent. of arsenic and is comparatively free from poisonous properties. It may be given by the mouth, well diluted, in one-half grain doses, gradually increased. By the French physicians it is very frequently given per rectum. It has been employed with decided improvement in all the diseases in the treatment of which arsenic preparations are indicated.

Treatment of Eczema.

Abraham, in *The Clinical Journal*, thinks that the treatment should consist in quieting the inflammatory condition, in removing the hyperemia and lessening the exudate, and at the same time to asepticise and protect the parts.

FOR THE EXUDATION.

R. Zinci oxidi3i 4
Acidi boracici3ss 16
Pulv. amyli3ss 16
M. Sig.: Use as a dusting powder.

TO REMOVE THE HYPEREMIA.

R. Zinci oxidigr. xx 1 33
Hydrarg. subchloridigr. x 66
Plumbi acetatisgr. x 66
Ung. hydrarg. nitratis.....gr. xx 1 33
Vaselini q. s. ad.....3i 32

M. Sig.: Apply locally, after first bathing the parts with a weak tar lotion.

Internal treatment should be combined with the local treatment: Alkalies, tonic bitters and aperients for the digestive tract. Full medicated baths containing starch, bran and a small amount of tar. He has found, in some cases, the modified Lassar's paste to be beneficial, prescribed as follows:

R. Pulv. amyli
Zinci oxidi, aa.....3ii 8
Acidi salicylici.....gr. x 66
Vaselini3ss 16
M. Sig.: To be thickly applied after the bath.

Treatment of Diabetes with Sodium Salicylate.

R. T. Williamson, of London, in *British Medical Journal*, in an article on treatment of glycosuria and diabetes mellitus, concludes that in certain mild cases of diabetes or in persistent glycosuria, it has a decided action in markedly diminishing the sugar excretion. He states that it is not suitable in all cases of diabetes, however. Its administration should be watched closely, and it should be administered in fairly large doses. It is best to commence with 10 grains three times a day, then four times a day, and increase gradually up to 15 grains four or five times a day, watching for toxic symptoms. In severe forms of diabetes patients frequently gain in weight while taking the drug. It is better borne if well diluted.

Potatoes in Diabetes Mellitus.

A. Mosse, as noted in the *Indian Med. Rec.*, states that potatoes should have a place in the dietary of diabetics. He cites two cases in which the wisdom of such addition to the fare was evidenced by a prompt decrease in the amount of sugar excreted in the urine. The potatoes should be given to the amount of from two to three pounds daily, as a substitute for the whole or a part of the bread allowed. The cases which seem to respond best to such management are those of medium intensity and of the arthritic type.

Treatment of Influenza.

L. Bourget, in *Ther. Monat.*, states that the treatment of

influenza and rheumatism should be carried out along similar lines inasmuch as the etiological factors are similar, and consequently he employs the following as a liniment:

R. Aëdi salicylici	3i	4
Methyl salicylatis	3iiss	10
Olei eucalypti	3iiss	6
Olei salviæ	m. l	3 25
Olei myristicæ	3i	4
Olei camphoræ	3i	32
Spts. juniperis	3iv	128

M. Sig.: Put the patient to bed and rub this liniment into both the anterior and posterior portions of the chest two or three times a day.

Precautions in the Examination of Pregnant Women.

The *Vermont Med. Monthly* gives the following general precautions to be observed by the obstetrician: 1. The hands of the obstetrician are his most valuable agents. 2. That any infection is almost invariably transmitted by the examining finger and less often by unclean instruments. 3. Pregnant and parturient women can be very speedily infected by a single examination. 4. Internal examination should be as infrequent as possible during pregnancy and labor, resorting to it only when external examination does not afford sufficient information.

Subcutaneous Injections of Gelatin for Hematuria.

Gossner, of Königsberg, as noted in the *British Medical Journal*, records the cure of a case of hematuria by first administering tannin, lead acetate, ergotin, etc., but without any effect on the bleeding. Gelatin was then tried as a subcutaneous injection into the tissues of the thorax, the preparation being carefully sterilized and warmed and 200 cubic centimeters being injected. Severe pain, headache, vertigo and general restlessness followed, which, however, soon subsided and the next day the hematuria still showed absence of blood. Therefore the cure was regarded complete.

Treatment of Beri-Beri.

B. M. Gibson, of Edinburgh, in the *Jour. of Tropical Medicine*, gives the following treatment of beri-beri, and as this is of more than passing interest to the medical fraternity of the United States we give his outline of treatment, which is as follows: The first step is to remove the patient from the place where he contracted the disease. His diet should then be changed to beans and fat pork in order to supply nitrogen and fat. The following prescriptions are recommended:

R. Tinct. digitalis	3ii	8
Tinct. ferri perchloridi	3ii	8
Acid. phos. dil.	3iii	12
Infusi calumbæ q. s. ad.	3vi	192

M. Sig.: One tablespoonful three times a day.

Or:

R. Liq. arsenicalis		
Liq. strychninæ, aa.	m. xxvi	1 70
Liq. ferri perchloridi	3iiss	6
Glycerini	3i	32
Infusi calumbæ q. s. ad.	3vi	192

M. Sig.: One tablespoonful three times a day.

Or:

R. Quinina sulph.	3i	4
Ferri sulph.	gr. xxxvi	2 36
Mag. sulph.	3iv	16
Acidi sulph. dil.	3i	4
Spts. chloroformi	3ii	8
Aq. menth. pip., q. s. ad.	3vi	192

M. Sig.: One tablespoonful three times a day.

He states that in dropsical cases, one tablespoonful of brandy given every two hours is very effective.

Treatment of Typhoid Fever by Enemata of Olive-Oil.

O. F. Paget, in *The Lancet*, states that splendid results are derived in treatment of typhoid fever by slowly administering every twelve to fifteen hours, an enema of about one pint of olive-oil; this should be retained in the bowels for several hours, if possible. If after twelve hours it is not expelled it may be discharged by giving an ordinary soap and water enema, three hours after which another enema of olive-oil may be given. The daily administration is discontinued after one

week, and then may be given only when the temperature is elevated or the bowels constipated. If diarrhea is present olive-oil should always be given and the use of bismuth is not necessary. He claims that the death-rate under this treatment is *nil*. Heart failure, sequellæ, tympanites or perforation of the bowels is not present, nor are cold baths necessary.

Sexual Irritability of the Male.

A. Sander, in *Med. News*, states that sexual irritability in the male may be classified as belonging to the lithemic type, the nervous type and the third class comprises those in which gonorrhea has been an efficient cause. For the first and second classes he recommends moderate exercise in the open air. The diet of the lithemic should be properly regulated, avoiding too much tea, coffee, and alcohol. Fish and poultry are good. To aid elimination he recommends:

R. Sodii et potass. tartratis	3ii	64
Acidi pot. tartratis	3i	32

M. Sig.: One teaspoonful in water upon rising.

To allay the sexual passion of the neurasthenic, one dram doses of fluid extract of salix nigra at bed-time are usually effective. For the nervous system:

R. Liq. potassii arsenitis	3i	4
Ext. ergotæ fluidi	3iii	12
Tinct. capsici	m. x.	66
Glyeerini	3i	32
Aquæ q. s. ad.	3viii	256

M. Sig.: One tablespoonful three times a day.

Acne Rosacea.

R. Sulphuris precip.	3i	4
Zinci oxidi	3iiss	6
Calimini	3ii	8
Glycerini	3iiss	6
Aq. rosæ q. s. ad.	3iv	128

M. Fiat lotio. Sig.: Apply locally night and morning.

Medicolegal.

Two Thousand Dollars the Value of a Boy's Life.—The Supreme Court of New Jersey declares, in the case of *Rowe vs. the New York & New Jersey Telephone Company*, brought to recover damages for the death of a boy about 12 years old, caused by negligence, that it is unable to see how, on any rational computation of probabilities, the pecuniary loss resulting to his next of kin from his death could equal \$5,000, as assessed by the jury, and makes a reduction of the damages to \$2,000 the condition of not requiring a new trial.

Permissible Basis and Form of Expert Evidence.—The Supreme Court of Alabama says, in the case of the *Louisville & Nashville Railroad Company vs. Stewart*, that opinion evidence of experts, such as physicians, may be based on facts of which the witness has actual knowledge, as well as on an abstract hypothesis. And it holds that it is not a valid objection to a physician's opinion concerning cause and effect of disease and injury that it assumes the form of a conclusion.

When Disease is Indirectly Cause of Death from Injury.—The Supreme Court of Vermont says that the circumstantial evidence bearing on the cause of the insured's death, in the case of *Clark vs. Employers' Liability Assurance Company*, presented the question whether he was stricken with spontaneous apoplexy and fell in a place where the wheels of his wagon passed over his neck, or whether he accidentally fell where the wheels passed over him and suffered apoplexy as a result of the injuries received. The insurance policy did not insure against death occasioned wholly or partly, directly or indirectly, by disease or bodily infirmity. And the court holds that, inasmuch as the policy did not insure against an accidental death caused indirectly by disease, if the insured's fall was caused by disease, that disease was the cause of his death, within the meaning of the exception. His helpless plight in the tracks of the approaching wheel was due to the apoplectic stroke, and to that alone. An accidental death by crushing, it goes on to say, is caused indirectly by disease, if the person

falls in the place of danger because of disease. The death is caused directly and wholly by the crushing, but it is nevertheless caused indirectly by the disease. Wherefore, it holds that it was necessary for the beneficiary suing on the policy to show, not only that the injury received was the direct cause of death, but that disease did not indirectly cause the death by subjecting the insured to that injury.

Physical Examination in Action to Annul Marriage.—A motion was made before Mr. Justice Leventritt, at a special term of the Supreme Court of New York, New York County, to compel the defendant to submit to a physical examination before trial, in an action brought for the annulment of a marriage on the ground of fraud, in a case the title of which is "Anonymous." The alleged fraud consisted in representations of good health, relied on by the plaintiff, when the defendant was, in fact, at the time of his marriage, afflicted with the disease known as "syphilis." The right exercised from the earliest days by courts having jurisdiction in divorce matters, in ordering inspection, the judge says, is not statutory. And he calls attention to the fact that in all the cases cited here, in which an examination was ordered, relief was sought on the ground of impotence, and he says that he was referred to no authority in which an examination had been directed to establish the existence of specific disease. But he declares that he can discover no difference in principle where the essential elements authorizing inspection in the one case exist in the other. A marriage, in his opinion, should be annulled as much on the ground here assigned for relief as in the case where consummation is rendered impossible by reason of the physical defect or malformation of one of the contracting parties. The state which may not improperly be considered a third party, as it were, to every marriage contract, has in a proper case as much interest in dissolving the marriage tie as in upholding it. Where a person to his knowledge afflicted with a most grievous venereal disease, contagious in a very high degree, and which, even under the most favorable circumstances, requires years before it yields to treatment, and may even then for a long time still lurk in the system, a source of hidden danger, marries an innocent girl, under representations that his health is sound, threatens her with infection, and their offspring with hereditary disease, a case, the judge holds, is presented for state interference and judicial annulment. So, while he says that it is quite true that fraudulent representations as to good health, as that term is generally understood, do not vitiate the marriage compact, he sees in this case, if the allegations be true, an instance of extreme fraud, and a misrepresentation as to health not such a one as is contemplated by the authorities. And he is satisfied that the power exists, within narrowly circumscribed limits, in an action of this nature, to compel an inspection of the person of the defendant; that it is inherent in the court in this class of actions; but that the remedy is so extraordinary, and necessarily so violative of the privacy of person, that its application should be restricted to extreme cases, and then not exercised before it is apparent that no other means of proof are available. An examination of this nature, he further says, can and should never be granted as a matter of course. The absolute necessity therefor must unmistakably appear. A proper regard for the rights of the individual requires an adherence to the rule that the necessity for the examination should appear on the trial, and not upon facts shown on a preliminary hearing.

Society Can Not Enjoin Payment for Vaccination.—The Supreme Court of Alabama says that the case of the Commissioners' Court of Perry County vs. the Medical Society of Perry County was brought by the medical society, a corporation organized under the charter of the Medical Association of the State of Alabama, and three practicing physicians of said county, who were members of said society and constituted the board of health of the county, who sued as individuals. The theory proceeded on was that the medical society of the county had the exclusive right and power to appoint or employ persons to vaccinate the people and fumigate the houses, etc., in prevention of the spread and stamping out the contagion of smallpox, which had broken out in one section of the county, and that the commissioners' court had no such power or

authority; and it was averred that, notwithstanding such want of power in said court, that body had employed a certain party to perform that service at a salary or wage of \$100 a month, and that said party was proceeding to perform his part of the contract. The prayer was that said party be enjoined from performing said contract; that the judge of probate, the commissioners' court, and the treasurer of the county be each enjoined from allowing or paying the said party's claim for such illegal services; and that he be enjoined from collecting the same. But, as it was averred in the answers and proved on the hearing that the party had completed the performance of his contract on the day the bill was filed, the court says that no case was made for an injunction perpetually restraining him from further services under the contract. Moreover, the court holds that the medical society and individuals suing with it had no standing or right in a court of equity to restrain the commissioners' court, the probate judge, and the treasurer of the county, or any of them, from paying out moneys belonging to the county under any circumstances whatever. It says that it is too plain for argument that the medical society of the county, even assuming it to be a corporation with capacity to sue, and to be vested with the statutory powers and duties in respect to public health—questions none of which the court decides here—has as such no interest whatever in the disposition the constituted county authorities may make of county funds, and can not be damaged, or in any wise prejudiced, by any appropriation of such funds, authorized or not, which the commissioners' court may determine on. Whatever may be the powers in other respects of the medical society of a county under the statute, it is clear beyond cavil that it has no power in its corporate capacity, if it is a corporation, to sue for the correction or prevention of public abuses committed or threatened by county officers in the disbursement of county funds. Again, the court says that the conclusions of the medical society that it had been "crippled and injured in the performance of its duties under the laws of this state," by the action of the commissioners' court in making this contract would be entirely insufficient as pleading to show any crippling or injury. The facts must be stated. Wherefore, the court holds that the society was without interest in the case made at the hearing, and should not have been awarded relief. Besides, it holds that the individual complainants, considered apart from the medical society, had no title to the relief sought, it not being alleged that they were citizens and taxpayers of the county, nor that they were property owners and taxpayers therein.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

New York Medical Journal, May 4.

- 1 *Abdominal Pain in Typhoid Fever. Thomas McCrae.
- 2 *Spinal Anesthesia by Cataphoresis. J. Leonard Corning.
- 3 The Pathology and Bacteriology of Uretero-intestinal Anastomosis. (To be concluded.) F. Robert Zeit.
- 4 *The Use of the Suprarenal Capsule in Diseases of the Heart. (To be concluded.) Samuel Floersheim.
- 5 *The Law and the Inebriate: With Remarks on the Treatment of Inebriety. Joseph Collins.

Medical Record (N. Y.), May 4.

- 6 *The Operation for Radical Cure of Inguinal Hernia, at the End of the Century, as I Saw it Performed by Bassini, Lucas-Championnière, De Garmo, Coley, and Broca. Campbell Ford.
- 7 *Varicella in Adults. Alvah H. Doty.
- 8 A Plea for the Conservation of Breast Milk in whole or in part. Thomas S. Southworth.
- 9 *On Bandages for Nephroptosis. George M. Edebohl.
- 10 *Version: Indication, Technique, Limitation. S. Marx.
- 11 *Axis-Traction Forceps. Egbert H. Grandin.
- 12 *Cesarean Section. Edwin B. Cragin.

Medical News (N. Y.), May 4.

- 13 Medical Department of the University of Pennsylvania. Charles W. Dulles.
- 14 *A Report of Twenty-four Operations Performed during Spinal Analgesia. William S. Bainbridge.
- 15 *Some Sources of Error in Laboratory Clinical Diagnosis. Theodore C. Janeway.

Boston Medical and Surgical Journal, May 2.

- 16 *Contusions of the Abdomen. Charles L. Scudder.
- 17 *Observations on the Use of Antistreptococcus Serum in the Treatment of Puerperal Sepsis with a Report of Five Cases. Frank A. Higgins.
- 18 A Case of Cesarean Section in a Face Presentation, Complicated by Uterine Fibroid. Emma S. Call.
- 19 Notes from the Neurological Department of the Massachusetts General Hospital. Exophthalmic Goiter and Fright. E. W. Taylor.

Philadelphia Medical Journal, May 4.

- 20 *Puerperal Polyneuritis and Poliomyelitis. James Stewart.
- 21 *Localization of Sound and its Bearing on Hearing—Especially in Unilateral Deafness. B. Alex. Randall.
- 22 *German Clinics of To-day. John C. Hemmeyer.
- 23 Volvulus and Intussusception of Meckel's Diverticulum. Joseph McFarland.
- 24 *Deaths from Anesthetics. D. H. Galloway.
- 25 *Esophoria, or Latent Squint. Francis Valk.
- 26 *Strangulated Hernia. Walter Lathrop.
- 27 Ammonium Persulphate Solution. A New Decolorizing Fluid for Staining Spores and Sputum. Robt. L. Pitfield.

American Medicine (Philadelphia), May 4.

- 28 *An Analysis of my Vaginal Ablations in 181 Cases of Pelvic Inflammation and Uterine Fibroid Degeneration. (Concluded.) W. R. Pryor.
- 29 *Inguinal Hernia. B. Merrill Ricketts.
- 30 Vaginal False Membrane due to Bacterium Coll. J. N. Hall.
- 31 *A New Series of Anaerobic Bacteria. Louis LeRoy.
- 32 *Conclusions from Personal Observations of Compound Fractures. Douglas C. Moriarta.
- 33 The Food Value of Alcohol, and Professor Atwater's Experiments and Teachings. (To be concluded.) John Madden.
- 34 *Some Remarks on the Cumulative Action of Digitalis, with an Illustrative Case. Edwin Zugsmith.
- 35 *Prolonged Intubation. Edwin Rosenthal.

Cincinnati Lancet-Clinic, May 4.

- 36 *Carbuncle. Robert Carothers.
- 37 Enormous Gall-stones with Ovarian Cyst and Uterine Fibroid. J. F. Baldwin.

St. Louis Medical Review, May 4.

- 38 *Complicated Ovarian Tumors. Emil Ries.
- 39 Case of Vaginal Hernia Complicated with Pregnancy and Sepsis. Frank A. Glasgow.
- 40 Librarian's Report to the St. Louis Medical Library Association for the Year Ending April 24, 1901. Frank J. Lutz.

Medical Fortnightly (St. Louis), April 25.

- 41 Heredity, Criminality, and Degeneracy. H. Hatch.
- 42 Chronic Gastritis. Frank Parsons Norbury.

Pediatrics (N. Y.), April 15.

- 43 *Two Starvations. J. C. O'Day.
- 44 *Inheritance of a Gouty or Uric Acid Toxemia in Children, with Statistics of Fifty-seven Cases. Carl N. Brandt.
- 45 Some Pulmonary Affections of Children Following the Infectious Diseases. Albert M. Cole.

Chicago Medical Record, April.

- 46 The Clinical Type of Neurasthenia. Harold N. Moyer.
- 47 Etiology of Neurasthenia. Sanger Brown.
- 48 On the Pathology of Neurasthenia. L. Harrison Mettler.
- 49 Treatment of Neurasthenia. Archibald Church.
- 50 *State Aid in the Prevention of Tuberculosis. C. O. Probst.
- 51 The Management of Fevers. I. N. Love.
- 52 *Miscarriage of Municipal Sanitation. Ernest Wende.
- 53 *Demands of Sanitary Science. H. M. Bracken.
- 54 Effect of Physical Conditions and Sera on the Typhoid Bacillus. Adolph Gehrmann.
- 55 Surgical Cases (Inoculation, Tuberculosis from Hides, etc.) Daniel N. Eisendrath.
- 56 A Case of Raynaud's Disease. Charles Louis Mix.
- 57 *The Family Physician's Treatment and Prevention of Purulent Otitis. H. Gradle.
- 58 A Case of Gangrene of the Appendix Simulating Infection Following Labor. Deanslow Lewis.
- 59 Vesicosigmoidal Anastomosis. E. J. Senn.
- 60 Genito-Urinary Surgical Notes. F. Kreissl.
- 61 Specimen Obtained from a Bottini Operation. E. W. Andrews.

Alienist and Neurologist (St. Louis), April.

- 62 Friedrich Nietzsche: A Study in Mental Pathology. William W. Ireland.
- 63 *The Successful Management of Neuralgia. C. H. Hughes.
- 64 Degeneracy Stigmata as a Basis of Morbid Suspicion. A Study of Byron and Sir Walter Scott. James G. Kiernan.
- 65 Medicine in 1800. Samuel L. Mitchell.
- 66 Morphinism and Crime. T. D. Crothers.
- 67 The Legal Disabilities of Natural Children Justified Biologically and Historically. (To be continued.) E. C. Spitzka.

Clinical Review (Chicago), May.

- 68 On the Use of General Anesthetics. Franklin C. Wells.
- 69 Clinical Lectures upon the Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.

Journal of Cutaneous and Genito-Urinary Diseases (N.Y.), April.

- 70 *Benign Epithelial Tumors of the Skin. B. H. Buxton.
- 71 Case of Dermatitis Herpetiformis Illustrating an Unusual Pustular Variety of the Disease. Grover William Wende and Herbert D. Pease.
- 72 *Impetigo Contagiosa Bullosa and its Bacteriology. Martin F. Engman.
- 73 Report of Two Cases of Impetigo Contagiosa Bullosa: One of them Fatal. Joseph Grindon.

Bulletin of the American Academy of Medicine (Easton, Pa.), April.

- 74 The Kentucky Medical Law. J. N. McCormack.
- 75 Associate Medical Examining Boards. Charles A. Groves.
- 76 A Brief Review of the Medical Curriculum of the United States, with Special Reference to the Defects, and Indicated Modifications as Demonstrated by the State Medical Examination for Pennsylvania. Henry Beates, Jr.
- 77 The Co-operation of the Medical Profession of the United States with the National Confederation of the State Medical Examining and Licensing Boards, in Establishing Interstate Reciprocity for the License to Practice Medicine. Emil Amberg.
- 78 What Steps Shall be Taken to Establish a Uniform Standard of Preliminary Requirements in Accordance with the Recommendations Contained in the Report of the Committee on Minimum Standards, Adopted June, 5, 1899. N. R. Coleman.

Illinois Medical Journal (Springfield), April.

- 79 *Paralysis of the Sphincters of the Anus Caused by the Forcible Dilatation of That Orifice. Edmund Andrews.
- 80 Rectal Fistula. A. E. Halstead.
- 81 *The Diagnosis of Rectal Diseases. J. Rawson Pennington.
- 82 *The Treatment of Hemorrhoids. N. H. Henderson.
- 83 *Acute Hemorrhagic Encephalitis. Charles D. Center.
- 84 *What Shall the Harvest Be? (Public Hygiene and Morals). R. H. Henry.
- 85 The Medicolegal Status of Abortion. O. B. Will.
- 86 The Treatment of Tuberculosis and Other Abscesses and Local Infections by Pure Carbolic Acid, with Report of Cases. I. R. and G. W. Walker.
- 87 Practical Observations on the Chemical Effect of a Few of the Older and Some of the Newer Remedies. E. L. Herriott.

Journal of Medicine and Science (Portland, Me.), April.

- 88 The Availability of the Nutrients and Potential Energy of Food Materials. Charles D. Woods.
- 89 The Process of Digestion. Chas. O. Caswell.
- 90 A Reply to Dr. D. A. Robinson's Article. Morris Longstreth.

International Medical Magazine (N. Y.), April.

- 91 Treatment of the Different Varieties of Chronic Endometritis. Augustin H. Goelet.
- 92 Impetigo Contagiosa. Jay F. Schamberg.
- 93 Some General Remarks on Electricity in Gynecology. G. Betton Massey.
- 94 Rhinoliths, with Report of Two Cases of Diagnostic Interest. Carle Lee Felt.
- 95 Laceration of the Perineum and its Primary Repair. E. E. Montgomery.
- 96 The After-Treatment of External Perineal Urethrotomy. J. D. Thomas.
- 97 The Method of Removing and Preparing Portions of Tissue from the Uterus for Diagnostic Purposes. W. Wayne Babcock.

American Gynecological and Obstetrical Journal (N. Y.), April.

- 98 *The Treatment of Displacement of the Uterus, with Adhesions. F. H. Davenport.
- 99 *Causes of Dysmenorrhea. Albert M. Judd.
- 100 The Causes and the Significance of the Obstetric Hemorrhages. J. Clifton Edgar.
- 101 *Osteofibroma of the Uterus. George Ben Johnston.
- 102 *A Case of Natural Uretero-intestinal Anastomosis. C. A. Kirkley.
- 103 *The Treatment of Cancer of the Uterus. J. Wesley Bovée.

St. Paul Medical Journal, May.

- 104 Psychotherapeutics. J. W. Frizell.
- 105 Psychology of the Medical Profession. Wm. B. Lyman.
- 106 The Medical Profession. D. W. Day.
- 107 Rickets. John Specht.
- 108 Feeding of Infants. Caroline Hedger.
- 109 The Modern Treatment of Tabes Dorsalis, with Report of a Case. Chas. R. Ball.
- 110 Glaucoma. Thomas McDavitt.
- 111 Adrenalin, the Active Principle of Suprarenal Extract, the Most Powerful Hemostatic Known. Frank C. Todd.
- 112 Excision of the Rectum for Cancer. James W. Robertson.
- 113 Vesico-vaginal Fistula Repaired Under Hypnosis. A. Shimonek.

University of Pennsylvania Medical Bulletin (Philadelphia), April.

- 114 A Series of Twelve Articles on Medical Men Prominent in the Civil and Military Affairs of Revolutionary Times. Francis R. Packard.

- 115 *Notes on Fifty Operations for Otitic Extradural Abscess. B. Alex. Randall.
- 116 Primary Sarcoma of the Spine. James K. Young.
- 117 A Critique of Certain Methods of Gastric Analysis. David L. Edsall.
- 118 Adrenalin, the Active Principle of Adrenal Extract, a Proposed Agent in Morphin and Opium Poisoning, in Circulatory Failure, in the Prevention of Collapse in Anesthesia, and in Allied Conditions—A Preliminary Note. Edward T. Reichert.
- International Journal of Surgery (N. Y.), May.
- 119 Practical Suggestions on the Treatment of Appendicitis. Henry Flood.
- 120 Regional Minor Surgery. (Continued.) George G. Van Schaick.
- 121 The Ligament Operation. W. H. Maxson.
- 122 Practical Suggestions on the Treatment of Rectal Diseases. (Continued.) James P. Tuttle.
- 123 Nose and Throat Work for the General Practitioner. (Continued.) George L. Richards.
- 124 Two Interesting Cases of Appendicitis. A. R. Small.
- 125 Enlarged Prostate, Cystitis, Wound of the Urethra and Abscess of the Testicle. L. H. Schwerin.
- Southern California Practitioner (Los Angeles), April.
- 126 Tuberculosis Literature for the General Practitioner and His Work in the Combat Against the "Great White Plague." S. A. Knopf.
- 127 *Rectal Reflexes. Wellington Burke.
- 128 *Oophorectomy and Hysterectomy for Epilepsy. Walter Lindley.
- Columbus Medical Journal, April.
- 129 Operations for Cleft Palate and Hair Lip. Dudley P. Allen.
- 130 Examination of Candidates for Entrance into Medical Colleges. C. E. Albright.
- 131 Preliminary Education for Entrance into Medical Colleges. Hugh Hendrixson.
- Vermont Medical Journal (Burlington), April.
- 132 A Few Rambling Thoughts on Medical Matters. C. D. Albro.
- 133 A Case of Chronic Rheumatism. L. B. Smith.
- 134 A Non-surgical Treatment of Hemorrhoids with Clinical Reports. Eugene C. Underwood.
- Therapeutic Gazette (Detroit), April 15.
- 135 Puerperal Mastitis: Its Prevention and Treatment. Edward P. Davis.
- 136 Gastrotomy for the Relief of Painful Deglutition Incident to Tuberculous Laryngitis. Edward Martin.
- 137 *The Blood-Pressure-Raising Principle of the Suprarenal Glands—A Preliminary Report. Jokichi Takamine.
- 138 *Physiological Relations of *Scopolia Carniolica* to *Atropa Belladonna*. Horatio C. Wood, Jr.
- 139 Gastric Ulcer: Its Etiology, Symptomatology, and Diagnosis, with Special Reference to Treatment. (Continued.) D. D. Stewart.
- 140 Management of Arrested Posterior Positions of the Vertex. Richard C. Norrls.
- 141 Hydrocele and its Treatment; Summary of 338 Operations; Description of a New Method Suggested by Doyen for the Radical Cure of Hydrocele of the Tunica Vaginalis Testis. Orville Horwitz.
- Georgia Journal of Medicine and Surgery (Savannah), April.
- 142 *Relation of the Profession to the General Public. R. R. Kime.
- 143 An Important Class of Skin Diseases and their Treatment. Eugene C. Underwood.
- 144 Coughs: Their Suppression and Cure. Louis DeLorne.
- Texas Medical News (Austin), March.
- 145 Subarachnoid Cocainization of Medullary Anesthesia, with Report of Cases. J. G. Boyd.
- 146 Scarlet Fever. W. T. Shearer.

AMERICAN.

1. **Abdominal Pain in Typhoid.**—From an analysis of 500 cases classified as regards pain the following conclusions are deduced by McCrae: 1. About two-fifths of the patients are free from pain or tenderness, rather less than one-fifth have tenderness only, and pain is present at some time in about two-fifths of the cases, but during the course only in about one-third. 2. Pain due to some condition other than the specific bowel lesions was present in about 14 per cent. of all cases and in about two-fifths of the patients having pain during the course. 3. Pain occurred with hemorrhage or perforation in about 5 per cent. of all cases and in about 15 per cent. of the cases in which there was pain during the course. 4. Pain was most constantly present with perforation, when it was usually sudden in onset, severe in character, and paroxysmal in occurrence. The pain of perforation was most closely simulated by that occurring in some cases of hemorrhage, that from phlebitis, and that of unknown origin. 5. In about two-fifths of all cases with pain

during the course no cause could be found. Should this occur with other abdominal symptoms the condition may much resemble perforation.

2. **Cataphoretic Spinal Anesthesia.**—Corning reports experiments to produce spinal anesthesia by cataphoresis and details methods. He performed it on a man in whom it was thought inadvisable to give general anesthesia, by making an incision and injecting through an insulated tube, which passed down through the ligamentum subflavum, fifteen minims of a 2 per cent. solution of hydrochlorid of cocain, which was deposited between the dura and vertebral canal. Then the electric current was passed from the tube to a sponge on the abdomen with a current of .3 milliampere. Anesthesia appeared slowly, fully one-half hour being required and the ether was begun to be administered when it was found that the patient was anesthetic and the ether administration was discontinued and the operation carried on under the cocain anesthesia with success. The operation was an osteotomy of the foot and the anesthesia of the legs persisted for an hour afterwards. While the operation was physiologically a success, Corning concludes it was a failure practically, on account of the time necessary to induce the anesthesia and the formidable paraphernalia required. He reports the case, however, trusting that others may improve upon it or be saved from going over the same ground.

4. **Suprarenal Capsule.**—Floersheim's second paper describes the preparation of suprarenal capsule for internal use, the method of administration, giving the drug by the mouth in gelatin capsules, also the rapidity of its action and the indications. He thinks suprarenal extract is safer and better in heart disorders than digitalis, strychnin, strophanthus, or nitroglycerin, and is the most powerful heart stimulant known. The remainder of his article is taken up with histories of cases.

5. **Inebriety.**—The history of the treatment of inebriety and the legislation of different countries is given by Collins. The paper is simply a brief survey of the laws in relation to the inebriate, abroad and at home.

6. **Hernia.**—After describing the different operators' methods mentioned in his title Ford describes the stitches which he has invented: The single knot stitch, the square knot stitch, and the friction knot stitch and calls attention to the fact that neither of these is the buttonhole stitch commonly called Billroth's. The reader is referred to the article for details of these stitches.

7. **Varicella.**—Doty enumerates the signs characteristic of varicella that distinguish it from smallpox, and also calls attention to the fact that the former may occur in adults, contrary to common opinion. The signs to which he refers are: 1. Character of eruptions. The "shotty" feeling and involvement of the true skin as compared to the superficial nature of the eruption in varicella. 2. The manner in which it appears; smallpox has but a single crop, while chickenpox has successive ones. 3. The distribution or location of the eruption. In smallpox the hands and feet are almost always involved to some extent, while in chickenpox they are either not affected at all or have a very little eruption. The appearance of hard, cicatricial, and distended papules on the hands and feet especially palms and soles, is a very important sign of smallpox. The back gives one of the best localities to study varicella and while umbilication is characteristic of smallpox, what will pass for this may be sometimes found in chickenpox and some forms of syphilitic eruptions. Constitutional symptoms, of course, are not to be neglected, but the character of the eruption should be studied first.

9. **Nephroptosis.**—The subject of bandages to be employed for nephroptosis is discussed by Edebohls, who summarizes his paper as follows: Bandages for movable kidney may be divided into two general classes: 1. Simple bandages, and apparatus embodying the feature of a special kidney pad. 2. Simple bandages act by supporting the entire contents of the abdomen, sustaining and more or less immobilizing the movable kidney or kidneys on top of the intestinal mass. 3. All the relief to be gotten from bandages in cases of movable kidney is

obtainable from one of two devices, either from an elastic bandage, encircling and sustaining well the lower two-thirds of the abdomen, or from a long and low-reaching corset, fitted and adjusted with the same end in view. 4. The relief obtainable from bandages in any case of movable kidney will depend upon the presence and the degree of any associated enteroptosis. The greater the degree of associated general enteroptosis the better the prospects of relief from a bandage or corset. When movable kidney exists without general enteroptosis, no form of apparatus will prove satisfactory. 5. All forms of apparatus with special kidney pads or trusses are to be absolutely rejected because they are impotent to fix and sustain a movable kidney, and because any pressure they may exercise is injurious to either the kidney or to neighboring organs, especially the vermiform appendix, or to both. 6. In all cases in which relief of symptoms can not be obtained from either a proper simple bandage or corset, nephropexy is indicated.

10. **Version.**—The indications of version are elaborated by Marx, who classified them as follows: 1. Malposition and malpresentation. 2. Contracted pelvis, either relatively or absolutely so. 3. Prolapsus funis or allied condition. 4. For all other unclassified conditions, such as placenta previa. 5. Except under very rare conditions in all cases in which the head remains above the brim; the exception being where there is a uterine rupture or Bandl contraction. This is the only indication for forceps as compared to version when the head is above the brim. In the most of these prolonged labors, however, when the child has been already sacrificed or is in immediate danger, elective perforation should be given the preference. When the child is *in extremis*, he thinks most of saving the life of the mother and version is needed in all cases where the life of the mother is threatened, as, for example, by a uremic convulsion, or an embolus of the lung, supposing, of course, a dilatable os or one that is dilated. When such is not present, we must anticipate it with a rapid manual dilatation or deep Dührssen's incision. The following operative rules are laid down, which have been of great value to him: 1. Always be sure of the position and the presentation. 2. Be sure that the fetus is alive or not in immediate danger. 3. Do version as early as possible in the presence of an intact fruit sac, or at least as soon after the rupture of the membrane as possible. 4. Always introduce the hand according to the position of the fetal feet. 5. Always turn the child in such a fashion as to keep Nature's classic ovoid intact, that is, carry the foot along the abdominal plane of the pelvis and not away from it. The technic and details are given. The limitations of the operation are also noted. We must estimate the operation from the standard of the average pelvis and average size of the child and no operation short of perforation should be instituted in the presence of a dead or dying fetus. Our lowest limit for elective version would be in the case of a pelvis whose true conjugate is at or above 3.25 inches in the presence of an average-sized or small child. These measurements would not hold good in the presence of a large or over-sized child. The use of the Walcher position when the head is passing the contracted inlet is mentioned as of advantage, as increasing the true conjugate between one-half and three-fourths of an inch. Individual skill and experience are of importance, but he believes that the operation stands midway between forceps and Cesarean section and the field for symphyseotomy is growing smaller and smaller.

11. **Axis Traction Forceps.**—The advantages of the axis-traction forceps are dwelt upon by Grandin. He thinks that one need only be trained in their use to have fewer impossible deliveries and far less danger to the maternal parts and intracranial injuries laid to their use.

12. **Cesarean Section.**—Nine cases are reported by Cragin as illustrating the advantages of Cesarean section, which he thinks has the preference over symphyseotomy in that every step of the operation is under the control of the surgeon, the mortality is less, and convalescence more rapid and easier. Some points of the technique are mentioned and the writer expresses his personal preference to leaving the uterus as nearly intact as possible whenever it can be done. Only when infection or disease of the uterus and appendages exist or

pelvic deformity is extreme does he prefer to follow the Cesarean section by hysterectomy.

14. **Spinal Analgesia.**—A summary from 50 cases, including 24 here reported by Bainbridge, is in substance as follows: 1. Cocain is more satisfactory than eucain. The anesthesia is more uniform and the unpleasant after-effects no greater. 2. Analgesia to the level of the diaphragm can be depended upon in all cases where moderate doses of a potent solution of cocain has been introduced by lumbar puncture. Sometimes the analgesia may be sufficient for operation on the upper extremities. 3. Complete analgesia including the eyes, mouth and throat has been seen. 4. The preparation as for general anesthesia diminishes all the unpleasant effects of cocain and eucain and often prevents them. 5. Moderate doses of bromids before injection frequently do away with the initial vomiting and the liability of headache is lessened. 6. In neurotic patients there are often hysterical symptoms following completion of the injection, but a calm follows, as a rule, in a few minutes. 7. The initial nausea and vomiting often occur soon after puncture, but last only for a minute or two and usually do not recur. Consciousness being preserved the danger of vomited matter getting into the lungs is practically nil. 8. The analgesia lasts from thirty minutes to four hours. 9. Depression after puncture is inconsiderable. The use of ethyl chlorid (Bengue) largely prevents pain when the needle is introduced. 10. The preparation of the patient, the use of nitroglycerin by hypodermic injection or employment of the coal-tar products with caffein, control the headache frequently seen after spinal puncture. 11. In a few cases there may be temporary motor paralysis or vertigo. 12. Spinal puncture has not affected normal or diseased kidneys. 13. Usually the tactile, muscular, hot and cold sensations are retained. The cautery at a dull-red heat causes no pain, but hot water produces discomfort. 14. Usually the patient sleeps the first night. 15. There is often a temperature of a few degrees within eight or ten hours of the operation. Whether of psychic origin or not is unanswered. The circulation and respiration are not seriously affected.

15. **Errors in Laboratory Diagnosis.**—Janeway calls attention to a number of errors which occur in laboratory clinical diagnosis. In urinary examination the most conspicuous error is failure to filter the urine, which makes a delicate test impossible. The most reliable tests are Heller's, the acetic-acid, and ferrocyanide, heat and acid tests. As a general test Heller's is undoubtedly the most useful. No conclusion, however, can be drawn from the presence of albumin in the urine, excepting that it is not normal. The greatest significance of the negative test is in cardiac cases in which it gives evidence of absence of congestion of the kidney and makes the prognosis more hopeful. In the sugar test there are many serious errors, especially with Fehling's solution. It is most useful for just one purpose, viz., to exclude the presence of sugar. The tests which give positive indications of the presence of sugar are the polariscope, fermentation and the phenyl-hydrazin reaction. The second one of these has some advantages in being useful also for quantitative determination. The phenyl-hydrazin test as ordinarily given is the most unsatisfactory, but the use of pure phenyl-hydrazin, 5 drops, glacial acetic acid, 10 drops, and saturated solution of sodium chlorid, 1 c.c. to 10 c.c. of urine, boiling vigorously and letting cool slowly in the air has given him most excellent results. Sugar in the urine does not necessarily signify diabetes. The difficulties of clearing a mixed twenty-four hours' urine is considerable and without this a fairly representative sample is hardly to be obtained. An excellent method where it can not be had is to take equal parts of the water passed in the late afternoon before retiring and upon rising in the morning, but this will not suffice for careful quantitative methods. One of the commonest errors in connection with specific gravity is to conclude that the urine does not contain sugar, if it is below some arbitrary point, 1030 or 1020. He has often seen it with a specific gravity of 1015. Another mistake is failure to recognize the significance of the urine of constant low gravity and increased quantity. If albumin is absent such urine points strongly to contracted kidney. As regards the quantitative de-

termination of urea, it is so dependent upon diet and other factors that he does not think it well to draw many conclusions from a single examination. For practical purposes the total solids, as indicated by the quantity specific gravity ratio, affords as much and less often misleading information. No error is greater than to neglect microscopic examination and certain points are not sufficiently brought out in the textbooks. One of these is the occurrence of calcium oxalate in a form closely resembling red-blood corpuscles in size and shape. Janeway has found casts without albumin where he has taken particular pains in applying the trichloroacetic acid test, and such findings illustrate the necessity of making one's observations independent of each other. The error of making a diagnosis of diabetes from the existence of sugar or of kidney disease on the presence of a few casts is remarked upon. In sputum examination the tubercle bacillus is not the only thing to be looked for. The examination of the unstained expectoration may be of value. The occurrence of Charcot-Leyden crystals and Curschmann's spirals in asthma is mentioned. Errors in the examination for tubercle bacilli are noted and he particularly speaks of the failure to insure sputum from the chest. In blood examination, the individual idiosyncrasies as regards color estimation in the hemoglobinometer is noticed and the numerous errors possible in the search for malarial organisms. The new polychrome methylene-blue stain just perfected by Dr. L. B. Goldhorn places the staining of malarial parasites within the ability of all and is an easy safeguard from any former errors. The time of examination is also important, the best is about eight hours before the chill, the parasites then accumulating in the internal organs. The mistakes in the diagnosis of leucocytosis, etc., are mentioned and he thinks that the possibility of the confusion of specimens in a large laboratory is a matter of importance. He has known of cases where a laboratory diagnosis of typhoid led to overlooking a large internal abscess for three weeks, the mistake being caused this way. In the examination of the stomach contents errors are possible. The finding of lactic acid has no meaning if milk has been taken, and this often occurs with a patient using a roll for his test breakfast, made with milk. Löffler's method with the use of alizarin is rejected by the writer, and he uses Congo red to estimate the total free acid and acid salts. The usual tests for lactic acid, Uffelmann's, Kelling's, etc., are subject to so many errors that a positive reaction should not be considered due to lactic acid unless corroborated by a test made in a solution of an ether extract of the filtrate. The most we can obtain by our analysis of the gastric contents is the functional diagnosis. Errors of judgment are possible. The influence of the nervous system on the stomach is so important that the most searching examination of the psychic and physical conditions of the patient can alone guard against serious errors.

16. Contusions of the Abdomen.—The author here attempts to present the symptomatology of the conditions that are liable to occur in abdominal contusions and discusses them in detail. The injuries enumerated are those of the ureter, bladder, liver, kidney, stomach, intestines, spleen, and pancreas; in each case the symptoms, diagnosis and treatment are noticed at length. The general considerations are given at the end of the article. The injury may be externally slight and severe internally, or vice versa. The question to be settled following abdominal contusions is whether operative interference is required. An exploratory operation will often be justified, even demanded. Shock alone may be without discoverable pathologic lesions and improvement from this condition is a valuable indication that the patient can bear the operation. Ordinary shock is recovered from in about three hours of the injury. Increasing shock should suggest intra-abdominal hemorrhage or visceral rupture. The absence of shock does not mean the absence of serious lesions. In profound and continued shock active operative interference is absolutely contra-indicated. Hemorrhage, pain, tenderness, vomiting, distension and rigidity are valuable symptoms, the last two suggesting peritonitis and serious infection. The questions to be answered in any case are: Is operation necessary? Are there lesions of viscera? Two classes of cases should not be operated upon at

first: 1, that class in which little or no shock is present; in which there are absolutely no localizing signs; and 2, that class in which profound shock, amounting perhaps to collapse, exists. Immediate operation is demanded in persistent moderate shock, with or without localizing signs. Immediate operation is demanded in cases of progressing hemorrhage. Immediate operation is demanded in cases of peritoneal infection. For the details of treatment, etc., the reader is referred to the original article.

17. Antistreptococcus Serum.—Five desperate cases of puerperal sepsis treated with antistreptococcus serum reported by Higgins, do not seem to show it to be a valuable therapeutic agent in these conditions. Its power is limited to a very narrow line of cases. It has a very marked depressing effect on the patient and the directions advising its administration off-hand in large and frequent doses should not be followed with very sick patients. He thinks it is best endured by the patient and less danger follows a dose of 10 c.c. repeated not oftener than every twelve hours. In 20 c.c. doses it is a remedy not without danger. He believes that the serum has no place in the routine treatment of puerperal sepsis and should be only used in desperate cases after failure of other measures; if no improvement is shown after two or at the most three days of its use and after the total injection of 40 to 60 c.c. it should be discontinued.

20. Puerperal Polyneuritis.—The case reported appears to have been in the first stages, one of neuritis, after several months passing into a poliomyelitis. The rapid ascending progress of the disease was the first indication of the involvement of the spinal cord. The cause is not clear though a number of other cases of puerperal poliomyelitis have been reported. There was severe vomiting during pregnancy, and the author calls attention to the view of Clifford Allbutt that such vomiting is due to toxins and suggests that the same toxins may induce neuritis.

21. Localization of Sound.—Randall calls attention to what he thinks is a neglected point in regard to unilateral deafness, that is the difficulty of locating sound which must be experienced by its victims. In ordinary hearing there is a sort of stereoscopic action or triangulation by which sound can be rapidly located; but with only one ear hearing, one side of the brain has to do the work of two. He thinks that it is time that the value and importance of "binaural hearing" should be better appreciated.

22. German Clinics of To-day.—Hemmeter points out certain tendencies in German clinics, viz., putting the personality of the patient in the foreground of the treatment, not the constitution or disease, and the tendency to make use of a large variety of remedies and many methods. The dietetic treatment, for instance, has been wonderfully evolved. He points out the differences between German and American habits of diet, as indicating the need of a special dietetic journal here. The prophylaxis is also an important point with them and all the humanitarian devices, which are greatly worked up in German clinics. Much attention is also paid there to hydrotherapeutics and aero-therapeutics, the use of hot and cold air, gymnastics and massage. The German internal clinic of to-day is no longer under the ban of pathologic anatomy, but its highest aim is the perfection of treatment, to help and to heal.

24. Deaths from Anesthetics.—Galloway calls attention to the common carelessness in regard to the use of anesthetics and gives instances which have occurred under his observation. He says that while many operations are practically devoid of danger, no anesthetic is ever administered without jeopardizing the life of the patient. Administration of anesthetics by an inexperienced man is most strongly condemned. He has, he says, helped to resuscitate 17 patients from an overdose of the anesthetic, but has not had a case of his own for nearly six years until within a few weeks. This case was reported as illustrating the dangerous power of chloroform and the suddenness of its action, which sometimes may make unpleasant complications. He claims that if unnecessary deaths occur from anesthesia the responsibility extends beyond the anesthetizer

and includes the medical colleges which ignore its importance; and make no effort to teach it properly, if at all, and that confer diplomas which the people accept as the evidence of a training which the student has not received.

25. Esophoria.—Latent congenital squint is discussed by Vaik, who gives a number of cases showing the benefit of operation by shortening. In all the same operation was performed, shortening the muscle by a single tuck at insertion of the tendon into the sclera and leaving the catgut suture to be absorbed.

26. Strangulated Hernia.—The mortality in strangulated hernia, according to Lathrop is due to delay in operation and to unnecessary taxis. Taxis is never free from danger and should be discarded, excepting in emergencies. Strangulated hernia is invariably fatal unless relieved and early operation will nearly always succeed.

28. Vaginal Operation.—In the continuance of this article Pryor gives the further details of his methods. He does not consider the presence of pus a positive indication for the removal of pus tubes. In young women in the first attacks he generally contents himself with palliative procedures of evacuation. After repeated attacks a radical operation is preferable. When the adnexa of both sides are so damaged as to require removal the uterus is not only a useless organ, but a mischievous one. He goes farther and protests against the removal of one pyosalpinx and leaving the other, though apparently normal. The chances of any functional utility of the other one are too slight to be considered. The indications for ablation in genital sclerosis are found in the subjective symptoms rather than the physical signs. He is outspoken in his opposition to myomec-tomy, excepting in rare instances. A clean curettage supplemented by the administration of mammary extract is without risk, and causes greater reduction in size than myomec-tomy. If he operates for fibroids he uses the radical operation, but does not operate unless disagreeable symptoms are present. The mere presence of fibroid is not an indication. In certain cases of pus and fibroids he never operates through the vagina if symptoms of appendicitis are present, or where the uterus is broken down in puerperal sepsis laparotomy is demanded as also is the case in large fibroids, but these form only a small percentage of the cases. When the complications of pus cases are distinctly abdominal, the operation must proceed through the abdomen. Complications and accidents of the vaginal operation are noted and Pryor claims better results than the average in laparotomy. He has never found any shortening of the vagina after vaginal ablation.

29. Inguinal Hernia.—The operations for inguinal hernia are reviewed by Ricketts, with the chances of recurrence, etc. He calls attention to three causes of failure in radical operations: 1. Deficient origin (attachment) of the internal oblique. 2. Pressure on the walls of the abdomen by the truss (where one is worn). 3. The length of time hernia has existed, especially in the aged. In making a radical operation he says do not divide the fibers of the tissue. Do not cut the blood vessels, and nerve repair will be more certain and rapid, for the reason that the vitality of the tissue will be preserved, but the operator should cut out the fat.

31. Anaerobic Bacteria.—Le Roy quotes from a report read by Veillon at the International Medical Congress in Paris last summer on some hitherto overlooked and unknown anaerobic bacteria that, "Following an extensive systematic series of researches we have been able to isolate 14 species of strictly anaerobic organisms. These anaerobes are the principal agents of a whole series of affections of a gangrenous or putrid nature. They have been isolated in otitis, mastoiditis, cerebral abscess, pulmonary gangrene, putrid pleurisies, dental caries and sup-purations of dental origin, sinuses, phlegmons of the orbit, gangrenous pericystitis, appendicitis, peritonitis, hepatic abscess, periuterine suppurations, certain puerperal infections, bartholinitis, urinary abscesses, extravasation of urine, vesico-renal and peri-renal infections, and gangrenous phlegmons. The details of the technic employed in the special study of each of the diseases in which these bacteria have been encountered will be found in a series of works undertaken in the laboratory

of Prof. Grancher. We will here content ourselves with giving a resume of the biologic properties of these microorganisms. Exclusively anaerobic, they have the property of necrosing living tissues and at the same time to cause them to undergo a process of disintegration analogous to putrefaction; these are the agents of the gangrenous and putrid processes. Not only do they act locally but by the toxins which they secrete as well, they provoke a veritable general poisoning which is evidenced by the symptoms of constitutional infection and in typical cases by an alteration in general condition which may be termed the putrid facies or cachexia. In the study of their toxins and by immunization we soon hope to have a scrotherapeutic treatment which will be truly rational and efficacious." LeRoy has in progress some work on the same line with which he hopes to be able to verify the above.

32. Compound Fractures.—Moriarta reports a number of cases of compound fractures and urges that when the pathologic condition is not positively demonstrated in such cases, the puncture or laceration be enlarged, the bone fully exposed, approximated and held there, provided the physician is sure of his technique and the patient's condition does not contra-indicate it. The danger, he thinks, is insignificant while the advantages of the method are great.

34. Digitalis.—That the impression given by some textbooks that the symptoms of cumulative digitalis poisoning has no real gravity, is erroneous, is held by Zugsmith, who reports a case in which artificial heat was employed with great advantage in counteracting it. The theory, however, of the method he thinks was wrong though the results were good.

35. Prolonged Intubation.—According to Rosenthal the rule in intubation should be to remove the tube within five days, unless it be removed by expectoration before and not further required. If the tube is required longer than such time it would be hard to say when it should be removed and the case may be held to be abnormal. All cases requiring the tube longer than five days must be classed as cases of prolonged intubation. The treatment consists in large doses of strychnia and constant re-intubation and extubation daily or every two days with progressively smaller tubes until the case no longer requires it. An illustrative case is reported.

36. Carbuncles.—The treatment of carbuncles recommended by Carothers is prophylactic, abortive, medicinal and operative. Many cases can be prevented by cleanliness and where damage to the kidneys and liver exist these should be looked after. If seen in its beginning the carbuncle can often be aborted by injection of a few drops of carbolic acid, or a white hot needle thrust into the center of the inflammation. In more advanced cases he uses a sharpened stick of caustic potash thrust down to the underlying fascia in the center of the carbuncle producing a necrosed crater and this relieving tension and avoiding the more extensive operation of the extirpation. The medicinal treatment is the relief of pain by tonics, diet, etc. He prefers for the local treatment equal parts of castor-oil and turpentine applied to the carbuncle on absorbent cotton or gauze, which is to be kept thoroughly saturated. It relieves pain at once so that in most cases no narcotic is required. It prevents suppuration. He first limits the inflammation and promotes granulation. The most rational operative treatment is the burning away of the entire mass with the actual cautery, creating the carbuncle into a burn of the second or third degree. He does not look with favor on the cutting operations, especially the crucial incisions or curette, which may do serious damage.

38. Complicated Ovarian Tumors.—Ries reports two cases interesting on account of the diagnostic difficulties, and emphasizes the following two points: 1. If a pelvic suppuration appears to be present and the history of the patient gives no clue to its cause; remember suppurated ovarian tumors! This is important because, 2, conservative operations which might be successful in simple pelvic suppurations, would fail to cure suppurated ovarian tumors.

43. Two Starvations.—The conditions here considered are rickets and scurvy, and the importance of the early diagnosis of the former is insisted on. Rickets is fat starvation, and scorbutus is starvation from the anti-scorbutic element, what-

ever that may be. O'Day considers that these disorders are largely caused by artificial foods, and that fresh raw milk from a healthy cow, properly diluted, is far better. The treatment of rickets is mentioned: cod-liver oil stands pre-eminent as a remedy. The child developing rickets should be given from 15 drops to 1 dram three times a day. If this is not taken kindly, some other kind of fat is indicated, and bacon comes next in its efficiency. Butter and cream can also be given with good effects. For scurvy anything that supplies the anti-scorbutic element is all that is indicated. Fresh raw milk contains this, and fruit, especially oranges, is a specific for the disease.

44. Uric Acid Toxemia in Children.—After an analysis of the condition with a table of fifty-seven cases, Brandt calls attention to the various conditions which may depend on a uric acid toxemia including, eczema, indigestion, urticaria, pharyngitis, tonsillitis, joint-inflammation, etc. In a large proportion of these cases there was heredity. He insists on frequent quantitative analysis of the urine, made by a competent man in these cases.

50.—See abstracts in *THE JOURNAL* of March 23, p. 832.

52.—*Ibid.*

53.—*Ibid.*, p. 831.

57. See *THE JOURNAL* of March 30, p. 891.

63. Neuralgia.—Hughes objects to the surgical treatment of trifacial neuralgia, which he thinks can be generally managed by medical means. His chief reliance has been belladonna or its active principle (atropin), aconite, strychnia, large doses of quinin with gelsemium, hypophosphites of iron, with locally, ether, menthol, heat and electricity. He also uses arsenic in minimum doses and some coal tar anodynes. In some cases he has found it necessary to employ large doses of muriate of ammonium after Austie's method, 30 gr. three times a day. He has done this often in combination with bromid of ammonium, and found other bromids often useful as alternatives. His special objection is to Gasserian ganglion excision which he thinks is unnecessary and inapplicable because trifacial neuralgia is not exclusively a disease of this ganglion or of the fifth nerve, and the danger of operation with its uncomfortable side-effects are such as should generally prohibit it. If he was to suggest a neuro-surgical plan of treatment when medical treatment failed, he would prepare the patient for radical relief by securing hopeful consent to combined surgical and neurological treatment, put him or her to bed, give chloroform, extirpate the involved peripheral nerves, if desirable, keep both eyes closed as long as one would keep them closed after Gasserian gangliectomy, keep visitors away, and use proper medication for six to ten weeks. The patient should be treated internally and constitutionally as well as locally.

70. Benign Tumors of Skin.—In this article Buxton describes the gross and microscopic appearances of growths such as keratomas, papillomas, akantomas and the various forms arising from epithelial appendages, sweat and sebaceous glands and ducts. The different forms are elaborately illustrated, but the article itself is not suitable for a condensed abstract.

72. Impetigo Contagiosa Bullosa.—The culture and inoculation experiments of Engman with bullous impetigo are reported, together with a general description and discussion of the condition. In seven out of the eight cases examined, pure cultures of the staphylococcus aureus were obtained, in one the streptococcus and a short bacillus normally found in the skin were also found.

79. Paralysis of Anus Sphincters.—Seventy-six cases of paralysis of the sphincter of the anus following forced dilatation, lasting from several months up to absolute permanency have been found by Andrews. He has also learned of 7 deaths from this cause. The dilatations were due to all sorts of methods from simple insertion of the fingers to insertion of the whole hand. He says the anus and rectum are in some patients very small congenitally, and in others ulceration has dangerously thinned their walls, cicatrization has contracted their diameter or disease rendered the tissue fragile. In one case a rectal bougie 11 cm. in circumference caused the death of the patient. The conclusions he offers are the following:

1. There are few internal disorders of such location and importance that they imperatively require the insertion of the hand for the purpose of diagnosis or treatment. 2. The case may be so important that the peril of omitting the exploration is greater than the danger of making it. 3. In that case the insertion should be made boldly, though with care, but it should never be done where such urgent necessity does not exist.

81.—See abstract in *THE JOURNAL*, xxxiv. p. 1490.

82.—*Ibid.*

83.—*Ibid.*, p. 1416.

84.—*Ibid.*, p. 1491.

98. Uterine Displacements.—Davenport's method of treating uterine displacements with adhesions is a combination of packing and massage followed by the use of a support. He places the patient in the Sims' position and packs the vagina firmly with pledgets of cotton soaked in glycerin. Pressure is what is required; careful and systematic packing will give this. The glycerin relieves the congestion and promotes absorption. This first packing is allowed to remain two days. If it becomes loose it should be replaced and the treatment should then be repeated and firmer packing substituted. This can be left two or three days. After two or three of such treatments the condition of the organ should be investigated and what he calls massage be used. The patient is placed on the back and an attempt made to dislodge the uterus. With a double hook in the anterior lip it is drawn down as far as it can be without too much pain and with one or two fingers in the vagina the uterus is lifted. If bands of adhesion are felt, they may be stretched, and lightly massaged and the same done to the masses at the sides. This should not be prolonged over a very few minutes, and the same process repeated after two or more treatments. Definite results either positive or negative should show themselves in two or three weeks. The interval between the two menstrual periods is usually sufficient to demonstrate how much can be done. He says it is surprising to see how much stretching of adhesions can be done, what good results can be obtained. If the adhesions are very dense and little can be done, and the patient's sufferings marked, an abdominal operation should be undertaken, but it should be a radical one. It is better under these circumstances to remove the appendages and to amputate the uterus. If this is not done the breaking up of adhesions will not prevent their being renewed.

99. Dysmenorrhea.—Most cases, according to Judd, are due to congestive inflammatory disease of the uterus and its adnexa, varying from a simple endometritis to a metritis or perimetritis, or to prolonged inflammation of the adnexa, aided by the local neurotic condition of the pelvic ganglia, which conditions may be congenital, or brought about or aggravated by the inflammatory conditions of the pelvic organs. In a certain proportion of cases the neurotic condition is a larger element in the causation of the pain than the inflammatory condition. The volume of cause, so to speak, must of necessity vary with the individual.

101.—See abstract in *THE JOURNAL*, xxxv, p. 1424.

102. Uretero-Intestinal Anastomosis.—In Kirkley's case there was, after abdominal section made for the removal of appendages, the uterus being left, a combined fecal and urinary fistula with common outlet. Owing to the hemorrhagic diathesis, the enormous quantity of pus, and the patient's condition, operative procedure to close the fistula was not to be thought of and free drainage and washing out was relied upon. In about two weeks the urine appeared through the fistula and soon after fecal matter, but at the end of twelve weeks the opening had entirely closed, and after the urine ceased to escape through the fistulous opening, it passed per rectum and has done so ever since the operation. The general health has been good, bowels regular, uterus freely movable, though it still gives trouble and hysterectomy may yet be required. The operation was made under strictly aseptic measures and it seems impossible that infection occurred at the time and the extensive suppuration that occurred, involving the intestines and ureter, probably destroying the latter, is suggested as having arisen from the intestines. A fecal fistula must have formed

into which the divided or destroyed end of the ureter emptied and it seems to be a case in which nature shows us the possibility of an indirect anastomosis with the intestine.

103. Cancer of the Uterus.—The operation described by Bovee is a modification of those of Werder, Ries and Pryor. He first uses a vaginal douche of corrosive sublimate 1 to 2000 followed by loose packing of the vagina with bichlorid gauze. 2. Abdominal incision, and placing patient in Trendelenburg position. 3. Ligation of ovarian vessels at the wall of the pelvis, and securing them at the uterine cornua with forceps or ligatures. 4. Separation of bladder from uterus and broad ligament. 5. Partial dissection of the ureter from the iliac artery to bladder, and placing two silk loops around each as guides, ligating and severing the round ligaments at the pelvic wall; splitting the broad ligament and ligating the uterine vessels close to the origin of the uterine artery; dividing broad ligaments at the outer ends; cutting away the utero-sacral ligaments close to the pelvis, and continuing the dissection down outside the vagina near the vulva. The glands and fat are dissected out from all exposed denuded surfaces up to the iliac junction and down to the bottom of the dissection, as well as along the lateral margins and slightly posterior to the rectum. 6. Push all loosened structures down into or through the vulva, and pack above with sterile gauze. Over this gauze suture peritoneal covering of bladder to rectum and posterior margins of peritoneum. Close abdominal incision. 7. Place the patient in the lithotomy position and, grasping the cervix uteri with a volsella forceps, pull out the loosened structures and, by a circular incision through the vaginal wall, meet the edge of the dissection from above. The end of the gauze packed in from above is pulled into the vulvar opening for easy withdrawal about the fifth day. He has operated 15 times, with 1 death and 2 recurrences since March, 1898.

115. Otitic Extradural Abscess.—Randall says that in acute as in chronic cases very extensive intracranial collection of pus can occur with minimum symptoms, and this not only in patients with extra thick mastoid cortex, but in some where the yielding of the bone has been exceptionally quick. Free incision of the soft parts may be reserved for cases with fluctuation. It should then be employed as a step to thorough exploration of the bony structures, without which the surgeon is in the dark. The antrum should be freely opened in acute cases and all the tympanic cavities in chronic, not only for drainage, but for thorough exploration, and every portion of diseased or suspicious bone curetted away. If this leads the operator through the inner table to the dura, he should follow the clue without hesitation. Extradural abscesses well evacuated are wonderfully harmless as compared to the conditions when confined. Five cases which led him to these conclusions are reported.

127. Rectal Reflexes.—Burke reports several cases where reflex symptoms such as backache, pain in the thighs, general lassitude, abdominal pain and general malaise accompanied rectal ulcers and were relieved by their cure.

128. Epilepsy.—From the study of several cases, Lindley concludes that the removal of the ovaries offers very little hope in the great majority of cases of epilepsy, but there is now and then a selected case in which operation is justifiable. The removal of the uterus leaving the ovaries intact, according to some investigators is a promising operation and he shall feel inclined to try it in any future opportunity. In one of his cases, in a girl 19 years of age in whom convulsions seemed to have special connection with the menstrual periods, oöphorectomy has seemed to produce benefit thus far, though only a short time has yet elapsed.

137. Adrenalin.—After first noticing the work of Abel and von Furth and their products, epinephrin and suprarenin, neither of which was obtained in the perfectly pure state, Takamine describes his adrenalin, which he considers the isolated active principle of the suprarenal gland. It is a light, white, microcrystalline substance with slightly bitter taste and leaving a slightly numb feeling on the tongue where it has been applied. When dry it is perfectly stable. It shows a slightly alkaline reaction on moistened litmus paper, is soluble with

difficulty in cold water, but more readily in hot, the crystals separating after cooling. The colorless aqueous solution is easily oxidized in the air, turning to red and eventually to brown. It is easily soluble in the acids or alkalies, but not in ammonium hydroxid or solutions of the alkaline carbonates. With ferric chlorid a beautiful emerald green color is produced, which by careful addition of caustic alkali becomes purple or even carmin red. Strong acid prevents this reaction, giving only a dirty yellowish-green. It reduces silver salts and gold chlorid very energetically and turns the liquid red. Oxidizing agents such as ferricyanid and bichromate behave the same way. He has produced three kinds of salts, hydrochlorates, sulphates, and benzoates by dissolving adrenalin with three different acids, and evacuating, in vacuo, over strong sulphuric acid. In the course of time the residues became brown brittle amorphous masses, deliquescent in the air. Its physiologic activity is astoundingly strong. A solution of 1 to 10,000 blanches the normal conjunctiva in thirty to sixty seconds. Intravenous injection produces an enormous rise of blood pressure, and 0.000008 of a gram is equal in its effect to 0.005 of a gram of suprarenal extract. Adrenalin administered in quantity of one fourteen-millionth part of one gram per kilo of body weight will produce distinct physiologic effects. It is the most powerful astringent and hemostatic known, and the strongest stimulant of the heart. It is non-irritating, non-poisonous, and non-cumulative, and without injurious effects. It has given satisfactory results in the treatment of acute conjunctivitis, some cases of deafness, bloodless operations on the nose, laryngeal phthisis, hay fever, nasal hemorrhage, "bleeders," diseases of the heart, nose and throat, asthma, laryngitis, urethral disease, Addison's disease, exophthalmic goiter, etc.

138. —Scopolia Carniolica.—Wood's investigation gives the comparative action of scopolia carniolica or so-called "Japanese belladonna," with atropa belladonna and concludes as follows: Scopolia carniolica in its physiological action so closely resembles atropa belladonna as to be practically indistinguishable. Like belladonna, scopolia elevates the blood-pressure, paralyzes the pneumogastric nerve, is primarily a stimulant of the respiratory center, and in fatal dose kills by asphyxia. In the frog it is a paralyzant to the spinal cord and to Setchenow's center, and when brought in direct contact with a motor nerve lessens its function. The dominant alkaloids of the two plants, however, are probably not identical, since we find the scopolia apparently a little more depressant to the spinal cord, and distinctly more toxic.

142.—This article has appeared elsewhere. See THE JOURNAL of March 30, title 32, p. 919.

FOREIGN.

British Medical Journal, April 27.

Remarks on the Training of Ophthalmic Surgeons. A. FREELAND FERGUS.—The importance of proper training for the ophthalmic specialist, especially if there is to be a separate register for them, is noted and the lack of such training in the English system of education remarked. Fergus thinks that even in the preliminary education a difference should be made; a better acquaintance with elementary mathematics ought to be required than of the average student and he shows how a knowledge of trigonometry and analytical geometry may be useful and how the lack of it lead to mistakes in text-books, articles, etc. The earlier years of his medical education should also embrace biology, chemistry, human anatomy including histology, and the physiological course should include adequate instruction in physiologic optics, movements of the eyes, the cerebral mechanism of sight, etc. A knowledge of physics is essential and the student should be required to attend an ophthalmic laboratory for at least twelve months, should master such instruments as the spectroscope, spectrometer, spherometer, and the diffraction grating. These are, of course, independent of general medical studies including pathology, therapeutics, etc. A course in special pathology is particularly desirable. The amount of attendance on formal lectures is difficult to determine, but clinical work should be compulsory and cover a period of at least three years, taken up entirely with examination of patients under competent teachers.

On the Advisability of the Inclusion of the Study of Anesthetics as a Compulsory Subject in the Medical Curriculum. DUDLEY W. BUXTON.—At present there is no uniform teaching of anesthetics in Great Britain and the importance of this is insisted upon by Buxton. One thing that is especially dwelt upon is "aloofness" from the surgical aspect of the operation, as of paramount importance. This does not mean that the anesthetist should neglect being of aid to the operator, but he should concentrate his mental powers upon establishing and maintaining a perfect degree of narcosis without any swerving of his attention from his business, all other matters being secondary. He suggests that a resolution be passed by the General Medical Council compelling all medical students before applying for final examination to offer evidence of having studied the practice of some recognized anesthetist. This instruction should comprise a course of lectures dealing with the theory of anesthesia, its physiology and practice and include familiarity with common agents, mixtures and apparatus. He should also offer proof of having administered nitrous oxid gas, ether and chloroform. As a minimum an experience of fifty cases might be accepted, at which the student has been present. Of these at least twelve should have been conducted by him throughout. The student should also have obtained a certificate of proficiency from a recognized teacher. The final examination of the students should include tests of their knowledge of anesthetics, both practical and viva voce.

On Certain Practical Applications of Extract of Supra-nal Medulla. E. A. SCHAFER.—The writer makes the suggestion that since observations shew that this extract has a greater power in causing contraction of the musculature of the uterus than any other drug, whether applied directly or introduced into the circulation, it would be very valuable to control hemorrhage and to strengthen uterine contraction in obstetrics. The solution he would recommend to be used is an infusion of dry medullary substance, 30 grains to the pint of sterilized water and injected while still fairly hot; he suggests the solution as a powerful styptic, and says its efficiency can be still further increased by the addition of 60 gr. of calcium chlorid. Another use suggested by the same author is in sudden cardiac failure, for the relief of shock, or hemorrhage or an overdose of an anesthetic. In these cases the sterilized decoction which may be of the strength of 5 gr. to every ounce, must be filtered, and should be injected with a hypodermic syringe very slowly into a superficial vein or even in extreme and hopeless cases into the heart itself through the thoracic wall. He has seen such remarkable results in animals from this method, among them complete resuscitation of the heart when circulation has apparently ceased, that he thinks its trial in the human subject in this class of cases should be called for.

The Dietetic Value of Sugar. H. WILLOUGHBY GARDNER.—From the statistics Gardner finds that Great Britain and the United States consume a larger amount of sugar, *per capita* than any other countries and he attributes to this the vigor and robustness of the Anglo-Saxon race. He goes over the dietetic facts in regard to sugar, showing that it is a muscle food, and that it should be used in cases of fatigue; Alpine climbers and Arctic travelers find its use advantageous. During the past year he has strongly recommended sugar to patients who he thought would be benefited and has been greatly pleased with the results. He mentions a case where it apparently rehabilitated a case of seemingly advanced phthisis after influenza followed by pneumonia and in which the symptoms quickly disappeared after giving 4 ounces per day of pure cane sugar, not counting jam and cakes, of which the patient took freely. The objections to the diet are mentioned; its effects on the teeth he thinks are due to the impurities and not to the sugar itself. Alimentary glycosuria should be watched out for and it is well to test the urine during the treatment. In the case of a child with disorders of the mucous membranes it would be contraindicated, as well as in decided diabetes and glycosuria. In gout and rheumatism, he is inclined to think that the prohibition of sugar in the latter may be only due to prejudice. In gout the condition is more

clear. Those who are gouty and fat should avoid sugar like poison, as they can not utilize fats and carbohydrates, but those who are gouty and thin are in a different category. One must limit their nitrogenous food, but may give them sugar and starch without much fear. There are many who do not fall distinctly in either class, and their diet must be determined experimentally and may have to be varied from time to time.

A Preliminary Note on the Hibernation of Mosquitoes. H. E. ANNETT AND J. EVERETT DUTTON.—Noticing the observations of Wright in regard to the hibernation of mosquitoes, abstracted in our issue of May 4, p. 1282 the authors give their own observations. They find that the culex and anopheles hibernate during the winter in damp places or old farm-houses, built without damp-proof courses. In this condition the position of both culex and anopheles is peculiar; their legs are spread out on the walls and not in their usual resting positions as in summer. They conclude that there is no doubt but that mosquitoes of both genera hibernate during the winter months in England, and Wright shows that larvæ also provide for the continuation of the species during the cold weather.

The Lancet, April 27.

The Sometimes Successful Treatment of Cases of Apparently Incurable Blindness. CHARLES BELL TAYLOR.—Galvanization in optic troubles is specially insisted upon by Taylor, who reports remarkable successes in blindness after optic neuritis, corneal ulcers, etc. Next to this he would class mercury which may be administered under the form of a blue pill, ointment, vapor, and sub-conjunctival injections. For the latter purpose he prefers the cyanid. As a derivative he mentions blood-letting, which he thinks is too much neglected, also baths, counterirritants, etc., which distract the attention of the nervous system from the disease. The cases he reports are apparently quite remarkable, as regards his success.

On Two Cases Bearing Upon the Question of the Limitations of Enterectomy. ARTHUR E. BARKER.—Two cases are reported, one of a woman aged 58 years, suffering from diabetes with 6.6 per cent. of sugar in the urine. There was a malignant tumor producing stricture of the colon and obstruction of the bowels which was operated upon with removal of four and one-half inches of the gut, one inch of this being taken up by the growth. The patient bore the operation particularly well in spite of the diabetic trouble, and the amount of sugar diminished after the operation. Hitherto such a state of things has been held a counter-indication to severe abdominal operations. The operation was certainly justified in that the patient recovered in spite of diabetes, and its success is gratifying as showing what may be done under such circumstances. The second case was that of a feeble old woman aged 76, who had undergone ovariectomy, and from whom about five and one-half feet of small intestine were successfully removed for gangrene, the patient making an excellent recovery. The advanced age appeared to be no bar to most perfect repair and she did as well as a patient of 50 years younger could have done.

Journal of Laryngology, Rhinology and Otology, April.

The Treatment of Deviations of the Nasal Septum. E. J. MOURE.—The author reports an improvement on the Asch operation for septal deviations. In case of existing spurs he removes them with an osteotome of his own devising which consists of a much-elongated ring, whose ellipsoidal extremity has two opposed cutting edges. These are concave externally and very convex on the other side, meeting at an acute angle at the part destined for cutting the fibro-cartilage. The lower portion of the ring is blunt, so that when the spur is well engaged in the lumen and strong traction made, the projection is forced advantageously between the blades and is cut very close to the base. When the deviation is such as to obstruct the passage and make it impossible to pass the osteotome to enlarge the projecting part, he would begin by making one or two narrow channels by the aid of the galvano-cautery point plunged in from before backwards, parallel to the septum. This preliminary operation done, he removes with cutting pliers all parts situated externally to the region thus hollowed out, thus making an opening sufficient to introduce the instrument.

Generally at the time he removes the cartilage he stops the hemorrhage with a galvano-cautery knife, placed over the raw surface. As a rule the cut surface heals by a pseudo-membranous exudate and he does not further touch the nasal fossa, keeping the patient at rest from twenty-four to forty-eight hours. When suppuration occurs, he uses the nasal douche every morning. When there is present with the deviation not only a spur, but a luxation of the fibro-cartilage at the antero-inferior part of the septum, after asepsis, etc., he incises the mucous membrane at the extremity of the fibro-cartilage with a bistoury and detaches it over the lateral parts as far as possible, that is to say from 0.5 to 1 centimeter in depth and to each side. The fibro-cartilage that is bared is resected with scissors or bistoury, and the cut mucous membranes are united with one or two sutures. The wound generally heals in eight or ten days. In this procedure it is necessary to be careful to resect the fibro-cartilage sufficiently well forward in the nasal fossa, as there is always a tendency to leave a considerable portion which still juts out below the septum. When this operation is finished and the patient has recovered, the spur only remains to be removed in the way already described. When these wounds have healed and cicatrization is completed, that is in about a month, he attacks the deviation. Eight days before operating he sprays the fossæ night and morning with a solution:

R. Oleate of cocain	15
Powdered menthol	25
Thymol	5
Oil of vaselin	45

In operating, after antisepticizing and cleansing with boracic acid douche and cocaineizing, the fibro-cartilage is cut without further anesthesia in the following manner: With a pair of curved scissors, made on the principle of the Asch shears, he introduces the blades, one into each nostril and cuts along the base of the septum as close to the base as possible for a distance of 2 or 3 c.e. beginning a little back from the nostril. Then without withdrawing the scissors he passes them to the superior part and makes a clean incision, having an acute angle with the first cutting right through the fibro-cartilage. There is then a moveable fragment held in the front by the anterior base of the septum and behind by the peripheral plate of the ethmoid and the vomer. He then takes a special tube dilator, formed of two parallel blades, the outer rigid and the inner one much longer and made of a malleable metal, which he can mould to suit. This he introduces on the side of the deviation, the fixed part turned inwards and the malleable part toward the deviation. The tubes are made rights and lefts to suit each nostril. Having thus introduced the tube he models the soft part by the help of forceps introduced with his dilator. into the shape he wishes the septum to take in its new position. The tube is left in this position for seven or eight days. The operation is performed exceedingly rapidly and is not attended with much hemorrhage. The only inconvenience is in the pain from the inflammatory reaction following the operation during the first forty-eight hours. He advises his patients to keep to their rooms during the first few days and frequently bathe the nose in boiled boracic lotion, which takes the place of wet dressings. The method has the advantage over Asch's in not obliging the operator to remove the tube in twenty-four to forty-eight hours and facilitating drainage by the two sides of the tube being joined simply at their anterior and posterior parts. After two or three days the patient can generally go about his business if the cicatrix goes on in a normal manner, but if there is a tendency to become purulent or to accumulate it is best to wash twice a day with boiled boracic lotion. If there is neither suppuration nor secretion it is best to use no local treatment and remove dried secretion only every one or two days with aseptic gauze introduced with bent forceps. Generally after the eighth day he removes the apparatus and the septum is perfectly corrected as is also the external shape of the nose. The patients often breathe better on the side operated on than the other. He has employed this operation for several years, mostly with success, especially in adults. In children the results have been less brilliant on account of their restlessness or intolerance of the apparatus, or

because the septum, not completely developed at this age, has grown deformed afterwards. He thinks it is not wise to touch the septum of children before its development is a little nearer completion, that is to say before 16 or 18 years. The presence of the tube may cause some pain, but that can not be prevented. The hemorrhage is so slight that it may be entirely neglected.

Progres Medical (Paris), March 6.

Influence of Lead Poisoning on Offspring.—Bourneville, in an editorial, quotes Paul's statistics to prove that the children of parents suffering from lead poisoning are doomed to certain death in nearly every case. Only 10 children were born alive in 141 pregnancies in which the father, and only 1 out of 27 pregnancies in which the mother was a chronic sufferer from lead poisoning. Six women who had previously borne 10 healthy children passed through 43 pregnancies after lead intoxication with only two living children and both of these sickly. The French authorities have been collecting statistics in regard to the offspring of painters who have to handle white lead, and it was found that only 15 children had survived the third year, out of 141 pregnancies. The records show that in thirteen years, 5484 painters have become affected and, leaving aside the insane, paralytic and idiots, the deaths alone amounted to a total of 598. Bourneville adds that he is now collecting personal data to demonstrate the influence of the profession of house painter on the production of idiocy.

Bulletin de la Soc. des Hop. de Paris, March 21.

Infectious Origin of Zoster Fever. ACHARD.—In two cases of idiopathie zona the same bacillus was cultivated from the cerebrospinal fluid of each patient. This cutaneous tropho-neurosis may prove to be traceable to infectious changes in spine and meninges, affecting the nerve-roots or centers.

Changes in Size of Right Cardiac Auricle Determined Posteriorly. TEISSIER.—A number of hitherto puzzling facts in the pathology of the lung are explained by the mechanism of the dilatation of the right auricle. Teissier has found from clinical experience, confirmed by experiments on the cadaver and radiography, that the right auricle always enlarges backward, towards the spine, and that it produces a characteristic area of dulness in the back, in the sixth, seventh and eighth intercostal spaces. Percussion should be parallel to the spine at first to determine the outlines of this rectangular area of dulness. It may be the first sign of cardiac insufficiency, as the weakness of the myocardium entails the dilatation of the right auricle in certain cases. He recently observed an instance of this in a patient dying from typhoid fever. The auricle is most enlarged perhaps, in the asystolic period of mitral stenosis, in case of adhesions of the pericardium or by a reflex dilatation. But the auricle produces the area of dulness described even when only moderately enlarged. The variations in the dulness from day to day afford valuable information for the prognosis. The compression of the pulmonary veins by the enlarged auricle in some cases may explain the puzzling congestion at the apex of the right lung noted in typhoid fever and la grippe principally. The myocardium relaxes under the influence of the infection, with resulting dilatation of the right auricle. The congestion of the lung accompanying a cardiac affection always shows a marked predilection for the right side. It is localized sometimes at the base or exclusively at the apex or generalized. This localization is probably dependent on the group of pulmonary veins, the upper, lower or both compressed by the enlarged auricle.

March 28.

A Cured Case of Tubercular Pericarditis. RENDU.—The patient was a man of 34, originally robust, but addicted to liquor, with a tubercular lesion in the lung. The protuberance of the precardial region and left half of the thorax with the intense dyspnea at the slightest effort suggested a large pericarditic effusion. This diagnosis was confirmed by the increased area of dulness which extended from the third intercostal space to blend with the liver and lung dulness. About 800 gm. of fluid were removed by puncture and later, 1250 c.c. The canula was left in place the second time and 1 gm. of pure camphorated naphthol was introduced through it into the peri-

cardium. The reaction to the naphthol was marked. For four days there were tachycardia, small pulse and pallor, suggesting imminent syncope. By the fifth day, however, the patient began to improve rapidly.

April 4.

Spinal Cocainization in Sciatica and Tabes.—Several members of the society reported that they had successfully applied spinal cocainization for the relief of sciatica and the fulgurant pains in tabes. Marie injected 5 mg. of a 1 per cent. solution. The pains vanished for six hours and the general course of the affection seemed improved. Others reported that the sciatica recurred in two weeks with all its former intensity. Sicard abolished the pain for three weeks in one case by injection of 4 c.c. of saline solution.

Echo Medical du Nord (Lille), March 24.

Restoration of the Lacteal Secretion by Electrotherapy. BEDART.—In eleven out of thirteen patients who found their milk drying up in the second or third month, Bedart succeeded in restoring the flow by the application of static electricity to one or both nipples for fifteen minutes daily for a few days.

Presse Medicale (Paris), April 10.

Variations in the Physical Signs in Various Stages of Mitral Stenosis. E. BARIE.—The sound of the opening of the valve is imperceptible in the first and third stages but is frequently audible in the second. The diastolic roll is deep in pitch and tone in the first, much sharper in the second and inaudible in the third stage. The first sound is snapping in the first, hard in the second and absent in the third stage. The second sound is reduplicated, with aortic precedence, in the first stage. In the second there is no reduplication but the sound is accentuated at the pulmonary artery. In the third, the reduplication reappears with pulmonary precedence.

Revue Medicale (Montreal), April 10.

Peroxid of Hydrogen in Acute Urethritis. L. RHEAUME.—The moral effect on the patient as he sees his urethra so thoroughly cleansed of pus by the hydrogen peroxid, is an important element in the treatment of acute urethritis. The injection causes much less trouble than the usual irrigation, and to say the least it is fully as effective. As the patient reclines it is much more comfortable. Rheaume uses one part of the peroxid to three of water and 1 cg. of cocain to 30 c.c. of the fluid. He injects 10 to 15 cg. and his results have far surpassed those attained with other treatments.

Centralblatt f. Chirurgie (Leipsic), April 20.

Value of Aluminum Bronze Wire in Surgery. R. PICHLER.—Silver for sutures has been completely supplanted by aluminum bronze wire in Mikulicz's clinic. Tests with various bacteria sown in Petri dishes showed that a sterile zone always surrounded pieces of silver, copper or aluminum bronze wire introduced, and that the zone was always widest around the latter. The development of the colonies was also slightly checked at some points. Clinical experience has corroborated the results of the tests. The alloy used contains 85 per cent. copper and 5 per cent. aluminum.

Dermatologische Zeitschrift (Berlin), April.

Treatment of Syphilis with Specific Serum. E. MOORE.—For seven years Moore had been testing and experimenting with the serum from syphilitics as a cure for the disease. It has never failed to arrest the symptoms and is a valuable differentiating measure for chancre, as its local application produces a marked change in a day or two, with cicatrization in a week, while it has no effect on soft chancre. He derives the serum from syphilitic subjects by applying a blistering plaster, and injects 10 to 40 c.c. every third or fourth day. He has been enthusiastically convinced of the great value of this serum treatment for a long time but has not proclaimed it nor adopted it in general practice, as he remarks: "until he had passed it through the sieve of the Congress"—the recent Latin-American Congress at Santiago, Chili, where he made a detailed report with numerous demonstrations. His experiences include about seventy-five cases, thirty of which are fully described in this article.

Deutsche Med. Wochenschrift (Leipsic), April 18.

Cardiac Neuroses. A. SCHMIDT.—The pulse in heart-neurasthenics frequently becomes accelerated with no apparent cause. It may be accelerated or retarded under the influence of emotions and movements. It may also be accelerated by pressure on some painful point and retarded by stooping. The modifications in the pulse during breathing, Schmidt announces, are an important aid in differentiating these neuroses. During deep inspiration, the heart action seems to stop completely and the tracing of the pulse is nearly a straight line, in some cases. In others the pulse persists, much retarded, and the tops of the tracings are rounded. He also calls attention to the frequent coincidence of a sedentary occupation which requires stooping, with a cardiac neurosis. This favors abnormal mobility of the heart and explains the network of congested veins frequently observed in the cardiac region in such patients.

Imperfect Oxidation of Sugar without Glycosuria. P. MAYER.—If urine contains no sugar and merely considerable "glukuron" acid, it has been accepted as evidence that the transformations of sugar in the organism are proceeding normally. Mayer announces that the blood contains "glukuron" acid in some combination and that sulphuric acid liberates it. He is now engaged in attempts to isolate this combination from the blood. In the meanwhile, he states that he has established that the presence of "glukuron" acid in the urine is an evidence of defective oxidation of sugar.

Revista Medica de Uruguay (Montevideo), February.

Cutaneous Isothermia and Cyanesthesia as Symptoms of Exophthalmic Goitre. J. DE LEON.—This writer has noticed in every case of exophthalmic goiter which he has had occasion to observe, that the peripheral temperature is the same or higher than the axillary. The patients are also peculiarly insensible to cold. They frequently mention that their exceptional resistance to cold had been noted some time before the first manifestations of their disease. This eryanesthesia subsides as recovery progresses.

Gaceta Medica de Mexico, April 15.

Rarity of Typhoid in Mexico. A. GAVINO.—Mexican physicians have always expressed surprise that in spite of the contaminated drinking water, typhoid fever is of extremely rare occurrence in Mexico. Some have believed that the typhoid bacillus must produce a clinical picture differing from the usual type elsewhere. Gavino now reports that in his eighteen months of service at the Institute of Pathology, the typhoid bacillus has never been found once in the innumerable specimens sent for investigation, nor at the autopsies, nor were any lesions ever discovered in cadavers with typhoid characteristics. The bacillus, however, was omnipresent.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

CHRONIC URETHRITIS OF GONOCOCCUS ORIGIN. By J. DeKeersmaecker, Chief of Service, Diseases of the Urinary Organs at the Centraalkliniek of Antwerp, and J. Verhoogen, Agrégé at the University of Brussels. Translated and Edited, with Notes by Ludwig Weiss, M.D., Attending Physician to the Genito-urinary and Skin Service, German Poliklinik. Cloth. Pp. 251. Price, \$2.75. New York: Wm. Wood & Co. 1901.

DISEASES OF THE HEART. A Clinical Text-Book for the Use of Students and Practitioners of Medicine. By Edmund Henry Colbeck, B. A., M.D., Cantab.; M.R.C.P., London; D.P.H., Cantab., Physician to the Out-Patients at the City of London Hospital for Diseases of the Chest. With 43 Illustrations. Cloth. Pp. 341. Price, 12 shillings. London: Methuen & Co. 1901.

THE THEORY AND PRACTICE OF MILITARY HYGIENE. By Edward L. Munson, A.M., M.D., Captain, Medical Department, United States Army. Illustrated by 8 Plates and Nearly 400 Engravings. Cloth. Pp. 971. Price, \$8.00 net. New York: Wm. Wood & Co. 1901.

A TEXT-BOOK OF GYNECOLOGY. Edited by Charles A. L. Reed, A.M., M.D., President of the AMERICAN MEDICAL ASSOCIATION (1900-1901). Illustrated by R. J. Hopkins. Cloth. Pp. 900. Price, \$5.00. New York: D. Appleton & Co. 1901.

THE STOCK-POISONING PLANTS OF MONTANA. A Preliminary Report by V. K. Chestnut and E. V. Wilcox. Paper. Pp. 150. Washington: Government Printing Office. 1901.

TRANSACTIONS OF THE ONE HUNDRED AND ELEVENTH ANNUAL MEETING OF THE MEDICAL SOCIETY OF DELAWARE, Held at Rehoboth, June 12, 1900. Paper. Pp. 31. Wilmington, Del.: Sunday Star Print. 1900.

PROCEEDINGS OF THE PHILADELPHIA COUNTY MEDICAL SOCIETY. February, 1901. Paper. Pp. 50. Price, \$0.15 per copy. Philadelphia: Published by the Society.

MERCK'S 1901 MANUAL OF THE MATERIA MEDICA. A Ready Reference Pocket Book for the Practicing Physician and Surgeon Containing Names and Chief Synonyms, Physical form and Appearance, Solubilities, Percentage Strengths and Physiologic Effects, Therapeutic Uses, Modes of Administration and Application, Regular and Maximum Dosage, Incompatibilities, Antidotes, Precautionary Requirements, etc., of the Chemicals and Drugs Usual in Modern Medical Practice. A Comprehensive Collection of Prescriptions, Embracing also the Newer Remedies of Established Merit; A Classification of Medicaments; and Miscellany, Comprising Poisoning and its Treatment, Metric System and Tables, etc. Compiled from the Most Recent Authoritative Sources. Muslin. Pp. 282. Price, \$1.00. New York and Chicago: Merck & Co.

New Patents.

Patents of interest to physicians, April 16, 23 and 30:

- 672,317. Speculum. Willard E. Dow, Braintree, Mass.
- 672,207. Syringe. Jesse A. Dunn, Chicago, Illinois.
- 672,322. Inhaler for menthol or similar substances. Theodor H. Geilhaus, Bant, near Wilhelmshafen, Germany.
- 671,999. Hernial truss. Francis J. Ilage, Jr., Goldsboro, N. C.
- 672,377. Dilator. William D. Kearns, Pittsburg, Pa.
- 672,177. Inhaler. Wm. H. Metcalf, New Haven, Conn.
- 672,151. Anesthetic inhaler. Edward M. Morgan, Westmount, Canada.
- 672,239. Vaginal speculum. Charles J. Pilling, Philadelphia, Pa.
- 672,391. Abdominal supporter. Wilhelm J. Teufel, Stuttgart, Germany.
- 34,364. Design, syringe nozzle. Pemberton Lundy, Boston, Mass.
- 672,672. Medicated salt rock. Charles O. Green, W. P. Wickline, and J. B. Eaton, Centerpoint, Texas.
- 672,454. Pasteurizing machine. Nelse N. Nelson, Ann Arbor, Mich.
- 673,021. Inhaler. Wm. B. Hiddeu, Boston, Mass.
- 673,321. Syringe nozzle, Isaac N. Lincoln, Providence, R. I.
- 673,366. Invalid or surgical bed. Adolfo Luria, Chicago.
- 673,100. Invalid's walking chair, James D. Tyler, South Berlin, Mass.
- 34,439. Design, massage brush, Margaret Stonebridge, Garrison, N. Y.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., April 25 to May 1, 1901, inclusive:

Alfred E. Bradley, captain and asst.-surgeon, U. S. A., detailed to represent the Medical Department of the army at the tenth annual meeting of the Association of Military Surgeons of the United States, to be held in St. Paul, Minn., May 30 to June 1, 1901.

John Carling, captain and asst.-surgeon, Vols., recently appointed, relieved from duty with the 35th U. S. Vol. Infantry, to proceed to Manila, P. I., for assignment.

Joseph J. Curry, captain and asst.-surgeon, Vols., leave of absence extended.

Calvin DeWitt, lieutenant-col., and deputy surgeon-general, U. S. A., detailed a member of the board at the Army Medical Museum building, Washington, D. C., to examine candidates for admission into the Medical Department of the army.

James D. Glennan, major and surgeon, 38th Infantry, Vols., (captain and asst.-surgeon, U. S. A.), detailed a member of the board of Medical Officers convened in Manila, P. I., for the examination of candidates for admission into the Medical Department of the Army, vice Major Wm. F. Lewis, surgeon, U. S. Vols. (captain and asst.-surgeon, U. S. A.), relieved.

Leonard K. Graves, captain and asst.-surgeon, Vols., now in Brooklyn, N. Y., to duty in the Division of the Philippines, via San Francisco, Cal.

John Van R. Hoff, major and surgeon, U. S. A., detailed to represent the Medical Department of the Army at the tenth annual meeting of the Association of Military Surgeons of the United States, to be held in St. Paul, Minn., May 30 to June 1, 1901.

Richard W. Johnson, major and surgeon, U. S. A., member of a board convened in Manila, P. I., to examine officers of the army for retirement.

Henry S. Kilbourne, major and surgeon, U. S. Army, member of an examining board at the Presidio of San Francisco, Cal., vice Lieut.-Col. B. F. Pope, deputy surgeon-general, U. S. A., relieved.

Charles F. Mason, major and surgeon 26th Infantry Vols. (captain and asst.-surgeon, U. S. A.), relieved from further duty with his regiment, to report to Lieut.-Col. Calvin DeWitt, president of the examining board at the Army Medical Museum building, Washington, D. C., for examination for promotion.

John A. Metzger, major and surgeon, Vols., recently appointed, relieved from duty with the 35th Infantry Vols., to proceed to Manila, P. I., for assignment to duty.

Lorin B. Ohlinger, contract surgeon, now at the U. S. General Hospital, Fort Bayard, N. M., to report to the commanding officer of that hospital for duty.

Junius L. Powell, major and surgeon, U. S. A., member of a board convened in Manila, P. I., to examine officers of the army for retirement.

Willis J. Raynor, captain and asst.-surgeon, Vols., for duty at Fort Washakie, Wyo., to San Francisco, Cal., en route for the Division of the Philippines.

Charles Richard, major and surgeon, U. S. A., detailed to repre-

sent the Medical Department of the Army at the annual meeting of the American Medical Association to be held in St. Paul, Minn., June 4-7, 1901.

Hugo C. Rietz, dental surgeon, from Washington, D. C., to San Francisco, Cal., en route for duty in the Division of the Philippines.

Eimer A. Scherrer, contract surgeon, from Fort Grant, Arizona, to Fort Washakie, Wyo., for post duty.

A. B. Smith, contract surgeon, leave of absence granted.

Frederick H. Sparrenberger, captain and asst.-surgeon, Vols., recently appointed and now in San Francisco, Cal., to duty in the Division of the Philippines.

H. H. Stromberger, contract surgeon, leave of absence granted.

Najib Taky-ud-Decen, contract surgeon, from Columbus Barracks, Ohio, to San Francisco, Cal., for duty with troops en route to Manila, P. I., and for assignment in the Division of the Philippines.

William H. Ware, dental surgeon, from Washington, D. C., to San Francisco, Cal., en route for duty in the Division of the Philippines.

Starling S. Wilcox, contract surgeon, now at Columbus, Ohio, to duty at Columbus Barracks, Ohio.

Timothy E. Wilcox, major and surgeon, U. S. Army, detailed to represent the medical Department of the Army at the annual meeting of the American Medical Association to be held in St. Paul, Minn., June 4-7, 1901.

Robt E. Williams, captain and asst.-surgeon, Vols., recently appointed, from Fort McDowell, Cal., to Manila, P. I., for duty in the Division of the Philippines.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ending May 4, 1901:

Asst.-Surgeon B. L. Wright, ordered to the *Massachusetts*, May 1.

Asst.-Surgeon S. S. Rodman, detached from the *Adams*, and ordered to the *Alert*, May 11.

Surgeon H. L. Law, retired, detached from the Recruiting Rendezvous, Buffalo, N. Y., and ordered home.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended May 2, 1901.

Surgeon D. A. Carmichael, to assume temporary command of the San Francisco quarantine station.

P. A. Surgeon C. P. Wertenbaker, to proceed to Prescott, Ark., for special temporary duty.

P. A. Surgeon J. B. Greene, detailed for temporary duty in the Bureau.

Asst.-Surgeon V. G. Heiser, to proceed to Norfolk, Va., for special temporary duty. To proceed to Quebec, Canada, and report to the United States Commissioner of Immigration for duty.

Hospital Steward W. E. Schlaar, granted leave of absence for twenty-six days.

Health Reports

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended May 3, 1901:

SMALLPOX—UNITED STATES AND INSULAR.

- California: San Francisco, April 13-20, 2 cases.
- Illinois: April 20-27, Chicago, 9 cases, 1 death; Freeport, 1 case.
- Indiana: Evansville, April 20-27, 1 case.
- Kansas: Wichita, April 13-20, 30 cases.
- Kentucky: Lexington, April 20-27, 2 cases.
- Massachusetts: Fitchburg, April 13-20, 2 cases; Holyoke, April 20-27, 1 case.
- Michigan: Bay City, April 13-20, 5 cases; Detroit, April 20-27, 1 case; at 94 places, present.
- Minnesota: Minneapolis, April 16-22, 8 cases.
- Nebraska: Omaha, April 13-20, 11 cases.
- New Hampshire: Manchester, April 20-27, 5 cases.
- New York: New York, April 13-27, 94 cases, 18 deaths.
- Ohio: Cincinnati, April 19-26, 4 cases.
- Pennsylvania: Allegheny City, April 12-19, 3 cases; Johnstown, April 13-20, 1 case; Philadelphia, April 13-27, 12 cases, 2 deaths; Steelton, April 20-27, 1 case; Williamsport, April 20-27, 3 cases.
- Tennessee: Ducktown, April 20, present; Memphis, April 13-20, 24 cases; Nashville, April 20-27, 14 cases.
- Utah: Salt Lake City, April 13-20, 17 cases.
- Philippines: Cebu, March 12, 5 cases, 1 death; Manila, March 8-16, 8 cases.
- Porto Rico: To April 10, Aguas Buenas, 4 cases; Ciales, 1 case; Isabella, 4 cases; Manati, 1 case; Ponce, 34 cases; San Juan, 6 cases.

SMALLPOX—FOREIGN.

- China: Hongkong, March 8-23, 23 cases, 10 deaths.
- Colombia: Panama, April 15-22, 5 cases, 3 deaths.
- Ecuador: Guayaquil, March 2-23, 3 deaths.
- Egypt: Cairo, March 25-April 1, 2 cases.
- France: Paris, April 6-13, 7 deaths.
- Great Britain: England—Liverpool, April 6-13, 2 deaths. Wales—Cardiff, March 8-30, 6 cases, 1 death. Scotland—Dundee, April 6-13, 2 cases; Glasgow, April 12-19, 6 deaths.
- Mexico: Mexico, April 7-14, 1 death.
- Russia: St. Petersburg, March 30-April 6, 14 cases, 3 deaths; Warsaw, March 23-30, 5 deaths.
- Straits Settlements: Singapore, March 2-16, 1 death.

YELLOW FEVER.

Mexico: Vera Cruz, April 8-16, 1 death.

PLAGUE—FOREIGN AND INSULAR.

- Australia: Adelaide, Feb. 28, 1 case.
- China: Canton, Feb. 28, epidemic; Chan Tsin, Feb. 28, epidemic; Fatshan, Feb. 28, epidemic; Hongkong, March 8-23, 22 cases, 21 deaths.
- Straits Settlements: Singapore, March 7-16, 2 deaths.
- Hawaii: Honolulu, March 29, 1 death.
- Philippines: Manila, March 8-16, 10 cases, 8 deaths.

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No. 21.

PRELIMINARY REPORT OF THE COMMITTEE ON ORGANIZATION.*

The report of your Committee herewith submitted contains suggestions and recommendations which are made with full appreciation of the responsibility assumed. Your Committee has from the outset keenly realized the magnitude of the task to which it was set, but it has been spurred on by the hope that its work, if wisely and conscientiously performed, might if favorably received by the ASSOCIATION result in lasting benefit to the medical profession of America. Actuated by this motive, the Committee, after full consideration of the problem entrusted to its care, early reached the conclusion that it would be useless at this late day to suggest the adoption of either half-way or compromise measures. Thus its report will be found to contain recommendations that to many who have not studied closely the defects of present-day medical organization may appear radical.

In order to frankly lay before you a compact scheme of effective organization, your committee is preparing and will submit for your consideration a completely revised Constitution and By-Laws, such as will be necessary to carry into effect the proposed plan of reorganization.

Your Committee proposes that a Business Section shall be constituted, to be known as the House of Delegates, which shall proportionately represent the state societies in accordance with their numerical strength, with the addition, also, as directly representative of the scientific work of the ASSOCIATION, of one delegate from each Section. It is suggested that the present ratio of representation for the state societies be fixed at one delegate to every 500 members.

By the means of expert committees this House of Delegates can deal exhaustively with all the large problems of state medicine. Opportunity will be afforded to every state to be heard in full, and free debate without the necessary consequence of tabling the project under consideration. Important measures will not be neglected as in the past. The states near the place of meeting will no longer wield a preponderating influence. The

House of Delegates can work every day of the annual meeting, at the same hours that the Sections are in session, without interfering in the least with the scientific work of the ASSOCIATION. This House of Delegates will be the "Section of Business," and will be composed of physicians who are interested in the general affairs of the medical profession.

Your Committee is endeavoring to provide every possible safeguard for maintaining this new organization as truly representative of the medical profession of all the states and territories. Provision has been made against political combinations, against perpetuation in office, and against self-election to office. If necessary precautions have been neglected, it has not been from any lack of desire on the Committee's part to create a great democratic organization that shall federate the state societies into a compact whole, and that shall command the respect of the entire world, but rather from the inherent difficulties of comprehending at once all phases of so involved a subject, and providing fully for all future emergencies.

While the Committee has endeavored to make its report so clear as to be readily understood by all, it yet feels some obligation to lay before you a reasonably full outline of the facts which determined its action, and a detailed explanation of the recommendations contained in this report. The Committee therefore presents herewith a supplementary *argument*, which it hopes will enable every member to understand the urgent situation that sooner or later the ASSOCIATION, as the representative organization of the medical profession of the United States, must face and settle.

The report has been made as brief as is compatible with a clear presentation of the Committee's findings, while the supplement is in more argumentative form, designed to meet criticism and to show the present necessity for the action that is urged. The report is condensed, so as to be readily available for discussion and adoption.

The Committee earnestly requests that every member of the ASSOCIATION, before passing judgment on the report, carefully read the facts submitted in the explanatory supplement.

In its revision of the Constitution and By-Laws, the Committee is adopting a rearrangement of topics which

* The Committee expects to present the official report, in concise form, at the meeting at St. Paul. It will be printed and distributed at the first General Session, and will include the Constitution and By-laws as revised. A decision as to one or two details has not yet been reached, although practically all that is herewith submitted is approved by the Committee.

brings these instruments more in harmony with those of other similar organizations. Careful comparison will show that the Committee has made as few real changes as possible, endeavoring simply to reform the organic law of the ASSOCIATION in harmony with the recommendations contained in the Committee's report.

To further elaborate a complete and effective scheme of uniting the medical profession, the Committee suggests plans for the uniform organization of both state and county medical societies, as being directly subsidiary to the plan outlined for the ASSOCIATION itself.

If the ASSOCIATION will give its sanction to these recommendations, there will be good reason to hope that in five years the profession throughout the entire country may be welded into a compact organism, whose power to influence public sentiment will be almost unlimited, and whose requests for desirable legislation will everywhere be met with that respect which the politician always has for organized votes. With the ASSOCIATION in constant, personal, definite, and essential touch with each state medical society, and through them with the societies in every county, the profession of medicine can at no distant day demand and receive that respect from law-makers, from government officials, and from the general public to which it is admittedly entitled by reason of its ideals, its education, and its power for doing good to all mankind.

Your Committee expected at this time to submit a Constitution and By-Laws revised in accordance with its recommendations; these are not yet complete. They will be printed in time for distribution at the St. Paul meeting. The following embody the recommendations which will be incorporated in the Constitution and By-Laws to be submitted:

1. The delegate body shall hereafter be known as the "House of Delegates of the AMERICAN MEDICAL ASSOCIATION."

2. The House of Delegates shall consist of not more than 150 members and shall be created as follows: a, one delegate for every 500 members or fraction thereof of the state and territorial societies recognized by the AMERICAN MEDICAL ASSOCIATION; b, one delegate from each of the Sections of the AMERICAN MEDICAL ASSOCIATION, to be elected as are other officers of the Section; c, one representative each from the U. S. Army, the U. S. Navy, and the U. S. Marine-Hospital Service.

3. Delegates representing the state societies shall serve for two years, one-half, or as near as may be, of such delegates to be elected the first year for one year only.

4. Whenever the number of delegates exceeds 150 there shall be such a reapportionment among the affiliated state societies as will bring the total membership of the House of Delegates below that number.

5. The House of Delegates—as the Sections—shall hold its sessions daily, from 9 A. M. to 12 M. and from 2 P. M. to 5 P. M., or so much of such time as may be necessary, provided that it shall hold no session on the

morning of the first day of the annual meeting, nor during the time of the General Sessions.

6. The General Sessions of the AMERICAN MEDICAL ASSOCIATION shall be composed of members and delegates who may be in attendance at the annual meeting, and the time of meeting shall be 11 A. M. on the first day of the annual meeting, 7:30 P. M. on the first three days of the annual meeting, and 12 noon (or such other hour as may be agreed upon) on the last day of the meeting, which session shall be for the installation of the officers for the ensuing year and other concluding exercises.

7. All the officers of the ASSOCIATION shall be elected by the House of Delegates, but no member of the House of Delegates shall be eligible to any office whose incumbent is elected by that body.

8. No one shall be elected a member of the House of Delegates who has not been a permanent member of the AMERICAN MEDICAL ASSOCIATION for at least two years.

9. The election shall take place on the morning of the fourth day of each annual meeting.

10. No one shall be elected to any office who is not present at the annual meeting at which the election occurs.

11. The officers elected shall be installed at 12 o'clock on the last day of the annual meeting.

12. The membership of the ASSOCIATION, in addition to the delegates, shall be composed of permanent members, honorary members, and associate members.

While the Committee fully appreciate the fact that its duties do not extend below the AMERICAN MEDICAL ASSOCIATION, nevertheless it has in the interest of a complete organization considered the state and local societies, and to complete this urgently-required organization of the regular medical profession, offers the following recommendations to the various state and territorial medical societies:

a. That each state society shall at the earliest possible moment appoint a "Committee on Organization," to which shall be referred, with the ASSOCIATION's endorsement, the report of your Committee, and especially that part which refers to state and county societies.

b. That each state society immediately raise funds and employ an organizer to organize the profession in its territory.

c. That the state societies unitedly agree to federate themselves in the AMERICAN MEDICAL ASSOCIATION, and as a preliminary to this adopt a uniform organic law in regard to certain fundamental principles: viz., to divide their annual meeting into two branches, legislative and scientific; the legislative branch to be as small as is compatible with representation from all the county societies, and to be composed of delegates elected by the county societies.

d. That membership in the county or district societies shall constitute membership in the respective state society without further dues, and that no one be ad-

mitted to membership in the state society except through county or regular district societies.

e. That funds to meet the expenses of the state society be raised by a *per capita* assessment on the county and district societies.

f. That a united effort be made to influence special societies to limit their membership to those who support the regular organization, and the seminational and miscellaneous societies to encourage systematic organization, by covering a definite territory and also by limiting their membership to supporters of the regular organization.

g. That each state society create a permanent committee and a fund for the purpose of enforcing all medical laws in every part of its territory.

h. That each state society co-operate with the AMERICAN MEDICAL ASSOCIATION and with the other state societies in solving the problem now before the profession relating to medical education, medical legislation, reciprocity, licensing, etc.

Your Committee further recommends that a committee of three be appointed at the St. Paul meeting to continue, in behalf of the AMERICAN MEDICAL ASSOCIATION, the plans authorized in this report, and to act in conjunction with the large Committee to be appointed by the various state societies. Your Committee also presents herewith supplementary arguments in favor of organization, all of which is respectfully submitted.

[Signed:]

J. N. McCORMACK, Bowling Green, Ky.
P. MAXWELL FOSHAY, Cleveland, Ohio.
GEORGE H. SIMMONS, Chicago.

ARGUMENT.

A CONSIDERATION OF THE CONDITIONS, PAST AND PRESENT, UPON WHICH THE COMMITTEE BASES ITS RECOMMENDATIONS.

RETROSPECTIVE.

The convention, or first meeting of the AMERICAN MEDICAL ASSOCIATION, was held in 1846, and the ASSOCIATION itself was organized in 1847, in the days before railroads and telegraphs had brought about free intercommunication between the various parts of the United States. At that time there were comparatively few societies and these were very weak. The population of the country was about 20,000,000 and there were probably less than 25,000 physicians of every kind in the entire country. During the fifty-five years since the ASSOCIATION was organized, teeming millions have settled and are now living in prosperity on what was then uninhabited country. There are now probably 120,000 physicians, and between 1300 and 1400 regular medical societies. During this half century nearly all the material conditions of civilization, as well as the methods and needs of our profession, have undergone most radical change.

The founders of the ASSOCIATION very properly arranged that the AMERICAN MEDICAL ASSOCIATION should be a representative body and that every ten members of an auxiliary society should be entitled to

send a delegate to the ASSOCIATION, and that only these delegates should have any voice in the business affairs of the ASSOCIATION. The spirit of representative government has therefore been recognized by the ASSOCIATION from its very inception. It was readily appreciated that by this method alone could all parts of the profession secure an equal voice in the determination of the affairs of the ASSOCIATION, and that in no other way would it be possible to keep the total business-doing membership down to a number small enough to expeditiously transact the affairs of the ASSOCIATION. Thus it was that the apportionment was fixed in 1847, and it has continued without change for fifty-four years, to the present time. In its early life the ASSOCIATION was small enough to transact its affairs in a businesslike manner and to devote much time to the important questions that came before it. Its business meetings were not interfered with by scientific orations, nor was there an attempt to cover such a wide field of scientific work as has since become necessary.

Looking over the methods of other organizations, such as the secret societies and churches, it is found that those which do the most effective work limit very materially the number of delegates who transact all the business of the national organization. No matter if thousands are in attendance at conclaves and synods, the actual legislative work is done by a hundred or two men chosen to represent the various state organizations. These institutions recognize that representative government is most effectual when the number of members in the actual legislative body is kept down as low as possible. The referendum is an excellent method of determining the popular will upon one definite principle, but an impossible means of conducting a profitable discussion upon questions of expediency. A small body, if truly representative in its constitution, can effectually deal with difficult problems that could not possibly be satisfactorily disposed of in a large and promiscuous gathering. It is not possible for every citizen of the United States to be heard *in extenso* by the nation when it is deciding questions of policy, nor can one citizen in ten be a member of Congress. A small well-chosen representative body is the only known means through which concentrated effort can be directed.

Why should the AMERICAN MEDICAL ASSOCIATION continue on the basis of an apportionment more than fifty years old? Why should the American medical profession continue in the effort to work through an antiquated organization, when it can readily secure one that is in accord with the spirit of the times, and when it stands so greatly in need of a definite corporate unity that can adequately influence state and national legislation?

OBJECTIONS TO PRESENT CONDITIONS.

NO PRESENT RESTRICTIONS OF DELEGATE REPRESENTATION.

As the right to vote in the general sessions is limited to delegates who are presumed to represent others, this right should be carefully guarded. In all great representative bodies every precaution is taken to restrict the right of voting to those who are entitled to it. But at

the annual meetings of the ASSOCIATION this restriction has become an impossibility. Registration of all who attend as delegates is such an enormous task that its accomplishment in a satisfactory manner is out of the question if there is the slightest attempt made to scrutinize the credentials. While the right of a society to send delegates is verified, attempt to limit each society to the number to which it is entitled would be fruitless. This could be done if there were a system of reporting membership, but not otherwise. As this system exists in but few states, any attempt at scrutiny in this regard is useless.

A large majority of those who attend the annual meetings do so without any authority to represent others. Nominally, delegates are supposed to be elected; practically, certificates are granted by secretaries of societies on request of those who desire to attend the annual meeting. While this may not be true in a few instances, the exceptions are so few that the rule is as stated.

Correct Registration of Delegates Now Practically Impossible.—The By-Laws of the AMERICAN MEDICAL ASSOCIATION call for the preparation of the list of delegates for accuracy in calling the ayes and nays. At the last meeting over 1600 delegates were registered, and to get such a number in any uniformity for roll-call would be impossible in the time, and the calling of such a long roll as the list of delegates makes would take so long that this is now out of the question. In *viva voce* voting in the general body it is impossible to tell who are and who are not delegates.

Difficulties Increasing Yearly.—The above difficulties are becoming more noticeable each succeeding year. The number of affiliated societies is rapidly increasing, and with this also the number of delegates increases. In brief, the number of delegates has become so great that a verification of the credentials is impracticable, and the separation of the delegates from the few who have not the right to vote is so difficult that the question resolves itself into this: Shall the delegates be reduced in number so that they shall make a body that is manageable, or shall the pretense of delegates be done away with and allow all to vote who attend the meetings? The Committee believes that the latter would be preferable to the present conditions.

The ASSOCIATION is becoming rapidly larger and the membership is likely to increase much faster in the next year or two than it has in the past four years. During the past year (1900) over 5000 subscribers and members were added to THE JOURNAL'S list. At least three-fourths of these are eligible to membership and will probably join the ASSOCIATION within a year. This increase nearly equals the total membership of ten years ago. In other words, those added to the list last year, who have already become members (about 2000) or will probably be transferred to membership shortly, equals the total membership of 1890. It is probable that in five years, if not in less time, the membership of the AMERICAN MEDICAL ASSOCIATION will have reached 20,000.

The attendance at the annual meetings has also been rapidly increasing, and this will tend to increase much faster in the future. The general meetings have become so large that it can be stated truthfully that the ASSO-

CIATION is the largest body in the world which attempts to transact business in a deliberate manner.

Attendance at General Sessions Sometimes Extremely Small.—While the meetings are at certain times too large, exactly the opposite is sometimes true. Toward the end of a session, if it is the least tedious, the large majority have gone, and while the business may be ever so important, the number remaining to give the decisive vote is often so insignificant that it would be absurd to call it representative. The last day's session, often the most important one, is never largely attended, and often there are not present more than thirty or forty at any time on that day.

Attendance Fortuitous.—Under the present method of apportionment much more than half of the delegates in attendance at any gathering come from the states that lie close to the place of meeting, so that any meeting at present may be controlled by that part of the profession which lives near the meeting-place. The composition of the general meeting is fortuitous, depending almost entirely on the location. This one defect totally defeats the theory of representative government. A body to transact business for the profession of the country should be representative of the whole country and not of the particular territory adjoining the place of meeting.

TIME NOT SUFFICIENT.

As to time, for many years members have complained that important measures are not properly considered, or are not heard at all, because of the difficulty of dealing with debate in so large a gathering. Many valuable measures have been indefinitely tabled, and others have been permanently shelved in one way or another because of the impossibility of reaching a definite conclusion in the face of interminable debate in a large body which is always anxious to get its business done quickly.

On the first day the General Session is not scheduled to begin until 11 A. M., and the opening exercises and President's Address, together with the reports, take up that day's session. The average time of the other three days will be less than 2½ hours, making a total of 7½ hours. The three orations and the time devoted to opening the meeting will take more than an hour each day. This leaves but 3½ hours to be devoted to miscellaneous business, including the necessary reports that come in day by day from the various committees appointed at the meeting. The last day's session is nearly always a short one, so that it is believed that the total time allowed for the transaction of business at each annual meeting of the ASSOCIATION does not amount to more than three hours! The fact that important business is neglected and that problems of vast import to the profession and the people are not considered, has been known and appreciated for years.¹

1. "The desirability of having more time and deliberation given to the purely business matters of the ASSOCIATION by a properly organized council or standing committee on business, has long been recognized by all the more experienced members of the ASSOCIATION; and various plans have been suggested from time to time without leading to any definite action." (Report of the Committee on Organization, JOURNAL A. M. A., June 25, 1887.) (At this time there were 3278 members of the ASSOCIATION.)

MANY NOT INTERESTED IN MEDICOPOLITICAL QUESTIONS.

The average of those who attend the annual meetings have only a platonic interest in medical politics. They have no concern about anything in the annual meetings except that which pertains to the Sections, and the trenching on the time of these by the general business sessions is felt to be a disadvantage. These men have no interest in medicopolitical questions and would prefer to be in attendance at the Section meetings rather than at the general business sessions. The Constitution provides for the closing of the Sections during the sitting of the General Sessions. This means that the scientific work must stop at 10 o'clock each morning, and this is against the best scientific interests, as at this time the Sections have just fairly started.

The General Executive Committee.—The General Executive Committee was created in 1892, for the purpose of meeting the above conditions. But while this Committee has been of great service, it has not proved a satisfactory solution of the difficulties. First, it is difficult to obtain a fairly good attendance of this body. Its members are those who are interested especially in scientific work or they would not have obtained the position of chairmen of their various Sections. They are especially the ones who are not supposed to be interested in what is termed "medical politics." They are naturally interested in Section work, and will not leave this except for urgent reasons. The meetings of this General Executive Committee have been not only poorly attended, but the time it devotes to them is limited, generally between 5 and 6 o'clock in the afternoons. Further, the members of this Committee realize that their decisions on questions that are brought before them are not final. They therefore do not have nor feel that responsibility which is necessary to insure attendance and careful work. The General Session itself is likely to take up and discuss questions that the Executive Committee has considered *in extenso*. The Executive Committee therefore can not but feel that its work is largely wasted energy. So it is not to be wondered at that the attendance at its meetings is poor.

The Nominating Committee.—The objections urged in the past against the Nominating Committee and the method by which it is created, make it unnecessary for the Committee to do more than simply refer thereto. (See first paragraph of foot-note 2.)

In brief, the present system of conducting the business of the AMERICAN MEDICAL ASSOCIATION is most unsatisfactory, because: 1. It is not representative. 2. It detracts from the scientific value of the annual meeting, wasting the time of those who are not interested in medicopolitical subjects. 3. The time devoted to the General Sessions does not give opportunity for deliberate consideration of the living problems of the profession of our country. 4. The body as now constituted has become so large and unwieldy that it is impossible for it to transact business deliberately and calmly or take up and consider the important questions affecting the medical profession.

RECENT ATTEMPTS AT REORGANIZATION.

In reviewing the history of recent attempts to bring the ASSOCIATION into closer touch with the profession

generally, by reorganization, it is unnecessary to go back of the last fifteen years. In the earlier years of the ASSOCIATION's life it appears to have been tacitly taken for granted that it was simply a representative body of the state societies and the medical institutions of the country, and certainly such was the idea at its organization. As time has passed, however, the ASSOCIATION has grown away from this ideal; though still nominally a delegate body, it is now in the minds of most of the profession an entirely independent organization, membership in which, while still dependent on affiliation with a state or local society, is nevertheless separate from such relations when once attained.

For many years those who have the good of the ASSOCIATION at heart have realized that a modification of its general plan was necessary to make it more efficient for the work before it. It has been yearly growing of more value as a scientific body; the Sections have increased in number, and in most of these more and better work has been done. But other and just as important functions of the ASSOCIATION have been slighted. The scientific work has encroached more and more on the time that was once devoted to considering what might be called the "material interests" of the profession, and, as a result, these have been greatly neglected. It has been realized also that the great majority of those who attended the annual meetings did so for scientific purposes, and that these had neither the time nor inclination to consider medicopolitical matters, and, as a result, important questions that required time and deliberation have been put off indefinitely or rejected without consideration.

To meet these conditions several attempts have been made, but with practically no results. Fifteen years ago (St. Louis, 1886) a committee was appointed for the purpose of presenting a plan of reorganization. This Committee had as its chairman one of the founders of the ASSOCIATION, Dr. N. S. Davis, Sr., and at the following meeting (Chicago, 1887) a voluminous report was made. This makes a splendid argument in favor of the plan, modified in minor details, which will be proposed in this report. (Foot-note 2.) It recom-

2. The following is quoted from this report. See JOURNAL A. M. A., June 25, 1887, p. 712:

"Perhaps no other part of the practical working of the Association has occasioned so much adverse criticism as the hasty and imperfect method of selecting, after the commencement of each annual meeting, of the Committee on Nominations by such little groups of delegates from each State and Territory, as could be gathered in some corner of the room in the brief recess of fifteen minutes, and on whom devolved the paramount duty of nominating all the general officers of the Association, of seven members of the Judicial Council, three members of the Board of Trustees, and the selection of the next place of annual meeting; duties that the members are required to commence discharging immediately after their names are announced from the platform as having been selected for that purpose. The committee thus hastily appointed, compelled to discharge duties of the greatest importance with equal haste, and then cease to exist, could not fail to commit some errors and to make some injudicious recommendations."

* * * "The three objects of paramount importance to be accomplished by medical organization are: *a*, the promotion of direct personal and social intercourse between physicians, by which mutual respect, personal friendship and unity of sentiment are greatly promoted; *b*, the more rapid increase and diffusion of medical knowledge, scientific and practical; and *c*, the developing, unifying, concentrating and giving efficient prac-

mended several important changes, among which was the creation of a "Council," to be composed of two members from each state and territorial society and from the medical department of the Army, Navy, and the U. S. Marine-Hospital Service, making a body of a little more than one hundred. These were to serve two years, one-half being elected at the first for one year only. Another recommendation of this Committee was the creation of "members by application," making it possible for membership to be obtained without attendance at the annual meeting. (This was the only change finally adopted among those recommended by the Committee.) It was also advised that the Committee on Nomination be done away with, its duties being imposed upon this new council.

It is interesting to note how this report was at first adopted, but how finally it was entirely rejected. When it was read at the Chicago meeting (1887), it was adopted almost unanimously. The question arising as to whether the Constitution could be changed in this manner without the amendment lying over a year, it was on motion declared that the report could be adopted and its recommendations become operative at once.

tical expression of the sentiments, wishes and policy of the profession concerning its educational, legal and sanitary welfare and the relations of the latter to the community as a whole. As the gathering of all the members of the profession, numbering many thousands, from so widely extended country as ours, into a single society for personal intercourse, is impracticable, the first of these leading objects can only be attained by organization primarily into city, town, county, and limited district societies, in which the necessary personal intercourse can be enjoyed without material expense, or being placed beyond the reach of their patients. The same object is further promoted by sending a delegation from each of these circumscribed or local societies, once or twice a year, to constitute the State Society; and still further by these State Societies sending delegates to one more protracted meeting each year, which would constitute the National organization. Thus by the constant changing of the personality of the delegations, the profession of the whole country is made to feel the genial influence of personal intercourse and mutual respect. By the more frequent meetings of the primary local bodies and the more free or informal discussion of all professional topics, a general interest for more knowledge is fostered, and the spirit thus developed is carried by their delegates to the State Societies. . . . and these results are carried with the delegates from the State Societies to the National organization. . . . For the accomplishment of the third important object to be attained by medical organization, *i.e.*, unity and concert of opinion, certainly no scheme has been yet devised equal in fairness and efficiency to that which gathers the active working members of the whole profession into primary local societies, from which delegates chosen on a uniform ratio of representation are made to constitute the State Society; and from these again delegates on a similar ratio of representation are sent to constitute the responsible voting part of the National Association, thus constituting a ready professional mechanism through which the views and wishes of the profession can be gathered and efficiently expressed on all questions relating to education, medical legislation and the sanitary interests of the people. And the same can be brought to bear with equal force upon the action of legislative bodies, either municipal, State or National. The organization of the whole profession we have so briefly outlined, with the great leading object it is designed to accomplish, is but the ideal representation of the actual organization of the profession in this country at the present time. The organization of this Association, commenced in 1846, and completed in 1847, is, and has been from the beginning, a representative body with the State and local medical societies in all the States for its essential constituency, or 'Branches' (if there is any particular merit in that name). It is true the fundamental representative principle was at first imperfectly or unequally applied, in consequence of the comparatively small number of either State or local societies then existing."

Later in the same session, however, the matter having been brought up again, it was decided to lay the report on the table for one year. At the next meeting (1888), the recommendation in regard to applications for membership was adopted, but a long discussion taking place the rest of the matter was laid over for another year, and finally, in 1889, three years after the Committee was appointed, the whole subject was permanently laid on the table.

At the Washington meeting in 1891, an amendment was proposed to make the state societies branches of the ASSOCIATION, which was referred to a committee to report the following year. At the next meeting (1892), at Detroit, a substitute for this was offered and adopted, constituting the present General Business or Executive Committee.

Several attempts have been made in the past to do away with the Nominating Committee. At the meeting in June, 1892, an amendment was introduced with this object in view, the duties of this Committee to be imposed upon the General Executive Committee created that year. This amendment was laid over for one year, but for some reason it was not called up for two years. At that meeting (Milwaukee, Wis., 1893) a committee which had been appointed the previous year to revise the Constitution and By-laws brought in its report and in it provided that nominations should be made by the Executive Committee. The report of this Committee was laid over until the next year. In 1894 (San Francisco meeting), after a long discussion the matter was deferred another year, and in 1895, at Baltimore, this amendment, with several others, was laid on the table. At the last meeting of the ASSOCIATION another amendment looking to the changing of the method of creating the Nominating Committee was introduced and is to be acted on this year.

Thus it will be seen that aside from creating "membership by application," which gave a chance for enlargement of the general membership, and the General Executive Committee, nothing has been done in the way of amendment to the organic law to make the ASSOCIATION what it ought to be—the representative body of American medicine. By reviewing the history of the attempts made, it will be noticed that failure resulted from slightest opposition, for the reason that this developed a discussion in the general meeting, which took time and produced impatience at the "time wasted," with one of two results, rejection or postponement to another year, and finally indefinite postponement.

OBJECTS OF ORGANIZATION.

The objects to be gained by organization are splendidly outlined in the following paragraph taken from the report of the Committee on Reorganization, which was made to the ASSOCIATION by Dr. N. S. Davis in 1887:

"The three objects of paramount importance to be accomplished by medical organization are: *a*, the promotion of direct personal and social intercourse between physicians, by which mutual respect, personal friendship and unity of sentiment are greatly promoted; *b*, the more rapid increase and diffusion of medical knowl-

edge, scientific and practical; and *c*, the developing, unifying, concentrating and giving efficient practical expression of the sentiments, wishes and policy of the profession, concerning its educational, legal and sanitary welfare and the relations of the latter to the community as a whole."

The need of organization from a social point of view will be discussed when we consider local societies.

The scientific, as far as it relates to the AMERICAN MEDICAL ASSOCIATION, is satisfactory as it is, with probably one or two slight changes in regard to Section work. There is no necessity of organization for the creation of more special and general scientific bodies as such, but there is a necessity for more encouragement of scientific work in the local societies. In these it is believed that much more work could be done, if an attempt were made to carry on what might be called post-graduate instruction among local societies. There is certainly a great need that some way should be devised to reach those engaged in medical practice in small towns, villages and in isolated places. There is need of missionary work among those practitioners who have, on account of their environments or from other necessities, withdrawn from or been deprived of scientific intercourse with their fellows. By the elevation of the condition of such men the profession as a whole is benefited.

Without, however, ignoring the importance of the sociologic and scientific functions of organization, attention is called particularly to the medico-ethical and medicopolitical objects, which should be much more prominent in the minds of the members of the profession than they now are. These objects include not merely the questions of conduct of physicians toward one another and toward the public, but their views, impressions, or attitude in regard to legislation which may affect them and the medical welfare of the community.

These include medical education, the defense of the public against impostors of every kind, the regulation of medical practitioners to insure proper qualifications by enforcement of medical laws, reciprocity, etc.

MEDICAL EDUCATION.

As is well known, the question of medical education was taken up by the ASSOCIATION early in its existence, and much was done to raise the standard, but in recent years little has been attempted. At the present time there are altogether too many medical colleges, and one of the greatest dangers which now threatens the medical profession in this country is found in just this fact. This is not due alone to the pouring into the profession each year thousands of illy-prepared men, with a lesser proportion, it may be, of those who are really fitted for their life-work, but in the commercialism, the strife, the petty ambitions and general demoralization which go with these, including free dispensaries, free clinics, and free hospital service. The evils are brought on by ourselves and can be corrected only by our own efforts. There is to-day, however, no way for the profession of the country to act upon this question in an organized capacity. The physicians connected with the medical colleges organized some time ago a medical college association, and this body has done much good, but it is

realized by those connected with it that it has failed in some of the important measures it undertook to carry out. The question is one that can not be settled by legislation, nor by public sentiment, but by professional sentiment, and when this can be created in the right way and a solution of the question proposed, professional sentiment will carry out the plan adopted. Just what that may be is not to be considered here, but that it is a question which can be solved can not be denied if the whole profession attempts to solve it.

MEDICAL LEGISLATION AND RECIPROCITY.

We have here a peculiar position. There are fifty different territorial subdivisions, if the District of Columbia and the territories are considered with the states, and no two of them have the same medical laws. Yet there is not a medical law on the statute books of any of the states or territories that was not put there through the efforts of physicians. Not that these laws are in any instance exactly as the profession would like to have them, possibly, but nevertheless they are there because the profession worked to have them put on the statute books.

It is not supposed that the medical profession is so powerful that its members can say to each legislature, "We want this law and nothing else," but it is powerful enough and has influence enough to get something near what it wants, if it goes after it in the right way.

It is presumed that if a few states had a law that was giving satisfaction, it would not be much trouble to get that law passed in those states which had not adopted it. It may also be presumed that if the profession asked for the same enactment in every state, and persisted in its demands, it would in time get such a law. The profession would be working for a common purpose in every state in the country, and before long the essential features of the ideal law that was agreed upon would be adopted. At present, however, there seems to be no way by which the various state societies can get together to consider such a matter.

The need of reciprocity comes from the fact that in enacting medical laws in one state, no regard has been had for what might be done in this direction in another. Under existing conditions the legislative committee of each state society in its efforts for medical practice acts moves independently, apparently not realizing that the brethren over the imaginary political line may be affected by its acts. Each state has been thinking only of its own necessities. The fact that such a variety of medical laws have been enacted, emphasizes the lack of any central co-ordinating body to harmonize the action among state societies in this regard. If there had been co-operation, the result would have been far more satisfactory and the question of reciprocity a much simpler one. This independent action is still going on. In one state one amendment is in the course of enactment, while in another this identical provision is being wiped out of the law, both at the suggestions of physicians, and the result is a confused jumble of provisions and a cry for reciprocity. The result of the miscellaneous medical legislation of the past is that a man may be legally entitled to practice in one state and yet, if he attempts to cross the border into another, he is debarred

from that right unless he passes an examination. Those who have been in practice for a number of years, and have forgotten the elementary principles which they were taught when in college, find this condition a disagreeable one. These as well as the majority of physicians ask for a remedy, but there is no organized body that can in a representative way take up the discussion of this question and recommend a solution of it.

ENFORCEMENT OF LAWS.

The enforcement of medical law lies with the profession which created these laws. While this may not be accepted as a fact, and in theory it is not true, yet practically it is true and is so recognized by those who have anything to do with the enforcement of medical practice acts.

The enforcement of medical laws is of as much importance as their enactments, and too much emphasis can not be laid upon the necessity of general organization of the members of the medical profession in order to secure their enforcement. There is hardly a state in which the profession has, as an organized body, recognized this as a part of its function. While this is the duty of each state society in its own territory, it needs also the united action of the bordering states, as has been realized by those who have made attempts to enforce medical laws. If an attempt were made to enforce the laws all over the country, it would be a very easy matter for each individual state to enforce its laws, because adjoining states would not then offer a hindrance by their laxness, i. e., there would be no opportunity for evaders of one state's law to take refuge in an adjoining state.

OTHER OBJECTS OF ORGANIZATION.

There are other evils to be met besides those enumerated, such as that which our confrères in England are meeting under what they call the "battle of the clubs." Lodge and club practice is only just beginning to be felt here and the only way in which to meet these is by counter-organization. Most of the quackery and fraud in its protean aspects against the people and much of the evils with which the profession of this country is afflicted are the result of apathy and lack of organization. Organization will give confidence to make effort, and with this confidence apathy will vanish.

There are medicosocial questions that may be worthy of consideration in a national representative body of medical men. Among these is the advisability of creating a department of insurance for the superannuated, for the establishment of a home for those among us who, through misfortune, have become incapacitated, for mutual protection in malpractice suits, etc. Medico-ethical questions are continually arising, such as that now prominently before the profession, namely, the giving of commissions. Such questions as these should be met fairly and squarely by a representative body qualified to consider them.

THE AMERICAN MEDICAL ASSOCIATION'S ANNUAL MEETING.

The annual meeting, under the proposed reorganization, will consist of General Sessions, meetings of the House of Delegates, and meetings of the various Sec-

tions. The House of Delegates will meet at the same hours as the Sections, and in effect the House of Delegates will be the legislative and business Section of the ASSOCIATION.

THE SCIENTIFIC.

The functions of the General Sessions will be practically the same as in the past minus the part which may be called legislative or business. Under the new régime the general session, to be known as the "General Session of the AMERICAN MEDICAL ASSOCIATION," will be held at such a time that it will not interfere with the work of the Sections. It is proposed that the opening session shall be as at present at 11 A. M. and be called the General Opening Session. This will be devoted to the formal opening exercises, addresses of welcome, etc., and the President's Address. The other General Sessions will be held each evening at 7:30, except that of the fourth day, which probably will be held at noon and will be the closing session and for installation of the new officers. By changing the time of meeting from morning to the evening, there will be no interference with the morning sessions of the Sections. As these general sessions will probably last about an hour, there will be ample time afterward for the Section dinners on Tuesday, and for the other social gatherings on the following evenings. At these meetings will be delivered the three orations, one each night. No general business will be transacted, except that which pertains to the Sections, and to the scientific work of the ASSOCIATION, although action advisory to the House of Delegates may be taken. The General Sessions will be composed of both delegates and members.

THE LEGISLATIVE BODY.

It is to the plan of organization of this division of the ASSOCIATION that the Committee has given the greatest consideration. While it may seem to be the creation of a new body and the making of radical changes in the organic laws of the ASSOCIATION, the facts of the ASSOCIATION'S foundation and history do not warrant this conclusion. When the ASSOCIATION was organized, it was intended that a small number should be delegated to attend to the legislative matters—business, medicopolitical, etc.—of the ASSOCIATION, while the larger number were engaged in scientific work.

NAME.

At the present time the General Session is composed of members and delegates; its functions are scientific and legislative. The separation of the functions necessitates a distinctive name for the legislative body, and the Committee suggests that it be known as

THE HOUSE OF DELEGATES.

SIZE.

One of the greatest problems to solve was that in regard to how many should constitute the House of Delegates. In deciding this question, the Committee primarily recognized that the body must be large enough to be representative, but not so large that it would be unwieldy. In attempting to find an example in the affairs of life, it was found that a comparison might be made to the national bodies of the secret orders. These

generally consist of less than 150, more often less than 100. Probably a better example and one more appropriate is that found in the political legislative bodies of the states. Taking ten of the largest in population, we find the number in the lower House of the following states to be: New York, 150; Pennsylvania, 204; Illinois, 153; Ohio, 130; Missouri, 140; Indiana, 100; Massachusetts, 240; Michigan, 100; Kentucky, 100; Iowa, 100. The national House of Representatives has 357, but from the fact that much of its business is done by committees, the objections to its unwieldiness is eliminated. It is, however, only by rigid rules that it can be governed. A body that meets, organizes, transacts its business and adjourns in four days must be composed of a less number than this branch of our national legislature. The Committee recommends that the House of Delegates shall be composed of not more than 150, the apportionment being made in accordance with this principle. It is unnecessary to present further arguments to show that this number is as large as is necessary to make it representative, if it is created in the right manner.

HOW CREATED.

How shall this body be created, and what societies shall have the privilege of sending representatives to it? To go below the state societies is considered unadvisable, for the reason that if such were done, it would be necessary to give delegates to all affiliated with the state societies, as is done now. This, of course, is out of the question. Certain large societies—for instance, the Chicago Medical Society with a membership of over 1000, and the Philadelphia County Medical Society with a membership of over 750—it might be thought should be represented, but if representation were given to these, others would ask the same privilege. If the Philadelphia County Medical Society should be given representation, the Allegheny County Medical Society, in the same State, which has over 350 members, might also demand that privilege. It is therefore impossible to go below the state societies in any definite form of representation. It is, however, not desired that this should be done. The great object before us is the federation of the state societies, and this can only be accomplished through a central national body created by them.

APPORTIONMENT OF DELEGATES.

The Committee, in the first draft of its report, proposed to apportion one delegate at large to each state society, this delegate to be the retiring president of the state society. After consultation with others in regard to this proposition, by correspondence and otherwise, it was found that great objection was raised to it. Therefore, this was finally rejected. Another proposition rejected after a thorough canvass of the question was the representative from the Sections. At first it was decided that the representatives from the Sections should be ex-officio, as now, and that the retiring Chairman of the Section should go into the House of Delegates for one year. This was objected to for various reasons, and the Committee therefore now recommends that instead of the retiring Chairman, each Section shall elect a delegate to represent it in the House of Delegates.

In brief, the House of Delegates will, therefore, consist of representatives from the affiliated state societies in proportion of one delegate for each 500 members or fraction of that number; one representative from each of the Sections, to be elected at the time the Section officers are elected; and one representative each from the U. S. Army, U. S. Navy, and U. S. Marine-Hospital Service.

Regarding apportionment, the Committee had to consider that, as organized at the present time, no equitable representation could be given to all the state associations. Some of these bodies—Alabama, Connecticut, Indiana, New York and Pennsylvania—make membership in the county organization constitute membership in the state. These will have an advantage until a uniform plan of organization is adopted. Before deciding to recommend the membership of the state society as a basis for representation, the Committee considered the following propositions:

1. Base representation on membership in the state society. (Adopted.)

2. Base representation on the total number of regular physicians in the state, without regard to membership in any society. (This was rejected as it would in no way encourage the building up of societies, would not aid in federating the state societies, and would not be representative.)

3. Base representation on combined membership of the state and its affiliated societies. (This was not accepted because it is too cumbersome, and because there is no way of knowing the number of members of local societies in the great majority of states, under present conditions.³)

4. On the number of members of the AMERICAN MEDICAL ASSOCIATION in a state. (This was rejected as being unfair, not representative, and not recognizing the state society as part of the plan.)

The reasons for adopting the first plan mentioned will be further considered when the plan of organization of the county and state societies is discussed.

INCREASED REPRESENTATION UNDER NEW PLAN.

If the state societies adopt the plan recommended by the Committee, viz., making membership: *a*, in the county or district constitute membership in the state society, the majority of these will be entitled to many more delegates than at present. For instance, from the statistic that we have been able to gather, California will add about 900 members from the county societies to her present membership, which will give the state four delegates. Colorado will be entitled to at least three, if not four, when membership in a county society takes in membership in the state society. Iowa will add at least 2000 to her state society list, increasing her rep-

3. The Committee attempted to get statistics in reference to the number of societies in each state and the number of members in each society, one object being to consider the advisability of adopting this principle of representation for the present. But in spite of every endeavor and much correspondence, the results, except in a few states, were very discouraging. Blanks were sent to all known societies, but not more than half of them were returned, and many of these were only partially filled out. This in spite of the fact that in all but a few instances the Committee had the assistance of the secretaries of the state societies. Nothing has so impressed the Committee with the need of some system of organization as has this failure to get in touch, even for statistical purposes, with the local societies of the country.

resentation to probably seven. Minnesota will add probably 700 from her county societies, which will give her four delegates. Missouri will add about 2000, which will give her six or seven representatives. Texas will add at least 1000, which will entitle that state to four or five delegates. Michigan will add at least 1000, which will entitle that state to five. Ohio will add at least 3000, which will entitle her to nine delegates. Illinois has recently published a list of the members of all the societies in the state, and from this list it is found that if this state adopts the plan recommended, it will have a total membership of 3800, entitling it to nine representatives.

The above figures are based on information obtained from reports gathered by the Committee and are not reliable, but the estimate is made low in each case. It may therefore be seen that if the results of the efforts of your Committee are at all satisfactory, the apportionment of one to every five hundred will result in too large a number, and hence very shortly a higher basis of representation will have to be made.

FUNCTIONS OF THE HOUSE OF DELEGATES.

The House of Delegates, to all intents and purposes, will be the legislative and executive body of the ASSOCIATION and will take the place of the delegate body as it now exists. The only change from present conditions will be that the delegate body will be reduced in number and its members elected by the state societies only. It will elect all the officers; it will have control of all the affairs of the ASSOCIATION; it will be the mouth-piece to give expression to the desires of the profession of the country in regard to business and legislative affairs; and it will consider other problems affecting the profession from time to time as they arise. It will be a confederation of the state societies of the country, which in turn must be a confederation of the local societies in the state. Being created by the state societies, it must be responsible to them for its actions.

In the revised Constitution, the Committee recommends that the following be incorporated:

No member of the House of Delegates shall be eligible to any office in the ASSOCIATION.

By adopting this proposition, it is believed that "medical politics" will be reduced to a minimum.

The Board of Trustees shall have control of the finances of the AMERICAN MEDICAL ASSOCIATION as at present, and be considered officers of the ASSOCIATION, and therefore can not be elected from among the delegates.

The object of this is that there may be thrown around all financial matters as much protection as possible. While the Board of Trustees will be created by the House of Delegates, its term of office will extend as now for three years, one-third going out each year. Two-thirds of the Board of Trustees will always be independent of the existing House of Delegates and will be in a position to act independently as a protection should that body any year recommend some extravagant expenditure. As now the Board of Trustees could expend no money unless so ordered by the House of Delegates, except in the management of THE JOURNAL.

The officers shall be: President, First Vice-president, Second Vice-president, Secretary, who may and

should be editor of THE JOURNAL, Treasurer, and nine Trustees. All officers shall be elected for one year, except the Trustees, who shall be elected for three years each, three going out each year. The Editor, who should also be, but not necessarily must be, Secretary of the ASSOCIATION, shall be elected by the Board of Trustees. (While it is better under present conditions for several reasons that the Editor and Secretary be one, the time may come, in the development of the work of the ASSOCIATION, that the duties should be separated, and hence it is thought best to incorporate the matter in the Constitution as above.) All the officers shall be ex-officio members of the House of Delegates, but none of them should have the right to vote, except the President, and he only in case of a tie.

All the standing committees now provided for will be continued, except the Committee on Nominations, the Committee on Necrology, and the General Executive Committee. It is presumed that the House of Delegates will create other committees than the ones now existing, if necessity requires.

Membership: There will be three classes of members, to be known as members, honorary members, and associate members. Membership will be obtained as now provided for under "Membership by Application." Honorary members will be limited to distinguished foreigners, who must be elected by the unanimous vote of the General Session of the AMERICAN MEDICAL ASSOCIATION. It must be a distinguished honor. Representative gentlemen not Doctors of Medicine, working in the allied sciences, may become Associate Members by a unanimous vote of any Section. Honorary and Associate Members will have all the rights of membership, except that of voting in the Sections and in the General Sessions and the right to hold office. They shall not be assessed for dues nor be entitled to THE JOURNAL free. No one shall be eligible to membership in the House of Delegates unless he has been a member of the ASSOCIATION for at least two years, except delegates at large and representatives of the U. S. Army, Navy, and Marine-Hospital Service.

THE SUBORDINATE SOCIETIES.

The foregoing pertains directly to the AMERICAN MEDICAL ASSOCIATION and indirectly to the state and local societies. That which follows relates directly to miscellaneous state and local societies, but only indirectly to the AMERICAN MEDICAL ASSOCIATION. The latter does not wish to dictate to these societies, but only to advise. A committee consisting of one from each affiliated state society, provided for by a resolution adopted at the Atlantic City meeting, will meet at St. Paul on Monday, June 3. The following must be considered as suggestive and advisory to this Committee.

THE STATE SOCIETIES.

As mentioned at the beginning of this report, the larger Committee on Organization is created by the various state societies, the object being to discuss the problem of organization as it affects the state and its affiliated societies. It is presumed that the members of this Committee will be able to intelligently consider the sub-

ject from the point of view of all parts of the country and as it relates to the different conditions existing in the various states, and thus come to an agreement which will be acceptable to all these bodies. That which follows is intended especially to suggest to this Committee the conditions that exist and to advise what, in the Committee's opinion, is considered to be the best plan of organization.

Before discussing the plan of organization of state and other societies, the Committee thinks it advisable to refer briefly to present conditions.

TOO MANY MISCELLANEOUS SOCIETIES.

One of the great obstacles to systematic organization is the large number of existing medical societies. Of these there are between 1300 and 1400, although with new ones continually starting and with many in that condition of innocuous desuetude which makes it hard to decide whether they are alive or dead, it is impossible to even pretend to any correctness as to the number. For the reason that most of these are organized without any common plan and without relationship one to the other, they are a source of weakness, and an obstacle to systematic organization.

The societies referred to may be classified as: *a*, Special; *b*, District; and *c*, Seminal. Special societies are necessarily organized for specific scientific work with membership limited to those who are interested in the particular work which these societies are organized to encourage. They are purely scientific, with no other pretense. They do not interfere with a systematic organization, although there is probably a tendency to a too great multiplicity of these. If these could be induced to insist on membership in the county society as a qualification for membership, it would assist very materially in general organization.

District societies are of various sizes, generally covering an indefinite territory in a state. These, as a rule, are organized with no regard to any plan, and with no relationship to the state or to local societies that may be already in existence in the same territory. Such bodies are particularly a source of weakness for the reason that they are antagonistic to strong local organizations in affiliation with state societies. Their membership is drawn from struggling local bodies, preventing these most desirable institutions from becoming strong and active, and often resulting in their complete disruption. In a systematic scheme there may be an excuse for district societies, in fact that they will be a necessity in some instances, but to be useful in uniting the profession for the general good they must occupy a definite place in the plan of organization.

Seminal societies are subject to the same criticisms. Such organizations as the Medical Society of the Missouri Valley, the Mississippi Valley Medical Association,⁴ and other like bodies which cover an indefinite territory could be made a power if they were

given a definite territory and admitted none to membership who were not supporters of their own local and state societies.

The various tristate societies as at present constituted, are, with one or two exceptions, a detriment. An investigation into one of these revealed the fact that more than half its members are not supporters of their own state society, but are encouraging an organization outside of their own state and much inferior in numbers and in scientific worth. The combination of three or more state societies for the common good of all, the meetings being held at a time not to conflict with the meeting of the state bodies, might certainly be desirable if the object were to supplement and not to antagonize the work of the state society. If this is the object, however, membership in one's own state society must be a requisite for membership. Otherwise they will continue to be a source of weakness and will tend to disorganization.

UNIFORMITY IN ORGANIZATION NECESSARY TO FEDERATION.

No successful organization of the profession is possible without the mutual co-operation of the national and state societies; it is presumed here that the AMERICAN MEDICAL ASSOCIATION is ready to do its part; what remains is for the state organizations to do their share in the accomplishment of the purpose. It is not necessary to use arguments to prove that there is at present no close relationship among the state societies; that each is acting as an independent body, recognizing no other; that no concert of action among them regarding measures that are of mutual importance is possible under present circumstances, and that a federation of the state societies is desirable and absolutely necessary for the accomplishment of their full measure of usefulness.⁵

A COMMON PLAN FOR EACH STATE.

It will also be accepted as an axiom that before such a federation can become an established fact a common plan of organization must be adopted by all.

To successfully accomplish this and have such a common plan accepted by each state society, it will be necessary that each of these bodies shall be willing to sacrifice for the common good certain minor details in their present plan of organization, certain preconceived ideas as to what are the objects of the state medical society, and existing methods of procedure of minor importance. For without a willingness on the part of all to make some minor sacrifices, there can be no successful issue to the undertaking, and present chaotic conditions with their resulting weakness will continue to prevail.

OBJECTS OF STATE SOCIETIES.

Before discussing the plan upon which the Committee believes the state societies should be asked to agree, it will be well to consider what are the objects for which a state society is created. Judging from a few of these, it would

4. The Committee contemplated the advisability of creating seminal branches, taking the Mississippi Valley Medical Association, modified and enlarged as to scope and territory, as an example. The idea was to create say five grand branches, as for instance, the New England Branch, taking in the New England States, New York, and possibly Pennsylvania; the South Atlantic Branch, including the Atlantic Coast States, Alabama and West Virginia; the Mississippi Valley Branch, including the Northern States West of and inclusive of Ohio, to and including Colorado, and possibly Tennessee and Kentucky; the Southern Branch, including the

Southern States from Mississippi West to and including New Mexico; The Pacific Branch, including Montana, Wyoming, Utah, Oregon and all West. This grouping is suggestive only. It was thought that our country is so large that these semi-national societies could be of advantage from a scientific point of view. The plan provided for an annual meeting of these branches at such time of year each thought best, but not within three months of the meeting of the AMERICAN MEDICAL ASSOCIATION, the latter to meet with these branches in rotation, the branch omitting its annual meeting when it entertained the national body. The general idea was considered worthy of consideration in the future but not at the present time.

seem that the object is simply to gather together annually a select few of the members of the profession in the state for the purpose of reading and discussing scientific papers. Such societies, however, do not appreciate their functions. The whole duty of a state society consists in doing all in its power to better the conditions of every individual member of the medical profession in its territory. A body whose sole aim and object is to benefit only those who attend its annual meetings should cease to exist, or else change its name and claims so that a state society could be organized that would appreciate its full duty and do it.

The state society, by building up local societies and by encouraging them in every way, should make every effort to reach and keep in touch with those who have from their own accord or from the exigencies of their location separated themselves from professional association with their fellows.

The state society, representing the profession of the state, should have cognizance of all medicopolitical,⁶ social and financial measures affecting the profession, as well as sanitary affairs that affect the well-being of the people. It should be ready at all times to oppose measures and undertakings, whether originating in or out of the profession, that have a tendency to degrade it and lower its standard as a scientific body of men, or that would affect the profession disadvantageously in any way.

In addition to the above, but not more important, is its function as the great scientific medical body of the state.

Hence, as in the organization of the AMERICAN MEDICAL ASSOCIATION, there should be two distinct branches, the scientific and legislative.

MEMBERSHIP IN STATE SOCIETIES.

SHALL MEMBERSHIP IN A LOCAL SOCIETY CARRY MEMBERSHIP IN A STATE SOCIETY?

The Committee concludes that this question should be unhesitatingly answered in the affirmative, believing that every man who belongs to a local society should be eligible to attend the scientific gatherings of the state body without further formality or additional expense.

The object of the scientific branch of the state society is the diffusion of medical knowledge among its members. The primary purpose of the annual gathering is educational and for the mutual improvement of those who attend; the secondary is social and fraternal. There is no reason why every reputable physician should not be welcome at such a meeting, especially when he is considered by his fellow practitioners, who know him best, as a desirable member of their local society. There can not be, unless the members of the state society desire that that body shall be considered select and exclusive, an idea which is as far from their wishes as it would be repugnant were it a fact. To make higher professional attainments a qualification for membership in certain

exclusive societies devoted to special work may be right and proper, but not in a body which is supposed to be democratic. All state societies gladly welcome to membership every reputable regular physician, hence there can be no objection on the point of professional qualification.

As far as excluding from the state society those who are not reputable nor ethical, it would seem that limiting membership to those who belong to their local societies is more likely to prevent the admission of such men than the present method of admission. Why membership should not be obtainable except through membership in the county society will be considered under "County Societies."

Benefits Resulting from Enlarged Scope of Membership.—It may be asked, by those societies which do not now recognize membership in a local society, what advantage will accrue to them if they change to the method recommended.

It would increase the membership, and so the influence, of the state society. For the purpose of illustration, we take certain states concerning the membership of whose county societies the Committee has secured fairly correct information. In the following table is shown the number of members of the state societies in the first column, and in the second the number of members these will have if the present membership of the local societies is included:

	No. of Members Now.	No. of Members if Co. Soc. Members are taken in.
California	262	1162
Illinois	800	3800
Iowa	734	2734
Ohio	940	3940

Thus without the slightest effort there will be an enormous increase in membership and influence in these societies, and it is believed that similar gains will be made in a large majority of the states. This membership is the result of no extra effort, so it can be readily seen what a membership many of these state societies will have if the efforts that will be recommended later are adopted.

FINANCIAL REASONS.

As will be seen, the most important result of enlarging the scope of the state society will be the increased revenue. This is an important consideration, as now the lack of money prevents the execution of important measures. Only a few now contribute to the expenses, whereas these should be divided among the many, for all are benefited.

Referring again to the four states above, we find that the annual dues of the California State Society are \$5.00, and that with the present membership this brings in \$1310. With the county society members added, with dues \$1, this would amount to \$1162, not as much as at present, of course, but how much easier these dol-

5. "A unification of the State Medical Societies as integral parts of the AMERICAN MEDICAL ASSOCIATION would go far toward making easy the solution of many questions of concert of action, and I would respectfully suggest that measures be at once instituted for the development of a much closer relationship between the State and National Societies." (Dr. Henry O. Marcy's Presidential Address delivered at Detroit, Mich., June 7, 1892, and published in THE JOURNAL of June 11, p. 727.)

6. One of the great needs in every state is the enforcement of medical laws. "What is everybody's business is nobody's business" is especially true in this regard. Quackery in all its forms is plying its nefarious schemes, with no one to say "nay," in spite of the fact that in most of the states much of this quackery could be put down if there was some central body to take hold of the matter and enforce existing laws. This is very evident in individual localities in many states. All that is needed is organized action on the part of the profession itself. In a few instances better laws are necessary, but in nearly all of the states the laws that now exist if enforced, would make radical changes.

lars would be paid, compared to the \$5.00 now.⁷ Illinois claims a membership of about 800, and the annual dues are \$3, making a total income of \$2400.⁸ If the members of the county societies should be included, and a per capita assessment of \$1 were made, there would be an income to the state society of \$3800, and yet the assessment on each member would be so small that certainly no one could object to it. The annual dues of Iowa are \$2, which nets that body \$1468 annually, whereas a \$1 assessment on the members when membership of the county societies is admitted, will bring in \$2734. In Ohio the claimed membership is 940, the annual dues are \$2, making the total income to the state society \$1880. Admit the members of the county societies and make the assessment \$1, and the state society will have an income of \$3940.

It might not be amiss here to refer to another phase of this question. The annual transactions of many of the state societies record the fact that the most discouraging feature is the collection of dues. In many societies this is an annual and a very vexed question. It is not an uncommon thing for a physician to join a state society, pay his annual fee, and then through non-attendance let his dues lapse for one, two or three years. These will then amount to such a sum that it has a great tendency to keep him away from the annual meeting and from becoming an active member again. Many societies adopt resolutions every few years remitting past dues, for the purpose of getting such men to come in and renew their membership.

The transactions of many state societies show that anywhere from 25 per cent. to 50 per cent. of the members are in arrears. In a circular now before us is an announcement by the secretary of one society to the effect that, while the membership is given as about 725, only 420 have paid their dues and are entitled to the transactions for the year. Under the proposed method, the county societies will collect the annual dues, adding to the sum necessary for local expenses \$1 for the state society, and this will be paid direct to the state by the county society, as is done by other bodies.

THE INCREASED VALUE AND REDUCTION IN COST OF TRANSACTIONS.

The added expense for increased membership is very small, consequently the larger the society, the less the per capita expense. The publication of the annual transactions is always the greatest item of expense. It is well known that the first number of a book is the greatest expense, and the greater the number, the less the cost for each book, the added numbers costing practically but little more than the cost of the white paper. As an illustration, the transactions for 1899 cost one society \$1.37 for each book printed, whereas if there had been a sufficient number of these books gotten out to supply the

added membership under the new arrangement, these books would have cost less than 50 cents each. If we take Illinois, which is one of the few states that publish their transactions in journal form, the *Illinois Medical Journal* would have over 3800 subscribers, whereas to-day it has about 800. The cost of getting out 4000 copies of that journal would be but little more than getting out 1000 copies, the added expense being simply the cost of the white paper, an infinitesimal item for extra press work and the extra mailing. The good resulting from reaching such an increased number at but a slight increase in expense, both as it applies to annual transactions in book form and in journal form, is very great. The *Illinois Medical Journal* would then have a larger circulation than probably have three-fourths of the monthly medical journals of the country. Before leaving this financial phase of our subject, let it be said that the reason so comparatively few physicians associate themselves with a state society is a financial one. Unless attendance at the meetings every year is possible, one asks, "What do I get for the \$2—to \$5—that I pay annually?" The reply is, a volume of the annual transactions, which contains papers that, if they are valuable, are published in the medical journals, and which should not in any event cost over 50 or 75 cents, a feeling that one is helping a good cause, and the honor of membership. To secure and retain membership, give value received for the annual dues, and make these as low as is consistent with the work done. Physicians are business men in some things.

LEGISLATIVE BRANCH OF THE STATE SOCIETY.

It seems hardly necessary to call attention to the necessity for an active working branch in every state to consider measures affecting the profession in the same way that the House of Delegates will consider measures of national importance. Every reason that was brought forward to show the necessity for subdivision of the work in the AMERICAN MEDICAL ASSOCIATION applies to the state societies. Questions are coming up continually in each state that should be met by a deliberative body created in such a way as to be representative of the profession of the whole state. A few of the state societies already have such a branch, but, as a rule, their delegate bodies are too large. In one state, for instance, the various county societies are entitled to send 323 delegates, each county sending one delegate for every five of its members. The Committee thinks it is a mistake to have such large bodies, and that if possible their membership should not exceed 75; 50 would be much better. The great trouble, however, comes from the fact that many states have more counties than this, and it is believed that every county society should have at least one delegate. But the number should be as low as is consistent with the number of bodies that are to be represented. No state has a larger proportionate representation than one from every ten members, but most of them have one for every five members.

The same principle should pertain to the apportionment of delegates in the state society as applies in the creation of the House of Delegates. It should be impossible for any two or three counties that happen to have a large population to be able to dominate the legislative

7. For argument's sake the annual dues are \$1, which will make a sum amply sufficient with the increased membership in all states, and more than will be necessary in many instances.

8. An illustration from a county society is worthy of mention. According to the report of the Secretary of the Illinois State Medical Society, as published in the *Illinois Medical Journal*, the Chicago Medical Society has a total membership of 1078, whereas there are only 187 members of this society who belong to the state body. These 187 pay into the treasury annually \$561, whereas if all the members of the Chicago Medical Society could become members of the state society, the amount received from this, making the dues \$1, would be \$1078. The addition of the membership of this society would increase the membership of the state society, therefore, from 800 to 1691.

body. The Committee believes that a high apportionment, even as high as 50 or 100, would be much better than a low apportionment. This would give the small societies one representative, whereas the larger societies would be limited.

However, the Committee wishes it understood that it does not consider this fundamental. It is simply a suggestion that the smaller body is more valuable for work than the larger body. There can be just as fair representation, if it is rightly apportioned, in a small as in a large number.

DELEGATES ELECTED FOR TWO YEARS.

The Committee suggests, for the purpose of having more permanency in these delegate bodies, that all delegates be elected for two years, one-half to be elected the first year for one year only. There is need of more continuous action, and this can only be brought about by a more or less continued membership in the legislative body. It is also believed that there should be created in each state legislative body a small executive council which should have cognizance of affairs pertaining to the profession throughout the year, and hold quarterly or other meetings, as may be necessary. Also, it is believed that there should be more executive work done by the secretary or the president of the state society. While at present it may not seem that there is a necessity for this, it is believed that such an active executive committee or officer would be valuable in various ways to the individual members of the profession of the state. Above all, however, this continued activity must apply to keeping in touch with the county societies—in fact, it is to this work that the Committee desires to especially call attention.

The necessity of imitating the secret orders, churches, trades unions, and other similar organizations, has been mentioned before. These bodies continually keep in touch with the subordinate bodies. There must be mutual interest shown between the state and county societies, and the latter must always be considered as the protégé of the state society, to be encouraged, built up, and kept active. This can only be done by having an executive officer continually at work, presumably the secretary of the state society.

Responsibility of the State in the Organization of County Societies.—The most important work that now faces us is the organization of county societies, and its accomplishment rests absolutely and solely with the state society. The Committee would like to make this proposition as emphatic as possible, for it must be appreciated before any definite results in this regard can be had. Most of the state societies occasionally show an appreciation of this responsibility, but it is always in a spasmodic and half-hearted manner. There is never anything like a business method adopted. The attempts to get physicians to associate themselves with an organization without employing the same methods as adopted successfully in building up other organizations is not business-like. A physician is no better and no worse than the ordinary man, and is influenced by like arguments.

The successful organization of medical men will depend on the personal work of paid organizers.

The sending of circulars inviting physicians to organize or join a medical society does no harm, but it seldom does good. Once in awhile a gospel tract may convert a sinner, but if so the tract is either extremely convincing or the individual is easily influenced. The personal magnetism of the preacher is generally more efficacious. We must take things as they are, not as we would have them. Those who are not members of the medical societies are not because, for some reason, they do not want to be. It will require personal effort and argument to convince some of these to the contrary.

THE PRINCIPAL DIFFICULTY A FINANCIAL ONE.

The employment of salaried organizers will pay, and the resulting increase of membership will be an increased permanent income. The primary difficulty, and one that will be the hardest to meet, is that of raising funds to pay an organizer at the beginning. Few, if any, societies have funds for such a purpose. It is this that will block any action unless extraordinary measures are taken to meet the difficulty.

The Committee can only suggest that at the beginning the necessary funds will have to be raised by voluntary contributions from the members, these to be given outright or in the form of a loan. If the latter, a slight emergency assessment on the increased membership would soon make up the amount. The right man will in most instances make his salary from the dues of new members.

The time necessary to complete an organization in detail, as will be suggested under "County Societies," will depend on the man and on the number of physicians in a state. In most states a year will be necessary, in a few less time, and in others two years. The secretary of the state society, other things being equal, would be the man for the work. When the work is completed, a paid secretary must keep it up. Continuous personal work, but to a less extent, will be required. If a society becomes dormant, the reason should be ascertained, and if a member drops out, it should be known why. Personal jealousies, resulting in petty quarrels, can nearly always be inquired into with good results by the right man from another neighborhood, and a better feeling will result among all concerned. All this takes money, but it will pay.

THE COUNTY SOCIETIES.

It will be conceded by all who have given earnest thought to the subject that until a medical society exists in every county in the country, organization will have fallen far short of its opportunities for usefulness and of the real purpose of its existence. Such societies would furnish to every physician the opportunity of membership with the professional, social and material stimulus and betterment incident thereto. Such consumation is worthy of our most consistent and persistent efforts as individuals and as a profession, but it is left to this generation of medical men, or to some future one if we are not equal to the duty. To accomplish it will require some uniform plan, so broad in its conception and so perfect in its details that in time it can be made to reach and influence the rank and file of the profession, and especially that large class which, owing mainly to a faulty system, at present seems to be separated from progressive medicine.

In such a plan, that part which relates to the organization and maintenance of county societies, or an aggregation of counties in some sparsely settled districts, will be at once the most important and the most difficult. For obvious reasons it has always been easy enough to have leading men attend and keep up the interest in the state societies and in the ASSOCIATION, but the difficulties are greatly increased when we come to face the problem of making the frequent meetings of local organizations sufficiently harmonious and interesting to maintain the requisite attendance month after month and year after year. Yet this is done, with most excellent results in a few states, and in a few counties in all the states, and it is possible everywhere. The difficulties are on the surface and should be frankly considered.

EXISTING CONDITIONS AND THE YOUNG PRACTITIONER.

Outside of certain states and sections the condition of the average physician in this country is neither an enviable nor an inspiring one, and this is as true of a large element of those living outside of the organizations in the cities as of those in the towns and country districts. Consider the influence these conditions exert on the recent graduate, make the application general, and we fairly epitomize the evil which is as widely prevalent as it is discouraging. As a rule, the young graduate has left his alma mater none too well trained for his high calling, but ambitious to learn and craving for fellowship and the knowledge which comes from experience. His location chosen, he is fortunate if he is not met at the threshold, the most impressionable period of his medical life, with ill-concealed sneers or complete ostracism by those already established in practice, which will grow with his success, or soon entirely disappear if he is a failure. With time he is likely to find that many of his professional neighbors practically laid down their books at graduation, that they receive no journals except the free-copy advertising periodicals, that they have little or no equipment for even the emergency surgery that they must do, and that so much of their time is taken up with petty professional bickerings as to destroy all desire for advancement. Although physicians need advice and help from one another as no other men do, the young doctor often finds that where there are but two doctors in a community this spirit of envy and contention, pitched upon the lowest possible plane, so divides them and so infects the community as to be utterly destructive of that public respect and confidence to which both are perhaps equally entitled. He will find that they quarrel about patients who would not pay either of them if they could, or about provisions of the Code which neither of them have read, that one is afraid to collect his just fees for fear the other will get some of his offended patrons, that ambition for excellence in surgery or other special work is hindered by the fact that one will send for consultation, or send his patients to a distant town or city rather than ask the assistance of his neighbor; in a word, that this curse, which clings to our profession with such tenacity and blights all to which it clings, bars all advancement and destroys his ideals of life. With such environment the horizon of the graduate, probably never large, but

certainly susceptible of enlargement, grows smaller and smaller with the years, until he drops out of the race and is likely to become the unkempt and self-satisfied medical degenerate only too frequently to be found without search.

It is mainly this condition which causes so much poverty in the profession, interfering with it in every business aspect, just as the loss of public respect and confidence directly traceable to it accounts for most of our difficulties in securing needed medical and health legislation, and in the enforcement of such laws as have been enacted. The picture here presented is not a pleasant one, but the Committee, believing that these glaring evils are the results of faults in our system which are remediable, paints what it finds, in the hope that future workers in the same field may be able to find what it would like to paint.

THE REMEDY FOR THE ABOVE CONDITIONS.

The only remedy for these evils is a systematic, all-pervasive organization, beginning with the county society as the broad foundation, and extending through the state societies to the AMERICAN MEDICAL ASSOCIATION, conferring, so far as may be possible, equal privileges and blessings on the members in New York and Chicago, and on those located in the remote hamlets of Maine and California. With such organization all things reasonably desired become possible to us, and through us to the people, for whom, as regards all protective sanitary and medical legislation, our profession must think and labor. What the Committee suggests will require time, much patient effort and no little expense.

ORGANIZATION OF COUNTY SOCIETIES.

County Medical Societies.—"It requires but a moment of reflection to perceive that a state society composed of delegates chosen annually by the professional organization of each county or district, could not fail to represent correctly the social, scientific, and legal interests of the profession of that state; and that a national society composed of delegates similarly chosen annually by each of the state societies would be equally the true representative of all the interests of the profession of the nation. It is equally apparent that such a complete national professional organization would offer the greatest possible facilities for collecting and concentrating the influence of the profession for any great or important object, whether relating to the educational and scientific advancement of the profession itself, or the promotion of the sanitary interests of the whole people; and equally efficient for radiating the spirit of investigating, mutual respect, and generous emulation developed by the annual contact of the most active and enlightened minds in the national meetings, back through the state organizations to the remotest county and parish in our great republic. It is hardly necessary to remind our readers that a representative national organization capable of efficient work in the various directions here indicated has for its foundation the primary organizations in each county or district. On the degree to which these can be made to include every active and intelligent regular member of the profession, and the activity with which their regular meetings are sustained,

will depend, in a very great degree, both the permanency and value of the state and national associations. It is here, in the incompleteness of the primary local organization of the profession in many parts of our country, that we trace nearly all the important defects in the practical working of our present state and national associations." (Editorial, JOURNAL AMERICAN MEDICAL ASSOCIATION, Jan. 15, 1887.)

It is through the local society that the individual must be reached, and that the individual effort of the profession for political purposes must be made. It is through the county society that the individual must register his views in regard to questions and measures which affect him.⁹ The local society produces harmony, promotes good fellowship, removes petty jealousies, has an elevating influence on its members, and aids them in educational and scientific advancement.

On the success of the county organization depends all above it; it is the foundation of the whole superstructure. The old motto, "Take care of the pence and the pounds will take care of themselves," is true if paraphrased into, "Take care of the county organizations and the state and national bodies will take care of themselves." Hence, everything that will tend to build up these local societies should be encouraged.

HOW TO ENCOURAGE MEMBERSHIP IN COUNTY SOCIETIES.

How can this be done? The first proposition, and the most important of all, is that no one shall be allowed to belong to any higher society until he is a member and supporter of his own county society, and this membership in the lower must be continued. This is one reason why the state societies are asked to adopt this as their first principle in organization. It should be made impossible for one to get into the higher body unless he is a member of the lower one. This principle is recognized in all organizations, secret orders, churches, etc. If the various special district and seminational bodies will adopt the same principle, then there will be no doubt as to successful organization of the county societies in the future.

As the organization of county societies depends on the state society, the first and most difficult problem is how to arouse these to a realization of their responsibilities in the premises. It is feared that some of these bodies may resent any suggestion from the outside, no matter what the motive that prompts the suggestion. This difficulty overcome, the rest will be comparatively easy. The adoption of a modified plan by which secret insurance orders, trades unions, and similar bodies are built up, as previously suggested, will be necessary. This means a paid organizer. While the right man for this work may not easily be found, a little effort will find one. He need not necessarily be a physician, al-

though it is best that he should be. It would be well if he were the secretary of the state society, as then he would not only get in close personal touch with the individual members of the profession of the state, but this close relationship would be continuous through his office after the organization is completed.

SYSTEM OF BLANKS AND BOOKS NEEDED.

Preliminary to any attempt at organization, a system of books and blanks should be adopted. This should be done by a small committee representing all the states. These could be printed and supplied by the National Association at a nominal cost, the work being done by THE JOURNAL plant. The county books and blanks should be devised for recording the name, address, qualifications, etc., of every physician in the county legally entitled to practice, with special designation for those who are members of the recognized society. The blanks should be gotten up for the purpose of conveying by the secretary of the county society this information, but in less detail, to the secretary of the state society, who would have a book arranged for recording it annually. The county secretary will report to the state, the removals, the accretions, the additions; deaths or withdrawals from the society, whence they came and, when possible, where they go; this information to include also all legally qualified physicians who are not eligible to membership.¹⁰

10. The question may be asked, why go to the trouble of registering all licensed physicians including those who may not be considered eligible to membership in the society? A system of registration as above outlined gives the organization information of all who are legally practicing medicine and their qualifications. It puts a label on each one. When all the states are organized, it will be a simple matter to follow each individual, no matter how often he may change his location. By a system of cards, members will be transferred from one county society to another without expense or trouble. Those who are anxious to be classed as reputable will not object or hesitate to transfer their membership when relocating. Others for reasons will not co-operate, but rather resist such registering of information regarding themselves. In such cases the information desired may be difficult to obtain, but it can and must be had no matter at what cost. Thus the record of each will be known no matter where he may be. When a little thought is given to this proposition, it will not be found to be as difficult as at first might be supposed. The local registration of physicians, as provided by law in most of the states, will be a great assistance in keeping up such a system. A "card index" system of identification of the legal practitioners of the United States is practical, of easy accomplishment, and will do more to put down quackery and expose pretenses than anything else that can be done. It gives an answer to the questions, "Who is he?" "Where is he from?" "What are his qualifications?" "What is his reputation?"

Another thing greatly needed is a reliable physicians' directory or register. Business houses are publishing what are called medical directories, but without exception all are unreliable. The best of them contain the names of pretenders, patent-medicine vendors, horse doctors, *et id genus omne*. The qualifications may be given correctly, if the necessary information can be gotten easily, otherwise not. The profession in this, as in many other ways, is used by commercial houses as a means for money-making, and if there is money in publishing a directory, and there most certainly is, the profession should have it and at the same time control it. The profession in Great Britain to a great extent at least controls the Medical Register. We should control it here. With such a system of registration as recommended, all information necessary for issuing a directory will always be ready without extra expense; it will insure a reliable book and one that will mean something. It will not be necessary to go outside of the profession for anything. The printing establishment now owned by the AMERICAN MEDICAL ASSOCIATION, with a little addition, can get out the book. State directories can be printed, and the same material, without any change, can be used in making the national directory. There will be no duplication of work. The national directories can be issued bi or triennially, and a supplement annually, and also the state, when called for, separately and annually. The matter when once set up can be left standing, and corrections made as necessary. The Committee believes that the publication of an official, reliable directory is worthy of earnest consideration on the part of every physician. The registration of all licensed physicians by the profession itself, as advised, will make it possible to tell how many

9. "By making membership in a local society a necessary qualification for membership in the state and national societies, the strongest possible inducement is presented for organizing and maintaining these primary and essential bodies by all intelligent members of the profession. By providing for delegates from the local and state societies on a uniform ratio of representation, and placing the whole business management of the Association in the hands of such delegates by restricting to them the right of voting, the most reliable check is put upon the tendency to centralization or local control, or any form of class supremacy, while the door to permanent membership is opened to all who are willing to support the interests of the profession in their own districts." (Report of Committee on Organization 1887, JOURNAL AMERICAN MEDICAL ASSOCIATION, June 25, 1887.)

The task allotted to the state organizer is: 1, to secure the name, address, and medical history of every physician in the county; 2, to organize a regular society, unless one already exists; 3, to use every effort, including personal solicitation when necessary, to get all reputable regular physicians to affiliate themselves with the society.

Two difficulties should be considered, both as to the primary organizing and as to keeping up the detailed information required; one of these pertains to the large cities, those in which there are say more than 200 physicians; the other to the thinly-populated parts of the country. In both instances the difficulties will be found more imaginary than real. In the large cities the trades unions keep in direct touch with each of the members of their calling. Political parties know the name of every voter and his party affiliation, if he has any, and also if not, that is known. These do it by subdivision of territory. We must do the same. The large city must be subdivided into wards or precincts, with a ward or precinct secretary, if necessary, whose duty will be to keep the secretary of the county society informed of newcomers, etc. The organizer will be able to cover a large city, as well as a small one, but it will take longer time.

In thinly-settled territory it will be impossible to do the personal work, but with correspondence and the aid of physicians in the territory in sympathy with the work, exact data of every physician can be had. It must not be forgotten that a practicing physician is a well-known personage in the thinly-settled places, and none will be so obscurely situated as to be omitted. In the crowded portions of our largest cities, the sign of the doctor will prevent his remaining out of the record. Many of these will not readily connect themselves with societies at first, but when they realize that they are not forgotten by their fellows, and that advantages are to be had at small cost to themselves, they will not continue in their isolation.

Membership in a county society must be a right that can be demanded by every reputable regular physician, and if this right is refused on account of local feeling, then recourse should be had to a higher body, and if on trial it can be shown that the applicant is worthy of membership, it should be accorded him.

Each state society must insist (1) that there must be a society in every county where there are ten regular physicians; (2) that physicians must belong to their own county society, (an exception should be made where one lives much nearer to the place of meeting of an adjoining county society than to his own. In such cases his own society should have the privilege of granting him the right to associate with the other); (3) that where the population is scattered and physicians few, two or more counties may unite and form a district society.

Some of the recommendations in this report are not applicable to certain thinly-settled parts of our country.

physicians there are in any county or state or in the country. At present we guess about 120,000 in the latter; it may be 10,000 more or 10,000 less, for there is no reliable information on the matter. In such a directory reliable information should be published in regard to medical colleges, hospitals, etc., in each state, those not recognized being kept out of such a record, but liberal construction must be placed on these as it relates to sectarian colleges, etc.

For instance, Arizona has only about 125 regular physicians, with about 62 members of the state society. Idaho has probably 190 regular physicians in the Territory and only about 48 are members of the state society. Montana has probably 275 regular physicians and probably 90 are members of the state society. Nevada has probably 55 regular physicians and about 25 are members of the state society. New Mexico has probably 130 regular physicians and about 30 are members of the state society. North Dakota has probably 275 regular physicians and about 125 are members of the state society. Utah has probably 275 regular physicians and about 84 are members of the state society. Wyoming has less than 100 regular physicians and about 33 are members of the state society. It will, of course, be impossible to organize county societies in much of this territory, but the information for a complete enrollment of the whole profession of this country can be had in this territory with very little expense on the part of the representative bodies in them. These should be asked to co-operate to make our plan complete, although they should not be asked to go into the details as suggested, neither is it possible for them to do so. There may be other states not mentioned in which the same difficulty will arise. The Committee only suggests the above where it is applicable.

In conclusion, the Committee believes that the recommendations above made are in no way Utopian or impractical, but that they are such as can be carried out in every part of our great country and that they will result in a scientific, social, and material benefit to the individual and to the profession as a whole, as well as to the well-being of the people.

Original Articles.

THE PATHOLOGY OF ACTIVE TUBERCULOSIS OF THE PERICARDIUM.

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A number of cases of tuberculosis of the pericardium having been observed in the autopsies studied in the pathological laboratory of Rush Medical College, during the past six years, at the suggestion of Professor Hektoen I have collected the reports and specimens for study, including among them the cases observed at autopsy at the Cook County Hospital during the past 31½ years. Altogether the material has been drawn from 1048 autopsies on the bodies of adults. Tuberculosis may produce in the pericardium distinctly tuberculous processes, with miliary tubercles or caseous masses, which may be shown by microscopic and bacteriologic investigation to be positively tuberculous; again it produces simply a fibroplastic process in which the adhesions and the pericardial membranes contain no anatomical evidences of tuberculosis. This latter form is often difficult to distinguish from any fibrous pericardial synechia of other origin, and will not come into consideration in this paper, which will deal only with cases in which the anatomical evidences leave no question that the process is tuberculous. Of such cases there are ten among the 1048 autopsies; two cases of tuberculosis of the pericardium of the dog have also.

been studied and reported from Professor Hektoen's laboratory, and these will be considered in comparison with human tuberculosis. The anatomical reports of the cases are as follows:

CASE 1.—A colored man, 29 years old, presented during life the complete picture of pericarditis with effusion, and from which he died through heart failure, despite repeated aspirations. At autopsy the origin of the trouble was found to be tuberculosis, which fact had not been ascertained during life, repeated microscopic examinations of the aspirated fluid always having failed to show tubercle bacilli. All the intra-thoracic and intra-abdominal lymph glands were tuberculous, those of the anterior mediastinum being firmly imbedded in the pericardial adhesions. In the lungs there was no tuberculosis, except possibly its remains, as a scar in the right apex. Both pleural cavities were completely obliterated by fibrous adhesions and in the right pleura were many firm miliary tubercles. The external surface of the pericardium was firmly adherent to the lungs on both sides, more on the right than on the left. Between the upper part of the pericardium and the pleura were imbedded many caseous and anthracotic glands. On opening the sac it was found enormously distended with a clear, dark, straw-colored exudate, and lined with a layer of fibrin which covered a thick layer of newly-formed connective tissue. Over the base of the heart, especially over the right auricle, the layers were adherent. The parietal layer was greatly thickened, and scattered over its external surface were numerous whitish and greyish tubercles; they were especially numerous over the right auricle where the layers were adherent; they could also be felt between the parietal layer and the diaphragm at the line of their attachment. The heart was much hypertrophied, its weight, 700 grams, without valvular, arterial or renal lesions to account for it; both ventricles were considerably dilated. Inoculation of the pericardial fluid on ordinary media resulted in no growth, but a guinea-pig which received an intraperitoneal injection of the fluid developed tuberculosis. Histologically the ordinary changes of tuberculosis were found. This case occurred in the service of Dr. Frank Billings, who will consider the clinical features at greater length.

CASE 2.—A man, 49 years of age, was found dead and nothing known of his previous history. The pericardium was distended with a large quantity of bloody serous fluid, about 1½ pints altogether. Both layers were covered with a shaggy fibrinous layer which in the posterior part bound the opposed surfaces firmly to each other. Both lungs were extensively involved by a tuberculous process, and the pleura were everywhere firmly united by fibrous bands. Over the pericardium the lung was firmly adherent, and in the wall of the pericardium and of the pleura were numerous yellowish nodules, the largest on the pleural surface. The peribronchial lymph glands were caseous and calcareous. An old right coxitis, tuberculous, was present. Unfortunately the size of the heart is not mentioned in this report, but it is stated that the liver was the seat of a marked passive congestion.

CASE 3.—A male, 30 years old, died from general miliary tuberculosis. The pericardium was firmly adherent to the chest wall; lying on its anterior surface, and firmly adherent to it, was a caseous nodule the size of a hickory-nut. The internal surface of the visceral pericardium was rough and granular and the cavity contained a large amount of bloody fluid. The surface of the heart was entirely covered by a shaggy fibrinous layer. Enlargement of the peribronchial, mediastinal and mesenteric glands was marked. There were numerous tuberculous ulcers of the intestine, and a plastic tuberculous peritonitis. Miliary tubercles were abundant throughout the viscera, and the lungs showed, in addition to the recent crop, many old fibrous tubercles, but there were no active caseating or ulcerated areas. Firm fibrous adhesions obliterated both pleural cavities. The heart itself was not affected in any way. In this case, therefore, the oldest active process, and the presumable source of the miliary lesions, was either in the enlarged glands or the intestinal ulcerations; the oldest process found was the healed miliary tuberculosis of the lungs.

CASE 4.—This was a man 38 years old, in whom the chief findings during life were those of a right sided serofibrinous

pleuritis. This was found at autopsy; on the left side, in addition to a general fibrous synechia, was found a small area of purulent and caseous matter lying directly upon the pericardium. The pericardium itself at this point, that is, the parietal layer, was thickened and contained many yellowish broken-down caseous areas; the sac contained a small amount of turbid, bloody fluid, and directly beneath the caseous portions the pericardium had lost its glistening aspect. Otherwise there were no changes in the sac. There was a general tuberculosis of the lungs and abdominal viscera.

CASE 5.—A colored man, 21 years of age, died from generalized tuberculosis. Both layers of the pericardium were found obliterated by firm adhesions, no spaces being left anywhere. At the line of union of the surfaces the connective tissue was bluish, and in this tissue were scattered numerous greyish areas of varying size, but all small. In every organ were found tubercles, one near the lower end of the spinal cord having produced during life the symptoms of a conus lesion. The pleurae were also the seat of fibrous adhesions and miliary tubercles; the peribronchial glands were enlarged, caseous and calcareous. Old and recent caseous foci, with some cavities, were present in the lungs. On section, the increase in fibrous tissue was found not to involve the myocardium, and the tubercles were all between the pericardial layers. Smears from the tubercles in different parts of the body showed tubercle bacilli. Those in the pericardium were not specially examined. The size of the heart and of its cavities was not affected and there was no interference with the circulation.

CASE 6.—A man, 70 years of age, died with signs and symptoms indicating dilatation and incompetence of the left heart, which condition was attributed to a chronic interstitial nephritis and the accompanying arteriosclerosis and fibrous myocarditis. These conditions were all found as diagnosed, but in addition the pericardial sac was found completely obliterated by firm fibrous adhesions. Externally the pericardium was firmly adherent to the lungs and to the diaphragm; beneath the pleura on the right side were many pin-point whitish nodules. In addition to the dilatation of the heart and the fibrous myocarditis there was considerable hypertrophy, chiefly of the left but somewhat of the right ventricle, the total weight of the opened heart being 575 grams. Adhesions similar to those in the pericardium obliterated both pleural cavities, and on the right side firm miliary nodules were numerous. A large puckering scar in the left apex, with a few small fibrous nodules beneath it perhaps indicated the source of the caseous masses which enlarged the peribronchial lymph glands. A considerable degree of passive congestion of the liver was the only evidence of cardiac incompetence.

CASE 7.—A male, aged 50 years, died with evidences of a basilar meningitis. The pericardial cavity was found obliterated by fibrous adhesions; when the layers of the heart were separated the surface of the heart was found studded with small, firm, yellowish bodies, which were very numerous. No hypertrophy of the heart existed, the weight being but grams, but the ventricular cavities were noticeably dilated and the myocardium showed marked fatty changes. Both lungs showed advanced tuberculosis with cavity formation; miliary tubercles were present in the spleen and kidneys, and there was also a tuberculous leptomenigitis. Both pleural cavities were obliterated by firm fibrous adhesions.

CASE 8.—A male, 61 years of age, died of chronic nephritis with uremic manifestations. On removing the sternum both lungs were seen to adhere to the pericardium to the extent that they overlaid it, and they were firmly adherent to parts of the chest wall elsewhere, except where separated by a recent serofibrinous exudate. The cavity of the pericardium was entirely obliterated, chiefly by fibrous tissue, and where this was lacking by thick caseous material which in places invaded the heart walls. The right auricle was in one place invaded by such a caseous mass, and this, where in contact with the blood, was capped by fibrin, forming a rounded, oblong thrombus. No tuberculosis, either recent or old, could be found in the lungs. The peribronchial and mesenteric glands were enlarged and caseous; those about the pericardium were imbedded in fibrous

adhesions which firmly united them to its external surface. In the right lung was a hemorrhagic infarct of recent origin. A smear from the caseous material in the pericardium did not show tubercle bacilli, but a guinea-pig inoculated with a portion of it developed tuberculosis. Histologically the usual features of a caseous and miliary tuberculosis were found, except that giant cells were not seen in the sections examined.

CASE 9.—This was the body of an unknown colored man, aged 23 years, examined by the coroner's physician, Dr. L. J. Mitchell, and nothing could be learned about the conditions existing before death. The heart with its adherent pericardium weighed 625 grams. The pericardial cavity was found obliterated completely, for the most part by firm fibrous tissue in which were spaces filled with caseous material, especially along the line of cleavage of the two layers. On the external surface of the parietal pericardium were many nodules, the largest the size of small peas. In some areas the interpericardial caseous masses extended into the myocardium, especially over the auricles. The adjacent peribronchial lymph glands were converted into large caseous masses. Nowhere else in the body could other caseous foci be found. On microscopic examination caseation, round and epithelioid cells were found, but no giant cells; tubercle bacilli were also found, although not numerous. This specimen was exhibited to the Chicago Pathological Society by Dr. D. D. Bishop, Jan. 13, 1896.

CASE 10.—A man, 35 years of age, died with a general miliary tuberculosis of the large serous cavities. The oldest of these tuberculous processes was apparently that in the pericardium; this was, like Case 9, obliterated by firm fibrous adhesions, with the caseous masses numerous along the line of union of the two layers. Miliary tubercles were also present in the pleural and peritoneal cavities, with extensive organized exudate. More miliary tubercles were found in the liver. Caseous peribronchial glands were present and seemed to be the source of the pericardial infection. Histologically the usual features of a caseous process were found, and tubercle bacilli were demonstrated.

In 1893 Osler¹ reported 17 cases of tuberculous pericarditis, and in a characteristically compact and complete article discussed the subject. It can not be said that the progress of time permits much to be added to what Osler reported. The subject has been well covered prior to Osler's report, by Hayem and Tissier² in 1889, and synchronous with Osler, Jaccoud,³ in a clinical lecture, has given a most interesting discussion. Since that time no extensive consideration seems to have been given in the available literature. The general opinion seems still to be, despite the above papers and the very numerous reports of individual cases, that tuberculous pericarditis is a rare lesion, which is indeed contrary to fact, occurring in nearly 1 per cent. of our autopsies, and these figures are not far different from those of other institutions. Osler states that in 1000 autopsies, the majority of which were made at the Montreal General Hospital, there were 7 cases. In our 1048 autopsies 364 presented distinct tuberculous lesions elsewhere than in the pericardium, of which 208 were active. Of these 26 were instances of acute miliary tuberculosis, in 2 of which the pericardium was involved; 58 presented more chronic lesions in many parts of the body, generalized caseous and ulcerative tuberculosis, with 2 cases of pericarditis. The remaining cases of pericarditis owed their origin to more direct extension, which will be discussed fully later. In all the bodies with active tuberculosis, therefore, about 5 per cent. presented active tuberculous lesions in the pericardium.

Evidently tuberculous pericarditis is far from a rarity. In relation to other pericardial lesions it comprises a considerable proportion. Among the entire number of autopsies the pericardium was found affected in some way in 128. This includes everything in the nature

of a pericarditis, from the simple apical adhesions up; of these the 10 cases of tuberculous pericarditis form nearly 8 per cent.; 51 of the 128 were healed processes, represented by various degrees of adhesion by simple fibrous tissue. Of the remaining 77 in which the process was still active, although in many cases very slight, including even those instances of pericarditis in which the lesion consists of simply a small area of fibrinous exudation, the 10 cases of tuberculosis form 17 per cent. Breitung,⁴ among the records of the Charité in Berlin, from 1866 to 1876, found 419 affections of the pericardium, of which 45 were considered tuberculous, nearly 11 per cent. Osler states that "tuberculosis follows hard upon rheumatic fever as a cause of pericarditis." This applies only to the chronic forms, however. Of course rheumatic pericarditis rarely comes to autopsy in the acute stage—one of the above cases—and not frequently in proportion to its actual occurrence in the later stages—8 cases among the 55 instances of healed processes. But tuberculous pericarditis, which when acute is very likely to reach the autopsy table, is found here to be much less frequent than the pericarditis following pneumonia, which has a similar prospect of autopsy and occurred in 28.

It is very likely to occur in the young, and many cases have been reported even in infants (Sequeira,⁵ Duckworth,⁶ Rolleston,⁷ Baginsky⁸). Baginsky found that in 4500 autopsies on infants pericarditis occurred 66 times, 20 of them being in the first year. Of these 24 accompanied polyarthritis, tuberculosis coming next with 15 cases, of which 4 were purulent. H. McC. Johnson⁹ has reported a case in which the tuberculosis seemed probably of antenatal origin. This was a child who died at the age of 3 months. The mother had been sick with tuberculous cystitis, bacilli being found in the urine. The placenta was adherent and contained inflammatory masses which were structurally like miliary tubercles, although tubercle bacilli were not found in the sections. The child died of pulmonary hemorrhage, and in addition to obliteration the pericardium was adherent to the lungs, which contained cavities. The mesenteric glands were enlarged.

ANATOMY.

The forms of tuberculosis seen in the pericardium differ not at all from those seen elsewhere. It may produce an acute miliary eruption on the pericardium, generally on the parietal layer, with an extravasation of serous or bloody fluid mixed with fibrin, as seen in Cases 1, 2, and 3; again it is miliary, but of a more chronic type, accompanied not by effusion but by fibrous synechia, as in Cases 5, 6, and 7; caseous masses are also found, as represented by Cases 8, 9, and 10. Sometimes the pericardial wall is involved by the tuberculous process, extending from without, and producing an acute inflammation without tuberculous lesions properly in the pericardium, as in Case 4; such a case is hardly one of tuberculous pericarditis from the anatomical standpoint, although the pericardial inflammation is due to the tuberculous toxin and would undoubtedly present characteristic lesion in course of time had death not stopped its progress. Acute pericarditis that is not tuberculous may also occur in tuberculosis, as Osler has stated. It may be the result of an acute non-tuberculous pleurisy; more often it is a terminal phenomenon in chronic tuberculosis, when it is one of the manifestations of terminal bacteremia. This was the explanation of three cases of acute pericardial inflammation in our series, in all the changes

consisting only of a small amount of turbid fluid with a few patches of fibrinous exudate on otherwise normal pericardial surfaces.

Healed tuberculosis of the pericardium is not under discussion in this paper, but it may be stated that it often exists and is then represented simply by firm fibrous adhesions. Calcification of the caseous material may possibly occur, but this seems to be extremely rare. In the literature of this subject it is impossible to find a case in which there is sufficient evidence to state positively that the calcification occurred in tuberculous lesions. In fact tuberculosis in the lungs, glands, or elsewhere is somewhat rare in cases with calcified pericardium. Fritz Diemer¹⁰ has collected 12 cases of extensive calcification of the pericardium in only one of which were any tuberculous lesions found in the body, and here but a few nodules in the lungs. C. Bacalogh¹¹ has reported a case of calcified pericardial exudate in an individual with caseous infiltration in the pulmonary parenchyma, but establishes no relation between these two conditions. Four examples of calcification of the pericardium were observed in the autopsies under discussion, and in none of them did any tuberculosis coexist. It is more probable that calcification is a sequel of inspissation of purulent exudates, most often of pneumococcus origin. However, it is not to be denied that it is possible for caseous pericarditis to heal and become calcified. Püschmann¹² has reported a case in which caseous tuberculosis of the myocardium itself became partly calcified. In other words, tuberculosis assumes the same forms in the pericardium as elsewhere. Even the fibroplastic, "perl-sucht" form has been observed in man; Meltzer¹³ has reported such a case, encountered unexpectedly in an insane patient. Rolleston⁷ has reported an interesting case occurring in an infant 9 months old, in which the parietal pericardium alone was affected, but thickened diffusely to such an extent that it retained its shape and did not collapse when separated from the heart. The two cases of canine pericardial tuberculosis reported from our laboratory were marked by the large size and fibrous nature of the nodules. In Sheldon's¹⁴ case the pericardial sac was distended with fluid and both layers of the pericardium were covered with yellow and grey nodules. In Professor Hektoen's¹⁵ case the layers were adherent and the nodules, firm and fleshy, were from 0.5 to 2.5 cm. in diameter, invading the muscle for some distance.

According to most writers the fibrous type with small tubercles, often only microscopic, is the most common. Osler, however, found in 15 cases, 9 accompanied by exudation. The exudation, when present, may be simply serofibrinous, as in Case 1, but is more often decidedly hemorrhagic, as in Cases 2 and 3. Tuberculous pericarditis is notoriously hemorrhagic, sharing this with carcinoma, but Sears¹⁶ calls attention to the fact that other diseases may lead to a similar condition. From the literature he has collected 11 cases which recovered after aspiration had yielded a hemorrhagic fluid, and questions somewhat Osler's statement that the presence of a bloody fluid on aspiration is decidedly in favor of tuberculosis. But as six of Sears's cases occurred in scurvy and 3 in rheumatism the obtaining of a bloody fluid would hardly have caused any question of tuberculosis in the diagnosis. In this fluid tubercle bacilli may be found occasionally. In Case 1 this was accomplished by inoculation of a guinea-pig, although repeated microscopic examination of the fluid removed by aspiration during life failed to reveal them.

Considering the acute nature that exudative tuberculous pericarditis often assumes they should be found at least as often here as in the tuberculous pleuritis. Eichhorst¹⁷ has demonstrated them in 8 of 27 cases of pericarditis arising spontaneously, by inoculating guinea-pigs with 15 c.c. of the fluid.

The fibrous forms present no special features. As a rule the adhesions are of a peculiar, translucent, greyish-blue if young, white and hard if older, but either of these appearances may be presented by other forms of pericarditis. The tubercles may exist in the exudate itself or in the walls of the pericardium. Sometimes they are limited to one wall, in which case it is most often the external wall that is affected, and it is often accompanied by a crop of tubercles on the pleura opposite. If caseous, the caseous material is most often found separating the pericardial layers by some little distance, and is especially found surrounding the base of the heart, over the auricles and about the great vessels. If the adhesions are soft and easily separated they are generally found to be firmest over the base of the heart. Occasionally the adhesion is but partial, and accumulations of fluid are found, isolated by the fibrous tissue, but this is infrequent in tuberculosis, more common in the rheumatic. When the exudate is serous, however, it is quite frequently found that the layers over the auricles and the great vessels are adherent (see Case 1).

The myocardium may be involved either secondarily or primarily, of which the former is the more common. In miliary tuberculosis they may occur simultaneously. Secondary involvement of the myocardium in the miliary form is of little importance, as it extends but little into the heart. The caseous masses, however, may extend far into the heart muscle and produce considerable effects. Penetration of the ventricles is usually of less significance than penetration of the auricles, whose thinner walls render complete perforation possible and by no means rare, as in Case 8 in which the caseous mass entering the auricle was capped by a thrombus. In Case 9 the myocardium was invaded to a less extent, especially over the auricles. The results of this myocardial invasion will be considered later on.

ETIOLOGY.

While Virchow and some others have reported in time past a primary tuberculosis of the pericardium, with our present understanding of the process it is difficult to imagine such a thing. The pericardium, being a completely closed sac, must receive the tubercle bacilli from some other source which is probably the seat of some lesion, however insignificant. Since the tuberculous nature of pleural scars and calcified glands has been known primary tuberculosis of the pericardium has not been reported. The possible methods of infection of the pericardium are as follows:

1. Hematogenous: generally in the course of a miliary tuberculosis.

2. Lymphogenous: the bacilli coming through the lymph vessels either in the normal direction or with a reversed current.

3. Extension: in about the order of frequency, from mediastinal glands, pleura, myocardium, vertebræ.

Hematogenous tuberculosis of the pericardium is very frequent, but this localization is nevertheless the least common of any of the large serous surfaces, including the meninges. It occurred in but 3 of 84 cases of general miliary or coarser tuberculosis. The resulting lesions are generally acute, and may be of the ex-

udative form as in Case 3, or fibroplastic as in Cases 5 and 7. As a rule the process in the pericardium is hidden during life by the severe symptoms from the other sources, and is rarely diagnosed. While the isolated caseous form may be of vascular origin this must be extremely rare, for the pericardium is by no means a seat of predilection for circulating bacilli. It is quite remarkable how rarely the pericardium is infected in animals inoculated experimentally. In some 30 guinea-pigs recently inoculated in our laboratory, in which the pericardium has been examined with especial care, it has never been found affected; this despite the fact that the lungs, the pleura and the glands of the mediastinum were always involved.

Infection of the pericardium from the lymph stream is much more common. It may be due to passage of the bacilli from a tuberculous pleura or peritoneum via the anastomosing lymph channels of these sacs, and form a part of a general tuberculous serositis. However, it would seem that it is much more often a matter of passage of bacilli from the lymph glands of the mediastinum to the pericardium. This implies a reversal of the normal direction of flow, which v. Recklinghausen¹⁸ has shown occurs, and which has been observed not infrequently in the dissemination of malignant tumors, as by Witte¹⁹. The obstruction of the spaces in the lymph glands by the tuberculous proliferation would favor, and undoubtedly often produce, such a reversed flow, so that the discharged lymph, carrying in it tubercle bacilli, would pass into the pericardial lymph channels. As to the source of infection of the glands it must be remembered that the cardiac glands—also called the superior mediastinal—lying on the base of the pericardium, and the posterior mediastinal glands, which together receive most of the lymphatics from the pericardium, both receive branches from the bronchial nodes which receive the lymph from the lungs and pleura. The cardiac glands also communicate directly with the deep cervical nodes (Gerrish²⁰). From either of these communications, therefore, the glands draining the pericardium, and in turn the pericardium itself, are able to become infected. Testut²¹ describes the distribution of the lymphatics within the pericardium as follows: The lymphatics form a network in the connective tissue layer of the serosa, as much under the visceral as under the parietal, a network more or less rich, which lies nearer the endothelium than does the network of blood-vessels. The fibrous sac possesses also some lymphatics which belong to it alone. These all empty, like the lymphatics of the heart, into the subpericardial network, and from there to the ganglia which are located below the bifurcation of the trachea.¹¹ On account of the free anastomosis which exists between the lymphatics of each side of the diaphragm, a tuberculous of the peritoneum occasionally seems to extend to the pleura and involve it; less often it reaches the pericardium in this way. Vierordt²² while writing on general tuberculous of the serous membranes, mentions that in 24 cases of tuberculous of the several serous cavities combined, the pericardium was involved four times, and in none of these from the peritoneum; it seemed to originate always from the pleura, especially the left. Writing at that time, 1888, he says: "For the occasional occurrence of simultaneous processes in the pericardium is the same transference (as from pleura to peritoneum) assumed, although not exactly demonstrated." It seems now that tuberculous passes from the pleura to the pericardium often by the indirect route, via the mediastinal glands, or by direct exten-

sion through the pleuro-pericardial wall. Occasionally the larger sacs owe their tuberculous to the pericardium, as seen in Case 10. Here the neighboring peribronchial glands seem to have given rise to a caseous pericarditis, which in turn led to infection of the pleura and peritoneum, both of which were more recent than that in the pericardium.

Direct extension of the tuberculous process from the glands lying on the outer surface of the pericardium has been assumed by many writers, but seldom demonstrated. Kast²³ and Mickle²⁴ have observed direct rupture of caseous peribronchial glands into the pericardial sac, but no other instances of such extension have been mentioned by other writers. Because of the close relation of the glands to the pericardium, often with adhesion, the direct extension has been assumed. Yet it is difficult to establish such an extension. In two cases in which the glands were evidently the source of the pericardial tuberculous, I have made a careful examination of the relationship of the glands to the pericardium by examining microscopically the tissues intervening. Nowhere could any evidences of direct extension of tuberculous from a tuberculous gland to the pericardium be found; always the intervening fibrous tissue, although evidently new-formed, was free from tuberculous lesions, which seemed never to extend through the gland capsule. Hence it seems probable that the infection of the pericardium is more often via the lymphatics than directly, even when the glands and the pericardium are united by fibrous adhesions. Tuberculous of lymphatic origin is generally most marked on the parietal pericardium; that of hematogenous origin affects most often the epicardium. Of the glands that are most likely to be the source of a direct extension it would seem, after reading reports of many cases, that the small glands lying anterior to the pericardium, behind the sternum, are the most important. Attention was first called to this source by Weigert.²⁵

Very frequently it is found that the pericardium and the mediastinal glands exist together as the only active tuberculous in the body. If the pericardium is tuberculous the glands become so, even if not the primary seat. This glandular and pericardial tuberculous exists together, with or without pleural tuberculous, independent of active pulmonary lesions, in a strikingly large proportion of the cases. Simmons²⁶ has called attention to the occurrence of this condition in the aged. In our series it existed in Cases 1, 6, 8 and 9. In Case 10 the lungs were free, but the process had become quite widely spread, apparently the glands infecting the pericardium and the tuberculous becoming active here had then become widespread. It would seem that the pericardium is most likely to be infected when the glandular process is chronic in character, for when they are actively affected, as accompanying pulmonary tuberculous, the pericardium seems to be seldom tuberculous.

From the pleura direct extension may occur, as well as by the lymphatics. The very earliest stage of this transmission is well shown by Case 4, in which a small caseous abscess lying between the left pleura and pericardium had caused an acute inflammation in the serous surface of the pericardium directly beneath, after causing caseation of its outer layers. Here effusion into the sac had only just begun. Case 2 is also probably an example of direct extension. However, it is probable that direct extension from the pleura, as from the lymph glands, is not as common as lymphatic transmission. Extension from the myocardium is necessarily rare,

although nearly all cases of tuberculosis are accompanied by pericardial inflammation; much more often is the myocardial tuberculosis secondary to that of the pericardium. Even more rare than tuberculosis of the myocardium is tuberculosis of the aorta, and of the 10 cases collected by George Blumer,²⁷ in none is any mention made of involvement of the pericardium. Henoch²⁸ has reported a case of tuberculous pericarditis resulting from extension from tuberculous vertebræ, but this likewise is a rare occurrence. No instances of direct extension of a tuberculous process through the diaphragm from the peritoneum into the pericardium have been observed, although transmission via the large lymph channels of the diaphragm has been seen.

RESULTS.

That tuberculosis of the pericardium may heal entirely is quite certain, but that the examples such as have been described in this series often heal I am much inclined to doubt. Tuberculosis of the serous membranes may be accompanied either by definite lesions of tuberculosis, as in our cases, or, as A. N. Peron²⁹ has shown for the pleura, may present only evidences of inflammation without any anatomical characteristics. This latter type may be due to the presence of the tubercle bacillus, but more often, it seems to me, to the gradual diffusion of the sclerogenic toxins of the tubercle bacilli produced in the adjacent lesions of the lymph glands or pleura. Such a process is quite analogous to the sclerosis of the connective tissue, devoid of tuberculous lesions, such as we often find about tuberculous glands in the neck and elsewhere. Those cases in which a fibroplastic process is found extending from the base of the heart downward, always firmer at the base over which tuberculous glands are found, are illustrations of this point. That the caseous form sometimes undergoes calcification and heals seems possible, but is an extremely rare occurrence, as mentioned previously, no such instances being found in the literature.

Most important of the results are those due to effect on the heart. In the acute form with massive exudation into the sac, dyspnea and other evidences of pressure upon the heart may appear. Such a case is No. 1, which presented all the evidences of a pericarditis with effusion. Here the exudate was serous, and no suspicion of its tuberculous nature was entertained during life. The heart was found greatly hypertrophied, weighing 700 grams, without valvular, renal or arterial lesions outside the pericardial effusion to account for it. Adhesion of the layers seems much less likely to cause serious disturbance when due to tuberculosis than when due to rheumatism, although occasionally a fatal incompetence is found at autopsy to show no other ground for its occurrence than an adherent pericardium, which is usually adherent to structures outside. In only one of the cases in our series (No. 9) could heart atrophy be considered as due to the pericardial adhesions, and the report is so meager that this is not certain. The duration of the synechia before the fatal result in cases of incompetence is not long; in a case carefully observed from the day of onset, by Jaccoud,³ it was 3½ months, and the same in one reported by Samson Gemmell.³⁰ Hayem and Tissier² say it is usually four to eight months. The reasons for the lesser malignancy of tuberculous synechia are many: it is much less often accompanied by valvular lesions; the onset is slow and without profound toxic effects on the myocardium, such as are often seen in the "carditis" of rheumatism; the dilatation in rheumatism occurs either during the acute

attack, when the valves and the muscle are both inflamed, or later, when the serous effusion is being absorbed, the pericardium fails to follow because of external adhesions, and deprived of its support the heart yields to the internal pressure and dilates; and further, relatively few cases of tuberculous pericarditis reach a chronic stage.

H. Marfan³¹ considers the difference between the effects on the heart of tuberculous and rheumatic pericardium synechia to be sufficient to permit of a differential diagnosis to be made on the physical findings referable to the circulatory system in many cases, independent of the history and other features. These differences he says are as follows:

<i>Rheumatic Symp̄ysis.</i>	<i>Tuberculous Symp̄ysis.</i>
Heart always very large.	Size normal.
Dyspnea more or less marked.	Little or no dyspnea.
Cardiac palpitation.	Little or no palpitation.
Strong apex impulse.	Apex impulse difficult to perceive.
Sounds irregular and strong.	Regular, feeble fetal rhythm.
Functional murmurs frequent.	Functional murmurs absent.

Adherent pericardium is frequently accompanied by the clinical picture to which the name of "pericarditic pseudocirrhosis of the liver" was given by Pick.³² He ascribed the condition of ascites occurring in these cases, often giving rise to the diagnosis of atrophic cirrhosis or tuberculous peritonitis, to connective tissue increase in the liver, the result of prolonged passive congestion. V. Eisenmenger,³³ pointing out that such increase is in the center of the lobule and does not cause the changes of an ordinary cirrhosis as the liver vessels are widened and not narrowed, states his opinion that the obstruction is either in the inferior vena cava after it has entered the pericardium, or through connective tissue proliferation in the fissure of the liver affecting the portal circulation. In a large proportion of the cases of this condition in the literature the pericarditis was tuberculous. However, in none of the cases of tuberculous pericarditis in my series, nor among the 17 reported by Osler,¹ was such a symptom-complex present.

The myocardium may be affected in two ways: by a fibrous interstitial process, or by direct growth of the tubercles into the heart walls. The interstitial myocarditis arising in this way is of little moment, especially when compared with that occurring in rheumatism, being limited to the subepicardial tissue; often it is accompanied by a slight fatty infiltration which cuts out the superficial muscle, but rarely extends deeply. The tuberculosis of the myocardium itself, extending inward from the pericardium, is of much more importance. In the miliary form the tuberculous process is superficial, or may be accompanied by nodules developing elsewhere in the heart, especially beneath the endocardium. Often in vascular tuberculous pericarditis the first development is in or beneath the epicardium, much more often than in the parietal layer. In miliary tuberculosis the myocardial tubercles produce no evident effect, and even more completely than the accompanying pericarditis are not demonstrable clinically. When the caseous form, however, invades the myocardium, more extensive and important results may follow. Eisenmenger³⁴ has observed two cases clinically and at autopsy, and thinks there is a possibility of this condition being diagnosed *intra vitam*, although this has not as yet been done. He suggests as points the occurrence in an individual, especially in one in whom tuberculous pericarditis has been diagnosed, of a severe

rapid, and progressive collapsed condition; secondly the finding of endocardial murmurs, weak in phase and variable in intensity. While the right ventricle is most affected, according to Eisenmenger, the much thinner walls of the auricles render their perforation possible. However, the low blood-pressure within them seems incapable of causing a rupture; in none of the cases of tuberculous myocarditis recorded has this accident been noted. In the writer's series in one case, No. 8, caseation had extended through the wall of the right auricle and the caseous mass was capped by a thrombus. A recent hemorrhagic infarct was present in the right lung, showing microscopically no evidences of tuberculosis; nor for that matter were any tuberculous lesions at all found in the lungs, indicating that probably no dissemination of tubercle bacilli from this thrombus had occurred. Quite different was the result in the similar case reported by Püschmann;¹² here the lungs were the seat of a general miliary tuberculosis, which seemed to have come from a thrombus containing many tubercle bacilli that extended from a calcified and caseous mass penetrating the wall of the auricle. In this way a tuberculous pericarditis may be the starting-point of a miliary tuberculosis. Thrombi arising from tuberculous lesions are always rich in tubercle bacilli, as Benda³⁵ has shown in his studies of miliary tuberculosis, and as was observed in Püschmann's case. Myocardial tuberculosis is a rare lesion, occurring but once in 1000 tuberculous bodies, according to Valentin.³⁸ Charles Thiry³⁶ was able, in 1899, to collect but 63 cases from the literature. In addition to infection by extension and through the blood-vessels, Labbé³⁷ thinks it may come through the lymphatic vessels of the myocardium from the mediastinal lymph glands, much as it reaches the pericardium. However, it is to be considered that the cardiac lymph vessels differ from those of the pericardium in not anastomosing with other systems, so it is difficult to see how a retrograde flow of lymph from the tuberculous glands can occur. This agrees with the fact that in tuberculous pericarditis of hematogenous origin the tubercles are most abundant beneath and in the epicardium, while in the lymphatic form they are most abundant in the parietal layer.

Myocardial tuberculosis may occur in several forms: 1, miliary granulations, generally in miliary tuberculosis; 2, large tubercles, volume may reach the size of a hen's egg, usually multiple; 3, diffuse tuberculosis, extending through a considerable part of the myocardium, chiefly as fibrous tissue intermingled with nodular and caseous tuberculosis, very rare; 4, interstitial myocarditis, with occasional tubercles scattered about in the fibrous tissue without caseation, also rare. The endocardium is not usually affected except in the miliary form and in perforation of the auricle; on the other hand the pericardium is usually involved although not invariably. Labbé³⁷ states that it is frequent in the young, 15 in a series of 27 being under 15 years of age. As before mentioned, even a myocardial tuberculosis may heal. Rosenstein³⁹ has reported a case of aneurysm beginning in a fibrous scar at the apex of the left ventricle, in a tuberculous subject; although the microscopic examination gave no anatomically recognizable tuberculosis Rosenstein thinks, basing his opinion on the ground of an observation by Orth in a similar case, that the scar had developed through absorption of necrotic masses of tuberculous origin.

The tuberculous process may of course invade the first part of the large vessels, within the pericardium. This does not seem to have been observed in the

human being, but in Professor Hektoen's case¹⁵ of tuberculous perimyocarditis in the dog this had happened, with the formation of a beginning aneurysm of the aorta.

Cardiotuberculous Cirrhosis.—This is an interesting condition, from the anatomical standpoint especially. It comprises the coexistence of tuberculous lesions with chronic passive congestion of the liver. The lesions consist generally of a diffuse fibrous increase plus miliary or small nodular tubercles, but sometimes only diffuse sclerotic changes or fatty cirrhosis without tubercles. It is due primarily to passive congestion, whether of valvular, myocardial or pericardial origin: tuberculosis may add the lesions of fibrous increase or fatty degeneration. Soullard⁴⁰ says that if the bacilli attack the liver early sclerosis predominates; if late, the fibrous change is slight or absent and only the tubercles are found besides the congestion. It is accompanied by a marked and permanent hypertrophy of the liver with recurring ascites, cyanosis of the face and extremities, dyspnea and edema, with cardiac insufficiency; in other words, the clinical picture is not dissimilar to that of the so-called pericarditic pseudocirrhosis. Like the latter its duration is considerable, even two to three years, with death either from asystole or generalized tuberculosis. Cousin⁴¹ divides the cases into three classes: 1, pure cardiotuberculous cirrhosis; 2, cardiotuberculous cirrhosis with specific lesions; 3, fatty cardiotuberculous liver. Tuberculous pericarditis offers all the essential requirements for the production of this condition, and not infrequently the combination of tuberculosis of the pericardium and cardiotuberculous liver has been observed. Hutinel,⁴² in 1893, reported several such cases occurring in children, and considers the matter extensively. Since that time a number of isolated cases have been reported, especially by the French writers.

TERMINATIONS.

It is quite possible for tuberculosis of the pericardium to heal, but healing generally does not follow the forms that do not have any acute stage. It occurs almost exclusively in the form that is chronic from the outset, and is, therefore, generally seen in pericarditis arising from lymphatic invasion, either from the lymph glands or pleura. The healed pericarditis may present evidences of its tuberculous origin either in the shape of fibroid nodules in the exudate or in the pericardial walls, or as firm, dry or calcified or caseous material, but this is extremely rare. More frequently the adhesions show macroscopically and microscopically only fibrous tissue without a single trace of anything resembling the anatomical picture of tuberculosis. The writer is inclined to the belief that this form of tuberculous pericarditis is from the start simply fibroplastic, and at no time has contained tubercles or caseous material. It may be recognized only by its relation to tuberculous mediastinal glands or pleuritis, and the exclusion of any other etiologic factor by the history. As before mentioned, while calcification of a caseous exudate is possible, it is impossible to find a well-authenticated case in which this calcification has been shown to originate on a basis of tuberculosis, hence it is probably rare. Adhesions that result in the non-fatal forms are not necessarily permanent; the incessant tugging by the heart leads to their gradual disappearance, especially when they do not entirely obliterate the sac, but this must be rare in tuberculous adhesions.

The most usual termination is in death. This may be due to interference with the heart in the stage of

effusion, or later to its firm union to the chest wall, lungs and diaphragm, as the result of a combined internal and external pericarditis. More rarely the heart may be weakened by invasion of its walls by the tuberculous process, or a miliary tuberculosis may arise by the perforation of the auricle and dissemination of the bacilli by the blood stream, as in Püschmann's¹² case. Simple embolism, as in Case 8, might also cause death. Hence it is possible that death may occur in an indirect way from tuberculosis of the lungs by infection of the mediastinal glands and thence of the pericardium, even after the original focus in the lungs is healed, through its effect on the heart. However, the cause of death in tuberculous pericarditis is most often not related to the heart at all, but results from the tuberculosis with which it is associated. Tuberculous pericarditis is generally unaccompanied by any symptoms referable to the heart, and is almost always an autopsy finding.

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TUBERCULOSIS OF FASCIA.

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Under this heading I include all cases of primary tubercular infection of the fascia and those cases of fascial tuberculosis secondary to adjacent tuberculosis, in which the fascial involvement is of such an extent as to overshadow the original trouble. There is little to be found on this subject in the surgical text-books, the article in Senn's "Principles of Surgery" having the most extensive consideration. Current medical liter-

ature is, equally silent, the only noteworthy article which I have seen being that by Dr. J. E. Moore,¹ which treats the subject most satisfactorily from a clinical standpoint.

CLASSES OF LESIONS.

In general there are two typical classes of lesions resulting from tubercular infections; these differ widely, and between these extremes there are various gradations. The cold-abscess type resulting from a rather acute infection by the tubercle bacillus, followed by cheesy degeneration, liquefaction, and the formation of an abscess cavity filled with liquid detritus, stands at one extreme. At the other is that class of lesions where, with a more chronic onset, and possibly a smaller dosage, the implantation and growth of the tubercle bacillus results in irritative changes shown by the formation of more or less dense connective tissue overgrowth with or without cheesy foci. It has been too much the custom of surgeons to overlook this latter type, and the non-recognition of the tubercular character of such tissue has caused many operative failures.

In no other form of tuberculosis are the two types above mentioned more perfectly demonstrable clinically than in tuberculosis of fascia. And in no other lesion is the recognition of the form characterized by connec-

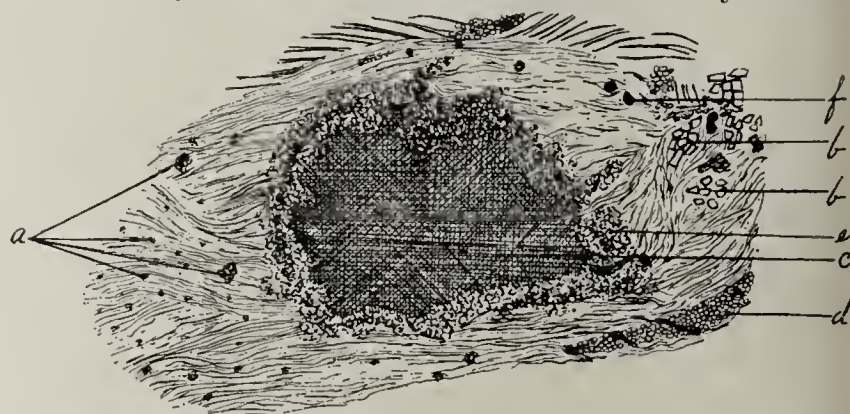


Fig 1.—a, Miliary tubercles; b, muscle fibers; c, cheesy center; d, fat; e, tubercle tissue; f, blood vessel.

tive tissue overgrowth more important both as to diagnosis and for proper treatment. Dr. Moore, in the article cited, recognizes the two classes of fascial tuberculosis, but his division into superficial and deep cases does not to my mind exactly define the existing difference.

From a pathologic standpoint, I shall divide these cases into two divisions: Class A, acute primary cases with extensive cheesy degeneration as their most marked feature; Class B, chronic, mostly secondary cases, characterized by overgrowth of connective tissue with disseminated areas of caseation. The clinical symptoms of both classes of cases are about the same except that those of the first class give a more acute onset and rapid course. Both come on insidiously with more or less swelling of the affected part and local temperature, and after a time red or bluish discoloration of the skin. Some patients suffer marked pain, and nearly all have a slight afternoon elevation of temperature. After more or less delay the process reaches the surface, and characteristic sinuses are formed giving vent to thin tubercular pseudo-pus. Usually there soon arises pyogenic infection with more marked fever and wasting, and this may occur before the sinuses have opened, causing a clinical picture closely simulating acute phlegmon.

DIAGNOSIS.

Diagnosis must be made by exclusion, aided in many cases by operation, and causative lesions in the neighboring bones and joints must be carefully searched for,

especially in Class B, where they can almost always be found. In Class A we find, on operation, the familiar cold-abscess between the layers of some extensive fascia, and when, after careful search, no contiguous tubercular lesion can be found in bones, joints, pleuræ and lymph-nodes, our diagnosis becomes established. In such cases the layer of tubercular tissue lining the cavity lies upon a firm connective tissue membrane, and can be scraped therefrom by the sharp spoon, leaving a healthy smooth surface. To illustrate:

CASE 1.—A Swedish street-car conductor, aged 25, came into my service at Asbury Hospital in 1894, with a sinus in the middle of his right calf, discharging bloody puriform fluid. His history was misleading, as he said that he had been well until within a few days, when his leg began to pain him and became swollen. A physician saw him at this time and made an incision, evacuating a large amount of bloody fluid and diagnosing a hematoma. I saw him one week later, at which time there was a sinus with flabby granulations admitting a probe which passed freely to the vicinity of both knee and heel. He had also greatly enlarged lymph-nodes in the neck and right axilla.

Under anesthesia the large cavity was opened up by

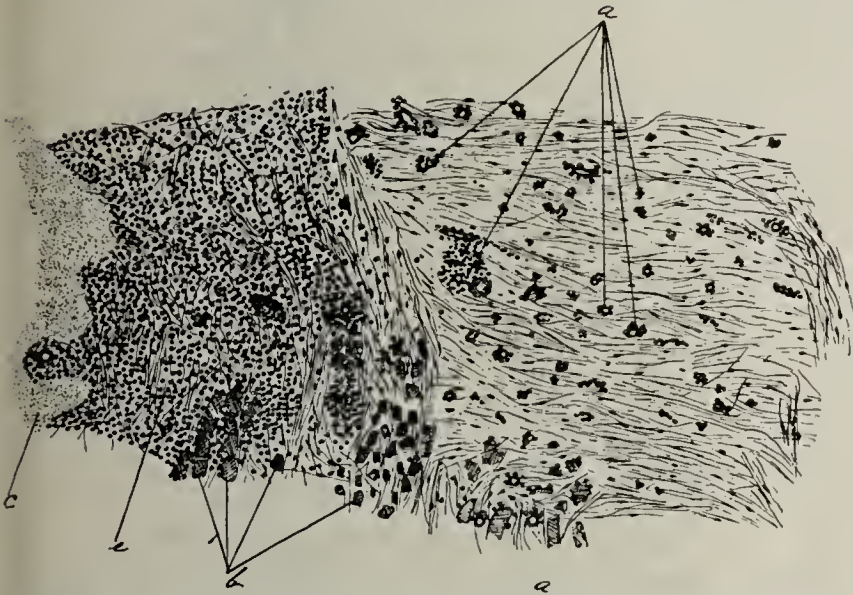


Fig. 2.—a, Small tubercles (mostly perivascular); b, degenerate muscle fibers; c, cheesy center; e, tubercle tissue.

a median incision reaching from the middle of the popliteal space nearly to the heel. The extensive flaps and the walls of the cavity were then scraped thoroughly with a sharp spoon, until a smooth surface was reached, removing a double handful of tubercular granulations, and revealing an eroded vein as the cause of the previous hemorrhage. The long incision was sutured over iodoform gauze packing, which was removed after forty-eight hours and pressure applied. The large wound healed solidly in ten days, after which I removed the tubercular lymph-nodes in the neck and axilla. He made a good recovery and is now (1900) alive and well.

The tissue removed was examined microscopically and showed typical, rapidly formed tubercle tissue with many giant cells and a few tubercle bacilli. There was considerable caseous degeneration, and there seemed to be nowhere any attempt to form fibrous tissue.

I have observed this form of fascial tuberculosis only in the calf, thigh, and the muscles of the back, as a primary lesion, or at least without any discoverable adjacent tubercular lesions.

Class B differs greatly both in its gross and microscopic lesions, and the history is much more chronic, and I believe that the majority of these cases coming under this class are secondary to other tubercular lesions.

The important distinguishing feature of these cases is the production of large amounts of fibrous tissue, and the occurrence of the cheesy tubercular material, not in one large cavity limited by a firm fibrous layer, but in multiple small foci which are scattered widely throughout the new-formed fibrous tissue. Such cases can only be relieved by operation with the knife and scissors, instead of the sharp spoon, as every portion of the new fibrous tissue must be removed to insure non-recurrence. Case 4, cited in Dr. Moore's article, is the only primary fascial case of this type which I have seen operated on, while the great majority have proved to have other tubercular lesions adjacent as their point of origin.

As I have the gross and microscopic specimens from this case, I will reproduce here the history as given by Dr. Moore in the article cited:

CASE 4.—F. F., aged 48 years, a Mexican coffee planter, came to me in January, 1896, suffering from hydrops articuli of the right knee. The disease, although chronic, was quite mild in character and yielded promptly to the treatment, which consisted of tapping, followed by irrigation with a bichlorid solution and rest in a plaster cast. Twenty months later, in September, 1897, he returned with a beginning tuberculosis of the fascia of the lower third of the left thigh. There were two sinuses and the disease seemed to be superficial. The part was laid open, freely scraped, and packed with gauze. On Jan. 10,



Fig. 3.—Small perivascular tubercle.

1898, I operated a second time, removing all the diseased tissue I could find. On January 29, I realized that the last operation was a failure, and determined to operate again and be as radical as possible. There were at this time several sinuses and a mixed infection and the patient was rapidly failing. I made an incision from just above the knee-joint to the tip of the greater trochanter. At the lower third of the thigh a strip of integument two inches wide and eight inches long, which was perforated by the sinus, was removed. A large portion of the fascia lata was removed, because it was diseased beyond all hope of recovery. The disease was found dipping down into the vastus externus muscle to such an extent that it was necessary to remove the whole of that muscle. It should be noted that this disease was in the left thigh, while the hydrops articuli had been on his right side. The left knee was healthy, but its synovial membrane was being attacked from the outside, and in my efforts to remove all the diseased tissue I opened into the upper pouch of the knee. A piece of synovial membrane two inches long and one inch wide was removed, and the opening into the joint immediately closed with a running catgut suture, and although the patient was suffering from a mixed infection at the time of operation, no joint symptoms followed. This enormous wound was closed; and with the exception of a small spot at the lower end, where there was a small slough, it healed by first intention.

The slough soon separated, and the wound granulated over without return of tuberculosis. The patient left the hospital in less than three weeks, and very soon after returned to his Mexican home. Before he left he walked into my office with a cane, and the function of his limb was remarkably good considering the amount of tissue removed.

In May, 1899, I received a report that his leg was giving him no trouble, but that his general health was failing and that he had a cough.

Please note that while this case was primary in the fascia, it was only after recurrence that it took on this more disseminated form.

CASE 2.—A robust looking Swedish farmer, aged 30, was admitted to my Asbury Hospital service, with a clear case of caries sicca of the right shoulder, of some months' duration. In addition there were several sinuses about the joint, not leading to bone, or to the joint. On operation there was found a diffuse tuberculosis of the fascia about the shoulder, including the intermuscular septa between the muscles of the post-scapular group. All the new tissue was removed by an extensive dissection, and the wound soon healed except a sinus which now for the first time led to bare bone near the joint. At a later date this was followed to the head of the humerus, which was excised, after which the sinus closed. He recovered with a useful arm and has remained well up to the present time, five years after the beginning of his tuberculosis.



Figure 4.

CASE 3.—A more recent case illustrates well the early stages of this interesting process. A woman of 30, after a general septicemia due to an abortion, developed an osteomyelitis of rather mild type which resulted in an enlargement of the lower third of the femur, without sequestra or sinuses. She had little trouble for four years, when she came in with what she called a boil on her thigh over the enlarged bone. This was incised and a small sequestrum, a mere splinter, taken out; there was then noted an induration about the sinus, and extending a short distance down the thigh. Two weeks later she was operated on under anesthesia, and on incision a mass of tissue as large as a goose-egg was found surrounding the sinus and extending some distance along the fascial planes. The small sinus led through this mass into the femur where there was a tubercular deposit one-half inch in diameter, situated in the new osteomyelitic bone. This was chiseled out so as to form a smooth-walled cavity of

conical form, packed with gauze, and the patient made a slow but uneventful recovery.

On section of the removed tissue, it was found to consist of quite cellular new connective tissue containing numerous small cavities filled with gelatinous-looking tubercle tissue which had not as yet undergone cheesy degeneration.

CASE 5.—Through the kindness of my colleague in the university, Dr. S. M. White, I am able to show the microscopic findings in a still more recent case than any reported. While making an autopsy on a tubercular subject, Dr. White infected the middle finger of his left hand, at the site of a small wart on the palmar surface. About two weeks after infection there formed a small abscess which contained staphylococcus pyogenes aureus. The abscess healed, but after a few weeks a swelling appeared on the back of the finger and gradually increased in size until, in February, 1900, there was a diffuse enlargement of the finger, mainly along dorsum.

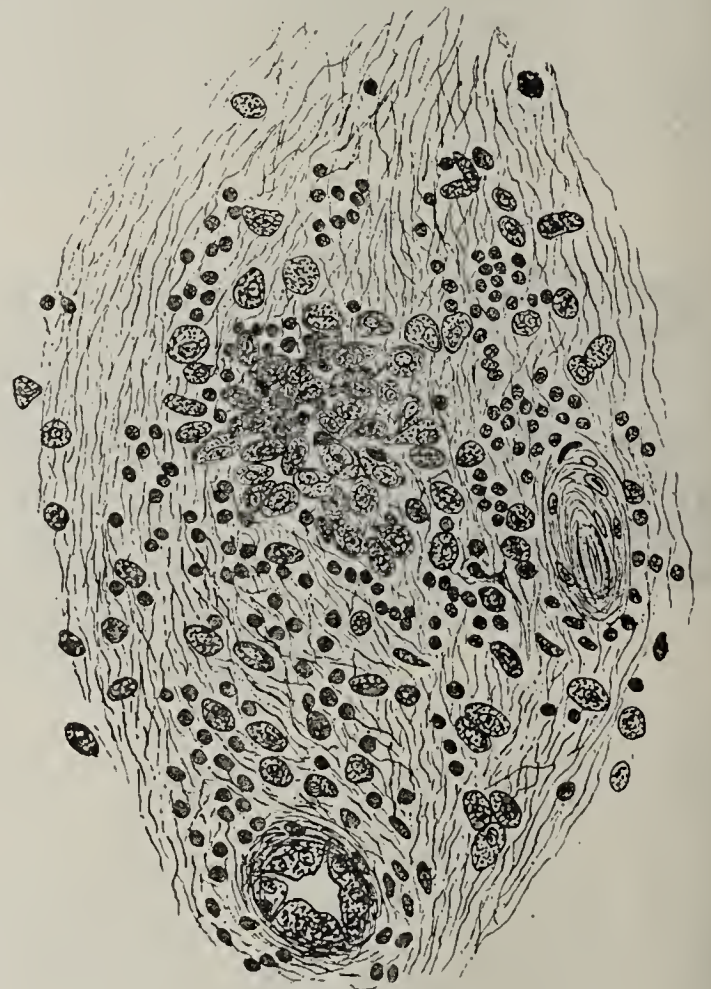


Figure 5.

Various methods of treatment were used without avail until March 3, 1900. At this time I operated under cocaine, and dissected away a saddle-shaped piece of fibrous tissue about three-sixteenths of an inch thick at the center. It was grayish, and succulent, but gave no macroscopic signs of tuberculosis. This tissue had to be dissected away very carefully from the capsule of the joint and the sheath of the extensor tendons, and had so involved the latter that in one or two places small openings were made into the lumen of the sheath. The wound was sutured and healed per primam. There has been no recurrence up to date.

Sections of this tissue show new connective tissue rich in cells, with many aggregations of round and polyhedral cells, but no cheesy degeneration. A piece of this tissue was emulsified with sterile broth and injected into the peritoneal cavity of a guinea-pig. It died tubercular and tubercle bacilli were demonstrated in the lesions found at autopsy.

This second form of fascial tuberculosis is vastly more serious than the first, as it regularly involves the intermuscular septa, and the sheaths of tendons and muscles, and passes easily to adjacent joints.

A successful operation against these cases must often be most extensive, and a neglected case will occasionally demand an amputation when an extremity is affected, or prove irremediable when upon the trunk. Neglected cases of the first type may pass into the second, but when operated on promptly and thoroughly, they heal rapidly and do not relapse.

A case seen two years ago, in the service of Dr. F.A. Dunsmore, illustrates how a fascial tuberculosis springing from an insignificant bone lesion, undiagnosed and untreated, may baffle conservative surgery. The case was a woman of 40, from outside the city. The history was fairly acute, and gave no indication of the bone lesion. The lesions present were a general tuberculosis of the fasciæ of the forearm, including intermuscular septa, tendon sheaths and even the interosseous membrane, all of which arose from a small chronic tubercular focus in the lower end of the radius. The arm was swollen to three times its natural size, and gave me the impression of a rapidly-growing sarcoma, but on incision there was only found a gelatinous connective tissue everywhere, with only an occasional cheesy focus.

Any operation here, to be successful, would have necessitated the removal of all the fascia, together with all the connective tissue covering the muscles, vessels, etc., and was plainly impossible, so the arm was amputated.

I am inclined to believe, after a careful study of a number of these cases, that those of the first class are caused by a rapid and simultaneous infection of the wide fascial planes by the tubercle bacilli, as the lesions appear to be all of one age and are without the connective proliferation characteristic of the more chronic tuberculosis. The lesions correspond quite closely to those seen when a joint is infected by the rupture into its cavity of a cheesy bone focus, with the rapid spread over the synovial surface of a large amount of tuberculous material. Those of the second class, on the contrary, resemble primary joint tuberculosis, where the infection has arisen at one point and spread gradually over the joint tissues. Here we have lesions of various ages, but always the characteristic fibrous tissue, containing more or less widely scattered cheesy foci, or in more recent cases non-cheesy tubercular tissue.

The proportion of the connective tissue to the cheesy foci varies according to the chronicity of the process, there being cases (Case 5, cited) where the naked eye shows no indication of the tuberculosis, but merely great overgrowth of connective tissue, but where the microscope and animal inoculation prove the presence of tuberculosis. In other cases the cheesy foci predominate and attain fairly large size, but they never, I think, in this form reach a size entitling them to be called cold abscesses.

Through the courtesy of Dr. and Mrs. Nickerson, my colleagues in the medical department of the University of Minnesota, I am able to illustrate this article with drawings which quite satisfactorily fill the place of the sections shown when the paper was originally read. Cuts 1, 2 and 3 are from Dr. Moore's Case No. 4. Cut 1 is a somewhat schematic, low-power drawing, showing a large cheesy focus, surrounded by tubercle tissue, the whole being enclosed in dense fibrous tissue containing scattered tubercles. Cut 2 is from the same section under higher power, and shows the details of the tuber-

cular zone about the cheesy center, and also very well the scattered tubercles in the dense connective tissue area.

Cut 3 shows a beginning perivascular tubercle like any of those marked "a" in Cut 2; the obliterating tubercular endarteritis, and the concentric arrangement of the epithelioid cells about the artery are well shown in this tubercle.

Cuts 4 and 5 are made from a section of the tissue removed from Dr. White's finger. Cut 4 shows the lower power appearance of what seemed to the naked eye to be normal fibrous tissue. A large tubercle is shown in which cheesy degeneration is just beginning, and numerous smaller tubercles.

Cut 5 shows the details of the small tubercle "a" of Cut 4. There is here merely a massing of oval epithelioid cells and leukocytes, without the regular arrangement seen in the more slowly formed tubercles of Cut 2. The vessels seem to be taking a part in the process, as shown by the swollen and proliferating endothelial cells, but there are no well-formed perivascular tubercles.

SUMMARY.

1. Tuberculosis of the fascia occurs with sufficient frequency to entitle it to more attention than it has received in the past.
2. It occurs in two well-marked forms.
3. The recognition of these forms is essential to its proper surgical treatment.
4. Fibrous tissue associated with, and resulting from tubercular infection is to be viewed as tubercular tissue, and treated accordingly.
5. Such fibrous tissue may in some cases need the test of animal inoculation to absolutely prove its tubercular character.

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SARCOMA OF THE PANCREAS.*

(From the Laboratory of Pathology of the Chicago Policlinic.)

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BALDWIN, KAN.

Litten¹ was the first to report a primary sarcoma of the pancreas in which the microscopic findings were recorded. His case occurred in a boy 4 years old. The tumor weighed fifteen pounds. Virchow made the microscopic examination and found a small round-celled sarcoma. This was in 1889.

Senn,² in 1886, reported two cases of sarcoma of the pancreas; one from Mayo's "Outlines of Human Pathology," published in 1836. As this was probably the first case of primary sarcoma of the pancreas it will be given with some detail. Quoting³ from the original work:

Malignant disease rarely attacks the pancreas alone but involves in common with it either the stomach or liver or both.

A gentleman, aged 35, died after an illness of about eighteen months duration in which it was to the last impossible to say what organ was the seat of the disease. His complaint began with a febrile attack which left him weak and from that time he was liable to dyspeptic symptoms with variable appetite and an undefined uneasiness in the epigastric region. He gradually lost strength and flesh and when he consulted Dr. Newberr in January, 1822, he was found thin and weak; but Mr. N. was particularly struck with his remarkable paleness, even his lips and the inner surface of his mouth was entirely without color. About this time he had some vomiting and was feverish for a day or two. . . . When I saw him in April he was reduced to the last degree of paleness and debility but his pulse was full, strong, and regular. . . . He died at the end of April without any change of symptoms except that his pulse became frequent a few days before his death.

* Read before the Chicago Pathological Society.

Inspection.—All of the internal parts were found remarkably pale and void of blood; the heart was sound but remarkably empty. The pylorus was thickened and firmer than natural and had contracted an adhesion to the pancreas. The pancreas was considerably enlarged and of nearly cartilaginous hardness except some spots which were soft with the appearance of the medullary sarcoma. No other disease could be detected in any other part of the body.

The histologic character of this tumor must remain unknown. Its history does not exclude carcinoma.

Senn reports a case of Lepine and Cornil⁴ which occurred in 1874.

In 1880 Bartley⁵ reported a case of spindle tumor of the pancreas, to the New York Anatomical and Surgical Society. The tumor occurred in a farmer 22 years old. The tumor began, it was supposed, six years before his death, at which time he suffered from epigastric pain at the time ascribed to a strain. Two years later the pain returned and occurred with constantly shortening intervals until the pain became continuous. One year and a half before his death he



Fig. 1.—Sarcoma of the pancreas. The lower part of the photograph shows the colon adherent to the tumor.

consulted a physician and was treated for gastralgia, cardialgia and dyspepsia. In the fall of 1879 he came to Chicago to seek medical aid. He died one month later and the necropsy showed tumor of pancreas, adherent to the stomach, splenic vein, hepatic and gastroduodenal arteries. The lymph nodes along the aorta were enlarged. The head of the pancreas was the "size of the fist" and the tail the "size of the wrist." The tumor was firm in consistence and microscopically was a spindle-celled growth. The reporter, while recognizing it as probably sarcoma, reports it as carcinoma. The age of the patient supports the diagnosis of sarcoma, which no doubt it was.

In 1892, Mansilla⁶ reported a case occurring in a man 54 years old. Microscopic examination showed "embryonic sarcoma" of the pancreas, with metastatic deposits of the same character in the liver.

Primary sarcoma of the tail of the pancreas in a man 74 years old, with metastases in the liver and peritoneum, was reported by Blind⁷ in 1894.

Ehrmann,⁸ in 1896, reported a case of primary sarcoma of the tail of the pancreas in a woman 56 years old, with metastases in the liver and pleura.

Picola⁹ is generally credited with two cases, a distinction he did not claim. He states that in one the primary growth was in the liver and the pancreas was involved secondarily. The case he reports as primary sarcoma of the pancreas occurred in a man 54 years old. There were three small tumors in the head of the pancreas, the largest one the size of a walnut and the others the size of peas, their surface smooth and pink in color. On section, the color was gray. There were adhesions with the hilus of the liver, with the intestines and metastases in the abdominal lymph nodes. The bile-ducts were dilated and the alveolar epithelium necrotic.

Churton¹⁰ reported a round-celled sarcoma of the pancreas. The connective tissue of the pancreas was infiltrated with small round cells, and the lobules invaded. There were metastatic deposits in the liver and adhesions between the pancreas, left kidney and the spleen. In this case there was glycosuria.

Neve¹¹ met with a case in a man 64 years old. The growth involved the pancreas and pylorus. It was firm, yellow and on section glistening and fibrous with small areas of darker color. It looked like a scirrhus carcinoma. The microscope showed it to consist of "highly nucleated" spindle cells interlacing at all angles. There were no epithelial cells.

Schueler,¹² in 1894, reported a case in a man 38 years old. The patient was an alcoholic. He vomited and suffered pain in the cardiac and costal regions. There was pain on pressure over the xiphoid process. Eating caused the pain to grow worse. Palpation showed a tumor the size of an egg in the left part of the liver. Exploratory puncture showed a reddish-brown fluid. Autopsy showed a large cystic tumor of the pancreas containing 2 liters of brown fluid. In part of the pancreas, not cystic, there was a large spindle-celled sarcoma. Metastases were found in both pleuræ and the third and fifth dorsal vertebrae. In this case there was no free hydrochloric acid found in the stomach.

The Spanish have another case, reported by Machado¹³ in 1883.

Aldor,¹⁴ in 1895, reported a "medullary sarcoma" of the pancreas in a man 45 years old. The tumor was the size of a man's fist and had perforated into the stomach and was adherent to the spleen and duodenum.

Frohwein¹⁵ reported a case in 1897, of a spindle-celled sarcoma of the pancreas.

Ehrmann¹⁶ described a case of primary sarcoma of the tail of the pancreas with metastases in the liver and pleuræ. Both the primary neoplasm and the metastases were of the small round-celled type.

Italia¹⁷ reports the most recent case found recorded. The tumor occurred in a man 70 years old. The first symptoms were noticed in February, 1899, and death occurred in September following. The tumor was about the size of an orange and painful on pressure. Diagnosis was made in this case during life. The autopsy showed a large amount of peritoneal effusion. The tumor of the pancreas was round but distinctly limited. Metastatic nodules were found in the liver. The tumor in the pancreas was a small round-celled sarcoma, while the deposits in the liver were of the large-celled variety.

The pancreatic tumor was considered the primary growth.

In the seventeen cases summarized, three may be questioned, two of them, Mayo's and Bartley's, because the evidence of sarcoma is not complete and one reported by Schneler might have been secondary to the tumor growth in the vertebræ. They have been included in the list of primary sarcomas because it is more probable that they belong there than in the seriously questioned list.

There are tumors reported as primary sarcoma of the pancreas where the evidence is incomplete.

Paulick's¹⁸ case, generally included among the recorded cases of primary sarcoma of the pancreas, occurred in a young man who died of pulmonary and intestinal tuberculosis. The tumor gave rise to no symptoms, yet it is reported as a round-celled sarcoma. The question as to whether this was a tuberculous pancreas does not appear to have occurred to the reporter.

Briggs¹⁹ reported a case in 1890 occurring in a woman 45 years old. The tumor was a cyst filled with two liters of grumous dark fluid in which were found the hooklets of the echinococcus. The tumor was re-

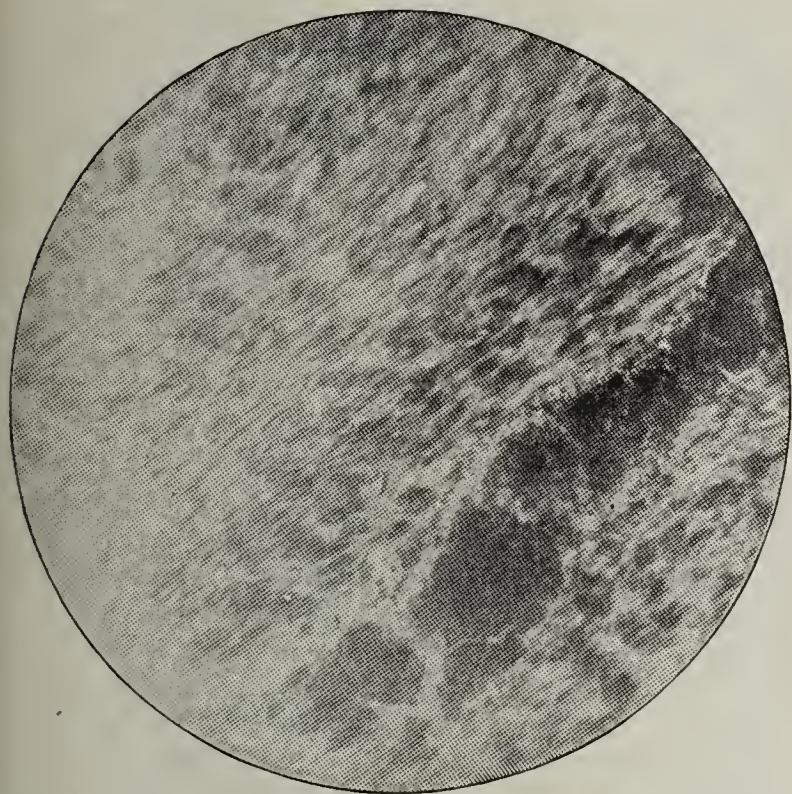


Fig. 2.—Sarcoma of the pancreas. Photomicrograph (x 150). Showing the proliferating spindle-shaped tumor cells, taking their origin from the adventitia of a blood vessel.

moved, and the patient recovered and remained well at the time the report was made. The period elapsed since the operation was not given. The tumor was reported as "sarcomatous," with no microscopic detail.

Billroth and Bozeman are both credited with a case of sarcoma of the pancreas, but the conditions found were cysts, not sarcomas. Ehrmann included in his list a case reported by Bruen²⁰ in 1883. He describes a colloid tumor of the head of the pancreas, but gives no microscopic report.

Chiari²¹ reports a metastatic growth in the pancreas occurring secondary to a sarcoma in the eye. This case has been included in reports, but should be excluded from the cases of primary sarcoma. Some cases not reported as sarcoma of the pancreas are worth reviewing because they lead to the conviction that they were sarcoma. If sarcoma has not been recognized in these cases it may not be its absence so much as a failure to properly diagnose the tumors of the pancreas that has made it so rare that Ziegler states that "they are extraordinarily rare," Orth that "they are almost unheard of."

Hamilton is silent and so is Delafield and Prudden, while Stengel gives the subject three lines in his latest work.

Pepper,²² in 1871, reported a case of tumor of the head of the pancreas in a man 45 years old. Necropsy showed a cyst the size of a walnut, filled with blood, the cyst cavity trabeculated with fibrous bands and lined with smooth mucous membrane. The cyst communicated with the duodenum. The microscope showed the acini of the glands diminished in size and the "epithelium in state of granular degeneration" with an abundance of oil globules. "After the fat was dissolved out with sulphuric ether and acetic acid was added, an immense number of elongated nuclei attested its vigorous nutrition and growth." The fact that the growth was not in the epithelial structures, and that the nuclei were elongated is very suggestive of sarcoma.

Dieterich,²³ in a report of 145 cases of melanotic tumors, in 1887, mentioned a case of sarcoma in a child 2 years old. There is no report of a microscopic examination.

REPORT OF CASE.

The case which is here added to the list of primary sarcoma of the pancreas, occurred in the practice of Dr. M. L. Harris. The patient entered the Policlinic Hospital, Nov. 16, 1898.

History.—N. B., aged 47, a male, was a driver of a coal wagon. His father died at the age of 60, the cause unknown, his mother at 64, the cause unknown. Two brothers were living and well, also one sister. The patient used alcohol lightly, but no tobacco. His health was good until June, 1898, when pain appeared to the left of the median line a little below the umbilicus. He felt a lump the size of a large apple and rather firm which increased in size. His bowels were regular. There was no history of an injury. At the time of entering the hospital he vomited two or three times a week. The vomit was sour at times. His weight had fallen from 165 to 140 and he had lost much in strength, and then had a tendency to constipation. His pulse was 70, temperature 99 F.; respirations 20. At the time of admittance the urine was of straw color, aromatic in odor, with an acid reaction, a sp. gr. of 1028, no albumin, no sugar, no casts. His abdominal measurements were as follows: Maximum circumference, 95.3 cm.; circumference at umbilicus, 94.6 cm.; circumference at crest, 91 cm.; from maximum circumference to ensiform cart., 11.7 cm.; from umbilicus to ensiform cart., 16 cm.; from maximum circumference to symphysis, 20.5 cm.; from umbilicus to symphysis, 16.5 cm.; from umbilicus to ant. s.s. proc. (l.) 22.7 cm.; from umbilicus to ant. s.s. proc. (r.), 22.3 cm.; from max. circum. to ant. s.s. proc. (r), 24 cm.; from max. circum. to ant. s.s. proc. (r), 24.5 cm.

On November 23, an exploratory laparotomy was made by Dr. Harris, and an inoperable large tumor of the pancreas found. The patient gradually lost, his pulse and respirations gradually increasing in rapidity, while the temperature was many times subnormal up to a short time before death, when it ran up to 103 F. The autopsy made by Dr. Herzog was from necessity very incomplete, no regular autopsy being permitted; the body had to be shipped immediately.

The tumor, after having been removed from the abdominal cavity, was irregularly quadrilateral in shape and measured 17 cm. transversely, 20 cm. anteroposteriorly, and 24 cm. in the vertical diameter. Its vertical circumference was 72 cm., the transverse 71 cm. Its walls were firm, pale, slate-colored, mottled and irregularly lobulated. The whole tumor was covered with thickened peritoneum, except when stripped off by attachments to the stomach, spleen and liver, and where it was applied to the transverse colon between the layers of the transverse mesocolon. Posteriorly it was not adherent to any of the large blood-vessels or to the kidney. There was a depression on the upper right posterior surface of the tumor, as if made by the liver. The posterior layer of the lesser omentum

was folded over the tumor, giving it the complete peritoneal covering. At no point was the tumor fused with the structures to which it was attached by peritoneal adhesions. The transverse colon was attached along the entire anterior inferior border of the tumor, but the gut walls were nowhere invaded by the tumor growth. When the tumor was cut open it was found to contain in its interior a cavity 13 by 11 by 10 cm. The cavity was subdivided into two compartments by a septum formed by the tumor tissue. The roof of the lower compartment and the internal surface toward the left side were perfectly smooth. Most of the right internal surface and most of the floor were uneven and covered with a ragged grumous mass. Here the tumor tissue had broken into the smooth internal lining of the cyst. The upper compartment of the tumor cavity had evidently not originated as a true cyst, like the lower compartment. It was an irregular pyramidal cavity with a very ragged and irregular internal surface. The cavity was partly filled with broken-down tumor tissue. The tumor walls surrounding the central cavity in varied thickness from 5 to 10 cm. The tumor tissue on section appeared divided by connective tissue trabeculae into roundish and oval nodules varying in size from a fraction to several centimeters in diameter. Near the outer surface the tumor tissue was grayish-white and quite solid; more toward the interior it assumed a light dirty brown, was spongy and honeycombed. The transverse colon, as stated before, was firmly attached to the anterior lower aspect of the tumor. When cut open the gut showed an intact mucous membrane, the tumor not having involved the walls of the gut.

The microscopic examination showed that when the tumor had not undergone any retrograde or degenerative changes it consisted of large spindle cells. These cells took their origin from the adventitia of vessels. The cell nuclei were generally fusiform, some decidedly rod-shaped, others oval and even round. They generally contained one or two nucleoli and a moderate amount of finely granular chromatin. The cell protoplasm was quite abundant and stained deeply with eosin.

The tumor cells formed bundles and masses which interlaced each other freely in every direction. Thin-walled blood-vessels were abundant. At some distance from the surface the tissue exhibited a tendency to retrograde changes. Here the cells showed coagulation necrosis, and the nucleus became indistinct, likewise the cell body. Deeper still the nuclei disappeared and a rarefied tissue was formed which looked like myxoid tissue. In such necrotic places extravasated blood was found free between the degenerating tumor tissue.

The grumous material found in the interior of the tumor consisted of necrotic cells mixed with free decomposing blood, fibrin and hematoidin granules. In some places the necrotic tissues showed numerous polynuclear leucocytes, some exhibiting nuclear fragmentation. One of the pieces of tumor examined showed where the tumor had been attached to the wall of the stomach. The viscus wall was thin and atrophic.

The capsule of the tumor consisted of coarse connective tissue fibers with slender, fusiform, deeply-staining nuclei. No endothelial cells were seen on the capsule.

The kidney showed marked congestion of all the vessels. The epithelium lining the uriniferous tubules showed cloudy swelling. Many of the tubules were filled with a granular material and some contained hyaline casts. The interlobular connective tissue of the liver was moderately increased. The peripheral cells of the lobule were fairly normal, but in the central zone they were densely filled with bile-coloring matter. Both in the peripheral and central zone a number of liver cells showed cloudy swelling. The spleen pulp was densely crowded with erythrocytes. In such places hemosiderin was found in large amounts. In other places the pulp cells showed a tendency to become fusiform. The myocardium was normal.

From the microscopic examination it was evident that we were dealing with a malignant connective tissue tumor—a sarcoma. The neoplasm, as appears from the history, grew rapidly, and speedily led to a profound cachexia. While the tumor formed adhesions to several of the neighboring organs it had not broken through any of them, nor had it given rise to metastases. The

absorption of the ptomains had produced a chronic splenitis and changes in the liver, partly parenchymatous, and partly indicative of early interstitial cirrhotic changes.

I here express my gratitude to Dr. Herzog for his assistance in preparing this report.

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A CASE OF EPITHELIOMA DEVELOPED ON THE BASIS OF A HEALED LUPUS VULGARIS TREATED BY X-RAYS.*

DAVID LIEBERTHAL, M.D.

CHICAGO.

The patient, a tradesman, a native of Poland, is 53 years old, and does not remember ever having been afflicted with any disease, with the exception of that herein described. His parents, who are dead, enjoyed good health, and neither they nor any other of his relatives were subject to skin affections. He has eight children, and two grandchildren, all enjoying good health. At the age of about 2 years there developed behind his left ear a growth which soon exulcerated, and in the course of a few years his face, especially the nose and mouth, became affected. The skin thus diseased repeatedly broke down and rehealed. The mouth gradually became so closed that he could only insert his little finger.

At this stage the nose, which meantime had repeatedly broken and healed, began to break down until its tip was destroyed at about the age of 12 years. He was then brought to the University Clinic of Königsberg. There the ulcerating surfaces were regularly treated with the thermocautery under chloroform anesthesia. The ulcers healed, but the mouth grew smaller by cicatrization, and the nose was closed up. During his stay of a year in Königsberg he took cod-liver oil, a tablespoonful three times daily. He was then sent to the clinic in Berlin, where he underwent an operation consisting of wide incisions at the angles of the mouth and transplantation of mucous membrane from the cheeks upon the wound surfaces. The residue of the nose, which had healed up during the treatment in Königsberg, had no opening, and inasmuch as the patient did not consent to the formation of a new nose, it was decided to render it possible for him to breathe through the organ. To this end there were made two

* Presented to the Chicago Medical Society, Jan. 2, 1901.

symmetrical openings into which were placed silver tubes fastened with bandages. But the septum soon sloughed, and a single opening resulted, which remained permeable and permitted him to breathe freely. He stayed in Berlin about two years, and during that time continued the use of cod-liver oil, a tablespoonful three times a day. He considered himself cured, and soon after immigrated to Chicago, some thirty-eight years ago. Until about a year ago his condition gave him no concern. He then felt a painful nodule behind his left ear. About eight months ago a wart the size of a bean developed on the left side of the lower jaw, and slowly enlarged. It was itchy and soon showed openings out of which exuded whitish, worm-like masses on pressure. The tumor continued to increase in size, and during the last eight weeks developed more rapidly to its present condition. Pain is felt at times, and then on the lower border of the tumor only. He is of strong build, and of good health. On the neck just behind the left ear a scar is visible at the seat of the first affection of the skin. On the left side of the forehead is another scar. On the cheeks and chin, especially around the

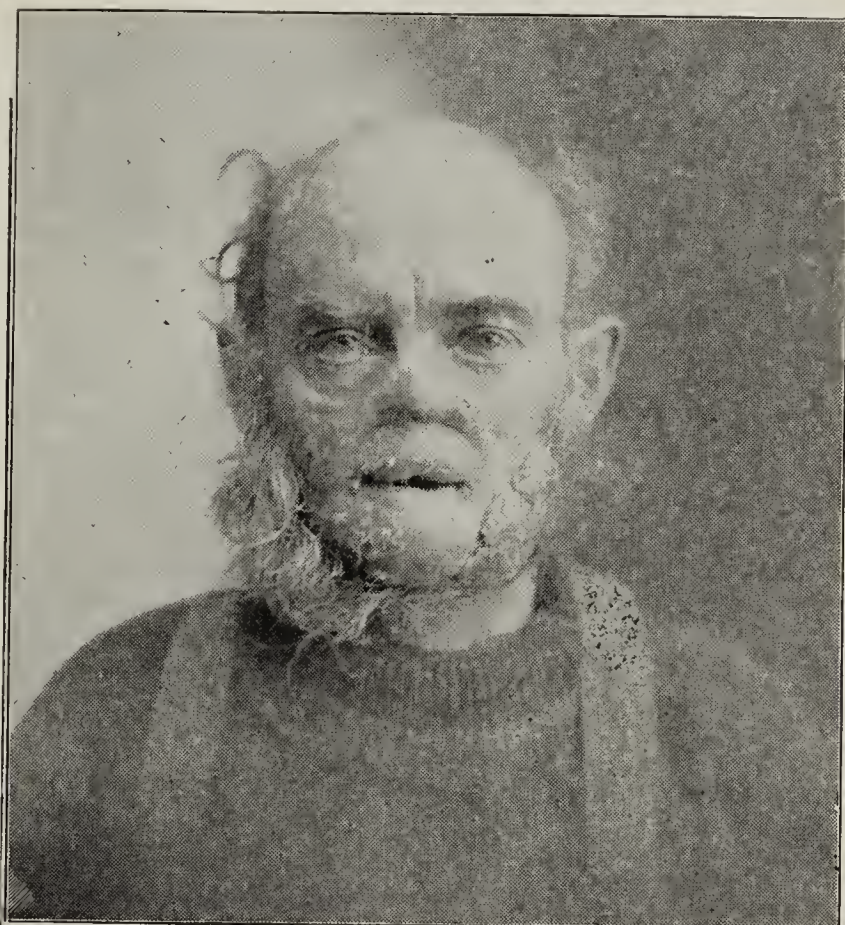
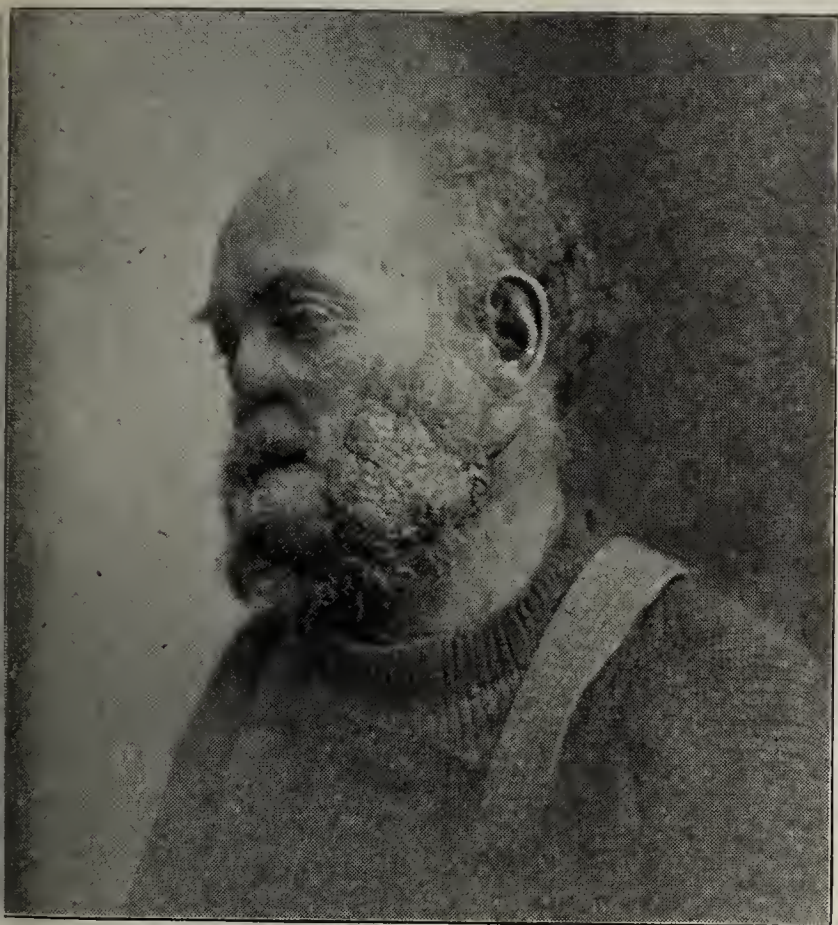
grayish-white, ill-smelling exudate is visible, which increases in quantity by pressure. At times there is pain in the lower and posterior part. At the level of the posterior angle of the left lower jaw is found a bean-sized, round, hard, retromaxillary gland. I have to add that the respiration through the nose, as well as the sense of smell, is unimpaired.

Judging from the history, and more especially from the sequelæ of the skin disease which he acquired in early childhood, there remains but little doubt that it was a case of lupus vulgaris. The tumor on his face is clinically an epithelioma, which opinion is confirmed by the microscopic examination.

In regard to the prognosis, it is a well-established fact that epithelioma developed on a scar of lupus vulgaris gives but little prospect.

Drs. Anthony and Harris, who saw the case with me, suggested the application of the x-ray, and Dr. Haiselden of the x-ray department of the Chicago Polyclinic commenced the exposures.

Since the presentation of this case, the treatment has been continued. Beginning December 26, the exposures



nose and mouth, there are extensive scars. The tip of the nose is absent, and on its site there is cicatricial tissue, with a hole in the center. The red border of the lips is uneven, owing to cicatricial contraction, and for the same reason we find deep fissures at the angles of the mouth and on the mucosa of the cheeks. Over the left zygoma we see infiltrated skin, with a red, glossy, somewhat scaly surface. The patient states that he noticed it since he wore a bandage for the fixation of the silver tubes. On the left side of the face and neck we see a bluish-red, lobulated, cauliflower-like tumor, raised about half an inch above the level of the surrounding surface. Around the upper margins of its base scars are visible. It has the shape of a triangle, with its apex in the middle of the cheek, and its base about $1\frac{1}{2}$ inches beneath and parallel to the margin of the lower jaw. It is movable with the skin, has a soft consistence, and overlaps its base. At the junction of the tumor with the seemingly healthy surrounding tissue, deep fissures are to be seen. On its surface, a

were made twice a week. After the third exposure January 7, the skin in the vicinity of the tumor reddened, whereupon they were discontinued for one week, and after the disappearance of the irritation were repeated twice a week during January and February, during the first three weeks of March every other day and during the last week of March and first of April, every day except Sundays. Since then no exposures have been made. The primary current used for the induction of the secondary was between 8 and 12 volts and $1\frac{1}{2}$ amperes; interruptions averaged 800 per minute, the distance from the exposed surface varied from 6 to 3 inches, and the time of exposure from ten to twenty-five minutes.

After the third exposure there was noticeable diminution of the secretion and at times the tumor appeared perfectly dry. It had also flattened to a slight degree, but had spread downward and toward the chin about an inch. Seeing that the growth had not been checked, the use of the x-ray will be discontinued. I believe

that in incipient cases good results may be obtained by the x-ray. I would refer here to cases thus treated and cured by Drs. W. Johnson and W. H. Merrill.¹

S. Steenbeck reported at the International Medical Congress, Paris, August 1900, two cases of cancer of the nose, one of which had developed upon lupus vulgaris, both cured by the x-ray. All these cases were of very small size.

In conclusion, I take great pleasure in expressing my gratitude to Dr. H. J. Haiselden for his painstaking application of the x-ray.

103 State Street.

URETERAL IMPLANTATION INTO THE BOWEL FOR DIVERSION OF THE URINE.*

AN EXPERIMENTAL RESEARCH.

JACOB FRANK, M.D.

Surgeon to the German Hospital; Consulting Surgeon to St. Elizabeth's Hospital and Jewish Orphans' Home; Member of the American Medical Association; Fellow of the Chicago Academy of Medicine, Etc.

CHICAGO.

I fear that I have chosen for my paper a subject which may seem old and of comparatively little interest to some, and have consulted therein rather my own tastes and inclinations. The diversity of surgical conditions, brought about in the course of some pelvic or abdominal operation, to the ureters is sufficiently large and the number of cases met with great enough to make the subject of interest to every surgeon.

Again, the numerous pathologic conditions to which the urinary bladder is heir, which must sooner or later terminate fatally unless some means of relief can be afforded, have been sufficient incentive for experimenting in search of some surgical means that would furnish relief to those unfortunate sufferers.

The establishment of an artificial communication between the ureters and the intestines by means of surgical procedure should not be one of choice, but of necessity. It is applicable only in those cases where other means for the preservation of the kidneys are impossible or contraindicated. In cases of uretero-vaginal fistula the operations of Schede, Simon, Landau, Bandl and Pozzi should first be tried. If these attempts fail, intestinal implantation is much preferable to nephrectomy, which should only be done as a last resort. In carcinoma of the bladder, where the outlets of the ureters are encroached upon and entire resection of the bladder is indicated, ureteral implantation is all that can be done. The same holds true in severe cases of tuberculosis, but the renal lesions which are so apt to exist at the same time render permanent benefit unlikely. Unilateral anastomosis is indicated in those cases where the ureter is wounded higher up, as may happen during the course of an intra-abdominal operation, or where trauma or morbid processes have brought about the same result. Loss of substance of the ureter, if the ureteral wall is in such a condition that it can not be united, as after the removal of a calculus, may be treated by intestinal implantation. In exstrophy of the bladder I believe that vesico-rectal anastomosis will give the best results for urinary diversion. Much has already been done in this field of surgery, and I will give a little semi-history of ureteral implantation into the intestine. The union

of the ureters with the intestinal tract may be accomplished by means of a mechanical device or suture, in three ways, viz.: 1. The severed ureters may be anastomosed in the region of the rectum, with some portion of the ascending or descending colon, or even into the small intestine. 2. An anastomosis may be accomplished by implanting the vesical trigone in the intestine. 3. A permanent fistula may be established between the bladder and the rectum.

The first efforts made to direct the course of the urine into the intestine were in cases of exstrophy of the bladder. Simon first attempted this after the suggestion by Roux in 1851, upon a human patient, by passing a loop of thread through the walls of both the ureter and rectum, and tying them tightly together.

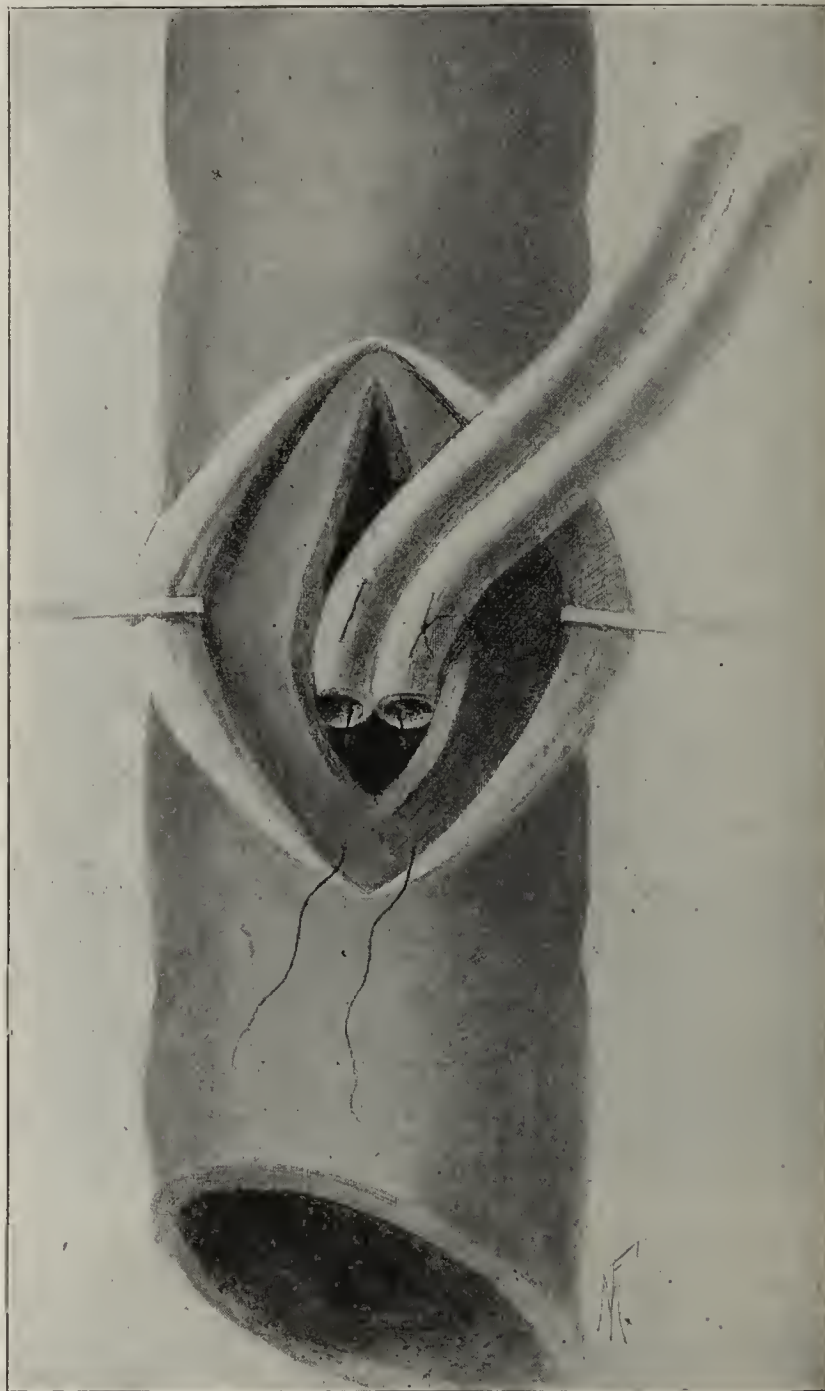


Figure 1.

Necrosis occurred at the point of ligation, and a fistula resulted. The patient died of pyelonephritis. Thomas Smith, in 1879, sutured successively the two ureters into the colon, but death quickly followed the second operation. The autopsy showed that on the left side, the first one subjected to operation, the point of exit of the ureter was obliterated, causing hydronephrosis. On the right side pyelonephritis and inflammation of the ureter were found. These fruitless attempts found few imitators, and the question seems to have been held in abeyance for a few years. In 1881 Glücke and Zoller published their unsuccessful attempts at implantation of the ureters into the rectum, and empha-

1. "The X-ray in the Treatment of Carcinoma." Philadelphia Medical Journal, Dec. 8 and 15, 1901.

* Read before the Chicago Academy of Medicine, Jan. 11, 1901.

sized the importance of stricture formation with hydronephrosis. About the same time Bardenheuer sutured a single ureter into the gut, but, while the animals recovered from the operation, autopsy revealed contraction of the ureter and hydronephrosis in each case.

Novaro reported to the Italian Surgical Society, in 1887, that he had produced an anastomosis of both ureters with the intestine in three dogs. Two of the animals died; the third recovered and was killed thirty days after the operation, but no bacteriologic examination of the pelvis of the kidneys or of the ureters was recorded.

The work of such experimenters as Tuffier, Van Hook, Chaput, Martin, Paoli and Busuchi, Harvey Reed, and others who have studied the feasibility of ureteral im-

The method I have employed experimentally is as follows: After shaving and cleansing the abdomen, it is opened in the usual way. (Fig. 1.) The part of bowel to receive the ureters is picked up and isolated, and a longitudinal incision about an inch and a half or two inches is made through the peritoneal coat, which is then loosened up and retracted. Through the remaining coats an incision is now made, about three-quarters of an inch in length, three-eighths of an inch on each side of the center of the mid-line. The cystic ends of the ureters are severed and then held together by a silk suture. A needle armed with fine silk is passed from without inward through all the coats of the intestine, with the exception of the peritoneal, about a quarter of an inch below the lower angle of the incision,

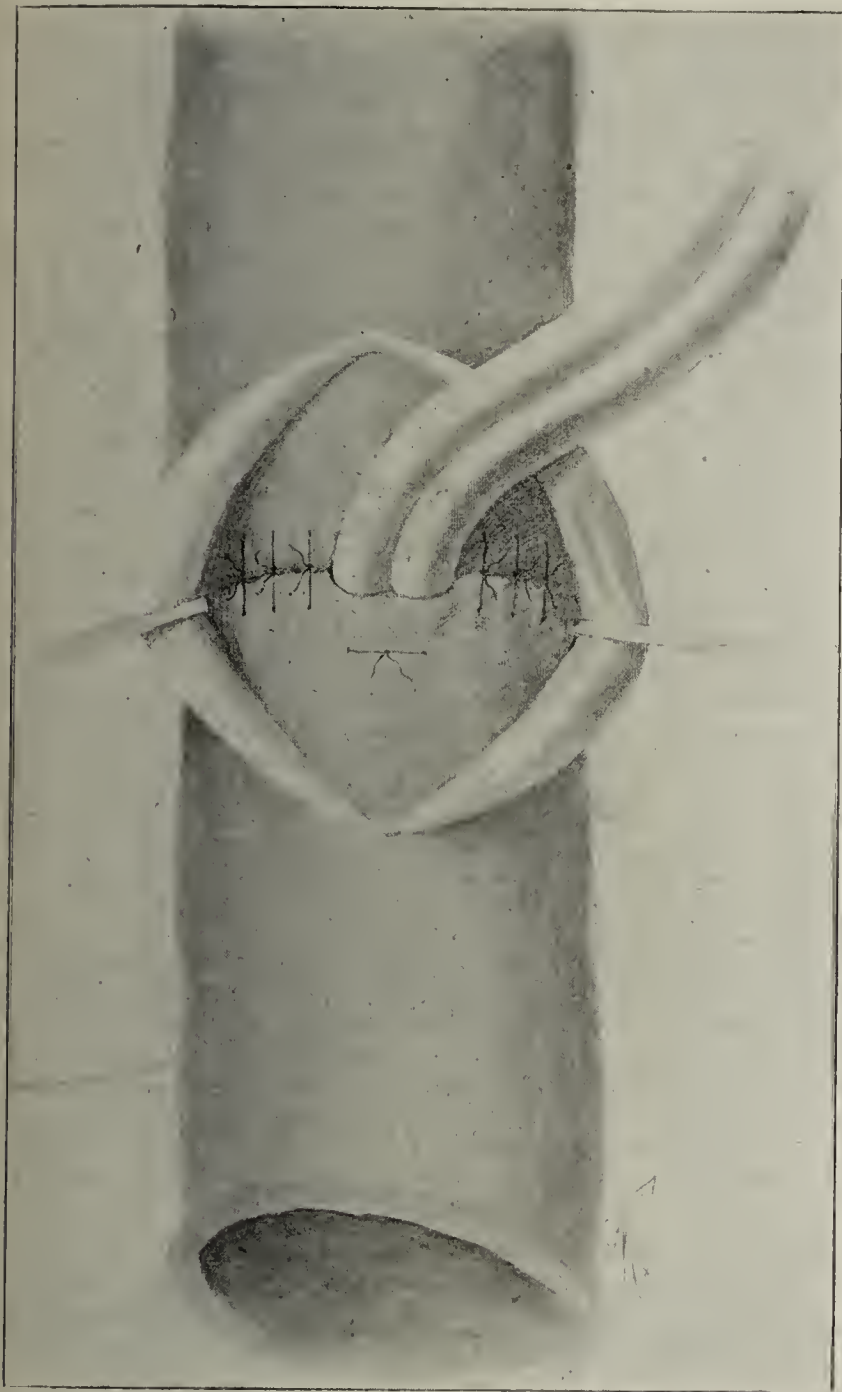


Figure 2.

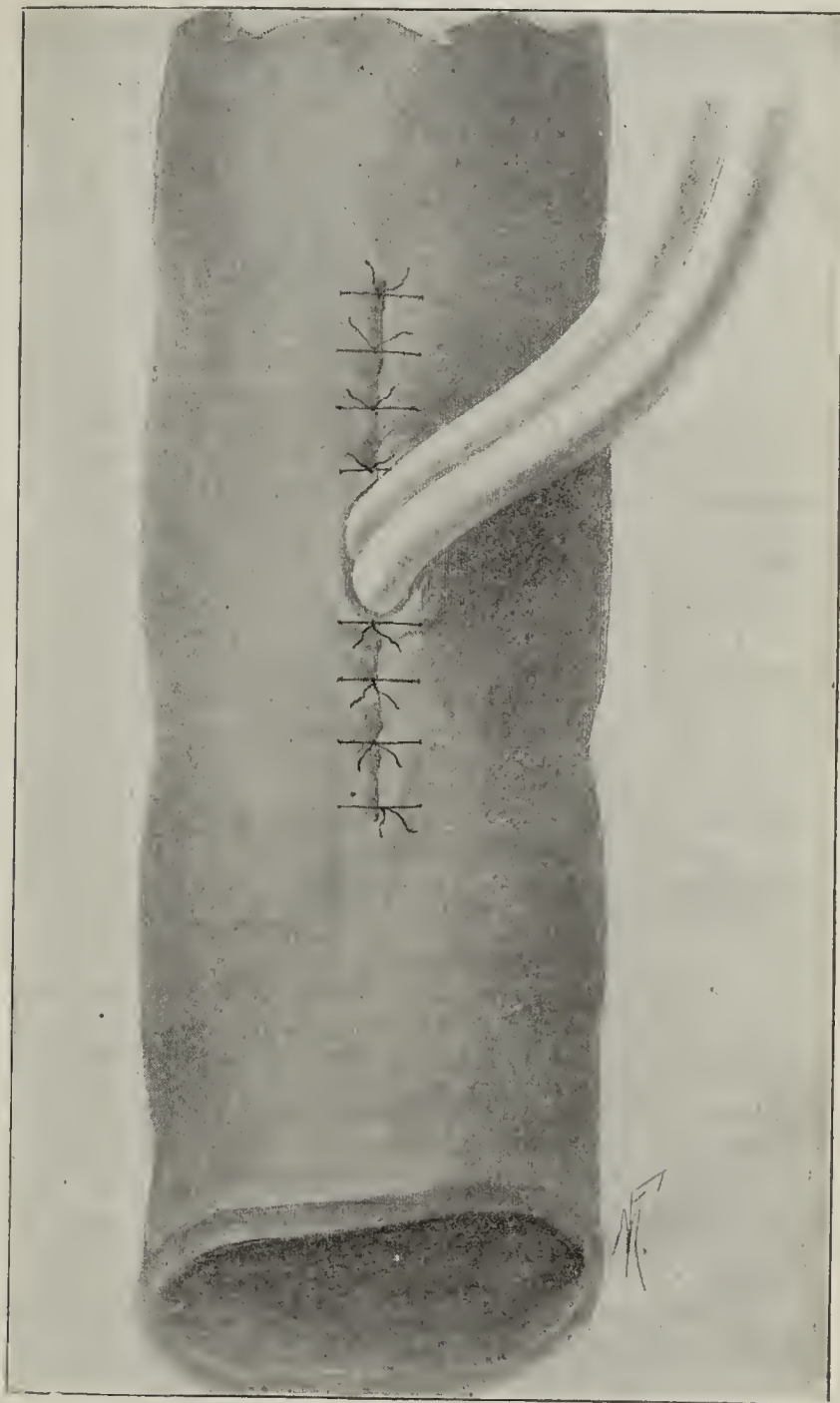


Figure 3.

plantation into the bowel many times, and in a great variety of ways, has met with only a limited and qualified success. Their results being no better than those of their predecessors, the animals dying from either peritonitis, pyelonephritis or hydronephrosis. In this somewhat hasty review, I must not pass over the recent work of Peterson and Connell, Fellows of this Society.

Knowing what a dismal failure bilateral ureteral implantation was, I nevertheless tried similar experiments, which I report to-night, and although unsuccessful led me to commence anew with the purpose of preserving the trigonum, which resulted in the operation of vesicorectal anastomosis.

and then emerges through the opening. Now pass the needle through the cut ends of the ureters, and then cause it to pass out through the intestinal wall, the same distance from the incision that it entered. The ureters are now grasped in the loop of silk and the ends are tied tightly together, drawing the ureters into position and holding them there permanently. (Fig. 2.) The intestinal wound in the muscularis and mucosa is now sutured transversely, care being taken not to compress the ureters. (Fig. 3.) The operation is completed by closing the peritoneal incision. In this way sutures which have entered the lumen of the bowel are covered over by peritoneum and the great risk of infec-

tion of this structure obviated. Again, the two rows of sutures do not overlies one another, and thus give more security and prevent leakage.

The series consisted of ten experiments; in four, both ureters were implanted in the rectum, simultaneously, and in two, a single ureteral implantation done, while in the remaining four a single ureter was implanted and subsequently the other. As it is not necessary to detail each experiment, I have taken one case from each series, which I believe will be sufficient to demonstrate the procedure. Of four dogs in which both ureters were implanted in the rectum simultaneously, all died. Death took place within three days from a localized peritonitis, and nephritis. The following is a detailed account of one case:

EXPERIMENT No. 2.—A bitch, weighing 55 pounds, was operated on Sept. 1, 1898, and found dead September 3. The method, as already described, was carried out for both ureters, with the usual antiseptic precautions. At the postmortem the following technique was conducted and carried out, and in the same manner for all the experiments: The kidneys were freed from the surrounding connective tissue, and a heated platinum loop introduced into the pelvis, and cultures made. The ureters were then dissected free, and the kidneys, ureters and that part of the bowel used for implantation removed *en masse*. The tissues taken for microscopic examination were embedded in paraffin, and sections stained with hematoxylin and eosin, by Gram's method, and with alkaline methyl-blue, followed by washing in acetic acid water.

The sections from the different kidneys were made after the latter had been in Kayserling's preserving fluid No. 3 or in a modification of it for a little over two years. It appears that the nuclear staining properties of the tissues had not been affected materially, while on the other hand some of the recent inflammatory foci show only a very few bacteria. From this fact, there is a suspicion that the bacteria had suffered in their staining properties, and so all do not appear on examination.

At the autopsy the omentum was found adherent to the site of incision, to the surrounding bowel, and to the site of operation. The right ureter was congested at the lower one-fourth of its extent, and midway between the implanted end and the kidney a narrow band was found constricting it. The implanted end of the ureter was found projecting into the lumen of the intestine, but the incised peritoneum of bowel was not united and showed a collection of offensive pus. The right kidney was slightly enlarged, and on cut section showed an active venous congestion. The cortical markings were distinct and the pelvis filled with pus and urine.

The left ureter appeared normal, but the implanted end was not firmly adherent to the bowel. The kidney was normal in all particulars. Microscopic examination showed a congestion of vessels in the right kidney, with slight parenchymatous changes, consisting of cloudy swelling of the epithelium lining the tubules, and Bowman's capsule. There were found a few small interstitial foci of round cell infiltration. The kidney was invaded by quite a number of cocci and bacilli. The changes found in the left kidney were identical with those of the right, but the bacterial invasion was very mild.

Of two dogs in which a single ureter was implanted in the rectum, both lived. One dog was allowed to live sixteen days before being killed; the other thirty-six. The latter case is briefly reported in the following:

EXPERIMENT No. 6.—A young bitch was operated on Sept. 21, 1898, and killed November 27, the right ureter having been implanted in the rectum. The animal was well nourished, in perfect health, and very playful and lively before the chloroform killing. At the postmortem the omentum was slightly adherent to the line of incision. The right kidney was contracted to about one-fifth the size of the left. The right ureter was of the same size as that of the left. The left kidney was enlarged to five times that of left, but otherwise appeared normal. The left ureter was normal in all particulars. The patency of the ureteral canal was demonstrated by injecting it with water from a syringe. The rectum was laid open and the mucous membrane was found paler than normal, and the union between the rectum and ureter so perfect that it was impossible to tell at a glance where the ureter ended and mucous membrane of bowel commenced. Microscopic examination of the right kidney showed marked interstitial changes. There was

found thickening of Bowman's capsule by newly-formed interstitial connective tissue, and atrophy of the uriniferous tubules, while some contained hyaline material. In some areas there were evidences of acute inflammatory foci of round cell infiltration. Bacterial invasion by cocci and bacilli was demonstrable. The left kidney showed slight parenchymatous changes and dilatation of Bowman's capsule. There was very little, if any, evidence of bacterial invasion. The test-tubes inoculated from the pelvis of the right kidney developed a growth consisting of a coccus, probably the *staphylococcus pyogenes albus*.

In the last series of dogs operated on, which includes, first, a unilateral ureteral implantation, followed in forty-two and three days respectively by bilateral implantation, both dogs died, the first within five days, and the second within thirteen days. This last series is illustrated in the following case:

EXPERIMENTS NOS. 1 AND 7.—A bitch, weight 50 pounds, was operated on Aug. 17, 1898, and the left ureter implanted in the rectum. On September 28, the right ureter was implanted and the dog died on October 3. The autopsy revealed the following: A few stitch-hole abscesses in the abdominal parietes and omentum adherent to the old scar, and to a loop of intestine. The left kidney was much engorged and somewhat enlarged. The capsule stripped easily, and on cut section the pelvis contained about four drams of pus. The ureter was curled upon itself like the letter "S," and greatly enlarged. The distance from the pelvis to the seat of implantation before loosening the adhesions was about two inches, which, however, measures seven inches after freeing the ureter. The union at the site of implantation was perfect, and the mucous membrane of bowel on cut section showed it to be smooth and the rugae absent. The orifice of the ureter appeared as a dimple. The ureteral canal was found patent by injecting water into it from a syringe.

The right kidney was slightly enlarged and congested, and its capsule somewhat adherent. The ureter was in a straight line, but dilated. About thirty drops of pus were found in the pelvis. At the site of implantation the sutures were still *in situ*, and no leakage demonstrated under hydraulic pressure. The ureter was loose in the bowel, and the orifice dilated. There was a marked congestion of the blood-vessels and a moderate degree of parenchymatous change in the left kidney upon microscopic examination. Extensive areas showed cloudy swelling of the epithelium lining the uriniferous tubules, and the lumen of many tubules contained granular debris. In various places were found interstitial foci of inflammatory round cell infiltration. These were demonstrable mostly in the neighborhood of the pelvis, but some were found also in the cortex and extending as far as the region of the capsule. Cocci and bacilli in a moderate degree were seen.

Both the parenchymatous and interstitial changes were perhaps more marked in the right than in the left kidney. Particularly was this true of the interstitial changes, which in some places had led to the formation of tracts of connective tissue, and a resulting atrophy of the tubules. These changes were so marked that they gave the impression of having existed some time before the first operation was performed. The bacterial invasion was more marked than that of the left kidney.

From a consideration of the above experiments, we can conclude that: 1, the technique is all that can be wished for; 2, bilateral implantation into the rectum simultaneously is primarily and remotely an extremely dangerous procedure, and can have no favorite place in human surgery; 3, while no single permanent implantation of the ureter into the rectum has demonstrated an absence of inflammatory reaction on the part of the kidneys, nevertheless I am of the opinion that it must be regarded as justifiable where other means fail, and has a limited place in pelvic surgery; 4, while stricture did not take place, we can not say with confidence that scar contraction at the opening into the rectum will not in months or years produce one; 5, that the rectum will tolerate the presence of urine can not be doubted by any one, and has been proved by many experimenters.

In order to overcome the difficulties of stricturing and ascending infection, Tuffier and Maydl, each claiming priority, proposed and carried out the implantation

of the ureter by preserving the valve-like folds of cystic mucous membrane at the mouths of the ureters, and so protecting the kidney against infection. As long as the ureter is permeable and its sphincter functioning, so long is the kidney protected. This fact was proved to my satisfaction in the experimental work on vesico-rectal anastomosis.

AN OVERLOOKED NASAL FACTOR IN EAR DISEASE.

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In a considerable research of the literature bearing on nasal conditions causative of ear diseases, the writer failed to find mention of what seemed to him a condition ranking second only to stenosis as a factor; and in a discussion of the indications for intranasal treatment of ear diseases by members of the Section of Laryngology and Otology of the British Medical Association last year, no mention was made of it, though the subject was fully discussed by the leading nose and throat surgeons of Great Britain. The condition referred to will be comprehended by a glance at the diagrams. It consists in the often observed hypertrophic thickenings on, usually, both sides of the vomer near the posterior free margin, which deflect the in-rushing blast of dust-laden, dry, cold air against the Eustachian eminences, resulting in perpetual irritation of the mucous membrane in the vicinity of the tube mouths. This action is entirely independent of any harm such hypertrophies may do in increasing stenosis. These growths are usually soft, though only slightly erectile. They have been present in 25 per cent. of the writer's private ear cases, and in 11 per cent. of dispensary nose and throat cases. Like the anterior spurs—which, however, are soft only at first—they are produced by the vascular stasis resulting from pressure against the membrane covering the vomer by the hypertrophied, relaxed or swollen turbinals, usually the inferior. The anterior edge of the hypertrophies is moulded to the shape of the turbinal and thins down to the level of the membrane anteriorly. This tell-tale shape fixes the blame on many an innocent-looking turbinal which, at the time of rhinoscopy, is little more than normal size, though during sleep, when on the pillow side, it can fill and press to an unsuspected extent. Once these vomerine hypertrophies are started they are doubtless helped along by the irritation due to the part they take in bearing the brunt of the blast. Normally the inspired air deposits suspended particles in three places before it reaches the larynx. First, on entering the nose the current passes upward and strikes against the anterior inferior portion of the septum and the anterior end of the middle turbinal. To the moist surface of these a portion of the dust adheres. Thence the air-current is deflected and strikes the posterior pharyngeal wall. These three situations are sites of especial irritation, and in a city like Pittsburg, where dust is black and sooty, patients, especially those whose secretions are thick and perverted, or who lack abundant serous secretion, will come in with these sites painted black. Where the air strikes the lower anterior surface of the septum the continual irritation of the not yet filtered, warmed or moistened air produces crusts, ulceration and perforation, being perhaps aided by the finger-nail with which the crusts are removed. Nature has placed the Eustachian eminence behind the turbinal projection, out of the way of the blast of inspiratory

air; but when abnormal conditions raise up these air-deflecting hypertrophies, the blast strikes in a place not normally intended so to serve, i. e., the vicinity of the tube mouths instead of the posterior pharyngeal wall. Even this normal location, like those in the anterior portion of the nose, can not always withstand the irritation. In the dust-laden atmosphere of modern civilization almost every one with nasal breathing has an irritated posterior pharyngeal wall. It is not surprising then that the vicinity of the tube mouths should be congested when the vomerine hypertrophies deflect the air-current against them. To prove experimentally that thickenings in this situation do so deflect the air-current, the head of a cadaver was sawn through vertically in transverse section, passing downward close to the posterior pharyngeal wall. The membrane was dissected from the free edge of the vomer forward about three-eighths of an inch, stuffed underneath with cotton and sewed up, moulding the parts to imitate the shape of the well-known thickenings we often see in this situation. The head was brought together again and the saw cut in the nasopharyngeal region pressed together so as not to leak air, with the finger passed through the mouth, after which the lips were sewn together. Powdered magnesium carbonate was then sifted down in the front of the nose while air was drawn in through the nose by a large veterinary syringe fitted



to the trachea. On opening the head again large deposits of the white powder were found all over the tubal eminences and their vicinity, the heaviest coating being on the anterior aspect of the Eustachian eminence, at a point not usually visible by posterior rhinoscopy in the living subject.

It is not claimed that these thickenings are present in all cases of ear disease, nor is it claimed that ear or tubal troubles are present in every case with these thickenings. Not every case of nasal stenosis has ear trouble, nor does every case of adenoids. Every morbid etiologic factor has its inoperative instances. What is urged, however, is that where ear diseases coexist with the vomerine hypertrophies, the latter, however small, should be completely removed. It is also urged that the slightest thickening on the vomer be reduced when not associated with ear trouble, lest the latter follow. It is urged also that it is worse than useless to remove posterior inferior turbinal enlargements and leave thickenings on the vomer, even though there be full and free nasal respiration. In one case, a mill-hand, posterior enlargements had been removed from both inferior turbinals, completely, relieving nasal stenosis, yet the attacks of tubo-tympanic catarrh grew more severe and more frequent. The vicinity of the tube mouths was seen to be spattered with soot, dust and foreign particles. Large white, soft, vomerine hypertrophies were visible on posterior rhinoscopy as well as on inspection through the anterior nares. These were removed with Bryan's ethmoid curette and complete cure of the tubal and aural trouble resulted without any other treatment whatsoever. Nearly two years have elapsed and, though

exposed to the same dusty occupation, there has been no trouble with ear or tube. This case is typical of a number, all of which were made worse by removing posterior hypertrophies on the turbinals while leaving those on the vomer to deflect the irritating blast of inspiratory air all the more readily for the turbinal being out of the way. It is useless to cover pages with details and tables, hearing distance before and after, etc.

A résumé follows: Of the ear cases associated with these vomerine hypertrophies 42 per cent. were sclerotic, 38 per cent. moist catarrhal, 20 per cent. suppurative. In only thirty-four cases was the effect of all other treatment excluded. Of these, 50 per cent. of the sclerotic, 71 per cent. of the moist, and 13 per cent. of the suppurative cases were benefited by the removal of the growths.

As to treatment, there can be but one indication: Take off the air-deflecting projection and let the inspiratory blast go back and strike against the posterior pharyngeal wall as Nature intended. Afterward—not before—take off enough of the posterior turbinal hypertrophy to relieve stenosis and prevent reproduction of vomerine growths, but not enough to expose the Eustachian eminence to the direct blast of the inspiratory current. It might be supposed that, as these growths result from turbinal pressure, after the removal of the turbinal hypertrophies those on the vomer would disappear themselves. Such is not the case because of the irritation kept up by the striking against them of the blast which they deflect. As to method of removing these vomerine soft growths, the writer¹ at first used the galvanocautery either through the anterior nares or through the mouth with a curved electrode; but in later years he has abandoned the galvanocautery for this and every other purpose except angioma. Either Bryan's ethmoid curette, or Seiss's curette, or a long-shanked probe-pointed tenotome will do the work better. A bony spur near the posterior edge of the vomer, that seemed to be acting in the way described, was removed with the saw, resulting in a cessation of recurrent "gatherings" in a post-suppurative case.

COMPOUND FRACTURE OF OLECRANON WITH DISLOCATION OF BOTH BONES OF FOREARM.

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The patient was a well developed, muscular laboring man, 59 years of age, weighing 180 pounds. The dislocation was well marked; the heads of both bones were resting on the anterior surface of the humerus above the condyles, and the lower extremity with the olecranon in position was very prominent. This compound injury was produced by throwing the arm up, to shield the face from the kick of a horse, and while in this position—flexed at right angles, and the muscles taut—the full force of the blow was received on the ulna, about 2 or 2½ inches from the tip of the olecranon, producing a compound, oblique fracture, including about one-third of the articular surface of the head of the ulna, and the line of fracture extending to a point about 2 inches forward on the posterior surface. Reduction was accomplished by holding the arm at a right angle, while traction was made by means of a towel around the forearm, as near the joint as possible. After cleaning the wound carefully, and dressing it antiseptically, the arm was

placed in a right-angle posterior splint, with a pad over the anterior and upper portion of the forearm, with the hope the fragments could be retained in their proper position. But the strong, excited brachialis anticus with its attachment to the coronoid process, having a direct tendency to displacement forward, and the insertion of the powerful triceps to the point of the olecranon with the leverage supplied by the trochlear surface, carrying the lower point backward, made it impossible to keep them in proper relation (as is well shown in Skiagraph 1, which was taken the next day, while the arm was still in the first dressing.)

The surgical recommendation for restoring the fragments in these cases is to extend the arm to such a degree that the force of the contracting muscles will be against the articular surfaces of the joint. In this case, however, extension did not accomplish the purpose; and I believe its failure was due to the line of fracture



FIGURE 1.

through the articular surface of the ulna being anterior to the center of the trochlear surface when in an extended position, thus permitting it to slip forward. As the treatment thus far had not proved satisfactory, the patient was placed under an anesthetic, and the opening into the soft parts enlarged. A common wood screw was secured, 1½ inches long, over which a ferrule was slipped, the ferrule being too small to let the head through, and about ½ inch long (in order to keep the head of the screw outside of the soft parts). A hole was drilled through the upper fragment, large enough to allow the screw to slip through, and not the ferrule, a smaller hole being drilled into the lower fragment so that the screw-threads would catch. By tightening the screw, the fragments were drawn together as represented by Skiagraph 2, which was taken two days after the operation. No. 3 shows the condition twenty-eight days afterward, at the time the screw came out. It was suggested, at the time of operation, that a conical screw, which could be tightened as it became loose, would be an improvement over the one used. But my opinion is

1. N. Y. Med. Jour., Nov. 12, 1892.

that if the fragments have been in apposition for twenty-eight days, we have accomplished all that could be expected in the majority of cases. By referring again to Skiagraph 3 it will be seen that the union has taken place through the larger portion of the original separation, and a small point of the upper fragment has broken down. For the first three weeks there was a profuse discharge of serum from the joint cavity. The arm and, especially, the tissues around the elbow were badly swollen, and the least motion in the joint very painful. Both, after this time, gradually grew better. The joint proper did not become infected, notwithstanding that there was slight infection of the external wound toward the last of the treatment. Skiagraph 4 represents the condition found two weeks ago, and four months after the injury.

It will be seen by the accompanying photographs, that he can flex the arm a little more than to a right angle, and extend it to almost a normal position; and,

study and consideration of the prominent features that are characteristic of this injury. Why are they attended with such a large percentage of amputations if not fatalities? Why does the loss of the elbow-joint by ankylosis follow in so many of the few cases reported?

The extensive laceration of all of the tissues involved, and open joint and especially an infected wound, with statistics compiled before the days of antiseptic surgery, all combine to make a bad showing for the treatment of these important cases.

Why is this injury so infrequent? It is the result of mechanical forces and should be considered from a mechanical standpoint only. And there must be a favorable combination as regards time of action, the amount of force and the position occupied. There must be a direct and an external violence of sufficient force to fracture the olecranon at its thickest and strongest point, in order to free the articular head of the ulna, and to rupture or tear from their attachments the strong



FIGURE 2.



Fig. 3.—Twenty-eight days after operation.

I believe, by constant use it will still improve, so it will be a very useful arm, if not functionally perfect.

Dr. Stimson, in his late treatise on fractures and dislocations, says: "In the last one hundred years there has been less than twenty-five reported cases of anterior dislocation of the forearm on the humerus, including seven cases of compound dislocations. Of the seven compound dislocations, six were complicated by fractures of the olecranon. Three recovered; two underwent amputation after the joint had suppurated; one died three hours after the accident (which was a fall from a height of 48 feet); and in one the result is unknown. Of the three recoveries, the joint suppurated in two, the process ending in ankylosis in one of them; in the remaining, the patient recovered, apparently without suppuration—the fracture of the olecranon united by a fibrous band one centimeter long; and two and a half months after the accident the hand could be brought to the mouth and the elbow extended to an angle of 150 degrees."

From this report and the brief and unsatisfactory history of these cases, let us turn our attention to the

ligaments which support one of the strongest joints of the body. And it must be a continuous force that will crowd the heads of both bones above the condyles to the point of separation. The arm must be at, or very near, a right angle with the shaft of the humerus, the force in a direct line from the point of contact to the head of the humerus, and the application of the force on the ulna must be within a certain radius, starting from a point corresponding to the anterior surface of the condyles, and extending down the ulna only, to the point where the leverage of the hand and arm would be as great, or greater than the resistance of the joint tissues. If below this point, the amount of violence would fracture the bones; if the applied force be above this radius, there would be a compound, or a compound comminuted fracture of the olecranon, and possibly an injury of the condyles, or by transmission to the frail bones covering the shoulder-joint; but in neither case would there be luxation of the elbow-joint. Therefore, in the opinion of the writer, the infrequency of this accident is due entirely to the fact that there must be the position, the requisite amount of force, and the resistance, and they

must bear a certain relation one to the other, and at the same time, in order to produce the result, and such a combination would seldom happen.

The failure to reduce the fragments by the means recommended, illustrates a fact which every progressive surgeon should remember, that, generally speaking,

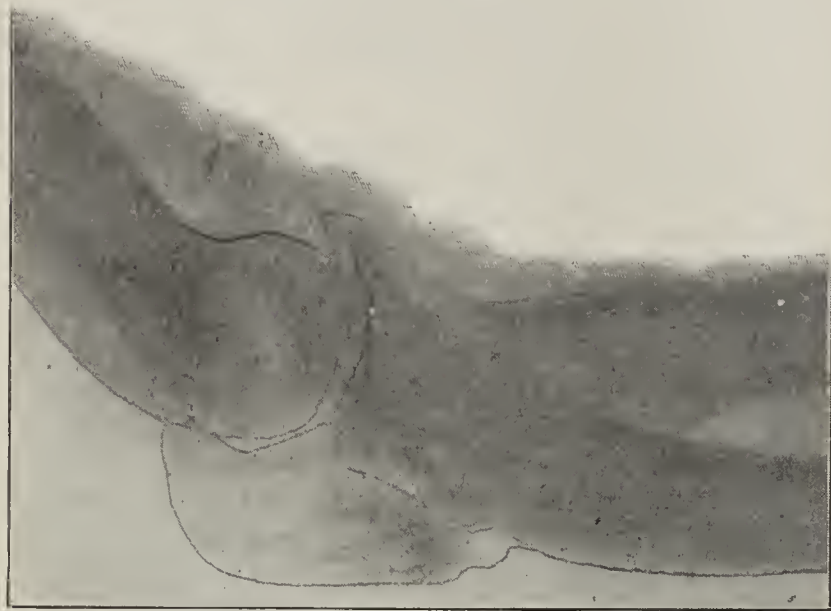


Fig. 4.—Four months after injury.

every case has its peculiarities, and can not always be treated according to the rules laid down in surgery. It would be unreasonable, and often poor, surgery to treat all cases as the one reported; the means best adapted are those which accomplish the desired results.

For the skiagraphs illustrating this case, I am under obligations to Dr. Sampson.

TUBERCULAR DISEASE OF THE KNEE-JOINT AND HIP-JOINT IN CHILDREN. DIAG- NOSIS AND TREATMENT.*

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The importance to the practitioner of a practical knowledge of joint diseases in children is becoming generally recognized. A sign-post of the times is the making of the orthopedic course obligatory to the medical students of Harvard University. The majority of orthopedic cases, and the most important ones, are met with in children. In recent years it is rare to see incurable cases that formerly were common, the cases that exemplify the terrible pathologic conditions that can be produced by tubercular joints, untreated or badly treated. And this is so because these diseases are recognized in their incipency, and in every large city there are ways and means established that bring the proper treatment of such cases within the reach of the poor. This general leavening of the profession, as it may be termed, with orthopedic knowledge, is the work, in our country, of Henry G. Davis, Lewis A. Sayre, Virgil P. Gibney, Edward H. Bradford, and others.

To John Hilton of England is the English-speaking world indebted for the earliest authoritative instruction in the curability of tubercular diseases of the joints. His work¹ on "The Therapeutic Influence of Rest, and the Diagnostic Value of Pain," will remain a monument to the achievements of that brilliant practitioner. There is no better book than it to serve as a general introduc-

tion to practical orthopedics, or that part of the science which is really necessary for the general practitioner.

The general practitioner should be able to diagnose a case of tuberculosis of the spine, of the hip, or of the knee. Tuberculosis of these parts are by far the most important and frequent of tubercular joint cases. In children, if each case is examined systematically, the diagnosis is easy, in the majority of cases. While few will controvert the assertion that the general practitioner ought to be qualified to make a diagnosis in these tubercular joint cases, probably many will think that the treatment of such cases belongs rather to the specialist. This opinion, erroneous I believe, has a justification in the vast array of apparatus devised by specialists to treat similar conditions—apparatus sometimes of such complexity that the construction and application are only understood by the inventors. But are any better results attained to-day with the use of these complexities than John Hilton got twenty-five years ago with his simple means and sound sense? In the science of orthopedics there are the principles and there is the art. The principles change but little; they are the rules of practice based upon the large experience of the masters. The art is ever changing. The art is the use and application of materials to put the principles of the science into practice. For example, one of the principles in the science of surgery is to give rest to an injured joint. The use and application of materials to attain this end, rest for the joint, exemplifies the art. There are many ways of giving a joint rest. For a concrete example take the knee-joint. Reclining in bed will sometimes give rest to the joint. When inflammation is present it is entirely inadequate. Then some sort of mechanical appliance is necessary. One surgeon will employ an old-fashioned ham-splint, padded, and consider that it produces sufficient fixation to give rest to the joint. Another will apply a silicate bandage—over cotton batting—another a plaster-of-paris bandage similarly, another a gutter metal, or a gutter plaster splint, another will mold a splint from leather; and still another will apply wood-plastic material. All employ the art of surgery. This art is ever changing. The discoveries constantly being made in the physical sciences are quickly impressed into the service of the progressive surgeon, and surgical art to-day is not the art of surgery practiced and taught five years ago. After these somewhat discursive remarks, the subject of the diagnosis and treatment of incipient tubercular knee-joint and hip-joint disease will be considered from the standpoint of the general practitioner.

TUBERCULAR DISEASE OF THE KNEE-JOINT.

Diagnosis.—Before treating of the diagnosis of tubercular knee-joint disease a word may be said of the etiology of tubercular joint disease in general. Hilton, in his lectures, states: "I believe that the diseases of the joints are almost invariably the results of local injury, and that if they were recognized early, and treated by appropriate rest, nearly all of them would get well." This opinion of Hilton, concerning its etiology, based on clinical experience, is confirmed by Max Schuller, who proved experimentally, in animals infected with tubercle bacilli, that a slight traumatism to a joint would determine localization, by way of the circulation, to the injured part, and that a tubercular synovitis or panarthrititis would follow. The primal cause of tubercular joint disease is the bacillus tuberculosis already in the system of the patient, the proximate cause is often a slight injury causing a destructive

* Read by title, in the Section on Diseases of Children, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

1. Published about 1862.

localization of the germs in the joint tissues. The history of the patient is therefore of importance in making a diagnosis. Has there been, or is there tuberculosis of the respiratory, alimentary, or lymphatic systems? Has there been trauma? The first question is the more important of the two. The chief diagnostic signs of tubercular knee-joint disease are limitation of motion, causing lameness, an early sign; enlargement of the joint measurements, in some cases caused by fluid distending the joint capsule, in others caused by a thickening of the synovial membrane, and peri-articular tissues; tenderness on pressure, deep seated, in some parts or other of the joint is invariably present. Muscular spasm, elicited by attempting passive motion of more or less extent. Fixation of the flexed joint from constant muscular spasm is seen early in acute cases. This, untreated, results in subluxation of the joint, sometimes as early as the sixth month. In acute cases, heat in the joint, felt by placing the hand upon it, is a prominent clinical feature. In the slow, insidious form heat is sometimes absent. The older name of the disease—tumor albus—signifies a clinical feature in the more chronic form of the disease. The whiteness of the skin is caused, in these cases, by its distension by the swollen tissues underneath, producing in the skin anemia, and therefore pallor. A feature of the chronic disease, a filling out of the popliteal hollow, has been noted, so far as I am aware, by one surgeon only, viz., Colles, of Dublin, who taught half a century before orthopedics became a specialty. Some cases of tubercular synovitis are so acute as to simulate traumatic synovitis, inflammation of the joint caused by injury, and lacking the tubercular elements. The majority of cases are, however, of an insidious nature, so that not rarely do we meet with the disease thoroughly developed and a diagnosis very easy—such cases having had no medical treatment, and attributed not seldom to “growing pains” by the wiseacres of the neighborhood, until deformity compels bringing the case to medical attention.

Treatment.—The treatment of incipient tuberculosis of the knee-joint is rest and protection for the diseased joint, and thorough constitutional treatment. Joint rest is to be had by immobilizing the joint. This is not attained by the methods commonly employed. Bradford and Lovett, writing upon fixation of the knee-joint, state: “Fixation by stiff bandages is an efficient method of treatment when the bandages are properly applied. They should reach from the groin to the ankle, and as firmly as possible grasp the muscles of the limb. Plaster-of-paris splints are made by the application of crinolin gauze bandages impregnated with finely divided plaster. The limb is first wound with short wadding and then the plaster rollers applied. The method does not give in all cases a certain definite support. Dr. Judson says, in regard to it: ‘It may be an exaggeration, but it conveys the idea, to say that a plaster-of-paris or silicate splint, applied to the leg or thigh, contains a mass of jelly in which the femur is but little restrained from motion.’ and in a degree this is true of all stiff bandages.” The above statement would be more exact if it said that plaster-of-paris, applied over a limb swathed in cotton batting, as it directs, *never* gives fixation. Absolute fixation of the knee-joint is easily obtained by bandaging on the limb splints molded upon it, and made from wood-plastic material. This material is applied directly next the skin, and there is no padding whatever to impair its fixation properties. (See article

in the *Boston Med. and Surg. Jour.*, Aug. 31, 1899, entitled “A Safe and Quick Method of Joint and Bone Fixation.”)

The wood-plastic material, when suitably cut and moistened with water, can be molded and bandaged upon the limb, producing immediate fixation.

Besides fixation of the joint, protection for it is necessary, i. e., the joint should not be allowed to bear weight. Rest in bed would solve the protection problem, but such recumbency would violate what has been set down as an essential, the constitutional treatment. This treatment requires that the patient be out in the fresh air and sunshine as much as possible. Therefore, only in cases of double knee-joint disease is recumbency to be considered, and even in these cases, a box-cart can be easily constructed that will enable the child to get fresh air and amusement without inconvenience.

There are two methods of giving protection to the knee-joint during locomotion. One is the use of crutches, the other the use of a Thomas knee-splint. In both methods, a raised-sole shoe is used on the foot of the sound limb, to raise the patient so that the diseased limb will not reach the ground. Children over 6 years of age can generally get along with the use of crutches. Younger children do better with the Thomas splint. This well-known contrivance transmits the body weight from a collar encircling the groin, to a ring under the foot, by means of iron rod uprights, one on the inside, the other on the outside of the limb. When properly applied no weight is borne by the diseased joint in locomotion.

The Thomas splint is only for protection, and not fixation. It is a form of perineal crutch, and the knee should be free in it, as its position in relation to the knee must change when its crutch function comes into play. Some orthopedists use it for fixation. The attempt to use an apparatus that changes its relation with the knee-joint every time it bears the body weight, for fixation of the joint, shows a misappreciation of its correct value.

Often when the patient is brought to us with acute tuberculosis of the knee-joint, the knee is already fixed in a flexed position. We can straighten such limbs gradually or at once. In the latter case an anesthetic should be given. Immediately upon its reduction, wood-plastic splinting can be bandaged upon the straightened limb and its corrected position maintained. In case a gradual reduction be decided upon, and this is often preferable because the gentler method, the limb can be mechanically fixed with a wood-plastic splint molded upon it in the position we find the limb. The correct shape of the splint-blank can be obtained by cutting a piece of paper in such fashion that it will be along the inside of the limb and embrace it from near the perineum to the ankle. The splint-blank cut after this pattern is moistened with water and bandaged snugly to the limb. After the joint is thus kept quiescent for ten days, upon removal of the splint, it will be found that the angle of extension of the knee can be increased several degrees. The joint should be fixed in its new position, by means of a newly-molded splint, and every ten days or so the process should be repeated until the limb is straight.

Constitutional Treatment.—The diet is important. No tea or coffee is to be given, but boiled milk, graham bread, fresh meats, well-cooked greens, and fresh eggs *ad libitum*; no cakes or candies between meals; both can be allowed at meals, that is, after the substantial portion of the meal is finished, as they are then food.

There must be plenty of sunshine and fresh air, and for medicine, 20 to 30 drops of beechwood creosote can be given, mixed well in a large wine-glass of sweetened water, three times a day. The urine of the patient should be noted while giving this, and if it becomes dark green in color the medicine should be stopped. This may have a detrimental action on the bacilli, but of its therapeutic value in joint tuberculosis I am not prepared to treat. When given as directed, and its administration watched, it is harmless, if not really beneficial.

It is necessary to treat tuberculosis for a period of two years, generally; the milder cases in the fairly robust get well sometimes in the short period of six months. The return to the functional use of the joint must be tentative and gradual. The raised-sole can be lowered and some weight be allowed to bear on the affected limb. After careful watching the splints can be removed and more latitude allowed in the use of the joint. Should signs of tenderness in the joint recur, fixation and protection must again be resorted to until all signs of trouble have subsided. Then again a tentative use of the joint may be permitted. The patient should be under further observation for a year.

I have not spoken of the treatment of abscess. Its occurrence in a properly treated case is very rare. Should it occur, every opportunity for its absorption should be given. In case it does not become absorbed and threatens opening, the thorough cleansing of the abscess cavity should be attempted and its healing brought about by the ordinary surgical procedure.

DIAGNOSIS AND TREATMENT OF TUBERCULAR HIP-JOINT DISEASE.

Diagnosis.—The early diagnosis of hip-joint disease depends, for the most part, upon a delicate manipulation of the suspected limb, and in some cases is not easy. Limitation of the normal motions of the hip-joint is the chief diagnostic mark. Hilton did not give this sign the prominence it merits, though he recognized it, for he states (p. 344, "Rest and Pain," London, 1896): "Recently I saw a lady who was thought to have hip-joint disease on the right side. I examined the hip-joint, and there was certainly nothing wrong; it might be rolled about in every direction without pain."

This limitation of motion is due to involuntary muscular spasm, caused reflexly by irritation in the joint. Therefore, when examining a child its confidence must be won, so that the little one becomes passive during the examination. Otherwise it will be impossible sometimes to distinguish between the voluntary and involuntary muscular action of the child. The child should be examined while stripped, lying upon a padded table, or upon a mattress. With the child lying upon its back, the motions of flexion, adduction, abduction, and rotation of the thigh flexed at right angles to the body may be tested and compared with the same motions in the normal limb. Limitation of the motion of extension is best obtained by having the child lie upon its abdomen. With one hand, grasp the leg and bend the thigh upward, while the other hand rests on the sacrum to determine by its motion when the extension of the hip-bone ends and the pelvis commences to move with it. Comparison should be made with the extent of extension obtainable in the other limb. Any limitation of motion is pathognomonic of hip-joint disease, and the case should be treated as such.

A limp in walking is another early sign of hip-joint disease. It is always present, but sometimes in a

degree so slight as to be hardly detected. Gibney briefly gives the other signs and symptoms of incipient hip disease as follows: "Change in nates, flattening for instance; loss or shortening of the ilio-femoral crease, atrophy of the limb, periarticular tenderness, night cries, the typical scream, a history of an insidious invasion, and persistence of the limp." While the diagnosis generally is easy, in some cases it is extremely difficult to differentiate a case from Pott's disease. In some cases of Pott's disease, those where irritation of the psoas muscle is prominent, we have a marked limitation of the motion of extension in the hip. In such cases deep palpation, with the thighs flexed, will generally demonstrate an abscess, even when quite small (Gibney). In Pott's disease there is also a lumbar rigidity—only exceptionally present with very acute hip disease. Simple synovitis of the hip-joint is very rare in children; its treatment is that for early hip-joint disease—fixation.

Rheumatic synovitis is rarely present in the hip-joint alone. A comparatively high temperature and pulse are the differential features.

Poliomyelitis rarely simulates hip disease. There is pain, tenderness, and immobility of the whole limb. There is a quick atrophy of it, and in the later stage of the disease no limitation of motions, but abnormal mobility in all directions.

Treatment.—It has not, to my knowledge, been remarked, but none the less it is the fact that the hip-joint is a much smaller joint than the knee-joint, and consequently there is a smaller field for the development of disease. It would appear therefore that incipient tubercular disease of the hip-joint should be at least as amenable to treatment as knee-joint disease, if not more so.

The essentials of treatment for tuberculosis of the hip-joint are the same as for the like disease of the knee-joint—fixation, protection, and constitutional treatment. Some orthopedists add traction, but it is only necessary to reduce the deformity present in acute cases and due to spasmodic contractions of the muscles. Traction, applied by means of a weight and pulley attached to a bedstead raised ten inches at its lower end, is serviceable in these cases. This is the simplest method of applying it. As soon as the limb is straightened there is no further need of traction. Fixation is then the necessary treatment.

The variety of apparatus in use for the treatment of hip disease is astonishing. Almost every orthopedist has a hip splint that is designed to meet the indications calling for treatment in a manner more perfect than any other. It is a question, however, if any better results are secured in the treatment of the disease to-day than John Hilton obtained with his simple appliances of thirty years ago.

The essential treatment is, as I have said, fixation. A simple and efficient method of obtaining it will be described further on. Before describing it, the opinion of Bradford and Lovett upon the plaster-of-paris method of treatment will be quoted. In their book on Orthopedic Surgery (p. 301, 1st ed.) they state: "Plaster-of-paris bandages furnish an imperfect form of fixation, as they do not firmly hold the trunk above the pelvis and owing to the possible motion of the lumbar vertebræ, the pelvis is able to move within the bandage, allowing motion at the acetabulum and distortion of the limb. . . . Furthermore the method is a clumsy and uncleanly one. . . . This method of

treatment is only to be applied as a temporary measure, and is not satisfactory when continued over any length of time." These writers are correct in regard to the poor fixation furnished by a plaster-of-paris bandage. They omit to mention, however, the chief cause for the poor fixation, and that is the swathing of the limb and body in cotton batting before the application of the plaster bandages.

With wood-plastic material an efficient fixation of the hip-joint can easily be produced. The technique is as follows: A piece of strong paper is cut so that it embraces the side of the body above the affected hip and the thigh, the pattern extending from just below the axilla to the knee. The posterior edge of the pattern should lie against the spine, and cross over the buttock and pass along so as to lie over the inner aspect of the thigh. The anterior edge should lie almost to the middle line of the body, and pass over the middle third of Poupert's ligament, and pass somewhat inward and along the junction of the anterior and inner aspect of the thigh. This paper pattern can be laid flat upon a sheet of wood-plastic material and the correctly shaped splint-blank can be cut from it. In splinting the hip a double splint-blank is advisable. The two blanks can be moistened with water—not soaked—and laid together and then bandaged snugly upon the body and thigh, thus producing an efficient fixation of the hip-joint. The manner of banding this splint form upon the body is important. The roller should be applied first so as to embrace the body around both hips for several turns; then in figure-of-8 style around the splinted thigh and body; then down the thigh; finally a bandage should be applied around the body and upper part of the splint.

Protection is furnished the immobilized hip-joint by keeping the child's limb off the ground, as by the use of crutches and a raised shoe. The constitutional treatment is the same as that already described for a patient with knee-joint disease. Treatment, in an incipient case, should last from one to two years. The return to the normal use of the joint should be tentative and gradual, following in similar lines the plan already described in the treatment of knee-joint disease.

COUGH DUE TO REFLEX IRRITATION IN THE UPPER AIR-PASSAGES.*

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In the daily routine of practice, probably there is no affection more frequently met with by physicians than coughs, and in many cases they are puzzling, harassing and stubborn.

Even after nearly the whole range of indicated pharmacopeial medicines have been applied, the cough still remains as before, excepting with temporary relief. The patient becomes alarmed, fearing pulmonary complications, although assured by the physician that no lesions or symptoms exist in that region.

Mayo Collier¹ says that "cough as a symptom or indication of some irritation in the upper or lower respiratory tract or other parts, is the commonest affection the human frame is subject to." Such cough, however, is oftener extrapulmonary in origin, and quite innocent in its nature, and a highly commendable service is rendered and the dignity and scientific value of medicine exhibited when, by thorough and accurate examination, the extraneous cause is discovered, skilfully

removed and the cough thereby cured. A shadow of anxiety is lifted from the lives of both patient and friends, and they made happy.

Very few organs of the human organism have escaped the Esculapian in his diagnosis as to the cause of reflex cough. For example, there are coughs known as uterine, splenic, stomachic, ear, and others too numerous to mention. Mayer² quotes a case of a large plug of cotton pressing on the ear-drum for many months, causing the most violent cough. Removal gave complete and permanent relief.

Cough Always Reflex.—Many authorities consider all involuntary coughs reflex. Roe³ says that cough is always a reflex action. Although in the last decade investigation has shown to the contrary, many still maintain that cough is purely neurotic in character, while it is true that there exists a so-called nervous cough, as indicated by Koch⁴ in the following conclusions: 1. The existence of a true nervous cough can not be denied. 2. This cough, emanating from a nerve center, may be diagnosed as such when abdominal and thoracic organs are intact, when one can exclude hysteria, whooping-cough and beginning phthisis. 3. The monotonous, involuntary cough, always the same in each patient, forms the principal symptom in this affection. 4. Medication fails. They are cured spontaneously by a sea voyage or a trip to the mountains.

Notwithstanding many contend that neurotic coughs exist; nevertheless, are not all produced by irritation in one way or another, direct or indirect, referable to the larynx, no matter from whence its source? The question may be asked: How about cough in a large gathering? when one does the act, others immediately follow. Is it not from the fact that the cough of one reminds others of an irritant larynx, thereby causing the cough? The same principle applies to yawning, mere suggestion by seeing or knowing that another is doing it.

Is not a reflex cough caused by irritation of the larynx direct or indirect? Can a cough exist without irritation? I think not. Therefore, I believe that all coughs are reflex. According to some of the older practitioners, cough is always a disease and not a symptom, but have not modern methods and research proved the contrary, viz., that it is only a symptom caused by a changed respiratory act produced by said irritation?

A long experience in the exclusive treatment of affections of the nose, throat and ear has convinced me that a large number, if not the majority, of coughs are caused by some abnormality in that section.

Skilful manipulation and familiarity with reflected light and the requisite special instruments are of the highest importance. These, with cocaine in trained hands, will be sufficient to aid in recognizing many of the conditions in the nose, throat and ear capable of producing cough.

Thompson⁵ says that "there are fourteen varieties of useless coughs," and as Mayer² has aptly put it: "These fourteen coughs must have many subdivisions of a hydra-headed nature which arise to harass the investigator." Owing to this fact, it is often difficult to discover the sources of these reflexes, but when once ferretted out, treatment is usually simple and satisfactory.

I believe that Hack⁶ and Seiler,⁷ in the same year, were the first to call attention to the production of cough by nasal disease, but J. N. McKenzie⁸ was the pioneer in directing attention to the great frequency of cough as a reflex from intranasal disease, and that it

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could also be produced by artificial irritation even when there was no apparent pathologic alteration in the nasal tissues. He showed that cough could be cured by proper nasal treatment. Since then, a great many have demonstrated the above facts by illustrated cases.

Reflex Causes.—A list of the principal reflex causes may be given as follows (Barnhill⁹): 1. In the ear, impacted cerumen, foreign body or cholesteoma. 2. In the nose, hypertrophies, septal spurs, polypi, foreign bodies and the crusts of atrophic rhinitis. 3. In the nasopharynx, adenoids, polypi or other growths. 4. In the pharynx, elongated uvula, granular pharyngitis, hypertrophy and other diseases of the tonsils. And to this may be added atrophic pharyngitis and viscid mucous in pharynx. 5. In the glosso-epiglottic spaces, hypertrophied lingual tonsils, varix or a too greatly curved epiglottis. 6. In the larynx, presence of mucus or pus, congestions and thickenings of the mucous membranes, papilloma or other growth. 7. In other parts of the body, irritation of the vagi and sympathetic are the most frequent causes.

The causative location of a cough is of the utmost importance. A careful examination of the lungs is absolutely necessary, however much the symptoms may point to an extrapulmonary cause, after which a further examination could be performed with less prejudice. Even if bronchial catarrh or bronchitis is discovered, it may be sufficient to account for the cough, but are not the diseases in themselves in the greater majority symptoms of something else, which rapidly subside when that something else is found and removed? Mayo Collier¹⁰ says that the throat, nasal chambers, postnasal space and upper larynx are in immediate and direct communication with every cranial nerve coming off from the brain or medulla oblongata, as well as the whole of the upper cervical nerves and the sympathetic. "Therefore," says Collier, "it is not surprising that affections of the nasal chambers, etc., involving a suspense or curtailment of the physiological functions may and do affect and involve parts most distant. For instance, a patient had suffered for two years from aphonia, and on examination, an anterior nasal obstruction was found and removed, and in fourteen days, there was complete return of the voice. There had not been the smallest evidence of hysteria in this case, and strong faradic currents had produced no effects.

A most searching examination of the upper respiratory tract must be made. Percussion and auscultation of the chest for the detection of abnormal sounds is not sufficient, for a physician may or may not find enough evidence of trouble to account for the cough. The absence of any discoverable lesion in the lungs, together with the general appearance of the patient, who may or may not be robust, the family history which may be good, and the character of the cough will indicate pretty clearly that the cough is not from the chest, and should therefore be diligently and skilfully sought for in the regions most likely to be affected.

The statements of the patient as to location are not usually to be relied on, although honestly given, as the point of irritation may be quite distant. Recently, some most excellent articles on this subject have been presented and discussed, among which may be mentioned Beverly Robinson's¹¹ "Enlargement of the Lingual Tonsil as a Cause of Cough," Emil Mayer's² "Some Unusual Causes of Cough," and Barnhill's⁹ "Cough Due to Causes Outside of the Lungs."

Possibly cough produced by the reflexes from the glosso-epiglottic spaces is more frequent than from any

other cause outside the lungs. We must examine closely here for varicose veins or other growths, enlarged lingual tonsils in which the tip of the epiglottis may become buried or irritated by contact, or a too great curvature of the epiglottis causing its crest to come into contact with the base of the tongue, the friction thereof producing cough and a desire to clear the throat, or other reflexes not mentioned in this paper. Dr. Robinson has shown very clearly that this condition may exist at all ages; however, not often in young children or young men, but quite frequently in young unmarried women. However, after about thirty years of age, it is met with quite frequently in both sexes, but always oftener in the female.

Ries¹² thinks that the reason we do not find more trouble from this condition in young children is from the fact that the epiglottis is placed so far back in young children that it is less likely to be irritated by the lingual tonsil and, in fact, it is rarely ever enlarged to any extent and, therefore, there is no compact. It is true that I have seen enlargement on the base of the tongue of children as young as 2 years, but rarely until after the fourth or fifth year.

Contemporary with disease of the pharyngeal and faucial tonsils, a pathologic condition of the lingual tonsil is also quite common, for the reason that the chain of glands surrounding the fauces is composed of the same kind of tissue, and the influences that cause the enlargement and disease of one collection of glands will, at the same time, affect the others. In a great many cases of spasmodic, persistent and even continuous cough, the cause is contact of the lingual tonsil and epiglottis, and this cough will persist notwithstanding all forms of medication have been tried, until the diseased lingual tonsil is relieved. The best way to accomplish this is removal, as far as possible, by the lingual tonsillotome, and in cases where the mass is too flat, often a portion may be excised by a stiff wire snare on the curve. If both of the above means fail, then we may have recourse to the galvanocautery for this and varicose veins.

Roe³ says that one of the most fruitful sources of cough above the larynx is to be found in glandular hypertrophy at the base of the tongue.

About two years ago, Mrs. B., 32 years of age, was referred to me by her family physician for my opinion as to the cause of her cough, which had persisted for years, often weeks at a time. Her physician pronounced the lungs free from any pathologic process, and this was confirmed by my examination. He had treated successively her nose and rhinopharynx, but the cough continued, giving her much alarm. I found a mass of hypertrophied tissue in the glosso-epiglottic space, reaching almost as high as the epiglottis, and removed it with the tonsillotome, at several sittings, resulting in complete freedom from cough ever since. I might quote a number of such cases, but one illustration is sufficient.

Furet¹³ says reflex cough may be due to any pathologic alteration of the tonsil, owing to the involvement of the tonsillar plexus of nerves.

In almost any part of the nasal passages, cough may be caused by irritation, either induced or pathologic. We must look out for sensitive areas, septal spurs, hypertrophic and atrophic rhinitis, both of the septum and turbinates. There is, however, no unanimity of opinion as to where are situated the most frequent causes of cough. However, among rhinologists, generally the consensus of opinion seems to be that the posterior ends of the inferior turbinates and that of the septum and

inner surfaces of the middle turbinated bodies and that part of the septum lying opposite, are responsible for most of the coughs from nasal causes. In my practice, I have seen a few cases of severe cough from nasal hypertrophies which were cured by application of the proper treatment.

An opera singer, aged 35, came under my care for hoarseness, at times so pronounced that her voice could scarcely be heard. A severe cough also racked her frame, could not be accounted for and yielded only temporarily to sedatives. An examination revealed a normal nares right and left, excepting a large posterior hypertrophy of the inferior turbinated body pressing on the septum, middle turbinated and floor of the nose, removal of which effected a complete restitution of voice and freedom from cough and rhinopharyngitis. This case indicates how slight a pathologic change may produce great trouble.

Often sensitive areas are found on the convex surfaces of septal deflections and spurs, and in general hyperesthesia of the nasal mucous membrane, permitting the sympathetic ganglion to have a full and exaggerated sway.

Seven years ago, a gentleman came under my care to see if he could get relief from severe asthma and cough of long duration. Antispasmodics and restoratives had given him but transitory relief. The whole upper air tract seemed in excellent shape, with the exception of an exceedingly hyperesthetic condition of the nasal mucous membrane; touching of this produced a most violent cough which ceased on slight cocaine anesthesia. The patient was simply treated with silver nitrate and the galvanocautery, with excellent results.

Vasomotor rhinitis, nasal polypi and the later stages of acute coryza are responsible for much cough. Palmer¹⁴ states that anatomical investigations have shown that the anterior region of the nasal cavity has a nervous connection with the larynx, first through the nasal nerves, then the ophthalmic through the Gasserian ganglion to the sympathetic, through this nerve to the laryngeal and its terminal filaments. On this account, many disorders are associated with distinct pharyngeal disturbances.

Cough has been attributed to the dry crusts in atrophic rhinitis, but not to my knowledge has a case come to my notice.

Adenoids in the pharyngeal vault and the thick, tenacious mucus in chronic nasopharyngitis is a frequent cause. Pharyngitis sicca and a follicular or granular pharyngitis are responsible for this reflex cough.

Elongation of the uvula coming into contact with the tongue, or papillomata of it, enlarged tonsils of any variety may cause cough, but those most liable to do so may be caused by enlargement and prolongation downward of folds or projections from the faucial tonsils which come into contact with the sides of the epiglottis and tongue in such a way as to cause cough by its irritating pressure.

Cryptic tonsils filled with concretions and adhesions to the pharyngeal pillars, a foreign body in the larynx or any pathologic condition, as inflammation, ulceration, papilloma, etc., may give rise to most violent coughing.

The conclusions arrived at by myself can not be better classified than by giving those stated by Mayer.² A cough is reflex in its origin: 1. When it is spasmodic, practically constant, without or with but little expectoration and temperature. 2. When the physical signs of pulmonary disease are absent. 3. When it persistently resists all medication for permanent relief. 4. When the

general health remains comparatively undisturbed, and 5, when upon removal of the cause it promptly ceases.

Often, in conjunction with the local, general treatment as well is necessary. Digestion and alimentation, and all neurotic conditions should have the most careful consideration.

215 Jefferson Avenue.

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APPENDICITIS IN A CHILD LESS THAN TWO YEARS OLD.

GEO. W. NEWTON, M.D.

CHICAGO.

The history of the following case is of interest chiefly on account of the age and as illustrating the necessity of care in examining the abdomen of children in disease of the bowels. When a child is too young to talk it is an easy matter to overlook the induration that might occur in a case of appendicitis.

M. H., aged 1 year and 11 months, had been fretful and peevish for a few days before I was called to see her. At the time of my first visit she was suffering from intestinal derangement, with tongue coated, stools green and on her face an ecthyma. She had no temperature, but had vomited. I gave her calomel and regulated the diet. Three days afterward the face and tongue had improved but the stools were still green, had a bad odor, and she had a temperature—by the groin—of 101°F., with the bowels very much distended with gas. There seemed to be tenderness in the right iliac fossa, although that fact was hard to determine on account of pain on pressure. However, by a careful observation, I could detect a different kind of cry when I pressed over the region of the appendix, and it was possible to detect some induration; by comparing the two sides this was found to be very marked. The grandmother had noticed, in holding the baby, that when the thighs were flexed upon the abdomen she seemed more comfortable and cried less. This child then had the cardinal symptoms of appendicitis, viz., vomiting, tenderness at McBurney's point, induration, temperature and pain. She never cried as though in acute pain, but had moaned rather constantly.

Although I was positive as to the diagnosis I would not advise an operation without an examination under an anesthetic, as the child's constant crying in the presence of strangers rendered a careful examination exceedingly difficult.

At the West Side Hospital, under an anesthetic, a tumor could be very easily mapped out, and I operated. Cutting into the abdominal cavity close to the induration, I walled off the intestines with iodoform gauze, then separated the adhesions, when a cupful of old, ill-smelling pus escaped. No attempt was made to find the appendix, and I packed the abscess cavity with iodoform gauze. The child's temperature gradually dropped to normal, she was taken home upon the fifteenth day, and one month after the operation seemed as well as she had ever been.

103 State Street.

Dr. William Osler, at his clinic, spoke of a case in the Johns Hopkins Hospital of acute miliary tuberculosis where the diagnosis was made by lumbar puncture, an enormous number of tubercle bacilli being found in the exudate. It is always mistaken for typhoid fever and this was the first case in which the diagnosis had been thus made.

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THE HEMOLYMPH GLANDS.

An important contribution to the study of certain, little known, but probably very important structures known as hemolymph glands is published by A. S. Warthin of Ann Arbor. Because important problems relating to blood formation and to the pathological conditions in the blood and the blood-forming organs appear to be closely connected with these glands, it may be well to briefly review the principal facts in Warthin's article.¹ The various anemias and leukemias, as well as the histogenesis of the different blood-corpuscles under normal and abnormal conditions are exceedingly obscure and poorly understood processes, so that the opening of new lines of investigation at once excites interest.

It appears that H. Gibbes, in 1884, was the first to describe the presence in the human subject of glands resembling lymph glands, but differing from them in that they contained blood-sinuses in place of lymph spaces. The glands briefly described by Gibbes were found between the renal artery and vein. In 1890 Robertson gave a more detailed description of these glands and gave them their present name. His studies were based chiefly on the hemolymph glands of the sheep and bullock. In the sheep some 300 or 400 of the little glands are found in the prevertebral fat. Clarkson, in 1891, and Gibbes in 1893, confirmed the observations of Robertson. Vincent and Harrison, in 1897, noted the presence of these structures in a variety of animals, and pointed out their striking resemblance in structure to the head-kidney of certain Teleostean fishes. Finally, Drummond, in 1900, reported further studies of the glands in animals. Such in mere outline is the brief history of the hemolymph glands. Hardly any work has been done on these organs in man. Warthin's investigation includes 80 autopsies, which furnished him with abundant material of both normal and pathological character. If we follow him and regard "the presence of a sinus containing blood instead of lymph as the essential feature of a hemolymph gland, such glands are found to occur in greatest numbers in the prevertebral retroperitoneal region near the great vessels, near the adrenal and renal vessels, along the brim of the pelvis, in the root of the mesentery, but rarely extending far out into it, and still more rarely in the omentum and epiploica. They are of rare

occurrence along the thoracic vertebræ and in the mediastinal tissues, occurring more frequently in the thymus region. Next to their occurrence in the retroperitoneal tissues they are found in greatest numbers in the cervical region, below and behind the lobes of the thyroid in association with the parathyroids." They vary much in size and number and they are remarkable for their abundant blood-supply. Ordinarily they are recognized only with difficulty on naked-eye inspection, because the blood sinuses are empty after death. When the sinuses are distended the glands may be mistaken for hemorrhages and the larger glands show red points or lines. On account of their small size the number of hemolymph glands is very difficult to determine; Warthin estimates their relative proportion to ordinary glands as 1 to 20 or 1 to 50.

Warthin finds that there are two distinct types, namely, the splenolymph glands and the marrow-lymph glands, with an intervening series of transition forms. The splenolymph glands show a subcapsular blood-sinus from which branches pass inward along the trabeculæ, separating masses of lymph adenoid tissue and empty into a central sinus. In parts these sinuses are devoid of endothelial lining, so that the circulation may be described as sinusoidal. The cells of the lymph-adenoid tissue are for the most part lymphocytes, but other cells, mononuclear, polymorphonuclear and eosinophile also occur. A varying amount of pigment is found in the reticulum, and also mononuclear phagocytes containing disintegrating red blood-cells. Peculiar hyaline spherules occur, both free and within cells, representing no doubt products of red cells. The phagocytes are especially numerous in the central sinus. The chief function of the splenolymph glands seems to be to destroy red corpuscles and to furnish new leukocytes.

The marrow-lymph glands are less common and have been found only in the retroperitoneal tissue. They are flattened, vary much in size, sometimes reaching a length of four to five centimeters. They also contain a subcapsular, peripheral blood-sinus from which branching sinuses pass inward. All sinuses are traversed by a coarse reticulum through the meshes of which red blood-cells circulate. Between the sinuses lie masses of lymphoid tissue, among the cells of which are giant cells of the type seen in the bone marrow. Phagocytes are less numerous. Warthin is not prepared to state definitely the functions of this variety of hemolymph gland, but the structure certainly points to some connection with the blood.

The hemolymph glands are subject to the same general pathological processes as ordinary lymph glands. In a case of pyemia Warthin found the marrow glands large, with numerous mononuclear eosinophiles and nucleated red blood-cells in the lymphoid tissue and in the sinuses, numerous dividing lymphocytes being seen. In secondary anemia evidences of increased destruction of red cells were seen in the splenolymph glands. In

1. Jour. of Boston Soc. of Med. Sci., 1901, v, 414-436.

a case of fatal anemia from epistaxis the retroperitoneal hemolymph glands were changed greatly and resembled much in structure the so-called lymphoid marrow. In an instance of splenic anemia with death after splenectomy the glands in the mesentery and retroperitoneal tissue showed changes pointing directly to compensation for the spleen. In a case of lienumyocogenous leukemia the sinuses of the enlarged retroperitoneal hemolymph glands contained numerous giant-cells like those in marrow, mononuclear eosinophiles, myelocytes, and large varieties of leukocytes as well as nucleated red cells. In this case and in the case of fatal epistaxis the marrow-lymph glands appeared as lymphoid marrow. Hence there seems to be a very close relation between the hemolymph glands, the marrow and the spleen, the glands appearing to compensate for these organs when extensively diseased. Many interesting problems are suggested by Warthin's important observations, and the results of further studies will be looked for with eagerness.

THE REPORT OF THE COMMITTEE ON ORGANIZATION.

At the last meeting of the AMERICAN MEDICAL ASSOCIATION, on the recommendation of the General Executive Committee, two resolutions were adopted, one creating a committee on the organization of the profession throughout the United States, and to consist of one from each state and territorial society represented in the ASSOCIATION; the other creating a committee of three to prepare plans in detail for recommendation to the large committee and to take such action in the premises in regard to a complete reorganization of the profession as it might think advisable. The large committee is called to meet at St. Paul on Monday, June 3. The preliminary report of the smaller committee is published in this issue of THE JOURNAL. In this report the preliminary committee has outlined a plan which covers the state and its subordinate societies, to be considered by the large general committee. It has also outlined a plan for the reorganization of the AMERICAN MEDICAL ASSOCIATION itself.

Stripped of all verbiage, the report recommends the following changes in the organic law of the AMERICAN MEDICAL ASSOCIATION: 1. There is at present practically no limit to the number to which the delegate body may attain; it is recommended that the delegate body be limited to 150, and that it be given a distinctive name; viz., The House of Delegates of the AMERICAN MEDICAL ASSOCIATION. 2. All affiliated state societies, and all district and local societies recognized by an affiliated state society, are now entitled to send one delegate for every ten members; it is recommended that the right to send delegates be given only to the state societies, in proportion of one for every 500 members or fraction of that number. 3. Each Section shall be entitled to one representative. (The Medical Department of the U. S. Army, the Medical Department

of the U. S. Navy, and the U. S. Marine-Hospital Service, are each entitled to send one representative at the present time, and this right is continued.)

The above practically covers the changes recommended. In some respects these may seem radical, although they are merely going back to the original plan on which the ASSOCIATION was founded, for, as organized, the legislative and business affairs were a function of the delegate body, this small in number and representative in character.

The House of Delegates, aside from the representatives from the thirteen Sections and from the three government services—sixteen in all—would therefore be created by the state societies and would be representative of the whole profession, bringing the state societies in direct touch, not only with the AMERICAN MEDICAL ASSOCIATION, but with each other. It would be a body in which the state societies would be federated; its functions would be the same as those now belonging to the present delegate body—neither more nor less.

The Committee, in its Argument, has discussed every phase of the question of organization, and as the subject is an important one, this should be read, not only by every member of the AMERICAN MEDICAL ASSOCIATION, but by all who are interested in a more complete organization of the profession than at present prevails.

The subject of organization is, to use a common expression, "in the air." Nearly every state society which has met during the past few weeks has taken some action in regard to the matter, in each instance there being an evident desire to take up the subject in a systematic and in a business-like manner. As regards the ASSOCIATION itself, there is a general feeling that a change in its methods of conducting its business affairs is very desirable. And, while it is possible that every minor detail of the recommendations may not be acceptable to all, the proposed change from an unwieldy and fortuitous legislative body to a small and representative one will certainly meet with general endorsement.

THE SYMPTOMATOLOGY OF OCCLUSION OF THE MESENTERIC ARTERY.

The diagnosis of abdominal disease is notoriously difficult, and often it does not extend beyond the limits of probability. Avoidance of error can be hoped for only from careful observation and intelligent interpretation, together with a full appreciation of the conditions that may be present. Knowledge in this direction has been enlarged in recent years by investigations especially with regard to diseases of the appendix and of the pancreas, and light has been thrown also upon the condition of occlusion of the mesenteric arteries, occasionally found after death and exceptionally recognized during life. The symptoms of this disorder may, it has been observed, appear in two diametrically opposite forms, either with bloody diarrhea or with manifestations of intestinal obstruction.

An interesting and instructive case presenting some unusual features is reported in this connection by Schnitzler.¹ The patient was a woman, 55 years old, who had for years suffered from obstinate constipation and from attacks of abdominal pain, which for a period of six months had increased in intensity and acquired a colicky character. There was for a time vomiting, and there was also said to have been jaundice. Inasmuch as the patient urgently demanded relief, by surgical means if necessary, and as the possibility of gallstones existed, operation was undertaken, but beyond the presence of biliary calculi in the gall-bladder and adhesions of the latter to adjacent intestine, nothing noteworthy was found. Improvement, however, failed to take place, and death occurred six weeks later, after a mushy dark stool was passed spontaneously. Post-mortem examination disclosed occlusion of the mesenteric arteries, probably of some months' standing, with signs of hemorrhagic infarction. The abdomen contained 500 c.c. of partly clotted and partly liquid blood. Loops of small intestine were adherent and deeply injected and the scat of numerous hemorrhages. The mucosa of these parts was swollen and discolored, and in places necrotic and ulcerated. The great omentum also was the seat of numerous hemorrhages. The spleen was enlarged. The aorta exhibited patches of fatty degeneration of the intima. The orifice of origin of the superior mesenteric artery from the aorta was narrowed and the vessel itself was firmly occluded for a distance of 1 cm., by a fibrous thrombus. Further on the lumen was clear. The inferior mesenteric artery exhibited similar alterations. The explanation of the phenomena in this case is probably that as a result of cardiac enfeeblement occlusion of the mesenteric arteries took place. A collateral circulation was established, but with increasing weakness of the heart, even this failed, and hemorrhagic infarction followed, with death. The abdominal pain of the last few months may be attributed to the vascular occlusion, and its periodic exacerbation is comparable with the condition described as intermittent claudication, or arteriosclerotic intermittent dysbasia, in which, as a result of narrowing of the lumen of the arteries of the lower extremities in consequence of sclerosis, the circulation may be sufficient when the patient is at rest, but becomes insufficient on attempts at locomotion, with muscular weakness and possibly with pain and spasm.

TYPHOID INFECTION OF EXISTING LESIONS.

Although possibly in more common employ in Great Britain than elsewhere the name enteric fever is not likely to replace that of typhoid fever, in spite of the official adoption of the former by the medical department of the British military service. In the first place, the lesion of the intestine can not be considered the essential feature, though perhaps for the present it must be looked upon as the most distinctive. This

peculiarity of localization is perhaps contingent upon the portal of entry rather than upon any specific susceptibility of the intestinal glandular apparatus to infection with the typhoid bacillus. Typhoid fever is thus not a disease of the intestine per se, as this may, in fact, escape, and, moreover, the distinctive typhoid symptoms are attributable to the activity of the toxic products of the bacilli, while metastatic distribution of the latter is responsible for some of the complications.

Further, the qualification "typhoid" has received universal acceptance as applicable to the specific bacillus, and it would therefore appear most appropriate to designate also the disease to which it gives rise. Typhoid bacilli have occasionally been found in lesions long periods of times after attacks of typhoid fever—even many years subsequently, and recently a case has been reported by Caton and Thomas,¹ in which typhoid infection of a pre-existing lesion took place, typhoid bacilli being found in conjunction with an attack of typhoid fever in a partly calcified subdiaphragmatic abscess that had evidently been present for many years. The patient was a man, 30 years old, who in the sequence of an attack of typhoid fever exhibited irregular fluctuations in temperature and pulse-frequency, with some uneasiness in the left hypochondrium and the development of dulness on percussion over the base of the left lung. Introduction of a trocar was followed by the escape of thick, greenish-yellow pus, and empyema being suspected rib resection was practiced and the pleural cavity exposed, but only a small quantity of clear serum was found and evacuated. On palpating the diaphragm through the wound-opening a hard swelling was detected below the left costal arch, and this was found, on enlarging the wound, to be due to a large subdiaphragmatic abscess, roughly spherical in outline, with calcified walls, and five inches in diameter. A part of the wall was removed and the cavity irrigated, but the operation could not be completed on account of the debilitated state of the patient, and drainage was provided. After the lapse of some seven weeks a secondary and more extensive operation was undertaken, from which the patient in due time made a good recovery. In the pus first obtained from the abscess typhoid bacilli were found, together with broken-down pus-cells, fatty detritus and large quantities of cholesterol. The bony plates forming part of the wall of the abscess were one-eighth of an inch thick. The abscess was evidently of long standing, and it is thought to have represented the remains of a hydatid cyst in the left lobe of the liver which had become infected by typhoid bacilli.

MORTALITY FROM TUBERCULOSIS.

According to some of the accounts of the Canadian Tuberculosis Congress, held a short time ago, the governor-general, Earl Minto, is quoted as saying that tuberculosis causes one-fifth of the deaths in Canada.

1. Wiener Med. Woch., 1901, Nos. 11, 12.

1. Liverpool Medico-Chirurgical Jour., March, 1901, p. 64.

If this were true, Canada would be in a bad way. If the statement was made, however, the governor-general, being a layman undoubtedly had his authority from some medical man, and it is a fair sample of many of the reckless general utterances on this subject. There is before us a recent newspaper communication from a physician in which tuberculosis is mentioned as "our most destructive disease, destroying as it does one-fourth to one-third of the population and that in the best period of life." Examples like these could probably be multiplied, so general has become the habit of exaggeration of the mortality and contagiousness of tuberculosis. A disease that causes one-seventh to one-ninth of the mortality is bad enough, and a wholesome dread of it, in so far as it will incite rational precautionary measures, is salutary, but no real good can come in the long run from misstatements that make it nearly or quite twice as fatal as it is. The contagiousness of tuberculosis also is a matter in regard to which some medical authorities need to reform their morals or better inform themselves; while it is a possibility and a real danger to the predisposed, there is little evidence of any frequent or malignant case-to-case infection. There is surely no need of educating the public into a panicky fear leading to acts that needlessly add to the hardships of those already afflicted. This has been done to a certain extent and the medical profession is largely responsible. In the future it would be well for all physicians to do as some have done already—to take care, while describing the dangers of tuberculosis and the precautions needed against them, to use moderation in language and to so qualify their statements as to convey no exaggerated ideas. Still more important than this is the need, not always duly heeded, of strict adherence to fully-established facts.

FAITH-HEALING HOMICIDE.

Every little while the newspapers contain accounts of deaths occurring under painful circumstances of neglect in the care of Dowieites and "Christian Science" healers. One of the latest is just reported almost from Dowie's Zion itself, and under circumstances that it seems possible may lead to a judicial inquiry. In another case in the same city the court recently refused a Dowieite father the care of his own child suffering from severe burns, and which he wished to remove from medical care. The public is gradually becoming educated as to the dangers to society and to public health that exist in the faith cures, whatever the name under which they pass, and it seems likely in time that with the arousing and enlightening of the public conscience on the subject, there will be found a way to legally prohibit human sacrifices under the pretence of religion. Laws exist on our statute books that it would seem ought to effect this, if duly enforced, but heretofore they have been apparently evaded to a disreputable extent. If they are not sufficiently definite to be effective against such murder they should be made so, but we believe that with a little judicial backbone and common sense they could be made efficient as they are. The fault is not so much with the law as in those who have its interpretation and execution, and some judicial utterances, like that of a Mil-

waukee judge who could see no difference between "Christian Science" healing and merely praying for the sick, are sadly lacking in a rational appreciation of the true relation of things. Apropos to this question a novel and unexpected support of the antifaith cure side is announced from the humane societies. It is said that they have proposed to investigate the conduct of an adherent of Mrs. Eddy's church who permitted his horse to suffer and die under C. S. D. care. If they do this they will have the hearty approval of the medical profession, which is never and nowhere in favor of useless suffering, even by the most humble of our fellow creatures.

SURGERY IN EXOPHTHALMIC GOITER.

The dangers of surgery in exophthalmic goiter have not received as yet any large amount of attention, except as regards cases of operation undertaken on the goiter itself. It is perhaps quite generally recognized that patients suffering from this disorder bear anesthetics badly, and that deaths occur from thyroidectomy in this disease that are not readily accounted for by the apparent magnitude and seriousness of the operation. The question of risk in other surgical operations, from the existence of this disease, is hardly touched upon in the text-books. When, however, we bear in mind the general circulatory derangement, the nutritional disorders, the peculiar conditions in the nervous system generally, and particularly those of the cardiac innervation, there would seem to be *a priori* reasons for particular caution before deciding on any serious operative procedures in well-marked cases of this disease. These points are brought out in a recent publication by J. Delprat Harris,¹ of a case of excision of a cystic tumor of the breast in a woman suffering from Graves's disease. The notes given are deficient in detail, but the patient died sixty-eight hours after the operation, which was comparatively bloodless and not formidable in itself, her pulse having been uncountable for a number of hours prior to death. The condition of the heart was the special embarrassment from the first, and Harris suggests that its rapid and irregular action in this disorder possibly signified thin and dilated ventricles; the anesthetic changed at once a condition of chronic compensation to one of acute embarrassment while the unavoidable loss of blood and gastric derangement prevented its being restored, and the patient consequently succumbed. Hence he concludes that serious operations should be avoided in advanced cases of exophthalmic goiter, and if absolutely needed should be preceded by thorough toning up and regulating of the heart's action as far as possible. If this is impossible the question of operation should be reconsidered. The points he makes are worth noting, and it would be of interest to know what has been the experience of other surgeons in operating on cases of this disease for other conditions than that of the thyroid itself.

BROWN-SEQUARD.

In the latest of its series of articles on the "Heroes of Medicine," the *Practitioner* gives a brief appreciative

1. Brit. Med. Jour., May 4.

biography of Brown-Séquard. It is only a few years since he died and the obituaries then written have hardly yet been forgotten. There are reasons, however, why his life and work can be better written now than then, and it is fitting to again restate the facts of his life and revive his memory. It is not because he will be forgotten, his services to medicine were too great for that to be possible, but because after the lapse of years we can do him better justice in the light of the discoveries that have been developed in the lines he first pointed out. Brown-Séquard may be called the father of scientific organotherapy, and also the discoverer of the internal secretions, two advances in medicine either one of which alone ought to be sufficient to give its originator undying fame. It does not diminish his credit that the most valuable acquisitions in this line have been made by others since his death, or that some of his more sanguine later deductions have not been verified; he first pointed out the way and others followed. It must also be remembered that he was in no way responsible for the ignorant exploitation of his misunderstood statements by quacks and by a yellow press that to a certain extent dimmed his fame in his later days. Even the medical public failed to appreciate the worth of some of his findings, and has had to revise somewhat its estimates of their value. He was all his life an honest and fruitful worker in science, and as the *Practitioner* says, his name will live in the history of medicine as that of one of the master builders of modern neurology. It is a question, however, whether this fact will not be obscured by the greater one that to him we owe the discovery of the internal secretions and to his suggestion the practical application of the discovery to therapeutics. If nothing more should ever come of this than what we now possess in the utilization of the active principles of the thyroid and suprarenal glands he would still have to be counted as one of the great benefactors of mankind. A discovery so striking and suggestive as this has proved to be could hardly fail to be misused to some degree by unprincipled commercialism, but this does not lessen the glory of one who, like Brown-Séquard, never himself sacrificed science for wealth or distinction.

Medical News.

CALIFORNIA.

The board of health of Alameda has organized and elected Dr. Weston O. Smith, president. Dr. Kate P. Van Orden took her seat as a member of the board.

Dr. Abijah T. Hudson, Stockton, on the occasion of his eighty-second birthday, was tendered a banquet by the San Joaquin County Medical Society and was presented with an easy chair.

The Oakland Board of Health held its post-election meeting May 9. The new members are Drs. William S. Porter and Peter L. Wheeler. Dr. Oliver D. Hamlin was elected president, and Dr. E. von Adelung, health officer.

Plague caused the death of a white woman in San Francisco, April 25. Notwithstanding the undoubted existence of the disease in Chinatown, the attitude of most of the local journals in denying that plague existed has caused a feeling of security in the people at large who patronize Chinese laundries, smoke Chinese cigars and wear clothing made in Chinese sweat-shops.

ILLINOIS.

Dr. N. Senn has been reappointed surgeon-general.

Dr. A. B. Middleton, Pontiac, has sailed for England, en route to Berlin, where he will study for six months.

Dr. Charles E. Whiteside, Moline, expects to leave for Europe next month. He will take a course of study in Heidelberg.

Dr. Thomas H. Wagner has been appointed physician for the American Steel and Wire Company at Joliet, vice Dr. J. Bliss Shaw.

Physicians and Pauper Practice.—An agreement has been signed by every physician in Pana and published in the two daily papers. By it they agree not to bid for pauper practice, and not to attend paupers at a less rate than the regular established and recognized fee bill of Pana. It is also understood that no one physician shall be favored in the distribution of the pauper practice, but that the patient shall have the privilege of choosing his own physician.

Chicago.

Dr. and Mrs. P. M. Woodworth and Mrs. Nicholas Senn sailed for Europe April 18.

Dr. O. Beverly Campbell, St. Joseph, Mo., has been appointed on the gynecological staff of the Post-graduate Medical School.

Dr. Joseph C. Beck has been appointed pathologist and professor of otology in the Chicago Eye, Ear, Nose and Throat College.

Alexian Brothers' Hospital was the beneficiary of a concert at the Auditorium last week, from which the net receipts were more than \$6000.

Michael Reese Hospital has received a donation of \$25,000 from the children of Jacob and Hannah Rosenberg. The money is to be used as a nucleus for a building fund.

Fifth Year Medical Course.—The Northwestern University Medical School, Chicago, has decided to add one year to its course for the benefit of fourth year students, and practitioners; this course to be inaugurated in October, 1901. It has been ascertained that 33 per cent. of the students graduated from regular four-year courses have secured at the time of graduation appointment as internes in the various hospitals. The object of this additional year is to furnish to those students who have not been successful in obtaining internships, a more practical course than is compatible with the diverse routine work of the third and fourth years.

Mortality of Chicago.—Except for the epidemic prevalence of measles, and an increasing mortality from this cause, the public health, as measured by the number of deaths, continues remarkably good. There were but 467 deaths from all causes reported last week, giving an annual rate of 13.8 per 1000 of the estimated mid-year population, 1,758,026. Our recent French visitors expressed a very natural surprise at the continuous low mortality rate of Chicago in view of the dirty streets, and the dirtier comments on the city, with which they have been regaled both before and after their arrival. But M. Siegfried especially, who took occasion to look beneath the surface, found no difficulty in discerning the difference between the superficial dirt and litter of Chicago and the disease-breeding filth of older communities, and was particularly impressed with the abundant ventilation secured by the broad streets and the alleys intersecting every block.

Prevalence of Measles.—Attention has before been called by the Department of Health to the unusual prevalence of measles and it desires again to emphasize the importance of this disease. It is not usually regarded as a serious malady, and parents not infrequently intentionally expose their children to its contagion so that they may "take it and get through with it." Even if it were not the fact that its mortality is rarely less than 20 per cent. among children under 2 years of age, and in some epidemics it is as high as 50 per cent., it is criminal folly to expose the young to any form of contagion. The younger the child the less its power of vital resistance. The type of the disease has materially changed during the last fortnight; it is much more severe and its death rate is increasing rapidly. The causes of these changes of type in the contagious diseases are not understood, but the facts are fully recognized, as witness the scarlet fever epidemic of 1899. It would not be at all surprising if the type of the prevalent smallpox should also change and assume its usual malignity. This is a good season of the year, and now while the disease is mild, is a good time to repeat vaccination.

When smallpox is mild, so is vaccination, but both are as fully protective as if their course and symptoms were severe.

IOWA.

The Hospital for Waterloo is now within \$1500 of being started. To secure the contract \$15,000 was necessary, and \$13,500 of the amount has been subscribed.

Dr. M. Nelson Voldeng, Des Moines, has been appointed inspector of the county institutions where insane are kept and also private institutions.

Dr. Samuel W. Moorhead, Keokuk, has resigned the chair of materia medica and therapeutics in the Keokuk Medical College, and has been succeeded by Dr. Alonzo B. Hughes.

Mercy Hospital, Clinton, held its annual meeting May 6, and elected Dr. Franklin P. Batchelder president; Dr. Joseph C. Langan, vice-president, and Dr. Edward L. Martindale, secretary. Drs. Batchelder, David S. Fairchild and George A. Smith, of the active staff, were transferred to the consulting staff, and Drs. Harry R. Reynolds and David S. Fairchild, Jr., were elected members of the active staff.

KENTUCKY.

Dr. William W. Ray, Springfield, has been appointed superintendent of the Western Insane Hospital at Hopkinsville, vice Dr. E. B. McCormick.

Dr. Minnie Dunlap has been appointed third assistant physician at the Lexington Asylum for the Insane, vice Dr. Louise Bergmann, resigned, the appointment being made by Gov. Beckham.

Dr. Hobart Amory Hare, Philadelphia, was the guest of the Medico-Chirurgical Society on the evening of May 17, and delivered an address entitled "The Importance of Studying the Condition of the Heart Muscle in Disease." A banquet was served after the address, at which Dr. J. A. Ouchterlony presided as toastmaster.

MARYLAND.

Dr. John W. Hebb, Sr., of Howard County, was stricken with paralysis May 12.

The Health Commissioner of Baltimore County, Dr. T. Ross Payne, reports the number of births in the county for the last six months as 447 and the deaths as 696.

The Peninsula General Hospital directors have appointed Dr. J. McFadden Dick resident physician, and accepted the resignation of Dr. George W. Todd as superintendent. Active work on a new hospital building, to cost \$40,000, will begin in a few weeks.

A medical board consisting of Medical Directors A. A. Hochling and John C. Wise and Surgeon A. H. C. Russell has reported at the Naval Academy, Annapolis, to physically examine the candidates for admission after the mental examinations are over.

The fifty-eighth annual report of Mount Hope Retreat for the Insane, near Baltimore, is out. There have been 924 inmates, of whom 250 were discharged and 66 died, leaving 608 at the end of the year. The percentage of recoveries of those admitted under certificates of insanity was 48.8.

Baltimore.

Maryland Medical College held its third annual commencement May 15, with thirty graduates.

Dr. Robert W. Johnson sailed for Europe May 18. Dr. Richard H. Thomas will sail June 1, and Dr. Samuel C. Chew June 8.

The Faculty of the Maryland Medical College has appointed Dr. Claude L. Holland resident physician of the National Temperance Hospital.

MICHIGAN.

Dr. John T. Main has been elected health officer of Jackson.

A new medical building is to be erected for the University of Michigan. The structure will cost \$100,000 and plans have already been approved.

The Grand Rapids Board of Health met for organization May 11, and elected Dr. William A. Wilson, secretary, and Dr. Mortimer E. Roberts, city bacteriologist.

Psychopathic Ward.—The house passed a bill appropriating \$50,000 for the establishment of a psychopathic ward at Ann Arbor in connection with the medical department of the state university.

Medical Summer Session.—The first summer session of the

medical department of the University of Michigan will begin June 24, and continue through August 9. Twenty-one courses in twelve subjects are offered. These courses are classified as special, designed for graduates and advanced students.

MISSOURI.

A new private hospital, to cost \$45,000, is to be erected on Independence Boulevard, Kansas City.

Dr. David C. Gore, Marshall, recently appointed surgeon-general of the state, has declined the appointment on account of lack of time to devote to it.

Women's and Children's Hospital, Kansas City, has elected the following officers: Dr. Avis E. Smith, president; Dr. Dora Greene Wilson, secretary; and Dr. Eliza Mitchell, treasurer.

The State Board of Health met at Jefferson City, May 9, and effected permanent organization by electing Dr. A. W. McAlester, Columbia, president; Dr. Benjamin G. Dysart, Paris, vice-president, and Dr. Winn F. Morrow, Kansas City, secretary.

NEW YORK.

Oswego Hospital has received a donation of \$2500 from Mr. Orson H. Brown.

Albany Medical College held its commencement exercises May 1, and graduated a class of twenty-seven.

New York State Hospital for Care of Crippled and Deformed Children.—This institution was formally opened at Tarrytown, May 17. It is the first of its kind in the state, and represents a new departure in the state care, Minnesota being the only other state that has made such provision for its cripples. The hospital is admirably situated, on five acres of ground sloping down to the Hudson River. Dr. Newton M. Shaffer, New York City, is surgeon-in-chief. The managers have decided to receive only cripples between the ages of 4 and 16 years, who are absolutely unable to secure proper treatment for themselves, and whose cases hold out some prospect of a cure. They must have resided in the state at least a year.

Buffalo.

Health Commissioner Wende has returned from Cleveland, Ohio, where he went to investigate the smallpox epidemic.

Buffalo's mortality for April was at the annual rate of 15.35 per 1000. Thus far, for May, the death-rate has been lower, 13 per 1000. The city was never in a healthier condition in its entire existence.

Dr. S. A. Knopf, of New York City, recently delivered an address on "Twentieth Century Problems of the Medical Profession in the Treatment of Tuberculosis," before the Medical Section of the Buffalo Academy of Medicine.

Syphilis and Tuberculosis Among Indians.—Among the Indians representing forty-two different tribes, on exhibition at the Pan-American Exposition, a number show well-marked symptoms of syphilis or tuberculosis. This fact well illustrates the causes of the rapid extinction of these people from our continent, and is to be attributed to that benevolent assimilation by the white man whereby the Indians are the recipients of much of the good but more of the vices and burdens of civilization.

New York City.

Dr. William H. Draper, recently deceased, left an estate valued at \$106,000.

Dr. Frederick Peterson has been appointed president of the State Commission in Lunacy.

Dr. Louis Fischer has been appointed visiting physician to the Willard Parker and Reception Hospitals.

Long Island College Hospital held its commencement exercises May 14, and graduated a class of forty-one.

William B. O'Rourke, formerly superintendent of Bellevue Hospital, has been transferred to the superintendency of the Metropolitan Hospital on Blackwell's Island.

Dr. I. N. Love, formerly of St. Louis, Mo., is now permanently located in New York City, residing at 101 West Eightieth Street. His offices are at 537 Fifth Avenue, between Forty-fourth and Forty-fifth streets.

Smallpox continues to prevail in a manner that is not reassuring. Incoming steamers from Naples have brought a number of cases, and investigation has shown that the disease is quite widespread in Naples. The steamship companies have cabled their agents in that city to assist in preventing the shipping of infected persons.

Mount Sinai Hospital.—The corner-stone of the New Mount Sinai Hospital was laid, with appropriate ceremonies, May 22. Dr. Abraham Jacobi, Governor Odell, President Seth Low, of Columbia University, Randolph Guggenheimer and Edward Lauterbach were the speakers on the occasion. The new hospital will cover the ground between Fifth and Madison avenues and One Hundred and One Hundred and First streets. In this plot there will be nine separate buildings.

OHIO.

Dr. Daniel Heimlich, Cleveland, has been appointed health officer, vice Dr. George F. Leick.

The contract for the construction of St. Elizabeth's Hospital, Dayton, has been let at \$157,500.

Dr. Henry A. Tobey has been re-elected superintendent of the Toledo State Hospital, for a term of four years.

The corner-stone of the New Women's surgical addition to St. Vincent's Hospital, Cleveland, was laid with appropriate ceremonies, May 11.

Township physicians are low-priced in Ohio. In Covington Township, active competition resulted in bids being reduced from \$70 to \$49, and in Batavia Township, contracts were let to the lowest bidders, whose figures were \$47, \$35 and \$25 respectively.

Certificates Revoked.—The State Board of Medical Registration and Examination has revoked the certificates of Dr. Norman S. Wright, Cleveland, charged with having used the mails for fraudulent purposes, and of Dr. J. H. Hoyer, Cleveland, convicted of committing a criminal abortion. In the latter case the governor refused to interfere with the action of the board.

PENNSYLVANIA.

Western Pennsylvania Medical College, Pittsburg, held its commencement exercises May 23, and graduated a class of seventy-one.

Smallpox in Chester.—On May 17 seven new cases of smallpox were reported in Chester, six in one family. The board of health has ordered all school children to be vaccinated.

The **West Penn Hospital** staff met for organization May 14, and elected Dr. Thomas McCann, chairman; Dr. James W. MacFarlane, vice-chairman; Dr. Ewing W. Day, treasurer, and Dr. Thomas S. Arbuthnot, secretary, all of Pittsburg.

An osteopath of Beaver Falls, who was convicted of practicing medicine and surgery in Beaver County without a license, has been granted a new trial on the ground that osteopathy is outside the pale of the medical law of the state.

The **Free Hospital for Poor Consumptives** has bought 125 acres of land near White Haven, on the Upper Lehigh River, as a site for a sanatorium. It is believed that the state will make an appropriation of \$50,000 for the erection of a building.

Philadelphia.

Woman's Medical College, Philadelphia, held its forty-ninth annual commencement exercises, May 16, when thirty-seven graduates received their degrees. The address to the graduates was made by Dr. Elizabeth Bundy.

Jefferson Medical College held its seventy-sixth annual commencement exercises May 15, when a large number of graduates received diplomas. The degrees were conferred by William Potter, president of the board of trustees, and the valedictory address was delivered by Dr. W. W. Keen.

The class of 1881, of the medical department of the University of Pennsylvania, is arranging for a dinner to be held on June 12, to commemorate the twentieth anniversary of its graduation. The affair is in charge of a committee consisting of Drs. George E. de Schweinitz, W. Easterly Ashton and Daniel W. Nead.

New Laboratory Building for the University.—Within the next few days the ground will be broken for the erection of the laboratories of physiology, pharmacology, pathology, and pharmacodynamics of the University of Pennsylvania. The new medical laboratories will be quadrangular in shape, two stories in height, and measure 200 by 340 feet. When completed the buildings will have cost in the neighborhood of half a million dollars.

Diphtheria not a Quarantinable Disease.—On May 12 the American Line steamship *Rhynland* came into this port with 213 steerage passengers. On board the vessel three cases of diphtheria were found, and the city health authorities were notified. The patients were at once removed to the Municipal

Hospital. As soon as the cases were discovered an injunction was issued preventing the other passengers from leaving the vessels. The federal and state quarantine officers decided to pass the vessel, and later the city government refused to hold the passengers since diphtheria was not classed as a "quarantinable disease." The names of the passengers were taken and a close surveillance will be placed over them.

SOUTH DAKOTA.

Dr. Rodell C. Warne, Mitchell, has been appointed superintendent of the Davison County Board of Health.

Dr. William Edwards, Bowdle, has succeeded Dr. Alonzo E. Clough, Madison, as president of the State Board of Health.

Brown County Board of Health has elected Dr. V. P. Kennedy, vice-president, and Dr. Hiram E. McNutt, secretary, both of Aberdeen.

Dr. Leonard C. Mead, Sioux Falls, has been elected superintendent of the South Dakota Hospital for the Insane, at Yankton, vice Dr. Ross, resigned.

TEXAS.

Dr. Witten Booth Russ, San Antonio, has become associate editor of the *Texas Medical Journal*, Austin.

The **Medical Department of the University of Dallas** held its commencement exercises April 18, and graduated a class of fifteen.

GENERAL.

The Journal of Hygiene.—The first issue of a new, high-class English quarterly publication, the *Journal of Hygiene*, has recently appeared. It is under the editorial management of Dr. H. F. Nuttall, of Cambridge, in conjunction with Drs. J. S. Haldane, of Oxford, and Arthur Newsholme, of Brighton. The first number contains articles on the biology and distribution of Anopheles, by Nuttall and several collaborators; on the "Pathogenic Microbes in Milk," by E. Klein; on the "Artificial Modification of Toxins," "Industrial Lead Poisoning," etc., all of which are of high scientific worth. The well-known names of the editors are assurance in themselves of the class of contributions that will appear in its pages, and it should have a reception by the profession corresponding to its importance as an addition to the serials of scientific medicine.

CANADA.

The **Smallpox Quarantine** in Toronto has been raised, and the medical health officer pronounces the city clear, excepting the three cases still in the pest-house, all of whom are recovering rapidly.

Mr. E. B. Osler, conservative member of parliament for Toronto West, and brother of Professor Osler, has donated \$1000 toward Lady Minto's cottage hospital scheme for the Canadian Northwest territories.

Dr. Henry W. Miller, Toronto '95, has been appointed pathologist and clinical director in the Taunton Insane Hospital, Taunton, Mass., after having spent three years of special study in the other hospitals of Massachusetts.

Food Adulteration.—The report of the commissioner of inland revenue for 1900 deals with 16 articles of which 756 samples were tested. Of these, 524 were pronounced genuine, equal to 69 per cent.; 186 were adulterated, equal to 24 per cent., and 46, or 6 per cent., were harmful.

Ban on the Cigarette.—The Toronto Ministerial Association is memorializing the Dominion House of Parliament to enact legislation prohibiting the manufacture, importation and sale of the cigarette and the material for its preparation, and to make it a misdemeanor for any person under the age of 18 to be found using or having in his possession tobacco in any form.

Steamship in Quarantine.—Two cases of smallpox have been found among the 900 passengers on the steamship *Lake Superior*, all of whom were landed at the Grosse Isle Quarantine Station. The vessel has been thoroughly disinfected and released. The crew and all the passengers will remain in quarantine twenty-one days. The passenger list for May 17 was cancelled.

Montreal Dispensary.—The committee of management's report shows that the total number of applications for advice and treatment made by the sick poor during the year was 16,918. A new department, that of diseases of children, under the charge of Dr. A. E. Vipond, has been running for the past two months, and has already a very successful clinic attached to it. The treasurer's report shows that the receipts, including a balance of \$3545, were \$6501, and the disbursements \$2912.

A Quarantine Station for Montreal.—On account of complaints that have been made by persons who have been quarantined in small houses on account of outbreaks of smallpox recently in Montreal the city council is considering purchasing a house with grounds for a quarantine station. Quarantine, which lasts for two weeks in Montreal, has just been taken off, or raised, from a small house where some fourteen people were confined, and the sufferings they underwent through lack of exercise, and other incommencing circumstances, so appealed to the city medical health officer that he has brought the matter to the attention of the hygienic committee, with the result that it is to be taken up in council at an early date.

Bishop's Medical College.—A number of changes have recently been made in the teaching staff of the Faculty of Medicine of Bishop's College. Dr. F. W. Campbell, the dean, will in future give a special course of lectures in insurance law, in addition to his regular lectures in medicine and neurology. As professor of medicine he will have associated with him Dr. J. B. McConnell, vice-dean. The chair of medicine will be further assisted by Dr. W. E. Deeks, lecturer on internal medicine; Dr. A. J. Richer, specialist in pulmonary diseases, and Dr. W. Grant Stewart. Dr. Deeks is a new member of the staff. Dr. James Perrigo, professor of gynecology, will have associated with him Dr. A. Laphorn Smith, who remains also professor of clinical gynecology. Dr. J. M. Jack, a new member of the staff, will lecture on dermatology. The chair of surgery is to be occupied by Dr. F. R. England, with whom will be associated as lecturers, Dr. F. J. Hackett, Dr. Rollo Campbell, and as instructors, Dr. George Fisk and Fr. Herbert Tatley. Another addition to the teaching staff is the appointment of Dr. Louis Laberge, the city medical officer, who replaces Dr. Richer as lecturer in hygiene. Dr. W. G. Reilly has been appointed to the chair of anatomy.

FOREIGN.

Mr. Frederiek Treves has had conferred upon him the honor of knighthood, by the King of England.

The King of England has declined to continue an honorary member of the British Medical Association, to which membership, as Prince of Wales, he was elected in 1900.

Progress of the Plague.—According to the *British Medical Journal* of May 11, the plague returns for all India, during the week ending April 13, gave 8429 cases as against 11,606 the previous week. In Bombay City 714 deaths occurred, and in the Bombay districts, 767. The same week, in Calcutta, the deaths numbered 548, and 859 the previous week, with 358 deaths in Benares for the week ending April 13. Constantinople reports a case May 1, at Galata, and the sanitary council in Constantinople has decided to medically inspect all passengers leaving the city by land or sea. During the week ended May 2, in Mauritius, 3 plague cases occurred and 2 deaths.

Association News.

For additional ASSOCIATION News see page 1510.

Report of the Committee on Transportation.

The Committee on Transportation of the AMERICAN MEDICAL ASSOCIATION regrets to say that its labors have been very much increased and the railroad rates and time limit of tickets with extension and stop-off privilege greatly jeopardized by the meddlesome and persistent interference of certain persons, chiefly a layman in Chicago, whose action in attempting to concentrate business over a favorite line has nearly resulted in the failure, on the part of your Committee, to secure a rate of one fare plus \$2 for the round trip to St. Paul, through the Central and Western territories. This interference has resulted in the Central and Western Passenger associations refusing to grant a stop-off privilege at Milwaukee, Wis., to the members of the ASSOCIATION, many of whom are members of the American Medico-Psychological Association. You have this situation before you: The Transportation Committee of your Board of Trustees, working in the interests of each and every member of the AMERICAN MEDICAL ASSOCIATION, and not asking nor receiving of the railroad companies deadhead transportation or its services, while in another direction you have a layman, not a member of the ASSOCIATION, but assuming to speak for it, and acting as an agent of a particular road, circularizing the regular profession, and throwing every obstacle in the way of

your Committee in its earnest endeavors to secure the best rates, stop-off privileges, and time extension possible for the delegates to the ASSOCIATION meeting. Your Committee has but one object in view, that is, the best possible rates for the ASSOCIATION, and it asks you as members, personally interested, to discountenance this annual jeopardizing of your interests by commercial laymen. After an almost constant correspondence since January last, with the various railroad associations, your Committee, notwithstanding the many obstacles and interferences from the source cited, has eventually succeeded in securing a one fare plus \$2 rate, with time extension to July 15, if properly applied for in the Western and Central territories, and a one and one-third rate for the round trip through the Trunk Lines territory, with the same time limit extension privilege. Your Committee has secured a one and one-third fare rate in the New England territory, and expects to be able to secure the time and extension privilege granted in the other territories. In consequence of the manipulations of outsiders in opposition to your Committee, the Western Passenger Association and all others have persistently and most positively refused to permit a stop-off at Milwaukee to our delegates. In order to break up this unfair discrimination against our delegates by the western roads in general, and the one in particular which has loaned itself to the party opposing your Committee's efforts, I have prevailed upon one of them, the Chicago, Milwaukee and St. Paul Railway Company which is friendly to us, and championed our wishes, to give official notice to the Western Passenger Association that it would break that territory compact, and grant a stop-off at Milwaukee to our members, thereby permitting them to attend the meeting, June 11 to 14, and thus checking this unjust discrimination against us, and the members of the American Medico-Psychological Association. Your Committee earnestly advises the physicians to patronize on this occasion the roads which have worked in your interests, and with your duly appointed and faithful Committee, and place forever your stamp of disapproval upon the roads, methods and manipulators who discriminate against you or oppose your just and proper interests. Your Committee recommends to the delegates of the New England and Eastern States as the best and most convenient route: the Pennsylvania Railroad and connecting lines direct to Chicago, and from there out of Pennsylvania (Union) station, the Chicago, Milwaukee and St. Paul road, will grant, on returning, the stop-off at Milwaukee to the delegates and others who go to the St. Paul meeting over that road, and will extend the time limit to July 15, and protect the tickets returning through the various railroad association territories: provided the return tickets are duly deposited with its local agent at St. Paul or Milwaukee as required.

H. L. E. JOHNSON, M.D., Chairman.

The Truax Circular.

WASHINGTON, D.C., May 21, 1901.

To the Editor:—The following telegram, from Dr. Chas. A. L. Reed, was received by Dr. H. L. E. Johnson in reply to his queries as to the Truax circular, and speaks for itself:

CINCINNATI, OHIO, May 20.

Dr. H. L. E. Johnson, Washington, D. C.

The Truax circular was printed and distributed before I knew of use of my name as member of committee. I recognize the committee on transportation alone authorized to act for ASSOCIATION.

Chas. A. L. Reed.

H. L. E. JOHNSON,
Chairman Committee on Transportation.

St. Paul Entertainments.

General plans for the entertainment of the members of the AMERICAN MEDICAL ASSOCIATION, have been practically made. The program furnished by the local committee is as follows: Tuesday evening, June 4, is to be devoted to banquets. The Sections of surgery, gynecology and cutaneous diseases will dine at 8.30 at the Ryan. The Merchants', at the same hour, will entertain the Sections on medicine, materia medica, therapeutics, physiology, dietetics, hygiene and pathology. The Section

on ophthalmology will dine at the Minnesota Club, south dining-room. The Sections on diseases of children and stomatology will be represented at a dinner at the Windsor, and the Section on laryngology will dine at the Minnesota Club, north dining-room. The Section on nervous and mental diseases will dine at the Town and Country Club. Wednesday evening there will be receptions at the homes of George Thompson, Dr. Charles A. Wheaton, Michael Doran, Gustave Scholle and Drs. A. J. Stone and Haldor Sneve, all on Summit Avenue, and a smoker will be given at the Ryan after 10 o'clock, by the state and county medical societies. Thursday evening the visitors will see the state university. There will be a ball in the armory and a promenade on the campus, given by physicians of Minneapolis.

Program of Ladies' Entertainment Committee.

From 4 to 6, Tuesday, a reception will be given by Mr. and Mrs. T. E. W. Villiers Appleby, at their home, 226 Summit Avenue. Wednesday, at 9:30, Mrs. Charles L. Greene will conduct the women by trolley to Minnehaha Falls. Thursday, at 2, there will be a drive through Como Park, in charge of Mrs. Archibald MacLaren. Friday morning a steamboat excursion will be taken to Fort Snelling, under the direction of Mrs. A. J. Stone. Mrs. George B. Young is chairman of the ladies' committee on entertainment, and Dr. Burnside Foster is chairman of the general committee on entertainment. Friday night, after the business of the convention has been finished, a special Northern Pacific train will be ready to convey the physicians to the Yellowstone National Park.

An Invitation.

Members of the AMERICAN MEDICAL ASSOCIATION are invited to avail themselves of the headquarters secured by the *St. Paul Medical Journal*, in a room adjacent to the general exhibits, during the St. Paul meeting, for writing, reading, smoking and general lounging.

General Committee on Organization.

The following physicians constitute the Committee on Organization of the medical profession of the United States:

R. M. Cunningham, Alabama.	J. W. Gunn, Montana.
P. B. Davis, Arizona.	Robert McConaughy, Nebraska.
W. B. Laurence, Arkansas.	Granville P. Conn, New Hampshire.
Thomas Ross, California.	W. A. Phillips, Nevada.
J. N. Hall, Colorado.	J. H. Sloan, New Mexico.
L. B. Almy, Connecticut.	E. D. Ferguson, New York.
Willard Springer, Delaware.	G. W. Pressley, North Carolina.
G. W. Cook, Washington, D.C.	C. M. Keeling, South Dakota.
W. L. Hughlet, Florida.	H. J. Rowe, North Dakota.
Samuel C. Benedict, Georgia.	F. D. Bain, Ohio.
Ed. E. Maxey, Idaho.	R. D. Love, Oklahoma Territory.
Geo. N. Kreider, Illinois.	Harry Lane, Oregon.
Walker Schell, Indiana.	Geo. W. Guthrie, Pennsylvania.
LeRoy Long, Indian Territory.	Geo. R. Dean, South Carolina.
R. E. Cundiff, Iowa.	J. A. Crook, Tennessee.
J. W. Porter, Kansas.	H. A. West, Texas.
Jas. H. Letcher, Kentucky.	A. S. Bowers, Utah.
F. W. Parham, Louisiana.	M. R. Crain, Vermont.
E. H. Hill, Maine.	Hugh T. Nelson, Virginia.
J. McPherson Scott, Maryland.	Chas. G. Brown, Washington.
E. B. Harvey, Massachusetts.	A. H. Thayer, West Virginia.
A. B. Alvord, Michigan.	J. F. Pritchard, Wisconsin.
Walter Courteny, Minnesota.	Geo. Johnson, Wyoming.
J. G. Featherstone, Mississippi.	Geo. D. Hersey, Rhode Island.
U. S. Wright, Missouri.	

This Committee is called to meet at the Hotel Ryan, St. Paul, June 3, at 2 p. m.

Married.

P. H. SALTER, M.D., to Miss Ada Butterfield, both of Norfolk, Neb., May 22.

E. FRANK REAMER, M.D., to Miss Josie Berg, both of Minneapolis, Minn., May 15.

R. ALEXANDER BATE, M.D., Louisville, Ky., to Miss Calloway, of Eminence, Ky., May 15.

JOHN HAZELWOOD, M.D., New Albany, Ind., to Miss Pearl Meder, of Louisville, Ky., May 15.

J. EVERETT PIERPOINT, M.D., Skidmore, Mo., to Miss Jessie M. Bentley, of Concordia, Kan., May 7.

SHALER BERRY, M.D., to Miss Jessie Southgate, M.D., both of Newport, Ky., at Hamilton, Ohio, May 7.

HENRY C. SNITCHER, M.D., Jr., Denver, Colo., to Miss Ada B. Kaiper, of Cincinnati, at Denver, May 1.

JOSEPH JAMES CURRY, M.D., acting assistant surgeon, U. S. Army, to Miss Helen Hamilton, of Zanesville, Ohio, April 28.

Deaths and Obituaries.

Marie J. Mergler, M.D., Woman's Medical College, Chicago, 1879, died from pernicious anemia, May 8, aged about 50. Dr. Mergler was one of the most prominent and highly esteemed women in the profession. Until her illness, she was dean of the Northwestern University Woman's Medical School, and for the past eight years she occupied the chair of gynecology in that school. She was the first woman to pass the examination for interne at the Cook County Insane Asylum. A few weeks ago she was obliged to leave Chicago on account of continued ill-health and went to Los Angeles, Cal., where she died. She was a member of the Chicago Medical Society, Illinois State Medical Society, Illinois State Medical Society, Mississippi Valley Medical Association and the AMERICAN MEDICAL ASSOCIATION.

Andrew K. Minich, M.D., Jefferson Medical College, Philadelphia, 1870, a surgeon in the German army during the Franco-Prussian War, for more than twenty years visiting physician at the Episcopal Hospital, quiz master and lecturer in Jefferson Medical College for many years, and a member of the AMERICAN MEDICAL ASSOCIATION, died from cancer of the throat at his residence in Philadelphia, May 11, aged 53.

Frank Crampton Hoyt, M.D., University of Louisville, Ky., 1885, Superintendent of the Iowa Hospital for the Insane, Mount Pleasant, a member of the New York Medical Society, American Medico-Psychological Association, Iowa State Medical Society and the AMERICAN MEDICAL ASSOCIATION, died at his home in Mount Pleasant, from tuberculosis, complicated with rheumatism, May 21.

Charles Rice, M.D., for the last twenty-five years chemist of the New York Charities Department and chairman of the Committee on Revision of the Pharmacopeia of the American Pharmaceutical Association, died from asthma, in Bellevue Hospital, May 13, aged 65.

Robert Bolling, M.D., University of Pennsylvania, 1855, a student for four years thereafter in Paris, later demonstrator of anatomy under Dr. D. Hayes Agnew, and for more than forty years a practicing physician at Chestnut Hill, Philadelphia, died at his home in that place, May 12, aged 67.

Harry E. Dawson, M.D., College of Physicians and Surgeons, Baltimore, Md., 1892, and a post-graduate of Johns Hopkins University, died at his home in North Scranton, Pa., May 13, from rheumatism, after a protracted illness, aged 36.

Eugene L. Priest, M.D., Kentucky School of Medicine, Louisville, 1876, a leader in the movement that resulted in the enactment of the Hall medical bill, died at his home in Nevada, Mo., May 8, from pneumonia, after a short illness, aged 51.

Samuel Hanson, M.D., Medical School of Maine, Brunswick, the oldest practitioner in Houlton, Maine, died at his home in that place May 7, after an invalidism of thirteen years from inflammatory rheumatism, aged 67.

Frank E. English, M.D., Rush Medical College, Chicago, 1864, a pioneer physician of Polk County, Iowa, died at his home in Valley Junction, Iowa, May 8, from meningitis following la grippe, aged 60.

Daniel Humphrey, M.D., Vermont Medical College, Woodstock, 1852, the oldest practicing physician in Lawrence, Mass., died at his home in that city, May 9, after an illness of three months, aged 76.

Thomas I. Hodgkin, M.D., University of Victoria Medical College, Cobourg, Ont., 1862, who formerly practiced at Guelph, died at his home in Deer Park, Toronto, Ontario, May 6, aged 84 years.

James Hayes, M.D., College of Physicians and Surgeons, New York, 1862, an old and respected citizen of Plainfield, N.J., died at his home in that place, May 12, after an illness of two years.

Alonzo P. Casier, M.D., Albany Medical College, 1880, died after an illness of fifteen years from pulmonary trouble, at his residence in St. Johnsville, N. Y., May 11, aged 56.

Robert B. Bell, M.D., Detroit (Mich.) Medical College, 1898, a practitioner of Manistee, Mich., died in Toronto, Ontario, from typhoid fever, May 13.

William K. Jones, M.D., University of Pennsylvania, 1856, died May 9, at his home in Montgomery, Ala., after a long illness, aged 67.

J. E. Patterson, M.D., Jefferson Medical College, Philadelphia, 1860, died at his home in Harveys, Pa., May 8, after a long illness.

John W. Drew, M.D., State University of Iowa, Iowa City, 1885, died at his home in Onawa, Iowa, May 13, from acute gastritis.

Angus Noble, M.D., Jefferson Medical College, Philadelphia, 1868, died at his home in Wellsville, Ohio, from paralysis, May 7.

Book Notices.

TUBERCULOSIS AS A DISEASE OF THE MASSES, AND HOW TO COMBAT IT. Prize Essay by S. A. Knopf, M.D., New York. Paper. Pp. 86. Price, 25c. New York: M. Firestack. 1901.

This is a republication of the essay which obtained the prize offered at the International Tuberculosis Congress in Germany. It was selected from among a large number of other competing essays by European authors, and this fact is not only most creditable to the author but also reflects credit on the country from which the work came. The volume is intended to give to the general public such ideas regarding pulmonary tuberculosis and tuberculosis of other organs as will best enable them to resist it and ward off infection and to meet the early symptoms and predisposition in the best and most successful way. From a perusal of the work it is evident that the author has met the demands, and while he points out the dangers and the precautions to be taken he also avoids the extreme statements and advices that are going the rounds so much and often on medical authority. The book is as sensible as well as a scientific one. It is written in such a way as to be readily intelligible by non-medical readers, and we believe its circulation will do a vast amount of good. It has been widely circulated in Germany and translations have been made, we understand, into a number of European languages. The American edition has been somewhat modified from the German; the work as published is not exactly the same as that which appeared abroad, its differences being such as are necessitated by our laws and institutions. It is profusely illustrated and handsomely gotten up by the publisher, and it will undoubtedly have, as it deserves, a wide circulation and popularity.

PULMONARY CONSUMPTION, PNEUMONIA, and Allied Diseases of the Lungs; Their Etiology, Pathology and Treatment, with a Chapter on Physical Diagnosis. By Thomas J. Mays, A.M., M.D., Professor of Diseases of the Chest in the Philadelphia Polyclinic. Illustrated. Cloth. Pp. 539. Price, \$3.00. New York: E. B. Treat & Co. 1901.

The views of the author of this volume have been published in various articles by him, and the present work is simply a detailed expansion of them. He sums up his fundamental con-

cepts as follows: "1. That pulmonary phthisis in the large majority of cases is primarily a neurosis, and that the pulmonary disintegration is secondary. 2. That any agent, influence, or condition which undermines the integrity of the nervous system will engender pulmonary phthisis, or some other form of pulmonary disorder. 3. That the only remedies of value in the treatment of pulmonary phthisis are those which appeal to, and act through the nervous system. 4. That of special value in the treatment of phthisis is the counter-irritant action of silver nitrate introduced hypodermically over the vagi in the neck. 5. That acute pneumonia, and other forms of acute pulmonary diseases are closely affiliated with disorder of the nervous system." While the majority of the profession, it is safe to say, will not agree with him, the work will be found of interest and probably instructive to a great many readers. The author combats vigorously the views held by some as to the extreme contagiousness of consumption, and his book may be taken in a certain sense as a special statement and plea for due consideration of the resisting powers of the organism. These are being slighted, we believe, too much by many at the present day. As regards the treatment by nitrate of silver introduced hypodermically in the neck, we doubt whether it will be generally practiced, or considered as worthy of being seriously taken up by most of the profession, but the essential point made, that through the nervous system much can be done to increase the resistance to pulmonary disease, may be accepted as a truth to a very large extent.

THE FEEDING OF INFANTS. Home Guide for Modifying Milk. By Joseph E. Winters, M.D., Professor of Diseases of Children, Cornell University Medical College. Cloth. Pp. 47. Price, 50c. New York: E. P. Dutton & Co. 1901.

There seems to be a flood of books at the present time on the feeding of infants, a worthy subject for our best efforts. Winters' little book is the most unpretentious of any that have come into our hands, and it is nevertheless to be commended. It gives a detailed account of the preparation of various infant foods and gives a formulary for the home modification of milk for infant feeding. The importance of the subject is not yet fully appreciated by the public, nor by some of the profession, and there are some details in regard to it in which we are yet in need of information, but this little volume seems to give a fair resumé of the facts and will be found convenient for reference. It is not so strikingly medical that lay readers might not profit by its perusal.

THE BOUDOIR COMPANION. By Flora L. S. Aldrich, M.D., Anoka, Minn. Cloth. Pp. 127. Price, \$1.00. Published by the Author. 1901.

The title is misleading. A boudoir is a lady's—or it may be a gentleman's—private room, hence a book with such a name as the one before us might treat of manicuring or hair dressing, of how to take out wrinkles or put on the tint of youth and beauty. But it has nothing to do with any of these. It would have been better had it been called a companion for the wife and mother. Though an unpretentious little volume, it is large enough to contain much sensible advice to and information for the pregnant woman and the mother; it tells the former how to take care of herself; and the latter how to take care of her child. The author has treated the subject in a conservative and sensible manner, with no pretention of making her book supplant the physician. It is one of the few that the physician can conscientiously recommend to his patient who is to become a mother, for the information it gives will generally receive his endorsement.

DISEASES OF THE NOSE AND THROAT. By D. Braden Kyle, M.D., Clinical Professor of Laryngology and Rhinology, Jefferson Medical College, etc., with 175 Illustrations, 23 of them in Colors. Cloth. Pp. 646. Price, \$4.00. Second Edition: Philadelphia: W. B. Saunders & Co. 1900.

Dr. Kyle has written a book that has been accepted by the profession as one of the best on diseases of the nose and throat. His new edition is already called for, although the last edition was only issued in September, 1899. We can commend particularly the original illustrations and the descriptive text of the pathologic conditions that show his familiarity with this

branch of the subject, and we can recommend the volume to those who need a work on these diseases.

LARYNGEAL PHTHISIS. By Richard Lake, F.R.C.S., Surgeon, Laryngological, North London Hospital for Consumption, etc. With Thirty-six Illustrations. Cloth. Pp. 94. Price \$2.00. Philadelphia: P. Blakiston's Son & Co. 1901.

This attractive little book of ninety pages presents the author's personal observation of over three hundred cases of the disorder. The bulk of the work is given up to a concise statement of symptoms, signs, pathology, prognosis and local treatment, and a brief display of cases from the author's clinical records. The thirty-six cuts are excellent in drawing, but the coloring is somewhat exaggerated, a criticism, however, which is applicable to the vast majority of colored plates made to represent the mucous membrane, normal, and the seat of various degrees of inflammation. The author has included an instructive tabulation of his 329 cases. The book is an addition to the literature of the subject, because it is a result of personal experience and not a mere repetition of the work of others.

INTERNATIONAL GLOBE AND GEOGRAPHICAL MANUAL. The International Globe being printed back to back on one sheet. Circular in Form, 28 inches in Diameter. Price \$2.00. International Globe Co., Continental National Bank Building, Chicago.

This is a convenient form of condensed geography, the circular map with its attendant pamphlet furnishing a handy bird's-eye view of the great natural and political divisions of our globe.

Miscellany.

Thrombosis of Iliac Vein.—Dr. William Osler exhibited at a recent clinic a case of thrombosis of the iliac vein following pneumonia, and the second case seen at the Johns Hopkins Hospital this year. Pneumonia has the largest percentage of fibrin of any acute disease. The fibrin can be seen between the rouleaux of red corpuscles and, postmortem, firm hard clots are found in the heart. It is almost the only disease in which we can draw out firm clots from veins and sinuses. In this case a cord could be felt extending from the middle of Poupart's ligament some eight inches toward the umbilicus. There was no tenderness. There is danger of detachment of the clot and sudden death. Hence the limb should be kept absolutely at rest and should not be moved or handled much.

Fads in Medicine.—M. R. Brown, M.D., in the *Chicago Sunday Tribune*, says: "From the days of Hippocrates until the present time the mission of medicine has been to find out the truth as to physical well being and by applying it to benefit mankind. It has studied with scientific interest or viewed with pity whatever 'pathies' or fads have risen in its domain, flourished for a time, and then fallen into decay. If by fads in medicine we are to understand (as the definition of the word implies) a trivial fancy adopted and pursued for a time with irrational zeal, or a matter, whether important or unimportant, imperfectly understood and taken up and urged with more zeal than sense, we will find less fads in medicine than in any of the other sciences. In fact, medicine, as I understand it in its strict sense, is free from fads, but when confused with some of the irregularities bordering on or embraced in quackery, it must be admitted that it abounds in fads. Experiments carried on with almost irrational zeal by some enthusiasts in medicine have not been done as a fancy but as a search after knowledge or as a means of benefitting mankind, and therefore can not rightly be considered fadism. If a new principle is enunciated, a new remedy discovered, or a new method of treatment worked out, patients flock for a longer or shorter time to the physician concerned, and such a practice is often called a fad. But the definition given does not apply. As instances of real fads I would mention osteopathy and mental therapeutics, including in the latter term 'Christian Science,' faith healing, and Dowieism, mind cure, etc. The former owes its recent origin to an obscure physician in western Missouri. It had an earlier origin from Borelli, who flourished in Naples in

the early part of the seventeenth century. It is a mechanical theory of medicine, and like massage, of which it is an improved form, it has or may have a limited use. To maintain it as an exclusive system is illogical, is a substitution of a part for the whole, and the present pursuit of it is clearly fadism. Mental therapeutics, especially in its most fashionable form of 'Christian Science,' is only a revival, with Christian symbols, of the old pagan worship of the god Æsculapius in pre-Homeric days. The faith healers of that epoch, who were called Asclepiads and who were bitter opponents of Hippocratic or scientific medicine, repudiated drugs and healed, or claimed to heal, disease by sacrifices, prayer, and moral agencies. This seems to be the most rampant 'medical fad' of the day, but it will, like its ancient prototype, run its course and be forgotten, for if disease is mere imagination and medicine a delusion, then all experimental science in all the practical departments of life is equally so—a conclusion which common sense refuses to accept. Medicine will endure and be a power for good so long as men have bodies to suffer or decay. Like its mistress—truth—it is everlasting. It is not omniscient nor infallible. It is subject to the limitations of human nature. Its field of work, the human body, is still mysterious and obscure and affected by all manner of influences from the vast world outside. But medicine is honest and unselfish and pursues its steadfast course, confident that fads and systems will perish and that the truth will endure.

Societies.

COMING MEETINGS.

- American Medical Association, St. Paul, Minn., June 4-7.
- American Laryngological Association, New Haven, Conn., May 27-29, 1901.
- American Pediatric Society, Niagara Falls, N. Y., May 28, 1901.
- American Gynecological Association, Chicago, May 30-June 1.
- American Climatological Association, Niagara Falls, N. Y., May 30, 1901.
- Association of Military Surgeons of the United States, St. Paul, May 30, 31, June 1, 1901.
- American Academy of Medicine, St. Paul, Minn., June 1-3.
- National Con. State Medical Examiners and Licensing Boards, St. Paul, Minn., June 3.
- Association of American Medical Colleges, St. Paul, June 3.
- American Medical Editors' Association, St. Paul, June 3.
- Minnesota State Medical Society, St. Paul, June 3.
- Indian Territory Medical Association, Vinita, June 4-5.
- American Proctological Association, St. Paul, Minn., June 4-5.
- American Dermatological Association, Chicago, June 4-6.
- Rhode Island Medical Society, Providence, June 6.
- South Dakota State Medical Society, Huron, June 10-11.
- International Association of Railway Surgeons, Milwaukee, June 10-12.
- Medical Society of Delaware, Lewes, June 11.
- Oregon State Medical Society, Portland, June 11-12.
- American Medico-Psychological Association, Milwaukee, Wis., June 11-14.
- Maine Medical Association, Portland, June 12-14.
- Massachusetts Medical Society, Boston, June 12.
- Colorado State Medical Society, Denver, June 18.
- American Orthopedic Association, Niagara Falls, June 11-13.
- Medical Society of New Jersey, Allenhurst, June 25-27.
- Wisconsin State Medical Society, Waukesha, June 26.

Lancaster City and County (Pa.) Medical Society.—At the meeting of this Society, May 1, ten members were elected delegates to the AMERICAN MEDICAL ASSOCIATION.

American Association of Life Insurance Examining Surgeons.—The meeting of this Association will be held in the Masonic Hall, Lowry Arcade, St. Paul, and not in the rooms of the Ramsey County Medical Society as announced in last week's issue.

Association of Life Insurance Medical Directors.—The annual meeting of this Association will be held in Hartford, Conn., May 28 and 29, under the presidency of Dr. George R. Shepherd, Medical Director of the Connecticut Mutual Life Insurance Company.

Ohio Pediatric Society.—The seventh annual meeting of this Society was held in Cincinnati, May 8, president, John M. Dunham, Columbus, in the chair. The following officers were elected: Dr. David S. Hanson, Cleveland, president; Drs. Thomas V. Fitzpatrick and John H. McCassy, Dayton, vice-

presidents, and Dr. J. D. Kafron, Cincinnati, secretary and treasurer.

Southern California Medical Society.—The twenty-seventh semi-annual meeting of this organization was held in San Diego, May 1 and 2. The election of officers resulted as follows: Dr. Wesley W. Beckett, Los Angeles, president; Drs. Fitch C. E. Mattison, Pasadena, and Dr. Charlotte Baker, San Diego, vice-presidents, and Dr. Frank D. Bullard, Los Angeles secretary and treasurer.

Indiana State Medical Society.—This Society held its fifty-second annual meeting in South Bend, May 15, 16 and 17, and elected Dr. Alenbert W. Brayton, Indianapolis, president; Dr. J. B. Berteling, South Bend, vice-president; Dr. Frederick C. Heath, Indianapolis, secretary; Dr. William H. Gilbert, Evansville, assistant secretary, and Dr. Albert E. Bulson, Jr., Fort Wayne, treasurer. Evansville was selected for the next meeting.

Association of Surgeons of the Southern Railway.—This Association met at Mobile, May 7, 8 and 9. The election of officers resulted as follows: Dr. Thomas H. Hancock, Atlanta, Ga., president; Drs. Rhett Goode, Mobile, Ala., and Henry C. Fairbrother, East St. Louis, Ill., vice-presidents; Dr. Samuel Lile, Lynchburg, Va., secretary and treasurer, and Dr. W. C. Connally, Dallas, Ga., censor. The 1902 meeting will be held in Washington, D. C.

Association of Military Surgeons of the United States.—The Surgeon-General of the Navy has designated Medical Director Delavan Bloodgood to represent the navy at the St. Paul meeting of this Association; Major John Van R. Hoff and Captain Alfred E. Bradley will represent the Army, and the governor of Minnesota has appointed Drs. Reynaldo J. Fitzgerald and Charles E. Dutton, Minneapolis; Dr. William Jacoby Wells; Dr. William H. Rowe, St. James; Dr. Asa F. Goodrich, St. Paul; Dr. Alvinza B. Cole, Fergus Falls, and Dr. John N. Dorsey, Glencoe, delegates from the state.

Chicago Society of Internal Medicine.—The annual banquet of this Society was held at the Auditorium, May 16, Dr. William Osler, Baltimore, being the guest of honor. Dr. John A. Robison presided, and "Medicine" was discussed in its various forms and phases, as follow: Dr. Llewellys F. Barker, "Foundation Stones of Medicine"; Dr. Walter S. Christopher, "Tendencies of Medicine"; Dr. John B. Murphy, "Surgery of Medicine"; Dr. Norval H. Pierce, "Music in Medicine"; Dr. Frank Billings, "Chicago Medicine," and Dr. William A. Evans, "Finalities of Medicine."

New Mexico Medical Society.—The twentieth annual session of this Society was held in Alamogordo, May 8 to 10, Dr. G. C. Bryan, Alamogordo, presiding. The following officers were elected: Dr. George W. Harrison, Albuquerque, president; Drs. G. C. Bryan, Alamogordo, B. E. Lane, Las Cruces, Charles M. Whiche, Carlsbad, vice-presidents; Dr. J. Frank McConnell, Las Cruces, secretary, and Dr. Walter G. Hope, Albuquerque, treasurer. Delegates to the AMERICAN MEDICAL ASSOCIATION were also appointed. The next session will be held in Albuquerque, May 14, 1902.

Mississippi State Medical Association.—The thirty-fourth annual meeting of this Association was held in Jackson, May 9, 10 and 11. The following officers were elected: Dr. James M. Buchanan, Meridian, president; Drs. Charles D. Mitchell, Pontotoc, and Anthony Miller, Panther Burn, vice-presidents; Dr. Clifford H. Trotter, Winona, secretary; Dr. Benjamin L. Culley, Jackson, assistant secretary; Dr. David S. Humphreys, Greenwood, corresponding secretary, and Dr. John F. Hunter, Jackson, treasurer. Delegates to the AMERICAN MEDICAL ASSOCIATION were also elected.

American Medical Temperance Association.—This association will hold its tenth annual meeting in the Ryan Hotel, St. Paul, June 5. The program will include the president's address and the following papers:

Dr. N. S. Davis, Chicago, "Shall We Continue Striving to Improve the Environment of the Poor and Render Sterile by Mutilation and Electrocution the Degenerates to Prevent their Propagation of their Kind, or Shall We More Directly Prevent their Poverty and Degeneracy by Removing the Chief Causes?" Dr. H. A. Didama, Syracuse, N. Y., "The Decline of Alcoholic Medication Abroad"; Dr. W. S. Hall, Chicago, "Alcohol as a Stimulant and its Fallacies"; Dr. John Madden, Milwaukee, Wis., "The Recrudescence of Alcohol"; Dr. E. Stuver, Fort Collins, Colo., "Alcohol in High Latitudes"; Dr. T. D. Crothers, Hartford, Conn., "Text-Book Teachings of Alcohol in Common Schools"; Dr. Ivan D. Mishoff, Milwaukee, Wis., "Why Men Use Alcohol," and Dr. Dudley H. Reynolds, Louisville, Ky., "The Danger of Cigarettes to the Young."

Michigan State Medical Society.—The thirty-sixth annual meeting, at Battle Creek, was presided over by Dr. Philo D. Patterson, Charlotte. The session opened May 15 and con-

tinued for two days. Among the matters of importance brought up was the report of the Committee on legislation, which, through its secretary, Dr. Emil Amberg, Detroit, presented the following proposed changes in the state medical laws: 1. That all graduates from medical schools shall come before the board for examination. 2. That only graduates of reputable medical colleges be admitted to practice; reputable medical colleges being those whose course of study is not less than four years in length and is approved by the board. 3. That before entering a medical school a candidate must be a graduate of a high school with certain requirements or else submit to an examination in the presence of some member of the board. 4. That the equipment and number of laboratories in medical schools shall be specified in their announcements and inspected by the board. 5. That licenses can be revoked by the board for fraud in connection with the registration and for immoral conduct of practitioners.

THE AMERICAN SURGICAL ASSOCIATION.

Meeting held in Baltimore, May 7, 8 and 9, 1901.

The President, Dr. Roswell Park, of Buffalo, in the chair.

MAY 7—MORNING SESSION.

Some Phases of the Cancer Question.

The President read his Annual Address, entitled as above, and stated that pathologists, who study the condition purely from the dead-house point of view, have confronted some of the greatest problems which it has to offer, but have also missed some of its most important aspects. The parasites of cancer, be their nature what it may, are in all probability polymorphic in extreme degree and masquerade under many forms, changing with their different stages of reproduction. There is no other disease which is characterized by metastasis in which the pathologists decline to see evidence of parasitism. Every metastasis of cancer has the form and significance of an inoculation experiment only performed under the most favorable, because natural, conditions. The primary question after all, is the general one of parasitism, but it has not yet been reduced to a question of just what parasite. In the author's opinion it may and probably will be found that cancer is not a question of any single organism, and possibly not even of a single class. The latest work of Roger Williams was then quoted at some length and reference was made to Demarquay, who collected 134 cases of cancer of the penis, whereas in only one instance was the wife affected with uterine cancer. Numerous cases are now on record of cancer along the track of the trocar used in tapping for ascites due to cancerous disease, and surgeons now generally admit this traumatic dissemination of the disease by inoculation of wounds during operations. From studies already made in the New York State Laboratory it seems to be clear that death in cases of cancer comes about, as in so many other diseases, by a sort of terminal infection, which is a conspicuous feature of the disease and has not hitherto attracted sufficient attention. The exact nature of these terminal changes has not yet been made out beyond what is implied in the term "Hematogenous." The predictions of the Italians have failed in many respects, and it is by no means so easy to successfully inoculate animals with the yeast as has been generally supposed. By comparing tumors removed by operation with those removed postmortem, it becomes evident that the organisms either increased rapidly during the period just before death, or that they proliferate in the tissue immediately after death. In practically all scrapings from cancer could be seen either small hyaline refractive forms which in suspension possess a characteristic oscillating motion, or larger forms with projecting pseudopodia, or sacular forms containing very refractive spherical bodies.

The work of Dr. Gaylord in association with the author was then dwelt upon at considerable length. A full report was promised in a short time of the results of inoculating seventy-two animals with the technique employed. That cancer begins as a purely local infection has been verified by the recent experiments made by the author in the laboratory at Buffalo, and also that it kills by becoming generalized, which is equally true to tuberculosis. The author concluded his paper by stating, "I want to make it as evident as possible that carcinoma is an epithelial infection."

Mammary Cancer.

Dr. W. S. HALSTED, of Baltimore, made a few remarks on a "Brief Consideration of the Cases of Cancer of the Breast," treated at the Johns Hopkins Hospital since 1889. He re-

ported having operated on 320 cases of carcinoma of the breast and 450 cases of the breast tumor, as well as three cases of primary sarcoma of the breast. He referred to the difficulty of compiling statistics and demonstrated the method of grouping the cases at the Johns Hopkins in order to arrive at the approximate results. His experience is that the percentage of recurrences is very variable, and he reported that out of 129 cases operated upon, 51 had been cured.

Treatment of Inoperable Sarcoma.

DR. W. B. COLEY, of New York, read a paper entitled "Late Results of the Treatment of Inoperable Sarcoma with the Mixed Toxins of Erysipelas and Bacillus Prodigiosus, with a Report of Cases." The writer stated that the object of the paper was to determine, if possible, whether the action of the toxins upon sarcoma is to be regarded as of temporary or permanent value; in other words, whether or not it is entitled to be called curative. Fifteen cases have passed the three-year limit, and two of them are now well at the end of three and three-fourths, and four and one-fourth years respectively. Thus far no permanent successes have been obtained in melanotic growths nor in lympho-sarcomas of the neck. The writer still believes that the action of the toxins upon malignant tumors can be explained only upon the theory that such tumors are the result of some infectious micro-organism, and this view is strongly supported by the recently expressed opinion of Czerny.

Mental Influence on Malignant Disease.

DR. JOSEPH D. BRYANT, of New York, read a paper entitled "The Influence of Mental Depression on the Development of Malignant Diseases," in which he dwelt at length on the history of cancer as affected by mental depression. Paré in 1510 was the first man to refer to mental perturbation, anger and the like, as making a cancer "more fierce and raging," while the same authority under the head of treatment, insists that the patient must eschew fasting, watching, sorrows, cares and mourning. Sir Astley Cooper was of the same opinion, while Velpeau thought otherwise. Grant and Napoleon have been referred to as examples of cancer following reverses, and Paget and Virchow gave a qualified allegiance to the passive side of the question. The foundations of the different phases of the contention rest on the beliefs, 1, that cancer may result from the direct influence of mental depression; 2, that cancer may arise indirectly from mental depression because of the defective nutrition attendant upon it, and 3, that mental depression exercises in no respect influences that admit of sufficient proof to warrant serious discussion. The author referred to the infrequency of cancer in insane patients, and stated that females suffered twice as often as males. Statistics were given from a number of institutions which showed that the death-rate in the female was nearly double that of the male, although there were more male melancholics, but melancholia in the male does not seem to exercise any distinctive effect on the death-rate. Neither is melancholia in the male more often associated with cancer than with other forms of malignant growths.

AFTERNOON SESSION.

DR. J. COLLINS WARREN of Boston in discussing the foregoing papers stated that there were several different ways of approaching the question as exemplified by different writers, and referred to the geographical, statistical, histological, experimental, and blastomycetic. The experimental was divided into chronic irritation and inoculation, and reference was made to the fact that two papers had appeared during the year in favor of the protozoan theory of the disease. Lack produced peritoneal cancer in a rabbit by scraping the ovaries, which observation, so far as known, has not been confirmed by any other observer.

Clinical Value of Blood Examinations in Appendicitis.

DR. J. C. DA COSTA discussed this subject under the heading of, 1, methods and technique; 2, classification; 3, the anemia of appendicitis. The details under each one of these headings was discussed at great length and a large number of blood counts were given, both actual and comparative.

Blood Examination in Relation to Surgical Diagnosis.

DRS. J. B. BLAKE, J. C. HUBBARD and R. C. CABOT read a paper on this subject, and divided the subject into, 1, the leucocyte count in fracture; 2, postoperative leucocytosis; 3, ether-leucocytosis; 4, the effect of fear on the leucocytes; 5, regeneration of the blood after the operations on malignant

tumors, and 6, blood examinations in relation to intestinal perforation in typhoid fever.

Effect of Ether on the Blood.

DRS. J. CHALMERS DA COSTA and J. L. KALTEYER of Philadelphia read a paper entitled "The Effect on the Blood of Ether as an Anesthetic." The authors concluded that the hemoglobin is absolutely reduced after the administration of ether, this reduction being manifest in the individual corpuscular hemoglobin value. The increased hemolysis which occurs in Nature's effort to rapidly replace the destroyed corpuscles and the regenerated cells are imperfectly supplied with hemoglobin. The author urges that, whenever possible, one or two blood examinations should be made before ether is administered, and these examinations should be made before preparatory treatment has been instituted. If less than 50 per cent. of hemoglobin is present an anesthetic is dangerous and should only be given in a surgical emergency which threatens life. In malignant disease a percentage of under 50 per cent. contraindicates operation. Mikulicz says no general anesthetic should be given under any circumstances if the hemoglobin is under 30, but the author believes that 40 per cent. is probably the lowest justifiable limit. If operation must be performed when the hemoglobin is under 40 per cent. a local anesthetic should be given. It is true cases with under 40 per cent. of hemoglobin are occasionally etherized successfully—for instance, one case was recalled with only 24 per cent.—but such instances are rare, are not sufficiently numerous to set aside the rule, and are only justified by the imperative necessities of a vital emergency. Whenever the percentage of hemoglobin is low the administration of the anesthetic should be entrusted only to an experienced man, as little ether as possible should be given, the surgeon should operate quickly, and proper measures should be adopted to bring about reaction promptly and to remove the ether from the lungs and blood as quickly as possible.

Examination of the Blood in Surgery.

DR. JOHN B. DEEVER, of Philadelphia, read a paper entitled "Examination of the Blood in Relation to Surgery of Scientific Value, but too often of no Practical Value and may Misguide the Surgeon." The subject of appendicitis was discussed in detail and the value of the microscope in bedside diagnosis was referred to, but the author felt that too much importance should not be attached to this as compared with the weight given to other signs of the disease, some of the latter possessing, in his opinion, greater merit as aids to the surgeon.

DR. B. FARQUHAR CURTIS, of New York, in his discussion on the foregoing papers, remarked the frequency of leucocytosis following ether anesthesia, and stated that it occurred quite as often after intraspinal anesthesia. He did not believe that leucocytosis should be considered as demonstrating the existence of infection, but rather that it should be looked upon as a fixed factor following anesthesia, illustrating this point by reference to a case. While he considered this point of great value, he felt that the temperature and pulse record were equally so.

SECOND DAY—AFTERNOON SESSION.

Pancreatitis with Special Reference to Chronic Pancreatitis.

MR. A. W. MAYO ROBSON, of Leeds, Eng., read a paper entitled as above. The author commented on the fact that he thought it strange it had not until recently dawned on the minds of clinical observers that whatever obstructs the common bile duct at its lower end must also of necessity lead to an obstruction in the pancreatic duct. When the common bile duct is obstructed the objective sign of jaundice at once demonstrates the fact, but hitherto no pathognomonic sign has been discovered which will show conclusively that the pancreatic ducts are occluded, unless it be the extreme loss of weight. When it is borne in mind that the pancreatic duct opens along with the common bile duct into the second part of the duodenum it is not a matter for surprise that pancreatitis should be met with. The essential and immediate

cause of the various forms of pancreatitis is bacterial infection, which has been positively proved both clinically in the human subject and experimentally in the lower animals. The association of gall-stone with chronic pancreatitis was absolutely forced on his mind by the frequency with which he found inflammatory enlargement of the head of the pancreas when operating for gall-stones in the common duct. Taking up the subject of fat necrosis, it was stated that this condition was commonly found in association with pancreatitis, and the relationship between the two conditions has given rise to much speculation.

Surgical Treatment of Chronic Ulcer of the Stomach.

MR. A. W. MAYO ROBSON, of Leeds, Eng., read this paper, and stated that the treatment of these cases is at first essentially medical. He compared the treatment of ulcer of the stomach with that of ulcer of the leg and particularly referred to the tendency to relapse. Twenty-three affections were referred to as complications of the condition which were looked upon as serious menaces to the treatment of the ulcer. He believed that about 25 per cent. of cases of gastric ulcer treated medically died, while only about 16 per cent. treated surgically died, according to statistics a year ago, but at the present time, while the percentage death-rate in cases treated medically remains about the same, it has been reduced to 5 per cent. under surgical treatment. A number of operations were mentioned, from which one could take his choice, and great stress was laid upon the importance of the proper preparation of the patient before operation. The number of operations performed by the author, divided up according to the number performed of each kind, were given and the method he employs in stomach and other operations involving the making of an anastomotic opening between the hollow viscera. The author demonstrated the method, which consisted practically of the employment of a method of suturing over a de-calcified bone bobbin.

DR. WILLIAM J. MAYO, of Rochester, Minn., said that excision or other form of surgical treatment is indicated in a few cases presenting special features, but the common situation of the ulceration, its varying extent and the reasonable possibility that more than one ulcer exists, makes gastroenterostomy the practical operation in the majority of cases. Not infrequently the site of the ulcer can not be discovered, rendering gastroenterostomy the operation of necessity.

The symptoms of ulcer of the stomach depend somewhat upon the situation of the disease. Ulcer is most common near the pylorus, a position which may introduce certain mechanical features, and it is in the relief of these secondary phenomena that this operation achieves its triumphs. Gastroenterostomy relieves the hyperacidity and allows prompt emptying of the ingesta, preventing irritation and aiding nutrition.

The ulcerated stomach is often contracted, and among the earlier writers it was supposed to be always small; this is but part of the truth. In acute ulcer it is small, and if the ulcerative process is not in the vicinity of the outlet it will probably remain small. On the contrary, it is during the healing process that many ulcers in the pyloric region become most troublesome. Ulcers in this situation are often extensive, and in chronic cases perhaps but partly cicatrized. Enough distortion or narrowing of the pyloric outlet takes place to materially obstruct the opening. The unhealed portion of the ulcer keeps up irregular symptoms of its presence in addition to the dilatation. In such cases symptoms of open ulcer alternate with periods of health and later signs of ulcer in a stomach, more or less dilated, supervene. The majority of cases when once cicatrized remained healed, but a minority occasionally lapse into open ulcer. The capacity of the stomach affected by ulcer is not greatly changed in the majority of cases, but if so it has a surgical significance. This gives us a good working basis for comparison: 1, ulcers in the pyloric region with a normal or enlarged stomach, and 2, ulcers in a contracted stomach.

DR. W. G. MACDONALD, of Albany, N. Y., reported two cases of posterior gastroenterostomy for the relief of chronic ulcer of the stomach. One case, which existed for eight years, did

very well for ten months, when distinct symptoms presented themselves of a well developed tumor in the region of the pylorus, the patient dying shortly afterwards of carcinoma of the stomach. The second case was very similar, except that the improvement following the operation lasted for a somewhat longer time.

DR. WILLIAM L. RODMAN, of Philadelphia, called attention to the fact that malignant degeneration frequently takes place on the site of an old benign ulcer, and also that the great majority of gastric ulcers are situated posteriorly and not anteriorly. In his opinion adhesions play a very important part in these conditions, but he felt that, if the ulcer is anterior and free from adhesion, the operation should be done, while, if it is posterior, it is out of the question.

(To be continued.)

MEDICAL SOCIETY OF THE STATE OF CALIFORNIA.

Thirty-first Annual Meeting held in Sacramento, April, 1901.

Dr. Thomas Ross, Sacramento, the president, presiding.

Bubonic Plague at the Close of the Nineteenth Century.

DR. DAVID POWELL, Marysville, in his paper went exhaustively into the history of the disease, calling attention to the fact that for the first time in its history it had reached the Western Hemisphere. He referred to the 32 fatal cases which had been reported in San Francisco in the last year, confined, with two exceptions, to the Chinese population, and lamented the frustration of repressive measures caused by the unwarranted opposition from the newspapers and business interests of the city. He reviewed the work of the Federal Commission recently appointed to investigate this matter, and their report, showing 6 of the 13 cases examined by them to have been plague. The disease has been confined almost exclusively to the Chinese, and an examination of the mortuary records of the latter for the last four years shows that there has been no time during that period when it has increased to such an extent as, in itself, to cause alarm. The recent liberal appropriation for sanitary improvement, which is now being expended under the supervision of the municipal, state and federal health authorities in San Francisco, indicate that California has at last learned, and will profit by, the lessons of past epidemics. However, the danger of fresh invasions which threaten this country, from both the Atlantic and Pacific, because of more direct and intimate communication with oriental countries, should not be forgotten. Let those on whom the responsibility rests be sure that nothing short of the vigilant exercise of the most modern sanitary precautions, and the vigorous quarantine and prophylactic measures, can prevent the insidious encroachment of this relentless enemy upon American soil.

Pathology and Bacteriology of Plague.

DR. W. H. KELLOGG, city bacteriologist of San Francisco, read this paper. He described the general characters of the bacillus, regarding morphology, staining properties, culture-media, appearance of colonies, etc. While it was until recently supposed that the plague bacillus was a very delicate organism, and easily killed by the ordinary vicissitudes of extracorporeal existence, he referred to recent experiments by Rosenau and others that seem to oppose this conclusion, and he thinks they can in no sense be considered tender organisms, as was at first supposed. He referred to the pathologic conditions found following animal experiments, and the greater susceptibility of certain animals over others. Either of the three forms of the disease may be produced in animals by varying the method of inoculation. If the culture is painted on the nose, with a camel's hair brush, the pneumonic form of plague is produced. If the culture is rubbed into a slight abrasion of the skin of the leg, the bubonic form is the result, and if injected subcutaneously, the septicemic form ensues. The latter was the method he used in routine diagnostic work, and he described lesions in experimental plague from the autopsy records of the animals used in establishing the diagnosis of some of the San Francisco cases. Prominent among the lesions present were coagulation necrosis at the point of inoculation; sub-

cutaneous edema at different parts of the body; enlargement of lymphatic glands with hemorrhages into the gland substance; injection of superficial veins and also mesenteric vessels, turbid fluid in peritoneal, pericardial and pleural cavities; heart muscle hyperemia, and cavities filled with dark blood; spleen uniformly enlarged, mottled in appearance, and filled with small nodules containing pure culture of the bacillus. The author thinks that the bacillus, above described, is the cause of plague, is a fact as well established as that the earth is round, although there are people who dispute the latter fact, and probably these same ones, or others of equal mental caliber, still dispute that cases of plague have been found in California.

Extra-Uterine Pregnancy.

DR. FRANK L. ADAMS, Oakland, reported four cases of extra-uterine pregnancy treated by the vaginal route. He called attention to the fact that this condition is not so rare as was formerly held. Formad reported 35 cases, or 1 per cent., found in making 3500 general autopsies. He stated that the best writers now maintain that nearly every instance of pelvic hematocele is the result of ectopic pregnancy. He mentioned the different theories presented as to the probable cause of this condition, and called attention to the fact that early rupture was the rule. The symptomatology was referred to in detail. He thinks that abdominal section was the best method of treatment in the great majority of cases, especially when internal hemorrhage was suspected. When, however, there was a well defined and movable mass felt through the vaginal vault, vaginal section and drainage were clearly indicated. In properly selected cases the vaginal method was better, safer, and more rapid than the abdominal one. This was especially true when an adherent sac, accompanied with suppuration and an active peritonitis had to be dealt with. By this method the tubes and ovaries were preserved, the abdominal cavity not opened, and intestinal adhesions avoided. The shock was much less marked, as the anesthesia was much shorter, and the handling of the bowels avoided. The rest of his paper consisted of the clinical report of the four cases which he had operated on per vaginam.

Surgery of the Lungs.

DR. WILLIAM LEMOYNE WILLS, Los Angeles, in a paper, called attention to the fact that the peculiar climatic conditions of California, and the great influx to this state of those suffering from pulmonary tuberculosis in its different stages, made the subject one of peculiar interest. He drew a detailed picture of the history of lung surgery from the time when Hippocrates wrote about pneumonic abscesses and their cure to the present. He believes that very many are allowed to go from bad to worse and perish from tubercular disease because of the inability of the physician to recognize the necessity for, or the hesitation to insist on, an operation, which would at least ameliorate, if not permanently cure, the condition. After referring to the dangers in these operations, as shock, hemorrhage, pneumothorax, and sepsis, he called attention to the four plans to be considered in the surgical treatment of pulmonary tuberculosis. These are: 1. Aspiration of cavities and the introduction into them of drugs. 2. Incision and drainage of cavities; known as pneumotomy. 3. Pneumonectomy, or excision of the tubercular area. 4. Obliteration of the cavity by collapse of lung.

Aspiration has proved an unqualified failure. After pointing out the indications for pneumotomy and pneumonectomy, he stated that the object of his paper was to urge all physicians to use every endeavor to look at this subject from a surgical standpoint, and whenever justifiable to advise operative treatment, thus doing much to relieve the suffering of the last days of, if not permanently cure, the largest class of patients sent to our coast.

Renal and Ureteral Surgery.

DR. J. HENRY BARBAT, San Francisco, presented a paper on "The Present Status of Renal and Ureteral Surgery." He called attention to the great progress in the past ten or fifteen years in the diagnosis and surgical technique of renal and ureteral affections, and particularly the means we possess in

the x-ray for determining the presence and location of calculi. He referred in detail to ureteral anastomosis, and the large amount of experimental work which had been done by Gaspari, D'Urso, Achille de Fabri, and himself. He believes that these operations would find their place in the surgery of the future, and, as the technique improves, the danger of such formidable operations will grow less, and we will be able to save lives which are now lost on account of our timidity.

Subarachnoid Injections of Cocain.

DR. A. W. MORTON, San Francisco, presented a paper entitled "The Subarachnoid Injection of Cocain for Operations on all Parts of the Body." He reviewed the dangers and disadvantages of general anesthesia in comparison with this new method, and called particular attention to the necessity of careful preparation of the cocaine solution and technique of injection. He reported 253 cases from his own practice, several of which were operations on the upper extremities, and one case of trephining of the skull.

Carcinoma of Bile-Duct.

DR. J. EMMET RIXFORD, San Francisco, presented a paper on "Carcinoma of the Lower End of the Common Bile-Duct Successfully Removed; Reimplantation of the Duct into the Duodenum; Recurrence after one Year." The patient was a woman, 33 years of age, who, without pain or other warning became suddenly jaundiced in June, 1899. The writer did not see her until October 18 of that year, when he found her greatly emaciated, intensely icteric, and excessively weak. The gall-bladder was distended, reached below the umbilicus, and was moderately tender. He operated on October 22, punctured the gall-bladder, removing eight ounces of thick, green bile. No stone was found. A hard mass was felt beneath the duodenum in the region of the papilla. The mass being movable the omentum was opened between ligatures and the pancreas exposed. The pancreas being in intimate connection with the duodenum, the mass was reached by going through the duodenum instead of around it. This was done by making a longitudinal incision $1\frac{1}{2}$ inches long. The duodenum was empty at this point, and an incision was then made in the opposite wall over the nodule, through which a transparent mass of tissue was removed. This relieved the obstruction, and the field of operation was immediately filled with bile, which could only with difficulty be wiped away fast enough. The patient being exceedingly weak, further dissection was postponed until the nature of the tumor could be determined. The incision into the duodenum was closed, and the gall-bladder sutured to the peritoneum in the upper angle of the incision, a drainage tube being inserted into the gall-bladder. The course of convalescence was uneventful. The tumor being reported as adenocarcinoma, and it being certain that the section made at the operation was not sufficiently extensive to insure against recurrence, and the tumor being very small, a radical operation was attempted thirty days later. The tumor, with adjacent portions of the duodenum, was excised with curved scissors. Careful palpation over the adjacent region discovered two retroperitoneal lymph nodes, which were isolated and removed. The choledochus, one and a half inches of which had been excised with the tumor, was implanted in the upper angle of the duodenal incision. The gall-bladder was freed from its adhesions to the skin and closed. The opening was partially closed and a Mikulicz drain inserted to the region of the duodenal suture. The secretion from the wound had ceased entirely about the eighth day, the wound was entirely healed on the twenty-third day, and the patient felt strong and left the hospital. She remained perfectly well for eight months; at this time examination showed that recurrence had taken place, and as she suffered from attacks of indigestion and intense jaundice, it was proposed to give what relief was possible by making an anastomosis between the gall-bladder and the small intestine. The old scar was cut away, but the whole region was so filled with tumor masses that the operation was performed with the greatest difficulty. Convalescence from this operation was uninterrupted, and the patient left the hospital in good spirits and comfortable, in twenty-two days, and for some time rapidly gained in strength, but gradually got

weaker and anemic. She died about four months after the first operation.

Rheumatism in Children.

DR. WM. FITCH CHENEY, San Francisco, presented a paper on the "Manifestations of Rheumatism in Children," and based on 1422 cases observed in the childrens' clinic at Cooper Medical College, during seven years. The paper detailed clinical reports, and the different manifestations dealt with, as follows: 1. Manifestations in joints. 2. Manifestations in heart. 3. Chorea. 4. Purpura rheumatica. 5. Subcutaneous nodules. 6. Tonsillitis. Under the chronic manifestations he referred to the close relationship, according to some authors, between rheumatism and chorea, but according to his own observations the place of chorea among the rheumatic manifestations is rather a doubtful one, unless we assume, as some authors do, that chorea is in itself a rheumatic manifestation, no matter whether others occur or not. He reported two cases of purpura rheumatica in which the connection between the purpura and other undoubted rheumatic manifestations was so close as to justify the diagnosis of rheumatic purpura. Regarding the question of a tonsillitis being a manifestation, his experience leads him to believe that the coincidence is too frequent to give tonsillitis a place in the rheumatic series.

Officers.

The officers elected for the ensuing year are: Dr. W. J. G. Dawson, St. Helena, president; Dr. F. B. Carpenter, San Francisco, first vice-president; Dr. Frank L. Adams, Oakland, second vice-president; Dr. George H. Evans, San Francisco, secretary; Dr. Elmer E. Kelly, San Francisco, treasurer. The society selected San Francisco as the next place of meeting.

IOWA STATE MEDICAL ASSOCIATION.

The semicentennial meeting was held at Davenport, May 15, 16 and 17, 1901, under the presidency of Dr. Robert E. Coniff, Sioux City.

The sessions were well attended; the papers were short, practical and instructive, and the discussions spirited.

President's Address.

In his address, the president gave a retrospective view of the advances that have been made in medicine and surgery in the last few years. Among other things, he urged the establishment of a state sanatorium for the treatment of the indigent consumptive poor, and suggested that action be taken to influence the State Legislature to appropriate sufficient money for the construction and maintenance of said sanatorium. He also recommended the enactment of a law to regulate marriage among the defective classes.

Organization.

DR. IRA K. GARDNER, Chairman of the Committee on Constitution and By-Laws, read the report of the Committee, and asked that action on it be deferred until the next annual meeting, for the reason that at the St. Paul meeting of the AMERICAN MEDICAL ASSOCIATION a report is to be made looking toward the reorganization of that Association, and in case that report was adopted, such changes would have to be made in the Constitution and By-Laws of the Iowa State Medical Society as would make them conform with those of the AMERICAN MEDICAL ASSOCIATION. He outlined the salient features of the report of the Committee on Reorganization of the AMERICAN MEDICAL ASSOCIATION, and urged the Iowa delegates to go to St. Paul and do everything in their power towards its adoption. The suggestions were adopted.

Puerperal Infection.

DR. ROYAL L. CLEAVES, Cherokee, in a paper on "Puerperal Infection," discussed the varieties and causes. He narrated the report of a case of pyemia and septicemia, and then gave his conclusions drawn from a long experience, and made a plea for asepsis in the lying-in room.

DR. GILBERT G. COTTAN, Rock Rapids, discussed puerperal infection from a surgical standpoint. He detailed a series of cases illustrating the various forms of puerperal sepsis, with suggestions as to sources and prevention of infection. The

futility of temporizing measures was dwelt upon, and the manifest advantages of radical treatment at the onset of symptoms pointed out.

Mammary and Uterine Cancer.

DR. DAVID C. BROCKMAN, Ottumwa, spoke on the early diagnosis of mammary and uterine cancer. Statistics show that three-fourths of all cases of cancer begin in the uterus or breast. Primarily they are local, and curable, if operated upon early. The diagnosis is not always feasible; if it were, many patients might be saved who now die. The cardinal symptoms were pointed out. Doubtful cases should be considered malignant until they are proved to be benign. He urged the importance of examining thoroughly a specimen of the growth. The symptoms of uterine cancer, either of the cervix or body, were defined.

DR. CHARLES E. RUTU, Keokuk, in a paper on the treatment of uterine and mammary cancer stated that the growth is primarily local. There is a tendency to speedy death from exhaustion. Recurrence of the disease is certain if a portion of it be left. Metastasis takes place through the lymph channels, and not by the fascia. Serum-therapy and other medication are unpromising. Surgical treatment, while uncertain, gives the only hope in such cases. It was exceedingly difficult, if not impossible, to tell where normal tissue begins and where carcinoma ends. He referred to drainage, dressings and hysterectomy when and when not indicated. He also discussed the vaginal and suprapubic routes. Sloughing is a contra-indication against hysterectomy.

Ovarian Cysts and Malignant Sequelae.

DR. HENRY A. LEIPSIGER, Burlington, referred to the best available means of differentiating benign from malignant ovarian growths in the early stages. Do apparently benign ovarian cysts contain foci of malignancy? He reported two cases in support of this view.

Ovarian Tumor.

DR. WILLIAM L. ALLEN, Davenport, reported a case of ovarian tumor in a child. The tumor was first noticed when the child was 12 years and 6 months old. The growth appeared at that time to be the size of a coconut. Operation was done ten months later, a simple unadherent cyst of the right ovary being removed, which weighed about 12 pounds. Rapid and complete recovery followed.

Kidney Stone.

DR. DONALD MACREA, JR., Council Bluffs, gave a brief resume of the work done in cases of kidney stone, the diagnosis and treatment. He alluded to the importance of the X-ray as a positive means of diagnosis, and showed numerous skiagraphs. He emphasized the importance of thoroughly clearing the ureter.

Duodenal Ulcer.

DR. DAVID S. FAIRCHILD, Clinton, considered ulcer of the duodenum from a surgical standpoint. Conditions were compared with those of ulcer of the stomach. The importance of making a diagnosis before perforation was dwelt upon, as well as the difficulty attending diagnosis. He discussed the methods which may be employed before and after perforation. He reported a case, and briefly reviewed other cases.

Surgery of the Gall-Bladder.

DR. ARTHUR L. WRIGHT, Carroll, gave a brief history of the surgery of the gall-bladder. He pointed out the indications demanding such surgery and the methods used in determining such indications. He dwelt on the most suitable time for the performance of such operation. Should it always be done whenever gall-bladder pathology exists? He considered the technique of the operation, as well as the immediate and remote results.

Election of Officers.

The following officers were elected for the ensuing year: Dr. James R. Guthrie, Dubuque, president; Drs. Samuel Bailey, Mount Ayr, and John H. Kulp, Davenport, vice-presidents; Dr. Vernon L. Treynor, Council Bluffs, secretary; Dr. George

L. Skinner, Cedar Rapids, treasurer. Des Moines was selected as the place for the next annual meeting.

NEW YORK ACADEMY OF MEDICINE.

Meeting held May 2.

Robert F. Weir, M.D., President.

Clinical Aspect of Acute Intestinal Obstruction.

DR. HOWARD LILIENTHAL opened the discussion on this topic. He said that the chief causes contributing to the mortality of this affection are shock, sepsis and the embarrassment of the functions of the heart and lungs resulting from the abdominal distention. Constricting neoplasms are common in elderly persons. The discharge of foul gas is of far greater importance as an indication of the relief of the obstruction than the mere passage of feces. Ischuria and great dryness of the mouth are of diagnostic value. A number of successful cases have been reported in which a good result followed the administration of large doses of atropin—5 milligrams—but the mouth, already dry, is thereby rendered very much more uncomfortable, and these large doses are apt to cause a variety of delirium which closely simulates that dependent on sepsis. This medicinal treatment may possibly be a justifiable temporary measure in cases of chronic ileus with acute exacerbation. The speaker said that since 1893 he had performed 34 operations for acute ileus, with 41 per cent. of recoveries. It has been his practice for the past three years, in cases in which there was great distention of the bowel, to make a sufficient number of small incisions opposite the mesentery to relieve this distention. While this procedure has been unfavorably criticised by some of the surgeons in New York City, he has seen nothing but good from it.

DR. B. FARQUHAR CURTIS said that the only new diagnostic sign of importance is leucocytosis as an indication of peritonitis. In cases of acute intestinal obstruction in elderly persons his first thought is of malignant disease. Digital exploration of the rectum is an important aid to diagnosis in these cases. As long ago as 1888 he pointed out, in a statistical study, that three-fourths of the cases could be relieved by making an artificial anus, that one-half recover and that fully one-third of these are entirely cured of the intestinal obstruction. The operation could be done quickly and without a general anesthetic if need be, hence it could be looked upon in appropriate cases as a life-saving measure.

DR. C. L. GIBSON exhibited a table of statistics collected from 187 cases of acute intussusception, and pointed out the very rapid and significant increase in mortality in the first few days, as well as the increasing percentage of irreducible cases found during this period. The establishment of an artificial anus certainly will often save life for the time, but it also makes it probable that grave conditions of the bowel demanding operative intervention will be overlooked or improperly treated.

DR. MORRIS MANGES said that the duty of the medical man is to make the diagnosis and then promptly call in a surgeon. The important points to consider are the presence of shock and of more or less pain and vomiting. A digital examination of the rectum will afford more valuable information in these cases than will the most careful abdominal palpation, even under a general anesthetic.

DR. HENRY KOPLIK said that acute intussusception sometimes comes on in an insidious fashion in children, thus increasing the difficulties of diagnosis. He believes it to be most important to make the physical examination in children under a general anesthetic. Often there is very little prostration in children at the beginning, and even vomiting and bloody stools may be intermittent.

PHILADELPHIA COUNTY MEDICAL SOCIETY.

Meeting held April 24.

Dr. George Ercy Shoemaker in the chair.

Antitoxin in Diphtheria.

DR. J. D. STEELE read a paper entitled the "Present Aspect of the Antitoxin Treatment of Diphtheria." He detailed the

statistics regarding the beneficial results obtained in the treatment, which showed that in a series of 200,000 cases of diphtheria there was a mortality of 18 per cent. In another series of 24,000 cases which had been reported the mortality was 16 per cent. In the latter, when the antitoxin treatment had been employed on the first day the mortality was 3 per cent., while after the first day it was 34 per cent. According to the report of the American Pediatric Society, in a series of over 5000 cases reported in private practice the mortality was about 5 per cent. Baginsky, in a series of cases first day reported a mortality of from 1.7 to 2.7 per cent., and when used on the second day the mortality was from 2 to 14 per cent. The statistics of all the cases so far reported show that the mortality of diphtheria by this plan of treatment is 10 per cent. In hospitals the mortality is 19 per cent. The greater mortality in hospital cases is due to the fact that they are usually overcome by the disease before treatment is instituted. In a series of 15,000 laryngeal cases the mortality is about 16 per cent., while in pre-antitoxin days it was 70 per cent. Formerly the death-rate in these laryngeal cases was 70 per cent., while since the introduction of the antitoxin treatment, the number of recoveries is 70 per cent., thus reversing the death-rate. As to the influence exerted on the heart and kidneys by antitoxin, all results go to show that it has no deleterious action. As a local remedy in the treatment of this condition he has obtained good results from the use of nitrate of silver (60 grains to the ounce), first recommended by Hand. Applications should be made once daily for three successive days.

Diphtheria.

DR. FREDERICK A. PACKARD read a paper on this subject. He said that in some instances the bacilli of diphtheria do not appear to be virulent simply because they have become attenuated. It is his personal feeling that these latter cases, from a hygienic point of view, are of even greater importance than frank cases of the disease. Symptoms of diphtheria depend on the local action of the micro-organisms of diphtheria, and though bacilli have been found in the internal organs they probably have little to do with the general manifestations of the diseases. Diphtheria is not a local disease, in the strict sense of the term, since its process may extend upward into the nares, or conjunctiva, and may involve the mucous surfaces elsewhere, or abrasions on the skin. Absence of the false membrane is no guide to the absence of diphtheria bacilli. In streptococcal infection there may be more pain and local manifestations. The cases of diphtheria with a high frank temperature are more liable to recover than those with a lower temperature. The danger of cardiac involvement in this disease is great even from the very first day. Local palsies are more frequent than in any other disease.

Prophylaxis of Diphtheria.

DR. J. P. CROZER GRIFFITH read a paper on the prophylaxis. He believes the only way to eradicate the disease is by thorough disinfection. Children who have recovered should be kept under close surveillance for a period of 10 to 14 days. As a prophylactic measure the nurse should wear a skull-cap of some kind and should disinfect the face and hands thoroughly whenever she comes in contact with the patient. The mouth, too, should be repeatedly rinsed out. The physician should envelop himself with a rubber garment on entering the room, and after leaving should thoroughly disinfect himself. All upholstered furniture in the room, all lace curtains and carpets should be removed, and after recovery of the patient the walls and ceiling should be painted, and the bedding thoroughly steamed. Spraying the nose frequently frightens the child, and the nares should be irrigated by means of a syringe. Peroxid of hydrogen is frequently too highly acid, and should be neutralized with lime-water. Ordinarily peroxid should be diluted with water 1 to 4. Bichlorid of mercury, 1 to 5000, seems of benefit. For the pharynx, peroxid of hydrogen in full strength may be used. Locally, Löffler's solution is of advantage. As to inhalations, it is foolish to try to keep the atmosphere in a room moist by evaporating in the open a small pan of water. If any beneficial effects are to be obtained the bed must be enveloped in a sheet and the steam conducted upward.

Bacteria of Diphtheria.

DR. A. C. ABBOTT spoke on the bacteria found in diphtheria, saying that in typical cases there should be no hesitancy in stating that there is a specific micro-organism present; yet there are some cases in which the clinical symptoms do not designate that such is the case. In diphtheria one should not be surprised to find the disease vary in type. The differences in clinical manifestations are not due to the bacteria, but to the soil on which they grow. As a prophylactic measure we should be very careful to find those cases of diphtheria in which the disease is confined to the nares with no other clinical manifestations. When virulent diphtheria bacilli are found in the throat of healthy people, it means that those individuals at that time are not susceptible to the disease.

Heart and Kidney Changes.

DR. R. M. PEARCE then exhibited, by means of lantern slides, the changes found in the heart and kidneys, as determined by the investigation of the subject by Councilman, Mallory and himself. The investigations proved that the heart muscle might undergo the various forms of degeneration, and the same was true of the kidneys. In the latter organs hyaline degeneration was very frequently met with.

GERMAN CONGRESS OF INTERNAL MEDICINE.

Held in Berlin, April 16 to 19.

A very interesting feature of this congress was the scientific exhibit connected with it, which was restricted to diagnostic instruments and appliances. It was a remarkable showing of what has been accomplished in this line, and was ably supplemented by a descriptive souvenir catalog, the work of Mendelssohn. The first session was devoted to

Heart and Vasoconstricting Medicines.

GOTTLIEB stated that he had succeeded in isolating the pulmonary circulation in living, warm-blooded animals, and found that the action of the ventricle could be increased by the influence of digitoxin to three and four times its pristine energy. The stronger systolic contraction of the heart is an important factor in the effect of digitalis. The constricting action on the vessels is secondary, but it aids in the benefit derived. Digitalis also stimulates the pneumogastric, and this has a tendency to retard the pulse, which also assists the favorable effect. The blood is aspirated out of the veins more completely when the pulse is slow and regular. Paralysis of the vessels from insufficiency of the central innervation, as in case of infectious diseases, causes the blood to accumulate in the abdominal vessels, leaving the peripheral and cerebral vessels comparatively empty. This condition requires a drug to act on the splanchnic vessels—not on the heart—and strychnin, caffeine and camphor answer this indication and constrict the splanchnic vessels. This can also be accomplished by counterirritation or cold applications to the skin. Caffeine has also a direct action on the heart, the reverse of digitalis. It does not increase the functional energy, but reinforces the action of the heart muscle to overcome pathologic arterial resistance. It may thus prove useful in heart affections with high aortic tension. Alcohol dilates the peripheral vessels and diminishes the resistance, thus furnishing better conditions for the heart to work in. Camphor has little action on the normal heart, but in experiments on rabbits in certain pathologic conditions, when the heart stopped beating the application of camphor revived it and restored its functions. Sahli in his address described four varieties of stasis, although the sluggish circulation in the aorta is common to all, with consequent unequal distribution of blood throughout the system: 1, the cardiac stasis, which may be due to insufficiency of the systole as well as to mechanical hindrance of the diastole of the heart; 2, respiratory stasis, in affections of the respiratory organs and intrathoracic effusions; 3, stasis due to dilatation of the capillaries; and 4, splanchnic stasis. The latter is a stasis from primary vasodilatation chiefly in the domain of the splanchnic vessels. The patients are pale and look as if they had been drained of

their blood. This stasis may occur alone or in combination with a serious cardiac stasis, such as is observed in aortic insufficiency. The stasis should be diagnosed and treated at the first symptoms without waiting for complete development. Treatment should be instituted when the pulse is frequent and traces of edema appear, with diminished urinary secretion and congestion of the jugular veins. Digitalis is effective in all cases of generalized stasis and lowers instead of increasing a high arterial tension. In some cases, however, its effect is nullified by an essential insufficiency, beyond compensation, of some valve. Caffeine and camphor are indicated in the stasis due to dilatation of the capillaries, "vasomotor stasis." Camphor is especially useful in sustaining the vital function in the course of infectious diseases. Alcohol has a brief relaxing effect on the peripheral vessels, and is indispensable during a febrile chill or in case of defective reaction to a cold bath. These effects render it useful in certain cases of high tension, combined with digitalis or caffeine. Ewald administers digitalis in enemata or suppositories in case of gastric intolerance. He considers morphin in certain circumstances one of the best heart tonics at our disposal. Goldscheider reported excellent results from the administration of 1 to 22 eg. of digitalis a day for months at a time. Smith called attention to the injury caused by all stimuli that enlarged the heart. The outlines of the heart should be supervised in athletic training. He has found in a number of cases of neurasthenia, melancholia, hypochondria and depression, hypertrophy of the heart as the cause or aggravating element, and after this had been cured the nervous affection vanished with it or was materially improved. Hofmann reported tests on healthy persons showing that camphor, digitalis, cocaine, belladonna, strophanthus and strychnin cause the heart to contract. Narcotics—ether, lead acetate and alcohol—enlarge the heart. Schott stated that the Nauheim treatment, baths and exercise, raised the blood pressure in subjects that were benefited, but that the blood pressure was lowered in persons with advanced arteriosclerosis, myocarditis or aneurysms, which he considers contra-indicate the treatment.

Acute Myelitis.

VON LEYDEN classified this condition as transverse or disseminated, and the acute or chronic form of poliomyelitis. The direct agency of the streptococcus has been established, and myelitis is frequently preceded by la grippe. It has also been observed consecutive to typhoid, panaris, angina, gonorrhea or trauma. Ritter has witnessed six cases of myelitis in children consecutive to an infectious disease, and concludes from his experiments that ptomain poisoning was the cause in these cases. A number of members reported the discovery of the ordinary streptococcus in cases of articular rheumatism and chorea, and Singer considers the disease an attenuated pyemia. Mayer stated that he had induced a disease in animals inoculated with streptococci from 12 patients with acute articular rheumatism, which caused effusions in the joints and inflammation of the serous membranes with endocarditis in 17 out of the 89 animals. Jaeger asserted that epidemic cerebrospinal meningitis is endemic in this country and that the cases occurring in Germany are imported from the United States. Bier confirmed his previous announcement in regard to the pain-soothing and bactericidal effect of congestive hyperemia combined with massage to promote absorption. Arterial hyperemia with hot air has no bactericidal influence nor any action on the nervous system. Hansemann reported three pure cases of syphilis of the lungs. Kahlden asserted that traumatism is the most important factor in the genesis of porencephalia. Rosenfeld described researches which showed that fatty degeneration is due to an immigration of the fat globules into the protoplasm of the cells. This immigration cannot occur unless the cells are deficient in glycogen. Consequently in his experiments with artificial fatty degeneration produced by phloridzin, he was able to prevent it by administering substances that supplied the demand for glycogen. Wiener announced that he had established in birds a synthesis of uric acid from oxyketon and dibasic acids, and that the same process probably occurs in man.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulæ and outlines of treatment will be answered in these columns.]

Treatment of Indigestion.

Dr. J. M. G. Carter, of Waukegan, Ill., in *Med. Fortnightly*, states that where there is interference with digestion resulting from a hypersensitive condition of the mucous membrane of the stomach, with a tendency to fermentation of the carbonaceous foods, he employs the following prescription:

R. Acidi carbol.	gtt. vi	4
Tinet. gelsemii (U. S. P.)		
Glyeerini		
Vini colehieî, āā.....	℥ss	16
Tinet. opii camph.....	℥iss	48
Elix. simplicis	℥i	32

M. Sig.: One teaspoonful before each meal and at bedtime.

In the same journal are given the prescriptions for this purpose, used by M. Mathieu:

R. Tinet. ipecacuanhæ		
Tinet. calumbæ		
Tinet. gentianæ, āā.....	m. 75	5

M. Sig.: From 15 to 30 drops after each meal in water.

Or:

R. Tinet. ipecacuanhæ	℥iss	6
Saccharin	gr. iss	1
Menthol	gr. iv	25
Alcoholis at 80 deg.....	℥x	40
Syr. simplicis	℥iv	128

M. Sig.: Two to four teaspoonfuls after each meal.

Soda Compresses in Suppuration.

G. E. Vladinriroff, according to the *Phila. Med. Jour.*, states that he has obtained splendid results from the use of soda compresses in diverse suppurative processes. He has employed it in several cases included among which there were burns of second degree, burns of the third degree, suppurating processes, contused and incised wounds and suppurating lymphatic glands. He employed it as follows: 1. A layer of gauze saturated with a 2 per cent. solution of soda, was applied. This was covered with a piece of oilcloth, cotton and a bandage. The compress was changed two or three times in twenty-four hours. 2. The gauze next to the body was not saturated but kept wet with the soda solution by pouring on the solution three or four times daily. 3. Several layers of gauze saturated in soda solution were placed over the suppurating surface, these were covered by a thick layer of boric acid and camphor salve, then a piece of oil silk, cotton and bandage. Such a compress remained moist one or two days.

Treatment of Chronic Arteritis.

Boix, in *N. W. Lancet*, gives the following combination for chronic arteritis:

R. Hydrastininae hydrochlor.	gr. iss	10
Sodii iodidi.....	gr. xxx	2
Aq. destil.	℥vi	192

M. Sig.: Take two tablespoonfuls each morning. The treatment should be suspended one week in each month.

Local Application of Turpentine in Neuritis.

Of the counterirritant effects of turpentine there can be no doubt. Mireoli strongly recommends the local application of turpentine in neuritis resulting from exposure to cold, and in sciatica especially. He recommends the following:

R. Terebenthinae (Venetian).....	℥i	32
Dissolve in		
Olei terebenthinae	℥ii	8
Olei olivæ.....	℥iss	48

M. Sig.: Apply locally once or twice daily with friction.

The resin remaining will exert a continuous action upon the skin after each application.

Hemoptysis.

Tuberculous hemoptysis sometimes proves so stubborn that the ordinary treatment will not prove efficient. Lemoine, as noted in *St. Louis Med. Rev.*, states that hemoptysis without fever is, as a rule, less grave. He recommends absolute rest; horizontal position with the head slightly elevated; warm foot baths, active purgatives to bring the blood to the abdomen and extremities. Sinapisms to the apices and bases of the lungs, oft repeated, aid revulsion. Internally he administers quinin and ergot. Alcohol should be discarded. In febrile hemoptysis ergot is not always indicated. The following combination is recommended.

R. Pulv. ipecac.	gr. xxx	2
Syrupi ipecac.	℥x	40
Syr. aurantii	℥iii	96

M. Sig. One dessertspoonful every two hours until slightly nauseated.

Suprarenal Capsule in Treatment of Hemoptysis.

W. B. Kenworthy, in *Med. Record*, states a case which he had unsuccessfully treated for hemoptysis by the usual methods—administering opium, ergot, and gallic acid. The extract of suprarenal capsule was then administered in three grain doses, every half hour until three doses were taken; then every two hours for six or seven days. In a very few minutes after the first dose was taken the hemorrhage ceased entirely without return while under his care ten weeks later.

Treatment of Gonorrhea.

F. P. Dyer, of Boston, in *Jour. Med. and Science*, states that he uses the following formula in all stages of gonorrhea, and reports several cases successfully treated:

R. Balsami copaibæ		
Spts. etheris nitrosi, āā.....	℥iv	16
Spts. lavendulæ comp.	℥iii	12
Tinct. opii	℥i	4
Syr. simplicis	℥i	32
Mucil. acaciæ q. s. ad.....	℥vi	192

M. Sig.: Shake. One teaspoonful after each meal in milk.

He calls attention to the fact that no alkalies enter into the composition of the above and by its omission irritation of the bladder is avoided. He prefers protargol in 2 per cent. solutions as an injection twice daily.

Salt Solution for Intravenous Injection.

Carwardine, as stated in *Operative and Pract. Surgery*, states that the surgeon should keep a bottle of sterilized salt solution more nearly approaching the composition of blood plasma than the normal salt solution made up from ordinary table salt. It is composed as follows:

R. Sodii chloridi	℥iiiss	14
Potassii chloridi	gr. xii	75
Sodii sulphatis	gr. c	66
Sodii carbonatis	gr. c	66
Sodii phosphatis	gr. viii	50
Aq. destil.	℥viii	256

M. Sig.: Sterilize and before using increase its bulk to two pints, by the addition of water.

Migraine.

W. Whitehead, in *British Medical Journal*, reports some very interesting cases of migraine which he successfully cured in every instance by means of the ordinary tape seton. He grasps at the back of the neck between the finger and thumb of the left hand and then transfixes the skin with a scalpel and passes a needle or probe, with an eye, through the wound. A piece of tape one-half inch wide is then drawn through the wound. Four or five inches of tape is left on either side of the wound and tied so that the tape can not be displaced. The patient is ordered to move the tape in the wound from side to side each day. This seton is allowed to remain continuously for three months. If the migraine reappears at the end of that time another seton should be introduced. Anesthesia with nitrous oxid for one-half minute is sufficiently long for the operation.

Chronic Otorrhea.

R. Potassii iodidi	3ss	2
Tinct. iodidi	3vi	24
Alcoholis	3i	32
Glycerini	3vi	24
Iodoformi	3ss	16

M. Sig.: Inject into the outer ear daily.—*Med. Woch.*

Treatment of Pruritus Ani.

In an interesting article in *Internat. Jour. of Surgery*, J. P. Tuttle, of New York, states that the local treatment, while simply palliative, is of the utmost importance because of the necessity of giving the patient immediate relief. By means of local application the itching and nervous conditions can be quieted. He recommends hot water as one of the simplest, applied by the patient, just before retiring, as hot as can be borne. This must be applied without rubbing or irritating the parts. He recommends the following, containing salicylic acid and glycerin as being the most efficient ointment in his hands:

R. Acidi carbol.	3ii	8
Acidi salicylici	3iss	6
Sodii biboratis	3i	4
Glycerini	3i	32

M. Sig.: Apply at bedtime and during the night if necessary.

In cases where there is fissure or in those marked cases of atrophic catarrh, the following is effectual:

R. Ext. conii	3ii	8
Ung. stramonii		
Lanolini, āā	3i	32

M. Sig.: Apply at bedtime and after stool.

Treatment of Hemorrhoids.

J. P. Tuttle, as noted in *Amer. Med.*, believes that in many acute cases of internal hemorrhoids, local and general measures should be resorted to rather than operative procedures. Cold water enemas once or twice a day are of great benefit in order to produce an easy movement of the bowels and to contract to some extent the blood vessels. Injections of mild nonirritating astringents, such as the fluid extract of krameria, fluid extract of hamamelis, or fluid extract of pinus Canadensis, will have a very soothing and curative influence. Suppositories of ichthyol, tannic acid and belladonna are of great benefit, especially if there is an eroded condition of the parts. Resinous cathartics, such as podophyllin, aloin, gamboge, etc., irritate the parts and should not be used. Small doses of saline laxatives, especially sodium phosphate, before breakfast, followed after breakfast by a cold enema, will have splendid effect upon the liver, intestine and hemorrhoids.

Medicolegal.

Liability for Aggravation of Existing Diseases.—The Supreme Court of Illinois holds in the case of the City of Rock Island vs. Starkey, an action brought by the latter party to recover damages on account of an injury alleged to have been received by falling on a defective sidewalk, that if, prior to the injury, the woman had diseases which were aggravated by the fall, she might recover from the city, but its liability would be measured by the damages which were the natural and proximate result of its negligence. It adds that the evidence tended to show something more than a mere latent tendency to particular diseases, and holds that if there was an aggravation of the existing diseases, the city would only be liable for what resulted from the fall.

Death from Lightning Conveyed by Telephone Wire.—In the case of Griffith, administrator, vs. the New England Telephone & Telegraph Company, the Supreme Court of Vermont affirms a judgment holding the telephone company liable for the death of a physician struck by lightning while sitting in his library intently reading, under a telephone instrument. It holds that the duty of the company, in undertaking to

maintain an instrument in the doctor's house for his use, was to exercise the care of a prudent man in like circumstances in selecting, placing, and maintaining, in connection with its wires and instruments, such known and approved appliances and ground connections as were reasonably necessary to guard against accidents from lightning striking its telephone line and passing along its wires. Whether the doctor was in the exercise of due care at the time it says was for the determination of the jury.

The Phrase "Wholly Disabled" in Accident Insurance.—The Supreme Court of Nebraska holds, in the case of Coad vs. the Travelers' Insurance Company, that where a person is insured against being wholly disabled from transacting "any and every kind of business pertaining to his occupation," the phrase "wholly disabled" should be given a reasonable and practical construction, so as to carry out the intention of the parties, and give to the insured the protection contracted for. But if an injury received by the assured renders him less capable of performing the duties required in the conduct of his business, yet notwithstanding the same he is able to devote substantially all of his time to the business, and to do practically all kinds of work and perform all necessary acts for the prosecution thereof, and accomplish, substantially, results of the same character as before the injury, the court does not consider that he is wholly disabled, within the meaning of the contract of insurance. Nor does it think that he is so disabled, within the meaning of the policy, where there are different branches of the business pertaining to the occupation in which he is insured, the prosecution of one of which may be prevented by the injury, and yet the other engaged in, prosecuted, and carried on.

Testimony not Amounting to a Waiver of Privilege.—The third appellate division of the Supreme Court of New York says that, while on the witness stand the plaintiff in the personal injury case of Fox vs. the Union Turnpike Company detailed her alleged injuries, and stated without reserve her feelings and all the alleged consequences of the injuries; but she did not attempt to give the conversations with the physician called to treat her after the accident, or detail what, if anything, was done by him. The only evidence given by her on her examination with reference to what was said and done by the physician when he was called, other than that he gave her internal remedies, which she used, was brought out by the defendant on cross-examination. It was as follows: "What did the doctor do for you then? 9. He examined my back and examined me. He ordered alcohol. Q. What did he give you? A. He gave me some medicine. That is all I can tell you. Something in a glass; two or three different kinds." The court holds that the plaintiff's testimony was not an express waiver of the statutory prohibition against disclosures by a physician. It says that when a patient voluntarily opens the door of the consultation room, and gives a view that may have been specially arranged for the purpose, it would not be in accordance with the spirit of the statute or in the interest of truth to shut the door against a view to be described by the physician; but in this case the door was not opened by the plaintiff. Further, it says that the prohibition contained in the statute against disclosing professional information is for the purpose of allowing greater freedom between physician and patient, and a patient should not be subject to the penalty of waiving entirely the prohibition if she gives to a friend, or as a witness in an action or proceeding in court, a general statement of her injuries, and the claimed consequences of the same. The determination of the question of an express waiver depends very largely upon the extent to which the patient in her testimony has entered into the details of the consultations with her physician.

Validity of Law and Proceedure to Revoke Certificate.—The Supreme Court of Rhode Island holds constitutional, in the case of the State Board of Health vs. Roy, section 5 of chapter 165 of the General Laws of Rhode Island, which section provides that the State Board of Health may refuse to issue a certificate to practice medicine to any individual

guilty of grossly unprofessional conduct of a character likely to deceive or defraud the public, and may after due notice and hearing revoke a certificate for like cause, in all cases of refusal or revocation the applicant to have the right of appeal to the appellate division of the supreme court, which may affirm or overrule the decision of the board. It does not think that it violates the constitutional provision that the judicial power of the state shall be vested in a supreme and inferior courts, even if the State Board of Health be only an administrative board, and not a court or judicial body. It says that the way provided to determine, in the first instance, whether a trial before the appellate division of the supreme court is desired, is speedy and inexpensive. He whose application for a license has been refused, or whose license is proposed to be revoked, can have a judicial trial without terms or condition, by taking an appeal, which is practically for the asking, and then his case is tried in full before the highest court in the state. If the State Board of Health decides in his favor, he gets all he asks, with little trouble and expense. If the decision is not in his favor, he gets for the asking a trial before the highest tribunal in the commonwealth. It is difficult to see how his rights could be better protected. The appeal vacates the proceedings before the board so far as results go, and brings the matter up before the appellate division *de novo* or anew for trial as fully as though it had never been heard before the board, save that the original charge or petition remains as the cause of trial, and save, also, that before it can be so tried before the appellate division it must have been brought before the board. Hence, mere errors in proceeding do not afford ground for overthrowing or annulling the whole proceeding, so that an appeal provided to correct such errors can not be prosecuted. Nor does the court think there is any conflict with the constitutional guaranties that no one shall be deprived of life, liberty or property unless by the judgment of his peers, or by the law of the land, or be denied the equal protection of the laws. Moreover, while it says that it is axiomatic that one can not judge in his own case, the court points out that the complaint in this case was not made by any member of the board, *ex officio* or otherwise, and says that if the secretary is personally interested in the complaint, he can not vote upon it, and, if he is officially interested merely (if such a distinction can be taken), his action is similar to boards of aldermen in various health matters where they originate the proceedings which may be appealed from, and it has never been supposed that their so doing was a cause for quashing the proceedings. And the court holds that if a person obtains his certificate to practice medicine by misrepresentation and fraud in palming off upon the State Board of Health a diploma issued to another as one issued to himself, he is guilty of conduct likely to deceive and defraud the public by inducing the public to believe that he is lawfully entitled to practice medicine by reason of the possession of qualifications that would honestly entitle him to the certificate, conduct grossly unprofessional, which is continued every time he practices medicine under the pretended authority of such certificate. No answer of the board to an appeal is required, and one is simply nugatory.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Medical News (N. Y.), May 11.

- 1 *Practical Food Prescribing. Floyd M. Crandall.
- 2 *Studies in the Bacteriology of Typhoid Fever, with Special Reference to its Pathology, Diagnosis and Hygiene. Philip Hanson Hiss, Jr.
- 3 Restoration of Useful Vision in a Complicated Case of Acute Inflammatory Glaucoma of Ten Days' Duration with Visual Acuity Reduced to the Perception of Light. C. A. Veasey.
- 4 Rupture of the Right Kidney; Nephrectomy; Recovery. G. R. Trowbridge.

Philadelphia Medical Journal, May 11.

- 5 *The Doctor's Fee—A Plea for Honorable Dealing. John B. Roberts.
- 6 *The Etiology of Arrested Mental Development. Pearce Bailey.
- 7 Cataract Extraction. Edward Jackson.

- 8 Abscess of the Orbit from Disease of the Ethmoid; Curetting Through the Orbit and Draining Through the Nose. George C. Harlan.
- 9 Purulent Choroiditis, Following an Attack of Mumps; Diagnosis, Metastatic Choroiditis, Revised by Study of the Enucleated Eyeball. John T. Carpenter.
- 10 Spontaneous (?) Rupture of the Spleen. Laparotomy—Death—Report of Case. D. C. Howard.
- 11 Ephemeral Insanity with Report of Two Cases. Charles J. Aldrich.

American Medicine (Philadelphia), May 11.

- 12 *The Necessity for Greater Conservatism in the Use of Vasodilators in Certain Cases of Cardiovascular Disease. Louis F. Bishop.
- 13 Aneurysm of Ascending Aorta of Great Size; Treatment by Gelatin Injections and Electrolysis, with Effect of Coagulating Most of the Contained Blood. W. W. Johnston.
- 14 *Postpartum Metastatic Panophthalmitis, with a Clinical and Pathologic Study of a Case. Walter L. Pyle.
- 15 A Preliminary Note upon Hydrocyanic Acid Gas as a Disinfecting Agent. John S. Fulton.
- 16 *The Food Value of Alcohol and Professor Atwater's Experiments and Teaching. (Concluded.) John Madden.
- 17 *A Case of Double Bladder; each with a Separate Ureter. A Study of the Urine from Each Kidney. E. P. Hershey.
- 18 Transfusion, Infusion and Autotransfusion. G. W. Wagoner.
- 19 Litholapaxy in a Child Four Years old, with an Improvised Evacuator. Gwilym G. Davis.

New York Medical Journal, May 11.

- 20 *Atonia Gastrica and a New Method of Treatment. A Rose.
- 21 What Constitutes Sexual Intemperance. W. J. S. Stewart.
- 22 *The Pathology, Diagnosis, Special Prophylaxis, and Treatment of Tuberculosis of the Skin. John A. Fordyce.
- 23 *Primary Chancre of the Septum of the Nose. W. Freudenthal.
- 24 *Syphilis of Nervous System. B. Onuf.
- 25 Acute Strangulated Femoral Hernia on a Porto Rican Hillside. P. R. Egan.

Boston Medical and Surgical Journal, May 9.

- 26 Some Reported Cases of Typhoid Fever Attributed to Contaminated Oysters with Certain Facts Concerning this Means of Infection. Charles Harrington.
- 27 *Experience with the Widal Reaction in Typhoid Fever. Charles F. Withington.
- 28 *The Widal Reaction in Typhoid Fever. George B. Shattuck.
- 29 Means of Infection in Typhoid Fever. E. N. Whittier.
- 30 Early Diagnosis of Typhoid Fever by Isolation of Bacillus Typhosus from Stools; Conclusions of Dr. L. Remy Based on the Use of His Asparagin-Lactose-Carbol Gelatin. Calvin G. Page.
- 31 *The Fevers of the Philippines. Joseph J. Curry.

Medical Record (N. Y.), May 11.

- 32 *The Toxic Origin of Neurasthenia and Melancholia. M. Allen Starr.
- 33 Potain's Simple and Accurate Method of the Percussion of the Heart, with Postmortem Verifications. George M. Converse.
- 34 *The Treatment of Pneumonia, Including the Hypodermic Injection of Saline Solution. F. Neuhoft.
- 35 *Syphilis in the Well-to-do. J. A. McDonald.
- 36 *Subarachnoid Spinal Cocainization as a Means of Inducing Surgical Anesthesia. Edward N. Liell.
- 37 Keloid Formed upon a Vaccination Scar. Frederick Griffith.
- 38 A Successful Pylorotomy on a Man in His Seventy-first Year. Alfred King.
- 39 Postural Treatment in Threatened Miscarriage. Alice M. Smith.

Cincinnati Lancet-Clinic, May 11.

- 40 "Pus in the Pelvis." F. M. Barden.
- 41 *Important Points Concerning the Dosage of Antitoxin. M. D. Rabenoyich.

St. Louis Medical Review, May 11.

- 42 *Schnetter's Placenta Forceps. E. J. Kempf.
- 43 Serotherapy and Cytotherapy. H. Vaquez.

American Practitioner and News (Louisville, Ky.), March 15.

- 44 Some of the Features of Health Administration. M. K. Allen.
- 45 Affections of the Eye and its Appendages in Bright's Disease. William Cheatham.
- 46 A Case of Sepsis. J. M. Adair.

Medical Age (Detroit, Mich.), April 25.

- 47 The Duty of the Public to the Medical Profession. F. R. Sturgis.
- 48 Diabetic Gangrene; Amputation; Recovery. August Schachner.
- 49 Mercurochrome Inunctions Preparatory to Skin-Grafting in Leg Ulcers. William R. Stone.
- 50 *Briefs on the Surgery of the Genito-urinary Organs. G. Frank Lydston.

Northwestern Lancet (Minneapolis), May 1.

- 51 A Case of Multiple Neuritis. Christian Johnson.
- 52 Two Months' Surgical Service in the Minneapolis City Hospital. J. E. Moore.
- 53 Thrombosis of the Vena Cava Inferior. C. H. Hunter.

Pennsylvania Medical Journal (Pittsburg), April.

- 54 *Paralysis Agitans without Tremor. Augustus A. Eshner.
- 55 Leukemia and Pseudo-leukemia. Charles H. Miner.
- 56 Traumatic Hysteria and Neurasthenia. Edward E. Mayer.
- 57 *The Easiest, Quickest, Safest and Most Thorough Method of Removing the Third Tonsil. Louis J. Lautebach.
- 58 Living Animal Organisms in the Ear. Francis R. Packard.
- 59 The Operative Treatment of Ugly Ears. John B. Roberts.
- 60 Typhoid Fever Concisely Considered. James Fulton.
- 61 A Case of Resection of Four Feet of Small Intestines. Geo. D. Nutt.
- 62 *The Treatment of Cleatrical Stenosis of the Esophagus, with Particular Reference to the Method of Koenig. Chas. H. Frazier.
- 63 *The Climatology of Neurasthenia. F. Savary Pearce.
- 64 Relation of the Oculist and Optician to the Profession and Public. P. J. Kress.

Canadian Journal of Medicine and Surgery (Toronto), May.

- 65 Treatment of Morphinism. T. D. Crothers.
- 66 Adrenalin, the New Hemostatic. Murray McFarlane.
- 67 *The Protozoan of Cancer. Harvey R. Gaylord.
- 68 1. Thoracic Aneurysm. 2. Carcinoma of Superior Maxilla. 3. Cholelithiasis and Suppurative Cholecystitis. 4. Inguinal Hernia of (a) Bladder; (b) Cecum. Bern B. Gallaudet.
- 69 *The Carbohydrates of the Urine in Diabetes Insipidus. David L. Edsall.
- 70 Laryngeal Hemorrhage from an Apparently Normal Larynx. George B. Wood.
- 71 *Blastomycetic Dermatitis of the Gluteal Region. Frederick G. Harris.
- 72 Subinvolution of the Uterus; Three Suggestive Cases. L. W. Atlee.

American Medical Compend (Toledo, Ohio), May.

- 73 Ulcerative Keratitis. Charles Lukens.
- 74 Meningitis, with Special Reference to Lumbar Puncture and Kernig's Sign. Elizabeth Woods-Bowman.
- 75 Sesamoid Bones and Floating Cartilages. H. L. Green.
- 76 Croupous Pneumonia, Followed by Pulmonary Gangrene with Report of a Case. G. Aftel.
- 77 Nutrition and Disease. A. T. Cuzner.

Medicine (Detroit, Mich.), May.

- 78 Experimental Digestive Plague. D. MacDonald.
- 79 *Clinical Observations on Protargol, with a Résumé of the Literature. Max Reichmann.
- 80 Chloretone Anesthesia as an Aid in Subarachnoid Operations. William R. Stone.
- 81 *Three Cases of Osseous Stylohyoid Arch. Thomas R. Crowder.
- 82 The Malarial Causation of Cerebral Nerve Paralysis; With a Case. Louis R. Morris and Allan McL. Hamilton.

Louisville Monthly Journal of Medicine and Surgery, May.

- 83 Welcome Address Delivered before the Morganfield District Medical Association. P. B. Miller.
- 84 The Gonococci in the Gonorrheal Secretion. A. Ravogli.
- 85 Acne and its Treatment. Henry H. Koehler.
- 86 Practical Things About Typhoid Fever. W. J. Leach.
- 87 Emergency Hospital at the Pan-American. Herbert Shearer.

Obstetrics (N. Y.), April.

- 88 *Indications for the Cesarean Section in Placenta Previa. G. M. Boyd.
- 89 *Pregnancy in the Accessory Horn in the Uterus Duplex. (Concluded.) Erwin Kehrer.
- 90 The Prevention of Puerperal Eclampsia. L. F. Bennett.

Kansas City Medical Index-Lancet, May.

- 91 Recto-colonic Enteroliths and Concretions. Samuel G. Gant.
- 92 Medicine a Progressive Science. John M. Langsdale.
- 93 Stones in the Common Bile Duct. A. H. Cordier.

Archives of Otology (New Rochelle, N. Y.), April.

- 94 *Electrolysis in the Destruction of Organized Strictures of the Eustachian Tube. Joseph A. Kenefick.
- 95 Acute Otitis Media, Cerebellar Abscess; Operation. Death from Meningitis. Wendell C. Phillips.
- 96 Mastoiditis Complicated by Paralysis of External Rectus. Kasper Pischel.
- 97 Acute Mastoiditis, Thrombosis of Lateral Sinus, Perforation into Pharynx. Kasper Pischel.
- 98 Skin Flap for Immediate Closing of Wound in the Radical Mastoid Operation. Kasper Pischel.
- 99 *The Diagnosis and Treatment of Otitic Meningitis. Dr. Hlinsberg.
- 100 Primary Otitis Externa from a Clinical Point of View. C. J. M. Schmidt.
- 101 Topographic Anatomy and Operative Technique of Otitic Abscess of the Temporal Lobe. H. Preysing.

Medical Mirror (St. Louis), April.

- 102 *Nutrition and Stimulation. I. N. Love.
- 103 The Relation of Appendicitis to Diseases of the Uterine Appendages. Albert L. Beahan.
- 104 A Case of Resection of Caput Humeri for Subcoracoid Dislocation—Recovery with a Useful Arm. Valdemar Pleth.
- 105 The Most Potent Mercurial Preparations for specific Diseases. Frederick S. Mason.
- 106 Autoinfection in Disease and Individual Prophylaxis. J. C. Shrader.
- 107 Autointoxication from Renal Insufficiency, with and without Diseased Kidneys; with Report of Some Remarkable Cases. James T. Jelks.
- 108 A Case of Pernicious Malarial Fever. Nevil M. Garrett.
- 109 Some Points of Practical Importance in the Symptoms and Treatment of Acute Pneumonia. Dr. Babcock.
- 110 *Hypospadias. C. H. Mayo.

Brooklyn Medical Journal, May.

- 111 *The Genesis of Uric Acid. R. H. Chittenden.
- 112 A Case of Transperitoneal Ligation of the External Iliac Artery for Femoral Aneurysm. Russell S. Fowler.
- 113 A Résumé of Present Knowledge Concerning Water Purification, and Some Comments Relative to the Needs of the Brooklyn Water Supply. George W. Fuller.
- 114 Sanitary Condition of the Brooklyn Water Supply, Based on Work of the Rockville Center Laboratory of the Brooklyn Health Department, 1896-1897. Hibbert W. Hill.

Toledo Medical and Surgical Reporter, May.

- 115 Hospitals of Europe. Christian Storz.
- 116 A Case of Hydræmnion. F. A. Leslie.
- 117 Chloretone in the Treatment of Epilepsy. F. W. Hammond.

Journal of Eye, Ear and Throat Diseases (Baltimore), March-April.

- 118 Protargol: Some of its Uses in the Nose and Throat. Wilbur F. Skillman.
- 119 *Pathology of Deaf-Mutism. J. J. Carroll.
- 120 A Method of Preserving Eye Sections in Museum Jars. J. William Watson.

Mississippi Medical Record (Vicksburg), May.

- 121 Some Surgical Cases. (Sarcoma, etc.) J. A. Crisler.
- 122 The Pathology of Adenoids in the Adult. A. T. Mitchell.
- 123 Some Interesting Items. (Abscesses, etc.) J. C. Ballard.
- 124 Accidental Impregnation. John Darrington.

Laryngoscope (St. Louis), April.

- 125 *The Pathology of Pharyngomycosis, with Lantern Slide Illustration. B. Braden Kyle.
- 126 *On Sounding and Irrigating the Frontal Sinus Through the Natural Opening. Walter A. Wells.
- 127 Primary Carcinoma of the Nasopharynx; Report of a Case. Chevalier Jackson.
- 128 Gummous Tumor in the Larynx in a Boy Six Years Old, Due to Latent Hereditary Syphilis. Gottlieb Kiaer.

Nashville Journal of Medicine and Surgery, April.

- 129 The Medical Society—Its Advantages to the Profession and its Value to the Public. J. A. Crook.
- 130 Surgery in Country Practice with Report of a Case of Fracture of Skull—Loss of Brain Substance. A. M. Chittenden.

New Orleans Medical and Surgical Journal, May.

- 131* Disinfection from a Purely Practical Point of View—Its Efficiency a Problem for Solution. John J. Archinard.
- 132 Dermoid Cyst of the Scalp, with Report of a Case. Sydney P. Delaup.
- 133 Lung Infarction and Pneumonia in Cardiopathies—a Case with Post-mortem Examination. E. M. Dupaquier.
- 134 Chronic Gastritis with Erosions—A Clinical Lecture. Otto Lerch.
- 135 Traumatism of Eye—Discrepancy Between Cause and Effect. Drs. Burns and Robin.
- 136 A Needle for Silver Wire. L. J. Y. Genella.

Medical Standard (Chicago), May.

- 137 Appendicitis and its Treatment. A. J. Ochsner.
- 138 Chronic Constipation. David Paulson.
- 139 Drug Habits and their Treatment. T. D. Crothers.
- 140 Epistaxis: Its Causes and Treatment. Aime Paul Heineck.
- 141 Membranous Croup. William F. Waugh.
- 142 A Neurological Clinic. Daniel R. Brower.

AMERICAN.

1. **Infant Feeding.**—Crandall's article treats the subject generally, gives tables for prescribing the proper amount of fats, proteids, sugars, etc., in the milk, and advises beginning feeding with weak mixtures, which, however, are not to be con-

timed. He objects to the changing of foods under slight provocation. If the child becomes actually ill it is best to dilute. If indigestion or diarrhea occurs, stop milk, as diarrhea is usually a bacterial trouble. Chronic indigestion with beaded ribs and sweating of the head in sleep suggests rickets. Painful joints and purple gums suggest scurvy and its proper treatment. Eczema is sometimes relieved by reducing the fat, while constipation with hard dry stools may sometimes be helped by increasing it. Colic, flatulence, and restlessness are indications for the reduction of percentage proteids. Regurgitation of food with perhaps small frequent passages suggests excessive fat, while green acid stools, with gas and colic suggest an excess of sugar. Curdy stools call for more dilution of the top milk. Foul stools call for thorough washing and reduction or stopping of milk.

2. Typhoid Fever.—From a study of a number of cases of typhoid fever in the New York hospitals, examination of stools, etc., Hiss offers substantially the following general conclusions: 1. Usually after the first week bacilli can be found in the blood, spleen, rose spots, urine and feces, and in rarer instances in the secretions of exudates of the mouth, throat and lungs. After death the bacilli are demonstrated here and in other locations, such as the lymphatic tissues of the intestine, mesenteric glands, bone-marrow, lungs, gall-bladder, etc. 2. The bacilli apparently do not thrive or even survive long in the circulatory blood. They may, however, live and multiply at some of the points where they are deposited by the blood and lymph, thus forming bacterial foci. 3. Morphologic examination of tissue secretions to determine the relations of bacilli to lesions of the bacilli of typhoid have generally proven unsatisfactory and inconsistent. Some of the lesions undoubtedly occur at points remote from the bacilli; others, it is probable, are intimately associated with them, and it is not unlikely that certain lesions occur only at points of localization of bacilli. 4. Typhoid is therefore an infectious disease with wide dissemination, and multiple localizations of the bacilli are frequently demonstrable during life and after death. During the disease various tissue changes take place, some neurotic and others hyperplastic, and while some are remote from inciting organisms, other facts point strongly to the close association of the germ with some of the more characteristic lesions. 5. There is a close connection at least between the appearance and disappearance of bacilli in the intestinal contents, and the appearance of and repair in the intestinal ulcers. The organisms are very rarely demonstrable in stools before the first days of the second week, and disappear with the fall of the fever. While the intestinal tissue destruction is most active, they can be isolated with great regularity. When continuously absent in typical cases, it probably indicates the scarcity or absence of intestinal lesions. 6. The urine in a certain percentage of cases contains the bacilli. These are found near the end of the second week, and they may not appear here until very late in the disease or during convalescence, and may persist, it is claimed, for months, and are generally associated with albuminuria. He dwells on the importance of disinfection of the urine, which is often a source of infection, and of the feces in the later stages, and of the expectoration on account of the chance of the bacilli being present in the mouth. All eating utensils should also be disinfected.

6. The Doctor's Fee.—Roberts' article is a protest against certain practices which are more or less common and certainly objectionable, such as collusion with manufacturers and druggists and insurance companies, which are not always honorable in their dealings, the writing of articles for drug companies, the division of fees by consultants and surgeons and excessive charges, especially those made against estates of deceased. In this latter point he goes at some length and claims that the professional spirit has been somewhat debauched by mercenary considerations, and that courts are often justified in treating with suspicion large bills that are presented. He says there is but one just plan by which the fee should be regulated, that is, the doctor should have an estimate of the value of his services fixed in his mind, not too low nor too high, and that the wealthy patient should pay the full fee and it should be generous in order to recompense the physician for his ex-

perience, education and hazardous life. The fee should not always be increased, however, because his services are utilized by a very wealthy person, unless an unusual time is given to services or additional responsibility is placed upon the physician by reason of the patient's position.

6. Arrested Mental Development.—Causes of degeneracy, idiocy, etc., are classed by Bailey under three heads: Those occurring before birth, at birth, and during infancy and childhood. Among the first he includes heredity, alcoholism of parents, tuberculosis, syphilis, etc. Among the second he briefly mentions cerebral injuries at birth. The causes occurring after birth are the most important, inasmuch as a child's brain is vulnerable as a whole to injuries and the lesions are not localized as in adults. A foremost place among them is occupied by post-natal diseases of the brain and its membranes, such as hemorrhages, meningitis, infectious fevers, intestinal intoxication, defects of the senses, etc. Traumatism plays but a small part, but nutrition is of great importance. A large number of feeble-minded children are rachitic, and in this class are included also faulty conditions of metabolism, known as cretinism, and amaurotic family idiocy. Chronic alcoholism is also more serious and frequent than is perhaps believed, and due to parents giving beer and wines to their children. While these various causes enumerated vary greatly in frequency and importance some of them merit much more detail than he has been able to give to them. All of them are worthy of special consideration and teach important lessons to those who wish to have children and to those whose duty it is to care for them.

12. Cardiovascular Dilators.—According to Bishop there is too much tendency to the routine use of cardiovascular dilators in certain cases of cardiovascular disease, and they are now given in such a way often that no effect whatever is produced. A careful regulation of the dose is required, for their final action may be paralysis and dilatation of the heart through a complete breaking down of inhibition. It is important, when the nitrites are used, to have a reliable preparation, which is not always the case, and the case must be studied from time to time with withdrawal of the drugs and substitution of others of a different class. Cardiovascular disease is particularly remote from the ideal of treatment by specifics. The whole management is like the running of an intricate machine; the physician must study and learn all its resources. No permanent course or management can be planned for in a single case. He mentions a particular form of pulse where nitroglycerin is not as valuable as other drugs. This is a high tension pulse with persistent rapid heart's action. In such cases the greatest benefit is sometimes derived from digitalis. It theoretically does not act, but practically it does. Even when tension does exist in cardiovascular disease with nephritis it should be realized that some tension may be desirable. As time goes on the greatest danger to be feared is too great lowering of the blood tension with its accompanying condition. In the presence of symptoms indicating disturbances of the cerebral circulation, such as numbness or awkwardness of one of the extremities or speech disorder, the vascular dilators are imperatively needed. Sodium iodid has also an undoubted power to control these conditions. Bishop believes that with a properly planned regime, and careful medication and other therapeutic measures, the heart may recover its tone so that all symptoms of degeneration disappear and the kidneys settle down to their work sufficiently well to maintain health.

14.—See abstract in THE JOURNAL of March 30, p. 911.

15. Hydrocyanic Acid Gas as a Disinfectant.—The danger of hydrocyanic acid gas is not considered so great by Fulton as commonly supposed. He says he has lost some of his fears of its imputed energies, though its real power must always be respected. He gives the details of disinfection experiments with the gas produced by the action of sulphuric acid upon potassium cyanid. Against organisms no harder than diphtheria and typhoid bacilli hydrocyanic acid gas is about as effective as formaldehyde, though a greater amount

of gas is required and perhaps more time. One gram of cyanid per cubic foot of space is probably the correct proportion. It has no great power of penetration and Fulton thinks that a gaseous germicide with great penetrating power is as yet a desideratum. Against animal life it has a strong diffuse energy and can destroy insect life completely. He thinks it not unlikely that it may be to some extent made to meet the need of a gaseous germicide which will also become a destroyer of animal life.

16. Alcoholism.—In this conclusion of his criticism of Atwater's views, Madden says, testing alcohol by the requirements of a food, viz., the lack of irritating effects and the orderly liberation of energy, what do we find? "In the first place, on all hands, it is recognized as an active protoplasm poison, so active, indeed, that less than a fourth as much as is necessary to furnish the tissues with fuel may be taken daily without tissue derangement being universally apparent, and but a very little more than enough to supply the tissues with their daily needs of fuel has been found sufficient to destroy life when taken in a single dose. Does it need a technical education to determine whether any poison so violent as this shall be called a food or not? It seems that very few facts in science admit a clearer demonstration than that alcohol is not a food. Its destructive properties alone are sufficient to at once and forever bar it from the lists of food of any class. He says many other poisons contain a large amount of latent energy which is usually set free in the body—phosphorus, ptomaines, etc., are of this class, and he asks whether we should utilize these with alcohol?

17.—See abstract in *THE JOURNAL* of March 16, p. 756.

20. Atonia Gastrica.—The new method of treatment suggested by Rose consists in the use of a bandage, 36 by 12 inches, applied tightly around the abdomen, drawing it well upward, the two ends meeting or overlapping at the spine. The plaster should not include the crest of the ileum, but should run closely along and above it. The support of the abdominal walls is made perfect by additional applications of two side pieces, extending from the hypogastrium over the inguinal and iliac regions and reaching also to, or near, the spine. In the application of these pieces considerable force may be used. He has a record of about 100 cases in which he has made use of this treatment and in which it gave most marked and prompt relief in a high degree of gastropnoia in which reflex cough and vomiting were among the symptoms. The majority of his patients were dispensary cases, working people, and in very few was there ever complaint of any inconvenience or irritation of the skin.

22.—See abstract in *THE JOURNAL*, xxxv., p. 1172.

23. Primary Septal Chancre.—Freudenthal, after noticing the various types of primary facial lesions and their causes, describes a case in a physician where there was primary chancre of the nasal septum due to finger infection. The patient had suffered from a dry ulceration and the formation of crusts, and it was in getting rid of these that the nasal infection was produced. He thinks there are many cases of this sort, which for obvious reasons are not published.

24. Nervous Syphilis.—Onuf reports the manifestations of syphilis of the nervous system, with special reference to diagnosis, calling attention to cutaneous symptoms, eye symptoms, and those of the internal organs. He reviews the different forms in which they may occur and points out a few symptoms that are somewhat characteristic, though not pathognomonic of these states, such as irregular contraction of pupils, pinhead pupil, vertigo, etc. The prognosis and treatment are also briefly discussed.

27. Widal Reaction.—In 253 cases of typhoid during six months of the year 1900 there were only 10 failures of the Widal reaction, but besides these there were 6 other cases in which the diagnosis of typhoid was made through evidence that was not directly conclusive. In these there were repeated negative Widal's. Including these, Withington says, as we might, we would have a total of 259 with failure in 16, or a little over 6 per cent. In one case, after eight con-

secutive failures, the test was positive for the first time on the twenty-ninth day.

28. Widal Reaction.—The same subject is taken up by Shattuck who compares his own experience in a former published article and reports certain interesting cases.

31. The Fevers of the Philippines.—Curry gives in this paper a preliminary report of the fevers met with among the troops in the Philippines. Typhoid fever, he thinks, previously existed amongst the Spaniards and natives, though to what extent it is impossible to say. He thinks there is danger in the future, when the camps become more permanent, that typhoid may increase and the prevalence of the disease in the Philippines be a serious problem. Malta fever was also observed, and he points out that it is probably not uncommon. The name is unfortunate as indicating a localized disorder, whereas it seems to be met with in various other Mediterranean countries; in India, Hongkong and Porto Rico. The malarial fevers of the Philippines differ slightly from other tropical countries in the greater prevalence of the tertian form. Malarial fever often complicates other diseases; the parasites are the same as those known the world over. He also mentions certain undetermined tropical fevers which are still open to investigation. Among these there is a fever described by Minson as double continued fever, which closely corresponds with Malta fever and a so-called "hepatic fever."

32.—See abstract in *THE JOURNAL* of May 11, p. 1340.

34. Pneumonia.—The following are Neuhoff's conclusions in regard to saline infusion treatment in acute crampous pneumonia: It is a useful adjunct to other treatment in selected cases. It acts as a powerful heart stimulant when other heart remedies can no longer sustain the flagging circulation. It increases the secretions, and moistens the tongue and throat as well as the skin. It lessens the delirium. Other observers have noticed that it also improves the respiration, but of this I could not convince myself. It is contraindicated in pulmonary edema. Some patients apparently die of collateral pulmonary edema not consequent on a failing heart. In these saline infusions were not applicable. Others apparently died from heart failure or edema caused by heart failure. Here the infusion averts the tendency to death by sustaining the heart as nothing else can.

35. Syphilis in the Well-to-do.—McDonald believes that syphilis is a less formidable disease in the well-to-do, especially as regards its later symptoms. From an analysis of 150 consecutive cases in which there were 3 per cent. of hereditary cases, he found the mortality in the hereditary 40 per cent. In the acquired cases 65 per cent. had only mild trivial, transitory lesions, without leaving any traces; 6 per cent. suffered severely, but recovered completely without perceptible impairment of any organ; 20 per cent. suffered from gummata, which left scars but which were readily amenable to treatment and healed up satisfactorily. Only 6 per cent. were formidable and not a single case was appalling. He attributes this to a greater attention to the early treatment and cleanliness and the milder form of the disease acquired, with the precautions taken by the patient, and maintains that syphilis in the well-to-do is a different disease from syphilis in the poor.

36. Subarachnoid Spinal Cocainization.—Liell has looked up the statistics of spinal cocainization and believes that this method of analgesia has passed the experimental stage, and that we are justified in hoping that it will find its field of practical usefulness in the near future along with ether, chloroform and nitrous oxid.

41. Antitoxin.—The special object of Rabenoyich's article is to emphasize the fact that every case is a rule unto itself as to the amount of antitoxin required. The proper dosage can not be laid down and the symptoms and signs of the disease must guide. The writer has found a preliminary injection of never less than 3000 units advisable and the total dosage may be carried up to even 50,000 or more. The only guide is a shrivelling up of the membrane and disappearance of constitutional symptoms. A number of cases are reported as illustrating his views.

42. **Schnetter's Placenta Forceps.**—This instrument, which is described by Kempf, consists of a canula, 7 inches long, in which is a rod with a handle at one end and a fenestrated forceps in the other. The blades of the forceps are one-half inch wide and are fastened to the rod by a steel spring. The instrument is introduced into the uterus closed and the handle then pushed up into the canula, which opens the forceps. When rotated it acts as a double curette and scrapes all the loose placenta in the center of the forceps. If the forceps is gradually closed there is no danger of catching the sides of the uterus. When a portion of the placenta has been caught further rotation will peel off the remainder and get it all without tearing it. The instrument is capable of being thoroughly aseptized and Kempf claims it of great value in certain cases. He does not know who Schnetter, the inventor, is, but thinks the instrument should make him famous.

50. **Hydrocele.**—Lydston's method of treating hydrocele is by complete excision of the entire sac of the tunica vaginalis under aseptic conditions. He gives his technique in detail, and remarks that it often cures the chronic indurations and enlargements of the testis and epididymis so frequently associated with hydrocele and permits also an excision of tubercular foci, small cysts, etc. The stitching of the superimposed tissue in two distinct layers and the formation of a pseudo-sac are, he believes, efficacious in preventing adhesions of the skin with subsequent tenderness and possibly neuralgia.

54.—This article appeared in *THE JOURNAL* of February 16, p. 422.

57. **Adenoids.**—Lautenbach objects to anesthesia in the removal of the third tonsil, and insists first on making a digital examination. He does not use a gag in the child's mouth, but wrapping the index finger with one or two layers of adhesive plaster, he then puts over this two or three turns of double flannel roller bandage. If he finds the expected growth, he proceeds to gouge it out with the nail of his index finger, removing every shred and being careful to see that the fossæ of Rosenmüller as well as the Eustachian tube orifices are perfectly clear, or that the finger nail can not remove the parts. When he can not get rid of all parts with the normal organ, he uses his artificial finger nail. He says that the finger feels just what we are doing and we know just when to stop. The rapidity with which the operation can be done is almost inconceivable, and there is not the added danger of the anesthetic. Since he has used this fore-finger operation he has found recurrences to be very rare.

62. **Esophageal Stenosis.**—The treatment of cicatricial stenosis of the esophagus is described by Frazier, who mentions the instruments, especially the silver balls of graduated sizes, which he employs to dilate strictures where the bougie can not be used. He has the patient swallow the smallest of the threaded balls, the attached string being fastened to the coat or ear, and retain it for twenty-four to thirty-six hours or more, when it will be generally found to have passed the stricture; then other sizes are gradually utilized up to 6 or 7 mm. in diameter, and suitable treatment conducted on the lines laid down for permeable strictures. He sums up that the plan of treatment to be adopted can be decided on only after very careful explorations, and draws a close analogy between the treatment of these strictures and those of the urethra. Forceful measures, he thinks, are unnecessary and may be serious in their results. The first class is the permeable stricture admitting the passage of the bougie and should be treated by gradual and intermittent dilatation. The frequency with which the bougie should be passed will depend on the tolerance and the limit to which it should be dilated, as in children 18 mm. and in adults 22 mm. The best adapted instrument is the fine conical tipped rubber bougie. Class 2, or the intermittent class, is composed of those strictures where attempts to pass a bougie have failed, and here the silver ball treatment comes in and should be followed, if successful, by gradual dilatation. Class 3 includes the absolutely impassable strictures or those not included in the first and second classes. These are to be subdivided into those in which the passage may be effected by approaching the stricture through the stomach, and

of which retrograde dilatation, rapid or permanent, or division with a string by Abbe's method, followed by rapid retrograde dilatation, is the proper mode of procedure, and 2, those in which the passage through the stricture can only be effected by external esophagotomy; the stricture is divided either by Abbe's method or by cutting it from without inward, as by external urethrotomy. Class 4 is composed of those very exceptional cases which have proven absolutely impassable. Here gastrotomy with the establishment of permanent fistula is to be recommended.

64. **Neurasthenia.**—According to Pearce there are two extremes to be avoided by the neurasthenic individual, viz., the low, windy, treeless country, and the one characterized by constant quiet atmosphere, high altitude—above 2000 feet—with low atmospheric pressure. An illustration of the former condition is found in Portland, Ore., where neurasthenia is very prevalent, and of the second, the higher parts of Southern California, and New Mexico. The suitability of any given district for the treatment of nervous disorders depends on altitude, barometric pressure, character and temperature of prevailing winds, the nature of the subsoil, gravelly loam being most desirable, an abundance of sunshine, and finally, in a lesser but still important degree, on idiosyncrasy. Places where heavy storms are prevalent should be avoided. The Maine country about Rangeley Lakes is almost ideal for neurasthenic patients, with an altitude of 600 to 1000 feet and a rare combination of sea and pine-laden atmosphere with plenty of sunshine. Next he would place the inland country of New Brunswick and Nova Scotia, away from the fogs of the coast. The third in order is the great lake region of Ontario, Wisconsin and Michigan, spreading east to Muskoka Lakes and about Lake Simcoe and Nipissing. Any very stimulating climate should be avoided, hot winds, frequent fogs, cloudy saturated atmosphere, with slight movements of air-currents; low country with the monotonous moderate heat. The ideal conditions include sea air in a well-wooded country, just far enough from the coast to avoid its fogs. A sea voyage is as a rule an excellent preliminary to other climatic measures, provided it is not stormy, and good feeding is an important addition; without it other methods may fail.

67.—This article is noticed editorially in *THE JOURNAL* of May 11, p. 1324.

69. **Urinary Carbohydrates in Diabetes.**—After noticing first the statement of Rosin and v. Althaus, that the fermentable carbohydrates are increased in diabetes, Edsall made an examination of the esters formed in a case of diabetes insipidus, with the result of finding that the carbohydrates were not increased. Any increase in this disease, unless very marked, should scarcely be looked upon as an evidence of primary disturbance of the metabolism of carbohydrates, since flushing the system with large quantities of water would cause a large increase of nitrogen output. He thinks, taking all things into consideration, that the amount of carbohydrates in the urine depends largely on the diet, and they are in a large part at least derived from the food rather than formed in the body, though the question is still widely open.

71.—See abstract in *THE JOURNAL* of March 2, p. 589.

49. **Protargol.**—In 16 cases in private practice, which are available for study, Reichmann found 14 with anterior urethritis and 2 presenting also posterior urethritis. Only 4 were first cases; all the others had had previous attacks. All applied for treatment during the first week, and in only 1 case of posterior urethritis was he compelled to stop the treatment on account of complications, but even here protargol finally gave satisfactory results though the treatment had to be continued for a long time. In the other 15 cases complete disappearance of the gonococci could be observed between the third and ninth day, though prolonged injection of a 1 per cent. solution for ten minutes was continued for at least two weeks. The entire course of the treatment did not exceed twenty-three days, excepting where complications occurred.

81.—This article was abstracted in *THE JOURNAL* of March 2, p. 589.

88. Placenta Previa.—After discussing the utility of Cesarean section in cases of placenta previa, Boyd "would recommend an immediate examination under anesthesia of all suspected cases for the purpose of: 1. Confirming the diagnosis. 2. Determining the variety of the previa. 3. The size and position of the fetus. 4. The condition of the cervix, and finally to facilitate the introduction of the cervical and vaginal tampon. If the hemorrhage appears before the viability of the child, if the previa is marginal, the cervix dilatable, the fetal heart absent, then version or forceps may suffice. If, however, the child is viable, the previa complete or partial, the cervix rigid, or the fetus transverse, then, in preference to other interference, the Cesarean section would seem indicated."

89. Cornual Pregnancy.—In this concluding paper Kehrer sums up the treatment of accessory horn pregnancy in the following words: "Expectancy is never indicated, and neglect to interfere before the seventh month is a blunder. After the thirty-second week we must seek to save the child by Cesarean section."

94. Eustachian Electrolysis.—Kenefick offers the following conclusions: "1. That it can not be foretold exactly in any given case just what result will follow this treatment, as this will depend largely on two comparatively unknown quantities, viz. (a.) the vascularity of the tube lining and its toleration of the mechanical and electrical interference, and (b.) on the degree of tympanic involvement. 2. That tubal obstruction is early present in the great majority of cases of so-called chronic hypertrophic catarrhal otitis media, and that progressive deafness, tinnitus, and vertigo, and many of the peculiar and distressing head symptoms may be purely mechanical, dependent upon closure of the tube by an organized obstruction, while the tympanum and its structures are yet free or only slightly involved. Under the latter conditions brilliant results may follow restoration of the tube's patency. 3. That in any case where Eustachian obstruction has become organized, the best means of disintegrating and causing its reabsorption is by the electrolytic bougie, which in rapidity, efficiency, and permanency excels all known methods."

99. Otitic Meningitis.—Hinsberg's article is a discussion of the diagnosis, with a number of cases reported illustrating the various points discussed. He holds that the meninges, like the peritoneum, may be able to dispose of certain degrees of bacterial invasion, and the question whether it is worth while to remove the primary focus under these circumstances may arise. The circumscribed otitic meningitis may progress like cases of beginning diffuse meningitis or may simulate cerebral abscess. Positive diagnosis is often impossible, but that it is a fact that a circumscribed meningitis may give the symptoms of a diffuse process should warn us not to be too ready to give a fatal prognosis. The exact status of lumbar puncture for diagnostic purposes is not yet decided, and it is not altogether free from danger. It seems to the author that it is of no use in patients who are practically hopeless, and whether it will inform us as to the diffuse or circumscribed nature of the inflammation is a question. Turbid fluid and increase in albuminuria does not necessarily mean diffuse meningitis, and the presence of bacilli is not of much positive prognostic value. It is certain, he holds, that some cases of purulent meningitis recover spontaneously. The occurrence of circumscribed areas of meningitis is always dangerous, since it may be the starting-point of a diffuse process, and we can not say when this is liable to occur. We should, therefore, be ready to assist Nature in every possible way, either by removing the primary focus in the otitic process, or if necessary by incising the dura. This removal of the primary process has been successful in many reported cases, one of which is cited. He reports a number of cases showing the difficulties of deciding whether the aural suppuration is the cause of the meningitis or not, and he says that we may conclude from these that among a not very large number of otherwise well persons the paralytic symptoms give the first sign of tubercular meningitis, and the combination of a discharge from the ear with tubercular meningitis is not very rare, especially among children.

102.—This article appeared in *THE JOURNAL* of March 2, p. 537.

110. This article appeared in *THE JOURNAL*, April 27, p. 1157.

111. Genesis of Uric Acid.—Chittenden concludes that uric acid has a two-fold origin in man, one portion, coming from the breaking down of nuclein-containing tissues, or cell elements of the body, hence endogenous, while, the other, usually the larger, is of exogenous origin, from a transformation of free and combined purin compounds in the food. The first is essentially constant in amount with the same individual under all conditions of diet, but is subject to slight variations in connection with alterations in activity of the tissues. It is a physiologic constant for a given individual, but individuals vary and personal idiosyncrasy, constitutional differences, etc., affect it. The amount of exogenous uric acid depends on two factors, viz., the quantity and character of the nuclein contained in the ingested food, and the quantity and character of free purin bases present in the food. The uric acid coming from nucleins does not appear until some hours after digestion has been under way, while that from free purin bases, such as from meats, soups, coffee, etc., leads to a quicker output owing to their ready solubility and availability. Differences in the extent of this form of uric acid production are traceable to natural or free purin bases; adenin, hypoxanthin, and guanin for example, showing distinct differences in the extent to which they are individually converted in the body. There is no actual relation whatever between daily urea and uric acid output; they stand for distinct chemico-physical processes and any attempt to emphasize the so-called uric acid to urea ratio is misleading. Between uric acid and ordinary proteid metabolism there is no connection whatever. With a purely non-nitrogenous diet on the one hand, and a diet rich in eggs, milk and cheese on the other, with perhaps a maximum amount of contained proteid, the output of uric acid remains practically unchanged. The genesis of uric acid is to be found solely in the metabolism of the tissue nucleins and in the transformation of nucleins and free purin bases of ingested foods.

119. Deaf-Mutism.—Judging from the results of 150 autopsies collected by Saint-Hilaire, Carroll concludes that the pathology of deaf-mutism varies greatly. The anatomical alterations of the ear, which are capable of producing serious deafness, have not been found in deaf-mutes; no permanent lesions are present and no single definite pathologic condition characteristic of disease.

125. Pharyngomycosis.—The literature of the pathology of pharyngomycosis is reviewed by Kyle, who notices the general opinions in regard to the disease, discusses the question of the patient's condition, the presence of leptothrix, the state of the epithelium and submucosa and illustrates his article with reproductions from lantern slides. He does not believe that the disease is especially affected by sex or age, though it does seem to be somewhat affected by climatic conditions. The general health seems to bear very little relation to it, and he concludes that the disease is not uncommon, though he has only seen ten cases. As regards the importance of the leptothrix, he is inclined to believe its action is secondary and it is more than likely that the chemical changes brought about by the pathologic alteration in the submucosa causes a change in the glandular secretion and forms soil which is a suitable nidus for the proliferation of certain bacteria. This degeneration seems to be largely hyaline, and while many bacteria were demonstrated on the surface the subepithelial cells showed no alteration significant of bacterial infection. Their relation to the disease he thinks is controlled by chemical reactions of tissues and secretions. The absence of clinical phenomena invariably indicates that if there is any bacterial cause the germ produces no toxins, and this would be the case with the leptothrix. The reaction of the glandular secretion of the mouth does not seem to have any effect on the disease, which is also against the bacterial theory, since, as a rule, the pathogenic bacteria require an alkaline medium. Local application of germicides and other agents having no effect, may be explained by the closure of the lymph channels from the process of keratitis and subepithelial change, which prevents the cells

from penetrating the tissues. Whatever the pathologic change may be the slides indicate their beginning from below and extending upward.

126. Sounding the Frontal Sinus.—Wells says: "To successfully sound the frontal sinus we must have a probe bent at 3 cm. from the end, which should be rounded and at an angle of about 100 degrees, though capable of being flexed to a greater or less extent to suit individual differences. Using the uncinate process as the guide (resection of the anterior end of the middle turbinate is necessary in some cases) to begin, we apply the beak of the probe well backward in the hiatus, and draw it forward and upward in the direction of the sinus at the same time that the handle is depressed. If it does not slip easily into the cavity, do not use force, but holding always the probe lightly in the hand, reintroduce, feeling for the ostium with the beak a little in front of the hiatus. If the sound be in place we will be aware of it by the following tests: 1. The probe will have penetrated such a distance as to measure more than 6 cm. (between 6 and 7 cm.) from its extremity to the point where the handle is in contact with the anterior border of the floor of the nose. 2. The direction will be such that it makes an angle of about 60 degrees with the floor, or, what is the same thing, the handle makes such an angle with an imaginary horizontal line or plane, continuing the floor of the nose forward. 3. The beak of the probe will be directed forward (as shown by the ring indicators on the handle). 4. The handle will permit of a certain amount of rotation."

131. Disinfection.—The conclusions deduced by Archinard, from his own observations, are: 1. Sulphur dioxide is of little value and a destroyer of dyes, and should be discarded. 2. Formaldehyde, is an agent of great penetration and high efficiency, though practically harmless to colors and fabrics. Simple, cheap, harmless and easily managed methods of its use are available and its immediate general adoption is much to be desired. 3. Bichlorid of mercury is recommended as handy and an efficient means of treating washable fabrics. 4. Sprinkling with a 20 per cent. solution of formalin and keeping in closed containers for twenty-four hours enables us to dispose of woollen and other wearing apparels not amenable to treatment by bichlorid. 5. Chlorinated lime is our best agent for disinfection of excreta, vaults, yards, drains, etc. 6. Incineration is the best method of disposing of substances of no intrinsic value, such as soiled gowns, etc.

FOREIGN.

The Lancet, May 4.

Eczema in Relation to Age. MALCOLM MORRIS.—Morris divides eczema into: 1. Eczema of infancy; 2, of childhood; 3, of puberty; 4, in the adult; 5, of the menopause; and 6, in the aged. Beginning with the first of these he suggests that a little circular patch on the scalp of a new-born child should not be neglected, as is too often the case, for if it is left alone a red areola appears, and from this other circular patches will start and a generalized eczema follow. In treating this we should first recognize that the child has a great blood supply to the brain, and, owing to the great vascularity of the scalp, the slightest irritation is very liable to convert a very trivial condition into an acute one and make eczema spread from that particular spot. Therefore, the washing should be done with no violence whatever, and if soap be used, it should be a super-fatty one, not the ordinary yellow soap. The head should not be covered, especially in the house, and it should not be too warmly clad about the head when taken out. Heat and friction increase the blood-supply, the eczema may extend down the front of the chest and possibly behind the ears, form a collar around the neck, and patches form on the abdomen, back and limbs. In infants it tends more especially to become pustular, and in a few days or hours dry crusts form and the typical condition of infantile eczema appears. Tying the child's hands is needless; the child is hardly strong enough to scratch. We should so act as to give the child relief without this. The local treatment should be the simplest and gentlest, and applications be antiseptic. There is nothing better than mild sulphur ointment, 5 gr. of precipitated sulphur to 1 ounce of benzoated lard. When the discharge begins, we have

to consider what converts the dry form into the acute. Usually it is attributed to improper feeding, but this is not always the case. It is possible that there is some cause in the skin itself, as yet unknown. Later in the child's life there may be unquestionable factors; one of these is vaccination, and if this is done when there are only circular patches or a seborrheic type, it may arouse a state of violent inflammation. Another factor is intestinal worms, and he advises that we should pay attention to the bowels, and there is nothing so good as mercury in some form. A small dose of calomel, given at bedtime and repeated two or three nights, will do wonders. For local treatment the best thing is to apply powder and dry up the discharge. It is not a bad plan to apply it in a muslin bag. The best powder is a mixture of finely triturated boric acid and starch, and perhaps one part of oxid of zinc. This in a muslin bag, not too tight, loosely applied over the head, tends to moderate the discharge. To check formation of scabs one of the best prescriptions is oxid of zinc, 7 drams, lanolin, 1 dram, olive-oil, 1 ounce, and 1 ounce of lime-water. Other drugs may be added, a very small quantity of ichthyol being excellent. The whole of the affected skin surface should be covered with a very thin gauze bandage, after having been covered with thin strips of linen soaked in this cream. As soon as it begins to dry, the strips should be removed and some more applied. When the condition passes into the dried-up scaly stage, he suggests a weak ammonio-chlorid of mercury ointment. This trouble is liable to be recurrent and nothing will ensure against this, but accuracy of treatment in early life is the key-note of a great deal of later success. In more chronic forms, when calomel is contra-indicated, a small dose of gray powder is given as an alterative every night and seems to modify the process. Morris does not believe in giving infants alkalies or any kind of specific treatment, and knows of none for this condition. In children of 4, 5 or 6 years of age, the disease is generally also of seborrheic type and treatment is important. Cases of this kind are best kept at home. If the eczema of early life has left behind large glands, and there is any tubercular heredity, it is sometimes very wise to send the child to the seaside, but not if very acute, not tubercular. He is not sure that teething has any effect in these attacks, nor that teething bears any relation to eczema, though it seems to be the general belief that it has a strong influence. Two forms of eczema may begin at puberty, the seborrheic form, which may commence upon the scalp or elsewhere apparently from local infection, and the type associated with dry skin—xeroderma—not necessarily the result of exposure to cold, and usually attacking the flexor surfaces, joints, elbows, knees. In this dry form, soaking the skin in a prolonged bath and softening the dry and hard parts by glycerin and water, 1 to 5 parts, or, if the eczema is very acute, the zinc cream already mentioned with the addition of some antiseptic, will probably suffice. There is another type at this period of life, a form of eczema which alternates with nerve attacks, especially asthma and beginning rheumatoid arthritis. This form requires special internal treatment; nerve tonics, like valerianate of zinc, or, if very bad, perhaps small doses of opium. Morris describes a case which came on in a healthy adult from exposure to cold, and emphasizes the importance of the mineral water treatment in certain forms of adult eczema. It is not advisable during the acute stage nor the subacute, but it is proper when only a neurosis is left as the result of it. In beginning cases the patient should be put to bed, and covered with the lightest possible clothes, the diet non-stimulating, no alcohol, coffee, or tea, and the bowels regulated by calomel or saline injections in the morning. Here also small doses of tartrated antimony may be of the greatest possible service; 1/32 grain is quite enough to produce a marked effect. The action of alcohol in connection with eczema is especially noticed. Intertrigo is a very disagreeable form of eczema which should be relieved by curtailing the exercise, using antiseptic lotions and careful drying, or even a weak sulphur ointment applied accurately over the parts. It is purely local and requires only local treatment. The varicose eczema which is very common in adults is treated by rest in bed, with leg elevated, especially at night, and the application of Unna's zinc glycerin jelly, made

by mixing oxid of zinc, gelatin, glycerin and water. It should be heated in a water-bath and, after liquifying, is cooled a little and painted on the skin by a large brush. The gelatin should be applied all over the vein, as well as all over the eczematous patch and a little cotton wool put over it to make it dry. One application should last two or three days, and the patient feel quite comfortable. Another form of chronic eczema of the leg is mentioned, occurring in little circular patches. He puts the drugs which are efficient for it in the following order; salicylic acid, resorcin, pyrogallie acid, and chrysarobin. First take salicylic acid, 1 gr. to the ounce; if that fails combine resorcin with it, 15 gr. to the ounce; if these two fail use pyrogallie acid, 5 or 6 gr. to the ounce. If after making the pyrogallie acid stronger it still fails, try chrysarobin ointment (B. P.) one-half strength, well rubbed in. Eczema of the menopause is generally an acute eczema of the head and face, and he also mentions eczema of the vulva and anus. For the first form he would use ichthyol given internally in the form of tablets, 2.5 gr. after each meal, increased to 5 gr. or more. The effect is often extraordinary in clearing up the symptoms. Fairly strong applications of sulphur and resorcin may be used locally. Eczema in the aged is very serious on account of their weak nutrition. The atonic condition of the skin leads to a chronic eczema with short exacerbations, not disappearing as in early life. It interferes with taking of nourishment, and by reflex irritation of the intestines prevents digestion. This reacts against the acute condition, thus creating a vicious circle. There is only one drug for this condition as far as he knows, that is opium. He thinks that it is absolutely necessary and what harm is it likely to do, if life is made intolerable without it?

Some Further Investigations on Rheumatic Fever. F. J. POYNTON AND ALEXANDER PAINE.—The authors have isolated their diplococcus from sixteen cases of rheumatic fever. They have succeeded in obtaining it in 3 rheumatic nodules taken from 2 cases, and in 1 instance they have isolated it in pure culture. Intravenous inoculation of this culture has produced valvulitis, pericarditis, and polyarthritis in the rabbit. They have isolated diplococci from the joint exudate of this rabbit. The nodule is looked upon as largely a characteristic manifestation of rheumatic fever, therefore they conclude that their investigation lends strong support to the contention that this diplococcus is the cause of the disease. They also discuss the pathology of rheumatic chorea, and attempt to explain its clinical characteristics, that most cases probably commence as the result of the actual presence of these diplococci and their toxins in the brain. When chorea is apparently started by fright or shock, they believe the toxins are already in the brain and the shock only precipitates the disease. They have also demonstrated the presence of these organisms in the polymorpho-nuclear leucocytes, and suggest as a possibility that this leucocytosis in rheumatic fever is protective. It does not appear from their researches that there is any definite incubation period in rheumatism, and they also offer some facts which seem to indicate that the fever is a primary phenomenon of the disease. They have seen the temperature rise within twenty-four hours of inoculation, whereas local lesions usually do not appear until the third day. There is no question as to the relations of the organism to cardiac lesions, for they have repeatedly seen them produced by it in rabbits.

On Serous Vaccinia in Connection with Cretinism and Ricketts. ROBERT KIRK.—The relation of the serous character occasionally shown in vaccinia to constitutional conditions is illustrated by Kirk in four cases, which he reports, of subsequent myxedema or cretinism and in one case spasmodic asthma. He suggests that there exists here a hereditary constitutional vice which manifests itself in the peculiar characteristics of the vaccinia, and this latter may possibly have a tendency in such cases in developing subsequent myxedema. He asks whether the thyroid is specially concerned in the production of serous vaccinia and the serous types of other affections, and he answers that the evidence seems to show that it is. It appears further that the condition of the gland in such cases is one in which it is

prone to atrophy from existing causes that would otherwise prove inefficient, and one of his cases has made this of much significance in this regard. If the healthy gland is necessary to produce viscid or normal vaccinia, it is conceivable, he thinks, that it may perform an office of this defensive kind whether it has a toxin-destroying power or not. The viscosity may be defensive, limiting the multiplication of organisms, amount of toxins produced and absorbed, while if it is of a serous character, opposite results may ensue. He suggests the experimenting on calves, producing vaccinia after extirpation of the thyroid, to test the question.

Bulletin de l'Academie de Med. (Paris), April 18.

Treatment of Chlorosis with Salts of Copper. LIÉGEAIS.—It has been Liégeois' experience that iron cures about 50 per cent. of all cases of chlorosis, and arsenic 35 per cent. The remaining 15 per cent. of the cases are serofulous, and this class resists arsenic and iron, but can be cured by the acetophosphate of copper. He has been presenting the benefits of this copper treatment since 1887, and a number of Italian writers have called attention to the hematogenic power of the salts of copper. Hare has also successfully administered arsenite of copper in anemia. The formula found most effective in Liégeois' experience is 5 mg. to 1 cg. of neutral copper acetate and 5 cg. of sodium phosphate, made into a pill coated with licorice powder, then with glycerin and then with sodium phosphate and silver coated. Giudiceandrea has recently reported eighteen cases of chlorosis treated with 5 mg. to 5 cg. of copper acetate a day. The number of red corpuscles constantly increased, and the amount of hemoglobin, while the general health rapidly improved. No symptoms of intolerance were observed. He alternated iron and copper and commenced at once with the latter when iron produced disturbances.

Influence of Quinin on the Striated Muscles During Chloroformization. J. DE TARCHANOFF.—Experiments on frogs demonstrated that the injection of a 2 per cent. solution of quinin hydrochlorate in the muscles of the thigh or back, followed by the administration of chloroform, caused the muscles affected by the quinin to assume cadaveric rigidity under the influence of the chloroform. The muscles lost their transparency, elasticity and excitability, and became opaque and rigid, this condition persisting for several days. If the heart muscle is affected by the quinin the animals are unable to bear the chloroform, and under its influence the heart stops in diastole much sooner and more rapidly than in the control tests. The quinin evidently renders the muscles less resistant to the coagulating action of the chloroform, but does not affect the action of ether. The quininized muscles do not become rigid under the influence of the latter, and the heart does not become paralyzed. Binz considers quinin a poison for living protoplasm in general and for the muscles in particular, enfeebling their vital functions and diminishing oxidation.

Bulletin de la Societe Med. des Hop. de Paris, April 25.

Influence of Lumbar Puncture on Gastric Crises. G. M. DEBOVE.—The cures reported in cases of sciatica and the fulgurant pains of tabes, by spinal cocainization, suggested to Debove that the benefit may have been due to the lumbar puncture rather than to the cocain injected. He accordingly practised lumbar puncture alone in a case of essential, intense gastric crises, similar to those of tabes. About 30 c.c. of cerebrospinal fluid were withdrawn and the painful crisis was arrested immediately.

May 2.

Hysteric Mammary Hemorrhage. LE GENDRE.—This rare manifestation of hysteria was to have been treated by hydrotherapy, when evidences of tenia were discovered and vermifuges administered instead. With the expulsion of the tenia all the complicated hysteric and hysteriform symptoms vanished, with no recurrence during the year.

Lobar Localizations of the Liver. F. GLÉNARD.—The liver is anatomically divided into four lobes, but percussion shows only two. Palpation, particularly with the thumb of the left hand, with which it is possible to outline the crest of

the margin of the liver, supplemented by pivoting this edge forward by bimanual pressure, and its lower position during inspiration, enables three lobes to be distinguished. Glénard advises graphic notation of the data determined by the thumb palpation, and calls the lobes the right, the square or cholecystic and the epigastric lobe. These various lobes develop independently of each other; one may be hard while the others are soft. One may be indolent and the others hyperesthetic. The free margin may be round and smooth in one and sharp in the others. They may become hypertrophied independently of each other and experiments on the cadaver show that each has a separate circulation to a certain extent and that each lobe has a direct connection with a certain portion of the intestines. Hyperemia in a certain segment of the intestines is followed by localization of the congestion in the corresponding lobe of the liver. Sérégé has recently studied this connection between segments of the intestine and the various lobes of the liver, not only on the cadaver but by injecting a stain in the veins of living animals. He found that an infinitesimal amount of a stain injected in the superior mesenteric vein was transported exclusively to the right lobe of the liver, while it was exclusively localized in the left lobe when injected in the venules in which the splenic vein originates. He concludes that there must be two currents in the portal vein, which pass along together without blending, one from the superior mesenteric vein to the right lobe and the other from the splenic vein to the left lobe. The density and freezing-point of the serum in each current varies slightly. He found in sixteen autopsies of patients who had succumbed to dysentery with abscess of the liver, that in fourteen cases the abscess was in the right lobe and the ulcerations in the intestines were in the region of the superior mesenteric vein. In the two cases in which the ulcerations were in the rectum, the abscess was in the left lobe of the liver. He also states that in hundreds of other observations he has never found a single contradictory case. In one case of carcinoma of the rectum there was a metastasis in the left lobe of the liver. In another a neoplasm in the small intestine coincided with a neoplasm in the right lobe; in a third a neoplasm in the cecum corresponded to another in the right lobe, and another in the rectum had induced a tumor in the left lobe, all four in the same subject. Still another case of a neoplasm in the cecum is reported, accompanied by an abscess in the right lobe. Porak recently mentioned a case of abscess in the left lobe in a new-born infant consecutive to infection of the umbilicus. Sérégé has also observed two cases of chronic gastritis or gastroduodenitis with an abscess in the left lobe, showing the intimate anatomic relations between the stomach and liver. He also reports two cases of gangrenous appendicitis, both accompanied by abscess in the right lobe of the liver. Glénard thinks that the liver has a more preponderant rôle in general pathology than is recognized at present.

Presse Medicale (Paris), April 6.

Action of Tuberculosis on the Kidneys. A. BRAULT.—Certain writers have recently asserted that tuberculosis of the kidneys—aside from the actual tubercular lesions—results in the production of a chronic parenchymatous nephritis. Brault, on the other hand, states that in all his experience he has never noted anything of the kind, but always an amyloid degeneration, more or less pronounced, as the result of the influence of this condition. In patients with amyloid degeneration, the altered glomeruli allow the free passage of albumin. The epithelium is but little affected, comparatively speaking, and allows the passage of the extractives and of methylene blue. Symptoms of uremia consequently do not appear until a very advanced stage. The amyloid degeneration may be complicated by syphilis or some other disease, resulting in the shriveling of the kidney. This amyloid degeneration of the kidneys is the only remote, apparently non-specific manifestation of tuberculosis which Brault has ever observed in man.

April 20.

The Ureter-Bladder and Pyelovesical Reflex in Renal Pathology. P. BAZY.—Pressure on the anterior abdominal wall, 2 or 3 cm. from the median line, will determine pain in certain cases of cystitis. If it irradiates to the bladder it is similar in

character to the pain of nephritic colic and has the same meaning. A still more significant phenomenon is a painful desire to urinate elicited by vaginal palpation of the lower surface of the bladder. The sensitive point in this case corresponds to the orifice of the ureter and indicates a pyelitic lesion in the latter. This orifice is higher in man and more difficult to locate, but if it proves possible thus to induce the pain, it has the same diagnostic value in both sexes, and demonstrates the futility of treating the cystitis exclusively when there is a concomitant lesion above. Bouchard's sign is also a valuable aid in determining whether pus in the urine comes from the bladder or kidney. A little Fehling's solution is added to the urine in a glass and the glass is suddenly jarred. If the pus comes from the kidney, droplets of gas will be discovered in the fluid. If heated, vesical pus sinks to the bottom, while kidney pus rises on account of the air imprisoned in it. Pollakiuria at night and the frequency of urination with little or no accompanying pain are other important symptoms.

April 24.

Diagnosis by the Leucocytes. G. MILIAN.—A few cubic centimeters are enough for cytodiagnosis, and they are easily derived from an exploratory puncture. All the fluid obtained should be sent to the laboratory to be examined, and not merely the supernatant portion. The presence of polynuclear elements in the cerebrospinal fluid indicates acute cerebrospinal meningitis, while lymphocytes suggest a tubercular meningitis or some other organic lesion of the nervous system. The absence of figured elements in the cerebrospinal fluid in the tertiary stage of syphilis shows that the nervous symptoms observed are due to neurasthenia alone, with no immediate danger of tabes. In acute gonorrheal hydrocele, the effusion contains polynuclear cells, while only lymphocytes are found in tubercular hydrocele. Chronic idiopathic hydrocele contains few cellular elements, except possibly large endothelial cells. Polynuclear cells are characteristic of acute, serofibrinous, streptococcus pleurisy. The effusion in pneumococcus pleurisy contains red corpuscles and a few lymphocytes, with mononuclear cells more or less numerous, some enclosing polynuclear cells. Lymphocytes predominate in tubercular pleurisy, but the mechanical pleurisy in cardiac or Bright's disease, contains few leucocytes, but large cells, like endothelial, are scattered over the surface of the pleura as if desquamated. In hemothorax an increase or decrease in the number of red corpuscles indicates that the effusion is increasing or being absorbed. The polynuclear cells should all be gone by the twenty-fifth day. If they persist suppuration may be feared.

Revue Hebdomadaire de Laryngologie, Etc. (Bordeaux), April 13 and 20.

Hysteric Mastoiditis. G. LIARAS.—A number of patients have applied at Moure's clinic, during the past few years, begging for relief from intensely painful mastoiditis. Examination failed to disclose the slightest organic lesion in several cases, and the trouble was evidently an algia of the mastoid on a hysteric foundation. The pain always appeared suddenly in these cases, was intense from the first, and was distributed over the entire mastoid region, with no especially sensitive points. It was not constant in location and in one case was diagnosed by the sudden transference of the pain to the opposite mastoid region. The absence of fever and prostration are also signs of the hysteric nature of the affection. It yields to suggestion, with possibly a sham operation. Neuropathic symptoms usually point the way to its differentiation. The algia sometimes coincided with an otitis, but the pain was always out of proportion to the lesions observed, and appeared when the patients were on the road to recovery and drainage well established. The pain was continuous, not irradiating, with no special localizations but excessive hyperesthesia, without fever, chill or prostration. In another group of patients the pseudomastoiditis appeared years after an otitis had developed and healed. The tissues were intensely sensitive to pressure, but there was no tumefaction nor congestion. The pain was continuous, without exacerbation. The possibility of the coincidence of an algia of the mastoid with an acute affection of the middle ear should be borne in mind, and hysteric antecedents carefully weighed. Intense pain in the mastoid region, of an

indeterminate and indefinite character, in persons subject to hysteria, with or without an affection of the ear, should suggest the possibility of a monosymptomatic and disguised manifestation of hysteria. Five personal cases are reported in detail and several in the literature are reviewed.

Semaine Medicale (Paris), April 24.

Treatment of Arteriosclerosis by Inorganic Serum. C. TRUNECEK.—There is a certain proportion of calcium phosphate in the blood serum. This phosphate is insoluble in water but dissolves readily in a saline solution. The fact that it is in solution in the blood serum is probably due to the large amount of sodium chlorid in the fluid. All the tissues of the organism contain sodium chlorid and the proportion is larger in youth. As the body grows old there is less and less of this sodium chlorid, 4.92 gm.; sodium phosphate, 15 eg.; sodium carbonate, 21 eg.; sodium phosphates which result in arteriosclerosis. It is also indicated by the unusual acidity of the urine, which suggests an insufficiency of the alkaline salts in the blood. Reasoning from these premises Trunecek administers the alkaline salts, normally to be found in the blood plasma, as a therapeutic measure in arteriosclerosis. As they would be trying for the alimentary canal, he injects them subcutaneously in the form of an inorganic serum and has found the following formula best adapted for the purpose: sodium sulphate, 44 eg.; sodium chlorid, 4.92 gm.; sodium phosphate, 15 eg.; sodium carbonate, 21 eg.; potassium sulphate, 40 eg., in water to make 100 gm. The salts are eliminated too rapidly through the kidney when injected into a vein, consequently he injects the serum under the skin of the forearm. He commences with 1 c.c. and repeats the injection every fourth to seventh day, increasing by .2 to .5 eg. at a time. If the dyspnea from the arteriosclerosis is very distressing he repeats the injection every day. The largest amount he has ever injected at a time was 7.5 c.c.; usually 5 c.c. is sufficient. The dyspnea is sometimes relieved by a single injection more promptly than by morphin, and cardiac asthma is relieved in the same way. Sleep and appetite return and the general health improves. The sclerosis of the arteries apparently retrogressed in certain cases, but this is difficult to estimate and consequently he bases the results accomplished by the treatment on the improvement in the general health. This inorganic serum is indicated in all cases of arteriosclerosis in which the hyperacidity of the urine and the desquamation of the skin testify to a deficiency of alkaline salts in the blood. The relief of the dyspnea is probably due to the favoring of the oxidations by the alkaline medium, and by the increased absorption of carbon dioxide by the alkalized blood. The sodium chlorid has also a directly stimulating action on the heart, and all these salts have a favorable influence on the formation of normal epithelial tissue, and possibly also on the regeneration of the vascular endothelium, altered by the arteriosclerotic process. They dissolve the calcium phosphate which has become incrustated on the walls of the vessels, promote organic combustions and metabolism and regulate the functions of the various organs, especially those of the heart and vessels. Several cases are described in detail.

May 1.

Surgical Deviation of the Blood of the Portal Vein. B. SCHIASSI.—There are only twenty observations on record of the intentional establishment of a collateral circulation to relieve the obstructed portal vein. Schiassi reports two more and urgently recommends his technique as free from the disadvantages of the operation as first proposed. He makes a vertical incision 15 to 20 cm. long extending downward from the costal arch. A second incision about the same length is made at right angles to the first, starting at the juncture of the upper and middle third of the first, and extending beyond the median line. After exposing and examining the liver, etc., the great omentum is drawn out through the transverse incision as far as possible and the peritoneum is sutured. The large flap of omentum is then spread evenly over the peritoneum under the abdominal muscles, and gently rubbed with a compress dipped in a bichlorid solution, in order to promote the formation of adhesions. The edges of the flap are fastened with a few catgut stitches and the muscle-skin flaps are replaced and

sutured in two tiers; no drainage. One patient with pericardial adhesions and bivenous cirrhosis and ascites has had no recurrence of the effusion during the two years since the portal circulation was thus deviated. Another patient was a young man who had suffered from an infectious nodular cirrhosis for ten years with constantly recurring ascites. He has gained twelve kilograms in weight and has now but a few cubic centimeters of fluid in the peritoneum. During the third or fourth week after the operation, intense dyspnea and profuse sweats with slight fever appeared after eating some raw eggs. These symptoms disappeared when the diet was restricted to carbohydrates. This case is another demonstration of the possibility of survival even when the functions of the liver are reduced to a minimum. After surgical deviation of the blood of the portal vein, the individual recovered comparative health. A partial operation on a woman with malarial cirrhosis restored her to a satisfactory condition. Schiassi observes that his operation is no more serious than an exploratory puncture, while it allows the entire abdominal cavity to be explored. The effects can only be palliative at best, but they enable life to be prolonged many years. In case of passive congestion of the liver it is best to operate at the first indications of hepatic dyspnea. In ordinary venous cirrhosis prompt intervention is preferable before the connective tissue neoformation has done much harm. It is also preferable in biliary cirrhosis to operate early and not wait for the effusion, draining the gall-bladder for a time. This procedure has been successfully done several times according to the literature.

Ocular Complications of Smallpox.—The physicians of Lyons, France, observed serious ocular complications in an epidemic of 800 cases of smallpox last year, two patients becoming blind. They finally found that instillation of a 2 per 1000 solution of methylene blue, several times a day, at the slightest suspicion of disturbance in the eye, was as effective a prophylactic measure as nitrate of silver in ophthalmia neonatorum. In serious cases they made subconjunctival injections. Dufour recently cured a severe case by subconjunctival injection of a solution of bichlorid of mercury.

Deutsche Med. Wochenschrift (Berlin and Leipsic), April 25.

Technique of Subcutaneous Injection of Quinin. BLUEMCHEN.—Fifty centigrams of quinin hydrochlorate dissolved in 1 cubic centimeter of hot water can be injected under movable skin without pain. Infiltration very rarely occurs and is never painful; the skin remains unaltered, with no necrosis. This simple aqueous solution is aseptic, as tests at the Berlin Institute of Infectious Diseases have shown that even tetanus spores are destroyed by five minutes boiling in the water or the quinin solution. The injections are painless and easily made, while the effect is much more reliable than when the quinin is administered by the mouth.

Further Communications in Respect to the Biologic Serum Test for Blood. URLENHUTH. Further tests of the serum of rabbits previously treated with defibrinated blood have demonstrated that the test is accurate and sensitive with blood that has been putrid for three months, also with menstrual urine, blood mixed with soapy water, etc. Specimens of blood frozen at 10 degrees below zero, C., for fourteen days, also responded equally well to the tests. The serum can be heated to 60 C. for an hour, and one serum is still in use that has been kept for three months by the addition of 5 per cent. carbolic acid. The rabbit is treated with 10 to 20 c.c. of blood. This small amount can be taken from a healthy person without injury by applying a Huerteloup cup, and injected at once into the rabbit after it has been defibrinated.

Defective Oxidation of Sugar in the Organism. P. MAYER.—Continuing his researches on the "glukuron acid" in the urine, Mayer found it frequent in incipient diabetes, and he considers it a valuable diagnostic sign of a preliminary stage of diabetes, before any sugar can be discovered in the urine. The presence of the "glukuron acid" indicates defective oxidation of sugar in the organism, and this may progress to actual diabetes in time unless arrested by appropriate prophylactic dietetic measures.

May 2.

The Bacilli Discovered by Danysz, Pathogenic for Rats. J. KISTER.—The assertions of Danysz in regard to the pathogenic power of his bacillus have been confirmed by the tests at the Hamburg Institute, reported in this communication. All the rats fed with cultures of this bacillus died in five to seven days and white mice still earlier. There is no danger of confounding this bacillus with that of the plague.

Changes in the Malaria Parasite Under the Influence of Methylene Blue. A. IVANOFF.—Methylene blue affects the protoplasm chiefly, and quinin the chromatin. The forms of the parasite on which quinin has no effect are sensitive to the methylene blue and vice versa. The young forms contain very little protoplasm and consequently are not affected by the methylene blue while they succumb rapidly to quinin. The adult parasites are almost all protoplasm and consequently are very sensitive to the action of methylene blue. The crescentic forms are completely resistant to quinin, while they are entirely destroyed by the action of methylene blue.

Muenchener Medicinische Wochenschrift, April 23.

Extraction of the Detached Fetal Head.—Knapp describes sixteen cases in which the extraction of the detached fetal head presented more or less difficulty. In one case an hour was passed in vain efforts to seize the head. Cramer also describes two cases and recommends his method of seizing the orbit with the finger, as the simplest and the only successful means in his experience. After one finger is in one orbit, the other orbit can be seized in the same way and the brain matter pushed out, thus reducing the size of the skull. In case of maceration the danger of detaching the head is imminent and every effort should be made to avoid it.

Tuberculides. E. KLEBS.—The cutaneous manifestations called tuberculides are probably, Klebs thinks, due to the toxins of the tubercle bacilli, and are not necessarily accompanied by the latter, although they may become associated in some cases, sooner or later, possibly by external contagion. In a case of tuberculous iritis he describes, it appeared after an indurated erythema of the face, which was evidently due to ingested tubercular toxins.

Wiener Klinische Wochenschrift, April 18.

Gastro-Intestinal Manifestations of Renal Calculi. M. STERNBERG.—Gastric and intestinal disturbances are among the regular symptoms of renal calculi. They consist mainly in the painful retention of wind and stools, disappear with the cessation of the renal colic, and are best controlled by opium during the attack. The arterial pressure is high when the intestinal symptoms are pronounced. The gastro-intestinal symptoms may predominate to such an extent that they alter the clinical picture and simulate an affection of the alimentary canal. In differentiating such cases, it is well to note that there may be a sensitive point in the ureter, at MacBurney's point, and also that in many cases the urine may not reveal any pathologic alterations for a long time. An important aid in the differentiation is that renal colic pains subside when the patient assumes an exaggerated Trendelenburg position. The intestinal disturbances are probably due to a reflex excitation of the inhibiting nerves of the intestine. The atypical localization of the pains in certain cases, at MacBurney's point is probably due to a sensitive point in the ureter and at the tip of the tenth rib, to a reflected cutaneous sensitive point.

Senile Atrophy of the Brain as Basis for Focal Phenomena. A. PICK.—A case of senile dementia is described as a further contribution to the writer's previous announcements in regard to the appearance of focal symptoms on an exclusive foundation of senile atrophy of the brain. The possibility, he adds, of the combination of a circumscribed patch of senile atrophy with a focal affection from some other cause, suggests an explanation for the hitherto puzzling cases in which, for example, a subcortical hemorrhagic focus coincided with unmistakable cortical symptoms. The clinical symptoms of paralysis have been considered a mosaic of focal phenomena, but no one deemed it possible to apply this assumption to senile dementia. Pick's experiences show that it

is clinically possible to do this and that the reason why this is not more apparent is because encroaching senile atrophy usually invades a number of points at once. The mechanism is the same as in epilepsy: the limits between cortical and genuine epileptic seizures have disappeared, since it has been shown that the latter is a simultaneous, multiple appearance of symptoms of irritation.

Gazetta degli Ospedali (Milan), April 21.

Contraction of the Pupils During Menstruation. G. ASTOLFO.—The pupils commence to contract during the premenstrual period and the myosis attains its maximum during the first days after the flow is established. This maximum varies in different individuals. The density of the urine is usually increased proportionately. These phenomena confirm the assumption of disturbances in the general metabolism and seem to indicate the action of some special toxic substance. It is difficult to explain them as reflex phenomena emanating from the genital organs.

Phenol in Treatment of Acute Articular Rheumatism. A. BALDUZZI.—The writer of this communication reports that he has treated several cases of acute articular rheumatism by injecting 1 c.c. of a 3 per cent. solution of phenol into the most tumefied joint or joints. The results were extremely encouraging and confirm the assumption of the etiologic connection between this disease and erysipelas, by the cures obtained in each from subcutaneous injections of phenol.

Compresses of Ether in Treatment of Incarcerated Hernia. G. B. BURZAGLI.—Compresses moistened with ether were applied to an incarcerated hernia the size of an egg, fourteen hours after the first symptoms had appeared. In thirty minutes the hernia became spontaneously reduced, with the application of less than 80 gm. of ether. Ether compresses have already a long list of successes to their credit.

Books Received

Acknowledgement of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review as dictated by their merits, or in the interest of our readers.

THE ACUTE CONTAGIOUS DISEASES OF CHILDHOOD. By Marcus P. Hatfield, A.M., M.D., Professor Emeritus of Diseases of Children, Northwestern University Medical School. Cloth. Pp. 142. Price, \$1.00 net. Chicago: G. P. Engelhard & Co., 1901.

CHIRURGIE DU FOIE ET DES VOIES BILIAIRES, par F. Terrier, professeur à la Faculté de Médecine de Paris, et M. Auvray, Médecin des hôpitaux de Paris. Une vol. gr. in-8° avec 50 fig. dans le texte, 10 fr. Paris: Félix Alcan, éditeur. 1901.

PRINCIPLES OF SURGERY. By N. Senn, M.D., Ph.D., LL.D., Professor of Surgery, in Rush Medical College in Affiliation with the University of Chicago. Third edition. Thoroughly revised, with 230 wood-engravings, half-tones, and colored illustrations. Royal Octavo. Pp., xiv—700. Extra cloth, \$4.50 net. Philadelphia: F. A. Davis Company.

ECZEMA, With an Analysis of Eight Thousand Cases of the Disease. By L. Duncan Bulkley, A.M., M.D., Physician to the New York Skin and Cancer Hospital. Third Edition of Eczema and its Management entirely Rewritten. Cloth. Pp. 368. Price, \$1.25. New York and London: G. P. Putnam's Sons. 1901.

POINTS OF PRACTICAL INTEREST IN GYNECOLOGY. By H. McNaughton-Jones, M.D., M.Ch., Q.U.I., Master of Obstetrics (Honoria causa) Royal University of Ireland. Reprinted from the *Edinburgh Medical Journal*, 1900. With 12 Plates. Cloth. Pp. 124. Price, \$5.00. New York: William Wood & Co. 1901.

A SYLLABUS OF NEW REMEDIES AND THERAPEUTIC MEASURES, With Chemistry, Physical Appearance and Therapeutic Application. By J. W. Wainwright, M.D., Member of the AMERICAN MEDICAL ASSOCIATION. Cloth. Pp. 224. Price, \$1.00. Chicago: E. P. Engelhard & Co. 1901.

A TEXT-BOOK OF THE PRACTICE OF MEDICINE. By Dr. Herman Eichhorst, professor of Special Pathology and Therapeutics and Director of the Medical Clinic in the University of Zurich. Translated and edited by Augustus A. Eshner, M.D., Professor of Clinical Medicine in the Philadelphia Polyclinic. Two octavo volumes of over 600 pages each; over 150 illustrations. Price, per set, Cloth, \$6.00 net. Philadelphia and London: W. B. Saunders & Co., 1901.

ATLAS AND EPITOME OF OPHTHALMOSCOPY AND OPHTHALMOSCOPIC DIAGNOSIS. By Prof. Dr. O. Haab, Director of the Eye Clinic in Zurich. From the Third Revised and Enlarged German Edition. Edited by Geo. E. de Schweinitz, Professor of Ophthalmology, Jefferson Medical College, Philadelphia. With 152 colored lithographic illustrations and 85 pages of text. Cloth. Price, \$3.00 net. Philadelphia and London: W. B. Saunders & Co., 1901.

ATLAS AND EPITOME OF THE NERVOUS SYSTEM AND ITS DISEASES. By Professor Dr. Chr. Jakob, of Erlangen. From the Second Revised German Edition. Edited by Edward D. Fisher, M.D., Professor of Diseases of the Nervous System, University and Bellevue

Medical College, New York. With 83 plates and copious text. Cloth, \$3.50 net. Philadelphia and London: W. B. Saunders & Co., 1901.

ESSENTIALS OF THE DISEASES OF CHILDREN. By William M. Powell, M.D. Third Edition. Thoroughly Revised by Alfred Hand, Jr., M.D., Dispensary Physician and Pathologist to the Children's Hospital, Philadelphia. 12mo., 259 pages. Cloth. Price, \$1.00 net. Philadelphia and London: W. B. Saunders & Company.

ATLAS AND EPITOME OF OBSTETRIC DIAGNOSIS AND TREATMENT. Dr. O. Shaeffer, of Heidelberg. From the Second Revised German Edition. Edited by J. Clifton Edgar, M.D., Professor of Obstetrics and Clinical Midwifery, Cornell University Medical School. With 122 colored figures on 56 plates, 38 other illustrations, and 317 pages of text. Cloth. Price, \$3.00 net. Philadelphia and London: W. B. Saunders & Company. 1901.

ATLAS AND EPITOME OF LABOR AND OPERATIVE OBSTETRICS. By Dr. O. Shaeffer, of Heidelberg. From the Fifth Revised German Edition. Edited by J. Clifton Edgar, M.D., Professor of Obstetrics and Clinical Midwifery, Cornell University Medical School. With 14 lithographic plates, in colors, and 139 other illustrations. Cloth. Price, \$2.00 net. Philadelphia and London: W. B. Saunders & Co., 1901.

A SYSTEM OF PHYSIOLOGIC THERAPEUTICS. A Practical Exposition of the Methods, Other than Drug-giving, Useful in the Treatment of the Sick. Edited by Solomon Solis-Cohen, A.M., M.D., Professor of Medicine and Therapeutics in the Philadelphia Polyclinic. Volume I. Electrotherapy. By George W. Jacoby, M.D., Consulting Neurologist to the German Hospital, New York City. In two Books. Book I. Electrophysics—Apparatus Required for the Therapeutic and Diagnostic Use of Electricity. With 163 illustrations. Cloth. Pp. 242. Price, per set, \$22.00. Philadelphia: P. Blakiston's Son & Co. 1901.

SELECT METHODS IN FOOD ANALYSIS. By Henry Leffmann, A.M., M.D., Professor of Chemistry and Toxicology in the Woman's Medical College of Pennsylvania, and William Beam, A.M., M.D., Formerly Chief Chemist Baltimore & Ohio Railroad. With 53 illustrations in the Text, 4 Full-page Plates and Many Tables. Cloth. Pp. 383. Price, \$2.50. Philadelphia: P. Blakiston's Son & Co. 1901.

TWENTY-FIRST ANNUAL REPORT OF THE STATE BOARD OF HEALTH of the State of Rhode Island. For the Year Ending December 31, 1898. Cloth. Pp. 168. Providence, R. I.: E. L. Freeman & Sons. 1901.

UTERINE FIBROMYOMATA: Their Pathology, Diagnosis and Treatment. By E. Stanmore Bishop, F.R.C.S., Eng., President Manchester Clinical Society. With 49 illustrations. Cloth. Pp. 323. Price, \$3.50. Philadelphia: P. Blakiston's Son & Co. 1901.

APHORISMS, DEFINITIONS, REFLECTIONS, AND PARADOXES, Medical, Surgical and Dietetic. By A. Rabagliati, M.A., M.D., F.R.C.S. Ed., Late President of the Leeds and West Riding Medico-Chirurgical Society. Cloth. Pp. 291. Price, \$2.50. New York: Wm. Wood & Co. 1901.

TWENTY-SEVENTH ANNUAL REPORT OF THE Tenno Infirmary and Hebrew Benevolent Association of New Orleans, La., 1901. Paper. Pp. 99. New Orleans, La.: Jos. Levy & Bros.

PROCEEDINGS OF THE PHILADELPHIA COUNTY MEDICAL SOCIETY. March. Paper. Pp. 63. Philadelphia: Published by the Society. 1901.

FIFTY-SECOND ANNUAL REPORT OF the Board of Trustees and Superintendent of the Central Indiana Hospital for Insane for the Year Ending Oct. 31, 1900. Paper. Pp. 65. Indianapolis: Wm. B. Burford. 1901.

Queries and Minor Notes.

ELECTRIC AUTOMOBILES.

CHICAGO, May 16, 1901.

To the Editor:—I notice a communication in THE JOURNAL of April 27, which is of general interest to the physician in active practice. It relates to the automobile. Your eastern correspondent discusses only two of the motive powers used to propel a vehicle, steam and gasoline. It is fair to assume from this fact that he is not conversant with the recent development and improvements of the electric motor and especially the electric battery. The patents recently issued to Mr. W. A. Crowds, the distinguished electrical expert of this city, approximate the perfection of the electric automobile.

No one can gainsay that electricity is the ideal motive power. Being especially interested in this subject, I have given some time and attention to it, and have felt that the solution of the problem when it did come would be found in the battery. The battery of the machine which I have purchased weighs 350 pounds gross, which is one-third less than any other battery, and will cover on average roads, fifty miles without recharging. I also know that another battery is constructed under the same patents, weighing less than 500 pounds, which will carry the machine almost 100 miles on a single charge.

The trouble has been, heretofore, that the batteries have been too heavy, and that they lacked endurance. Under the new patents of Mr. Crowds, the rapid disintegration that appears in the cells is done away with. Another feature is that the energy which is used in stopping the vehicle and in going down hills is employed in recharging the batteries.

These features make an electric road-vehicle far superior to any other kind of a machine employing a different motive power.

There is no class more interested in the automobile question than physicians, and this letter is written in the conviction that the profession at large is anxious to know all they can about automobiles. Your Eastern correspondent should acquaint himself, with the recent improvements in other motive powers, and particularly that of the power of electricity, before he commits himself to a gasoline system and commends it generally, or even at all to his professional brethren. Yours respectfully,

CHAS. E. PADDOCK, M.D.

TEXAS'S NEW LAW.

INTERIOR, VA., May 6, 1901.

To the Editor:—Please give me the name and address of the secretary of the State Board of Medical Examiners of Texas, also the present law regulating the practice of medicine in that state. Has a new law lately been enacted and from what date will it be in force?

C. S. K.

Ans.—The State Board of Medical Examiners has not yet been appointed, though a number of names have been recommended by the state medical society to the governor. The new law will go into force July 9. At present the medical boards are separate in each judicial district and there is no general State Board of Medical Examiners.

NORMAL SALT SOLUTION.

BENTON HARBOR, MICH., May 7, 1901.

To the Editor:—Kindly answer this question in THE JOURNAL, and please many members: Given at bedside or accident, sterilized water and common salt, a measure of one quart capacity and a teaspoon, how may one make a normal saline solution, no scales for weighing, for intravenous or subcutaneous injection? This is a matter of vast importance frequently.

W. E. S.

Ans.—Normal saline solution is about 1 dram to the pint of sterilized water. Therefore, a small teaspoonful would approximately meet the requirements.

PRACTICE IN MISSOURI.

PARAGOULD, ARK., May 7, 1901.

To the Editor:—Kindly give name and address of the proper person to inquire of as to the medical registration in Missouri, under the present law. When does the new registration law take effect in that state?

S. M. N.

Ans.—The new law has gone into effect and examinations are required of all desiring to practice in the state. The secretary of the State Board of Health is Dr. L. C. McElwee, 1113 N. Grand Ave., St. Louis, Mo.

WEIGERT'S STAIN.

COVINGTON, KY., May 6, 1901.

To the Editor:—Will you publish the working formula of Weigert's stain for elastic fibers in sputa? I refer to the article on p. 1216, vol. xxxvi, No. 17.

W. F. S.

Ans.—The formula is given in Lee's "Microtome's Vade Mecum," fifth edition, 1900, as follows: Take basal fuchsin, 1 per cent.; resorcin (or carbolic acid) 2 per cent.; dissolve in water; 200 c.c. of the solution are raised to the boiling point in a capsule, and 25 c.c. of liquor ferri sesquichlorati, P. G., are added, and the whole is boiled, with stirring, for two to five minutes more. A precipitate is formed. After cooling the liquid is filtered and the precipitate remaining on the filter is brought back into the capsule and there boiled with 200 c.c. of 94 per cent. alcohol. Allow to cool, filter, make up the filtrate to 200 c.c. with alcohol and add 4 c.c. of hydrochloric acid. Stain sections (material fixed in any way) for twenty minutes to one hour. Wash with alcohol; clear with xylol (not with an essence). Elastic fibers, dark blue on light ground; nuclei generally unstained; they may be after-stained with carmin, etc.

HOME FOR INEBRIATES.

FORT WAYNE, IND., May 9, 1901.

To the Editor:—Would you kindly give me information as to, or recommend, some home where an inebriate could be kept for a few years at a reasonable expense? Are there any state institutions for the purpose, and, if so, do any of them receive pay patients?

J. W. K.

Ans.—We refer the inquirer to our advertising pages. We are unable to give any information as to the state institutions.

"HOFF TREATMENT" FOR TUBERCULOSIS.

SAN JOSE, CAL., May 6, 1901.

To the Editor:—Will you kindly give me some light on the so-called "Hoff Treatment" for tuberculosis, as brought out by the *New York Journal*.

L. J. B.

Ans.—See editorial in JOURNAL AM. MED. ASSN., Dec. 22, 1900, vol. xxxv, p. 1635.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C.: May 2 to 8, 1901, inclusive:

Roger P. Ames, captain and asst.-surgeon, Vols., recently appointed, from the Department of Cuba, via San Francisco, Cal., to duty in the Division of the Philippines.

John M. Banister, major and surgeon, U. S. A., member of a board at West Point, N. Y., to examine candidates for admission to the U. S. Military Academy.

William H. Block, captain and asst.-surgeon, Vols., recently appointed, from the Department of Cuba to San Francisco, Cal., en route for duty in the Division of the Philippines.

Charles C. Byrne, colonel and asst. surgeon-general, U. S. A., retired from active service by operation of law (having reached the age of 64 years.)

Herbert W. Cardwell, major and surgeon, Vols., honorably discharged from the service of the United States, to take effect June 30, 1901.

William D. Crosby, major and surgeon, U. S. A., member of a board in New York City, to examine officers of the Corps of Engineers for promotion.

William B. Davis, major and surgeon, U. S. A., member of a board at West Point, N. Y., to examine candidates for admission to the U. S. Military Academy.

James C. Dougherty, contract surgeon, from duty on the transport *McPherson* to report to the superintendent of the Army Transport Service for assignment.

P. Conover Field, contract surgeon, from Washington, D. C., to New Brunswick, N. J., for annulment of contract.

John F. Jones, contract surgeon, from Leroy, Ill., to duty at Fort Washakie, Wyo.

Percy L. Jones, captain and asst.-surgeon, Vols., recently appointed and now at San Francisco, Cal., to proceed to Manila, P. I., for duty in the Division of the Philippines.

Charles F. Mason, captain and asst.-surgeon, U. S. A., member of a board at West Point, N. Y., to examine candidates for admission to the U. S. Military Academy.

Fred W. Palmer, captain and asst.-surgeon, Vols., recently appointed and now at Brooklyn, Mich., to proceed, via San Francisco, Cal., to Manila, P. I., for duty in the Division of the Philippines.

Elmer A. Scherrer, contract surgeon; former orders directing him to proceed from Fort Grant, Ariz., to Fort Washakie, Wyo., evoked.

A. B. Smith, contract surgeon, leave of absence extended.

Eugene L. Swift, major and surgeon, Vols. (captain and asst.-surgeon, U. S. A.), now at San Francisco, Cal., to report in person to the surgeon-general of the Army for instructions.

Frank H. Titus, major and surgeon, Vols., honorably discharged from the service of the United States, to take effect June 30, 1901.

Wilfrid Turnbull, major and surgeon Vols., honorably discharged from the service of the United States, to take effect June 30, 1901.

Ralph W. Waddell, dental surgeon, from Washington, D. C., to San Francisco, Cal., en route for duty in the Division of the Philippines.

William B. Winn, major and surgeon, Vols., honorably discharged from the service of the United States to take effect June 30, 1901.

In addition to the above orders boards were convened at certain places for the competitive examination of enlisted men and for examination of such other persons as may be properly ordered before them to determine their fitness for appointment as second lieutenants in the Army, and on these boards medical officers were detailed as follows: At Chicago, Major Timothy E. Wilcox, surgeon, U. S. A., and Major Henry I. Raymond, surgeon, U. S. A.; at Denver, Colo., Major Edward B. Mosley and Major Louis Brechemin, surgeons, U. S. A.; at San Antonio, Tex., Peter J. A. Cleary, colonel and asst. surgeon-general, U. S. A., and Charles R. Byrne, lieutenant-col., and deputy surgeon-general, U. S. A.; and at Governor's Island, N. Y., William H. Corbusier, major and surgeon U. S. A., and Allie W. Williams, lieutenant and asst.-surgeon, U. S. A.

Navy Changes.

Changes in the Medical Corps of the Navy, for the week ending May 11, 1901:

Asst.-Surgeon J. S. Taylor, detached from the *Manila*, and ordered to the Naval Hospital, Yokohama, Japan.

Asst.-Surgeon F. L. Benton, detached from the Naval Hospital, Yokohama, and ordered to duty on the Asiatic Station.

Medical Director E. Z. Derr, detached from the Naval Academy, and ordered home to wait orders.

Surgeon F. W. F. Wieber, detached from the Naval Station, San Juan, and ordered to the Naval Academy.

Surgeon C. H. T. Lowndes, detached from the *Lancaster*, May 11, and ordered to the Naval Station, San Juan, P. R.

P. A. Surgeon E. S. Bogert, ordered to the *Lancaster*, May 11.

Surgeon L. W. Curtis, detached from the *Vermont*, May 11, and ordered home and to be in readiness for sea duty.

Surgeon G. Pickrell, ordered to the *Vermont*, May 11.

Surgeon C. F. Stokes, detached from the Asiatic Station, and ordered home, via mail steamer.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine Hospital Service, during the week ended May 11, 1901:

SMALLPOX—UNITED STATES AND INSULAR.

Alaska: Sitka, April 9, prevalent among Indians.

California: Los Angeles, April 20-27, 5 cases; Oakland, April 6-27, 2 cases; San Francisco, April 20-27, 2 cases.

Florida: Jacksonville, April 20-27, 21 cases, 1 death.

Illinois: Chicago, April 27-May 5, 5 cases; Freeport, April 27-May 4, 2 cases.

Indiana: Evansville, April 27-May 4, 2 cases; Michigan City, April 22-May 6, 5 cases.

Iowa: Clinton, April 27-May 4, 1 case; Ottumwa, March 30-April 27, 5 cases.

Kansas: Wichita, April 20-May 4, 71 cases.

Louisiana: Bossier, April 1-31, 1 case; Caddo, April 1-31, 7 cases; New Orleans, April 30-May 4, 23 cases; Sabine, April 1-31, 1 case.

Maryland: Cambridge, April 1-30, 5 cases.

Massachusetts: Fitchburg, April 20-27, 2 cases; Holyoke, April 27-May 4, 1 case.

Michigan: Bay City, April 20-27, 7 cases; Detroit, April 27-May 4, 1 case.

Minnesota: Minneapolis, April 20-May 5, 4 cases; Winona, April 20-27, 3 cases.

Nebraska: Omaha, April 20-May 4, 32 cases.

New Hampshire: Manchester, April 27-May 4, 4 cases.

New Jersey: Jersey City, April 21-May 5, 23 cases; Newark, April 20-May 4, 11 cases.

New York: New York, April 27-May 4, 86 cases, 10 deaths.

North Carolina: Charlotte, April 1-30, 18 cases, 1 death.

Ohio: Cincinnati, April 26-May 3, 1 case; Cleveland, April 27-May 4, 61 cases, 2 deaths.

Pennsylvania: Lebanon, April 27-May 4, 3 cases; McKeesport, April 20-27, 1 case; Philadelphia, April 27-May 4, 2 cases, 1 death; Pittsburgh, April 20-May 4, 5 cases; Steelton, April 27-May 4, 1 case; Williamsport, April 27-May 4, 1 case.

Tennessee: Memphis, April 20, May 4, 40 cases, 2 deaths; Nashville, April 27-May 4, 6 cases.

Utah: Salt Lake City, April 20-27, 18 cases.

Virginia: Roanoke, April 1-30, 42 cases, 1 death.

West Virginia: Wheeling, April 20-May 4, 8 cases, 1 death.

Wisconsin: Green Bay, April 28-May 5, 1 case; Milwaukee, April 20-May 4, 2 cases.

Porto Rico: Ponce, April 13-20, 9 cases.

SMALLPOX—FOREIGN.

Argentina: Buenos Ayres, Feb. 1-28, 32 deaths.

Austria: Prague, April 6-20, 11 cases.

Belgium: Antwerp, April 6-20, 5 cases.

Brazil: Pernambuco, March 16-31, 29 deaths; Rio de Janeiro, March 16-31, 9 deaths.

Ceylon: Colombo, March 23-30, 1 case, 1 death.

China: Hongkong, March 23-30, 13 cases, 13 deaths.

Colombia: Panama, April 22-29, 5 cases, 3 deaths.

Egypt: Cairo, April 8-15, 1 death.

France: Marseilles, March 1-31, 3 deaths; Paris, April 13-20, 11 deaths.

Great Britain: England—Leeds, April 13-20, 1 case; Liverpool, April 13-20, 2 cases. Scotland: Dundee, April 13-27, 4 cases; Glasgow, April 19-26, 10 deaths.

Gibraltar: April 7-21, 2 cases.

India: Bombay, March 26-April 9, 10 deaths; Karachi, March 1-April 7, 36 cases, 7 deaths; Madras, March 16-29, 21 deaths.

Italy: Sicily, April 6-13, prevalent.

Malta: April 1-13, 6 cases.

Mexico: Mexico, April 21-28, 2 deaths; Nuevo Laredo, April 13-20, 1 death.

Yucatan: Merida, three or four deaths daily.

Netherlands: Amsterdam, April 13-29, 1 case.

Russia: Moscow, March 30-April 13, 15 cases, 4 deaths; Odessa, April 6-10, 13 cases, 3 deaths; St. Petersburg, April 6-13, 9 cases, 2 deaths; Warsaw, March 31-April 13, 14 deaths.

Straits Settlements: Singapore, March 16-23, 2 deaths.

Spain: Corunna, April 20-27, 1 death; Malaga, March 16-31, 3 deaths.

Turkey: Smyrna, March 17-April 14, 1 death.

YELLOW FEVER.

Brazil: Rio de Janeiro, March 16-31, 42 deaths.

Cuba: Havana, April 20-27, 1 case.

Mexico: Vera Cruz, April 20-27, 1 death, resident for ten years.

CHOLERA.

India: Bombay, March 26-April 2, 10 deaths; Madras, March 16-29, 3 deaths.

PLAGUE.

Africa: Cape Town, April 6-13, 43 cases, 22 deaths.

China: Hongkong, March 23-30, 14 cases, 10 deaths.

India: Bombay, March 26-April 9, 1407 deaths; Karachi, March 24-April 7, 429 cases, 338 deaths.

Japan: Wakayama Ken, April 12, 1 case, 1 death.

Association News.

General Executive Committee.

The first meeting of the General Executive Committee of the AMERICAN MEDICAL ASSOCIATION, will be held in Parlors 2 and 3, Hotel Ryan, St. Paul, Minn., on Monday, June 3, 1901, at 5 p. m. A full attendance is requested, in order that the committee may get to work early, and be ready for business referred to it by the ASSOCIATION. Subsequent daily meetings will be held in the same place, and about the same hour daily, unless otherwise ordered by the committee. L. DUNCAN BULKLEY, M.D., secretary.

Hotel Arrangements at St. Paul.

Interest in the St. Paul meeting of the ASSOCIATION, as shown by the large number of rooms reserved in advance, is evidently widespread and enthusiastic, and everything promises a very large gathering. The hotels are making every

effort to locate guests comfortable and without crowding, and there is every reason to believe that, however large the number of delegates, all will be comfortably accommodated. In addition to the large number who can be received in the hotels of St. Paul and her sister city, Minneapolis, the Committee on Hotel Arrangements has secured fifteen hundred rooms in private families, of St. Paul, which will be placed at the disposal of those who find the hotels crowded. With characteristic hospitality the ladies of St. Paul have opened their homes to the visiting physicians, and the best that the city has will be provided for their accommodation. The rooms in private houses are in many respects much to be preferred to rooms in hotels which are in the crowded condition customary in convention times. The rooms secured are situated in the neighborhood of the center of the city, just on the verge of the residence districts, and are convenient to the headquarters and assembly rooms. The rates for rooms vary from \$1.00 to \$1.50 per day, and where two persons occupy a room together from \$1.50 to \$2.00. In many instances breakfast will be served with a slight additional charge, and the other meals can be obtained at the restaurants. At the depots, hotels, registration room and other gathering points members of the hotel committee will be in attendance with a list of pleasant rooms and a corps of messenger boys, and when the visiting physician finds that he can not obtain quarters to his taste at the hotels, he will be provided with a room in a private family and sent under the guidance of a messenger to the place. In this way it will not be necessary to tramp from one hotel to another in vain search for a place to stay, and the Committee will do its utmost to have every visiting physician comfortably located immediately on his arrival. If those who can not find accommodations to their liking at the first hotel they visit will consult the Committee at once, they will be spared much useless effort and disappointment.

In convention times it is not unusual that every one wants to be located at headquarters. This is manifestly impossible in a meeting so large as that of the ASSOCIATION, and it will be necessary for visiting physicians to make arrangements at other hotels. The demand for single rooms is larger than can be supplied, and it is earnestly requested that the spirit of self-sacrifice be shown to the greatest extent consistent with reasonable comfort. If all guests were supplied with single rooms the capacity of the hotels would be cut in half, and many worthy ones would be turned away. It is consequently recommended that as far as possible each member arrange with a friend to occupy a room together. In this way many will not have to suffer through the carelessness or thoughtlessness of a few. Doubling up will be avoided as far as possible.

The Committee on Hotel Arrangements has secured rates from the hotels which are the usual and customary tariff in non-convention times, with the exception that where one person wishes to occupy a room that ordinarily accommodates two persons he will be expected to pay for two, less the charge for meals for one. For instance, if the rate for two people in a room is \$3 each, the person occupying that room alone will be expected to pay \$4 or \$4.50. This will be seen at a glance to be fair and reasonable. In no case except as indicated above have the rates in hotels been raised. It is desired as far as possible that those members who intend to go to St. Paul shall make their reservations at once, to avoid trouble and delay on arrival. All requests for rooms should be addressed to the hotels or to Arthur Sweeney, M.D., Chairman Committee on Hotels, St. Paul, Minn.

Program for St. Paul Meeting.

Following are the lists of papers to be presented before the several Sections at the Meeting of the ASSOCIATION:

SECTION ON PRACTICE OF MEDICINE.

TUESDAY, JUNE 4—AFTERNOON SESSION—2 P. M.

1. Address of Chairman. J. M. ANDERS, Philadelphia.
 2. Appendicitis; Pathological Anatomy, Diagnosis and Treatment. JOHN B. DEEVER, Philadelphia.
- Discussion opened by I. N. LOVE, New York; PHILIP D. MARVEL, Atlantic City; A. A. JONES, Buffalo.

3. Inoculation of Malarial Fevers through the Agency of Mosquitoes; A Further Consideration. E. A. WOLDERT, Philadelphia.
 4. Some Phases of Malaria. J. B. McELROY, Stovall, Miss.
 5. Clinical Observations in Malaria. G. W. HUDSPETH, Little Rock, Ark.
- Discussion of papers 3, 4, 5, by WM. KRAUSS, Memphis, Tenn.; GEO. DOCK, Ann Arbor, Mich.; WHYTE GLENDOWER OWEN, White Castle, La., and WM. BRITT BURNS, Memphis, Tenn.

WEDNESDAY, JUNE 5—FORENOON SESSION—9 A. M.

6. The Chemical and Microscopic Value of Blood Examinations. W. D. KELLY, St. Paul, Minn.
7. Pernicious Anemia; Report of a Series of Cases. THOMAS McCRAE, Baltimore, Md.
8. The Leucocyte Count in Hemorrhage. GEORGE DOUGLAS HEAD, Minneapolis, Minn.
9. Some Thoughts in Immunity. I. A. McSWAIN, Paris, Tenn.
10. Acromegally: Presenting Features of Interest. CHAS. LYMAN GREENE, St. Paul, Minn.
11. The Oxygen Treatment in So-called Uric Acid Lesions. ALFRED C. CROFTAN, Philadelphia.
12. Osmotic Pressure and its Relation to Uremic Manifestations. HEINRICH STERN, New York.
13. Rheumatic Simulants. J. J. WALSH, New York.

WEDNESDAY, JUNE 5—AFTERNOON SESSION—2 P. M.

SYMPOSIUM ON SOME CIRRHOSSES OF THE LIVER.

14. Circulatory Disturbances Accompanying Cirrhoses with Inosculation of the Portal Branches with Systemic Veins. CHARLES G. STOCKTON, Buffalo, N. Y.
 15. Cirrhoses of the Liver in Children. WM. C. HOLLOPETER, Philadelphia, Pa.
 16. The Cause of Ascites. J. C. WILSON, Philadelphia, Pa.
 17. Cirrhoses with Pigmentation. T. B. FUTCHER, Baltimore, Md.
 18. Relation of Intestinal Intoxications to Hepatic Cirrhoses. JUDSON DALAND, Philadelphia, Pa.
 19. Cirrhoses of the Liver Due to Metallic Poisons. VICTOR C. VAUGHAN, Ann Arbor, Mich.
 20. Treatment of Cirrhoses of the Liver. J. H. MUSSER, Philadelphia, Pa.
- Discussion: GEORGE DOCK, Ann Arbor, Mich.; FRANK BILLINGS, Chicago; JAMES TYSON, Philadelphia, Pa.; J. B. MARVIN, Louisville, Ky.; B. G. HENNING, Memphis, Tenn.; ALFRED STENGEL, Philadelphia.
- Open discussion on Etiology and Pathology of Cirrhoses: J. B. HERRICK, Chicago; J. A. WITHERSPOON, Nashville, Tenn.; LOUIS F. BISHOP, New York.

THURSDAY, JUNE 6—FORENOON SESSION—9 A. M.

21. Modified Treatment of Typhoid Fever. T. B. GREENLEY, Meadow Lawn, Ky.
22. Medical Shock. O. T. OSBORNE, New Haven, Conn.
23. Dyspepsia as a Brain and Nerve Strain Disease. CHAS. H. HUGHES, St. Louis, Mo.
24. The Treatment of Pneumonia. EDWARD F. WELLS, Chicago.
25. Spread of Tuberculosis by Coughing. E. NAPOLEON BOSTON, Philadelphia.
26. Tuberculosis as Determined by Cause and Mode of Onset. LOUIS FAUGERES BISHOP, New York.
27. Practical Value of Cultures from the Throat. M. H. FUSSELL, Philadelphia.
28. Genito-Urinary Examinations for the General Practitioner; with Demonstrations on Patient. FRED C. VALENTINE, New York.

THURSDAY, JUNE 6—AFTERNOON SESSION—2 P. M.

SYMPOSIUM ON PERICARDITIS.

29. Clinical Observations in Pericarditis. FRANK BILLINGS, Chicago.
30. Pathology and Pathogenesis of Pericarditis. JOS. McFARLAND, Philadelphia.
31. The General Etiology of Pericarditis. ROBERT B. PREBLE, Chicago.
32. Relation of Pericarditis to Endocarditis and Myocarditis. ALFRED STENGEL, Philadelphia.
33. Adherent Pericardium. ROBERT H. BABCOCK, Chicago.
34. Tuberculous Pericarditis. CHAS. F. MCGAHAN, Aiken, S. C.
35. Cardiac Lesions as Observed in the Negro; with Special Reference to Pericarditis. FRANK A. JONES, Memphis, Tenn.

36. Some Points in the Treatment of Pericarditis.

FRANK PARSONS NORBURY, Jacksonville, Ill.
Discussion on Pericarditis by HENRY B. FAVILL, Chicago; J. H. MUSSER, Philadelphia; J. J. WALSH, New York; DELANCEY ROCHESTER, Buffalo, N. Y.; O. T. OSBORNE, New Haven, Conn.; D. D. SAUNDERS, Memphis, Tenn.

FRIDAY, JUNE 7—FORENOON SESSION—9 A. M.

SYMPOSIUM ON SMALLPOX.

37. A Further Report on Pseudo or Modified Smallpox.
T. J. HAPPEL, Trenton, Tenn.
38. Smallpox; the Old and the New.
W. L. BEEBE, St. Cloud, Minn.
39. Remarks Covering the Sanitary Features of Smallpox.
WM. KRAUSS, Memphis, Tenn.
40. The Diagnosis and Treatment of Smallpox.
E. H. POMEROY, Calumet, Mich.
41. The Diagnosis of Mild Smallpox as in the Present Outbreak of the Smallpox in this Country.
HEMAN SPALDING, Chicago.
42. The Distinguishing Characteristic Between Mild Discrete Smallpox and Chickenpox.
FREDERICK LEAVITT, St. Paul, Minn.
43. Smallpox.
H. M. BRACKEN, St. Paul, Minn.
- Discussion on Smallpox by J. J. WALSH, New York; LOUIS LEROY, Nashville, Tenn.; THOS. WM. CORLETT, Cleveland, O.; J. D. SMYTHE, Greenville, Miss., and F. S. RAYMOND, Memphis, Tenn.

The foregoing will be a joint session with the Section on Hygiene and Sanitary Science.

FRIDAY, JUNE 7—AFTERNOON SESSION—2 P. M.

SYMPOSIUM ON SERUM AND ORGANO-THERAPY.

44. Mode of Manufacture of Serums and Organo-Extracts.
CHAS. T. MCCLINTOCK, Detroit, Mich.
45. Utility of Antitoxin Serums.
JOSEPH MCFARLAND, Philadelphia.
46. Further Observations on Serum Therapy in Croupous Pneumonia.
J. C. WILSON, Philadelphia.
47. Anti-Tubercle Serum.
E. A. DE SCHWEINITZ, Washington, D. C.
- Informal discussion to be opened by SIMON FLEXNER, Philadelphia.
48. Theory and Practice of Organotherapy.
S. SOLIS COHEN, Philadelphia.
49. Acromegaly Treated with Pituitary Body.
SIDNEY KUH, Chicago.
50. Treatment of Graves' Disease with Thymus Gland.
JOHN M. DODSON, Chicago.
- Informal discussion opened by VICTOR C. VAUGHAN, Ann Arbor, Mich.

A JOINT DISCUSSION WITH THE SECTION ON MATERIA MEDICA AND THERAPEUTICS.

SECTION ON HYGIENE AND SANITARY SCIENCE.

MEETS IN MASONIC ARMORY.

TUESDAY, JUNE 4—2 P. M.

1. Tonsillar Inflammations: Their Diagnosis, Bacterial Pathology, Treatment, and Quarantine.
WILLIAM G. BISSELL, Buffalo, N. Y.
2. Pulmonary Fearlessness.
WM. T. ENGLISH, Pittsburg.
3. A Medical Examination as a Prerequisite to Marriage.
J. C. BATESON, Scranton, Pa.
4. State Supervision of Marriage; Its Feasibility, Scope, Justification, Possibilities.
W. H. HEATH, Buffalo, N. Y.

WEDNESDAY, JUNE 5—9 A. M.

5. The Limitations of Venereal Diseases.
DENSLOW LEWIS, Chicago.
- To be discussed by FERD. C. VALENTINE, New York; C. A. L. REED, Cincinnati; HOWARD A. KELLY, Baltimore; and JOSEPH PRICE, Philadelphia.
6. Tuberculosis in Children.
SHERMAN G. BONNEY, Denver, Colo.
7. Tuberculosis in the Illinois Penitentiary.
T. J. O'MALLEY, Joliet, Ill.

WEDNESDAY, JUNE 5—2 P. M.

8. Tuberculosis in Prisons and Asylums.
H. M. BRACKEN, Minneapolis.
9. Tuberculosis Sanitaria.
C. P. AMBLER, Asheville, N. C.
10. Tuberculosis in the Middle States, and its Curability.
JOHN A. ROBISON, Chicago.

Discussion of Institutions and Tuberculosis to be opened by A. C. KLEBS, Chicago, and S. A. KNOPF, New York City.

11. The Proper Management of the Tubercular Lung.
NORMAN BRIDGE, Los Angeles, Cal.
12. The Relation of Sputum to the Spread of Tuberculosis.
C. L. MINOR, Asheville, N. C.

THURSDAY, JUNE 6—9 A. M.

13. Tuberculosis of Animals in Some of its Relations to Human Tuberculosis.
D. E. SALMON, D. V. M., Washington, D. C.
14. The Experience of Syracuse, N. Y., with the Compulsory Tuberculin Test of all Dairies Furnishing Milk to the City.
B. S. MOORE, Syracuse, N. Y.
- Discussion to be opened by M. H. REYNOLDS, St. Anthony's Park, Minn.
15. The Climatology of Arizona with Reference to the Treatment of Pulmonary Tuberculosis.
R. W. CRAIG, Phoenix, Ariz.
16. Tuberculosis in its Relation to the Welfare of the People of the United States in General and Colorado in Particular.
WM. M. DANNER, Denver, Colo.
- Discussion to be opened by R. H. BABCOCK, Chicago.

FRIDAY, JUNE 7—9 A. M.

There will be a joint symposium held by this Section and that of Practice of Medicine on Smallpox.

SECTION ON OBSTETRICS AND DISEASES OF WOMEN.

FIRST DAY, TUESDAY, 2 P. M.

- Address of Chairman.
DR. H. P. NEWMAN, Chicago.
1. Methods of Incision for Vaginal Section.
J. CLARENCE WEBSTER, Chicago.
2. Indications for Vagino-Abdominal Hysterectomy.
RUFUS B. HALL, Cincinnati.
3. The Accidents and Complications of Pelvic Surgery and their Treatment.
J. B. DEEVER, Philadelphia.
4. Post Operative Intra-Peritoneal Hemorrhage.
A. H. CORDIER, Kansas City, Mo.
5. Contributing Factors in the Production of Peritonitis.
J. G. CLARK, Philadelphia.
6. The Advantages and Disadvantages of Drainage after Abdominal Section.
HUNTER ROBB, Cleveland.

WEDNESDAY, 9 A. M.

7. Atresiahymenalis.
O. THIENHAUS, Milwaukee, Wis.
8. Result Immediate and Remote of Conservative Surgery.
A. GOLDSPOHN, Chicago.
9. Electrothermic Hemostasis in Abdominal and Pelvic Surgery.
A. J. DOWNES, Philadelphia.
10. The Uses and Abuses of Morphine in Abdominal Surgery.
L. H. DUNNING, Indianapolis.

WEDNESDAY, 2 P. M.

11. Fibroids.
THOMAS S. CULLEN, Baltimore.
12. The Complications and Degenerations of Fibroid Tumors as Bearing on the Treatment of these Growths.
CHAS. P. NOBLE, Philadelphia.
13. How Shall we Deal with Uterine Myomata?
E. E. MONTGOMERY, Philadelphia.
14. A New Operation for Extirpation of Cancer of the Rectum.
M. D. MANN, Buffalo, N. Y. (By invitation.)
16. The Various Incisions Appropriate to Different Renal Operations.
HOWARD A. KELLY, Baltimore.
17. The Relative Merits of the Different Methods of Uretero-ureteral Anastomosis.
J. WESLEY BOVEE, Washington, D. C.
15. Carcinoma of the Uterus.
J. M. BARDY, Philadelphia.

THURSDAY, 9 A. M.

18. Treatment of Posterior Displacements of the Uterus.
A. H. GOELET, New York.
19. Surgical Treatment of Retroversion of the Uterus.
FRANKLIN H. MARTIN, Chicago.
20. A New Operation for Retro-Displacement of the Uterus.
EMIL RIES, Chicago.
21. The Increasing Sterility of American Women.
GEORGE J. ENGELMANN, Boston.

THURSDAY, 2 P. M.

22. Obstetrics as a Specialty.
JOS. PRICE, Philadelphia.
23. Position of the Patient During Delivery.
W. D. PORTER, Cincinnati.

24. Asepsis in Midwifery. E. GUSTAVE ZINKE, Cincinnati.
25. Puerperal Asepsis. J. F. MORAN, Washington, D. C.
26. Indications and Contraindications for the use of the Curette in Obstetric Practice. H. D. FRY, Washington, D.C.
27. Advantage of Drill upon the Manikin. ELIZA H. ROOT, Chicago.
28. A Case of Streptococcus Infection following Labor, Operation, Recovery. W. H. HUMISTON, Cleveland.
29. Ectopic Gestation. W. H. WATHEN, Louisville.
30. Extrauterine Pregnancy. F. F. LAWRENCE, Columbus.
31. Abdominal Section During Pregnancy. W. W. POTTER, Buffalo, N. Y. (By invitation.)

FRIDAY, 9 A. M.

32. Puerperal Eclampsia: Its Etiology and Treatment. T. J. BEATTIE, Kansas City, Mo.
33. Pregnancy Following Ventro-suspension of the Uterus. REUBEN PETERSON, Chicago.
34. Cesarean Section as a Method of Treatment for Placenta Previa. W. J. GILLETTE, Toledo.
35. Some Results of Ovarian Surgery with Further Report Upon Intrauterine Implantation of Ovarian Tissue. A. PALMER DUDLEY, New York.
36. Gall-stones and Insane Women. W. P. MANTON, Detroit, Mich.

SECTION ON SURGERY AND ANATOMY.

TUESDAY, JUNE 4—AFTERNOON SESSION.

SURGERY OF THE BRAIN AND SPINAL CORD.

1. Remarks on the Surgery of the Spinal Cord, with Illustrative Cases. ANDREW J. MCCOSH, New York City.
 2. Spina Bifida, with the Report of an Interesting Case. PAUL F. EYE, Nashville, Tenn.
 3. The Methodical Exploration of the Brain for Fluid. CHRISTIAN FENGER, Chicago.
 4. The Immediate and Remote Effects of Brain Injury. D. S. FAIRCHILD, Clinton, Iowa.
 5. Cases of Trephining for Pathological Lesions of the Brain. JOHN C. MUNRO, Boston.
- Discussion opened by W. W. KEEN, Philadelphia. Discussion continued by WM. L. RODMAN, Philadelphia, and ANGUS McLEAN, Detroit, Mich.

WEDNESDAY, JUNE 5—MORNING SESSION.

6. The Mortality of Appendicitis. JOHN B. DEAVER, Philadelphia.
 7. Some Unusual Features of Appendicitis and Their Treatment. ERNEST LAPLACE, Philadelphia.
 8. Abdominal Contusions Associated with Rupture of the Intestine. HOMER GAGE, Worcester, Mass.
 9. The Knot Within the Lumen, in Intestinal Surgery, with Report of Eight Cases. F. GREGORY CONNELL, Chicago.
 10. Surgery of the Colon. H. O. WALKER, Detroit, Mich.
- Discussion opened by WILLIS G. McDONALD, Albany, N. Y. (by invitation), D. A. K. STEELE, and F. C. SCHAEFER, Chicago.

WEDNESDAY, JUNE 5—AFTERNOON SESSION.

THE SURGICAL ASPECT OF CARCINOMA.

11. The Nature of the Cancerous Process. ROSWELL PARK, Buffalo, N. Y.
12. The Present Status of the Carcinoma Question. NICHOLAS SENN, Chicago.
13. Early Diagnosis of Carcinoma: Methods. CHARLES A. POWERS, Denver, Colo.
14. The Pathology of Breast Carcinoma and its Relation to Early Diagnosis and Treatment. WM. S. HALSTED and J. C. BLOODGOOD, Baltimore, Md.
15. Carcinoma of the Cecum. WM. J. MAYO, Rochester, Minn.
16. Improved Method for Resecting High Rectal Carcinoma. ROBERT F. WEIR, New York City.
17. Method of Operating on Carcinoma of the Tongue. J. COLLINS WARREN, Boston.
18. Treatment of Malignant Diseases by Surgical Operation. FREDERIC S. DENNIS, New York City.

THURSDAY, JUNE 6—MORNING SESSION.

19. Hemostasis in Amputation at the Hip-Joint, a Résumé of 262 Cases by the Author's Method. JOHN A. WYETH, New York City.

20. Autoplastic Suture in Hernia and other Ventral Wounds. L. L. McARTHUR, Chicago.
 21. A New Method of Skiagraphic Diagnosis for Renal and Ureteral Surgery. L. E. SCHMIDT and G. KOLISCHER, Chicago.
 22. Prostatotomy versus Prostatectomy for Prostatic Hypertrophy. RAMON GUIERAS, New York City.
 23. Prostatectomy, the Method of Choice in the Management of Prostatic Obstruction. EUGENE FULLER, New York City.
 24. A Further Report on Permanent Catheterization. J. R. EASTMAN, Indianapolis, Ind.
 25. Fallacies in the Treatment of Urethral Diseases. ROBERT HOLMES GREENE, New York City.
- Discussion opened by ROBERT H. W. DAWBARN, New York City.

THURSDAY, JUNE 6—AFTERNOON SESSION.

THE SURGERY OF THE CHEST.

26. Pneumectomy and Pneumotomy. J. B. MURPHY, Chicago.
 27. Insufflation of the Lungs and its Application to Pulmonary Surgery. RUDOLPH MATAS, New Orleans, La.
 28. Removal of Foreign Bodies from the Trachea and Bronchi. DEFOREST WILLARD, Philadelphia.
 29. Treatment of Empyema. JAMES H. DUNN, Minneapolis.
 30. Decortication of the Lung. GEORGE RYERSON FOWLER, Brooklyn, N. Y.
- Discussion opened by Frederick W. Parham, New Orleans, La., and continued by A. C. Bernays, St. Louis, Mo.

FRIDAY, JUNE 7—MORNING SESSION.

31. Abdominal Surgery. MAURICE RICHARDSON, Boston.
 32. The Indications for and Against Total Removal of the Human Stomach. G. CHILDS MACDONALD, San Francisco, Cal.
 33. Diagnosis and Treatment of Kidney Stone. ARTHUR D. BEVAN, Chicago.
 34. The Surgery of the Gall-Bladder and Gall-Ducts. ALEXANDER H. FERGUSON, Chicago.
 35. Acute Infective Cholangitis and Cholecystitis as a Complication of Gall-Stones. DANIEL N. EISENDRATH, Chicago.
 36. Dissecting Abscesses of Abdominal Wall Producing Symptoms Simulating Pott's Disease of the Spine. JAMES B. BULLITT, Louisville, Ky.
 37. Experimental and Clinical Observations on the Therapeutics of Abdominal Surgery. GEORGE W. CRILE, Cleveland, Ohio.
- Discussion opened by HOWARD A. KELLY, Baltimore, Md., and FRANK D. SMYTHIE, Memphis, Tenn.

FRIDAY, JUNE 7—AFTERNOON SESSION.

38. The Roentgen Rays in Differentiating between Osseous Cyst, Osteosarcoma and Osteomyelitis with Skiagraphic Demonstration. CARL BECK, New York City.
39. Fracture of the Femoral Neck. C. E. RUTH, Keokuk, Iowa.
40. Gynecology: Its Contribution to Surgery. HENRY O. MARCY, Boston, Mass.
41. A Simple Operation for the Treatment of Hemorrhoids. J. RAWSON PENNINGTON, Chicago.

SECTION ON NERVOUS AND MENTAL DISEASES.

MEETS IN COMMITTEE ROOM OF STATE CAPITOL.

TUESDAY, JUNE 4—AFTERNOON SESSION—2 O'CLOCK.

1. Address of Chairman. H. A. TOMLINSON, St. Peter, Minn.
2. Etiology of Paretic Dementia. FRANK P. NORBURY, Jacksonville, Ill.
3. Symptomatology of Cerebral Hemorrhage. F. SAVARY PEARCE, Philadelphia.
4. Treatment of Cerebral Hemorrhage. D. R. BROWER, Chicago.
5. The Virile or Genesiac Reflex as Pudic Nerve Innervation Phenomena. C. H. HUGHES, St. Louis, Mo.
6. A Case of Alexia Caused by a Bullet Wound with Successful Location and Removal of the Latter. G. W. McCASKEY, Fort Wayne, Ind.
7. What Can Be Done for the Epileptic in a Medical Way. R. H. PORTER, Chicago.
8. The Treatment of the Acute Psychoses in Private Practice. C. EUGENE RIGGS, St. Paul, Minn.
9. Treatment of Neurasthenia. J. G. BILLER, Cherokee, Iowa.

10. A Case of Acute Poliomyelitis Anterior in a Youth of 18 Years. Remarks on the Sensory Symptoms.

FRANK R. FRY, St. Louis, Mo.

WEDNESDAY, JUNE 5—AFTERNOON SESSION—2 o'clock.

SYMPOSIUM ON SYPHILIS OF THE BRAIN.

(This Symposium is arranged with special reference to the needs of the general practitioner.)

11. Nervous Manifestations. HUGH T. PATRICK, Chicago.
 12. The Psychosis in Cerebral Syphilis. RICHARD DEWEY, Wauwatosa, Wis.
 13. Syphilis of the Nervous System; its General Pathology, with Remarks on Treatment. F. W. LANGDON, Cincinnati, Ohio.
 14. The Specific and Non-specific Lesions Resulting from Syphilis, and Their Influence upon Diagnosis, Prognosis and Treatment. J. T. ESKRIDGE, Denver, Colo.
 15. Suggestions for Lessening the Frequency of Relapse After Treatment of Morphinism. A. J. PRESSEY, Cleveland, Ohio.
 16. Injuries, Feigned and Real, with their Differentiation and Medicolegal Aspect. LAMBERT OTT, Philadelphia.
 17. The Psychoses of Chorea. HAROLD N. MOYER, Chicago.
 18. Three Cases of Paralysis of the Serratus Magnus and the Trapezius—Alar Scapula. AUGUSTUS A. ESHNER, Philadelphia.
 19. Mirror Writing and Inverted Vision. ALBERT B. HALE AND SYDNEY KUH, Chicago.
 20. Fear as an Element of Nervous Diseases and Its Treatment. JOHN PUNTON, Kansas City, Mo.

THURSDAY, JUNE 6—AFTERNOON SESSION.

21. Ten Cases of Multiple Neuritis. W. A. JONES, Minneapolis, Minn.
 22. A Case of Localized Amnesia with Remarks Thereon. EDWARD E. MAYER, Pittsburg, Pa.
 23. Dementia Following Inebriety. T. D. CROTHERS, Hartford, Conn.
 24. The Problem of Heredity. JAMES G. KIERNAN, Chicago.
 25. The Importance of Heredity as a Cause of Insanity. ARTHUR MCGUGAN, Kalamazoo, Mich.
 26. Persistent Brachial Neuralgia from Hypodermic Injection. Incipient Lateral Sclerosis with Recovery. LEO M. CRAFTS, Minneapolis, Minn.
 27. Space Neuroses. JOHN E. PURDON, Turlock Cal.
 28. Autotoxemia as a Factor in the Neuroses. GEORGE F. BUTLER, Alma, Mich.
 29. The Circulation in the Nervous System. HERMAN GASSER, Platteville, Wis.
 30. Sudden and Temporary Mental Aberration—Unconscious Automatism—Temporary Irresponsible States. SAMUEL AYERS, Pittsburgh, Pa.
 31. A Case of Myasthenia Gravis. HALDOR SNEVE, St. Paul, Minn.

SECTION ON OPHTHALMOLOGY.

TUESDAY, JUNE 4, 1901—AFTERNOON SESSION.

1. Address of Chairman.
 2. Treatment of Strabismus; Measures Other than Operative. DR. EDWARD JACKSON, Denver, Colo.
 3. Treatment of Strabismus; Operative Measures. DR. C. F. CLARK, Columbus, Ohio.
 4. Strabismus: Its Treatment. DR. A. E. DAVIS, New York City. (By invitation.)
 5. The Cosmetic and Visual Results in Squint. DR. J. M. RAY, Louisville, Ky.
 Discussion opened by DRs. C. M. OLIVER, FRANK ALLPORT, and F. C. TODD.
 6. Concerning the Check Ligament. DR. J. E. COLBURN, Chicago, Ill.

WEDNESDAY, JUNE 5—MORNING SESSION.

EXHIBITION OF SPECIMENS AND NEW INSTRUMENTS—FIFTIETH ANNIVERSARY OF THE INVENTION OF THE OPHTHALMOSCOPE—EXHIBIT OF OPHTHALMOSCOPES AND OPHTHALMOSCOPIC LITERATURE.

Address on the Origin and Development of the Instrument, Together with a Description of the Historic Exhibit of Ophthalmoscopes and Publications on Ophthalmoscopy Prepared for this Meeting. DR. H. FRIEDENWALD, Baltimore, Md.
 Address on the Life of Helmholtz. DR. CASEY A. WOOD, Chicago, Ill.

7. The Comparative Values of Hyoscin, Atropin, Homatropin and Scopolamin as Cycloplegics.

DR. C. H. BAKER, Bay City, Mich.

Discussion opened by DRs. LEARTUS CONNOR and C. M. COBB.

8. Tarsadenitis Meibomica.

DR. M. F. WEYMANN, St. Joseph, Mo.

9. Report of a Case of Retroflexion of the Iris.

DR. A. A. HUBBELL, Buffalo, N. Y.

Discussion opened by DR. EUGENE SMITH, of Detroit.

WEDNESDAY, JUNE 5—AFTERNOON SESSION.

10. Treatment of Heterophoria; Non-Surgical Measures. DR. GEORGE M. GOULD, Philadelphia.
 11. Treatment of Heterophoria; Surgical Treatment. DR. G. C. SAVAGE, Nashville, Tenn.
 Discussion opened by DR. S. D. RISLEY.
 12. Table of Paralysis of Ocular Muscles. DR. H. M. STARKEY, Chicago, Ill.
 Discussion opened by DRs. F. C. HOTZ and WM. WILDER.
 13. The Extraction of Hard Cataract without Iridectomy. DR. S. D. RISLEY, Philadelphia, Pa.
 Discussion opened by DRs. H. V. WUERDEMANN and F. C. HOTZ.
 14. Relation of Asthenopia to Disturbances of the Digestive System. DR. JOHN McREYNOLDS, Dallas, Texas.
 Discussion opened by DRs. C. A. WOOD and J. E. WEEKS.
 15. Ocular Lesions Associated with Constitutional Diatheses. DR. H. I. JONES, San Francisco, Cal.
 Discussion opened by DR. W. F. SOUTHARD.

THURSDAY, JUNE 6—MORNING SESSION.

EXHIBITION OF SPECIMENS AND NEW INSTRUMENTS.

16. Economic Limitations of the Visual Acuity in the Various Trades and Professions. DR. H. V. WUERDEMANN, Milwaukee, Wis.
 17. Further Report on the Visual and Aural Qualifications of Transportation Employees. DR. FRANK ALLPORT, Chicago, Ill.
 18. Mules' Operation. With Cases. DR. FRANK C. TODD, Minneapolis, Minn.
 Discussion opened by DR. L. WEBSTER FOX, and FRANK ALLPORT.
 19. Plastic Operations for the Preservation of Sightless Stumps. DR. HAROLD GIFFORD, Omaha, Neb.
 20. Report of Two Cases of Orbital Surgery. DR. ADELINE PORTMAN, Washington.
 21. Enucleation in Two Minutes, with Demonstration. DR. A. T. MITCHELL, Vicksburg, Miss.

THURSDAY, JUNE 6—AFTERNOON SESSION.

22. The Newer Pathology of the Retina, with Special Reference to the Changes Produced in the Ganglion Cells by Certain Toxic Agents. DR. H. FRIEDENWALD, Baltimore, Md.
 23. Atrophy of the Retina. DR. D. S. REYNOLDS, Louisville, Ky.
 24. A Case of Blindness Due to Drinking Bay Rum Compared with Reported Cases Due to Methyl Alcohol and Jamaica Ginger. DR. H. MOULTON, Fort Smith, Ark.
 Discussion opened by DR. H. GIFFORD.
 25. Complete Recovery from Double Neuroretinitis, Clinically Resembling Albuminuric Retinitis, in a Case of Prolonged Hematuria with Symptoms of Bright's Disease. DR. C. A. VEASEY, Philadelphia, Pa.
 26. Some Points to be Observed in the Use of the Perimeter. DR. GEO. F. KEIPER, LaFayette, Ind.
 27. A Study of the Color-Changes in Chromogenic Bacteria. DR. C. A. OLIVER, Philadelphia, Pa.
 28. The Value of Excision of the Superior Cervical Ganglion of the Sympathetic in Certain Eye Diseases. DR. GEO. F. SUKER, Toledo, Ohio.
 Discussion opened by DR. CASEY WOOD.

FRIDAY, JUNE 7—MORNING SESSION.

EXHIBITION OF SPECIMENS AND NEW INSTRUMENTS.

29. Herpes Zoster Ophthalmicus with brief Report of Five Cases. DR. W. C. BANE, Denver, Colo.
 Discussion opened by DRs. EDWARD JACKSON and H. M. STARKEY.
 30. The Corneal Lesions of Acquired Syphilis. DR. WM. H. WILDER, Chicago, Ill.
 Discussion opened by DR. S. D. RISLEY and C. A. WOOD.

31. Lachrymal Stenosis in Infants and its Treatment.
DR. DUNBAR ROY, Atlanta, Ga.
Discussion opened by DR. G. C. SAVAGE.
32. Metamorphopsia Varians with a Report of Three Cases.
DR. WM. H. DUDLEY, Easton, Pa.
Discussion opened by DRs. J. E. WEEKS and S. D. RISLEY.
33. Injuries of the Choroid. DR. E. O. SISSON, Keokuk, Iowa.
Discussion opened by DR. H. V. WUERDEMANN and CASSIUS D. WESCOTT.
34. New Instrument for Determining Position of Axes of the Eyes.
DR. C. H. WILLIAMS, Boston, Mass.
35. Spontaneous Clearing of a Cataractous Lens.
DR. HIRAM WOODS, JR., Baltimore, Md.

SECTION ON DISEASES OF CHILDREN.

MEETS IN RYAN ANNEX, BUILDERS' EXCHANGE.

TUESDAY, JUNE 4—AFTERNOON SESSION.

1. Address of Chairman.
SAMUEL W. KELLEY, Cleveland, Ohio.
2. Physiologic and Pathologic Conditions of the Alimentary Tract in Children.
A. L. BENEDICT, Buffalo, N.Y.
3. Measles.
J. B. GARBER, Dunkirk, Ind.
4. The Pathology of Pertussis.
J. M. POSTLE, Hineckley, Ill.
5. A Case of Pyloric Spasm in an Infant.
C. HERRMAN, New York City. (By invitation.)
6. The Use of Normal Salt Solution in the Diseases of Infancy.
W. C. HOLLOPETER, Philadelphia.
7. Rheumatic Endocarditis in Children.
EDWARD F. WELLS, Chicago.

WEDNESDAY, JUNE 5—MORNING SESSION.

SYMPOSIUM ON TYPHOID FEVER IN CHILDREN.

8. Symptoms and Course of Typhoid Fever.
J. P. CROZER GRIFFITH, Philadelphia.
9. Diagnosis of Typhoid Fever in the Laboratory.
JOHN LOVETT MORSE, Boston.
10. Treatment of Typhoid Fever.
H. E. TULEY, Louisville, Ky.
11. Hydrotherapy in Typhoid Fever.
JAMES C. WILSON, Philadelphia.
12. The Treatment of Temperature by Drugs.
EDWIN ROSENTHAL, Philadelphia.
13. Dietetic Treatment of Typhoid Fever in Infants and Children.
LOUIS FISCHER, New York City.
14. The Treatment of Typhoid Fever with Special Reference to the Intrarectal Injection of Normal Salt Solution.
E. STUVER, Fort Collins, Colo.
15. Multiple Gangrene Associated with Cholangitis Complicating Typhoid Fever.
ISAAC A. ABT, Chicago.
Discussion opened by VICTOR C. VAUGHAN, Ann Arbor, Mich.; J. M. ANDERS, Philadelphia, and S. SOLIS-COHEN, Philadelphia.

WEDNESDAY, JUNE 5—AFTERNOON SESSION.

16. Prevention of Pulmonary Tuberculosis in Predisposed Children.
JOHN A. ROBISON, Chicago.
17. The Diagnosis and Treatment of Catarrhal Pneumonia.
S. SOLIS COHEN, Philadelphia.
18. Protracted Influenzal Pneumonia in Children.
F. X. WALLS, Chicago.
19. Prolonged Intubations.
EDWIN ROSENTHAL, Philadelphia.
Discussion by LOUIS FISCHER, New York; ROSA ENGELMANN, Chicago; F. X. WAXHAM, Denver, and WILLIAM M. WELCH, Philadelphia.
20. Congenital Malformations with Roentgen Ray Demonstrations.
CARL BECK, New York City.
21. Membranous Colitis in Infants.
CHARLES DOUGLAS, Detroit, Mich.
22. Gonorrhea in Boys.
A. L. VOLBARST, New York City. (By invitation.)
Discussed by FERD. C. VALENTINE, New York City.
23. A Case of Ureteral Calculus in a Boy of Ten.
W. W. KEEN, Philadelphia.
24. Diabetes Mellitus in Children.
A. C. COTTON, Chicago.
25. Albuminuria in Disease of the Kidneys in Infancy and Childhood.
JOHN R. RATHMELL, Chattanooga, Tenn.
26. Congenital Cystic Kidney.
WILLIAM JEPSON, Sioux City, Iowa.

THURSDAY, JUNE 6—AFTERNOON SESSION.

SYMPOSIUM ON SCHOOL HYGIENE.

27. The Introduction and Management of School Hygiene.
LEIGH K. BAKER, Cleveland, Ohio.

28. School Hygiene and its Problems.

WILLIAM H. BURNHAM, Worcester, Mass.

29. Physical Culture in Children and the Objects to be Attained.

JOHN MADISON TAYLOR, Philadelphia.

30. The Pubescent School Girl.

WILLIAM EDGAR DARNALL, Atlantic City, N. J.

31. Diagnosis of the Backward Child.

A. W. WILMARTH, Chippewa Falls, Wis.

32. Speech as a Factor in the Diagnosis of the Backward Child.

G. HUDSON MAKUEN, Philadelphia.

33. A Plea for the Backward Child.

C. F. WAHRER, Fort Madison, Iowa.

34. Some Considerations Regarding the Medical Criticisms of the Hygiene of Early School Life.

J. NOER, Stoughton, Wis.

Discussion opened by JOSEPH B. MARVIN, Louisville;

W. C. HOLLOPETER, Philadelphia, and LOUIS FISCHER, New York City.

SECTION ON STOMATOLOGY.

TUESDAY, JUNE 4—2 P. M.

- Chairman's Address. R. R. ANDREWS, Cambridge, Mass.

SYMPOSIUM ON STATE BOARDS OF DENTAL EXAMINERS IN THEIR RELATION TO THE PROFESSION AND THE COLLEGES.

- Methods of Appointment: 1. By State Universities—New York.
2. By State Boards of State Officials ex-officio, Nebraska.
3. By Governors on Recommendation of the Profession.

WILLIAM CARR, New York City.

- Revenue for Conducting the Work of the Boards of Examiners: 1. By Taxation of the People. 2. By Fees from Examination of Candidates. 3. By Taxation of the Profession.

GEORGE L. PARMELE, Hartford, Conn., and V. E. TURNER, Raleigh, N. C.

- The Dental College Standard: 1. Is it What it Should Be? 2. If Not, What Improvements Should Be Made? 3. How May the Requirements be Improved?

CHARLES CHITTENDEN, Madison, Wis.

- Licensing: 1. By Examination. 2. By Diploma.

J. A. LIBBY, Pittsburg, Pa.

WEDNESDAY, JUNE 5—2 P. M.

SYMPOSIUM ON DEGENERACY OF THE PULP.

- Preliminary Work. EUGENE S. TALBOT, Chicago.
- Literature of the Pulp. VIDA A. LATHAM, Rogers Park, Ill.
- Cutting, Staining and Mounting.

MARTHA ANDERSON, Moline, Ill.

- Local Anesthesia. A. H. PECK, Chicago.

- Paradental Atrophy. W. E. WALKER, Pass Christian, Miss.

- Periods of Stress and their Dental Marks.

JAS. G. KIERNAN, Chicago.

- Surgical Treatment of Cleft Palate.

G. V. I. BROWN, Milwaukee, Wis.

- Infectious Diseases.

ALICE STEEVES, Chicago.

- Simple Gingivitis.

GEO. T. CARPENTER, Chicago.

THURSDAY, JUNE 6—2 P. M.

- Military Dental Practice: Its Modifications and Limitations.

HENRY D. HATCH, New York City.

- The Tongue as a Breeding Place for Bacteria.

M. H. FLETCHER, Cincinnati, Ohio.

- Pathology of the Alveolar Process.

EUGENE S. TALBOT, Chicago.

- Tuberculosis of the Alveolar Process and Surrounding Tissues and a Few Methods of Differential Diagnosis.

V. A. GUDIX, Milwaukee, Wis.

SECTION ON CUTANEOUS MEDICINE AND SURGERY.

MEETS IN MASONIC BANQUET HALL.

TUESDAY, JUNE 4—2:30 P. M.

1. Address of Chairman: Ancient and Modern Conception of Syphilis. WILLIAM L. BAUM, Chicago.

2. The Relations of the Menstrual Function to Tertian Diseases of the Skin.

L. DUNCAN BULKLEY, New York City.

3. Pathology and Treatment of Cutaneous Cancer, with Special Reference to its Non-parasitic Nature.

M. L. HEIDINGSFELD, Cincinnati, Ohio.

4. The Increasing Prevalence of Contagious Skin Diseases.
HENRY W. STELWAGON, Philadelphia.
5. Syphilis and its Relations to Blastomycetic Dermatitis.
HENRY G. ANTHONY, Chicago.
6. Adenoma Sebaceum of the Non-symmetrical Type of Darier.
WILLIAM S. GOTTHEIL, New York City.
7. Notes on a Case of Keratosis Follicularis (Porospermosis).
JOSEPH ZEISLER, Chicago.

WEDNESDAY, JUNE 5—2:30 P. M.

8. Lantern Slide Demonstration on Skin Cancer.
M. L. HEIDINGSFELD, Cincinnati, Ohio.
9. Lantern Slide Exhibition Showing the Clinical, Pathological and Bacteriological Features of Eleven Cases of Blastomycosis of the Skin.
JAMES NEVINS HYDE and FRANK HUGH MONTGOMERY, Chicago.
10. Lantern Slide Demonstration of the Exanthemata, from Original Photographs.
WILLIAM THOMAS CORLETT, Cleveland, Ohio.
11. Demonstrations of Case: Lupus Erythematosus Treated by Hot Air. A Case of Leprosy in a Man born in and who has never been outside of Minnesota.
BURNSIDE FOSTER, St. Paul, Minn.
12. Epidermolysis Bullosa Hereditaria.
LOUIS E. SCHMIDT, Chicago.
13. Report of a Case of Epithelioma of Long Duration and Beginning in Early Manhood.
WILLIAM FRICK, Kansas City, Mo.
14. Notes on Recent Cases of Extra-genital Chancres.
L. DUNCAN BULKLEY, New York City.

THURSDAY, JUNE 6—2:30 P. M.

15. Rhinoscleroma.
CHAS. WARRENNE ALLEN, New York City. (By invitation.)
16. Dermatomyces in their Relation to Allen's Iodid Test.
JACOB SOBEL, New York City. (By invitation.)
17. Squamous Erythroderma.
AUGUSTUS RAVOGLI, Cincinnati, Ohio.
18. Phototherapy in Cutaneous Medicine. A Preliminary Communication. WILLIAM S. GOTTHEIL, New York City.
19. Lichen Hypertrophicus. DAVID LIEBERTHAL, Chicago.
20. Feigned Skin Diseases.
GEORGE W. DAVIS, Kansas City, Mo.
21. Clinical Features of Blastomycetic Dermatitis as Observed in Three Cases by the Author.
A. W. BRAYTON, Indianapolis, Ind.
22. Treatment of Psoriasis. T. P. WHALEY, Charleston, S. C.

SECTION ON LARYNGOLOGY AND OTOTOLOGY.

TUESDAY, JUNE 4—2 P. M.

1. Address of Chairman. JOHN N. MACKENZIE, Baltimore, Md.
2. Remarks on the Treatment of Laryngeal Tuberculosis.
P. S. DONNELLEAN, Philadelphia, Pa.
3. The Treatment of Laryngitis. O. T. FREER, Chicago.
4. Edematous Laryngitis with Report of Case.
J. S. GIBB, Philadelphia.
5. Types of Membranous Pharyngitis.
W. E. CASSELBERRY, Chicago.
6. Total Extirpation of Thyroid Gland. G. F. COTT, Buffalo.
7. Foreign Bodies in the Bronchi.
F. J. QUINLAN, New York City.

WEDNESDAY, JUNE 5—9 A. M.

8. The Manifestations of Luetic Disease in the Upper Respiratory Passages and Ear.
W. SCHEPPERGREGG, New Orleans, La.
9. Observation on Intranasal Contract and its Consequences.
J. E. SCHADLE, St. Paul, Minn.
10. The Relation of the Middle Turbinate Body to Chronic Nasal Diseases.
C. S. BAKER, Bay City, Mich.
11. The Pathology of Inflammation of the Posterior Part of the Nasal Septum.
J. L. GOODALE, Boston.
12. Asthma as a Result of Nasal Conditions: Treatment, etc.
J. H. FARRELL, Chicago.
13. The Effect which the So-called "Catarrhal" Disease of the Nose and Throat may have upon the General Health.
C. M. COBB, Lynn, Mass.

WEDNESDAY, JUNE 5—2 P. M.

14. Empyema of the Frontal Sinus.
E. FLETCHER INGALS, Chicago.

15. Diseases of Accessory Sinuses.
E. L. SHURLY, Detroit, Mich.
16. Anomalies of the Frontal Sinus and their Bearing on Chronic Sinusitis.
REDMOND W. PAYNE, San Francisco, Cal.
17. Carcinoma of the Nasopharynx.
CHEVALIER JACKSON, Pittsburg, Pa.
18. Sarcoma of Nasal Passages, with Report of Case.
DUNBAR ROY, Atlanta, Ga.
19. Case of Epithelioma of Upper Respiratory Tract.
S. A. OREN, Lanark, Ill.
20. The Supratonsillar Fossa. J. HOMER COULTER, Chicago.
21. An Unusual Anomaly Affecting the Fauical Tonsil.
GEORGE L. RICHARDS, Fall River, Mass.
22. Traumatic Affection of the Uvula.
H. SEYMOUR OPPENHEIMER, New York City.
23. The Pathology of Adenoids in the Adult.
A. T. MITCHELL, Vicksburg, Miss.

THURSDAY, JUNE 6—9 A. M.

24. The Diagnosis and Treatment of Mastoiditis.
E. B. DENCH, New York City.
 25. Mastoiditis After Subsidence and Without Recurrence of Tympanic Disease. HIRAM WOODS, JR., Baltimore, Md.
 26. Experiments on Fresh Cadaver in Relation to Suppurative Otitis Media and Mastoiditis.
F. C. TODD, Minneapolis, Minn.
 27. Gelles's Test.
NORVAL H. PIERCE, Chicago.
- THURSDAY, JUNE 6—2 P. M.
28. Report of a Case of Suppuration of the Parotid Gland with Suppuration of External Auditory Canal.
F. A. PACKARD, Philadelphia.
 29. Report of Case of Unusual and Interesting Tertiary Manifestations. G. HUDSON MAKUEN, Philadelphia.
 30. Dangerous Hemorrhage after the Removal of Enlarged Tonsils and Adenoids, with Report of a Case.
A. C. GETCHELL, Worcester, Mass.
 31. The Rationale and Technic of Pneumatic Aural Massage.
B. ALEX. RANDALL, Philadelphia.
 32. Title to be announced.
C. W. RICHARDSON, Washington, D. C.
 33. Adrenalin Chloride in Surgery of the Nose and Throat.
W. W. BULETTE, Pueblo, Colo.

SECTION ON MATERIA MEDICA, PHARMACY AND THERAPEUTICS.

MEETS IN SENATE CHAMBER, STATE CAPITOL.

TUESDAY, JUNE 4—2 P. M.

1. Modern Therapeutics. GEORGE F. BUTLER, Chicago.
2. Experimental Work in Intra-organic and Venous Injections and Blood Extracts in the Cure of Acute Organic Diseases.
W. BYRON COAKLEY, Chicago.
3. Therapeutic Indications Presented by the Conditions of the Blood in Disease. O. T. OSBORNE, New Haven.
4. Chronic Myocarditis. J. H. MUSSER, Philadelphia.
5. Treatment of Obesity. HEINRICH STERN, New York City.
Discussion on Preceding papers to be opened by A. R. EDWARDS, Chicago.
6. Treatment of Cancer by Roentgen Rays.
FRANCIS WILLIAMS, Boston.
7. Treatment of Neurasthenia. HAROLD N. MOYER, Chicago.

WEDNESDAY, JUNE 5—9 A. M.

8. The Importance of an Established Plan of Treatment in Chronic Cases and How it may be Attained by a Patient who must Travel. L. F. BISHOP, New York City.
9. A Plea for More Uniformity and Strength in our Armamentarium. C. F. WAHRER, Fort Madison.
10. Standardization of Crude Drugs and Galenical Preparations. A. B. LYONS, Detroit.
11. Report on Medicines Used by One Hundred St. Louis Physicians. H. M. WHELPLEY, St. Louis.
12. Analysis of Cascara Sagrada. L. L. SOLOMON, Louisville.

WEDNESDAY, JUNE 5—2 P. M.

- SYMPOSIUM ON TREATMENT OF PULMONARY TUBERCULOSIS.
13. Indication for and Utility of Altitude Treatment of Pulmonary Tuberculosis. S. E. SOLLY, Colorado Springs.
 14. Adaptability of Southern California and Similar Climates to the Needs of Consumptives.
NORMAN BRIDGE, Los Angeles.

15. Specific Treatment of Pulmonary Tuberculosis.
E. L. SHURLY, Detroit.
16. Tuberculin Treatment of Pulmonary Tuberculosis, with Statistics.
CHARLES DENNISON, Denver.
17. Specific Therapeutics in Pulmonary Tuberculosis.
ARNOLD C. KLEBS, Chicago.
18. Title not given.
J. EDWARD STUBBERT, Liberty, N. Y.
19. Nineteen Years' Experience with Cresosote in Tuberculosis
A. BURROUGHS, Asheville, N. C.
Discussion of Treatment of Tubercular Disease of the Lungs to be opened by R. H. BABCOCK, Chicago.
20. Treatment of Lobar Pneumonia.
DE LANCEY ROCHESTER, Buffalo.
21. The Abortion Treatment of Pneumonia; a Plea for the Use of Cardiac Depressants in the Treatment of the Congestion Stage of Pneumonia.
W. L. DICKERSON, St. Louis.

THURSDAY, JUNE 6—9 A. M.

SYMPOSIUM ON GASTRIC DISORDERS.

22. Influence of Certain Common Remedies upon Gastric Functions.
BOARDMAN REED, Philadelphia.
23. Treatment of Gastric Ulcer.
GUSTAV FUETTERER, Chicago.
24. Muriatic Acid in Gastric Diseases.
FRANK BILLINGS, Chicago.
25. Treatment of Gastric Hyperesthesia.
CHARLES C. STOCKTON, Buffalo.
26. On Therapeutic Management of Dyspepsia from the Neurologist's Standpoint.
C. H. HUGHES, St. Louis.
Discussion of Gastric Disorders to be opened by JAMES B. HERRICK, Chicago.

THURSDAY, JUNE 6—2 P. M.

SYMPOSIUM ON ORGANOTHERAPY.

27. Mode of Manufacture of Serums and Organ Extracts.
CHARLES T. MCCLINTOCK, Detroit.
28. Theory and Practice of Organotherapy.
S. SOLIS-COHEN, Philadelphia.
29. Acromegaly Treated with Pituitary Body.
SYDNEY KUH, Chicago.
30. Treatment of Graves' Disease with Thymus Extract.
JOHN M. DODSON, Chicago.
31. Pharmacology of the Suprarenal Gland and a Method of Assaying its Products.
E. M. HOUGHTON, Detroit.
32. The Active Principle of Suprarenal Glands.
JOKICHI TAKAMINE, New York.
Discussion on Organotherapy to be opened by VICTOR C. VAUGHAN, Ann Arbor.
33. The Future of Serum Therapy.
JOSEPH MCFARLAND, Philadelphia.
34. Further Observations on Serum Therapy in Croupous Pneumonia.
J. C. WILSON, Philadelphia.
35. Antitubercle Serum.
E. A. DE SCHWEINITZ, Washington.
Discussion on Serumtherapy to be opened by SIMON FLEXNER, Philadelphia.

SECTION ON PHYSIOLOGY AND DIETETICS.

MEETS IN BUILDERS' EXCHANGE, RYAN ANNEX.

TUESDAY, JUNE 4.—AFTERNOON SESSION.

2 o'clock.

1. Address of Chairman. Food as a Principal Factor in the Causation of Disease.
ELMER LEE, New York City.
2. Artificially Prepared Foods.
L. BREISACHER, Detroit, Mich.
3. Unsolved Problems in Physiological Chemistry.
A. L. BENEDICT, Buffalo, N. Y.
4. A Study of Tea and Coffee Intoxication.
HEINRICH STERN, New York City.

WEDNESDAY, JUNE 5—AFTERNOON SESSION.

2 o'clock.

5. The Evaluation of Anthropometric Data.
WINFIELD S. HALL, Chicago.
6. The Education of the Degenerate—A Physicobiologic Study.
JOHN MADDEN, Milwaukee, Wis.
7. The Nervous Relation in Diseases of the Nutritive System.
H. S. DRAYTON, New York City.
8. Isolation of the Active Principles of the Suprarenal Gland—A Review of the Work.
T. B. ALDRICH, Detroit, Mich.

THURSDAY, JUNE 6—AFTERNOON SESSION.

2 o'clock.

9. ————. GEO. P. DREYER, Chicago.
10. Food Products from Diseased Animals.
D. E. SALMON, Washington.
11. The Teaching of Practical Dietetics in Medical Schools.
R. O. BEARD, Minneapolis.
12. Some Problems of Nutrition.
ALEXANDER HAIG, London, Eng.

SECTION OF PATHOLOGY AND BACTERIOLOGY.

MEETS IN RYAN ANNEX.

1. Giant Cell Embolism of Pulmonary Capillaries.
ALFRED S. WARTHIN, Ann Arbor, Mich.
2. Effect of Direct, Alternating and Tesla Currents and X-Rays on Bacteria.
F. ROBERT ZEIT, Chicago.
3. Demonstration of Specimens, Slides, and Photomicrographs of Uretero-Intestinal Anastomosis.
F. ROBERT ZEIT, Chicago.
4. Primary Sarcoma of the Esophagus and Stomach.
WILLIAM TRAVIS HOWARD, Cleveland, Ohio.
5. Demonstration of the Van Gehuchten-Nelis Histologic Resection for Hydrophobia and Remarks on Hydrophobia in Ohio.
A. P. OHLMACHER, Gallipolis, Ohio.
6. A Case of Complete Agenesis of the Central Visual System.
WM. G. SPILLER, Philadelphia.
7. Carcinoma of the Lung.
E. R. LE COUNT, Chicago.
8. The Influence of Structure and Locality on Pathological Processes.
J. S. FOOTE, Omaha, Neb.

WEDNESDAY, JUNE 5—9 A. M.

SYMPOSIUM ON THE ROLE OF CERTAIN OF THE NON-GRANULAR AND GRANULAR SOMATIC CELLS IN INFECTION.

9. Technics. The Origin, Fate and Significance of these Morphologic Elements.
H. F. HARRIS, Atlanta.
10. The Plasma Cells in Acute and Chronic Infection.
W. T. COUNCILMAN, Boston.
11. The Endothelial Cells in Acute and Chronic Infection.
E. R. LE COUNT, Chicago.
12. The Eosinophilic Cells in Acute and Chronic Infection.
MAXIMILIAN HERZOG, Chicago.
13. The Mast Cells in Acute and Chronic Infection.
HERBERT U. WILLIAMS, Buffalo, N. Y.
14. Isolation of Bacillus Typhosus from Unusual and Interesting Localizations.
M. DANIEL, Minneapolis.
15. Notes on the Bacteriology and Morbid Histology of Cerebrospinal Meningitis.
L. B. WILSON, Minneapolis.

WEDNESDAY, JUNE 5—2 P. M.

16. Report on Cultures from two Cases of Dysentery.
F. F. WESTBROOK, Minneapolis.
17. A Study of a Fetal Stomach with Special Reference to the Origin of Acid-secreting Cells.
W. A. EVANS and WILLIAM BECKER, Chicago.
18. Some Studies of Venoms and Antivenin.
JOSEPH MCFARLAND, Philadelphia.
19. Some Unusual Adeno-carcinomas of the Breast.
J. CLARK STEWART, Minneapolis.
20. An Undescribed Abnormality of the Bile Ducts.
J. CLARK STEWART, Minneapolis.
21. Reports of a Case of Primary Carcinoma of the Appendix and a Case of Lympho-Sarcoma of the Intestine, with a Discussion of the Etiology of the Latter.
S. M. WHITE, Minneapolis.
22. On the Outgrowth of Epithelium.
LEO LOEB, Chicago.
23. On the Etiology of Carcinoma.
G. FÜTTERER, Chicago.

THURSDAY, JUNE 6—9 A. M.

24. On the Nature and Significance of Granular Degeneration of Red Corpuscles.
ALFRED STENGEL, C. Y. WHITE and WILLIAM PEPPER.
25. Study of an Epidemic among Guinea-pigs in the Laboratory.
V. C. VAUGHAN, Ann Arbor, for LOUIS M. GELSTON.
26. The Influence of Boric Acid and Borax on Milk Bacteria.
V. C. VAUGHAN, Ann Arbor, for WILLIAM H. VEENBOOR.
27. The Influence of Formaldehyde on Milk Bacteria.
V. C. VAUGHAN, Ann Arbor, for ARTHUR J. HOOD.
28. Streptothrix Infections of Human Lung; a General Consideration of the Subject.
SIMON FLEXNER, Philadelphia.

THE ST. PAUL MEETING.

HISTORICAL.

The Republic of the United States was already more than sixty years old when the first settlement was made upon the site of the present city of St. Paul, the capital of the State of Minnesota. This event, which happened in the month of September, 1838, occurred some eighteen years later than the first settlement in that part of the country, the military post now Fort Snelling

GEOGRAPHICAL.

The city of St. Paul is built for the most part upon the left bank of the Mississippi river; having due regard to the general course of the stream, the left bank should be the east bank, but owing to a bend in the river the current runs east opposite the city making the left bank a north bank at this point. The river valley at St. Paul is narrow and deep, the surface of the stream



Birds-eye View of Fort Snelling.

having been established in 1820. The first settler of St. Paul built his cabin some four miles below and on the opposite bank of the river from the fort, and history, truthful but not poetic, records that the spot was selected not on account of the romantic beauties of the situation but because it was the most convenient place outside of military jurisdiction from which to sell whisky to the soldiers and Indians. The fact that it was at the head of navigation on the Mississippi was undoubtedly the chief reason why the little claim shanty of 1838 was the forerunner of the city of 163,000 people in the year 1900.

being some 200 feet below the level of the prairie through which it runs. The city is built upon three different levels or plateaus, which mark the various steps in the process of erosion that dug out the channel. The lowest plateau, raised but little above the river, contains the railroads, the Union Depot and most of the wholesale district; upon the second level is a mixture of business houses and dwellings, while the chief residence portion of the town occupies the highest plateau, that is the prairie itself, on the general level of the surrounding country. A narrow river valley with high banks suggests picturesque scenery and the promise is amply fulfilled

by the superb views obtained from every point of vantage in the city; up and down or across the river there is an endless variety of pictures of flowing stream, of green meadow, of wooded slope, of rocky cliff, or rounded bluff, of deep ravine, pictures to which the hand of man has added a touch by stretching here and there an airy bridge across stream or chasm.

St. Paul has a right to beautiful scenery, for the state of which it is the capital is one of the fairest spots on earth. Covering an area greater than that of the whole of New England with Maryland and Delaware added, Minnesota presents a great variety of scene in its different parts. In the North are almost boundless pine forests, the home of the moose, deer and bear. The center of the state is covered by an extensive belt of hard-wood timber, much of it still virgin forest. Southern Minnesota is greatly diversified, here a level and there a rolling prairie, interspersed with numerous groves and areas of timber. Everywhere there are streams and lakes, streams varying in size from the mighty Mississippi to the tiny trout brooks; lakes of an



DEER-HUNTERS' CAMP IN NORTHERN WOODS.

infinite variety of size and shape, seven thousand of them within the state, from Red Lake in the north, the largest sheet of fresh water except Lake Michigan that is wholly within the boundaries of the United States, to little sheets of water just large enough to be "meandered," that is excluded from the surveyor's estimate of acreage. It is to all these lakes and streams that the state owes its name, made up of Indian words describing the reflection of clouds in water.

CLIMATE.

The average temperature of St. Paul is considerably below that of the cities farther east. Albany, N. Y., for instance, has an average temperature of 48 degrees, while that of St. Paul is but 42 degrees. It is to the much greater coldness of the winters that the lower temperature of the northwest is chiefly due. The average period between killing frosts is a long one, from May 5 to October 6, while the warm months contain many days when the temperature is high. The summer climate is delightful, for the air is fresh and free from moisture,

making even the hot days agreeable. On this account Minnesota has been much visited as a summer resort by the inhabitants of the cities lower down the Mississippi. June may always be counted upon for warm and pleasant weather. The records of the past thirty years show that the month has a mean temperature of 67 degrees, with an average of twenty-three fair days, making the chances of pleasant weather better than three out of four. Although warm days may be looked for at this season, the evenings are often cool, and light overcoats are frequently in demand after dark.

The healthfulness of its climate is so great that Minnesota has long been regarded as a sanatorium, particularly by those whose lives are threatened by phthisis. A generation ago, before the advantages of California, Arizona, New Mexico and Colorado were known or, at least, available, thousands of consumptives came to Minnesota, and many of them are still alive to testify to the beneficence of the climate. It is a wonderfully healthy place. There are absolutely no endemic diseases. Malaria is unknown, and when epidemics like la grippe invade this territory they assume a milder form than that known elsewhere. There is not on the globe a healthier place of its size than St. Paul, with a death-rate in 1900 of but 9.63, calculated on the census population. Its situation makes perfect drainage easy, and it is almost the only considerable city in the west whose water and ice may be used by strangers with absolute safety. Water and ice are taken from inland lakes whose shores are free from settlement, making pollution by drainage impossible. Consequently typhoid is but little prevalent, and it would be almost unknown were it not for imported cases and for the fact that those living on the outskirts of the city still drink from wells. At the present time of writing, for instance, there is not a single case of typhoid in the two hundred and twenty-five beds of the City Hospital.

TRANSPORTATION.

Of the ten railroads running into St. Paul, seven come from the east, one of them, the "Soo Line," running trains to Boston and New York by way of Montreal; the other six are Chicago lines, namely, the Chicago, Milwaukee & St. Paul; the Northwestern; the Chicago, Burlington & Quincy; the Wisconsin Central; the Minneapolis & St. Louis (part of the Rock Island system); and the Chicago Great Western. From the west comes the Great Northern and the Northern Pacific railways, together with the western division of the "Soo," which, by its connection with the Canadian Pacific, reaches the west coast. The Pacific may also be reached by way of the Chicago, St. Paul, Minneapolis & Omaha Railway connecting with the Union Pacific. Duluth at the head of navigation on the Great Lakes is connected with St. Paul by branches of the Great Northern and Omaha roads and by the Northern Pacific. During the open season for navigation there are always two or three steamboats a week carry-

ing passengers on the river between St. Paul and St. Louis.

Arrangements have been made with the roads running into St. Paul by which those attending the meeting of the Association will be carried at reduced rates. The roads belonging to the Western Passenger Association will sell round-trip tickets to St. Paul for the fare one way plus two dollars. These tickets will be on sale on May 27, 28, 29 and 31, and June 1, 2 and 3. In a general way the roads embraced by the Western Passenger Association extend south to St. Louis and Denver, west to Salt Lake City, north to Duluth and West Superior, and east to Chicago. Special rates have been made from Butte and Helena of \$30.00 for the round trip; from Spokane \$40.00; from Seattle, Tacoma, and Portland, Ore., \$50.00, and from San Francisco \$67.50. Railroads outside the Western Passenger Association will sell round trip tickets to St. Paul from May 27 to June 3 for one fare and one-third, on the certificate plan, under the following rules:



COLONNADE HOTEL.



ABERDEEN HOTEL.

1. A first-class one way ticket, together with a certificate properly filled out and signed by the ticket seller, must be procured at the starting point.

2. The certificate must be presented during the meeting to Dr. J. A. Quinn, to be countersigned by him and by the joint agent of the railroads at St. Paul.

3. On presenting the certificate, duly countersigned, to the ticket seller, a ticket for the return trip may be purchased at one-third the regular fare.

The reduced rates will be good for thirty days after the close of the meeting of the association; this limit may be extended to sixty days by the payment of a fee of fifty cents. It has also been arranged that those who pass through Chicago on the return trip may buy through tickets in St. Paul, and so save themselves any trouble about the exhibition of their certificate in Chicago.

ACCOMMODATIONS.

The visitor arriving in St. Paul finds this great advantage, that all railroads, with one exception, arrive and depart at a single station, the Union Depot. The exception is the Minneapolis & St. Louis, or Rock Island, line. Moreover, not only is the station close to the heart of the city, but it is so situated that on coming out of its doors the traveler is at no loss which way to turn, since there is but one direction in which he can go. A walk of one block brings him to a street car track over which run the Union Depot cars, passing in succession the Ryan, the Clarendon and Astoria hotels. Continuing on another block the visitor comes to the Sherman House, on the corner of Fourth street, on which run the cars of the Selby Avenue Line, carrying him to the Windsor, the Metropolitan and the Aberdeen hotels.

A list of hotels, giving their capacity and rates, will be found below. Further accommodations may be had in Minneapolis, distant but an hour's ride by electric cars running at short intervals over two lines.

	Capacity.	Rates.
Aberdeen	450	\$4.00-7.00
Ryan	800	3.00-6.00
Merchants	400	3.00-5.00
Windsor	400	3.00-5.00
Metropolitan (American plan)	350	2.50-4.00
Metropolitan (European plan)		1.50-3.00
Clarendon	200	1.50-3.00
Sherman	150	1.00-2.50
Astoria	175	1.00-2.50
Colonnade	100	1.00-3.00
West (Minneapolis)	600	3.00-6.00
Nicollet (Minneapolis)	400	3.00-5.00
Allen (Minneapolis)	250	2.00-4.00

Many rooms have been secured in private houses to be used in case the hotel accommodations should prove insufficient. Visitors will find at the Union Depot and at each hotel members of the local committee on accommodations provided with lists of desirable rooms that may be secured by means of a special corps of messengers.

MEETING PLACES.

Although St. Paul is a much spread out city, covering some fifty-five square miles of ground, the meeting places of the Association and its sections, as well as most of the hotels, lie within an area comprising but a few blocks. The headquarters of the meeting will be at the Hotel Ryan, which, with its annex, occupies the block on Robert streets between Sixth and Seventh streets.

peutics, in the Senate Chamber; Mental and Nervous Diseases, in the Committee Room.

In the Masonic Temple, Lowry Arcade Building, St. Peter street, between Fourth and Fifth streets, entrance on Fifth street, will meet the Section on Surgery and Anatomy in the large Masonic Hall; Obstetrics and Diseases of Women in the small Masonic Hall; Hygiene and Sanitary Science in the Masonic Armory; Cutaneous Medicine and Surgery in the Masonic Banquet Hall.

The address on Pathology, by Dr. Flexnor, on Wednesday, at 7 p. m., will also be delivered in the Masonic Temple. This building is three blocks west and one block south of the Ryan Hotel.

In the Elk's quarters, also in the Lowry Arcade Build-



RYAN HOTEL.

On the fifth floor of the Annex will be found the Bureau of Registration and the exhibits. Half a block from the Ryan Hotel, on Sixth street, is the Metropolitan Opera House, where the general sessions will be held. The theater has excellent acoustic properties and a seating capacity of 2,500.

The meeting places of the sections will be as follows: In the old State Capitol Building, on Wabasha street, between Exchange and Tenth streets, reached by the Interurban electric cars which start from in front of the Ryan Hotel every five minutes, will meet three Sections, namely: Practice of Medicine, in the House of Representatives; Materia Medica, Pharmacy and Thera-

ing, entrance on Fourth street, will meet the Section on Ophthalmology in the Elk's Hall; Laryngology and Otology in the Elk's dining room.

In the Ryan Annex will meet the Sections on Diseases of Children; Physiology and Dietetics; Pathology and Bacteriology.

The Section on Stomatology will meet in the Ryan Hotel.

THE CITY.

Buildings that are interesting on account of their age will be looked for in vain in a place where the first house was built but sixty years ago. It is to its newer buildings that St. Paul points with special pride. Fore-

most among these are the new state capitol, to the exterior of which the finishing touches are just being put. Built of white marble, upon the high land back of the center of the city, it is a conspicuous object for miles around, a prominence that is fully justified by the beauty of its proportions, the grace of its outlines, and the delicacy and appropriateness of its ornamentation. It is easily in the front rank of handsome buildings in this century, and a visit to it will be well repaid by the opportunity to study a rare work of art. The Interurban cars run within two blocks of the capitol grounds. Another prominent building is the new government building, built of Minnesota granite, occupying the square bounded by Market, Washington, Fifth and Sixth streets, and containing, besides the post-office, the customs and internal revenue offices and the

what is known as St. Anthony Hill, really not a hill at all, but a natural level of the prairie, with the business portion of the town lying in the valley below, between it and the river. Here are a number of square miles of attractive houses, on clean, well shaded streets, Summit Avenue, running along the bluff, being justly famed throughout the country for its fine places. The opportunity is seldom offered to build a house upon a broad and beautiful street and with such a view as that from the windows of the Summit Avenue houses overlooking the river valley. The avenue is easily reached by the Fourth Street electric line, whose cars cross it. Upon one or two of the salient points of the street lookouts have been established, from which extensive views may be had.

The visitor to St. Paul is usually impressed by the



THE NEW CAPITOL.

Federal courts. The combined Court House and City Hall, occupying the block bounded by Fourth, Fifth, Wabasha and Cedar streets, is a striking building built of a Minnesota stone. Conspicuous among structures devoted to hotel purposes are the buildings of the Ryan and Aberdeen hotels. The wholesale district contains many fine blocks of mercantile houses, while among railroad buildings the offices of the Great Northern and Northern Pacific railroads are massive and extensive.

The business of St. Paul is largely derived from its position as a railroad, financial and distributive center, but it has many large manufacturing concerns which put out a great variety of articles.

An unusually pleasing feature of the city is its residences, of which the more pretentious are grouped on

number and variety of its bridges, which are more than usually picturesque because of a considerable difference in the height of the banks upon the two sides of the river, so that the three wagon bridges opposite the town are all sloping, and, moreover, do not all slope the same way.

The high bridge, so called, that farthest up the river, is remarkable for its length, a full half mile, and its height above the river, which in one span is a clear two hundred feet. At Fort Snelling, five miles above the city, is another very high bridge spanning the Mississippi and giving a most picturesque outlook. The Marshall Avenue bridge, a few miles above the fort, is a most graceful structure, an embellishment of the beautiful river scenery at this point.

There are within the limits of the city many small squares devoted to park purposes, while in the outskirts are several larger pieces of ground, of which the Indian Mounds and Como Park deserve special mention. The Indian Mounds are reached in a twenty-minute ride in the Maria Avenue line of electric cars, which may be

leads down to the fish hatchery, where much that is curious and interesting may be found.

Como, the largest of the city parks, covers some 396 acres, of which a considerable part is occupied by a picturesque lake. It is reached by the Como-Interurban electric cars, starting in front of the Ryan Hotel, and offers to the visitor a great variety of interest in the way of beautiful flowers and plants, shady walks and sparkling waters. A pretty and not over long drive takes one from the city past the new capitol, out Como avenue through the park, a drive that may be pleasantly extended from the park on past the state fair grounds and the buildings and grounds of the state agricultural college.

FORT SNELLING AND MINNEHAHA.

History and poetry are at once suggested by the names of the old fort and the picturesque falls that Longfellow has immortalized. The fort is reached by the Fort Snelling line of electric cars, running west on Seventh street, which may be taken at the corner of the Ryan Annex, with a caution to be sure and get on the car running in the right direction.

The line ends at the river bank opposite the fort, but the view from the bridge is so fine as to well repay the trouble of crossing. A picturesque old blockhouse is almost the first object encountered on reaching Fort Snelling. The government reservation is a large one, and the officers' quarters are now in comparatively new buildings half a mile from the bridge. The part next the bridge, the "lower post," as it is called, is most interesting from the historical standpoint; for here was built the original outpost in 1820, upon what was then so remote a part of the frontier that the first steamboat did not come up the river until three years later.

To reach Minnehaha by electric car it is necessary to take the Interurban line to Minneapolis and there, on the outskirts of the city transfer to a Minnehaha car making a ride of about an hour and a quarter. Besides the waterfall there is a very pretty little park about the picturesque stream, and adjoining are the buildings and grounds of the Minnesota Soldiers' Home.

A most delightful drive is out Summit avenue four miles to the river, then over Cleveland avenue to Fort Snelling, through the fort, and on two miles to Minnehaha, from which point the return may be made the same way, or the drive may be continued on by way of Minnehaha avenue to Lake street, across the picturesque Marshall avenue bridge, past the buildings and golf links of the Town and Country Club, and back to town over Marshall avenue.

TROLLEY RIDES.

A ride in an open electric car on a pleasant summer day is no mean substitute for a carriage drive, and it has the great advantage that it allows the sightseer to cover much ground in a short time. One of the finest trips of this kind may be had by taking a Como-Interurban electric car, starting in front of the Ryan, and passing in succession the new capitol, Como Park, the state fair grounds, the state agricultural college, through Minneapolis and on by Lake Calhoun to Lake Harriet, the end of the route, a ride of fifteen miles. This ride gives a very good glimpse of Minneapolis,



NEW POST OFFICE.

taken on Fifth street, one block south of the Ryan Hotel. As its name suggests, the site of the park was chosen by the aborigines for the location of a number of their curious mounds, the spot chosen being one of the highest and boldest points in the neighborhood, at an angle of the cliffs overhanging the Mississippi, and commanding a most extensive view. A pathway from the mounds



View on Summit Avenue, St. Paul.

crossing the river just above the Falls of St. Anthony, giving a sight of the extensive lumber and flour mills for which that city is famous, and after passing the business district, taking the visitor by some of the parks and fine residences.

Another trolley ride is on the swift cars that run

to Stillwater, crossing Robert street at Fifth, one block from the Ryan, and leaving every half hour. The ride is through a beautifully wooded farming country, and after touching at Wildwood, on White Bear Lake, it takes the visitor to the high bluffs of Stillwater, from which may be had a fine view of the valley of the St.



The "High Bridge" and Birds-eye View of St. Paul.



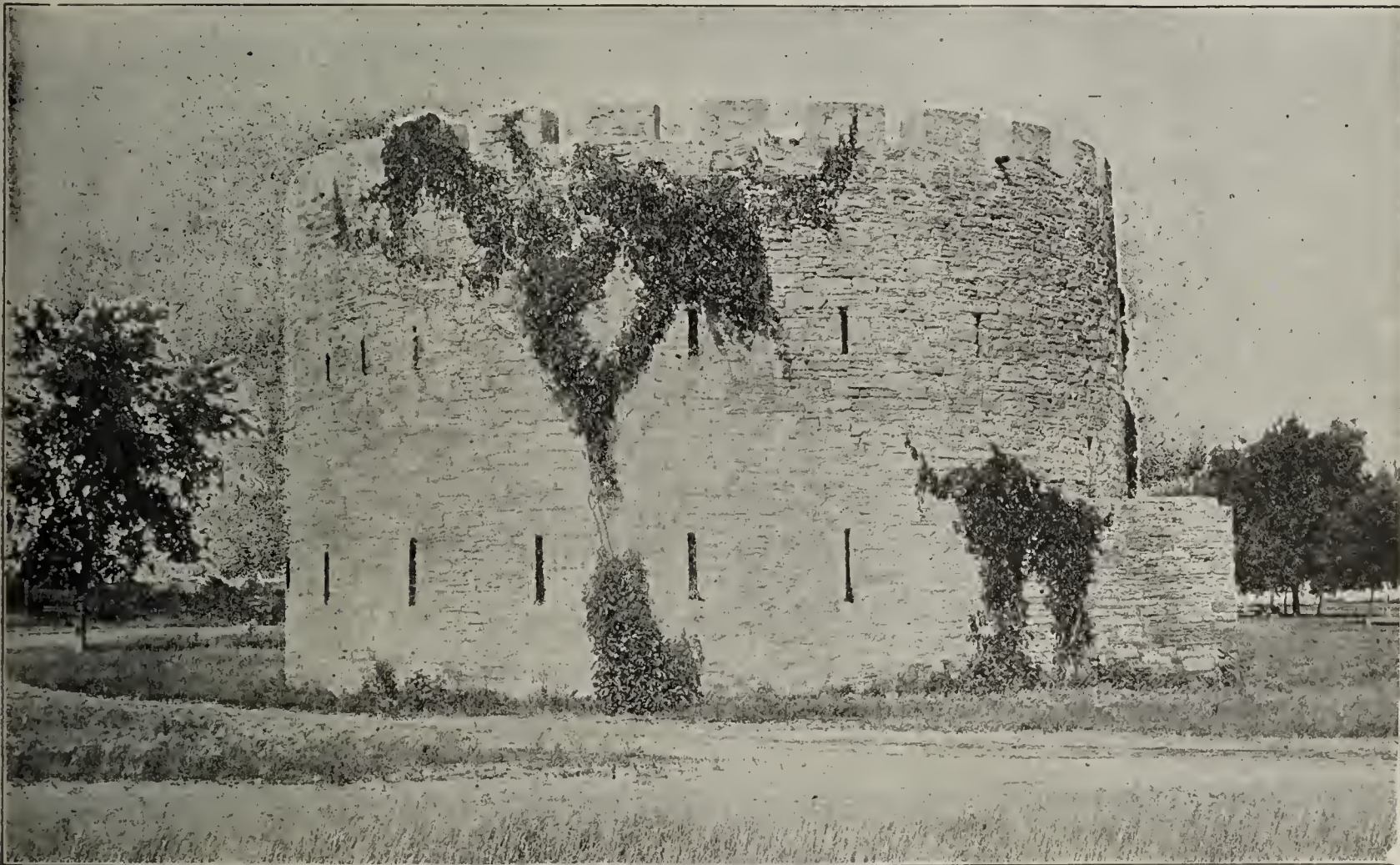
Cozy Lake, Como Park, St. Paul.

Croix. The Minnesota State Prison is situated here, and a visit to it will repay those who are interested in seeing a model penal institution.

THE YELLOWSTONE PARK.

Arrangements have been made for a trip to this de-

lightful region, to accommodate those who come to the meeting. The Northern Pacific Railroad announces that it is intended to have a special train leave St. Paul on the evening of June 7, shortly after the adjournment of the meeting, arriving at Cinnabar, Mont., about 10



The Round Tower, Fort Snelling.

Erected as a Guard-house; subsequently Loop-holes were pierced for Musketry.

a. m. on the 9th, which will enable the Park Transportation Company to reach Mammoth Hot Springs Hotel with their guests not later than 12 o'clock (noon), in time for luncheon. The regular tour of the Park will begin the following morning.

The train will be composed of a baggage-car, dining-car, and Pullman first-class sleeping-cars.

stage fares, meals on dining-cars and meals and lodging at the Park hotels, for the Park tour, which will occupy five and one-half days in the Park itself. If the road over the Continental Divide between the Upper Geyser Basin and the Lake Hotel is not passable at this earlier date, an extra day's time will be allowed at the Grand Canyon of the Yellowstone.



The condition upon which this train will run is that at least 100 tickets be sold for the round trip to and through the Park, at the price of \$85 per ticket. This rate is an unusually low one, and the special train can be justified only upon the sale of the number of tickets specified. This special ticket will include railroad fares,

Tickets for this occasion will be on sale only at St. Paul and on June 7; good for use from St. Paul on that day, but not later.

For reservations call on or address any Northern Pacific Railway General or District Agent, or write to Chas. E. Fee, General Passenger Agent, St. Paul, Minn.

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MOVABLE KIDNEY—ITS CAUSE AND TREATMENT.*

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The kidneys are usually classed as fixed organs. They, however, are not fixed but possess normally quite a range of motion. This varies from 2 to 4 cms. in a longitudinal direction and corresponds to the rise and fall of the diaphragm during respiration. As a rule the normal kidney can not be palpated through the intact body walls in men, but in women the right can be distinctly felt in a majority of the cases and the left in a smaller proportion. A kidney may often be easily palpated by one with much practice when another with less experience would fail to perceive it.

In palpating a kidney the patient, with all clothing about the body removed, should lie on the side opposite the organ sought with the head and shoulders slightly higher than the hips and the thighs gently flexed. Standing at the back of the patient the fingers of one hand are firmly pressed against the abdominal wall just below the costal arch and to the outer side of the rectus muscle while, with the fingers of the opposite hand, firm counter-pressure is made against the small triangular space just below the 12th rib behind. The patient should take a deep breath during the somewhat rapid exhalation of which, the kidney, if palpable, may be grasped between the two hands. This lateral position has been found preferable as a rule to the standing position for the reason that many patients, even with the body bent forward and the weight resting on a table, are unable to relax the abdominal muscles as completely as when lying on the side. It is often possible to palpate a kidney in the lateral position which could not be felt with the patient lying on the back.

For the sake of clearness, it is necessary to define what is meant by a palpable and movable kidney. In almost every individual not possessed of more than the average amount of subcutaneous fat the kidney may be felt in the sense that, with one hand firmly pressed in the triangular space below the 12th rib behind while deep pressure with the other hand is made in front and the patient takes a deep breath, an indistinct mass will be felt to impinge against and recede from the hand placed posteriorly. Such a kidney, however, is not said to be palpable. Only when a portion of the kidney can be distinctly grasped and outlined between the two hands is it said to be palpable. One-third, one-half or two-thirds of the kidney may thus be palpated. In case more than one-half the organ can be outlined and it can be

caused to recede out of reach during exhalation, it is said to be movable to the first degree. In case both hands can be brought together above the organ, it is movable to the second degree, and if it can be depressed to the pelvic brim or moved to or beyond the midline, it is movable to the third degree.

This classification is, of course, arbitrary but of value in facilitating clearness of description. The great frequency of movable kidney in women has only recently been realized owing to a more systematic examination of patients with this point in view. Küster¹ found that 4.41 per cent of the women in his general surgical practice had movable kidneys, while Edebohls in an exclusively gynecologic practice estimates that 20 per cent. are thus afflicted. As will be seen from the subjoined table, both of these figures are very much too low, as my figures show that 56 per cent. of the women had distinctly movable kidneys on one or both sides. What are the causes of this large percentage of movable kidneys in women? The etiologic factors usually mentioned are the following: 1. Repeated pregnancies which are supposed to act by producing a relaxation of the anterior abdominal walls, thus diminishing the abdominal pressure against the kidneys, as well as by the enlarged uterus directly displacing these organs. 2. Prolapse of the uterus and vagina with lacerations of the perineum by contributing to the reduction of intra-abdominal tension. 3. Retrodisplacements of the uterus by drawing on the ureters. 4. The rapid absorption of the perirenal fat as may occur in acute wasting diseases. 5. Drawing on the kidneys by the transverse mesocolon in enteroptosis of Glenard's disease. 6. The relaxation of the abdominal walls which follows the removal of intra-abdominal tumors or ascitic accumulations.

That these factors have very little or no influence in giving rise to movable kidneys will be clearly shown.

The fallacy of supposing that pregnancy, lacerations of the perineum, displacements of the uterus, etc., are instrumental in causing movable kidneys is unanswerably shown by the fact that over 40 per cent. of the cases of movable kidneys were found in unmarried women, in women who have thus never been pregnant, who have intact perineal floors and whose uteri are in normal position. That these factors may, and perhaps, at times do, aggravate the condition caused by other influences is admitted.

The fallacy of the theory of the absorption of the perirenal fat has been shown by Heller, and of the traction theory by Ewald. The influence of traumata both internal and external will be considered later. What then is the fundamental cause of movable kidney? This is found in the relation which exists between the location of the kidney and the body form.

The exhaustive work of Wolkow and Delitzin renders it unnecessary to enter into a study of the location of

* Read at the annual meeting of the American Surgical Association, held at Baltimore, Md., May 7-9, 1901.

1. Deutsch. Chir. Lief., B. iii.

the kidney as found in the dead-house. Conclusions, however, based entirely on dead-house findings are erroneous for the reasons that when the body is in the recumbent position the kidney assumes its highest or most cephalad location; that this location is moved still further cephalad by the final contraction of the chest at death and last because the kidney loses much of its mobility owing to the postmortem solidification of the perirenal fat.

These studies are, therefore, based upon observations made on the living subject in the examining room and on the operating table. While systematically examining patients in Litten's clinic Becker and Lenhoff² became convinced that they were able to predict from the general appearance of the body form of a woman whether the kidneys would be found palpable or not. In order to reduce this conviction to some tangible shape a series of measurements of the women examined was made which eventuated in what they termed the index of the body form. This index was obtained by dividing the distance from the suprasternal notch to the upper edge of the symphysis pubis by the least circumference of the abdomen and multiplying it by 100. They found that in women with high index the kidney was usually palpable, while in those with low index it was not palpable. The average index was 77.

They therefore divided the patients into positive or those with an index above 77, in whom the kidney could be felt, and negative or those whose index was below 75, and whose kidneys could not be felt. Before the appearance of Becker and Lenhoff's article I had made some observations on the body form in its relation to the kidney which were inspired by Küster's article in 1895, on the cause of subcutaneous lactations of the kidney and of movable kidney.³ Küster's observations I was able to confirm many times during my courses on operative surgery on the cadaver as well as by observations on the living subject. I then began a more systematic study of movable kidneys and the location of the kidney in its relations to the body form or rather the influence of the body form on the location of the kidney.

In this study certain measurements of the body were taken together with certain other data, which were supposed might have a bearing on the subject. It was soon found that the measurements taken by Becker and Lenhoff, namely the jugulo-symphysis and the least abdominal circumference, were not sufficient to give one a correct idea of the body form nor did these measurements offer, in any way, an explanation of the fact that in certain cases the kidney would be found palpable while in other cases it could not be felt. Numerous exceptions to their rule, as shown by themselves, also indicated that there were other factors which should be taken into consideration. In order to determine what those other factors were additional measurements of the body were taken, together with the following data: Sex; age; married or single; number of children; weight; height; condition of the 10th rib; accidents, such as severe falls or injuries to the body, and the condition of the pelvic organs and perineum.

For the purposes of this study the body cavity may be subdivided into three portions or zones, the upper of which contain chiefly the lungs and heart; the middle zone the liver, stomach, spleen, pancreas, and major portion of each kidney, while the lower zone contains

the intestinal canal and a minor portion of each kidney. The true pelvis may be disregarded. A transverse plane passing through the body at the lower end of the sternum proper, not the xiphoid appendix, forms the lower boundary of the upper zone, and a similar plane, which cuts the lowermost point of the 10th ribs, forms the lower boundary of the middle zone. While the plane forming the boundary between the upper and middle zones does not, of course, accurately separate the chest from the abdomen, it may be taken as such for practical purposes and has been found to be of great importance in determining the body form and in estimating the capacity of the middle zone, as will be shown in the table of measurements.

After measuring the least abdominal circumference in a number of individuals it was found that this plane was not fixed in regard to its location; thus, in women, while it usually cuts the 10th ribs, it often passed below this point and occasionally was as high as the 9th rib; in children it usually passes entirely below the ribs, often as much as 1 cm., and in men it usually passes just below the tips of the 11th and 12th ribs. It, therefore, soon became evident that this measurement should be taken at some fixed point in order to obtain reliable comparative results. As the middle zone includes that portion of the body cavity which is partially enclosed by the lower ribs, its lower boundary should correspond with the lowest point of these ribs. The 10th rib is the one which forms the lowest point laterally and in measuring the circumference of the body at this point, the tape should always rest on the lower edge of the 10th rib at its lowest part, instead of measuring the least abdominal circumference without regard to its location.

In taking these measurements the patient should lie flat on the back. If the shoulders are raised any it is very easy to shorten the jugulo-symphysis distance 1 to 3 cms., owing to the forward curve of the body. The circumference of the body at the 10th rib is first taken, and the point where this line crosses the midline is marked with a pencil. The lower end of the sternum or apex of the costal arch is marked and the circumference of the body at this point measured. The breasts should be drawn upward so as not to include the lower part of them in the measurements. Both of these measurements should be taken at the end of expiration during ordinary respiration. The jugulo-symphysis is the distance from the upper end of the sternum or suprasternal arch to the upper border of the symphysis pubis. In taking this measurement the length of each zone, upper, middle and lower should also be separately recorded. By dividing the jugulo-symphysis by the circumference at the 10th rib an "index" was obtained which in the table is marked "Index No. 1."

In measuring the circumference in the manner just mentioned several sources of error were observed which vitiated somewhat the results and occasionally made them appear contradictory. Thus it was found in measuring the abdominal circumference that the deposit of fat which rounds out the female form above the hips was occasionally so great that the circumference was increased out of proportion to the inner capacity. The same effect was produced by the muscles of the loin in some women in whom marked constriction of the lower ribs is present. The measure is increased if taken when the stomach is full or distended.

In women with a lax or pendulous abdomen with visceral ptosis the lower ribs spread considerably when the patient is lying down and the circumference is thus

2. Deutsch. Med. Woch., 1898, xxiv, S. 508.

3. Arch. f. Klin. Chir., 1895, No. 50, S. 676.

increased from 2 to 5 cms. over the same when standing. In a well-built person with firm muscles the circumference when lying differs little or not at all from the same when standing. In case the breasts are quite large, even when drawn up as much as possible, the circumference of the body at the lower end of the sternum is increased out of proportion to the inner capacity.

As the object of the measurements is to form therefrom an idea of the relative capacity of the middle zone of the body, it may be readily seen that in the cases just mentioned an erroneous conclusion may be drawn. Some method of measuring was therefore sought which would eliminate these errors. This was found in the use of a graduated calipers. By means of the calipers certain diameters of the body could be measured opposite fixed points which are less influenced by varying amounts of adipose tissue and other conditions of the body. The measurements taken with the calipers are five in number namely:

No. 1. Lateral diameter of the body on a plane corresponding with the lower end of the sternum. This plane at its widest lateral diameter usually cuts the 7th rib and the ends of the calipers are therefore pressed against these ribs and the widest diameter recorded. This measurement is called the upper lateral diameter.

No. 2. Is the middle lateral diameter and is the greatest distance between the lower edge of the 10th ribs. Care should be taken to place the ends of the calipers against the lower portion of the 10th ribs and avoid the muscular folds often present in this region.

No. 3. The lower lateral diameter is the widest distance between the crests of the ilia.

No. 4. The upper antero-posterior diameter extends from the lower end of the sternum to the spinous process directly opposite and in the same plane as the upper lateral diameter.

No. 5. The middle antero-posterior diameter extends from the midline in front to the spinous process opposite and in the same plane as the middle lateral diameter.

These measurements should be taken with the patient standing.

The cases in which these last measurements were taken in women are placed by themselves and labeled "Second Series." These five measurements present a formula which may be said to represent each a particular body form. By dividing the middle lateral diameter by the upper lateral and multiplying by 100 is obtained what is called "Index No. 2." By a careful consideration of these tables it is found that many important and interesting conclusions may be deduced therefrom.

As women are the most frequent sufferers from movable kidney they will be considered first. The cases are arranged in order, based on "Index No. 1," beginning with the lowest index and ascending to the highest. In the "Second Series" the same order is maintained, and next to "Index No. 1" is placed "Index No. 2." The indices are simply attempts to reduce to single figures the relations between certain of the body measurements, and thus represent at a glance the body form.

"Index No. 1" shows the relation which exists between the length of the body cavity and its circumference at the lower edge of the 10th rib; "Index No. 2" refers entirely to the middle zone of the body, and shows the relation which exists between the lateral diameter of the lower end of this zone and that of the upper end or, in other words, the amount of constriction or diminution of the capacity of the lower end as compared with the upper.

It will be observed that the column marked "Index No. 1," is arranged in ascending order and that the location or condition of the kidneys, as noted in the proper columns, is found to be "negative" or not palpable until the index reaches 77 to 78. In those cases in which the index is above this point either one or both kidneys are found to be palpable or movable to a greater or less degree. The exceptions to this rule will be noted later. If all cases be divided into "negative" and "positive," there will be found among the women 55 negative and 71 positive.

That all cases with a low index are uniformly negative and those with a high index uniformly positive can not be due to chance. An explanation of this fact will be found in a study of the other measurements given in the table. Weight is found to favor the negative cases, their average weight being 58.7 kgs., while that of the positives is 54.5 kgs. In height the positives exceed the negatives by 2.4 cms., their average heights being respectively 160.4 cms., and 162.8 cms. Of this increase in height one-half, or 1.2 cms., lies in the length of the body or jugulo-symphysis, and the remainder in the extremities. Average jugulo-symphysis 50.82 negative and 52.03 positive.

The interesting point in this connection is the distribution of this 1.2 cms. in the different zones of the body. The average length of the different zones are, upper zone 14.55 cms. for the negative and 14.58 cms. for the positive; middle zone 14 cms. negative and 15.1 cms. positive; lower zone 22.27 cms. negative and 22.33 cms. positive; . It will thus be seen that the lengths of the upper and lower zones remain about the same in the two classes of cases, while practically the entire increase in the length of the jugulo-symphysis in the positive cases over the negative is found to lie in the middle zone.

If we now consider the average circumference of the middle zone at its upper and lower portion we find this to measure 77.1 cms. for the upper and 69.5 cms. for the lower in the negative cases, and 73.46 cms. for the upper and 61.9 cms. for the lower in the positive cases. This is a difference of 7.6 cms., or 9.8 per cent., in the negatives, and 11.56 cms., or 15.7 per cent. in the positives. This shows that there is a marked increased contraction or diminution in size of the lower portion of the middle zone in the positive cases over that in the negative. This will be still better shown when we consider the diameters taken with the calipers.

If the middle zone were a true conic section with a greater and smaller circumference, as above given, the middle zone in the positive cases would contain nearly 800 c.cs., or 13.2 per cent., less than the same in the negative cases. This would be equivalent to the space occupied by both kidneys and the spleen. Of course, in this estimate no allowance has been made for the thickness of the body wall, nor for the marked difference between the configuration of this section of the body cavity and the external surface. It simply demonstrates that there is a marked contraction of this space in the positive cases as compared with the negative. As already pointed out, certain slight errors may occur in measuring circumferences which are practically eliminated by measuring the diameters with graduated calipers.

If we consider now these diameters, we find that in the negative cases the average upper lateral diameter is 23.62 cms.; average middle lateral diameter 20.2 cms.; average lower lateral diameter 28.7 cms.; average

upper antero-posterior diameter 16.9 cms.; average middle antero-posterior diameter 15.67 cms. In the positive cases the average corresponding diameters are:

Upper lateral	23.85 cms.
Middle lateral	17.44 cms.
Lower lateral	29.06 cms.
Upper antero-posterior	17.03 cms.
Middle antero-posterior	14.26 cms.

The difference between the upper lateral and the middle lateral in the negatives is 3.42 cms., or 14.4 per cent., and the difference between the upper antero-posterior and middle antero-posterior is 1.23 cms., or 7.28 per cent., while the difference between the upper and middle laterals in the positives is 6.41 cms., or 27 per cent., and between the upper and middle antero-posterior 3.04 cms., or 17.5 per cent. This shows that the middle zone diminishes in size from above downward nearly 100 per cent. more from side to side and 140 per cent. more from before backward in the positive cases than it does in the negative.

If we compare corresponding diameters in the two classes of cases, we find that the upper laterals are practically the same, while the positive middle lateral is 2.76 cms., or 13.6 per cent., smaller than the negative. In the upper antero-posterior there is a slight increase, 2.3 per cent., in favor of the positive and in the middle antero-posterior a diminution of 1.41 cms., or 9 per cent., in favor of the positive. If we figure the area of the lower end of the middle zone we find that it is 21 per cent. smaller in the positive cases than it is in the negative. This diminution in size is equivalent to displacing downward the contents of this space 2.6 cms. at its lower end.

It will thus be seen that these measurements, however figured, demonstrate beyond dispute that in those cases in which we find movable kidneys there is a marked diminution in the capacity of the middle zone in which the major portion of the kidney should lie, and that this diminution increases in ratio from above downward.

As the chief and characteristic peculiarity of these cases lies in the marked difference in size between the upper and lower ends of the middle zone the ratio which one bears to the other may be used as an index to express the particular body form. The ratio of the areas would be more correct. However, as it requires considerable figuring to determine this, it has been found much simpler to use the ratio of the middle lateral diameter to that of the upper lateral. It corresponds very closely to the ratio of the areas, and is determined by dividing the middle lateral by the upper lateral diameter and multiplying by 100. This constitutes what I have called "Index No. 2," and is more reliable than "Index No. 1." The average index No. 2 for the negative cases is 85.26, and for the positive 73.23.

In consulting the tables, we find that all cases with an index above 81.8 are negative and all below this number are positive. We find in the table two cases, Nos. 100 and 121, with the same index, namely 81.8, one of which is positive and the other negative. In looking at the antero-posterior diameters, however, we find a contraction of from 18 to 14, or 22 per cent., in the positive, and only from 17 to 16, or 6 per cent. in the negative, which explains the difference very nicely. Had the areas been used instead of simply the lateral diameters the indices would not have been the same. These two cases also illustrate the fact that while the index represents briefly, and in a general way the body form, it does not take into consideration all the points

and is, therefore, not entirely reliable. If all the measurements be considered, and particularly the five taken with the calipers, a formula will be obtained which represents accurately the body form.

Case No. 98 shows an error which may arise in measuring the circumference and relying on index No. 1. In this case the deposit of fat above the hips was very marked and the circumference correspondingly large. This gave a low index No. 1, namely, 73.7, which should indicate a negative case. The right kidney, however, was very easily found and freely movable to the second degree. If we consider the diameters as taken by the calipers, which eliminate the error of fat, we find the middle zone contracted from 28 cms. above to 20 below, a difference of nearly 28 per cent., and explains at once the cause of the movable kidney. Other apparent exceptions are thus readily explained when all the measurements are taken into consideration.

In what manner does a diminution of the capacity of the middle zone bring about a movable kidney? As already shown, the upper zone remains on the average practically the same in the two classes of cases. Any lessening of the capacity of the middle zone must, therefore, result in a displacement of the contents of this space downward. The liver is affected first and as it is depressed its posterior border acts immediately upon the right kidney, tending to displace its superior pole forward or to depress the entire organ. The presence of the liver explains the great predominance of involvement of the right kidney. The left kidney is not only somewhat more firmly fixed, but has pressing upon it only the small spleen and the soft yielding stomach. Although this depression of the kidney is always present as the principal determining cause, it is not the entire cause of movable kidney. The kidney is so far depressed that the constricted and narrow outlet, as it may be called, of the middle zone is above the center of the organ, so that every movement or action of the body which tends to still further contract this outlet by adducting the lower ribs, produces pressure on the upper portion of the kidney and constantly tends to press it downward. The amount or degree of mobility depends therefore not alone on the amount of constriction of the middle zone, but on the many conditions, such as heavy lifting, hard work, straining, coughing, flexions of the body, etc., which act more or less continuously by pressing the organ downward.

These various influences, which are quite numerous and so well understood that they need not be further detailed, may be summed up under the term "internal traumata." As they may vary considerably in different individuals they offer a ready explanation of the fact that different degrees of mobility may be present in individuals of practically the same body form.

It may be well now to analyze our table of women as to the etiologic influence of other factors. Measurements were made of 126 women. No attempt was made to select these cases except excessively fleshy women in whom nothing within the abdomen can be distinguished were excluded. They were examined as the occasion presented itself regardless of whether symptoms were complained of or not.

Of the 126 women 71, or a little over 56 per cent., were found to have distinctly palpable or movable kidneys. Of the 71 cases, in 35, or 50 per cent., the left kidney was also palpable or movable but seldom to the same degree as the right. In only one case was the left alone movable, and in this case, although

the abdomen was very lax and easily palpable, no evidence of a right kidney could anywhere be felt. Of the cases 81 were married and 43 single; 2 not stated. Of the 81 married women, 41, or 50 per cent., and of the 43 single women, 28, or 65 per cent., had movable kidneys. Concerning the number of children born, the negative cases show that

6 had	0 children	0 children.
4 had	1 child	4 children.
3 had	2 children	6 children.
3 had	3 children	9 children.
3 had	4 children	12 children.
4 had	5 children	20 children.
1 had	8 children	8 children.
1 had	11 children	11 children.

25 women had 70 children.

or an average of 2.8 children to each woman. In 12 cases the number of children was not known. Of the positive cases:

6 had	0 children	0 children.
2 had	1 child	2 children.
10 had	2 children	20 children.
4 had	3 children	12 children.
4 had	4 children	16 children.
2 had	6 children	12 children.
1 had	7 children	7 children.
1 had	10 children	10 children.

30 women had 79 children.

or an average of 2.6 children to each woman. In 12 cases the number of children was not known.

These facts point to the conclusion that child-bearing does not produce movable kidney and has no influence in that direction in the absence of that particular body form. That repeated pregnancies, by producing relaxation of the abdominal walls and deterioration of the general health, may induce symptoms or aggravate those already present is very probable and will be admitted. The same may be said concerning lacerations of the perineum and displacements of the uterus. In three of the negative cases complete procidentia was present. In one of the positive cases there was complete procidentia, and in one prolapsus with rectocele and vesicocele.

A most important question in this connection is the possibility of producing a movable kidney by external violence, such as a fall or a blow or injury in the region of the kidney. The importance of this question from a medicolegal standpoint makes it necessary to enter into it somewhat in detail. It is usually stated in textbooks, and it is a common belief, that movable kidneys are frequently the result of an injury. This is but another of the numerous post hoc propter hoc errors. An individual falls or meets with an accident in which the body is bruised or injured in some manner and an examination sometime thereafter reveals the presence of a movable kidney. It is immediately concluded that the accident bears a causal relation to the movable kidney without stopping to consider whether the movable kidney may not have been present long before the accident and in no manner influenced thereby. Several facts have contributed in giving origin to this belief.

1. The fact may be mentioned that the large majority of physicians are still unfamiliar with the great frequency of movable kidney in women. A physician of considerable experience recently stated it was a very rare condition and in all of his experience he had seen but four cases.

2. In many cases movable kidney gives rise to no appreciable symptoms, and in a large majority of those

in whom distinct symptoms are undoubtedly due to the movable kidney the patients themselves are unaware of the cause of their symptoms and often, unfortunately, the attending physician as well.

3. There is no means of determining how long a kidney has been movable.

For the same reasons many writers on this subject have over-estimated the causal influence of trauma. Most of the cases recorded as due to trauma will not stand criticism. Sulzer,⁴ in regard to this relation, says: "However, one will have to be very careful in judging of these relations for, on the one hand, we know from other diseases how readily people in general refer their troubles to a particular injury and, on the other hand, we shall see later, that upon the occasion of a fall or exertion, etc., a movable kidney which is already present may suddenly present severe so-called strangulation symptoms and thus becomes first known to the patient or physician after it has existed without symptoms for months or years." After considering the anatomic fact of the looseness of the peritoneum covering a movable kidney, he says: "The acute origin of a movable kidney, if it occur at all, is, then, only possible when owing to a congenital or acquired looseness of the peritoneum the disposition to the trouble already exists." He further states: "The question whether an acute traumatic origin of a movable kidney be possible may be very important in a medicolegal relation or in insurance business and I believe that without the acceptance of a particular abnormal body condition a movable kidney can never be the immediate result of a trauma." Sulzer arrived at these conclusions after a study of the cases in which a movable kidney was supposed to have resulted from an accident, and owing to the fact that the peritoneum which covers the kidney in front and aids in holding it in place is very much relaxed in movable kidney and this relaxation or pouching is so great that it can not be produced suddenly any more than a large hernial sac can be produced suddenly. Keller⁵ is also of the opinion that this condition can not be produced suddenly, but requires a considerable time for its development and, therefore, a kidney with a distinct range of motion discovered immediately or soon after the receipt of an injury must have been movable before and its mobility can not thus have been caused by the injury.

Concerning the traumatic origin of movable kidney, Büdinger⁶ says: "When the kidney is fixed they (traumata) are able to produce only the first step, while the formation of the typical movable kidney requires still other conditions. A sudden marked dislocation presupposes an extensive loosening of the kidney, and not only that, but a space below the kidney with a considerable change in the relations of the peritoneum."

Güterbock (quoted by Büdinger) concludes from a study of injuries to the kidney, "that a typical movable kidney does not occur as a result of trauma, but only a loosening of the organ which later may lead to mobilization unless the kidney becomes fixed by adhesions. But even if one disregards the demand that a traumatic movable kidney must show relations analogous to the anatomic findings of the classical movable kidney, the number of such cases is very small in which, in the living subject, a connection between the injury and the mobility with certainty can be demonstrated. The pain

4. Deutsche Zeit. f. Chir., 1891. B. xxxi. S. 506.

5. Deutsch. Chir., Lief. 67.

6. Mittheil. ans d. Grenzgebiet, 1898-9. No. 4. S. 265.

Number.	FEMALES.	Age.	Married or single.	No. of children.	Weight.	Height.	Circumference at lower end of sternum.	Circumference at lower edge of 10th rib.	Jugulo symphysis.	Length of upper zone.	Length middle zone.	Length of lower zone.	Lateral diameter, upper.	Lateral diameter, middle.	Lateral diameter, lower.	Anterior-posterior diam., upper.	Anterior-posterior diam., mid.	Condition of 10th rib.	Index No. 1.	Index No. 2.	Right kidney.	Left kidney.	Remarks.
1	N. McL.	27	S.	66	161		78	50.5	25	12	23.5							L.	64.7		N.	N.	Abdominal wall quite lax.
2	Maude F.	36	M.	1 92.7	166		83	79	52	16	13	23						F.	65.8				Abd. wall loose; Lac. cervix; u. normal.
3	Emma S.	35		5 73	156		83	76	51	14	13	24							67.1				Abd. very lax; tip of R. K. can be felt but not movable.
4	Mary H.	54		11 60.5	154		73	69	47	15	13.5	18.5							68				Operation for gall-stones.
5	J. K.	40		2 79	164		91	83	57	17.5	12	27.5						L.	69				
6	K. W.	21		3 67	159			72.5	51	13.5	13	24.5							70				
7	Josie S.	27	S.	68	160		80	71	49	16	11	22						L.	69				
8	L. V.	31	M.	59				70	49	14.5	12	22.5						L.	70				
9	F. D.	25		0 55	157		76	68	49	13	15	21						F.	72				
10	D. A.	30		1 66	157			72	52	15	13	24						L.	72				
11	H. A. M.	42		0 73	160			73	53	15	11	27							72				
12	Mrs. C.	35		54.5	155			69	49.5	13	17	19.5							71.7				
13	O. B.	49			161			74	54	16	15	23							73				
14	A. A.	35		66	164			68	50	13.5	15.5	21							73.5				
15	Nellie K.	30		61	160		75	68	50	16	13.5	20.5						F.	73.5				
16	Mrs. W.	34		61	165			68	50	15.5	15	19.5						L.	73.5				
17	M. C.	37		62	157			68	50	14.5	12	23.5							73.5				
18	J. H. M.	30		0 65	164		79	74	54.5	16	14	24.5							73.6				
19	May M.	40			164		85	72	53	16	14	23							73.6				
20	A. C. L.	56		4 95				76	56.5										74				
21	E. H. L.	51			167			70.5	52	17	12	24							73.7				
22	Hulda S.	32	S.	0 49			74	64	47.5	14	15	18						F.	74.2		2d	1st	Both kidneys enlarged from tuberculous pyelonephrosis.
23	C. S.	22		0 71	169		79	71	53	13.5	16.5	23						L.	74.5		N.	N.	No corset worn.
24	G. P.	34	M.	66	166			72	54	15	11.5	27.5							75				
25	E. I.	31		0 50	151			64	48	13.5	15	19.5						L.	75				
26	Mrs. N.	24		62	163		75	68	51	14	14	23							75				
27	A. A. S.	34		57	154			67	51	13	15	23							76				
28	E. E. M.	39		61	162		75	67	51	13.5	16	21.5						F.	76				
29	Annie A.	31		0 65	165		82	71	54	15.5	15	24.5						F.	76				
30	I. L. M.	37		0			78	68	52	14.5	14.5	24							76.4				
31	Mrs. C.	35		6 77	164		85	72	55	15	15	25						9-10 L.	76.4		2d		Had fall, striking on head and back. Six miscarriages; lacerated perineum. rectocele, cystocele; 3 years ago fell six feet from stepladder.
32	Mrs. H.	27		63	165			66	51	15.5	14.5	21							77.3				
33	Kate F.	31		1 52	159		77	66	51	15	17	19							77.2		1/2		Three miscarriages; pulmonary tuberculosis; has lost much weight.
34	Sigrid P.	22	S.	0 68			77	66	51	15	15	21							77.2		N.		
35	M. B.	57	M.	67	162		82	68	52	14	14	24							76.4		2d	2d	Marked visceral ptosis; abdomen quite fat; fall on back 1 1/2 years before.
36	Augusta F.	27	S.	0 53	165		77	65	50	15	14	21						F.	77		1/2	N.	
37	F. S.	21		0				68	53	16	12	25							78		2d		Fall on buttocks 8 mo. before; operated for append. 6 mo. before; nephropexy. Chest deformed; marked projection forward of ribs on right side.
38	Miss E.	26		0 69.5	170		76	69	54	16	14	23						F.	78.2		1st		Procidentia uteri.
39	A. B.	27	M.	54.5	159			62	50	14	16	20						L.	80.6			1/3	R. K. operated in 1899, in New York; tip of R. K. only palpable in 1900.
40	D. McL.	25		55			79	67	53	12.5	18.5	22							80		2d	N.	One year ago kidney more fully movable than at present; much pain in back.
41	Mary McC.	38	S.	0 57.2	162		73	65	52	14	13	25						F.	80		1st		Had fall in 1898.
42	P. D. R.	41	M.	4	162		74	62	50	15	15.5	19.5							80.6			1/2	Abdomen very lax; standing, 58.
43	Carrie L.	41		10 45.5	156		70.5	60.5	49	13	14	22							81		2d	1st	Uterus and perineum normal.
44	L. A.	29		0 58			75	65	53	15	16	22						L.	81.5		1st	N.	Pregnant three months.
45	Mrs. D.	40		2 58			75	64	52	14.5	15.5	22						L.	81.2		2d		
46	M. C.	21	S.	0 54	162			63	52	16	12.5	23.5							82.5		1/3	1/3	
47	H. B.	40	M.	0	162			61.5	50.5	14.5	17	19							82.1		3d	N.	Never pregnant; hysterectomy two years before; severe symptoms.
48	L. W.	54						64.5	53	14	14.5	24.5							82.1		1st		Right inguinal hernia for years; fall on back one year before.
49	W. C. W.	31		2 51	159		70	69	48.5	12.5	15	22						F.	82.5		2d		Perineum normal, uterus retroverted; nephropexy and shortening round liga.
50	H. S.	60		2	167			65	53	15	16.5	21.5						L.	81.5		1st		Neurasthenia.
51	C. A.	30	S.	0 44	153			57	47	13	15	19							82.4		2d		
52	A. L.	22		0 64	165			66	54	15	15	24							81.8				
53	E. H.	37	M.					61	50	16.5	14.5	19							82		1st		Retroflexio-uteri.
54	T. H. B.	26		0 46	154		70.5	58	48	13.5	14	20.5						L.	82.7		1/2		One miscarriage at seven months from fall; left salpingitis.
55	Annie J.	29	S.	0 62	166			57	55.5	15.5	13	27							82.8		1st		
56	Mrs. P.	38	M.	45.4	156			59.5	49.5	14	14.5	27							83.2		2d	1st	Perineum and uterus normal.
57	Mamie C.	27		0 58	161			61	51	15.5	13.5	22							83.6		1st	N.	Perineum and uterus normal.
58	Miss B.	37	S.	0 50	162		73.5	63	53	14	14	25							84			1/2	Salpingitis, small fibroid of uterus; salpingectomy and myomectomy.
59	N. K.	40	M.	4	164			65.5	55	14	14	27							84		2d	2d	Perineum and uterus normal; fall 1 1/2 yr. before, fracturing left 10th rib.
60	F. G.	34		3 63	168			68	57	16	16.5	24.5							83.8			1/2	Slight laceration of perineum; ut. norm.
61	Mrs. S.	32		59	157			59	49.5	13	15.5	21							84		1st	N.	
62	I. S.	38		48	156			57	48	15	13.5	19.5							84.2			1/3	Perineum and uterus normal.
63	N. S.	28	S.	0				59	50										85		2d	N.	Nephropexy.
64	Mrs. G.	37	M.	66	177		77	66	56	15	16	25						F.	84.8		2d		Two years before fell down stairs; had right perirenal abscess.
65	Mrs. S.	24		1 52	157		67	56	48	13	14	21							85.7				Abd. muscles firm; worked in dry goods store 4 1/2 years; lifting overhead boxes.
66	Miss F.	21	S.	0	163		71	57.5	49.5	13	17	19.5						L.	86			N.	Nephropexy, May, 1898; Dec., 1900, kidney still in place.
67	Fl'r'nce H.	31		0 53.6	163		73	61	53	13.5	15	24.5						F.	86.8			1st	Worked in dry goods store for several years. Quite severe symptoms.
68	Mrs. B.	39	M.	4 66	172		77.5	63	55	16	18	21							87			N.	Uterus normal at times; slight laceration of perin.; perineorrhaphy, nephropexy.
69	S. S.	29		2 57	163		5	59	51	15	13.5	22.5							86.4			1st	Laceration of cervix, perineum; epilepsy.
70	Cora N.	26	S.	0 54.5	170		69	57	50	13	17	20						F.	87.7				Fall on back 4 mo. before; been troubled with urinary symptoms long before fall.
71	A. H.	44	M.	49	155		68	56	49	13	15	21							87.5				Hysterectomy for fibroids.
72	W. A. M.	33		2 51	165			60	53	19	13	21						L.	88		1st	N.	Laceration, cervix and pelvic floor; retroversion and prolapse of uterus.

Number.	FEMALES.	Age.	Married or single.	No. of childr'n.	Weight.	Height.	Circumference at lower end of sternum.	Circumference at lower edge of 10th rib.	Jugulo-symphysis.	Length of upper zone.	Length middle zone.	Length of lower zone.	Lateral diam-eter, upper.	Lateral diam-eter, middle.	Lateral diam-eter, lower.	Anterior-post. diam., upper.	Anterior-post. diam., mid.	Condition of 10th rib.	Index No. 1.	Index No. 2.	Right kidney.	Left kidney.	Remarks.
73	R. L.	37	S.	0	165			60	53	15	17.5	20.5						F.	88		2d	"	Cystitis.
74	Mrs. E.	24	M.	1	160			56	49.5	14	16	19.5						L.	88.4		"	"	
75	Miss R.	33	S.	0	161			56	49.5	14	15.5	20						L.	88.5		1st	½	
76	L. C.	20	M.	2	160	67		56	50	14	16.5	19.5						F.	89.3		2d	"	Laceration cervix: retroflexio-uteri.
77	M. H. W.	31	"	2	165	71		59	53	15	15.5	23.5						L.	90		2d	½	One miscarriage, uterus norm.; had fall.
78	A. L.	29	"	3	163			61	55	14	15.5	23.5						L.	90		1st	½	Left ovary prolapsed and tender.
79	H. A. P.	25	S.	0	169			58.5	53	15.5	13.5	24						L.	90.5		"	½	
80	Mrs. J.	26	M.	0	161			58	53	13.5	15.5	24						L.	91.3		½	½	
81	Miss S.	23	S.	0	164	68		57	54	14	16.5	23.5						L.	94.7		2d	1st	
82	Miss B.	36	"	0	162	72		61.5	55	15	15	25						"	89.4		"	"	Right kidney somewhat enlarged.
83	D. R.	28	"	0	153	66		51	51	14	16	21						"	100		1st	"	Pyelitis of R. K.; probably tuberculous.

SECOND SERIES.

84	A. N.	43	M.	8	160	76.5	71	49	14	13	22	23	21	29.5	17.5	16	F.	69	91.3	83.4	N.	N.	
85	M. C.	53	"	2	157	83	72	51	14	13	24	24	20	32	17	17	"	70.8	83.3	83.3	"	"	
86	C. P.	69	S.	0	153	74.5	65.5	46.5	14.5	12.5	19	25	21	30	17.5	15	L.	71	84	72	"	"	
87	A. S.	34	S.	0	160	78	70	50	13	15.5	21.5	23	20	30	17.5	16	F.	71.4	87	79.5	"	"	
88	J. C.	33	M.	3	155	74	67	48	14	13.5	20.5	24	20	29	17	15	L.	71.6	83.3	73.5	"	"	
89	E. M.	32	"	1	170	83	73	53	15.5	13.5	24	26	21	30	18	16.5	F.	72.6	80.8	74	"	"	
90	T. N.	30	"	4	155	78	70	51	14	15	22	26	22	29	16	17	"	72.8	84.6	89.9	"	"	
91	S. F.	45	"	5	165	75	68.5	50	15	14	21	23	20	29	17	14	L.	73	87	71.6	"	"	
92	G. P.	45	S.	0	152	74.5	64	47	14.5	12	20.5	24	20	25.5	17	15.5	F.	73.4	83.3	76	"	"	Hystero-myomectomy for immense fibroids filling abdomen.
93	A. L.	30	M.	3	162	71	68	50	15	14	21	24	21	29	18	17	"	73.5	87.5	82.6	"	"	
94	M. J.	36	S.	0	167	80	74	54.5	14.5	14.5	25.5	23	20	29	18	16	F.	73.6	87	77.5	N.	N.	
95	S. A.	43	"	0	152	71	66.5	49	14	15	20	23	20	29	15	14	L.	73.6	87	81.1	"	"	
96	A. G.	38	"	0	162	72	66.5	49	14	13.5	21.5	22	17.5	27	17	15	"	73.6	79.5	70.2	½	"	Very lax abd. wall; palpable, not movable.
97	E. G.	42	M.	5	157	70	64.5	47.5	15	14.5	18	24	20	28	16	14	F.	73.6	83.3	73	½	"	
98	J. D.	33	"	7	162	81	70.5	52	16	15.5	21.2	28	20	30	19	15	"	73.7	71.4	56.4	2d	"	
99	S. B.	59	"	4	155	68	65	48	14	12.5	21.5	22	20	27	16	15	L.	73.8	90.9	85.2	N.	"	
100	I. C.	44	"	1	157	73	65	48	13	14	21	22	18	27	17	16	F.	73.8	81.8	77	"	"	
101	N. W.	41	S.	0	162	71	67.5	50	15	15	20	22	19.5	28	15	15	"	74	88.6	88.6	"	"	
102	J. T.	36	"	0	152	79.5	67	50	13	15	22	26	21	28	16	15	L.	74.6	80.8	75.7	"	"	
103	G. B.	55	"	0	163	75	65	49	14.5	13.5	20	23	17	30.5	17.5	14	"	75.3	73.9	59.2	2d	"	Lax abd.; lower ribs flaring.
104	M. W.	28	M.	5	160	76.5	67.5	51	13	17	21	25.5	22	28	15	16	"	75.5	86.2	86.8	N.	"	Very lax; viscera easily palpable.
105	R. H.	46	S.	0	172	76	68	52	14	16.5	21.5	22	20	30	19	16	F.	76.4	90.9	76.5	"	"	
106	E. S.	33	"	0	160	71	64.5	50	13	15.5	21.5	23	20	29	17	16	"	77.5	87	81.8	"	"	
107	D. B.	44	M.	3	162	78	68	53	16.5	15.5	21	27	20	30	17	15	L.	77.8	74		2d	½	Enlarged gall-bladder filled with stones; well defined Riedel's lobe; cholecystostomy, nephropexy.
108	M. B.	29	"	1	162	75	67.5	53	15.5	15	22.5	23	19	27	18	16	F.	78.5	82.6	73.4	N.	N.	
109	T. O'B.	32	"	2	165	77	66	52	15	15	22	24	20	30	18	17	"	78.8	83.3	78.7	"	"	
110	H. S.	27	S.	0	158	82	67	53	14	17	22	27	20	31	18	15	L.	79.1	74	61.7	2d	"	Received severe jar against back 1 month before.
111	H. J.	47	M.	2	162	70	63	50	13	15	22	23	16	28	17	14	"	79.3	69.5	57.3	Tip	1	R. K. movable; nephropexy was done a year before. (60 standing.)
112	M. W.	32	S.	0	161	73	63	50	16	14	20	25	20	29	16	15	F.	79.3	80	75	1st	"	Abd. lax; nothing in location of R. K. can be felt; has vent. hernia fol. laparotomy.
113	K. C.	43	M.	2	167	81	70	56	16	16	24	25	17	29.5	15	15	L.	80	68	49.4	2d	N.	Marked visceral ptosis.
114	E. H.	37	"	0	162	71	61	49	14	14	21	22	17	28			"	80.3	77.2		2d	"	Had fall from tree at 18: was laid up 5 mo.
115	M. L. W.	30	S.	0	157	71.5	65	53	14	16.5	22.5	22	16	28	18	15	"	81.5	72.7	60.6	2d	"	Had fall from street car 1½ years before; was doubled up by footboard.
116	Lury W.	"	M.	2	153	73	62.5	51	13	14	24	25.5	16	28	17	15	F.	81.6	71.1		2d	½	
117	A. L.	37	"	6	170	77	68.5	56	14	16	26	25.5	18	32	16	16	L.	81.7	70.5	70.5	3d	1	
118	B. S.	34	"	4	165	76	61	50.5	16.5	14.5	19.5	24	17	27.5	17	14	F.	82.8	70.8	58.3	1st	N.	
119	C. B.	31	S.	0	165	74	59	50	13.5	14.5	22	22	16.5	26	18	13	L.	84.7	75	54.4	"	½	
120	M. McK.	47	"	0	172	72.5	61	52	14.5	16.5	21	23	18	30	17	13	F.	85.2	78.2	60	"	"	
121	F. Van D.	40	M.	3	167	72.5	62	53.5	15.5	14	24	22	18	30	18	14	L.	86.3	81.8	63.6	"	"	
122	A. S.	32	"	1	160	77.5	61	53	14	15.5	23.5	25	17	29	17	12	"	86.9	68	55.3	2d	"	
123	J. A.	32	S.	0	172	70.5	58.5	51.5	15.5	16	20	23	17	30	16	13	F.	88	73.9		1st	"	
124	E. K.	34	"	0	177	73.5	63.5	56	16.5	17	22.5	23	17	32	18	15	"	88.2	73.9		3d	½	Mucous colitis.
125	K. H.	28	"	0	167	69.5	56	52	15	14.5	22.5	25	17	27	17	14	L.	92.8	68		1st	N.	
126	H. V.	23	"	0	152	66	56	52	14.5	16	21.5	20	15	26	16	14	F.	92.8	75		"	"	

Number.	CHILDREN.	Sex.	Age.	Weight.	Height.	Circumference lower end of sternum.	Circumference lower edge of 10th rib.	Jugulo symph.	Length of upper zone.	Length middle zone.	Length lower zone.	Lateral diameter, upper.	Lateral diameter, middle.	Lateral diameter, lower.	Ant-post. diameter, upper.	Ant-post. diameter, middle.	Condition of 10th rib.	Index No. 1.	Index No. 2.	Right kidney.	Left kidney.	Remarks.
1	G. O'C.	F.	3.5	13	89		42	29	8.5	9.5	11							70				
2	C. E.	M.	12	38	154	73.5	65	45.5	14	12.5	19	25	22	26	18	17	L.	70	88			
3	G. S.	M.	4	14	91.5		43	31	9.5	10.5	11							72				
4	E. B.	F.	8	17	113		46	33	9	9.5	14.5							72				
5	C. Y.	M.	10	26	129		53	39	11	12	15.5							74				
6	H. S.	"	9	25.4	124		52	39	11	14	14							75				
7	W. K.	"	14	56	173	75	68	51	16.5	16.5	18							75				
8	J. F.	"	11	31	140	67	59	45	12.5	13	19.5							76				
9	H. E.	"	7.5	21	112.5		50	38	10	15.5	12.5							76				
10	A. M.	F.	6	20	115		51	39	10.5	14.5	14							76.5				
11	H. G.	"	16	53	167	73	63.5	50	13	15	22							78				Chronic appendicitis; operation.
12	E. M.	"	16		149		61	49	13.5	14	21.5							80		N.		
13	M. S.	M.	6.5	17	107		47	37.5	11	13	13.5							80		N.		
14	C. S.	F.	9	22	126		49	39	10	16	13							80		"		Colored.
15	M. H.	"	11	29	144	62	54	44	12	13	19							81.5		"		
16	R. S.	M.	6	15	106		43	35.5	10	13	5							82				
17	A. E. J.	"	16	54	166	71	63	52	16	16	20							82.4		1/2		Thrown out of wagon; broke leg.
18	M. G.	F.	16	63	163	73	64	53	14.5	15.5	33							82.8		1st. N.		Two falls. Three years ago, fell, striking side on sled; two years ago, fell down stairs
19	M. O'C	"	12	36.3	151	69	59	49	13.5	14.5	21	21	19	23	17	17	"	83	90.5	N.		
20	M. B.	"	10	27	132		51	43	10.5	14.5	18							84		"		
21	W. H.	M.	11	35	148	67	57.5	48.5	13.5	14.5	20.5							84.3		"		
22	H. W.	F.	10	25	129	57.5	51.5	44	12	16	19							85		1/3		
23	E. P.	"	13	37	153	61	51.5	44	12	15	17							85		Tip		
24	G. H.	"	16	48	162		58.5	50	12	16	22							85		1/2		Chronic appendicitis.
25	A. P.	"	14.5	40	155		55.5	48	14	16	18							86		Tip		
26	S. N.	"	9	26	132		50	43	11.5	14	17							86		N.		
27	H. G.	"	14		159		54.5	47.5	13	5	5							87		"		Tall, slim; rapid growth.
28	I. T.	M.	7	21	116		46	40	11	6	13							87		"		

Number.	MALES.	Age.	Weight.	Height.	Circumference lower end of sternum.	Circumference lower edge of 10th rib.	Jugulo. symph.	Length of up- per zone.	Length middle zone.	Length lower zone.	Lateral diam. upper.	Lateral diam. middle.	Lateral diam. lower.	Antero-post. diam., upper.	Antero-post. diam., middle.	Condition 10th rib.	Index No. 1.	Index No. 2.	Right kidney.	Left kidney.	REMARKS.
1	G. H. . . .	32	89	177	91	89	56	15	18	23							63				
2	Mr. — . . .	50	83	170	90	83	53	16	15	22	29	25	29	19	20		63.8	86			
3	W. C. S. . .	39	67			76	49	15	13	21							64.4				
4	Mr. L. . . .	45	84.5	177.5		88	58	16	18	24							66				
5	C. W. M. . .	23	86	181		87	58	18.5	16	23.5							L. 67				
6	Mr. J. . . .	41	77.3	175	89	79	55	17	16	22							F. 69.6				
7	F. E. . . .	30	67.7	172	84	74	52	18	15	19							F. 70.2				
8	J. F. . . .	33	70	173	86	75	53	18	16	19							70.6				
9	L. B. F. . .	36	69	176	81	76	54	16	17.5	20.5							71		Negative		Chronic appendicitis.
10	V. E. R. . .	22	77	170	87.5	72.5	52	15.5	18.5	18							L. 71.7				
11	T. C. . . .	30	66	178	80	71	52	15.5	18.5	17							F. 73.2				Chronic appendicitis; operation.
12	C. C. . . .	40	62	166		75	55	17	16	20							73.3				L. A. C. 73. Professional tumbler, well developed.
13	J. F. W. . .	31		171	80.5	69.5	51	15	17	19	25	22	27	19	19	Tip	73.3	88			
14	B. M. . . .	35	61	164		70	52	16.5	17.5	18							74.2				
15	F. H. V. . .	40	60			68	51	18	14	19							67				
16	C. C. . . .	30	70	172	85	73	55	18	15	22	29.5	25	28	18	17		L. 75.3	84.7			L. A. C. 71.
17	C. K. . . .	25	62	172	75	66	50	16	17	17							L. 75.7				
18	H. F. . . .	26	70	180	80	71	54	15	18	21							76				Chronic appendicitis. Operation.
19	Mr. P. . . .	56	55.4	165		66	50	16	16	18							75.7				[bloody urine.
20	E. R. . . .	23	63		81	71	54	16.5	19	18.5							76		2nd		In 1882 fell 8 ft. on buttocks; in 1900 fell 6 ft. Had
21	B. E. V. . .	42	66	184	80	73	56	18	16	22	26	22	29	19	18		F. 76.7	84.6	1/3		1/2 of kidney felt, but not movable, slender, chronic
22	G. H. . . .	27	73	180	83	72	56.5	18	17	21.5							78.4		N		[appendicitis.
23	R. A. C. . .	43	75	176		74	53	17.5	21	19.5							L. 78.4		1/2	1/3	Valvular heart disease. Enlarged liver and spleen.
24	G. C. A. . .	20	55	175	73	66	52	15	17	20							78.8		1/2	1/3	
25	L. O. B. . .	19	55	178		70	55	16	20	19							L. 78.6		N	N	Very thin. Rapid growth. Chronic appendicitis.
26	J. B. . . .	45		177		68.5	55	19	19	17							80.3		N	N	Emaciated. Carcinoma of stomach.
27	M. T. M. . .	23	64	175		67	57	16	21.5	19							85		1/4	N	

in a movable kidney which was discovered immediately after an accident is not the slightest proof of any connection between the accident and the movable kidney, nor are all other subjective symptoms of any proof so long as it can not be demonstrated with unequivocal certainty that the kidney before that time was not movable."

A simple fall is insufficient to give rise to a movable kidney in the presence of normal relations. The injury must be severe enough to produce a rupture or laceration of the tissues which normally surround and fix the organ, in which case symptoms sufficiently marked to direct attention to the nature of the injury will always be present. The kinds of injuries most liable to produce such lacerations are:

1. Severe falls upon the buttocks in a sitting position.
2. The body is thrown violently against some object striking the region of the kidney so as to forcibly adduct the lower or loose ribs. The same effect is produced if the object be movable and the body stationary.
3. This region of the body is compressed between two opposing forces. Such injuries may produce lacerations of the perirenal adipose tissue with the formation of a perirenal hematoma which may vary much in size. These hematomata are retroperitoneal and it is the exception when the peritoneum is torn. Symptoms of sufficient severity to direct immediate attention to the region of the kidney are always present in case of laceration with the formation of a hematoma of any material size. The swelling produced by the hematoma may also be usually felt on palpation, although the tenderness may be so severe as to interfere in this direction. Accompanying the absorption of such an hematoma an increased amount of connective tissue usually forms in the adipose capsule which may fix the kidney more firmly than before. On the other hand the hematoma may dissect up the perirenal fat or lead to the formation of a perirenal serous cyst in the loose space of which the kidney may move about and thus an injury may be the direct cause of a movable kidney.

The symptoms which immediately follow the injury will direct attention to this possibility, but such cases are rare. Of course an injury may produce a laceration of the kidney proper without the formation of a perirenal hematoma or the two conditions may co-exist.

When the kidney substance is lacerated or the pelvis opened the presence of hematuria will direct attention to the fact.

It should be remembered that in the presence of a movable kidney a slight injury, such as a fall, or jarring of the body, or straining at lifting, may produce a slight hematuria for a few days without the occurrence of a material lesion in the kidney or other symptoms particularly referable to this organ. In fact this is so common that the presence of such an hematuria following a slight injury should at once suggest the possibility of a movable kidney and lead to an examination with this point in view. The more often such examinations are made immediately following such injuries the less often will it be found that the injury had aught to do with causing the movable kidney.

The fact that a movable kidney is surrounded by a loose peritoneal and connective tissue pouch which must necessarily be of slow formation, precludes the possibility of a movable kidney being produced suddenly by an injury. It is in just this class of cases that the value of correctly estimating the body form by the measurements as herein mentioned is so apparent. Thus if a woman with an unmistakable body form of the positive type present herself with a movable kidney which is said to have followed an injury it may with practical certainty be asserted that the movable kidney is the result of the body form and arose independently of the injury. The injury but calls attention to a condition already present but perhaps unrecognized. Of course it is not denied that a movable kidney may be aggravated by an injury or that such a kidney may be injured by external violence as well as a kidney that is fixed.

Of the cases comprising the table there were two belonging to the negative type in which a history of an accident, such as might have injured a kidney, was present, but in neither of these could the kidney be felt.

Of the positive cases, 7 gave a history of a fall or other injury. One, No. 70, was not aware she had a movable kidney, but gave a history of unmistakable symptoms referable to the urinary organs and stomach which antedated the injury, thus clearly eliminating the injury as a causal factor in the movable kidney.

In Case No. 110 the injury, a jarring of the back, was claimed as the cause of the movable kidney. She

was examined within a month after the injury, when the kidney was found so freely movable and so devoid of tenderness and the injury was so slight as to preclude the possibility of a causal connection.

Case No. 42 had a fall, injuring the knee, but the region of the kidney was not involved and the presence of the movable kidney not suspected.

In Case No. 59 the injury was undoubtedly instrumental in producing the mobility of the left kidney. The right kidney was also very movable, but this was an old condition. Following a rather severe injury to the left side in which the left 10th rib was fractured there developed a large swelling, hematoma, about the left kidney which was very painful, was accompanied by hematuria and confined the patient to bed for several weeks. The swelling was several months in disappearing and a year after the accident the kidney was still somewhat enlarged, tender and movable. In this case there was no question as to the injury to the kidney and its surroundings.

In Case No. 37 it was first thought that the injury bore a causal relation to the movable kidney. A chair was removed from behind the patient as she was about to sit down. She sat down on the floor very heavily. Considerable pain and tenderness in the right side with light fever followed for some time. The tenderness was so limited to the region of the cecum that chronic appendicitis was diagnosed. Some two months later the appendix was removed. It was not found to be directly involved but recent adhesions were found between the cecum and ascending colon and the abdominal wall. Six months later the patient returned, still complaining of pain in the back and right side. The freely movable kidney was now recognized and nephrorrhaphy performed with relief from the symptoms. It seems probable, after reviewing this case with the knowledge furnished by the two operations, that the kidney was movable at the time of the fall and that the sudden motion given to it by the fall produced the mild traumatic peritonitis about the cecum and colon which produced the symptoms. At the operation on the kidney there were no evidences found of an old hematoma nor of unusual formation of connective tissue.

In Case No. 114 the injury, a fall from a tree, occurred twenty years ago and the history was too indefinite and remote to be considered at this date.

Case No. 35 was a poor, hard-working woman with a pendulous abdomen and marked visceral ptosis. A year and a half before, she fell on her side on the street. Both kidneys were movable to the second degree, and it was claimed that the fall was responsible for this condition. The fall, however, was not a severe one; no complaint was made at the time of any trouble in the region of the kidneys; the pendulous abdomen and visceral ptosis were present for a long time before the fall. It is more than probable therefore that the kidneys were movable at the time of the fall and that the injury had no effect whatever on them. Thus of the 7 cases in only one had the injury any causal relation to the movable kidney and in this case a material lesion in the shape of a large perirenal hematoma was present which was distinctly recognized at the time and which produced severe symptoms confining the patient for several weeks to bed.

Based upon these facts it may be concluded that the popular belief in the traumatic origin of movable kidney is not supported by the evidence, and that it is highly improbable that a single injury, such as a fall, which

does not produce a material lesion of the perirenal tissues recognizable by well-defined symptoms is ever the immediate cause of a movable kidney.

It would be of considerable interest to know at what age or period of life the body form becomes established and how soon it influences the location of the kidney. I have not sufficient data at present upon which to base an opinion on this point, and it can only be determined after a systematic examination of a large number of individuals during the developmental period.

The measurements of a number of children are contained in the table, but the number is too small to permit of an analysis. It is evident, however, that in early childhood there is no material difference in the body form of the two sexes. The number of men upon whom measurements have been made is also too small to establish normal averages, and as there was but one case of movable kidney in the number no differences can be drawn between negative and positive cases. The measurements taken, however, show that the lower zone is much smaller than in women, while the middle and upper zones are larger. The increased size of the middle zone is particularly suggestive, inasmuch as movable kidney is so rare in men compared with women. The tendency is to a low index No. 1, and a high index No. 2, which is characteristic of the negative body form. The man in whom the movable kidney was found had two or three severe falls of several feet, one of which was followed by hematuria and distinct evidences of a lesion of the kidney.

Stiller has somewhat recently called attention to the association of a loose or floating 10th rib and movable kidney. He claimed the association was so constant as to establish a relation between the two, and a floating 10th rib was therefore called the "Stiller stigma," or the Stiller sign of a movable kidney.

The condition of the 10th rib was noted in 110 of my cases, 49 of which were negative and 61 positive. Of the negative cases the 10th rib was found loose in 26 and fixed in 23. In the positive it was loose in 38, fixed in 22, and in one case both the 9th and 10th were loose. By the term "loose" is not necessarily meant absolutely free and floating, as are the 11th and 12th ribs, as this condition is not common, but in case the attachment of the rib to the costal arch was so slight as to permit considerable free motion independent of the costal arch it was said to be "loose." In case the attachment was so firm as to prevent any material independent motion it was said to be "fixed." From my examinations, therefore, Stiller's observations can not be confirmed. While a loose 10th rib is the rule in women it bears no definite relation to the presence or absence of a movable kidney.

The contraction of the middle zone explains the great frequency with which the so-called vertical stomach is associated with movable kidney as the pylorus and upper duodenum descend more or less with the kidney while the cardia remains fixed by the esophagus.

It is not the intention to discuss the clinical aspect of movable kidney, hence the symptomatology, diagnosis, etc., will be passed without further remarks.

Concerning the treatment, attention will be briefly directed only to the method of operating, but it is not to be understood by this that it is necessary to operate all cases, as such is far from being the case. However, when it is decided that the symptoms with which a patient suffers are due to the movable kidney there is little reason to hope for permanent relief by any other

method than that of operative fixation of the organ. The tendency in recent times has been to fix the kidney too high up, apparently from the idea that the disturbances were due rather to the fact that the kidney was too low than that it was too freely movable. If the points brought out in this contribution are correct, the descent of the kidney has been brought about by the fact that the middle zone of the body cavity, in which the major portion of this organ normally should lie, is too small to contain it. It would therefore appear unreasonable to attempt to fix the kidney in a cavity too small for it and from which it had been ejected.

Should this be done, however, the same factors which caused the kidney to become movable in the first place are again brought into action with the probabilities of a recurrence. Or should the kidney be so firmly fixed in a high position that it can not again be displaced, symptoms even more severe than those for which the operation was undertaken may result. The author has recently seen two such cases operated on by most excellent surgeons, one in Chicago and the other in New York, with perfect operative result. The kidneys were high and firmly fixed, yet in both cases suffered infinitely more after the operation than they did before, and in one case the suffering became so intense that about two years after the first operation relief was obtained by removing the kidney entirely.

The principle then that should guide us in fixing a movable kidney is to take into consideration the body form and fix the organ in a location where it will not again be subjected to the same influences which caused its descent. This means that the kidney should not be crowded up to the highest point, but fixed lower down, in an easy position and so the ureter will escape at the most dependent part. If this be done the chief cause of relapse will be removed. The method of operating is as follows:

A muscle splitting incision is made, beginning a little in front of the tip of the 12th rib and extending downward, forward and inward in the line of the fibers of the external oblique muscle. These are separated bluntly and then the fibers of the internal oblique and transversalis, which cross the line of incision at almost a right angle, are separated in the same manner. The peritoneum is carried inward and the perirenal space entered. All the perirenal fat is removed, but the prerenal fascia is carefully preserved. The upper portion of the ureter should be examined to see that it is not fixed and thus become flexed or kinked by moving the kidney. The prerenal fascia with the peritoneum covering it, and to which it is usually quite firmly attached throughout its anterior and inner portions, forms the pouch or sac in which the kidney moves. This space, bounded by the prerenal and retrorenal fasciæ, sometimes called "Gerotta's space," is somewhat triangular in shape, with its apex extending downward toward the brim of the pelvis.

The object of the operation is to so close this space and contract the pouch or sac that the kidney will no longer have a free space in which to move. This is accomplished by closing this space from before backward with catgut sutures. The colon lies just anterior to this space and should not be injured. Should the pouch in which the kidney moves be very large and bulge the peritoneum to the inner side of the colon, a small opening may be made into the peritoneal cavity just to the outer side of the colon and the sutures passed through the mesocolon from within, thus approximating

this layer to the posterior abdominal wall and obliterating or diminishing the pouch. By passing the sutures in this manner the danger of including the colica dextra or sinistra artery, as the case may be, in them is avoided. The branches of the lumbar plexus of nerves on the posterior wall should also be remembered and care taken not to include them in the sutures.

The effect of suturing in this manner is to obliterate the space in which the kidney has been moving up and down. The outer edge of the prerenal fascia is then sutured to the lumbar fascia posterior to the line of incision through the walls. By drawing more on the upper or lower portion of the fascia the kidney may be rotated on its antero-posterior axis as may be necessary in order to bring the ureter at a proper dependent position. When the operation is finished the kidney will be found firmly held in position, yet not so fixed that it can not move up and down slightly, as a normal kidney should during respiration. All abnormal excursions of the kidney, however, are completely arrested although the organ occupies a lower position than normal. No stitches involve the kidney substance. This operation was not of sudden birth, but of gradual development during the past three or four years. Clinically the results have been good, and in patients examined as long as two years after the operation, the kidney has been found still in the location in which it was fixed, and without any increase in its range of motion. In closing, the following conclusions are presented.

1. The essential cause of movable kidney lies in a particular body form.

2. The chief characteristics of this body form are a marked contraction of the lower end of the middle zone of the body with a diminution in the capacity of this portion of the body cavity.

3. This diminution in the capacity of the middle zone depresses the kidney so that the constricted outlet of the zone comes above the center of the organ and all acts, such as coughing, straining, lifting, flexions of the body, etc., which tend to adduct the lower ribs press on the upper pole of the kidney and crowd it still further downward.

4. It is the long continued repetition, in a suitable body form, of these influences, which collectively may be called internal traumata, that gradually produces a movable kidney.

5. A distinctly movable kidney is never the immediate result of a single injury or external trauma.

THE APPENDIX VERMIFORMIS AND CECUM. A COMPARATIVE STUDY. (1814-1901.)

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It will be the province of this paper to deal rather extensively with the comparative study of the appendix vermiformis and cecum of a few of the members of each of the four divisions of the sub-kingdom, Vertebrata. It will be shown that the appendix vermiformis is not found exclusively in the mammals, but is also found in birds, reptiles and fish.

MAMMALS.

The colon is largest in mammals, and its junction with the ileum generally has a single cecum. The anthropomorphous apes, such as *Hylobates* (gibbons), *Simius satyrus* (orang), *Troglodytes* (chimpanzee and gorilla), each possess a cecum, with a processus vermiformis or appendix, while the cynomorphous apes,

(dog-like) babboon, and mandril, etc., each have a small cecum without an appendix, as do also the *Platyrrhina* (flat nose) monkeys. The long-tailed monkey has a cecum of pyramidal form. In the other order of mammals the cecum is generally present, but the appendix vermiformis is absent with but few exceptions. In the various prosimials—earlier ancestors of monkeys—and in many rodents, the cecum gradually narrows into a vermiform appendix. In the carnivora, the cecum is short, and even absent in the bear, hedgehog and weasel. It is large in the herbivora, while the lagomys has one large and one small cecum. The small intestine in the camel is 71 feet long, the colon and rectum 56 feet and the cecum 3 feet long. The cecum is capacious at first, then narrow to form spiral convolutions which taper off. The small intestine of the elephant is 38 feet in length, the colon and rectum 20½ feet and the cecum 11½ feet long. The horse has a small intestine 56 feet long, the colon and rectum 21 feet and the cecum 2½ feet long; the cecum in the young graminivorous mammalia, while in the suckling stage, is as little developed as it is in the carnivora throughout their lives.

The hog, cow, sheep, and rhinoceros each possess a very large cecum, while that of the tapir is small. That of the hog is one-sixth the capacity of the stomach, and is that portion of the alimentary tract used for sausage casings.

None of these animals, from the camel to the hog, just mentioned, possess an appendix vermiformis, although the carnivora, as a rule, have an appendix. In the dog and cat it is especially large, even though Huxley has stated to the contrary concerning the dog, in which there is an appendix as great in diameter as the gut to which it is attached. The whale has a cecum but no appendix. The manatee has two vermiform appendices, while the seal has only a cecum. The beaver has a cecum 2 feet long. In the rat the cecum is as long as the stomach, while in the hare there is a glandular structure near the valve of the colon, which corresponds to the vermiform appendix. The cecum itself is enormous in size. The galeopithecus and koala, like the Indris, also have enormous ceca. The ceca of the mammalia depend on the required amount and kind of food. In man, various apes, and monkeys the cecum is at first as large as the colon, or it grows wider until, at last, it contracts to form a vermiform appendix. The opossum has a very simple and short cecum in proportion to its size.

Among the marsupials the wombat is found to possess an appendix very much like that in man. While the kangaroo has a large cecum without an appendix. The *Dasyuridæ*, another family of the marsupials, has no cecum at all. The monotremes possess small worm-like ceca which suggest the belief that the appendix of the wombat is an abruptly atrophied form of the free end of the cecum. This is borne out by the fact that the lemuroids have a very long cecum, drawn out into an elongated conical termination. The armadillo and hyrax have more than one cecum, the former having two and the latter three. The *myrmecophaga didactyla*, one of the ant-eaters, has two ceca. This fact not only bears out the allegations of some writers that the ant-eaters are nearly related to the birds, but, in connection with the fact that other animals also have more than one cecum, proves the truth of evolution.

In general the digestive organs in man in the healthy

state resemble those of the carnivora in youth, and in later years those of the herbivora.

Those animals which live upon highly nutritious food that requires but comparatively few changes to prepare it for absorption into the body have small rudimentary cecum or none at all, while those that feed on vegetable matter possess a rather large one. It is highly probable that the cecum in the vegetable eaters plays an important part in the digestive process. The continued presence of the cecum in the higher orders of vertebrates is evidence of Nature's attempt to make use of an organ that has lost its original functions. Nature does not believe in idleness; there can be no existence without work.

BIRDS.

The ceca (or vermiform appendix) opening into the rectum of birds are particularly long in domestic fowls, such as the pheasant, peacock, turkey, goose, swan, and others that live on vegetables. It is less so in the owl, cuckoo, crane, snipe, and pelican. It is still shorter in the dove, and hoopoes. The ostrich has a cecum possessed of a spiral valve, as have also the raven, thrush, finches, etc. It is shortest of all in the diurnal birds of prey, such as eagles, hawks, and falcons. The cecum is single in the titmouse, storks, and gulls, but spirally convoluted in the heron, bittern (shitepoke—Indian hen), and divers in general. It is wanting in parrots, pickers, king-fishers, and cormorants. In birds the ceca are generally paired and vary in extent from short papillæ to long tubes. These long tubes are found in the chicken, duck, and in the lowest of all recent birds, namely, the kiwi-kiwi (*apteryx*), a wingless bird found in Australia only. Two rectal appendices are found in the guinea-hen, while all birds generally have two ceca. The owl's cecum is longer than any of the carnivorous or piscivorous birds—two ceca. Common ducks have two ceca—eight and nine inches long, widest at the middle, forming a cone. A duckling three weeks old has a cecum three inches long. The common pigeon—*Columba livia*—has two small ceca.

REPTILES.

Reptiles as a class have no cecal appendix; some snakes have a cecum, others have but a rectal cecum. A long cecum was found in a large African snake. The chameleon differs from lizards that live upon animal food in having a short cecum. The iguana also has a short cecum. The land tortoise of South Carolina has a cecum immediately behind the stomach, which is simply a pouch with an oblique valvular opening.

FISH.

In many instances there are a great number of appendices known as pancreatic ceca, about the stomach of fish, as shown in the white salmon (*Stizostidium Americanum*), commonly called the wall-eyed pike, in which seven appendices pylori are found, tassel-like in appearance. These are especially found in the salmon and common trout. They are numerous in the sturgeon, and in the sword-fish they are consolidated into a mass glandular in appearance. But in the polyodon sturgeon they are separate. They are numerous in the gar pike and many higher fishes. They are, however, more numerous and very long in the ling, cod-fish and mackerel, and still more numerous in the Teleosteans in which the number of appendices varies from 1 to 200. The pilchard has 50 and the whiting about 120. They also vary in size and width. The narrowest serve only as secretory organs; the wider are frequently filled with the same contents as the intestines. The secretion of

these appendices corresponds to that secreted by the pancreas in man, and is just as important in the process of digestion. The Bicher, found in the Nile, possesses only one appendix, while several of the soles have but two small pyloric ceca. The food-fish has two large ones. Bony fishes as a rule have several or many cecal pouches attached to the commencement of the alimentary canal. The cecum is absent in the carp, eel, lamprey, ray, shark, and many others; however, they are extremely numerous in the electric eel.

It is interesting to know that pyloric ceca have been found in types of still lower subkingdoms.

The common cockroach (*Pesiplaneta orientalis*) has a whorl of eight ceca arranged around the commencement of the chylific stomach, the function of which is probably analogous to that of the liver.

The cellar slug (*Limnea flavus* S. varagatus) has a cecal projection at the pyloric end of the stomach.

The starfish are the lowest class of animals in which a distinct cecum is found. The radial arrangement of the digestive or hepatic ceca may be found in the first ray.

CECUM AND VERMIFORM APPENDIX IN MAN. ANATOMY.

The minute structure of the appendix offers a wide and unbroken field for research. There is very little literature on the histology of the appendix, either normal or pathologic. It is known, however, that the appendix resembles in a general way the other intestines in structure. The little that is known can be comprised in the statement that the fibers are arranged spirally, and that adenoid tissue is found in its structure. A fold of peritoneum forming a mesentery is often found, the blood supplied by a branch of the superior mesenteric artery which varies in size. The nerve supply to the superior mesenteric artery extends from the small intestine and large bowel and from the appendix to the splenic flexure.

APPENDIX VERMIFORMIS.

This is attached to the lower and back part of the cecum. It is a long, narrow, worm-like tube. It varies from one to sixteen inches in length, and its normal diameter also varies greatly. Usually it points upward and inward behind the cecum. It has been found absent but five times in 10,000 autopsies. This is probably due to it being covered by peritoneum, for when so concealed its presence can not be detected by sight or the sense of touch. Its length, diameter, position and caliber of its lumen greatly vary. An infant at the time of birth may have an appendix as large in every particular as a giant. The valve of Gerlach is proportionately larger in infancy than in old age, the after-stenosis is probably due to prolonged irritation.

THE CECUM.

In man the cecum is $2\frac{1}{4}$ inches in length and 3 inches wide. It is the most dilated part of the tube, measuring $2\frac{1}{2}$ inches in the vertical and transverse diameters. It varies in position, but usually rests upon the psoas muscle, placed so that the apex projects beyond the inner border of that muscle in the male. In the female the apex lies internal to the psoas muscle as the pelvis is broader, thus causing that muscle to deviate more to the right than in the male.

The apex may be internal or external to Poupart's ligament, upon the pelvis brim, or within the pelvis and covered entirely by the peritoneum, a condition not infrequently found.

In the new-born child the cecum is quite undeveloped and the difference in size between the large and small intestine is nearly imperceptible. This is true in health during youth. In the middle age only does the cecum become much more extended than the small intestine.

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ZOOLOGY IN THE MEDICAL SCHOOL CURRICULUM.

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Let it be admitted from the start that this paper is written from the standpoint of a zoologist, hence that it is not entirely free from the charge of being a biased statement; let it also be admitted that the medical school curriculum is already full to overflowing; further, that it is not the function of a medical faculty to give to a man a general education, but rather to teach him to diagnose diseases and prescribe treatment.

In order to avoid misunderstanding, the writer makes these admissions at the outset; yet he nevertheless contends that zoology should have its place in the medical curriculum, just as much as should chemistry and botany. It is not contended that elementary or general zoology should be taught, any more than it would be contended by a chemist or by a botanist that elementary or general chemistry or botany has an inherent right to representation. All fair-minded men will, however, admit that a medical curriculum which failed to recognize certain specialties of chemistry and botany, for instance toxicology and bacteriology, would indeed appear strange and would not be entirely free from criticism.

To the writer, as a zoologist, it seems no less strange that few medical schools in this country recognize medical zoology as one of the subjects to be taught. Nor does this fact appear to be explained by any requirements of a general or special knowledge of zoology before beginning to study medicine. On comparing the medical schools of America with those of Europe, it may be noticed that the transatlantic faculties, almost as a rule, either require zoology of a student before he begins medicine, or require it during his course, or offer it to him as an elective. Of American medical faculties—not including the veterinary schools—there are only three, so far as my personal knowledge goes, which recognize medical zoology in the curriculum.

I do not refer in this paper to histology and embryology, which all medical schools teach more or less, nor even to teratology and evolution; but reference is made to the practical and intimate relation which zoology bears to disease and to public hygiene. And it is submitted that since medical schools prepare students to practice medicine, medical zoology should be included in this preparation, with just as equal right as medical chemistry or medical botany. It is submitted

that just as we give special lectures on the chemicals (poisons—biochemistry and toxicology) and plants (bacteria—bacteriology) which cause disease, so if our instruction is not to be one-sided, we should also give courses on the animals which produce pathologic conditions.

Such a course should be placed in the third or fourth year of medical studies. Experience has, in fact, taught that it is not altogether satisfactory to give these lectures to the second and still less to the first year men. The course should be composed of both lectures and laboratory work. Text-book work is not entirely satisfactory, because the works on medical zoology thus far published are either treatises which are more suited as works of reference than they are as text-books, or are too brief and "too zoological" to be of much practical use. Moreover, with all the new work in this line, the subject advances from day to day, so that at present text-books published prior to 1900 are already more or less out of date. The instructor should not spend his time discussing the newest theories of cytology and heredity, but should bring forward practical zoologic information of which the physician can make practical use. The amount of such data will depend primarily on the amount of time allotted to him and on his own experience in the zoologic groups in question. The ideal plan is that followed by the Paris School of Medicine, where there is a regular chair of medical natural history, now occupied by Raphael Blanchard, who takes up such biological subjects as in his judgment are useful to the students. He can, for instance, give a course on parasitic diseases one term for the entire class, a more special one on teratology another term, while during a third he may take up some other special field, of interest perhaps only to a few students, hence only a few will attend.

Such an arrangement is scarcely feasible at present in the majority of American medical schools. Some instruction is, however, feasible, and as a basis for this I would present the following as a general outline: Two to six lectures may be given as an introduction, according to the time allotted. In these may first be discussed the different degrees of parasitism, and the relation of parasitism to climate, seasons, age, sex, race, personal habits, etc.; the different ways in which parasites affect their hosts; the general and public hygienic measures; the classification of parasites. At this point an hour should be given to a discussion of the classificatory names and the rules which govern them—rules of nomenclature. The object of presenting this rather special subject to medical students is to show them the methods of nomenclature followed in a science where we deal with hundreds of thousands of technical names, basing their use on a certain system; by so doing we can give to some of the future bacteriologists the experience of a century and a half of nomenclatural work in zoology, so that they may some day succeed in rescuing the nomenclature of bacteriology from the frightfully chaotic state into which it is falling, or has already fallen.

From this subject the lecturer can pass to the lowest animals, and discuss *Amiba coli*, described as the cause of amibic dysentery; after reviewing the various other amibæ reported for man—for instance, *Amiba intestinalis*, *A. urogenitalis*, *A. buccalis*, etc., he can take up the three parasites of malaria—*Plasmodium malariae*, *P. vivax*, *P. præcox*—and discuss the disease from a zoologic standpoint, its transmission by *Anopheles*, but not by *Culex*, etc. Next, reference would naturally be

made to Texas fever, caused by another sporozoon—*Piroplasma bigeminum*—for which a tick known as *Boophilus bovis* is the intermediate host. The national economic importance of and quarantine against the disease can be referred to; also the economic importance of diseases of fish produced by the Myxosporidia, and of silkworms, produced by Microsporidia; the Sarcosporidia, as well as Gilchrist's Coccidioides, and the parasitic theory of cancer should, of course, be mentioned.

Passing up in the animal kingdom, the various ciliate and flagellate parasites of man—none of them of much medical importance—can be touched on; then the medicinal sponges should be exhibited, while they and the coelenterata can be described in the various medical relations—as accessory instruments, as instruments for murder, as cause of urticaria, as producing shock, as treatment used in various countries.

Next naturally follow the trematode worms, which are parasitic in man—*Monostomulum lentis*, *Agamodistomum ophthalmobium*, *Fasciola hepatica*, *Fasciolopsis Buskii*, *Paragonimus Westermanii*, *Dicrocoelium lanceatum*, *Opisthorchis felinus*, *O. sinensis*, *Heterophyes heterophyes*, *Schistosoma hæmatobium*, *Amphistoma hominis*. Most of these parasites have been unimportant for the American medical profession, up to the present time, but now that *Paragonimus* is established in this country, it becomes of no little importance as a cause of parasitic hemoptysis and Jacksonian epilepsy. Furthermore, our troops being in Asia, now make *Opisthorchis* and *Fasciolopsis* important genera for us.

The tapeworms come next: *Tænia solium*, *T. saginata*, *T. confusa*, *T. africana*, *Dipylidium caninum*, *Hymenolepis murina*, *H. diminuta*, *Davainea madagascariensis*, *Dibothriocephalus latus*, *D. cordatus*, *Diplogonoporus grandis*, *Ligula Mansonii*, and the troubles they produce; also hydatid disease and pseudotuberculosis caused by larval tapeworms.

It seems remarkable to me that most physicians do not appear to go beyond the fact that a patient has a tapeworm. What particular species is present does not interest him. This lack of detail is a natural result of not presenting to the students the difference in medical importance represented by the various species.

Following the tapeworms, the round worms of man may be discussed: *Ascaris lumbricoides*, *Oxyuris vermicularis*, *Strongylus longevaginatus*, *Uncinaria duodenalis* and its relation to anemia, *Diocetophyme renale*, *Trichuris trichiura*, *Trichinella spiralis*—as cause of trichinosis—*Filaria* and elephantiasis, *Strongyloides* in diarrhea, *Gordius*, *Mermis*, and *Gigantorhynchus*.

After the worms come the parasitic arachnoidea: *Sarcoptes*, the cause of itch; the national economic importance of *Psoroptes*; *Demodex*; the ticks; and *Linguatula* and *Porocephalus*. Here are also discussed the poisonous spiders, scorpions, etc. Then the insects, both as pests and as transmitters of disease; finally the poisonous snakes.

I do not insist that every physician should keep the above scientific names in mind, but I do submit that with so many American troops in the East, every physician who pretends to know that tuberculosis is produced by the *Bacillus tuberculosis* should also know that parasitic hemoptysis—so common in Asia, and already introduced into this country—is caused by *Paragonimus*; I will not insist on his being able to recall all the various liver-flukes by their eggs or names, but it is not unreasonable to maintain that he should know that quite a common liver disease in Asia is caused by

Opisthorchis sinensis, while the Russian troops—with whom our troops have been associated—are subject to *O. felinus* (*O. tenuicollis*); hence some of the liver troubles of which our returning troops are likely to complain can be diagnosed only by recognizing the eggs of these worms in a microscopic examination of the feces. I do not argue that our medical students should be able to distinguish the millions of insects in the world, or that they should make a collection of beetles instead of bones, but in view of the demonstration that certain species of mosquitoes, belonging to the genus *Anopheles*, transmit malaria, other mosquitoes belonging to the genus *Culex* transmit filarial elephantiasis, and *Culex fasciatus* is now alleged to transmit yellow fever, it does not appear extreme to advance the view that physicians should know something about the breeding habits of these insects. It is not the intention to try to introduce abstract zoologic work into medical colleges, but when we consider how often patients are treated for worms when they have none, and how often they have some which for a long time escape diagnosis it seems justifiable to suggest that if medical students were taught how to distinguish the eggs of various orders by a microscopic examination of the feces, the liability to error in diagnosis would be diminished.

The time will probably never come when our professors of practice will think it best not to discuss malaria, dysentery, trichinosis, and other diseases associated with animal parasites, and we should in fact be opposed to having the clinical side of these maladies turned over entirely to zoologists. Still, the subject of practice is so broad that no one man—not even an Osler—can hope to keep up to date in the entire literature bearing on all its phases. By common consent the chair of practice surrenders the phytoparasites to a botanist or a bacteriologist, and my contention is that if our medical schools are to keep abreast of the times in practice, pathology, and hygiene, the subject of animal parasitism should be treated in a special course, by a special man, preferably by a professional zoologist, if the services of one who has worked in the groups in question can be obtained, otherwise by a physician who has had a general zoologic and special helminthologic training.

Such a course as outlined above should be allotted between twenty and thirty lectures and at least three laboratory exercises, although under pressure the field may be covered—though with less satisfaction to the instructor—in about eighteen lectures.

ANTIPNEUMOCOCCIC SERUM TREATMENT OF PNEUMONIA, WITH REPORT OF CASES.*

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DISCOVERY.

In 1888 Netter rendered mice and rabbits immune to pneumonia by injecting them with a fluid prepared from the dried spleen of infected animals. Later he used an old pneumococcus pleuritic exudate, and still later the sputum of a pneumonia patient after the crisis.

* Read before the Denver and Arapahoe Medical Society, Feb. 12, 1901.

Foa was able to produce, in animals, an immunity lasting several months, by injecting a serum made by a precipitation of a bouillon culture of the pneumococcus with ammonium sulphate and repeated filtration. His method was to inject the filtrate intravenously into rabbits for three or four days. Later he made an extract of the muscles and viscera of a rabbit, dead of pneumonia; precipitated it in the same way, used it in the same manner, and was able to produce the same immunity; though a similar extract from a healthy rabbit produced no effect.

Klemperer Brothers experimented with a pneumococcus pleuritic exudate which was demonstrated, by cultural methods, to contain no living organisms. They injected two rabbits with 20 c.c. each, and fourteen days later they inoculated both these animals with a virulent culture of the pneumococcus. Both survived, though the control animal died. They also succeeded in rendering dogs immune. Later they demonstrated the curative properties of the serum of animals rendered immune to pneumococcus infection.

Pane and De Renzi inoculated animals with the pneumococcus, and from them obtained a powerful antipneumonic serum. They submitted their results to the Medical and Surgical Academy of Naples, and this body, after repeated tests, declared the serum to be of great value. The harmless character of the serum was also established by the injection into men of 200 c.c. in twenty-four hours, without the experience of any inconvenience. The Klemperers advanced the theory that during the course of pneumonia there is developed in the blood a poisonous albumin called pneumotoxin, and that the system elaborates an antipneumotoxin, this latter substance causing the crisis. They were able to demonstrate the presence of the antipneumotoxin in the blood of pneumonia patients after the crisis; and they also succeeded in curing the disease in animals by the use of antipneumotoxin.

NATURE.

Vaughan considers that the action of the serum is antimicrobial and not antitoxic. McFarland says the nature of the serum is uncertain; it may be antitoxic or antimicrobial, probably antimicrobial. Lambert considers that it may be bacteriolytic in its action.

A. H. Smith says whether the antitoxin is the product of the pneumococci or is simply the result of changes going on in the leucocytes, preparatory to their disintegration, is not yet determined. Smith also cites an observation of Pinna that the pus obtained by injecting turpentine into the cellular tissue of a man, the pus being proved absolutely sterile, had the power, when injected into rabbits, of rendering them immune to inoculations with pus containing pneumococci, though the unprotected animals inoculated in the same manner died of pneumococcus septicemia within thirty-six hours. Smith adds: "It would appear from this that the pus itself, apart from any microbial action, possesses antitoxic properties."

Tizzoni claims that the serum is not only protective against the pneumococcus, but that it protects against reaction to small fatal doses of the tetanus bacillus, while on the other hand the tetanus serum renders the animal less susceptible to pneumococcus infection, and McFarland cites an instance where it protected against the streptococcus.

It may safely be concluded that antipneumotoxin is not a bactericide. The pneumococcus is not killed by contact with it. Instead, the organism multiplies, de-

velops, and retains its virulence under these conditions. On the other hand, the antipneumococcic serum, when injected into animals, prevents the development of symptoms due to the formation of pneumotoxin. If pneumotoxin alone be injected into a rabbit, it causes rise of temperature, toxemia, and death from general pneumococcus septicemia; but if the pneumotoxin be mixed with antipneumococcic serum and injected, no rise of temperature nor other symptom develops. It is probable, therefore, that the serum does not prevent the development of pneumotoxin, but that it either renders the pneumotoxin inert through chemical processes or else it counteracts its effects.

PREPARATION.

Some experimenters have used a glycerin extract of the muscles and viscera of immune animals. Others have obtained the serum direct from different animals. That the different methods of preparation influence the result to some extent is proved by the observation of Lara, who stated that the serum from dogs caused nervous excitement, while that from rabbits produced general agitation and a temporary aggravation of the disease. It is therefore important to determine what method is used in the preparation of the serum employed, in order to properly interpret the effects reported.

Washbourn used essentially the same method as that employed in producing diphtheria antitoxin. A pony was inoculated with cultures of the pneumococcus, for three months. At the end of this time the animal was found to possess marked immunity. In order to increase the virulence of the pneumococcus Washbourn devised a special method of culture and kept the culture in an incubator at 37.5 C. for sixty-six days, and he states that the serum may also be accurately standardized.

McFarland states that the same process applies to the manufacture of the antipneumococcic serum as applies to the manufacture of diphtheria antitoxin, except that it is necessary to cultivate the pneumococcus by a special method. He first injects virulent bouillon cultures which have been killed by heating to 60 C. for one hour. After the horse has stood injections of increasing doses, living cultures are given in increasing doses until the horse no longer reacts. The protective character of the serum is demonstrated against living organisms injected into rabbits. Then the horse is bled, the serum is treated with trikresol and in this shape it is put upon the market.

REPORT OF CASES.

Lara reported the results of 10 cases treated prior to Dec. 2, 1892; 5 were cases of double pneumonia, 5 single; 8 were young persons, 2 were advanced in years; 6 were robust, 4 debilitated. He employed different sera; in some cases using that from immunized rabbits; in other cases from dogs, and in still others the glycerin extract of the viscera; no local reaction followed any injection. The rate of the pulse was unchanged, but its character was altered. There was no immediate change in respiration, but after a time it became slower. In every case the crisis occurred from the third to the fifth day; convalescence was rapid and complete and the complications were rare and of little gravity. In all but three cases reduction of temperature followed the injection. Lara was encouraged by the results.

Oct. 31, 1896, De Renzi reported 16 cases, 2 of whom were treated in 1894-95, both recovering. During 1895-96, 12 recovered and 2 terminated fatally. Feb. 27, 1897, Washbourn reported 1 case of his own who recovered and 1 case of Pye-Smith, also with recovery. April 18,

1897, Spurrell reported 1, the patient dying. May 22, 1897, A. Cooke reported 2 cases, both of whom recovered.

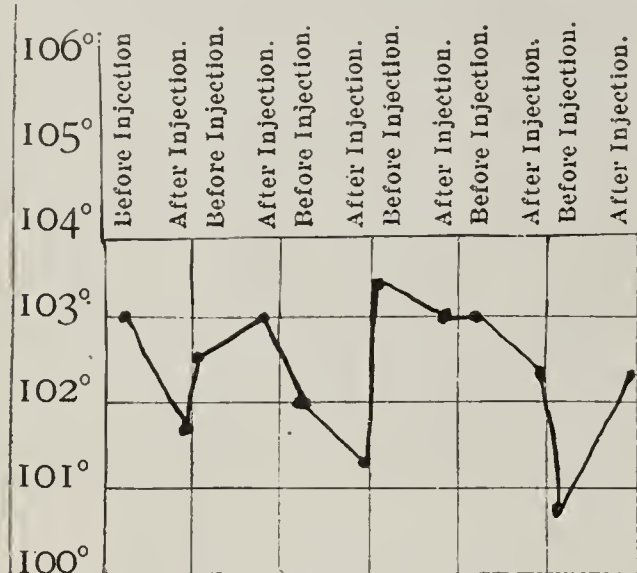
On the same day Harnett reported 1 in an alcoholic, terminating in recovery. Dec. 25, 1897, Washbourn reported 6 cases, all terminating in recovery. Jan. 30, 1898, Pane reported 9, of whom 8 recovered and 1 died. He stated that in the 8 patients who recovered, rapid improvement followed the use of the serum, and there were no ill effects. During 1898 De Renzi reported 10 additional cases, all of whom recovered. Feb. 15, 1898, Weisbecker reported 21 with 19 recoveries and 2 deaths. He stated that the results were most striking, there being a notable change for the better in the patient's general condition. Of the 2 fatal cases, 1 was due to emphysema and the other patient was 78 years old. May 7, 1898, Fanoni reported 1 case treated with De Renzi's turkey serum, with recovery. In October, 1898, Marsalongo and Franchini reported 10 cases with 7 recoveries and 3 deaths; the three fatal cases being alcoholic subjects. Aug. 26, 1899, Fanoni reported 5, with 4 recoveries and 1 death. The fatal case was a female patient, and her death should not really be attributed to pneumonia, as she was in full convalescence when pericarditis or endocarditis developed, causing her death. In March, 1890, Canby reported 4 cases, all of whom recovered, 1 being his own case, 1 a patient of Dr. Frey, and 2 patients of Dr. Everhart. April 14, 1900, Lambert reported 12 cases of his own, with 9 recoveries and 3 deaths; he also quotes Bozzolo as having treated 5, with 4 recoveries and 1 death. Lambert's experience with Pane's serum was unfavorable, but he states that this was probably due to the fact that the serum was old; he then substituted serum from horses and had better results. He states that the serum does not seem to have any effect on the process in the lungs nor to hasten the crisis, but that in certain instances it does prevent the development of a pneumococcus septicemia; and in these cases it may save life. Sept. 8, 1900, J. C. Wilson reported 18 patients treated at the German Hospital, Philadelphia, the usual treatment at the hospital being given simultaneously: 2 were women and 16 men; the youngest was 15, the eldest 48; all were working people and most of them were occupied up to the time of the attack. Of the 18 patients, 14 recovered and 4 died. Wilson used small doses at first, but later increased the amount given. He calls attention to the great increase of leucocytes following the injection of the serum. In the discussion of this case A. O. J. Kelly reported 1 of double pneumonia treated with the serum terminating fatally; but he states that the case was considered hopeless when the serum was begun, and that the supply of serum gave out some time before death ensued. He also states that marked increase of leucocytes followed each injection. McFarland reports, during the year 1900, among others, 1 patient treated by Rochester, with recovery.

The cases which I report were all treated at the Arapahoe County Hospital, during the fall of 1900. Other treatment was employed simultaneously, consisting of ice-pack to the chest, strychnia, alcohol, and digitalis as needed and oxygen in desperate cases.

CASE 1.—R. C., a white laborer, 45 years old, was admitted Sept. 26, 1900, with acute alcoholism and pneumonia of the right upper and middle lobes, it being the eighth day of his illness. He had been without medical attention up to the time of his admission. The affected lobes were found consolidated. On September 27, the ninth day of the disease, serum treatment was begun, 20 c.c. being given subcutaneously every eight hours.

Unfortunately the supply of the serum gave out, there being no more in Denver at the time, so that he had but six doses, the last being administered the morning of September 29; the patient died the morning of September 30. Later arrangements were made for a systematic test of the serum, and it was administered to every pneumonia patient admitted to my service, from October 25 to November 25, regardless of the general condition of the patient or the stage of the disease; 20 c.c. of Mulford's serum being given subcutaneously every six hours.

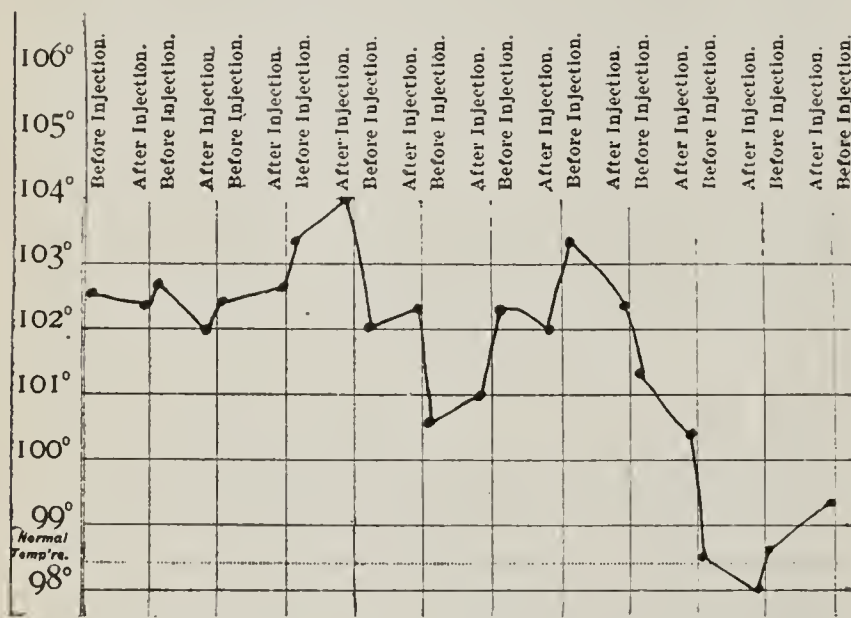
CASE 2.—J. C., a white teamster, aged 39, was admitted Oct. 25, 1900, the second day of the disease. His family his-



Case 1.

tory was negative, and he gave a personal history of pulmonary hemorrhages in 1883. The right upper lobe was consolidated. Serum was begun October 26, the third day of the disease. He received eleven doses of 20 c.c. each at intervals of six hours. The crisis occurred the fifth day of the disease and convalescence was rapid.

CASE 3.—F., an insane man about 50 years old, had a chill and severe sharp pains in the right chest during the night of November 3. He was transferred to my service and I saw him the morning of November 4. There was slight dulness and diminished respiratory sounds over the lower right lobe.



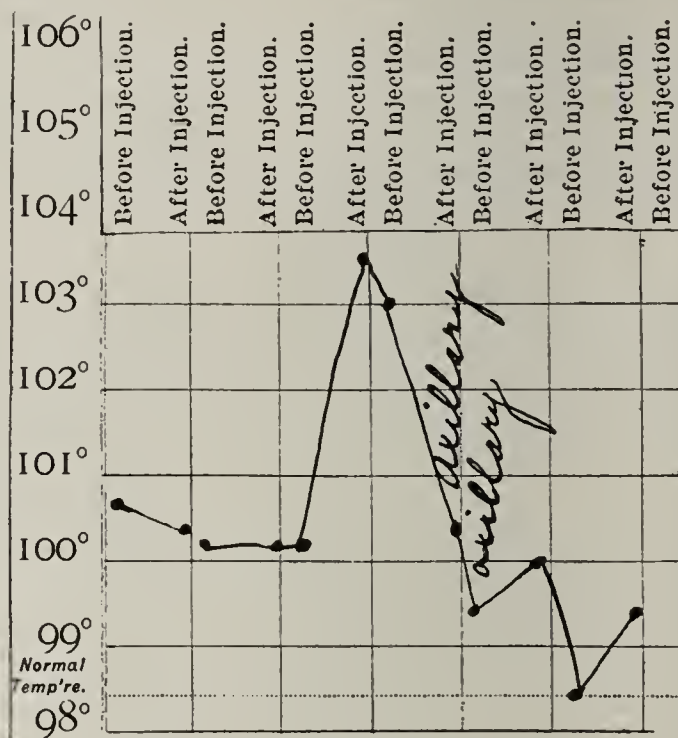
Case 2.

The next day there was increased dulness with bronchial breathing. The serum was begun during the first twenty-four hours of his illness, and he had six doses of 20 c.c. each. The crisis occurred the third day and convalescence was rapid.

CASE 4.—M. St. C., a negro woman, 19 years of age, a morphin habitue, was admitted November 11. Because of the unreliable character of her testimony, no history could be obtained. I first saw her on November 12. Both lower lobes were consolidated, with flatness, tubular breathing and exquisite pectoriloquy. She had fourteen doses of 20 c.c. each, at intervals of six hours, this treatment being begun the day of her admission. The crisis occurred the fourth day she was

in the hospital, though it was not typical, and there were some fluctuations of temperature thereafter. She made a good recovery.

CASE 5.—T. G., a white woman, 18 years of age, with constitutional syphilis, was admitted November 19, the fifth day of the disease. The right lower and middle lobes were consolidated. The serum was begun the fifth day of the affection

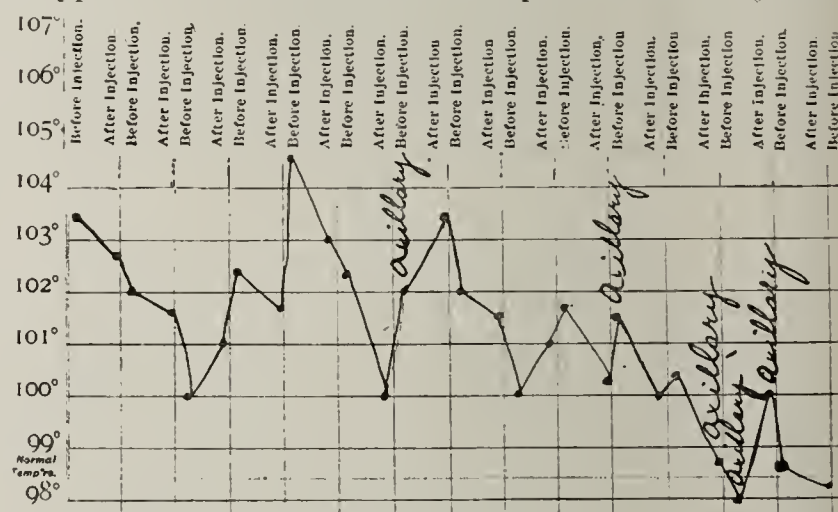


Case 3.

and she had twenty doses. No crisis occurred. A septic arthritis developed, affecting the left elbow, and she was transferred to the surgical ward. At this time she had practically recovered from her pneumonia, but I saw her about six weeks later and discovered evidence of softening of the right lung.

CASE 6.—J. B., a white male cook, aged 22, was admitted November 21, the 5th day of the disease. The lower left lobe was consolidated. Serum was begun at once and he received eight doses of 20 c.c. each. The crisis occurred the sixth day of the disease and convalescence was speedy.

The appended charts show the effects of serum on the temperature. Aside from any objective symptoms there was lessening of dyspnea, and often the patient dropped into a comfortable sleep after the injection.

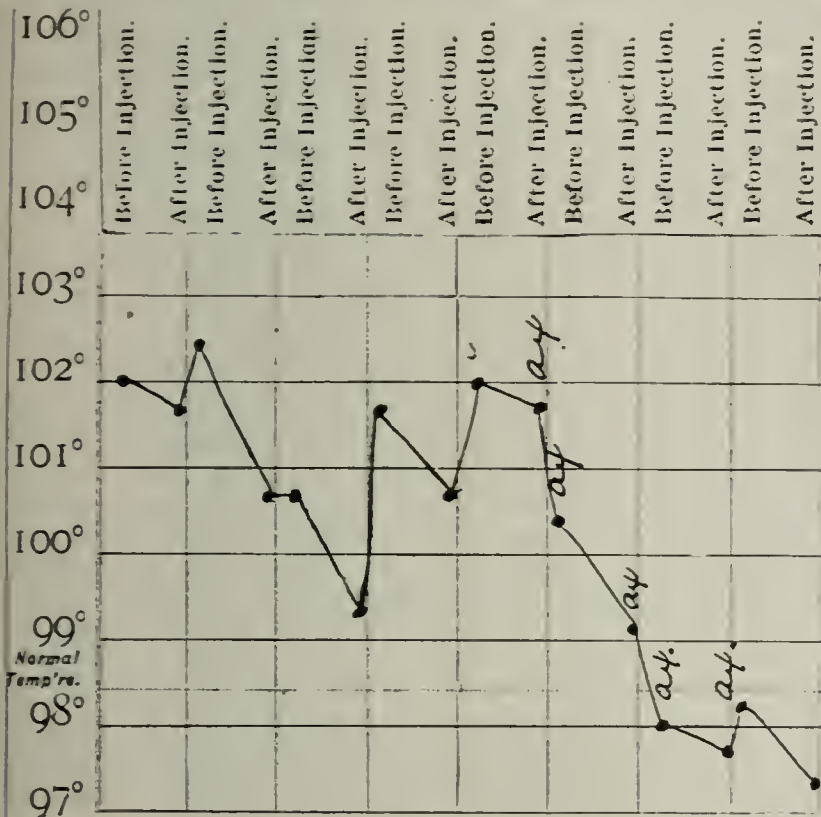


Case 4.

In no case did a general toxemia develop. In one case (No. 5) there was considerable local irritation at the seat of injection.

It will thus be seen that I have collected, including my own, 141 cases treated with antipneumonic serum of some sort, with 121 recoveries and 20 deaths, a mortality of 14.18 per cent. In those cases where I have had access to the original report, I have especially studied the fatal cases. Weisbecker had 2 deaths, one being emphysematous and the other 78 years old. Marsalongo and Franchini had 3 deaths, all alcoholics.

Fanoni had 1 death, but it was from cardiac disease after convalescence was fully established. Of Lambert's fatal cases, 2 were alcoholics. Of Wilson's, 1 died on the third day, the entire right lung being solid; 1 had been ill with la grippe for two weeks; 1 was an alcoholic, the left lung being entirely solid, and death occurred on the fifth day; the other patient weighed 200 pounds and was addicted to malt liquors. Kelly had 1 death, but in an alcoholic considered hopeless before serum was



Case 5.

administered, and the supply of serum gave out before death. My one death was in a patient with acute alcoholism, no treatment at all being instituted until the eighth day.

In attempting to estimate the effects of the serum, most, if not all the cases just mentioned ought really to be excluded. If these be excluded, we have 127 cases,

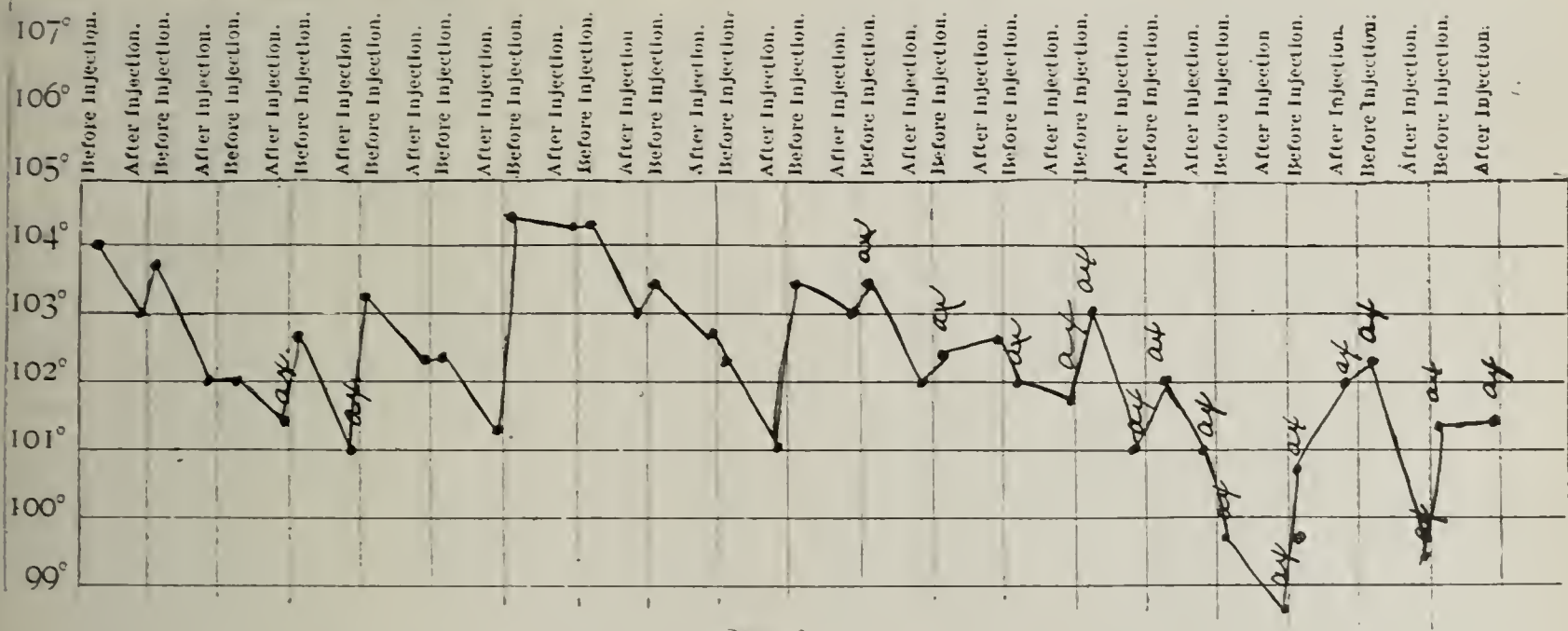
roborative evidence of the value of the serum. Unfortunately, in my case, no blood counts were made. I have found no statement of the effects of the serum on the chlorids in the urine. It is to be hoped that subsequent observers will study this also.

The thing which most impressed me during my observation was the complete absence of toxemic symptoms. If it be true, as is claimed, that the pneumococcus enters

REPORT OF CASES TREATED WITH ANTIPNEUMONIC SERUM.

Bibliography number.	Reporter.	Number of cases	Recovered.	Died.	Remarks.
22	Lara.....	10	10	0	
23	Bozzolo . . .	5	4	1	
8	De Renzi . . .	16	14	2	
12	Washbourn (& Pye-Smith).	2	2	0	
10	Spurrell. . . .	1	0	1	
9	Cooke, A. . . .	2	2	0	
11	Hartnett	1	1	0	
12	Washbourn. . .	6	6	0	
14	Payne	9	8	1	
4	De Renzi.....	10	10	0	
15	Weisbecker. . .	21	19	2	One had emphysema; the other was 78 years old.
13	Fanoni	1	1	0	
16	Marsalongo and Franchini.	10	7	3	All 3 who died were alcoholics.
17	Fanoni	5	4	1	Death due to heart disease after convalescence.
20	Canby (Everhart & Frey).	4	4	0	
22	Lambert.....	12	9	3	Two who died were alcoholics.
12	Wilson, J. C. . .	18	14	4	
12	Kelly, A. O. J. .	1	0	1	Hopeless before serum was begun.
6	McFarland..... (Rochester.)	1	1	0	
	Tyler.....	6	5	1	Fatal case was a neglected alcoholic.
		141	121	20	

the blood from about the third day to the fifth day of the disease, and that prior to that time there are no pneumococci in the blood, and if it be true also that the advent of the organisms into the blood marks the beginning of the toxemia or septicemia, these facts furnish a rational explanation of the effects of the serum when begun early.



Case 6.

with 6 deaths, a mortality of 4.7 per cent. In view of the different sera used, especially when the difficulty of producing and keeping a good antipneumonic serum is considered, this seems to me an excellent showing.

Wilson, Kelly and others have called attention to the increase of leucocytes following injections of the serum. As absence of leucocytes in pneumonia is considered of grave prognostic import this is good cor-

Osler mentions toxemia as the important prognostic factor, and it is one of the most, if not the most, important item in determining the outcome. It is my opinion that if fresh serum in large quantities be given before the advent of the pneumococcus into the blood, it will prevent the development of toxic symptoms. This also coincides with the results of animal experimentation. Animals inoculated with the pneumococcus do not die

of pneumonia, but of pneumococcus septicemia; and as is well known, the results of animal experimentation are extremely encouraging.

It is exceedingly doubtful whether antipneumonic serum has any effect on the condition of the affected lung. The exudate is extracirculatory, the vascular supply being cut off. It is therefore almost inconceivable that the serum should have any effect on it, except possibly to prevent the involvement of new areas. But if we have a serum which prevents and combats toxemia, as I believe we have, that is a great advance.

Several problems of much importance yet remain to be solved. The standardization of antipneumonic serum, so essential to accurate dosage, the easy cultivation of the pneumococcus in such a way as to prevent loss of virulence, the concentration of the serum to permit smaller dosage and the reduction in cost of production so essential to its popular use, all these are yet in the future.

DISCUSSION.

DR. J. N. HALL—I saw all of the cases and in addition have seen one or two others, notably one with Dr. Holmes, which I report with his permission, a case where a pneumonia supervened upon an old standing phthisis, and in that case the result was fatal. It was due, however, rather to the phthisis than to the pneumonia. I have not as yet been convinced of there being any great therapeutic effect in this serum, still I think it is a lead which is well worth following. I am rather prejudiced against the general proposition that the pneumococcal serum will be of much value, because of some preconceived notions, and yet I am open to conviction. It is well known that pneumonia is not a disease uniformly due to the same organism. Something like four-fifths of the cases are due to the pneumococcus, while in the remaining Fraenkel's bacillus, the streptococcus and various other organisms are found. In very many of the cases of la grippe pneumonia, as is well known, a mixed infection is present. We are in much the same position as regards pneumonia as we were in regard to diphtheria before the bacteriologic differentiation of the disease. In those days we called all cases of false membrane in the throat diphtheria, whereas we now know that many of these are due to a streptococcus infection. It is only in the diphtheria pure and simple that the diphtheria antitoxin is of much value. If we had the means of knowing absolutely the bacteriologic diagnosis in our cases of pneumonia, we should have a better opportunity for estimating the true value of the pneumococcal serum. As in the use of streptococcal serum in puerperal fever, it is essential that we should know the exact organism causing the symptoms before we can hope to form just estimate of the value of the remedy.

I have seen within six days six cases of diphtheria and three of streptococcal sore throat, all having much the same clinical appearance. Before the days of the use of the diphtheria serum, if such a thing were possible as that the remedy could have been injected, we should have been completely mystified because of the good effect which it had on certain of these cases, and the absence of any effect in others. Therefore, as I say, I do not feel that we can very justly estimate the value of this serum, because we can not tell how many out of the 141 cases reported by Dr. Tyler were due to a pure pneumococcal germ. It is perfectly possible that all of these that recovered were due to that. In that case we should have a very high estimate of the value of the serum, and we should be all the more diligently led to study to find a serum which we may use for the other cases.

Furthermore, we should bear in mind that in pneumonia it is more difficult to give an exact prognosis than in almost any other disease. We occasionally see patients who, by all rules of prognosis, ought to die, and yet they recover. In the report which I made a few years ago before this society, of all the cases of acute lobar pneumonia which I had seen in private practice, every patient over 70 years of age, much to my surprise, had recovered. A week ago I saw, with Dr. Hawkins, a

case in a young woman so desperately ill that we both agreed that her prognosis was entirely hopeless. She had not been treated with the vigorous stimulation which we commonly use in these cases, yet when it was adopted she promptly recovered, being out of danger in forty-eight hours. Where such cases as these quoted may be seen, the difficulty of prognosis is evident. Finally, there is sufficient encouragement in the use of this serum to lead us to strive more diligently than ever to find a treatment of the disease which, with more accurate bacteriologic diagnosis, shall give us such results as we have already seen in the treatment of diphtheria.

DR. A. M. HOLMES—Dr. Tyler's subject is an important one. I have had very little experience with the antipneumococcal serum, having used it in but one case. The case referred to was by no means a favorable one for a test. For several years the patient had been afflicted with phthisis. Pneumonia developed after exposure and had been in progress for several days when I first saw him. Dr. Hall was kind enough to see the patient with me. As a last resort we decided to make use of the antipneumococcal serum, and we had an opportunity to carefully observe the effects. I should like to report a few points, many of which closely resemble those reported by Dr. Tyler. Other means of treatment were used in addition to the serum, oxygen being administered almost constantly. Wild delirium was present, accompanied by rapid pulse and very little fever. We injected 20 c.c. of antipneumococcal serum at intervals of four to eight hours. We observed improvement in the pulse, in the respiration, in the delirium and the restfulness of the patient soon after giving each injection, but the improvement was only of short duration; the case terminated fatally at the end of one week after we began the serum. A bacteriologic examination of the sputum was made when we first saw the patient; numerous pneumococci, tubercle bacilli and other germs were found. Several days after we had been giving the serum another examination of the sputum was made and the pneumococci were not found, but the tubercle bacilli were present. The blood examination revealed a slight increase in leucocytosis, which soon diminished. There were no bad effects that could be ascribed to the serum. The patient himself frequently remarked that he felt better after receiving the injections. When administering antipneumococcal serum, it should be fresh, be commenced early in the course of the disease, and be given in large doses and at short intervals. From my limited experience I am of the opinion that antipneumococcal serum possesses sufficient worth to justify further use.

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HOW TO TREAT MUSCULAR AND JOINT
SPRAINS OF RAILWAY EMPLOYEES.*

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Joint and muscular sprains differ, so far as I know, not the slightest from the same affections in other occupations, but the same justification that obtains in calling railway surgery a special branch of surgery will allow of the use of the title of this paper. Sprain of some sort or another is a very common accident among railway employees. This is perhaps due to the fact that so many of them, in the discharge of their duties, are forced to run backward and forward, work on machinery in constrained positions, do heavy lifting, and are exposed to falls from heights. In order to form an idea of how frequently such accidents affect railway employees, I have prepared a table of the sprains and strains of all kinds, reported as such to my office, occurring on the lines of the Chicago Great Western for the year 1899:

SPRAINS AND STRAINS OF CHICAGO GREAT WESTERN R. R. EMPLOYEES, 1899.			
Firemen.			
CHARACTER OF INJURY.	No.	CAUSE OF INJURY.	No.
Thumb.....	2	Falling down	17
Wrist.....	4	Shaking grates	3
Shoulder.....	4	Muscular exertion	3
Lumbar.....	5	Collision.....	1
Foot and ankle.....	2		
Knee.....	2		
Hip and thigh.....	3		
Forearm.....	1		
Side.....	1		
	24		24
Brakemen.			
	No.		No.
Shoulder.....	3	Arm twisted	1
Knee.....	2	Muscular exertion	1
Arm.....	1	Falling.....	7
Elbow.....	1	Turning foot	2
Foot and ankle.....	5	Lifting.....	2
Lumbar.....	2	Collision.....	1
	14		14
Engineers.			
	No.		No.
Lumbar.....	5	Switching.....	1
Wrists.....	2	Wreck.....	1
Leg.....	1	Falls.....	5
Elbow.....	1	Arm Caught	1
Thumb.....	1	Collision.....	1
	10	Tank tipped	1
	10		10
Section Hands.			
	No.		No.
Inguinal region	1	Struck stove	1
Foot and ankle.....	2	Falls.....	4
Abdominal muscles	1	Collision.....	2
Wrists.....	3	Turned foot	1
Knee.....	1	Lifting.....	2
Neck.....	2		
	10		10

* Read at the annual meeting of the Academy of Railway Surgeons, held in St. Paul, Minn., Sept. 5 and 6, 1900.

<i>Miscellaneous.</i>			
	No.		No.
Knee.....	2	Falls.....	18
Wrist.....	6	Muscular exertion	2
Side.....	2	Scuffling.....	1
Ankle and foot.....	13	Caught foot	4
Lumbar.....	6	Lifting.....	2
Leg.....	2	Turning foot	5
Finger.....	1		
	<hr/> 32		<hr/> 32

It will be seen from the table that, as far as occupation is concerned, the greatest number injured, strangely enough, were firemen, to the number of 24.

We would have expected *a priori* that the number of sprains would have been greatest in the brakemen, who are continually climbing over cars and running backward and forward along the train, but the number of these so injured was only 14. Next were engineers and section hands, 10 each, and finally all other occupations, switchmen, machinists, wipers, carpenters, etc., to the number of 32, making a total of 90 cases reported to my office as sprains or strains, out of a total of 622 accidents for the year 1899. The percentage of sprains and strains to the total is 14.45.

The character of injury in all these cases has been sprains or strains of fingers, wrist-joints, shoulder-joints, foot and ankle, knee, hip and thigh, arm, back and side. By far the largest number of sprains reported were of the ankle and foot, 22 cases out of 90. Wrists were sprained 15 times. In all the cases of strains, by far the greatest number were of the back, or, as I have tabulated it, of the lumbar region, a total of 18 cases. It appears that engineers hurt their backs, brakemen their ankles, while the firemen sprain backs, wrists and shoulders indifferently.

The cause of injury shows a preponderating number due to slipping and falling, resulting in injuries to the wrists and ankles especially. The total number of cases due to falling is 51. Various sorts of muscular strains resulting from muscular exertion were present in 9 cases.

The percentage of sprains and strains in a total of 622 cases being 14.45, these are therefore frequent accidents among railway employees, and six years of experience in railroad work leads me to believe that these are precisely the injuries which lay up the employees the greatest length of time, and the object of this paper is to show how the time of recovery can be shortened, in my opinion at least 50 per cent.

What do we mean by sprain? The definition of Dr. Douglas Graham is a very good one: "A sprain is a sudden partial displacement of two joint surfaces followed by immediate replacement." A strain is a stretching of the tissues beyond their normal limits, resulting in rupture of some of the tissue elements. These strains may affect any of the tissues, but do not, in my opinion, ever occur in ligaments.

Dr. P. S. Conner, Cincinnati, teaches that ligaments are made up of white fibrous tissue which is absolutely inelastic, and therefore can not stretch; at the same time it is so strong that it is easier to pull it from its attachments in bone or muscle—tendon—than to rupture it. A writer in Gerrish's Anatomy says that a little reflection will teach us that if tendon could stretch then our muscular efforts would be wasted on the elasticity of the medium between muscle and bone. Morris' Anatomy also teaches that white fibrous tissue is incapable of stretching. I mention this particularly because the term "stretching of the ligaments," especially as applied to the ankle-joint, is used so frequently and so loosely. In a very few instances postmortems after

injuries of joints have been made which would seem to indicate that ligaments can rupture, but experimental work has shown that it is easier to pull off a scale of bone at the attachment of the ligament than to rupture the ligament, i. e., in ligaments other than thin fascial expansions, and I believe, owing to the absence of elasticity in the ligament and its great strength, that such accidents as rupture almost never occur. Therefore, when surgical writers speak of stretching and rupturing ligaments it means one of two things: the stretching and rupturing of connective tissue, the areolar tissue, blood-vessels, etc., or it means the tearing off of a scale of bone at the attachment of the ligament involved. The last is what generally occurs in very severe sprains of joints. So much for the pathology.

TREATMENT.

From the earliest times war has been waged as to what constitutes the proper treatment of a sprain, especially as regards sprains of the ankle-joint. On the one hand, there have been those who contend that what a joint needs after an injury is rest, and the more absolute this rest can be made the quicker recovery ensues. The adherents of this idea elevate the limb affected, put it up in immovable dressings, and wait around until the rest and dressings have resulted in the disappearance of swelling, which requires from fifteen days to three months; then the patient is requested to walk around and use his leg so as to make it strong again. If the patient has been laid up two or three months he finds himself unable to follow the surgeon's advice, as his limb is weak and walking painful and difficult. What has occurred? We know that immobility of a joint induces passive inflammatory changes, leads to the disappearance of the synovial fluid and roughening and thickening within the joint. On the muscles this so-called rest cure has produced atrophy and possibly contraction. The fat and other tissues forming the pads around the ligaments and tendons have been absorbed, and we find a preternatural immobility in our joint.

Adherents of immediate motion apply bandages or adhesive plasters and encourage their patients to get around immediately after the injury. At the present time there is a large class who endeavor to skim off the cream of both contentions. They keep their patients perfectly quiet for a few days with immovable dressings, and then advise massage and motion. The results have been much better, as regards the time required for recovery and the strength of the limb, with the last-mentioned treatment, than with the so-called absolute rest treatment.

To have a correct idea of how to handle these cases in order to promote speedy recovery, we should bear in mind the few points I cited regarding the pathology and, further, the surgical indications. There are perhaps very few sprains of the joints which are not accompanied by contusion of the joint surfaces. The tearing of the areolar tissue and the rupture of the small blood-vessels, results in a rapid, painful exudative swelling and discoloration, for which the first surgical indication is rest, but the question immediately arises: What is rest for these involved tissues? Ranke rinsed out the vessels of fatigued muscles with a normal saline solution, which immediately restored them to full vigor; the experiments of Zabłudowski have shown that muscles exhausted by faradization could be restored at once by massage; Maggiora showed that massage of muscles fatigued by mechanical labor quickly restored them to normal function. What do these experiments mean? They mean that the muscles are constantly functionat-

ing, even when a limb is immobilized; the muscles are in a state of tonic contraction, and fatigue simply means a heaping up of the waste products resulting from the work of the muscle cells, such as lactic acid, creatin, carbonic acid, acid phosphates, and perhaps toxins, and *rest for muscle means the getting rid of these waste products and the furnishing of new oxygen and new food from the blood.* We know that immobilization produces atrophy and contraction of the muscles, and knowing what the physiology of muscular rest is, it must be plain to every one of us that rest does not mean to confine a limb in a dressing which does not permit of motion of the muscles. On the contrary, rest for the inflamed, contused, torn and otherwise involved tissues does mean immobilization. The next indication to be made is the antiphlogistic one. How can we limit excessive leucocytosis and inflammatory exudation? The application of cold water and evaporating lotions fulfils these indications. In cases where there has occurred a rupture of the attachment of the tendon or ligament with its scale of bone, practically a fracture, an indication arises for the maintenance of a proper position in order to allow of union. Now, how are we to fulfil all these indications for treatment, some of them which seem paradoxical, i. e., both motion and immobilization? The muscles involved in every sprain should have motion all the time in order to allow muscular contraction to exert its pump action on the lymph-vessels which carry away waste products whose presence produces fatigue and pathologic changes.

The contused joint surfaces should at the same time be immobilized, providing the contusion and laceration is very severe. The index to the severity of such an injury will be found in the amount of pain and nausea experienced, and the amount of swelling. Discoloration of the skin is not an index of the amount of injury. We can elevate the limb affected, apply a wet cheese-cloth to the swollen joint, and over this an ice-bag during the first few hours or days until we attain to the height of the inflammatory process resulting from the trauma. Motion can at the same time be administered to the muscles passively, by means of massage, which produces for these purposes precisely the same changes as active muscular action, and besides carries away the waste and inflammatory product in the lymph and venous blood. In all sprains of moderate severity both massage and active use of the limb can be instituted immediately or after a few hours.

In a case of the ankle we should apply an elastic cotton bandage firmly to the limb, or leave on the shoe in the case of the ankle, lacing it up, and encourage our patient to walk the sprain away. On retiring, the patient can have massage treatments, and hot applications or a local wet pack. The massage should be begun as soon as possible after the injury. It should be administered by a skilled masseur and should consist of centripetal strokings and kneadings, and extremely light frictions and strokings over the inflamed area, the last being designed to favor the centripetal circulation and the spreading out of waste products in the tissues so that they can be the more easily absorbed by the lymphatics.

After the acute symptoms have subsided, hot applications are the best because they dilate the superficial vessels and promote local circulation, which assists in carrying away the inflammatory products. Since fractures or displacements frequently occur in the region of the ankle-joint, and as the inflammatory symptoms are usually more severe in these cases, we will at times

be forced to keep our patient quiet for several days, using ice-bags and massage, before we can put on the bandage or Gibney's plaster bandages, and put the patient on his feet. It is astonishing to the surgeon how quickly the patient can get over the sprain, if compression be put on the joint and the patient receives massage and gets about. I know a recent case where the plaster dressings and rest were used in a sprain of the ankle and foot, where two years and six months were required to put the patient on his feet without crutches and appliances at his ankle, and I feel sure that had this patient been treated properly along the lines mentioned in this paper, only a few months would have been required at the utmost. As it was he was in almost useless condition at the end of two years and three months. The muscles of his leg were atrophied, there was too much motion at the ankle-joint, and the patient was fearful of putting his weight on his leg, and complained of getting tired quickly, and of pain in the whole limb. Systematic massage, use and encouragement sufficed in a short time to remove all this disability. In these old cases, besides the measures referred to, the use of the Scottish douche is good, that is, hot and cold water applied alternately. It is of great value in promoting recovery. Swedish gymnastics, in the shape of active and passive movements of all the joints of the limb affected should be used, in conjunction with other measures. In the vast majority of sprains of the ankle, the ambulatory treatment is very satisfactory. The average time required for recovery will be from six to twelve days. In 400 cases it was nine days. (Douglas Graham.)

A muscular strain of considerable severity will show to the palpating finger an elevation of ruptured muscular fibers. In these cases a little gentle massage will promote speedy recovery. In a vast majority of so-called muscular strains, there will be no elevation to be felt by the palpating finger, and in these cases the cold douche, and static electricity both for its local and mental effect, gives remarkable recoveries.

To recapitulate: 1. Ligaments are rarely if ever torn in so-called sprains, and are never stretched. 2. The pathology in the majority of sprains is a rupture of the areolar and connective tissue around the joint, and a contusion of the lining of the joints. 3. Immobilization of muscles is not rest. On the contrary, in all sprains the muscles should have passive exercise the first few hours, and days, and active exercise after that. In the majority of cases active exercise should be instituted from the beginning. 4. The plaster casts should not be used at all, even in cases where we have a fracture, unless it be impossible to maintain a proper position of the joint. 5. Hydrotherapy in the shape of ice applied over a wet cloth the first few hours; water in the shape of hot fomentations or in the shape of the Scottish douche, where we wish a stimulation, is of very great value. 6. The counter-irritation of static electricity in conjunction with massage is the best treatment for a strain. 7. The ambulatory treatment of sprains in conjunction with massage is to-day the best treatment.

Statistics of Quebec Province.—There has been evidently a marked falling off in the ratio of increase of the population in the province of Quebec during the last decade. In the report of the board of health for the year 1900, the recorder of statistics estimates the increase in population between 1898 and 1899 only 2.5 per cent. The large centers of population have gained most, but the aggregate for the whole territory being slight it would appear that in the rural districts here as elsewhere there has been possibly some local actual decrease.

DIAGNOSIS AND SYMPTOMATOLOGY IN THE 'APPENDICITIS OF CHILDREN.*

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So much has been published in medical literature of late on the subject of appendical inflammation, that it might seem but little remained pertaining to it to be further elucidated.

The operative technique in its surgical management has nearly advanced to perfection, so that in properly selected cases, and utilized at the proper time, surgical intervention in skilled hands should be followed by only a very low mortality. The greatest difficulty which confronts the surgeon is not so much how the operation shall be done, as the question of properly interpreting symptoms, locating the precise seat of pathologic changes and appreciating the character of existing complications.

THE GENERAL AND SPECIAL CHARACTERS OF APPENDICITIS IN EARLY LIFE.

In 1827 Melier first accurately described the pathology of appendicitis and recommended the excision of the appendix (*Mémoire et observations sur quelques maladies de l'appendice caecal*).¹ There was no echo to his publication until 1838, when the writings of Albus, Dance and Mcnière appeared. Although these authors approved of radical measures they maintained that the primary seat of lesion was in the cecum, as is maintained to-day by Treves. About 1888 the original observations of Sands, Fitz, and Talamon appeared, with the brilliant achievements of McBurney which settled beyond dispute the fact that in the great majority of cases the original lesion is in the appendix and that this organ must be primarily dealt with. On Friday, Dec. 30, 1887, the late Prof. Henry B. Sands, of New York, performed the first operation for appendicitis successfully after having first correctly diagnosed the condition existing. The patient was a male, 12 years old. The case had first been diagnosed as one of perityphlitis. He tells us that the child had indigestion, etc., and that there was no tumor.²

Weir, in 1887, was able to collect but 15 cases in which laparotomy had been performed for perforated intestine; the appendix was the seat of perforation or gangrene in 4 of these, although it was not discovered until after death. In 5 the appendix was found perforated, and removed, but all died.³

Appendicitis presents practically the same sexual difference in early life as is noted later in the adult; thus Jalaguier records 182 cases in his own practice, 4 were under 5 years; 42 from 5 to 6; 64 from 10 to 15; 25 from 15 to 20. There were 112 males and 70 females.⁴ According to Bamberger's table, the relative frequency as to age was: Under 2 years, 2 cases; 15 to 20 years, 20 cases; 20 to 30 years, 32 cases; after 30 years, 17 cases. Fitz's table shows: 20 months to 10 years, 22 cases; 10 years to 20 years, 86 cases; 20 to 30 years, 65 cases; after 30 years 55 cases. Matterstock's table shows: Under 2 years, 2 cases; 2 to 5 years, 10 cases; 5 to 10 years, 25 cases; 10 to 15 years, 35 cases. Gordon's table reads: 2 to 5 years, 5 cases; 5 to 10 years, 33, and 10 to 15 years, 41 cases. Bruns' table says: 1 to 5

* Read by title, in the Section on Diseases of Children, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

years, 3 cases; 5 to 10 years, 20, and 10 to 15 years, 12 cases.⁵

It is curious to note that Dieulafoy, Bruns, and Faisans include heredity as a *cause appendicite familiale*.

In New York City, in 1899, there were 299 deaths from appendicitis, of which 63, or more than one-fifth, were in those under 15 years old, viz.: 1 year, 1 case; 3 years, 2; 4 years, 4; 5 years, 14; 10 years, 20, and 15 years, 22 cases. With a population of about 2,000,000, and assuming that 25 per cent. of it is under 15 years of age, the annual mortality would be 1 for every 7933.

Medical literature records but few cases of appendicitis in very young children and infants, except those which have been operated on. We have no data to show whether this disease ever occurs in the infant subsisting exclusively on the mother's milk, and there are but few cases recorded as occurring before dentition has begun or the infant has begun to masticate food. However, there are cases recorded of very early operation for appendicitis with varying results. The youngest patient operated on for appendicitis, on record, was one treated by Dr. Thomas A. Savage of New York, only 61 days old. A large perforation of the tip of the appendix was found. The infant sank the day following the operation.⁶ Weiss operated for the same lesion on an infant 20 months old, with general peritonitis and death.⁷ Mr. Miller saw a case of appendicitis in an infant 19 months old. The infant was at first costive and it was believed that he was suffering from follicular enteritis. On the fifth day of illness Professor Broca was called in, and laparotomy performed, evacuating a large abscess and exposing a rotten appendix. Good recovery followed.⁸ In reviewing my own notes on appendical cases seen in hospitals, in consultation and in my own practice, I find 67 cases under 15 years old: 16 were operated on with 4 deaths; 5 were attended with advanced general peritonitis and died without operation. Forty-two others were seen; 6 very severe cases in which operation was refused, of which 2 died. Forty-six were of various types in which it was not believed that laparotomy was imperative; of these all recovered except two in tubercular patients under 9 years. There were 41 males and 26 females, the youngest 3 years old, the abscess bursting through the umbilicus. The ages were: 3 to 4 years, 1 case; 4 to 5 years, 4; 5 to 10 years, 27; 10 to 15 years, 35 cases.

With this experience of appendicitis in the young it is my conviction that although the causative factors remain obscure at this stage, as later, and the treatment should continue on the same general lines, there remains a wide difference in the diagnostic factors of the disease in childhood, and that its symptomatology, when anatomical deviations are absent, is more complex and more indefinite than in later life. Goodrich believes that children bear general septic peritonitis much better than adults. He has had several cases of general septic peritonitis in children, and has not lost one of them; as an instance he cites the case of a boy who entered the Long Island Hospital with gangrenous appendicitis, the peritoneal cavity being distended with a sero-purulent fluid. The appendix was removed, the peritoneal cavity washed with saline solution and "sewed up without a drain," rapid recovery following.⁹

My own experience fully confirms this view. Among the cases included in my own tables there were 2 of general peritonitis recovering. One was in a girl of 7 years, in a desperate condition; the distal half of the appendix had sloughed off, the distended parietic bowel

protruded through the cut, and sero-purulent fluid flowed out from every direction. Shock was so great that no time was lost in systematic cleansing of the peritoneum. Recovery, though slow, was finally complete. The other patient was a boy of 5 years, with acute general peritonitis following appendicitis. The parents refused to permit an operation and, though a fatal prognosis was given, the little fellow made a good recovery. I am unable to find any statistics bearing on the relative mortality of laparotomy in the child and adult, although for many important reasons it should be lower in the former than the latter. Local complications should be fewer in early years; organic disease, senile changes or those constitutional or functional disturbances so common in middle or advanced age are not so frequent; moreover, it is well known that children bear the effects of pulmonary anesthetics with greater impunity than adults.

DIAGNOSIS.

The recognition of appendicitis should be easier during the early growth of the body than later.

Anatomical Features.—During the early childhood the pelvis is of narrower dimensions; evolution of the intestinal tract is incomplete, the large intestine is relatively smaller and all its segments are more mobile than after puberty. The position of the cecum is more indefinite, as at this time its attachment to the iliac fascia is lax, and this permits of a considerable range of motion in various directions. Jacobi has demonstrated how this species of enteroptosis acts as an aggravating factor in the constipation of infancy. The abdomen in childhood is rarely invested by a deep layer of fat, and hence the caput coli, when it has descended, lies superficially. As growth advances and the body develops, defecation becomes less frequent and the strain on the colon, in consequence of its capacity, becomes greater, and its position more fixed and definite.

Complications and Pathologic Conditions which May Obscure Diagnosis.—As contrasted with the adult, the pathologic conditions which may be confounded with appendicitis or mistaken for it in the child are few in number. The two most prominent are intussusception and tubercular peritonitis. It is curious to note, however, that even in childhood we can not fail to appreciate the importance of a critical abdominal examination and a search for other conditions which may in many respects, in the child as in the adult, simulate appendicitis. For example, at the British Medical Association's meeting held in July, 1898, Dr. J. Cromby reported 18 cases of floating kidney in children. The youngest child was 3 months old, the eldest 15 years; 16 were in females. Tuffier records 3 similar cases in children of 6, 9, and 10 years old.¹⁰ What Dr. M. L. Harris, of Chicago, says of "Diagnosis of Abdominal Tumors," particularly applies to children in whom complex pathologic states are not yet in evidence. He observes: "Our knowledge must not be limited simply to normal anatomy, but we must know abnormal anatomy, or the anomalies to which the various organs are liable. For instance, the liver may occupy the left side of the abdomen instead of the right, and the location of all other organs may be reversed as well. The gall bladder instead of being retained against the inferior surface of the liver may be quite loosely attached to it, and thus possess quite a range of motion. The liver may possess 'accessory' or 'Schnur' lobes, which may appear as distinct tumors. There may be but one kidney instead of two, or the two may form a conglomerate organ

occupying the median position, or a kidney may occupy any location from the normal to the hollow of the sacrum, and may be fixed or freely movable. The intestinal tract is subject to numerous anomalies. The cecum and appendix may be found near the umbilicus or up under the liver, or they may be arrested at any point in their descent from the liver to their normal location in the iliac fossa. The appendix may dip into the pelvis lying against the uterus or the ovary and tube, or it may be extra-peritoneal, its tip reaching up to the kidney. The ovaries instead of occupying the lesser pelvis, may be retained in the lumbar region or descend into the labia. The uterus may be double instead of single and each half may vary in its degree of development. These are but a few of the anomalies which one must ever bear in mind when considering the diagnosis of abdominal tumor, and often an anomaly of location or development will lead to a correct solution of a case which would otherwise remain unsolved."¹¹

Halle and Bernard¹² record a case of peri-nephritic abscess in an infant 18 months old. The mass was in the right side and was at first believed to be a case of encysted peritonitis with atypical appendix. Through the mistake in diagnosis, the author tells us, they made the incision for evacuation too far forward, and soiled the peritoneal cavity by the escape of pus into it. Menard cites the case of a girl 10 years old, who was suddenly seized with lameness in the right lower limb, from what was regarded as coxalgia in the beginning. As the case presented complex features and the limb was exquisitely sensitive, an anesthetic was given, before a critical examination was made. Then a mass was discovered deeply lodged in the right groin. A free incision was made into it, a large abscess opened and a necrotic appendix exposed. Recovery was rapid, with complete disappearance of all lameness.

Tubercular disease of the lumbar vertebræ is not uncommon in children, but the psoas abscess resulting in them usually follows the muscular sheath out under the crural arcade; however, Cathelin reports a case in which a psoas abscess was lodged in the right iliac fossa complicated with tubercular perforation of the appendix.¹⁴

Umbilical abscesses in young children are most frequently of appendical origin. One such case is recorded in my own group. At first the thin scar tissue of the umbilicus pointed and broke, giving issue to a copious purulent discharge; the day after, fluid fecal matter appeared in the opening. From the history of the case, the symptoms and the fulness which commenced at the border of the lowest rib and extended over centrally, it was thought that the appendix was the primary source of the trouble and that from its perforation a fecal fistula had begun. By a free incision the cecum was exposed, lodged high up and well forward. After cautious manipulation the root of it was secured, doubly closed with silk ligature and cut through. As the tissues were freely suppurating, a gauze drain was introduced. Recovery was tedious, but from the day laparotomy was done, discharge at the umbilicus ceased.

Wyeth records a somewhat similar case in a young man of 30. He died suddenly, of apoplexy. On autopsy the perforated, rotten appendix was found lying free in the abscess cavity.

Guiteras cites a case of abscess in a cystic terminus of the ureters, which have been diagnosed appendicitis. Mr. G. W. Wright published notes of a case of chronic

intussusception of the appendix in a child 2 years old. The tumor could be felt on a line with, and to the left of, the umbilicus. On incision, the root of the appendix was found invaginated into the cecum.¹⁶

Genito-urinary disturbances may lead to mistakes in diagnosis when a large, deep, tense appendical abscess greatly stretches or compresses the ureter, or when it bursts into the bladder and leaves a fistulous opening, connecting one with the other. Most perityphlitic abscesses drain directly into the colon, where the pus is carried off by the emunctories, but the course is sometimes by the vesical route, as occurred in a young sailor operated on by me two years after he first had appendicitis in the West Indies.

Typhlitis, with or without perforation, a condition said to be not very uncommon in tubercular peritonitis, presents practically the same physical signs as appendicitis, although some authorities allege that in tuberculous perforations rarely occur except in the latter.

THE MORE COMMON MALADIES WHICH PRESENT SEVERAL FEATURES SIMILAR TO APPENDICITIS.

Tubercular Peritonitis.—Tubercular peritonitis may be general or localized; when limited to the mesentery or parietal peritoneum, and when there is attendant paresis of the intestines or ascites it is quite impossible to affirm whether or not the appendix is involved. Under these circumstances I have often seen an operation undertaken for appendicitis reveal no lesion of the organ. The acute, fulminant type of peritoneal tuberculosis is said, in the majority of cases, to have its primary seat in the peri-appendical lymph tissues contiguous with the cecum.

Intussusception.—This condition is one which quite invariably belongs to early infancy. Wiggin, Kelsey and Carpenter have recorded successful laparotomy for it in infants from 2 to 3 months old. It is said to sometimes present several characters common to appendicitis when of the subacute variety. The point of invagination is usually the cecum, the abdomen is distended and there is a tumor. But the age of the infant, the evidence of strangulation and the bloody stools, together with the extreme rarity of the lesion, should seldom leave much doubt as to its real character. Fenger and Gerhards¹⁷ record a case of appendicitis in an infant 7 weeks old, and Matterstock had seen it in one of 6 months, both presenting features in common with intussusception. Gordon speaks of intussusception being more common in "1st infancy" before dentition, and says that appendicitis steadily increases in frequency from the 2d to the 15th year.

Typhoid Fever.—Typhoid in children is well known to pursue an atypical course, and occasionally may be mistaken for appendicitis. Warren tells us that in those mixed cases presenting complex clinical features, we can not rely on Widal's test. Diarrhea is not an uncommon concomitant of appendicitis, and in both, iliac tumefaction and tenderness are generally present.

Appendicitis with Appendical Invagination into the Cecum.—This remarkable condition has been described by various writers. Harrison cites a case of intussusception of the appendix with invagination in a child 4 years old.¹⁸ John Kidd, another in a child of 7 years, the greatest pain being over the umbilicus. Dr. S. McGraw reported a case in a lad of 7, the condition lasting four months. The head of the cecum and appendix were removed; recovery following.¹⁹ Other instances of this singular complication are recorded in Mr. Greig Smith's work.²⁰ Intussusception of the appendix, with or with-

out ulceration or perforation, though anatomically of great interest, evidently presents no special definite points for diagnosis, and if it did, its treatment would be on the same general lines called when laparotomy is performed for appendicitis. All the cases on record occurred in young children.

EXAMINATION OF THE BLOOD AS AN AID TO DIAGNOSIS OF APPENDICITIS.

So far we have been able to derive but little if any assistance in the differential diagnosis of local or general disease, by examination of the blood microscopically, except, perhaps, in paludal affections. The presence of the leucocytosis, however, has been supposed by some to establish the evidence of pus formation in febrile conditions of the system. But corpuscular count in my own hands has proved so indefinite and delusive as to have convinced me that it possesses no practical value whatsoever in suppurative lesions. Not long since a noted member of the profession, in an obscure abdominal lesion, in a patient of mine, diagnosed a neoplasm of the spleen from the pronounced state of leucocytosis found on microscopic examination of the blood; but on abdominal section the greater part of the stomach was found destroyed by carcinoma, the spleen being entirely healthy. Warren says that count in the average case of pus-tube or appendicitis shows from 15,000 to 30,000 white discs per cubic millimeter; he adds that it is not the product but the virulence of the infection which governs the count. "The degree of leucocytosis is independent of the amount of pus, a felon may raise the count as much as an empyema."²¹

PHYSICAL EXAMINATION OF THE PATIENT.

The most reliable and definite source of information in the diagnosis of appendicitis is through exposure and critical examination of the abdominal walls. This may be generally efficiently performed in the conscious state. It may, however, possess indefinite value and lead to fallacious conclusions, if we fail to secure a full clinical history of the case, and if we have not thoroughly analyzed all the symptoms before we proceed. It goes without saying, that, in consequence of the thin abdominal walls and the absence of those organic maladies so often encountered in adults, especially females, this examination should be a comparatively simple matter in the appendicitis of a child in all its stages; and so it certainly is, though admitting this; yet when we bear in mind the immature stages of development and the different relations of the viscera we can understand how we may even here be led into error.

SURFACE EXAMINATION.

Inspection.—It is well, in all examinations of the abdomen, to place the patient on a flat surface on the back, when this is expedient. If the child is restless or intractable other means may be necessary. The first thing we will notice in appendicitis is the flexion of the right lower limb, although Gibney, the noted orthopedic surgeon, warns us not to attach too much importance to this alone, as we have it also in coxitis and psoas abscess. We will have the same phenomenon in an over-distended bladder, when both limbs are drawn up.

TYMPANITES AND INCREASED RESPIRATION.

Abdominal distension in varying degrees is a common accompaniment of appendicitis in all its stages, but it may depend on other causes than intestinal paresis.

The physiologic character of the respiration is practically the same in both sexes in childhood. In peritonitis the respirations are frequent and shallow; we will note that the movements of the diaphragm are restricted and that respiration is mostly thoracic.

Manipulation, Palpation, and Percussion.—Digital exploration of the abdomen is a most valuable resource. Muscular resistance or rigidity is present in varying degree, according to the location and extent of inflammatory changes. In most cases distinct localized tumefaction is made out over the site of the diseased appendix. Deaver notes that in some cases of hyperesthesia-abdominalis a tumor may be present, but it can not be delineated by palpation. The full flexion of the thigh on the abdomen always materially aids in localizing the tumor by relaxing the abdominal muscles. Dr. Edebohl attaches great importance to the value of palpating in localizing the appendix in inflammatory conditions. After a trial of this device, on the abdomen of several fresh cadavers, and those of patients about to be operated on, no single instance has ever come under my observation wherein definite location of the appendix was possible. A general safe working guide for the approximate location of the appendix is where the lodgment of the tumor is best defined. When the cecum is normally located this is at what is known as "McBurney's point."

Percussion.—This is an important adjunct, but when the abdomen is meteoric and hypersensitive it may be impracticable without the employment of an anesthetic. In cases of suspected fecal impaction or vesical over-distension, it is of the greatest importance.

Deep Puncture.—Deep puncture by the hypodermic or aspirating needle has been employed as an aid in the diagnosis of perityphlitic abscess, but it is not without danger and is not always reliable. Haupt records the employment of puncture in 116 children's cases. Pus was found but once, though on operation an abundance of purulent formation was exposed, in most all the cases. Ten years ago a boy of 12 years came under my care for the treatment of appendical abscess. In order to convince the parent that pus was present, I passed in, behind and below the cecum, a long exploratory needle. This was at once filled with purulent material. But the parents were obdurate and would not consent to an operation, and the boy made a good recovery without it. About the same time, the late Dr. John G. Truax, in the Harlem Hospital service, finding a very large inflammatory fulness in the right iliac fossa, with signs of appendicitis, passed in an aspirator needle, drew off a pint of fetid pus, injected the cavity with saline solution and then drew this off, the patient making an excellent recovery.

Rectal Evacuation.—This may be utilized with advantage in many cases of appendicitis in early life. By this route the examination is availed of for the special purposes: 1. In order to determine the presence or absence of co-prostatitis, fecal impaction of the colon or rectum. 2. In order to locate the site of the appendix or tumor and the extent of purulent accumulation.

By conjoined manipulations under an anesthetic, nearly any localized fulness below the umbilicus, in a child under 10 years, usually may be detected and its general characters appreciated.

SYMPTOMATOLOGY.

At the threshold of this phase of our study the questions arise: "Is there a wide distinction in the general characters of the symptoms of appendicitis in the child

DEATHS FROM APPENDICITIS, BOROUGH OF MANHATTAN AND THE BRONX, DURING DECADE 1890-1899, ARRANGED BY QUARTERS.*
Year 1890.

		Total.	1 year.	1 year.	2 years.	3 years.	4 years.	Total under 5 years.	5-10	10-15	15-20	20-25	25-35	35-45	45-55	55-65	65-75	75-85	85+	Colored.
First Quarter...	Males..	12	..	..	..	..	..	..	1	1	2	..	2	2	3	1	..	..	..	..
	Females	9	1	..	..	..	..	1	..	..	1	1	4	1	1	..	..	..	..	..
Second Quarter...	Males..	18	..	..	..	..	..	..	3	2	1	1	4	1	3	..	..	..	..	..
	Females	10	..	..	..	..	..	..	..	..	1	1	4	..	..	3	..	..	..	..
Third Quarter...	Males..	17	..	1	..	..	..	1	1	3	4	2	4	..	2	..	1	..	..	..
	Females	4	..	..	..	..	..	..	..	..	1	1	3	1	1	..	..	1	..	..
Fourth Quarter...	Males..	13	..	..	..	..	..	..	2	1	2	1	3	..	2	..	..	..	..	..
	Females	4	..	..	..	..	..	..	..	1	1	..	..	..	1	..	..	..	..	..
Total	Males..	60	..	1	..	..	..	1	7	7	9	4	12	6	9	4	..	1	..	..
Total	Females	27	1	..	..	..	..	1	1	1	4	3	9	2	5	..	1	..	..	..

Appendicitis, 87; Suicides, 239.

Year 1891.

First Quarter...	Males..	9	..	..	..	..	..	..	..	2	2	1	2	1	1	..	..	..	..	..
	Females	5	..	..	..	..	..	..	1	..	..	2	..	1	..	..	..	..	..	..
Second Quarter...	Males..	9	..	..	..	..	..	..	1	1	..	..	2	2	1	..	2	..	..	..
	Females	7	..	..	..	..	..	..	1	1	1	..	1	1	1	..	1	..	..	..
Third Quarter...	Males..	24	..	..	..	..	..	..	2	4	4	3	4	4	2	..	1	..	..	1
	Females	9	..	1	..	..	..	1	2	2	..	..	1	1	1	..	1	..	..	..
Fourth Quarter...	Males..	10	..	..	..	1	..	1	..	1	..	3	2	1	2	..	..	..	..	..
	Females	10	..	..	..	..	..	..	1	..	1	1	..	3	2	1	1	..	..	..
Total	Males..	52	..	..	..	1	..	1	3	8	6	7	10	8	6	..	3	..	..	1
Total	Females	31	..	1	..	..	..	1	5	3	2	3	2	6	4	3	2	..	..	..

Appendicitis, 83; Suicides, 300.

Year 1892.

First Quarter...	Males..	18	..	..	..	..	..	..	3	..	1	3	2	3	2	3	1	..	..	..
	Females	12	..	..	..	..	..	..	1	2	1	4	3	..	..	1	..	..	..	..
Second Quarter...	Males..	17	..	1	..	..	1	..	1	2	2	4	4	1	..	1	1	..	..	..
	Females	17	..	..	..	..	..	..	1	1	3	1	6	2	1	1	1	..	..	..
Third Quarter...	Males..	27	..	..	..	..	..	1	2	5	1	6	5	1	4	..	2	1	..	1
	Females	11	..	..	..	1	..	1	1	1	1	2	..	1	1	2	..	1	..	..
Fourth Quarter...	Males..	16	..	..	..	..	..	..	..	3	2	4	3	2	1	1	..	..	..	..
	Females	11	..	..	..	..	..	..	..	2	2	2	1	..	1	..	2	1	..	..
Total	Males..	78	..	1	..	..	..	1	6	10	6	17	14	7	7	5	4	1	..	1
Total	Females	51	..	..	..	1	..	1	3	6	7	9	10	3	3	4	3	2	..	..

Appendicitis, 129; Suicides, 249.

Year 1893.

First Quarter...	Males..	8	..	..	..	..	..	..	..	..	1	..	3	4	..	..	..	..	..	..
	Females	5	..	..	..	..	..	..	1	1	..	2	..	..	..	1	..	..	..	..
Second Quarter...	Males..	13	..	..	..	..	..	..	..	2	2	3	1	2	1	..	..	..	..	..
	Females	13	..	..	..	..	..	..	..	1	2	2	2	3	..	2	..	..	..	..
Third Quarter...	Males..	20	..	..	..	..	..	..	1	1	3	4	9	..	2	..	..	..	..	..
	Females	9	..	..	..	1	..	1	1	1	1	2	..	1	1	..	2	..	..	..
Fourth Quarter...	Males..	15	..	..	..	..	1	..	3	3	1	1	4	2	1	..	..	..	..	..
	Females	4	..	..	..	..	..	..	1	..	..	..	1	2	..	..	..	..	..	..
Total	Males..	56	..	..	..	..	..	..	4	6	7	8	17	8	4	..	2	..	..	..
Total	Females	31	..	..	..	1	..	1	4	2	3	6	3	6	1	3	2	..	..	..

Appendicitis, 87; Suicides, 314.

Year 1894.

First Quarter...	Males..	14	..	..	..	..	..	..	3	2	..	1	3	2	3	..	..	..	..	..
	Females	12	..	..	..	..	..	..	1	1	..	2	3	2	2	1	..	..	..	1
Second Quarter...	Males..	24	..	..	1	..	1	..	1	3	2	5	5	3	4	..	..	..	..	..
	Females	6	..	..	..	..	..	..	1	2	..	1	..	1	1	..	..	..	..	..
Third Quarter...	Males..	18	..	..	..	..	..	..	1	2	4	4	..	2	3	2	..	..	..	..
	Females	13	..	..	..	..	..	..	1	2	1	1	2	2	2	2	..	..	..	..
Fourth Quarter...	Males..	13	..	..	..	..	..	..	..	2	2	1	5	..	3	..	..	..	..	..
	Females	17	..	..	..	1	..	1	3	3	2	2	2	4	..	..	..	..	..	1
Total	Males..	69	..	..	1	..	1	..	5	9	8	11	13	7	13	2	..	..	..	..
Total	Females	48	..	..	..	1	1	1	6	8	3	6	7	9	5	3	..	..	..	2

Appendicitis, 117; Suicide, 331.

Year 1895.

First Quarter...	Males..	26	..	1	1	..	2	..	4	..	6	3	3	2	1	5	..	..	..	..
	Females	26	..	..	..	..	..	..	2	3	4	4	3	5	1	4	..	..	..	..
Second Quarter...	Males..	24	..	..	..	..	..	..	1	2	2	5	8	5	1	..	..	..	..	..
	Females	15	..	..	..	..	..	..	4	..	..	4	4	1	1	..	1	..	..	..
Third Quarter...	Males..	40	2	..	1	..	5	..	8	4	4	4	4	5	5	..	2	..	..	..
	Females	25	..	..	..	1	..	..	1	2	2	3	8	5	1	2	..	..	..	1
Fourth Quarter...	Males..	23	..	..	1	..	1	..	3	5	..	5	4	..	3	1	1	..	..	1
	Females	13	..	..	..	..	..	..	1	6	..	2	1	3	..	..	..	..	..	..
Total	Males..	113	2	1	2	1	2	8	16	11	12	17	19	12	9	6	3	..	..	1
Total	Females	79	..	..	..	1	1	1	8	11	6	13	16	14	3	6	1	..	..	..

Appendicitis, 182; Suicides, 376.

Year 1896.

First Quarter...	Males..	29	..	..	1	..	1	..	4	..	4	3	4	6	4	2	1	..	..	1
	Females	15	..	..	..	..	..	..	4	1	1	1	2	1	3	..	1	1	..	..
Second Quarter...	Males..	31	..	..	2	..	2	..	3	4	2	6	4	3	1	3	2	..	..	..
	Females	21	..	1	..	..	1	..	2	4	3	1	5	..	..	3	1	..	..	..
Third Quarter...	Males..	38	..	..	..	..	..	..	5	6	4	5	4	8	4	1	1	..	..	..
	Females	24	..	..	..	..	..	..	3	1	2	5	5	5	1	1	1	..	..	1
Fourth Quarter...	Males..	31	..	..	..	..	..	..	..	2	1	5	9	4	3	1	..	..	..	1
	Females	12	..	..	..	..	..	..	2	1	1	2	2	2	1	1	..	..	..	..
Total	Males..	129	..	..	3	..	3	..	12	12	15	21	22	21	12	7	4	..	..	2
Total	Females	72	..	1	..	..	1	..	11	7	7	9	15	8	5	5	3	1	..	1

Appendicitis, 201; Suicides, 384.

Year 1897.

First Quarter...	Males..	38	..	1	..	..	1	..	4	5	4	4	11	4	4	1	..	..	..	3
	Females	15	..	..	..	..	..	..	4	..	..	..	3	4	1	2	1	..	..	2
Second Quarter...	Males..	25	..	..	1	..	1	..	5	4	3	2	4	4	2	..	..	..	..	1
	Females	20	..	..	..	..	..	..	3	3	1	3	4	1	1	3	1	..	..	..
Third Quarter...	Males..	35	..	..	..	..	..	..	4	8	5	9	2	2	3	2	..	..	..	..
	Females	18	..	..	..	..	..	..	1	5	2	2	4	..	3	1	..	..	..	..
Fourth Quarter...	Males..	27	..	..	..	1	1	..	2	6	1	3	3	8	1	1	1	..	..	3
	Females	15	..	..	..	..	..	..	1	3	1	2	2	3	2	1	..	..	..	..
Total	Males..	125	..	1	..	1	1	3	15	23	13	18	20	18	10	4	1	..	..	7
Total	Females	68	..	..	..	..	..	..	9	11	4	7	13	8	7	7	2	..	..	2

Appendicitis, 193; Suicides, 436.

* The Bronx is a district on the North recently annexed to New York.

		Year 1898.															
First Quarter...	Males..	40	..	..	..	..	..	2	4	4	7	10	8	1	4	.....	.....
	Females	24	..	..	..	..	..	1	1	4	7	3	3	1	3	1	.....
Second Quarter..	Males..	28	..	..	..	1	1	2	1	6	2	7	3	4	2	.....	1
	Females	33	..	..	..	..	..	3	3	6	6	4	3	3	4	1	.....
Third Quarter...	Males..	42	..	..	1	1	..	2	7	1	3	7	8	9	3	2	.....
	Females	27	..	..	..	..	..	5	.....	2	4	4	6	.....	3	2	1
Fourth Quarter..	Males..	40	..	..	..	..	..	3	10	1	5	5	9	5	2	.....	2
	Females	18	..	..	..	..	..	.....	4	2	5	3	1	.....	1	1	.....
Total	Males..	150	..	..	1	2	1	4	13	21	10	20	30	29	13	8	5
Total	Females	102	..	..	..	..	..	9	8	14	22	14	13	4	11	5	1

Appendicitis, 252; Suicides, 428.

		Year 1899.															
First Quarter...	Males..	35	1	..	..	..	1	3	1	4	7	8	5	1	3	2	1
	Females	29	..	..	..	..	.....	6	3	2	4	8	3	3	.....	.....	2
Second Quarter..	Males..	59	..	..	1	3	.....	4	8	6	9	13	5	9	1	.....	1
	Females	42	..	..	..	2	.....	2	8	5	8	10	5	2	1	1	.....
Third Quarter...	Males..	51	..	..	..	1	.....	4	5	8	8	9	8	1	6	1	1
	Females	28	..	..	..	..	.....	2	5	4	4	6	1	2	2	2	.....
Fourth Quarter..	Males..	35	..	..	1	..	.....	3	6	4	6	6	2	6	1	.....	.....
	Females	27	..	..	..	..	.....	3	1	3	1	7	2	5	1	4	2
Total	Males..	180	1	..	2	4	7	14	20	22	30	36	20	17	11	3	2
Total	Females	126	..	..	..	2	2	11	17	14	17	31	11	12	4	5	5

Appendicitis, 306; Suicides, 400.

DEATHS FROM APPENDICITIS, NEW YORK CITY, YEAR 1899, ARRANGED BY QUARTERS.*

		Year 1899.															
First Quarter...	Males..	54	1	..	..	1	2	4	3	7	9	11	7	5	4	2	1
	Females	39	..	..	..	..	.....	6	4	2	7	11	3	3	3	.....	2
Second Quarter..	Males..	78	..	..	1	4	5	6	10	8	11	18	7	10	2	.....	1
	Females	59	..	..	2	2	4	3	9	7	11	15	5	3	1	1	.....
Third Quarter...	Males..	80	..	..	..	1	1	7	11	12	11	12	14	2	7	2	1
	Females	43	..	..	..	..	.....	5	7	5	7	9	2	3	2	1	2
Fourth Quarter..	Males..	53	..	..	2	..	2	4	10	4	9	10	3	8	2	1	.....
	Females	36	..	..	..	..	.....	6	21	17	27	45	13	14	7	6	3
Total	Males..	265	1	..	3	6	10	21	1	3	2	10	3	5	1	4	2
Total	Females	177	..	..	2	2	4	20	34	31	40	51	31	25	15	5	1
Total of both sexes..		442	1	..	5	8	14	41	55	48	67	96	44	39	22	11	3

* Manhattan and Bronx Boroughs.

Estimated population Greater New York, July 1, 1899, 3,550,053.
Estimated mean population of New York (present boroughs of Manhattan and Bronx), for ten years, 1890-1899, inclusive:
1890.....1,612,559 1895.....1,879,195
1891.....1,659,654 1896.....1,934,077
1892.....1,708,124 1897.....1,990,562
1893.....1,750,010 1898.....2,048,830
1894.....1,809,353 1899.....2,117,106

Estimated mean population of Manhattan and The Bronx since consolidation:
Manhattan1898. 1,911,755 1899. 1,953,569
The Bronx1898. 137,075 1899. 163,537
2,048,830 2,117,106

and the adult?" Is the disease so much more common in early life that we should be on the alert for it when painful abdominal symptoms suddenly set in? Has appendicitis a large mortality in childhood? We certainly have reason to believe that various innocuous types of typhlitis and appendicitis are very common in early life, but though there is at this stage an absence of many complex pathologic conditions found only in the adult, which give rise to symptoms similar to cecal implication, here even in childhood and infancy there are numerous diseased states that in their general features and most pronounced symptoms are quite identical with appendicitis.

STATISTICS.

In order to determine the relative mortality of appendicitis at the different stages of life, I requested Dr. R. S. Traey, the registrar of records in the Health Department of New York, to provide me with data under this head. Below are the figures very kindly supplied by him. These tables include all the cases of appendicitis ending fatally in New York City, and the annexed district north, in the ten years preceeding 1900. There were in all 1637 deaths; in children under 5 years, 218 cases; 1331 in children under 15 years; 375 cases; 22.90. Just before these appended tables were prepared for me, the question of prophylactic appendectomy was discussed in the *St. Louis Medical Review*, when I was able to show that the annual number of deaths from suicide in New York was greater than from appendicitis.

CONSTITUTIONAL AND LOCAL SYMPTOMS.

Richardson has said that "the presence of acute ap-

pendicitis is rightly regarded as easy to determine, as there are few diseases which have so uniform a set of symptoms." This statement is no doubt correct, in typical cases, but if it be intended to apply to many of the complex forms seen in childhood, it will not hold.
The dominant symptoms, fever and colicky pains, are very common in many maladies of infancy and childhood. Holt has called attention to the frequent presence of severe epigastric pain from hepatic or splenic congestion in malaria of early life. All know how common painful disturbances are along the intestinal tract, from worms—ascarides and lumbricoides—in children. Recently, Frazer reported a case of appendicitis in which the appendix was found filled with oxyurides vermiculares. The patient was 2 years old.²²
Tuberculosis of the intestinal tract, its serous investment or its lymphatic glands in the inflammatory stages, is attended with pain varying in intensity and location. Its usual site is the hypogastrium, although sometimes the area of hyperesthesia will be found over the site of pathologic changes in the tissues. Dysenteric and diarrheal diseases in childhood and infancy are quite invariably attended by spells of severe pain. These conditions may precede or accompany appendicitis of a severe form in young children. Griffith in recording two successful operations for appendicitis in two patients, 3 and 4 years old, respectively, says that in both there was a marked distension of the abdomen with a dysenteric diarrhea.²³ The constitutional symptoms of acute appendicitis are quite identical with those of peritonitis, in fact, in nearly every well-marked case of appendicitis the peritoneum is involved. Pain, fever, thirst, vomiting, a quick pulse with great prostration, warn us that some serious pathologic condition is in operation, involving parts invested by the peritoneum. The parietic intestine and bladder contribute toward abdominal distension. The spread of infection up through the parietal investment extends into the muscles and all the overlying tissue. Muscular rigidity and free edema along the lateral plane of the abdomen, in peritonitis, is one of the consequences.
Despine says that the inception of the septic form is more insidious in the child, and so the disease is

more redoubtable. This author also alleges that perforation is here more common than with the adult. Acute severe appendicitis often begins with the symptoms of mechanical obstruction of the intestine, although in some cases of interstitial tuberculosis the same phenomenon may obtain. Quènu records such a case, in which the first symptoms pointed to occlusion and the second to appendicitis.²⁴

That the premonitory symptoms of appendicitis in the child are more subtle and insidious than in the adult is lacking in support. Richardson, speaking of the symptoms in general, says that "pathological processes, ulcerative, etc., may go on without symptoms until the peritoneal coat is involved." This is entirely in accord with our own experience in the adult, and is just as commonly as with the child.²⁵

Neither does our experience justify the assertion that the malady is more grave in the child, or that when gangrene occurs in early life pain abruptly ceases. When we are in doubt as to the interpretation of symptoms in appendicitis when seen early, says Talamon, we may often delay from four to five days, when peritonitis will be present. Breton notes the occasional absence of pain in atypical appendicitis of children, as is sometimes seen in adults.²⁶

Dieulafoy, a noted clinician of great experience, is emphatic in pronouncing all well-developed cases of appendicitis in children as being exceedingly lethal. He says, the physician should note the symptoms with caution and make no delay in calling for surgical aid.²⁷

ON THE RELATION OF SYMPTOMS TO PATHOLOGIC CONDITIONS.

Symptoms in disease are Nature's monitors, to warn us of the presence of lethal processes in the economy. They usually bear a comparatively definite relation to the extent and to the character of pathologic changes in operation.

There have been many attempts at the classification of the various types of appendicitis, by several authors, and it has been alleged that each is usually manifested by a fairly uniform group of symptoms. But while such a consummation is something most earnestly desired, we are yet very far from it. There are but three phases of appendicitis which, by either signs, symptoms or diagnostic evidence, can be established with any reasonable degree of certainty. These are:

1. *Acute appendicitis or peri-appendicitis in its congestive or plastic stages*, beyond which the great majority of cases do not advance, particularly in early life. The pericecal tissues share freely in the pathologic changes here. There is a well-defined iliac tumor with *peritonisme*; the knee is drawn up and the patient walks with a stooped and painful gait. There has been a large plastic effusion in the pericecal tissues, the vessels are highly engorged and lymph is freely transuded. There is a sharp but transient reaction of the constitution in a vigorous patient; but struma, syphilis, tuberculosis or malaria will protract it.

In this class we should see to it that the colon is well cleaned early by enemata, as a free alvine evacuation will often reduce all symptoms, as though by magic; with this, fever and vomiting cease; convalescence is established with increased strength.

Vesical distension: In this class it is of the greatest importance in young children that we shall closely look to the state of the bladder, which becomes enfeebled early and is liable to overdistension, when greater agony and danger may arise from this than the condition which

gave rise to it. In fact, it may of itself impart an aspect of forlorn hope to a case of appendicitis, otherwise comparatively harmless. An illustrative instance occurred to me some years ago. A boy of 9 years, suffering for nine days from appendicitis, was under the care of the most noted pediatricist of New York. The case taking on alarming symptoms a noted surgeon was called in consultation. It was decided that he had general peritonitis, that the case was not a proper one for laparotomy, and that there was but little hope of recovery. In the evening of the same day the case came under my charge. On inquiring about the urinary evacuation, the nurse said "he was passing urine all the time and was wetting everything." This disarmed my suspicion. But the abdomen was enormously distended; besides, it had a peculiar shape and feel; everywhere it was so exquisitely sensitive that anything like proper palpation or percussion was impossible. As the boy went under an anesthetic and spasm passed off, the greater volume of the fulness was seen inclined toward the right side, which led me to suspect a vast typhlitic abscess.

In opening through the abdomen care was taken to divide and isolate all the layers separately. This step, it was soon learned, saved us a serious accident. When the peritoneum was exposed it bulged freely into the incision. This was very carefully divided, when another smooth glistening body closely followed. This at first puzzled me. I passed an index finger into the peritoneal cavity and followed this tumor down into the pelvis, where its relation convinced me that it was an overdistended bladder. With the abdomen yet open, a catheter was passed and 51 ounces of urine withdrawn. The appendix, highly inflamed and thickened, was easily found and removed. All the pericecal tissues were highly inflamed. The boy rapidly recovered, but he would have equally as well and more rapidly had catheterization alone been performed.

Another somewhat similar case came under my care two years ago, in Mamaroneck, N. Y. Dr. A. H. Hoerr sent for me in the evening to come up and operate on a severe case of appendicitis in a girl of 12 years. When I reached there, in the afternoon, although there had been a great change for the better, full preparations were made for the operation.

On a thorough examination of the case there was no evidence of a single bad sign nor symptom. The mother informed me that for five days her daughter had suffered the greatest agony, the pain beginning in the right groin and spreading over the abdomen, which had become distended, hard, and sensitive everywhere. Thirst and vomiting persisted, and rest or sleep was impossible without large doses of morphin. But at midnight she made a desperate effort to urinate and passed nearly a quart vessel full. An hour later she rose again and passed fully a half-gallon more. Then she went to sleep and did not awaken till nine the next morning, when she had another large evacuation of urine, this time with a copious alvine discharge from the bowels.

All the symptoms had vanished and now she only craved something to eat. I saw nothing to warrant an operation at this juncture, very much to the gratification of the poor child and her anxious parent. Dr. Hoerr informs me that she was out in a week and that there has been no evidence of recurrence.

Septic symptoms sometimes accompany those cases of what I would designate "congestive appendicitis."

The modern word "sepsis," which may mean anything or nothing, next to malaria, has been made the scape-goat of diagnosis in nearly every conceivable malady. In appendicitis it calls up in the imagination pools of pus, a decomposed, rotten appendix; while we remain quite unmindful that there is often at the bottom of this sepsis an overdistended paralyzed colon, filled with a germ-laden, foul mass of impacted feces. Let us not be deceived into overlooking the state of coprostasis because there is some looseness; as in some of the worst cases of impaction, it is the most marked. These cases all call for a digital examination of the rectum. Mr. Thornley Stoker of Dublin has called attention to the importance of a critical examination of the colon and rectum in all these cases.

2. *Appendicitis with gangrenous, ulcerative perforation and suppurative typhlitis* is a lesion consecutive to the congestive form and is manifested by essentially the same symptoms, only that they are more intensified and the constitution is more seriously compromised. In this type, true septic processes are in operation in varying degrees of intensity. The appendix is the seat of vascular asphyxia, gangrene and perforation. It early forms very firm adhesions, most frequently with the cecum, and lights up an inflammation which spreads widely through the pericecal tissues. When the cecum itself is the seat of gangrenous perforation, a similar pathologic process is in operation and similar symptoms attend. Naturally enough, we look for an acute peritoneal reaction with grave disturbances of the system when mortification has seized on an intestinal structure of the abdominal cavity.

A lesion attended with suppurative changes, necrosis or rupture of a tubular structure one would presume would stir up and call forth a series of alarming symptoms, both constitutional and local. But, strange to say, in some cases of this class there are but very slight, if any marked, systemic disturbances. It has been said that perforative appendicitis is of a more insidious character in children, and that the disease possesses a more acute course with them, and hence the importance of early and definite diagnosis here. In tubercular cases, it is true, the onset may be quite insensible, but the same obtains in the adults, hence it may be said that, as a rule, suppurative or gangrenous appendicitis of various types presents no definite symptoms whatever, until the peritoneal investment is involved and perforation has begun. We know no pathognomonic symptoms in the early stage of these conditions, nor at any time during their course in a large number. Even if we did, it is doubtful whether it would avail anything for the reason that there can be no doubt, but in the great majority of suppurative or perforative cases, well localized and encysted, the peritoneum, the cellular tissues and the lymphatics are capable of rendering the effete elements of pyogenic and disintegrating changes so innocuous that their residuum may be completely resorbed and assimilated with impunity. Appendicitis of this type seldom presents urgent symptoms, except when there is fecal extravasation, when pus is formed in great quantities and burrows into the retroperitoneal tissues, or there is impending danger of the pyogenic membrane bursting and provoking a general peritonitis.* In aggravated cases of this type there is nausea, vomiting and thirst, with persistent constipation from paresis of the intestine. Peristaltic tugging of the small intestine on the inflamed, imprisoned cecum produces periodical pain of the most agonizing type. This is augmented by coughing, vomiting, or any sudden

straining of the diaphragm. The pain is felt with the greatest intensity in the epigastrium, although the site of the greatest tenderness is over the intestines, the cecum and neoplastic mass. In the adult this is the most constant at McBurney's point, where the cecum is most commonly lodged; but in the infant and growing child the cecum has a longer and looser mesentery which permits of a considerable degree of movement toward the median line; moreover, it has not yet fully descended, and hence McBurney's point in early life is too low down and external to fall over the underlying cecum. When the appendix is lodged under the cecum, and is practically extraperitoneal, the suppuration following perforation may penetrate deeply behind the pelvic fascia; there is an absence of a defined tumor; purulent absorption gives rise to symptoms of septiceemia, to a low grade of fever with diarrhea, exhaustive sweats and emaciation. These are the cases which may be confused with or mistaken for typhoid fever. Invariably the system is in a state of toxemia (septic), so that even though a laparotomy be performed and the decomposed purulent material evacuated, septic symptoms yet linger and the patient may sink. If recovery follows it is tedious. In fact, some of these grave cases are so profoundly septic and the degree of cardiac exhaustion is so great that late operation brings no relief.

The constitutional condition is generally the main guide to rely on in the average case of encysted typhlitis or appendicitis. The presence of a small iliac tumor gives one little apprehension, if severe pain is absent; there is no vomiting nor thirst, and marked muscular rigidity is absent. Resolution in many of these cases is as rapid as the onset. The first, most salutary symptoms of this are loss of thirst, the cessation of pain, a large free action of the bowels and return of natural sleep and relish for food.

3. *Perforation of the appendix directly into the peritoneal cavity* is accompanied with redoubtable symptoms. They may set in suddenly or gradually, and are dependent on a general peritoneal infection of all the serous structures in the abdomen. It early spreads outward through all the tissues in the abdominal walls. The entire intestines and the bladder are paralyzed. The abdomen is flat, hard, and everywhere highly sensitive. The pain is most agonizing. The patient vomits great quantities of bile and suffers from an insatiable thirst. The pulse points to a flagging heart and the cadaverous, shrunken features of the patient often portend mortal changes near at hand. This is the final close of grave appendiceal cases, said by Dieulafoy and some other authors to be most frequent in children. This, if borne out by ample support, should suggest the great importance of a correct interpretation of the symptoms at the very earliest stage of the malady, that prompt surgery may cut it short, while yet an operation may be safely supported. Could we by any symptoms determine with any degree of certainty when a gangrenous appendix opens into the general cavity of the peritoneum, probably every life might be spared. It does not appear clear whether in all these cases they were first of the encysted variety just considered, the pyogenic wall giving way around them, or whether the gangrenous appendix at the very outset opens directly into the peritoneal cavity. Some authors claim that on the appendix opening into the peritoneal cavity there is marked shock and great prostration, but this has not been my experience. With the escape and diffusion of fecal fluids and gases there can be no doubt that the general

spread of infection extends over wide areas and is attended with an intensity in the symptoms proportional to the extent of pathologic changes. But, except in rare cases of the fulminant type, it is probable that after a small perforation the leakage is gradual and we have no sharp peritoneal reaction or grave symptoms until infection is generalized. The most constant and harrowing symptom of acute general peritonitis is pain; and no description of pain so quickly crushes the spirit of the stoutest and paralyzes the heart as that suffered in this disease. This must be relieved at all hazards, or all is lost. The temperature and the pulse fairly presage the progress and the termination of the malady. With the subsidence of the pain and a fair share of sleep or tranquility, thermal and vascular symptoms show signs of abatement.

Extreme restlessness, great thirst and a flitting, feeble pulse point to a state *in extremis*, when the case has passed beyond all human aid and the end is near.

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IS IT POSSIBLE BY PROPER DIETETICS AND HYGIENE TO EXTERMINATE TUBERCULOSIS?*

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I am aware that the literature on prophylaxis of tuberculosis is already very complete and contains more suggestions than we are willing at all times to take the trouble to thoroughly carry out; but the paramount importance of the subject, as shown by the terrible inroads being made upon the people of all lands, is my plea for bringing these considerations before the members of this Section, with whom rests most of the responsibility of educating the people to rid themselves of the ravages of the disease.

It is now nearly twenty years since the discovery of the bacillus of tuberculosis by Koch. During this time many of the world's greatest scientists have labored incessantly to conquer this microscopic enemy of mankind, and destroy its effects. The history-making in

all departments pertaining to tuberculosis has been rapid, and the data collected are of the greatest value. The causes have been surely demonstrated, the prevention is fast becoming an exact science, and the treatment is every year being improved, though yet far from what we could desire. At one time it was thought that a specific had been found. The press of the whole world was filled with praises for the discoverer, and it seemed fitting that to him should come this great honor. He had shown the existence of the germ, why should he not find the power to destroy. Soon it was learned that too much had been expected; more, indeed, than the investigator had claimed, for the new germicide proved to be impotent. Since then we have perhaps grown wiser and very few are now looking for a specific cure.

In spite of our better knowledge and treatment the disease has, in the meantime, at least been holding its own, or perhaps gaining ground. So great has the peril become that we can no longer consider simply the individual case, our attention being more and more directed to the saving of the people. This was shown when the invitation was extended to attend the International Congress in Berlin last year. The wording showed the issue—*Kongress zur Bekämpfung der Tuberculose als Volkskrankheit*.

The chief conclusions in this Congress, and also in articles in the symposium on tuberculosis, at the fiftieth meeting of the AMERICAN MEDICAL ASSOCIATION, were that the disease is not hereditary but acquired (Virchow¹ says: "I now positively dispute this heredity"); that to cure a large percentage of cases, the diagnosis must be made before destruction of the lung tissue has begun; and that by far the surest, and consequently the most important consideration is the prophylaxis, through public and personal hygiene, and the maintaining a high degree of general healthful conditions in the individual.

Neither in the Congress nor in the AMERICAN MEDICAL ASSOCIATION meeting was any method of treatment given which was expected at all to cope with the disease unless the cases could be seen in the very earliest stages. Many are curable if diagnosis is made early enough and proper treatment at once instituted. An analysis of several thousand treated in high altitudes shows that the average percentage of cures in the first stage is 65 per cent, and in the second and third combined, only 15 per cent.²

Granting that eventually our treatment can be improved till all cases can be cured, very few realize at what tremendous cost this cure is accomplished. Based on the figures of Knopf, that the cost of a tubercular charity patient in New York is \$522, Evans³ estimates "the cost of tuberculosis in the U. S. \$574,000,000 each year, and that tuberculosis kills 152,000 people in the U. S. each year. In the late war there were killed in all directions and in every way, 6300 people, while the war loan for the prosecution of the last war was \$150,000,000."

But I wish to call attention to another cost which is much greater, for which one of us would not willingly pay any sum which he could command, if he could ease the suffering and restore the health of one dear to him. We are all too familiar with this cost of mental and physical suffering, deprivations and exile from home.

Granting, then, that a cure is possible in every case, is not the cost and sacrifice too much, is it not better that the emphasis be at once placed where it belongs, and that is on the prophylaxis?

* Read by Title in the Section on Physiology and Dietetics, at the Fifty-first Annual Meeting of the American Medical Association, held at Atlantic City, N. J., June 5-8, 1900.

I realize that to place great emphasis upon any one point is to apparently minimize other extremely important ones, but now that the subject of general hygiene relating to the care of tubercular subjects, their surroundings, and the imperative disinfections required, is so thoroughly understood by all, at the risk of being thought as taking a too one-sided view of the matter, I will say nothing more of the general hygiene as I wish to present some facts which belong especially before this Section.

Careful study of statistics shows that over 12 per cent. of all deaths are from pulmonary tuberculosis. In an extremely large percentage of individuals dying from other causes, the bacillus tuberculosis has been found. In some cases active destruction of tissue had been present and entirely subsided, and in others the bacilli had apparently had no effect on the individual. We know that we are all constantly meeting the bacilli and taking them into our systems, and some of us are uninjured by their presence. There is scarcely any place where the bacteriologist has not demonstrated them: in the dust in the streets; in all public and private places; even the air we breathe and the food we eat are laden with the germs. Why is it, then, that some individuals go free, while others yield easily and succumb when attacked? For so omnipresent is the bacillus that if it were dependent alone on the germ, tuberculosis would soon claim the whole world as victims. Fortunately there is a condition against which this germ is powerless, a condition within ourselves which gives protection and immunity, a condition which the individual can absolutely modify, and almost entirely control.

Thomas,⁴ in his twelve directions to those who would avoid consumption, says: "Probably the most important of all is to see that the digestive functions are kept in perfect order. Dyspepsia is more often a forerunner of tuberculosis than any other disease. The secretions of a healthy stomach will dispose of a large amount of infected material, but when diseased, the stomach is the principal avenue of infection."

In the logical article of Davis,⁵ he says: "The true field for sanitary work in exterminating the bacillus of tuberculosis is in removing the defects, imperfections and impairments of vital resistance in the living body that make it possible for the microbe to multiply and produce disease either in man or animals. Prevent the formation of the necessary soil and you make sure of preventing the crop."

Knopf⁶ tells us that he considers "a careful inquiry into the mode of life of the patient, past and present, of great importance. The probably unhygienic environments, a dissipated life, a love for strong liquors, irregularity of meals, great disappointment in matters of love or business, or other depressing factors, all will often give a clue to the origin of an acquired, or to the awakening of a latent, pulmonary tuberculosis. It is well known that many a pulmonary consumption has been preceded by digestive disturbances or typical dyspepsia. Bad eaters are nearly all candidates for consumption."

Bouchard⁷ writes: "Disturbances of nutrition rule, in my opinion, the largest number of chronic diseases, and explain the appearance of many illnesses of an acute character." He also says: "We must still remember the fact that dilatation of the stomach renders the economy more vulnerable, and opens the door to diseases of debility. Pulmonary phthisis is often induced

by dilatation of the stomach, which exists in two-thirds of the tubercular, and, if we have sought for it early enough, we can convince ourselves that the physical signs of dilatation have sometimes for long preceded the first symptoms that may be regarded as the premonitions of tuberculosis."

In 632 cases of tuberculosis seen in private practice, with the exception of those which developed after unresolved pneumonia—and even in many of these—over 88 per cent. gave a history of either intestinal or gastric disturbance which had existed for a period varying from three months to several years, before the lung became involved.

In every instance in the remaining 12 per cent. the tubercular condition had existed over three years before the patient consulted me, and in each case at this time there was a marked digestive disturbance. Though each one was positive that there had been no early trouble of this kind, I felt sure that if an examination could have been made earlier quite a number of these would have been added to the 88 per cent. It was manifestly impossible to determine what form of disturbance preceded the tubercular trouble, inasmuch as the patients were not seen by me until long after the disease of the lungs had begun. It was even difficult to judge whether the initial digestive trouble was in the stomach or intestine, or both. With one exception these histories show a very representative class of citizens, coming from nearly every state in the Union. Many came from large eastern cities and not a few from country homes; but only a small number were from the chief center of the disease, the overcrowded tenement districts of the cities. This was probably due to poverty and consequent inability to go to a distant climate. But this indigence would surely be conducive to the very conditions of inanition which were so frequently found in my cases. Undoubtedly those who have worked most in these districts have found that there, pre-eminently, do indigestion and mal-assimilation precede the appearance of the tuberculosis, and these disturbances may have as much to do with the frequency of the disease among such persons as the overcrowding and unsanitary conditions.

From the conditions present at the time of my first examination, I should estimate that of the 88 per cent. who gave a history of indigestion antedating tubercular trouble, 78 per cent. were intestinal, 22 per cent. were of stomach origin, though at the time of examination over 56 per cent. showed trouble with both organs. As a long time had elapsed since the beginning of tuberculosis, the initial symptoms had changed greatly, and in most cases had grown worse. In many instances the patient would say that his digestion had always been good, and still remained perfect, and would sincerely think so. An examination would, however, reveal a different condition than he had supposed; microscopic and chemical abnormalities from an empty stomach and after test-meals, great distension over the abdomen, which had continued so long as to make all the abdominal muscles flabby and weak, frequently accompanied by a considerable degree of tenderness over the stomach or intestines, with sometimes tenderness and hypertrophy of the liver; coated tongue; extreme sallowness over the whole body; urine high colored, of high specific gravity and containing indican, bile or the bile pigments in great excess; often a large amount of catarrhal mucus in the stool, and microscopic evidences of an excessive amount of undigested food in the feces. Yes, he had noticed some of these things for a long time,

but had not known that they meant anything. He would simply loosen the clothing over the abdomen after eating and then would be all right.

It is my experience that patients are not very observing. Unless suffering acute pain they will say that they feel no disturbance. In most cases it requires very close questioning to obtain reliable histories, but perseverance in asking will frequently reveal what has entirely escaped the patient's attention. The history of such disturbance has been established in case after case when the first questioning would fail to elicit the fact of there having been any digestive fault. One of the chief reasons for the patient not observing any disturbance is because it comes on so slowly and many times, especially in the intestine, is without pain. Some have never known what good digestion meant, nor to how much better they were entitled. A few years ago I saw a patient in an eye clinic, who came to be treated for conjunctivitis. The Doctor asked her about the vision, and was told it was perfect. He then asked her to tell him the time by the clock on a distant tower. She replied that he could not fool her, there was no clock where he pointed. He then adjusted, by guess, some lenses in a frame and put them before her eyes. The look of astonishment was sufficient to show that she now realized that she never before had really seen, and yet she thought her eyes were perfect.

The history of my cases demonstrates clearly that previous to the tuberculosis manifesting itself there was a period of some months or years during which the individual was in a below-par condition. I do not argue that all depleted conditions lead surely to tuberculosis, but I do insist that there are very few tuberculous persons who did not, by their own habits of living, gradually bring themselves into a condition in which they could contract the disease. If this lack of resistance or debilitated condition produces or is the soil which is favorable to the growth and the development of the bacillus, is it not imperative that we should search early for the primary causes and eradicate them at once?

It is almost axiomatic that in all chronic diseases where no organic damage has been done, to remove the causes is to effect a cure, or rather allow Nature to do so. I wish to speak particularly of the earliest stages of the digestive trouble, especially to draw attention to the original causes which produced the faults rather than the effects on the digestive organs. We need then to go back a step, and look at other factors, concerning the habits of the individual, which are of vital importance, inasmuch as they have caused disturbances with the nutrition.

Based on standard diet-tables compiled by prominent authorities, of the whole number who had had digestive trouble nearly 76 per cent. gave a history of having eaten an excessive proportion of carbohydrates; 65 per cent. having indulged largely in sweets and desserts, many times having made entire meals from these confections; over 68 per cent. had for some protracted period over-eaten; 20 per cent. had lived on a general mixed diet—about standard; 45 per cent. had taken no regular out-of-door exercise; 34 per cent. had been excessively working from fourteen to eighteen hours daily—and in many of these there had been an element of worry and anxiety—had eaten very hastily, and had taken little or no rest during the day and not sufficient sleep at night; too little water drinking between meals, too much at meals. School children had not infrequently broken down from being overtaxed and improperly fed. The

usual annex to our public schools is the penny candy shop across the street, always well patronized. In one of the Denver public schools, whose pupils are from homes in which we would expect the greatest intelligence in the care of children, a teacher, whose pupils averaged 13 years of age, found that out of 45 children, 36 received from 50 cents to \$2.00 a month in spending money. The remaining 9 received either more or less. Without exception, every child patronized the "penny candy shop," and not one was restricted as to the amount he should buy or eat. Inquiry shows that this applies to other places throughout the country.

Let me very briefly refer to three of the greatest essentials to a perfect digestion: 1, a proper anatomical and physiological condition of the digestive organs; 2, proper foods—including kind, variety, quantity, proper cooking, etc.; 3, applied nerve force to run the digestive apparatus.

Any habitual departure from these essentials will cause trouble, but the list of departures in civilized countries is almost legion, and hence in some particular case may be very obscure, but must be sought till found. Over-eating is one of the greatest of our faults. Abernethy has told us that "one third of what we eat keeps us, the other two-thirds we keep at the peril of our lives." The human machine is the most economical engine constructed. Nearly all of the force and heat generated can be applied without waste, and, generally speaking, if we supply the proper materials with which it is to work, we need not concern ourselves, but may be sure the work will be well done and proper nutrition supplied.

When the beginning of digestive disturbance has been found, let me insist that it is not sufficient to say to the patient: "Eat what agrees." Almost before anything else this must be borne in mind. Bruce^s has well said: "First, food is not a mere matter of feeding or giving nourishment. Food is to be employed as a means of treatment at once powerful and delicate, calculated not only to nourish the tissues but to produce immediate, specific and remote effects of a perfectly definite and natural character on the different organs of the body just like the different medicines. Second, if the practitioner do not order the diet, some one else will—his patients or their friends. When he permits them to do so, that is to take an important part of the treatment out of his hands, he usually finds that patients yield to tastes and habits that may be morbid, or to advice which is well meant but probably unwise; and that patients' friends are moved by one thought only—to 'support the strength,' whatever else may be the result, ignorant or unmindful as they are of the other actions of food. Therefore the practitioner must never lose control of the diet. It is not enough that he should permit certain foods; he must employ them definitely as carefully-ordered means of treatment. He should always think of food before he thinks of medicine, and give it a corresponding position of importance in his directions to the nurse or patient."

I will not stop long enough to discuss here what constitutes a proper diet for a healthy person. I believe that we have a right to judge from the construction and physiology of the digestive tube, that a mixed diet is the normal diet, also the quantity of each class, varying with the latitude in which the individual lives, his environment, whether of sedentary habits, or living an out-of-door life, and whether he is a worker or a drone.

It must be carefully borne in mind that proportions

of food given in standard diet-lists are for persons with unimpaired digestion. When either the stomach or the intestine or perhaps both organs show faults in doing their work, no matter whether the causes directly or indirectly have to do with the digestive organs, then perhaps an entirely different proportion of foods must be advised, the proportion depending on which of the digestive organs is most at fault; sometimes cutting off, more or less temporarily, a part or even all of one of the broad classes of foods; that is, the proteins or fats, or carbohydrates, or some particular variety of one of these classes. As more frequent cases of intestinal disturbance occur, we shall more often be obliged to limit the starches and sweets. Not all of these varieties are digested with the same ease, so it is self-evident that that food which is most easily digested and has the highest nutritive value is best for the patient.

It must not be forgotten that there are two ways of judging the values of food, chemically and physiologically; chemically, in having the constituents which are necessary to the organism, but which perhaps can not be appropriated. For example, baked beans are nutritious and very rich in nitrogen, but physiologically they may be easily digested and assimilated by one person, while with another produce only excessive fermentation with its attendant mischief.

In an article by Professor Atwater,⁹ some of his conclusions are as follows: "Our diet is apt to be one-sided. It often does not contain the different nutritive ingredients in the proper proportions. We consume relatively too much of the fuel ingredients of food—those which are burned in the body and yield heat and muscular power. Such are the fats of meat and butter, the starch which makes up the larger part of the nutritive material of flour, potatoes, and sugar, of which such enormous quantities are used in the U. S. Conversely we have relatively too little of the protein or flesh-forming substances, like the lean meat and fish and the gluten of wheat, which make muscle and sinew, and which are the basis of blood, bone and brain. We use excessive quantities of food. Probably the worst sufferers from this evil are the well-to-do people of sedentary occupations—brain workers as distinguished from hand workers. Not everybody eats too much; indeed there are some who do not eat enough for their healthful nourishment. But there are those, and their name is legion, with whom the eating habit is as vicious in its effects on health as the drinking habit, which is universally deplored."

In connection with Professor Atwater's deductions as to the value of a relatively larger proportion of albuminous foods in maintaining a higher degree of health and strength, it is not out of place to say here that nearly all of the authorities now agree that in the treatment of tuberculosis the nitrogenous foods are very essential. Indeed, the recent experiments of Richet¹⁰ speak very emphatically as to their worth: "In a large number of dogs inoculated with human tuberculosis, under the same conditions, all died except those which had been fed exclusively on meat; 50 per cent. of these survived. Richet is inclined to explain this salutary action of meat diet on the same principles as the metaphoric method of therapeutics which he recently announced in the enhanced effect of sodium bromid. when salt is almost entirely omitted from the food. The impregnation of living cells by this or that alimentary substance renders them less apt to feel the influence of this or that medicinal or toxic substance.

By changing the nourishment of the cells they may be rendered more or less liable to the action of other substances. In feeding dogs with meat exclusively, the cells possibly become impregnated with the extractives of the meat and do not take up the toxins of tuberculosis."

Apropos is the edict from Rome. The *Medical Age* for June 25, 1899, says: "It is publicly stated that there has been an important secession from the ranks of vegetarianism, the entire Dominican order in England having received permission from Rome to eat flesh four days a week instead of perpetually abstaining therefrom as heretofore. In cases of ill health or especially hard work, meat is to be allowed six days a week. This decision has been arrived at after the closest medical and official investigation of the effects of perpetual abstinence from meat in a variable climate like that of England, the result being that vegetarianism has been declared incompatible with physical strength and hard work."

Also, Sir Wm. Roberts¹¹ says: "The effects of a vegetarian diet would only be gradually developed, and would probably not be fully impressed on the bodily and mental qualities of the race until after such habits had been continued through two or three successive generations." And then adds, "I have encountered in Salford, where, some years ago there existed a flourishing colony of vegetarians, a tradition that though vegetarianism might suit the parents it was bad for the children. And I have seen some striking examples in that borough which appeared to indicate that this tradition was well founded."

In my experience, the greatest harm which has come to any class from taking too exclusive a diet of starches and sweets has come to those of sedentary habits. In so far as one requires a greater quantity of the vegetable foods, he needs much more active exercise and out-of-door life. Frequently one who can not eat a normal proportion of the vegetable foods when confined to his office or desk, can take a large increase with impunity when spending his time away from the depressing environment.

As Wendling has aptly said: "No animal except man can be tempted to do himself harm against his intelligence." Yet, men go on cultivating all sorts of pernicious habits; eating rapidly and improperly; over-eating, and eating irregularly; eating foods chemically antagonistic; taking too much fluid with meals, habitually drinking ice water; living and sleeping in overcrowded rooms which can not have sufficient supply of fresh air; cultivating worries and anxieties to the highest degree; and being fatigued mentally and physically when ready to eat. I want to lay particular stress on this last-mentioned habit. Whenever there is either mental or physical fatigue too much emphasis can not be placed upon resting from twenty to thirty minutes before putting food into the stomach; and by resting I mean to make it absolute, by lying down and thoroughly relaxing physically and mentally, no reading, talking or planning. Then if after a half hour of such rest or sleep, one is still fatigued, it may be better to omit the meal entirely, rather than to subject the digestive organs to work which they would not do well. The ability to get perfect rest and relaxation is not easily acquired, but if persistently practiced day after day can be so perfectly attained that one will feel entirely renewed after a rest of ten or fifteen minutes.

These facts which I have reviewed can be readily

proved by all. If they stand uncontroverted, then it is the duty of every member of our profession to take immediate action. To do this successfully three things are necessary:

1. We must constantly revise and improve our methods of diagnosis so that we shall recognize the earliest tendencies toward unhealthy conditions. We need not wait until there is a fully developed digestive disturbance before we decide where the trouble is, for then the patient is able to recognize it for himself. To illustrate the advance made in recent years in making early diagnoses let me cite Bouchard,¹² in his discussion of the great prevalence of dilatation of the stomach. He says: "I still admit, through courtesy, that it is necessary to perceive the splashing below the middle of a line drawn from the umbilicus to the point nearest to the border of the left costal arch. But, in reality, this line is of little importance. Every stomach which is not retracted when it is empty is a dilated stomach. Dilatation is not distension. A dilated stomach is a stretched stomach, the cavity of which is apparent only when it is empty, because, though its walls then touch each other, it is no longer capable of diminishing its size by retraction." This is but one of many instances in which we now make earlier and better diagnoses than formerly.

2. The study of dietetics must be more carefully pursued. After quoting Donders, "whoever works at the development of our knowledge on food substances is working on a broad basis for the development of mankind"—Hemmeter¹³ says: "Fortunately for us, many bright intellects have already applied themselves to this work, and our knowledge has been enriched by treasures of valuable information. But the well-advised special student can not fail to recognize that we have only entered a vast territory, and that the greater part of it remains to be explored. Even the small portion which by hard toiling is clearly our own is, we regret to say, far from being the common property of the profession—at least it does not seem to be taken advantage of, the profession at large failing to realize that a logical and individualizing diet is a more potent therapeutic factor than medicine."

If, on account of the many demands on his time, the general practitioner has neglected the study of that greatest branch of therapeutics, the study and application of diet and hygiene in the cure of disease, let me urge that no other subject to which he can give his attention will so surely and easily enable him to cope with so many diseased conditions as such a study. Proper nutrition is the very corner-stone to the health building.

3. There is necessity for a long siege of educational work with our patients and the general public, but especially with the younger portion of the community, either directly or through the parents. And this is the most difficult part of the problem. They must be taught that good health ought to be the rule and not the exception; that habits of wrong living are the causes for the great majority of ill health; that each person is mainly responsible for his own illnesses and that if he will he can prevent them. Especially must this be insisted on in families where tuberculosis has existed.

In every community the hygienic conditions are being improved, so that the dangers from the source of improper sanitation and lack of disinfection are being steadily lessened. This is due to the work being so well organized and prosecuted by our medical societies and boards of health.

Now, the task of showing that persons in a depleted condition are practically the only ones who are in danger of becoming tubercular is imperative with us. We must teach the public that there is immunity, and that it comes in the bodily conditions which exist in that general state which we call good health. For obvious reasons the work must be largely carried on by the family physician and the parents.

In conclusion, as Dettweiler¹⁴ affirms that "The raising of the standard of food, betterment of its quality and quantity, are the unqualified requisites of every success, they are to-day the foundation and corner-stone of therapeutics of consumption," so I emphasize their place in prophylaxis.

EXTERMINATION OF TUBERCULOSIS.

Is it possible by proper dietetics and hygiene to exterminate tuberculosis? I believe it can be gradually accomplished, though there are two obstacles which are almost insurmountable, the first being the fact that as a rule people are not ready, while having a fair degree of health to make effort to preserve it. Those who have not suffered are not willing to be taught, and so will not readily co-operate in regulating the conditions which have to do with their own health, or the health of their children until they become ill. Then the poverty of many in small communities, and of the masses in the large cities, does not permit such foods and shelter, air and exercise as are required to produce healthful physical conditions. But each one must answer the question for himself, and as he thinks so will he work, and as he works so will the cause be hastened or retarded, for according to our present knowledge it depends not on any climate and its influence, nor on any community and its sanitation, nor on any one person and his work, but on the united efforts of all in every community.

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VARIOLA AND VARICELLA.*

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From a point of pertinent interest I deem it somewhat less than an impertinence to consider this subject, which within the last fourteen months has served to create disturbances of varied degree over different sections of Indiana.

The fact of some chicken-pox cases being present in this city, the mildness of some cases not requiring a physician until several members of a family were attacked, snap diagnosis from incomplete observation, and last but not least the ignorance and criminal negligence of some of the physicians in denying the existence of the disease as smallpox, has, with the refusal of the authorities to build a pest-house, notwithstanding the

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demands of the secretary of the Board of Health, W. T. Fairfield, served to keep up a desultory outcropping of cases in different parts of the city, until up to April 15 there had been reported and discovered 149 cases since the beginning of the epidemic.

We have positive evidences of the disease having been acquired from not only prolonged and continuous exposure, as in the same family, but also occurring after transient and slight exposure, from infected articles taken from one house to another, and one instance in which the only traceable exposure was from an open door through which were being carried articles to be destroyed.

One death has occurred, the patient being a baby 1 month old, who died during the second febrile or pustular stage.

The life history of this epidemic is identical with that of the more fatal forms—an incubation of twelve to fourteen days, a period of febrile invasion lasting four days, the fever-curve showing from 101 to 105 degrees, during which time there is experienced those never-to-be-forgotten pains in the limbs and occipito-lumbar regions. Nausea and vomiting as a rule accompany the period of invasion, and a chill generally serves to usher in the attack. About the fourth day the temperature drops to normal and the typical eruption begins to appear.

The initial rashes, as described by Osler, are of about the same frequency as in the more severe forms, occurring as a scarlet-red rash on the inner side of the thighs or on the sides of the chest, appearing on the second or third day and disappearing on the breaking out of the true eruption. This eruption in the discrete form appears first on the inner surface of the wrists and forearm, and along the forehead as small red spots. From here it spreads rapidly to other parts of the body, so that at the end of the first twenty-four hours from the fall of temperature, the distribution of the eruption can be definitely ascertained. Forty-eight hours later the eruption has passed through the papular stage, in which the characteristic shot-like feel might serve alone to anticipate a diagnosis. The sixth day finds opalescent papulo-vesicles, light yellow at the top, from a collection of serum, and these rapidly become purulent; with the change there is a settling down, flattening process in each and an umbilication of the center. This umbilication can be seen most plainly from the sixth to the eighth day, after which the pustule assumes a form rounded and globular from distension, and the easily ruptured roof gives escape to a varying quantity of a greyish-yellow pus.

On the occurrence of pus the temperature again rises and remains from twenty-four to forty-eight hours, unless means are taken to abort the absorption of the pus products by allowing their escape.

The eruption as to site is a universal one, including the palms of the hands and the soles of the feet, showing first on the forehead and inner surfaces of the wrist and forearm, and diffused most thickly over the head and face. The eruption is a symmetrical one, unaccompanied by moisture at any stage, while the lesions are progressive, appearing first as discrete red spots which rapidly become elevated from the surrounding skin, forming papules of a beefy red color, varying with the complexion of the different patients. The apex of these papules is rounded, the base not infiltrated, and they are of so firm consistence that they feel like shot beneath the skin.

The progress from the papular stage is with so great uniformity that forty-eight hours shows those papules to be transformed into vesicles with clear summits, and their roofs gradually flatten out and the flaccid walls allow a cupping of the center of each vesicle. Around the base there appears a trifle of induration, and a slight areola of a purple reddish color, extending scarcely more than a millimeter from the base. The change from a vesicle to a pustule gives to it a greyish-white color, the walls lose their flaccidity and the roof its umbilication, producing a lesion that is larger than the original papule, finally becoming a typical pustule, thin walled and easily ruptured.

The order of maturation corresponds to the positions of precedence: face and forehead, wrists and arms, body and limbs, then last the palmar and plantar surfaces. Should the roof of these pustules be destroyed and the pus removed, we find a depression corresponding to the base of the pustule in size and shape, shallow, with a slight induration at the base, and an uneven granular, easily bleeding floor with sloping edges.

This small granulating surface, when left exposed, becomes a hemorrhagic color and the depression is filled with a serosanguinous crust, easily disturbed and leaving a bleeding floor. When not disturbed the pustule, during the secondary fever, begins to dry up and a greyish-brown crust is formed, which in four or five days can be completely removed. Pitting depends on the severity of the disease.

Where the pustules are ruptured during the ripening stage and the pus expressed, a more or less granulating surface is allowed to heal and with proper precautions a transient stain will be the only remains. These stains or post-eruptive lesions, independent of pitting, remain a variable time up to three months. On the disappearance of the crusts the stains are of a salmon-pink color, getting darker after a few days, very noticeable on exposure to cold, showing then as a bluish-black through a thin and slightly corded area corresponding to the base and areola of each separate eruption.

Our smallpox diagnosis has been questioned in regard to chicken-pox, impetigo and the pustular eruption of syphilis. Not having had the marvelous cosmopolitan experience of some of our local physicians, I am unable to verify their telescopic conclusions in regard to the eruption being "Cuban itch," "Manila scratches," "Philippine impetigo," or "Arkansaw jiggers." Neither has it been my lot to have such close communion with some of the lower animals as to be able to make a snap diagnosis of "hog measles" or "dog itch."

Chicken-pox is an eruptive disease that may be only easy to differentiate from smallpox if one takes into conclusion the whole subject, yet one is hardly excusable in making a mistake if he takes into consideration the points of history, invasion and eruption.

Age of the patient can not be taken as a too weighty factor in the differentiation of one from the other. One of the most typical cases of chicken-pox I have seen occurred in an adult 38 years old, and during this epidemic. A case of chicken-pox in which the individual few pits are deeper than those which occur from mild smallpox is not uncommon.

The incubation period of varicella is generally shorter, averaging about ten days, while the smallpox cases have almost invariably shown the first symptoms on the fourteenth day.

The constitutional symptoms in some cases of the smallpox were so slight that they were no greater than

would be expected in varicella, but there was no immediate appearance of an eruption as in chicken-pox.

The diffusion and locality of primal appearance are similar in both diseases—the face and neck, arms and exposed surface—but in no instance do we see an adult with chicken-pox have an eruption on his palmar and plantar surfaces. In some of the cases of chicken-pox in children, where those surfaces offer little if any more resistance to the occurrence of a local infective process, we see the papules and vesicles occur. Neither have we had the croppy character in this epidemic, as we do in varicella; the eruption appears, the lesions progress through their characteristic papular, vesicular and pustular stages, then desquamate if the pustules are unopened. The chicken-pox cases show papules, vesicles and pustules at the same time over the same area, and the eruption shows a deeper infiltration at the base, a wider areola and in general a smaller sized papule than that of smallpox. In smallpox the invasion and severe constitutional symptoms last four days. In varicella twenty-four hours are sufficient to bring forth the eruption, and with the eruption there is an exacerbation of the febrile and systemic symptoms, something that is not found in smallpox. The papule of varicella is generally smaller, does not possess that shotty feel, and the progressive changes are more rapid.

There is an umbilication in both eruptions, but the time of appearance of each and their characteristics are hardly to be confounded. In variola there is an umbilication during the vesicular stage, which is not a permanent depression, disappearing on the occasion of the pustular change. In varicella the dipping down occurs during the close of the pustular stage and marks the point of beginning of the drying-up process which leads to crust formation and desquamation.

Very frequently in varicella the eruption is vesicular in its entire nature, and Holt speaks of it as being the rule instead of the lesions being progressive.

In contrast to the greater frequency of the eruptions on the face in smallpox, we have the greater number scattered over the back in varicella; they occur in the mouth and pharynx in both diseases, but differ in their characteristics here the same as on the outer surface.

Following desquamation in smallpox we generally have left a tubercle varying in size according to the depth and extent of the inflammation, this being a hyperplastic condition. In the severest cases, the inflammation is destructive instead of regenerative, and with the destructive process involving the papillæ, we get a pit or scar. In chicken-pox we have the site of the inflammation on the same level as the surrounding skin.

To attempt to differentiate the two diseases from the post-eruptive lesions alone, at a time greater than two weeks after desquamation, is something that without considering the entire case history might be rather difficult, were the two conditions to be of similar severity. We have noticed, though, that following the scaling of chicken-pox we invariably have a bright red spot left, while in smallpox, where the eruptions have been allowed to follow the entire course undisturbed, a similar discoloration is present, but in those cases where the vesicles are ruptured the resulting stain is of a bluish-black color.

In conclusion, a good rule to follow is the one that reminds you that typical cases occur rarely outside of books, when you are seeking them. The present epidemic is one which, either from a diminished susceptibility, a greater acquired or natural immunity, or a diminished virulence of the infection which has produced

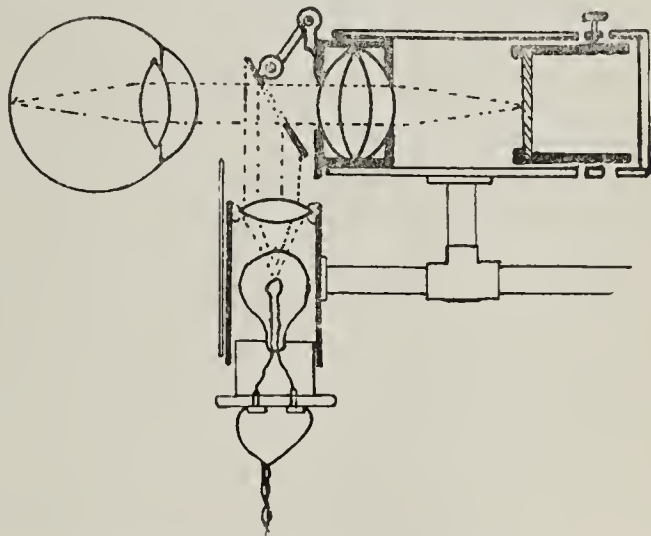
this spread of smallpox, discrete in form, modified in its systemic reaction and mild to a degree, unless after complications of which we have no knowledge now, only speaks volumes for vaccination and its results. Finally, there is no single pathognomonic symptom to either disease that can not be simulated, one in the other, yet in no case have I seen this similarity carried to an extent sufficient to make the differentiation indeterminable at some stage of the eruption.

PHOTOGRAPHING THE EYE-GROUND.

SHIRLS JACKSON, M.D.

PITTSBURG, PA.

The illustration shows a photograph of the eye-ground and the instrument with which it was taken. As the drawing indicates, the instrument is essentially a self-illuminating ophthalmoscope, where a little camera—practically an artificial eye—is substituted for the observer's eye. The patient's head is fixed immovably in the operating-chair, to which the movable arm of the camera is attached. The camera is swung in front of the patient's eye, and is rested firmly upon the cheek



with an intervening pad for thermal insulation. The cap at the back of the plate-holder is removed, and with the pupil dilated and the unobstructed eye fixed upon a remote object, a faint inverted image of the fundus may be focused upon the ground glass. The movable collar is fixed by the screw to mark this point upon the scale of diopters, from which a rough estimate of the refraction may be had—a rough optometer that might be improved. As the collar insures a return of the plate-holder to the focal point, the holder is removed, and with all lights extinguished excepting a



ruby lamp, a photographic dry plate is inserted in place of the ground glass; the holder covered with the cap is replaced; and the camera-light turned on. (Fourteen to twenty-eight seconds with blonds. Only the disc appeared in brunettes. The actinic value of the color of the eye-ground governs the exposure.) The negative is stored in a light-tight box, or developed at once.

I regret to say that the failures are both numerous and vexatious, and that the eye easiest to photograph is one with the light perception greatly diminished or entirely lost. The picture shown in the illustration was of such an eye.

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STAPHYLOTOXINS.

The poisons of the staphylococci have received but little notice. When one considers the great variability of the virulence of different races of staphylococci, occurring as they do now as harmless saprophytes, again as pathogenic agents of a great power, it certainly is remarkable that so little attention has been paid to the production of toxins by these organisms under different circumstances. Neisser and Wechsberg¹ have in a measure met this want by an exhaustive study of the staphylotoxins. As pointed out by Krauss² staphylococcus aureus produces a substance which dissolves red blood-corpuscles, i. e., acts as a hemolysin. Neisser and Wechsberg studied the action of this hemolysin on the blood-cells of the rabbit. Its production appears to be quite independent of degree of virulence, and it is destroyed by heating to 56 C. for twenty minutes. It was found that typical staphylococcus aureus and albus produce the same hemolysin; further, that there are staphylococci which do not produce any hemolysin and which probably constitute a distinct group without any pathologic significance.

Many blood cells are not dissolved while bathed in serum. It was found that serum protects other corpuscles as well as its own from the action of staphylolysin, i. e., it normally contains an antistaphylolysin. Normal human serum contains antistaphylolysin, although in varying degrees of activity. Whether this substance is present as the result of staphylococcus infections or otherwise has not been determined definitely. Antistaphylolysin is also obtainable by immunization, as two or three subcutaneous injections of an active toxin produce an efficient antitoxin. By suitable experiments the authors determined that staphylolysin like diphtheria toxin and tetanolysin consists of a mixture of toxins of varying avidity.

Van de Velde³ demonstrated that staphylococcus pyogenes contains or produces a substance which destroys leucocidin. This observation has received confirmation from various sources, and Neisser and Wechsberg demonstrated again the presence of leukocidin in filtrates of staphylococcus cultures by means of an interesting and ingenious method, the principle of

which is the following: normally leukocytes take a certain amount of oxygen from the surrounding medium and this in sufficient quantity to reduce and render colorless substances like methylene blue; when the leukocytes in a fluid are killed reduction of the methylene blue does not take place if the fluid has been kept sterile. In this manner they measured accurately the leukocidal action of leukocidin. This substance is also destroyed by heating at 56 C. for some minutes, and experiments with antileukocidin and leukocidins obtained from various races of cocci led to the conclusion that the leukocidins are identical. Normal serum of horse and of man contains antileukocidin, which may be produced also by immunization. During immunization infarcts appeared in the kidneys, marked by great accumulation in the vessels of dead and disintegrating leukocytes, the result of the action of the leukocidin.

It has thus been conclusively shown that staphylococci produce at least two distinct toxins, namely staphylolysin and leukocidin. Hence these microbes belong in the group which produces soluble poisons, and this fact must be borne in mind in the consideration of the pathology of staphylococcus infections.

HEATED SERUM TO PREVENT INFECTION.

The serum of the normal blood has been found to contain a remarkable ferment, or group of ferments, which, when fixed by certain specific substances to bacteria and to cells of various kinds, may cause their destruction and solution. This substance or group of substances was called alexin by Buchner; it is destroyed by heat for some minutes at 55 C. Bacteriolysis, hemolysis, and cytolysis in general have been made the subject of many exceedingly interesting investigations during the past three or four years, and certain general principles have been established in regard to the actions of serums of various kinds. Thus it has been found that a large number of antisera may be produced by first injecting animals with the special cells or bacteria or other substances upon which it is desired that the antiserum should act. The reactions that occur in experiments of this kind are exceedingly complex, and the resulting phenomena correspondingly difficult to explain. Some time ago Wassermann advanced the claim that the principal reason for the little success obtained by the use of bactericidal typhoid serum depended on the circumstance that the serum did not contain enough alexin. During bactericidal activity alexin is actually consumed, so that while an animal may be protected against a certain quantity of typhoid bacilli, it is killed when an excess of this quantity is introduced. In order to meet this emergency Wassermann concluded that more alexin should be added to the immune serum, and he found that by adding normal ox serum he could protect guinea-pigs against an otherwise fatal dose of typhoid bacilli. But it is not so certain that this effect is due to the alexin normally present in ox serum.

1. Zeitschr. f. Hyg. u. Infektionskr., 1901, xxxvi, 299-349.

2. Wiener klin. Woch., 1900, 3.

3. La Cellule, x, quoted by Neisser and Wechsberg.

Besredka¹ suggests that it may be due to the agglutinating effect of the ox serum upon typhoid bacilli, which are then more easily destroyed. In order to demonstrate whether the alexin in the ox serum actually increases the efficiency of antityphoid serum, the experiments should be repeated after having heated the ox serum. Metchnikoff and his pupils have found that heated normal serums, in which the alexin has been destroyed, do not thereby lose all their power. Heated serum injected into the peritoneal cavity twenty-four hours before the bacteria may save guinea-pigs from twice the fatal dose of cholera germs or typhoid bacilli. Still holding to the phagocytic theory they explain this result as due to the stimulating action which they have observed heated serum has upon the cells that act as phagocytes and also as due to the agglutination of the bacteria by the heated serum. For these reasons Metchnikoff and Besredka suggest that heated ox serum might be used with advantage in operations on the peritoneal cavity. The peritoneum might be bathed in a quantity of serum, and after the operation a certain amount could be left in the cavity in order to agglutinate any microbes which might have been introduced and to stimulate the phagocytes. Further researches in this line may give the surgeon more definite basis for action.

THE DIAGNOSTIC VALUE OF THE GRUBER-WIDAL REACTION.

The thorough clinician is careful not to attach undue or exclusive importance to any one or even several symptoms in arriving at a diagnosis, but he correlates all of the evidence, positive and negative, in a given case, and considers all of the possibilities, before reaching a definite decision. Therefore, when the Gruber-Widal serum-reaction was proposed as a means of diagnosis, he knew better than to rely upon it infallibly, and experience showed that the manifestation, which it was appreciated usually does not occur before the fifth or sixth day, occasionally fails to appear in cases of undoubted typhoid fever, that at other times it appears only late, that at still other times it may be present at one examination and absent at another, and that now and then it is yielded when there is no real evidence that the case is one of typhoid fever. Some of these irregularities in results are related to the dilutions of blood-serum employed and to other details in technique, but apart from this it may be conceded that there are exceptional cases of typhoid fever in which the reaction fails to develop, as well as exceptional cases of other disease in which the reaction does appear. There has been some discussion as to whether the reaction is one of infection or one of immunity, but the evidence is really not decisive that it is either. Nevertheless, it seems likely that it is specific and represents a result of the reaction between the invading micro-organism and the attacked organism. A similar specific reaction has

been described as belonging also to a number of other bacteria.

There has of late become evident in some quarters a tendency to belittle the value of the Gruber-Widal reaction in the diagnosis of typhoid fever, but apparently without good reason, if one may judge from the statistics that are reported. Thus Dr. C. F. Withington¹ states that the reaction was obtained in all but 10 of the 253 cases of typhoid fever in the Boston City Hospital from May 28 to November 28, 1900. The negative decision was based not upon a single examination, but upon frequently repeated observations, and as a result of which it was found that the reaction sometimes appeared exceedingly late, as late as the twentieth or the twenty-fifth day. The reaction was absent in six other cases in which the diagnosis of typhoid fever was made, although the evidence was not complete. The method employed consisted in drawing a few drops of blood from the patient's ear into a small section of glass tubing sealed at one end by heat and left open at the other. After the serum has separated, one drop is mixed with ten drops of an active culture of typhoid bacilli from twenty-four to thirty-six hours old. This mixture is studied side by side with the unmixed culture. The reaction is considered positive if immobility and clumping take place in the course of half an hour.

Dr. G. B. Shattuck reports, from the same hospital, 65 cases seen during the succeeding four months in which a clinical diagnosis of typhoid fever was made and in only three of which the Gruber-Widal reaction was not obtained.

SENILE CHOREA.

It is not surprising that confusion should arise in the minds not alone of the student but also of the practitioner of medicine from the application of the name chorea to a number of, in part, different affections, and there is a distinct opportunity for reform in this direction. The designation may properly be retained for the classic disorder first fully described by Sydenham, which is an acute, self-limited, probably infectious disease, while other names should be devised for the more chronic disorders variously known as congenital or hereditary or senile chorea, which are associated with organic changes in the central nervous system. Spasmodic or convulsive tic is sufficiently distinctive of the conditions sometimes designated habit-chorea and the jerky involuntary incoördinate movements of hysteria require no specific designation. Prehemiplegic and post-hemiplegic chorea represent merely irritative motor disturbances dependent upon various disorders of the brain.

Albuminuria is no longer considered synonymous with nephritis nor spasm with epilepsy, and in the same way, all conditions attended with irregular, involuntary, inco-

1. *Ann. de l'Institut Pasteur.*

1. *Boston Med. and Surg. Jour.*, May 9, 1901, p. 442; also *JOURNAL A. M. A.*, xxxvi., p. 1501.

ordinate movement should not be more or less indiscriminately grouped together as chorea. Some differences of opinion have also arisen with regard to some of the subdivisions of chorea. Thus so-called hereditary chorea and senile chorea are by some considered as different, and by others as identical affections. The qualification "hereditary" in medicine would seem to be as unfortunate as it is unnecessary, particularly in the field of diseases of the nervous system. In the first place, disease as such is not inherited, that which is transmitted from parent to child being merely a certain cellular type and thus at most merely a predisposition to disease; and this is the rule and not the exception. In the next place, even so-called "hereditary" disease must begin in some ancestor, and the instances are not few in which no hereditary transmission can be detected. The influence of heredity must, therefore, be looked upon as but incidental and in a sense not essential.

To the comparatively small number of cases described as senile chorea, H. Bischoff¹ adds the report of another. The patient was a woman 73 years old, presenting choreiform movements involving the entire left side of the body and persisting for five years until death. The movements, which rather resembled those of athetosis, were beyond control of the will, and ceased during sleep. Speech was interfered with, but intelligence was unaffected. There had been no history of rheumatism; there was no cardiac lesion; and there was no knowledge of hereditary taint. The symptoms had made their appearance after emotional disturbances, but this, it was thought, may have been a manifestation rather than the exciting factor of the disease. Headache, however, was a prominent symptom. Tuberculosis of the vertebræ also was present. Macroscopic and microscopic examination of the central nervous system after death disclosed no significant lesion, although there were present recent hemorrhages in the optic thalamus, and diminution in the number of ganglion-cells of one-half of the spinal cord such as may be found in the normal cord.

VITAL STATISTICS IN ILLINOIS.

As yet vital statistics are very imperfectly registered in most parts of this country and it is a satisfaction to note the enactment of measures that will insure a better record in the future. Such a one was passed by the last session of the Illinois legislature, which has just adjourned. It provides for the registration of births, allowing, as it should, a small fee for the reporting of the same, and providing penalties for its violation. Heretofore the return of births in Illinois has been very defective, but the present law gives to the health authorities the means for insuring a correct registration after this year, the law for some reason having been made to go into effect Jan. 1, 1902. It is probable that the deficiency in birth reports has been heretofore more largely among the well-to-do classes and native Americans than among the poorer and foreign born. At least this would appear probable from the

published lists. It is to be hoped that American mothers will make a better showing under the new law.

THE PATHOLOGIC EXHIBIT AT THE ST. PAUL MEETING.

This eminently practical feature of the ASSOCIATION promises to exceed both in interest and in size that of last year. There will be some exhibits illustrative of research and experimental work. Effort has been made by the Committee, with most gratifying success, to secure groups of specimens bearing upon particular phases of pathology. Systematic endeavor will be made to demonstrate the collection of specimens to groups of visitors. It may be stated without fear of controversy that the Exhibit will prove most entertaining and exercise a potent educational influence upon the meeting. The number of exhibitors will almost double that of a year ago. They will come chiefly from the states contiguous to the place of meeting, but the south, east, west, and even the Canadian profession will have creditable representation. The location of the Pathological Exhibit in the Ryan Annex, near the Headquarters, will insure a large attendance. The room is seventy-five feet square, has fine light upon two sides, is situated on the fourth floor and has excellent elevator service. No member of the ASSOCIATION should fail to visit the Exhibit. Aside from the great advantage to be gained by its inspection, it is due the large corps of exhibitors who for the love of medical science, have labored "without money and without price" for the success of this most praiseworthy undertaking.

TO HASTEN DELAYED RESOLUTION.

While the mechanism of counter irritation in its various forms is not understood, the fact of its usefulness is not to be denied. The most reasonable explanation, though it is but indefinite, is that an influence, probably of a stimulating character, is exerted reflexly from the surface through the nerves and vessels upon the circulation and metabolism of the diseased area. Such an effect may be desired in the presence of a number of torpid morbid processes, such as an unresolved pneumonia, and for this purpose it is not unusual to apply blisters or iodine. Dr. Charles I. Macalister¹ has observed frequently that resolution followed closely upon exploration of the chest with an aspirator needle in cases in which there has been a suspicion of pleural effusion, although only solid lung is encountered, and he considers the subsidence of the temperature and the subsequent clearing up of the consolidated area as not merely accidental. Similar results have been observed in cases of distinct croupous pneumonia and of pneumonic consolidation of long duration. In carrying out the procedure a fairly large needle or trocar should be employed. French clinicians have advised, in order to bring about resolution of chronic pneumonic conditions, the excitation of a sterile abscess in some indifferent situation, though preferably in proximity to the affected organ, by means of the subcutaneous injection of oil of turpentine. This is thought to effect its purpose not alone through its counterirritant influence, but also through the leukocytosis to which it gives rise.

1. Deutsches Archiv für Klin. Med., 69 B., 3, 4, H., p. 404.

1. Liverpool Medico-Chir. Jour., March, 1901, p. 216.

THE VERMIFORM APPENDIX THE CONSERVATORY FOR THE COLON BACILLUS.

From experiments upon animals Kohlbrugge¹ has learned that when the stomach is empty it may be quite sterile, whereas during digestion it is possible to cultivate numberless bacteria from the ingesta. The small intestine when empty is also sterile; wherever the ingesta occur there bacteria are also found. This periodical cleansing of the small intestine he designates as autosterilization. He never found the cecum or colon sterile, the bacterium coli commune being the predominating variety and especially numerous in the cecum. The cecum is therefore the breeding place of the colon bacilli, which are peculiar to the individual and persist from the earliest extra-uterine period till some time after death. The cecum is the brood-oven of the body and here develop the bacteria, which are our constant messmates. That these bacteria may be of some physiologic importance is not unreasonable. The vermiform appendix, not subjected to the peristalsis which in violent diarrhea may empty the cecum and colon, may serve to maintain the culture of colon bacillus peculiar to the body. Instead of being an useless and dangerous organ the appendix may be of great importance in keeping alive our bacterial messmates, which in their turn influence digestion favorably and keep out foreign invaders. The appendix, in other words, secures for us stability and permanence of our colon bacilli. That much of surgical and of general physiologic importance remains to be learned in regard to the intestinal bacterial flora is not to be doubted, but it is not likely that the possible importance of the appendix suggested by Kohlbrugge will lead soon to greater conservatism than now obtains in respect to the removal of this organ.

THE "JURY LICENSE" AND MEDICAL PRACTICE ACTS.

In some western and central states an appeal has recently been made to the courts to reverse the decision of the state boards of medical examination. Juries have in some cases found for the plaintiffs and against the board, thus introducing a new factor into the question of the judgment of medical qualifications. It would seem that a medical practice act, unless declared unconstitutional by the highest court, would be the supreme law on the subject, and the function of a jury would hardly include the giving of licenses to practice medicine. An appeal to the courts ought, if possible at all, to be limited to the question of the proper execution of the law by the examining board. Some puzzling questions might arise, but when we read of a Montana judge instructing the jury that they were not called upon to determine whether the examination justified the action of the state medical examiners, but they must determine from the evidence whether the plaintiff was qualified to practice medicine, it appears to us that his ruling is open to criticism, even by those who are not lawyers. By such a ruling, a jury license to practice might become the favorite qualification and the statute practically a nullity. If the courts and juries of laymen are to settle the question of medical qualifications, we may look for some queer results, and the question naturally arises

how would it suit if lay juries were to decide on the merits of candidates for admission to the bar? They are as well fitted for this function as the other. Of course this case can go up to the highest court and it is fortunate that it is so, for nothing short of this could be satisfactory after the instruction that a lay jury is the ultimate judge of fitness to practice medicine.

FLATFOOT AS A CAUSE OF PARESTHETIC MERALGIA.

Since the original description by Bernhardt, in 1895, of a condition attended with burning pain in the distribution of the external cutaneous nerve of the thigh, a considerable number of cases have been recorded. Although at times no underlying cause is apparent, the disorder must be looked upon rather as a symptomatic manifestation than as a clinical entity. It seems likely that changes in the nerve itself, which in several places is so situated as to be exposed to the risk of injury, may account for the symptoms in some instances. Thus, it may be subjected to mechanical influences at its point of emergence from beneath the psoas muscle; at its point of reflection immediately below the anterior superior iliac spine; in the fibrous canal of the fascia lata, by which it is enclosed, and at its point of emergence from this canal. In addition to traumatism, the disorder has been observed in association with syphilis, alcoholism, infectious diseases, pregnancy and gout, as well as a number of diseases of the nervous system, such as tabes, general paralysis, hematomyelia. Further, J. Pal¹ reports six cases in which paresthetic meralgia was associated with flatfoot, and, while he does not contend that this is the only etiologic factor, and he realizes that the affection may be of varied origin, he nevertheless believes that simple mechanical injury of the nerve is present in the majority of cases. The disorder may arise in an individual previously spare and of slight skeletal development who acquires a certain degree of obesity. The sensation of burning pain appears under such circumstances when the patient is erect and walks about, supporting the body principally on the inner aspect of the foot and securing relief in rest and in walking on the outer border of the foot. Relief will then also follow appropriate orthopedic measures, such as a suitable support for the arch of the foot. The relation between flatfoot and the paresthetic condition is believed to reside in compensatory overaction of the hip-joint as a result of the changes in the position of the foot, with a remote mechanical effect upon the external cutaneous nerve. Relief can be hoped for from orthopedic appliances only in recent cases, before structural changes in the nerve have taken place.

THE PLAGUE AT SYDNEY.

The report of the Department of Public Health of New South Wales on the "Outbreak of Plague at Sydney, 1900," is a very interesting document. The fulness of detail, the excellent illustrations, the condign discussion, and the prompt publication speak well for the state of organization of the department and for the energy and ability of the chief medical officer, Dr.

1. Centralbl. f. Bakt., 1901, xxix, 571-574.

1. Wiener Med. Woch., 1901, No. 14, S. 665.

J. Ashburton Thompson. The epidemic consisted in the attack with plague of 303 persons between January 19 and August 9, of whom 103 died. Of the multifarious branches of work entailed by the epidemic and adequately set forth in the present report particular attention may be directed to the efforts to trace the manner of infection and the mode of spread of the disease. It seems to be quite conclusively shown that an epizootic disease among rats preceded the first case which occurred in man, and bacteriologic examination showed that the epizootic disease among the rats was bubonic plague. Further that the area over which the epizootic extended was practically co-extensive with that over which the plague was observed in man. This epizootic died out at the same time as the epidemic ceased. The general conclusion based upon the evidence thus outlined is that "the epidemic was caused by communication of the infection from rats to man." As to the manner of transmission from rats to man, but little is said, as the opportunities for careful investigation of this point were not favorable. In seven of the cases distinct marks of flea-bites were noted, and in two cases smears from the little vesiculo-papular lesion showed bacilli morphologically resembling the *B. pestis*. Fleas from infected rats were also examined, and in one the presence of plague bacilli was demonstrated definitely by means of inoculation into a guinea-pig. Should it eventually be established to general satisfaction that plague is communicated to man by means of fleas then it would seem from analogy that there is nothing inherently unreasonable in the theory of a bacterial origin of yellow fever although the disease is transmitted by mosquitoes as shown by the brilliant researches of Reed and his associates. From careful consideration of the facts of the Sydney epidemic it also seems clear that the disease was not "catching" in the ordinary sense of the word, and further that it was not communicated in any important degree by fomites. Rat-killing was instituted on a large scale; a special rat-catching staff ultimately reported that it had destroyed 38,600, and the grand total killed by authority is 108,308. Of course, private persons killed a great number also. It is urged strongly that removal of all conditions favoring harborage and breeding of rats in and near occupied premises be recognized and instituted as an important practical means of protection against epidemic plague. This means steady and faithful carrying out of certain well-known details of municipal sanitation, and specific recommendations are made to meet the local conditions in Sydney based upon the principle that plague is diffused by rats. "There is no royal road to the prevention of plague," and there is no doubt that the health officers of our large cities may profit much by a careful study of the Sydney epidemic and the experience of those who took active part in the struggle successfully waged against it there.

Trusses in the Fifth Century.—Professor V. Deneffe, of Ghent, has written several works on surgery and medicine in antiquity, among them "Ancient Dental Protheses," and "A Gallo-Roman Surgeon and Oculist in the Third Century." He has recently published an account of some iron trusses found in the tombs at Euville and Devise, dating from the fifth to the seventh century.

Medical News.

ALABAMA.

Dr. Emmet K. Moon, Anniston, has been elected physician of Calhoun County, vice Dr. Thomas W. Ayers, resigned.

The proposed hospital in Montgomery secured in two days' work nearly half of the amount required to guarantee its construction.

The Medical College of Alabama held its forty-second annual commencement in Mobile, April 3, graduating a class of 38. Dr. Charles A. L. Reed, president of the AMERICAN MEDICAL ASSOCIATION, delivered the doctorate address.

Southern Quarantine.—During the recent smallpox scare in the South, it is said that the mayor of a small town in Alabama took the extraordinary precaution of appointing all the conductors on city and suburban lines as quarantine officers, and all persons coming from adjacent infected districts were required to show a health certificate before being allowed to enter the city.

CALIFORNIA.

Pasadena Board of Health.—The newly appointed Board of Health has organized and elected Dr. F. F. Rowland health officer.

Japanese Maiden Graduate.—Miss Una Yone Yanagisawa is one of the 28 graduates in medicine in the State University. She is also a B. A. of the class of '98 of the same institution.

The death of the white woman in San Francisco on April 25, which was reported to have been due to the plague and mentioned in THE JOURNAL of May 25, was, on investigation, proved not to have been the result of that disease.

DISTRICT OF COLUMBIA.

John Baudat, Washington, who pleaded guilty to practicing medicine without a license, was released on his own recognizance.

John A. Dougherty, Washington, was arrested May 13, charged with practicing medicine without a license. He was fined \$5 which was paid.

Casualty Hospital, Washington, has elected Dr. John R. Wellington, chief of the surgical and emergency staff, and Dr. Jesse J. Shoup, chief of the eye, ear, nose and throat department.

Georgetown University Medical Department held its fifty-second annual commencement May 21 and graduated a class of 21. Dr. Joseph Eastman, Indianapolis, delivered the address, choosing for his subject "The Evolution of Surgery."

ILLINOIS.

Dr. John C. Corbus has been re-elected superintendent of the Illinois Eastern Hospital for the Insane at Kankakee.

Dr. Frederick C. Winslow, Jacksonville, has been appointed superintendent of the Hospital for the Incurable Insane, which is now nearing completion, at South Bartonville, near Peoria.

Julia F. Burnham Hospital, Champaign, is a beneficiary to the extent of \$24,000 by the will of Miss Ida Harris, of which \$4,000 is to be devoted to the erection of a consumption ward.

Chicago.

Dr. Harold Jacobsen sailed for Europe May 4, on the *Graf Waldersee*.

Dr. E. C. Dudley was appointed a member of the Board of Education, May 27.

Dr. Evert E. Tracy has been appointed physician to the State Penitentiary at Joliet.

Dr. Norval H. Pierce has been appointed otologist to the Illinois Charitable Eye and Ear Infirmary.

Dr. Joseph C. Beck has been elected professor of diseases of the ear, nose and throat, in the Chicago, Eye, Ear, Nose and Throat College.

Drs. Edward T. Dickerman and Charles H. Beard have been appointed on the staff of the Illinois Charitable Eye and Ear Infirmary.

Marshall Field has given the Chicago Home for Incurables ten lots adjoining the ground now occupied by the home. The land is valued between \$40,000 and \$50,000.

Dowie and three disciples have been held to the grand jury by the coroner's jury, pending the investigation of the

death of Mrs. H. W. Judd, whose husband is among the indieted.

Hospital Gift Refused.—The offer of two Swedish-Americans in San Francisco to give \$25,000 each for the erection of a hospital in Lake View or other suitable location in Chicago, has been refused by the Swedish Evangelical Mission Board unless the hospital is established in Bowmanville.

Dr. N. Senn, accompanied by Dr. D. R. Brower, expects to sail for Bremen on the *Saragossa*, July 4, for a round-the-world trip which he designates "A Race Against the Sun." He goes via Moscow, the Siberian Railway, Vladivostock, Corea, China and Japan, and expects to arrive in Chicago about October 1.

Dust, Street Sprinkling and Health.—Last week furnished an object lesson in the necessity for strict and strenuous supervision over street sprinkling. Within twenty-four hours after the rain ceased to fall the streets were dry, but there was no sign of a sprinkling cart until the air was full of dust and the seeds had been sown of hundreds of cases of influenza, bronchitis and pneumonia—to say nothing of consumption.

Deaths of the Week.—Nearly 12.5 per cent. fewer deaths were recorded last week than the week previous, and the annual mortality rate of the week was only 12.13 per 1000 of the estimated mid-year population. It is not probable that the total deaths for the month will much exceed 2000. The deaths numbered 409, of which 51 were due to pneumonia, 52 to tuberculosis, 35 to heart diseases, 31 to nervous diseases, 30 to acute intestinal diseases and 25 to violence.

The College of Physicians and Surgeons granted the medical degree to 160 students on May 28. The doctorate address was delivered by Dr. Joseph M. Mathews, of Louisville, Ky. The exercises were followed by a banquet at the Auditorium Hotel, in which 300 alumni of the college participated. Dr. William A. Pusey acted as toastmaster. Among the speakers of the evening were President Draper, Drs. J. W. Birk, Harold N. Moyer, Alexander H. Ferguson and Joseph M. Mathews.

The Smallpox Situation.—The thing most dreaded by the Department of Health is a change in the type of the smallpox; if this should occur, serious results are inevitable. The disease has been so mild that the contagion must be spread to an unknown extent from cases that have not come under observation. No person who is not positive as to vaccinal protection can afford to postpone vaccination before the weather gets too hot for the operation and before the disease changes to a malignant character.

INDIANA.

Fort Wayne Medical College.—At a meeting of the faculty of this college, May 16, Dr. Christian B. Stemen was appointed dean, and Drs. Graylord M. Leslie and Warren D. Calvin were made members of the faculty.

To test the medical law, a magnetic healer of Bedford has been arrested, charged with practicing medicine without a license. A motion was made to quash the indictment, but in the circuit court the medical law was sustained.

Indianapolis is non-labile to non-paying patients treated at the City Hospital, for any injuries they may suffer through the negligent and unskillful treatment of the hospital surgeons. The Appellate Court has so decided in affirming a judgment refusing Josie E. Williams the damages she asked for alleged malpractice at the hands of one of the internes at the hospital three years ago.

Qualifications of Osteopaths.—The State Board of Medical Registration and Examination, has adopted the following resolution. "Whereas, by the amendments of 1901 to the medical act the State Board of Medical Registration and Examination may grant limited certificates which will authorize the proper clerk to issue a license to practice osteopathy only, and whereas it is provided by the law that 'such certificates shall be issued on the same terms and conditions as others, except that the applicant therefor shall not be required to pass an examination in materia medica, nor shall the college from which he presents a diploma be required to conform to the standard fixed by said board as to instructions in materia medica, but such college shall so conform in all other branches of instruction,' therefore, 'Resolved, That all applicants for registration to practice osteopathy in the State of Indiana and the colleges from which they procured their diplomas, must comply with the schedules of minimum requirements in force at the time of application except in so far as pertains to materia medica.'"

MARYLAND.

Dr. I. Edmondson Atkinson has been appointed a member of the State Linaey Commission.

Dr. Irving J. Spear, for the past year resident physician at Bay View Hospital, Baltimore, left May 29, for a year's study in Berlin and Vienna.

Dr. C. L. G. Anderson, major and surgeon of the 29th infantry, arrived at his home, Smithsburg, Washington county, from the Philippines May 21.

The Woman's Medical College, Baltimore held its twentieth commencement May 31 and graduated 7 women, Lois Jones, Pittsburg, taking the highest honors.

Mr. Edward H. Hume, who graduates next month from Johns Hopkins, has been awarded the Garrett international fellowship in pathology at Liverpool, lately endowed by Mr. W. W. Johnson for the study of tropical diseases. Mr. Hume's appointment is especially appropriate, as he expects to practice medicine in India, where he has lived for many years.

NEW HAMPSHIRE.

Dr. Russell Wilkins, Concord, has been chosen president of the Concord Board of Health.

Hampton is the latest town to object to the compulsory vaccination of school children. The objection is on the ground that as the disease has never appeared in the vicinity, vaccination is unnecessary and the order arbitrary.

A national bank at Keene is reported to have secured a sterilizer through which all money received at the bank is to pass. The reason for this precaution is the prevalence of scarlet fever in the town. The report, however, does not refer to the sterilization of the hands which handle the money, nor is it stated whether or not the money is first sterilized and then handled or vice versa.

Examination for License to Practice.—The regent of the State Boards of Medical Examiners announces that the next examination for licenses to practice medicine in the State of New Hampshire will be held at the State House, Concord, on Tuesday and Wednesday, June 11 and 12, 1901, beginning at 8 o'clock a. m. All unlicensed physicians who were not in practice in this state on and before March 16, 1897, must pass the examinations in order to receive a license to practice legally their profession. No licenses issued by states, or diplomas from medical colleges, are endorsed by the regent in place of examination, with one exception, namely, graduates from Dartmouth Medical School may receive a certificate on presentation of diploma, if said diploma shall have been issued between the enactment of the medical law, March, 1897, and Jan. 1, 1903. All information regarding the examination will be given by the Department of Public Instruction, State Library, Concord.

NEW JERSEY.

Dr. Samuel A. Helfer, Hoboken, has been unanimously re-elected president of the local board of health.

The County Hospital at Mount Holly, on May 17, was struck by lightning, which set fire to a room, and frightened the patients. The flames were extinguished before much damage was done.

Smallpox Still Prevalent.—Smallpox which broke out some time ago in Gloucester is still prevalent there. On May 20 another new case was taken to the municipal hospital. The public schools, which it was hoped would be opened on May 20 are still closed for an indefinite period. On May 21, one patient died of the hemorrhagic form, and on May 23 two other persons perished. Fearing that the disease might get a foothold in Camden the health authorities of that city have placed a partial quarantine against Gloucester. This order will prevent undertakers from going to Gloucester and returning with their vehicles. The order was issued by the board of health and signed by Dr. H. H. Davis, the president, and Eugene B. Roberts, secretary. During the past week, a case of smallpox developed in Camden, and it is believed the patient contracted the disease in Gloucester, where she had visited. A few days ago Medical Inspector Leavitt of Camden deported a boy to his home in Gloucester, and it is said that the boy has since developed smallpox.

NEW YORK.

Dr. Harriet M. Doane, Fulton, sailed on the *Teutonic*, May 29, for a year's study in the hospitals of Europe.

Dr. H. R. Bedell, Watervleit, was the successful candidate in the examination for internships of the Ellis Hospital, Schenectady.

Dr. John Archibald has been re-appointed health officer of Cohoes, on a salary of \$900, to which is added a monthly allowance of \$30 for medicines.

New York City.

Governor Odell has appointed Joseph Simonson, of Richmond County, as quarantine commissioner of the port of New York in place of Hugh McRoberts.

Smallpox.—This disease continues to be very prevalent, and, to make matters worse, it has been charged that two physicians have been guilty of deliberately violating the law and jeopardizing the public health by concealing cases of the disease. Those so accused have been summoned to appear before the board of health and explain, and if there is a proper foundation for these charges, they will be prosecuted. A nurse in the ward of the Harlem Hospital has developed the disease, and in consequence one physician, two nurses and sixteen patients are quarantined.

Mount Sinai Hospital.—The new edifice for the Mount Sinai Hospital, the corner-stone of which was laid May 22, in the presence of several thousand persons, will cost about \$1,335,000, and is to be completed in two years. The site alone cost \$532,000. There will be ten distinct and absolutely fire-proof buildings, connected by covered corridors, each building having five stories. The medical and surgical pavilions will each accommodate 160 beds, and there will be a children's ward of 60 beds. The building at present occupied by the hospital was erected in 1870.

Another Dowie Death.—J. Luther Pierson, who has been placed on trial on the charge of wilful neglect to procure proper medical attendance for his 2-year-old daughter, in consequence of which she died, has been sentenced by Judge Smith Lent to pay a fine of \$500 or to imprisonment for 500 days. The case was tried by jury, and the latter in bringing a verdict of guilty added a recommendation for mercy. Mr. Pierson declined to pay the fine, and said he would appeal the case, asserting that it was an infringement of his constitutional rights to hold any religious belief he desired.

The Smoke Nuisance.—Although soft coal continues to be used more and more, and the smoke nuisance is assuming unpleasant proportions, the inspectors of the Health Department declare that they are almost powerless in the premises. On two occasions the president of a certain brewing company has been arrested on the charge of maintaining such a nuisance in open violation of the law, but in the face of very complete evidence the police magistrates have seen fit to discharge him. The same farce is repeated in other cases, so that not only the inspectors but the legal counsel of the department have declared their inability to cope with the problem unless the police courts are so reformed that political "pull" will not have much influence.

OHIO.

Bethesda Hospital, Cincinnati, was dedicated, May 16, free of debt.

Dr. Philip S. Rieg, Toledo, returned May 18, from a two-months' pleasure trip in Europe.

Dr. William Knight, Cincinnati, sailed for Glasgow on the *City of Rome*, June 1. He expects to spend four months in visiting European hospitals and clinics.

The Mayor of Cleveland, forgetting that medieval times are past has promulgated a decree that, while he is mayor, there shall be no compulsory vaccination in his city.

Opening of the Branch Hospital for Consumptives.—On May 16, the board of Trustees of the Cincinnati Hospital formally opened the Branch Hospital for Consumptives at Lick Run. Patients were first received at this institution in 1897, but only lately large appropriations have made the affair the success it is. About two hundred visitors were present. One of the important features is the establishment of solaria in connection with each of the new buildings so that the patients are enabled to take sun-baths even in winter. The establishment of separate buildings is to keep apart the patients afflicted with incipient phthisis, and those with the graver forms of the disease. After an inspection of the building, a banquet was held and speeches were made by Mr. Benneker, chairman of the Finance Committee of the Board of Legislation, Drs. Frank W. Hendley, N. P. Dandridge, and T. A. Reamy. Dr. A. B. Isham, of the board, acted as toastmaster.

PENNSYLVANIA.

New Board of Health for Norristown.—On May 21, a new Board of Health was appointed by the town council, to replace the members who left two weeks ago. The new board is as follows: Drs. Alfred H. Read, James Fennel, Joseph S. Rambo, James Wilkinson, and B. F. Whitby.

Smallpox is Rampant.—It is said that in the region of Newburg, to Roxbury and Edenville, and in Franklinville, in Franklin County, nearly 30 cases of smallpox have occurred within the past month. In one family 8 persons have been affected. A public funeral was held over the death of one of these persons and hundreds of persons attended. It is stated that some of these cases had been pronounced Spanish measles or Philippine itch. In Shippensburg, 8 cases have been reported. In Larksville, on May 24, 4 new cases were reported. The various lodges have been advised not to hold meetings during the existence of the malady.

Philadelphia.

Dr. Walter Wyman, Surgeon General, U. S. Marine-Hospital Service, was tendered a reception on May 23, by members of the Philadelphia Medical Club. Upwards of 150 guests were present.

Milk Investigation.—The Philadelphia Pediatric Society has again appointed a committee to examine into the condition of the milk sold in this city, to be composed of the following: Dr. C. J. Marshall, veterinary inspector; Dr. M. V. Ravenel, bacteriologist; and Dr. Henry Leffmann, chemist.

The Medico-Chirurgical College held its annual commencement at the Academy of Music on May 24, when 69 candidates received their degrees. A banquet was tendered the graduates on behalf of the Alumni Society on the evening of May 23. In class-day exercises were held in the clinical amphitheater on May 23, when ex-Governor Robert E. Pattison addressed the graduates.

Smallpox.—Since smallpox has been so widespread over the State of Pennsylvania and a portion of New Jersey the health authorities of this city are taking precautions to prevent it getting a firm foothold here. A joint letter from the boards of health of both Camden and Philadelphia was recently submitted to the board of health of Gloucester asking it to take the necessary steps to stamp out the disease.

Anniversary of Class of '76.—During the commencement week exercises of the University of Pennsylvania next month it is purposed to celebrate the 25th anniversary of the 1876 graduating class of the department of medicine with a dinner on June 11. At that meeting a permanent organization of the class for the benefit of its alma mater will be effected. The committee in charge consists of Drs. Charles A. Oliver, William H. Klapp and J. Francis Walsh.

Interneships.—On May 23 the Board of Charities and Corrections passed a resolution providing that the list of eligible applicants for positions as resident physicians of the Philadelphia Hospital (Blockley) be submitted to the authorities of the different medical colleges, namely: University of Pennsylvania, Jefferson Medical College, Medico-Chirurgical College, and the Woman's Medical College, and that the first three of these be permitted to name seven appointees each, and the last named three, subject to confirmation of the board.

Epidemic of Typhoid Fever.—A mild epidemic of typhoid fever has been prevailing for several days in West Philadelphia north of Market street, and west of the Schuylkill river. The number of cases have gradually increased until its extent has become quite noticeable. Of the 102 cases reported in the city last week 40 per cent were said to have occurred in the Twenty-fourth and Thirty-fourth wards. This entire section of the city receives its water supply from George's Hill in Fairmount Park. The disease has for the most part been confined to the district north of Market Street, while few cases have been reported south of that street, a locality which derives its drinking water from the same source. It is now believed that the increase of typhoid may have been caused by polluted milk or defective sewage. Medical inspectors have made an investigation of the Belmont pumping station, but nothing has been found. For the week ending May 25, fifty-three new cases were reported in this district.

GENERAL.

Smallpox in Alaska.—There has been considerable excitement at Skaguay over the epidemic of smallpox in Southeastern Alaska. Quarantine has been declared against Sitka and other points and vaccination is going on everywhere in that country. Since January there have been over one hundred cases at Sitka.

Hospital Corps Company of Instruction, Hospital No. 3, Manila.—The third class of the Hospital Corps Company of Instruction of the Division of the Philippines, U. S. Army, held its graduating exercises March 27. The faculty of the

Company of Instructions consists of the following: Major John S. Kulp, U. S. A.; Captain Najeeb Saleeby, A. A. surgeon, U. S. A.; Capt. Jerome B. Thomas, A. A. Surgeon, U. S. A.; Lieutenant John C. Constable, 46th Infantry, U. S. V.; Lieutenant Clarence B. Millhoff, asst.-surgeon, U. S. A.; Lieutenant Walter D. Webb, asst.-surgeon, U. S. A., and Lieutenant William J. Lyster, asst.-surgeon, U. S. A. Out of a class of fifty-one, nineteen passed the examination and received diplomas. Col. Charles C. Greenleaf, asst.-surgeon, U. S. A., Chief Surgeon Division of the Philippines, delivered the address to the class, and gave a brief history of the hospital corps. Lieut. Lyster, commanding the Corps of Instruction, gave a practical demonstration of what had been taught during the course, including first-aid, bandaging, application of temporary splints, improvised field hospital, ambulance work, surmounting of obstacles, travois, etc. The diplomas were presented to the class by Major-General Arthur MacArthur, U. S. A., Military Governor of the Philippines. Together with the report of the graduating exercises, Major Kulp has forwarded a schedule of instruction, which includes a fourteen-weeks' course of drills, dictation, spelling, arithmetic, hygiene, first-aid, minor sur-



Capt. Saleeby. Lieut. Constable. Lieut. Lyster. Lieut. Webb.
Capt. Thomas. Maj. Kulp. Lieut. Millhoff.

gery, elementary materia medica, nursing, elementary anatomy and physiology, pharmacy, clinical surgery, diet cooking, signal drills, the application of bandages and splints, and field work. The army is to be congratulated on the successful issue of the class of instruction. The continuance of such courses of study for the Hospital Corps would result in greatly increased efficiency of the corps and in incalculable good to the sick and wounded.

Exhibit of the Medical Department, U. S. A., at the Pan-American Exposition.—A feature of the Exposition which will be of much interest to medical visitors is the exhibit of the Medical Department of the Army. As lack of floor space precluded an indoor display of sufficient scope to creditably represent the department, the exhibit has been confined to a 100-bed field hospital, equipped to take the field with an infantry brigade. This exhibit, in charge of Capt. E. L. Munson, assistant-surgeon, U. S. A., is centrally located immediately south of the Government Building, and visiting medical men are cordially invited to inspect its equipment and make it their headquarters on the Exposition grounds. The hospital is completely equipped down to the last tent peg and authorized ounce of supplies, and demonstrates the resources of the Medical Department, in respect to the brigade hospital unit, in quantity, size and capacity as well as in variety and quality. The exhibit is unique and particularly attractive by reason of the fact that the supply table of the Medical Department has been entirely revised within the past year, and scarcely an important article of

equipment is shown which has not recently been adopted by the Medical Department. The exhibit thus represents the latest advances in every branch which has to do with the care of the sick and wounded in the field and the exhibit, as a whole, including tentage, camp furniture, instruments, dressings, medicines, hospital stores, cooking and messing facilities, represents a more modern and complete equipment than is possessed by any other army in the world. The transportation necessary to move the hospital with marching troops, together with its quota of ambulances—the latter of the new 1900 model—is also shown. Besides the equipment of the field hospital proper, the exhibit includes an enlisted personnel of twenty-four men of the Hospital Corps, U. S. Army, who act as attendants at the exhibit and also give an attractive series of exhibition exercises in litter drill, transportation of wounded, first-aid and bandaging, the method of establishing field hospitals, etc. The exhibit, while particularly valuable and instructive to medical officers of the National Guard, will prove of much interest to practitioners in civil life. Its completeness of equipment and excellence in respect to *personnel* reflect much credit upon the authorities of the Medical Department, and hence upon the profession at large, whose official representatives they are.

CANADA.

Unpaid Assessments.—Ontario physicians who have not responded to the demands of the Medical Council to pay all arrears of assessments have had their month of grace extended thirty days. After June 19 prosecutions will be commenced. Dr. Pyne, the registrar, states that all but 300 of the 2500 have paid up to date.

Financial Sympathy in Alleged Malpractice Suit.—Some time ago mention was made in these columns of a case of suit for malpractice against Dr. J. M. Conerty, of Smith's Falls, Ont. The statement has lately been circulating that Dr. Conerty had compromised for \$600. This is incorrect. He is still fighting the case and with the approval of his fellow practitioners throughout the Dominion. The Montreal Medico-Chirurgical Society, the Toronto Clinical Society, Dr. R. W. Powell, of Ottawa, and others are supporting him with their financial sympathy.

Grave Robbing Case.—A third year student in medicine at Queen's University, Kingston, was arrested in February last having the dead body of a woman in his possession presumably for dissecting purposes. The case against him was disposed of on April 22 when the judge of the County Court of Peterboro had him discharged on the first count, the prosecution failing to prove that he had opened the grave. On the charge of indecently interfering with a dead body the defendant was fined \$200, or in default, one year in gaol. For this misdemeanor the Ontario law provides five years in the penitentiary or a fine at the judge's discretion. The student's previous good character saved him from gaol. This is the first case of its kind to come before the Ontario courts.

Winnipeg General Hospital.—The regular monthly meeting of the board of governors of the Winnipeg General Hospital took place in the hospital building on the afternoon of May 24, when the report of the special committee appointed to secure the services of a pathologist and bacteriologist, was received and adopted. The Committee reported that they had arranged with Dr. Gordon Bell of Winnipeg, the provincial bacteriologist, to assume charge of this work at the hospital at an annual salary of \$500, he to appoint his own assistant, who was to be present at the hospital daily for such hours as might be found necessary for carrying on this work. Dr. Bell will assume his new duties on June 1. Dr. Chestnut, the medical superintendent, resigned and Dr. Jasper Halpenny, who has been acting as assistant medical superintendent for the past four months was promoted to the position of superintendent. His appointment will be for one year dating from June 1.

Ontario Vital Statistics.—The monthly report of the provincial board of health for the province of Ontario shows that there have been 2427 deaths in April as compared with 2525 in March, and 2311 in April of last year. The deaths from contagious diseases were as follows: consumption, 236; diphtheria, 39; scarlet fever, 17; whooping cough, 14; typhoid fever 12. The deaths from consumption and diphtheria show increase, the figures in April, 1900, being respectively, 203 and 24. It will thus be seen that the mortality from consumption as mentioned in THE JOURNAL's editorial of May 25 is not by any means one-fifth of the deaths in the province of Ontario. One-tenth appears to be nearer the mark; and it is certain that several, if not all of the provinces, can produce as good, if not

better showing than this. The report as regards smallpox shows that there have been over 600 cases during the present outbreak, with only six deaths; this is a death-rate of one per cent. of those afflicted.

Public Works Health Regulations.—The Canadian Government has adopted a new set of regulations for the preservation of health and the mitigation of disease among persons employed in the construction of public works. Some few months ago an inspector was appointed to enforce the act respecting the employees on public works and these new regulations define his duties. He is to act as chairman when present at meetings of health boards, to notify the Minister of Agriculture and the secretaries of the provincial boards of health wherein public works are being carried on of all cases of infectious diseases. Any person or persons or companies constructing public works must engage a medical officer for each five hundred employees and such medical officer must be properly supplied with medicines and a means of conveyance. The health board upon such works is to consist of the inspector, the medical officers and the government engineer; and when there is no hospital within reasonable distance of the work the contractors must establish one. They must also provide temporary hospitals sufficient to accommodate at least six patients, or more if necessary, with a medical officer, nurses and proper hospital supplies. Suitable accommodation must also be provided for isolating infectious diseases. The regulations provide for fines for breaches of or non-observance of the rules.

Montreal General Hospital.—The annual meeting of the governors of this institution was recently held, and the committee of management has determined to put a stop to the annual deficits. After June 1, a charge of 10 cents is to be made for the first bottle of medicine in the out-door departments and thereafter 5 cents for each bottle. Dr. John McCrae has been appointed resident assistant pathologist and Dr. von Eberts, the medical superintendent, has had his term extended to May 1 next, his staff to consist of ten house-surgeons and a lady superintendent with seventy nurses. A complete new sterilizing apparatus has recently been put in at a cost of \$500. Dr. Finley, the secretary, reported that the expenditure for the past year was \$84,280; income, \$75,994; indicating an excess of expenditure of \$8286 for the year, which added to the deficiency of last year, \$14,149, gives a total debit balance of \$25,000 nearly. Dr. Finley also presented the report of the medical work for the year. There were 250 deaths, of which 105 occurred within three days of their admission. The death-rate had been 8.85 per cent., or, excluding the 105 cases dying within three days of their admission, 5.13 per cent. The average number of patients in the wards was 178, an increase of 11 as compared with the previous year. The average number of days in hospital per patient was 22.3; and the aggregate number of days in the hospital for all patients was 63,018, an increase of 2946 as compared with 1899-90. The average cost per patient per day had been \$1.37, as against \$1.35 in the preceding year. In the out-door department there were 41,606 consultations, being an increase of 4,233 over the previous year. Of these there were treated in the medical department, 12,431; surgical, 14,378; eye and ear, 6099; gynecologic, 1495; nose and throat, 3068; dermatologic, 1861; dental, 144; emergency, 2130.

FOREIGN.

Plague in Cape Town.—For the two weeks ending May 25, there occurred 56 cases and 33 deaths, making since the commencement a total of 666 cases and 308 deaths. The deaths include 55 Europeans. Judging by the returns, the disease seems to have reached its maximum and to be on the decline.

New Russian Medical Journal.—In the place of the Russian medical journal, *Vratch*, which suspends publication this year, the same publishers announce a new medical journal, *Russky Vratch*, to follow in the footsteps of its predecessor. Professor Podwyssotski is to be the editor-in-chief. The new journal is to be dedicated to the memory of Manassein, the founder of the original *Vratch*.

Smallpox in Glasgow.—The epidemic of smallpox is rapidly dying out. On May 13 there were only 75 patients under treatment, and during the past fortnight there were only 28 fresh cases compared with 92 of the preceding. The total number of cases has now reached 1823, of which 232 were fatal. It is estimated that the extra expenditure of the city in connection with the epidemic will be \$210,000 to \$240,000. This is made up as follows: "Treating patients in hospital and isolating 'contacts,'" \$25,000 to \$30,000; erecting temporary wooden pavilions and extending reception houses \$35,000; preventive

measures—including vaccination and revaccination—\$150,000 to \$175,000.

Plague in India.—For the week ending April 20 there were 6304 deaths from disease in all India, against 8429 of the previous week, again a considerable decrease. In Bombay there were 459 deaths—a decrease of 222, compared with the former week. A most satisfactory feature is that in the heart of Bombay there is for the first time for some months a considerable area from which the plague has disappeared. In Calcutta the present season's outbreak is nearing an end. Disinfection appears to have failed. Notwithstanding the extraordinary efforts during the intermission of the last year to thoroughly disinfect the slums of Calcutta the present recrudescence has been higher by about 50 per cent. than any previous one. Cases have repeatedly occurred in houses which have been disinfected repeatedly, so that little or no good appears to have resulted from the great expenditure on disinfectants. The effective disinfection of native houses seems impossible. At the end of March the weekly mortality rose to over 1100 in Calcutta, but in two weeks it had sunk to just one-half.

Plague in Sydney.—A fatal case has occurred at the quarantine ground. The patient was a man on board a troopship, which had just arrived from Cape Town, where it had been for two months. On the voyage a large number of rats died. The patient had been engaged in the hold of the ship assisting in removing the bodies of the rats. On arrival at Sydney the vessel was quarantined. Bacteriological examination showed that the rats were affected with plague bacilli. The ship was thoroughly fumigated and a large number of rats were killed. The period of quarantine—ten days—had just been completed and orders had been given for the release of the vessel when this man suddenly developed suspicious symptoms which proved to be plague. The board of health of Sydney is actively engaged in securing the cleanliness of every quarter of the city. Regulations have been framed that metal discs shall be fixed to ropes making vessels fast to wharves and that gangways shall be drawn up at night time so that rats shall be prevented from leaving ships. A penalty of \$500 is attached to breach of these regulations.

Dr. John Cavafy.—Dr. John Cavafy, consulting physician to St. George's Hospital, died on the 28th ult. Though born in London, he was of Greek descent. He graduated at the University of London in 1867, and in the following year became a member of the Royal College of Physicians. He was appointed demonstrator of histology at St. George's Hospital, and showed great teaching abilities. He became in succession lecturer on comparative anatomy, medical registrar, lecturer on physiology, assistant physician, and physician and dermatologist. He was an excellent linguist and an artist of no mean capacity. His beautiful water-color drawings illustrating "Symmetrical Congestive Mottling of the Skin"—a condition described by him in the "Transactions of the Clinical Society"—adorn the museum of his hospital. He was not a voluminous writer, but something much better—one who wrote little but all of which was valuable. The following are a few of his most important papers: "Ameboid Movements in Leukemia," "Eruption after Salicylate of Soda," "Erysipelas with Low Temperature," "Urticaria Pigmentosa," "Sciatic Nerve-Stretching in Ataxia."

LONDON LETTER.

Thoracic Resonance in Left-Handed Persons.—At the Clinical Society, Sir Hugh Beever exhibited two healthy left-handed adults to illustrate the normal thoracic resonance in left-handed persons. They proved that the lesser resonance in right-handed persons was due to greater muscular development on that side. He remarked that the absence of emphasis on this point in text-books leads to mistakes in diagnosis. In these cases the pulmonary resonance did not rise so high above the left clavicle as above the right.

Sir Frederick Treves.—Mr. Frederick Treves has had the honor of knighthood conferred upon him by the King in person, who also invested him with the insignia of a Knight Commander of the Royal Victorian Order. Recently he was appointed Honorary Sergeant-Surgeon to the King. He was awarded C.B. for his services as consulting surgeon in the South African War. But entirely apart from his services in the war, Mr. Treves has earned sufficient distinction as a surgeon and surgical writer to entitle him to the highest distinctions from his sovereign. His works on "Intestinal Obstruction," "Surgical Anatomy," "Operative Surgery," and the "System of Surgery" edited by him, have long been standard books in the profession.

Antivivisectionists Meet.—The annual meeting of the National Antivivisection Society has been largely attended and the gathering included some very influential people—peers, bishops and other church dignitaries. A well-known lawyer, one of the most prominent of the antivivisection eontroversialists, moved a resolution advoeating the total abolition of vivisection as morally wrong. He said that vivisectionists did not defend the torturing of animals, but alleged that no tortures were inflicted. But such plausible assurances were, he insisted, false. The Archdeacon of Westminster described some laboratory experiments, when he was interrupted by a lady, who said: "Oh, we can't bear this!" to which he replied: "You have not to bear it. These poor animals have to bear it." The resolution was earried unanimously.

Laparotomy in Ascites.—At the Clinical Society Mr. Leonard Bidwell described three cases illustrating the value of this proeedure. In the first the liver and omentum were stitched to the abdominal parietes after evaeuating the fluid. The patient recovered and had no return of the ascites. She remained well for nearly six months, when she suddenly died from hematemesis, the result of alcoholic excess. In the second case a ehild, aged 9, had ascites, which had been preceded and was aecompanied by albuminaria and abdominal pain. There was also general anasarca. He had been tapped ten times and the fluid reappeared very rapidly. He is now quite well but for a trace of albuminaria. In the third case, also of a ehild, aged 9, the ascites was due to eardiac disease, and there was general anasarca and enlarged liver. In this ease, too, there was no return of the ascites and the ehild was able to get about, but died of syncope shortly after returning home.

Outbreak of Typhoid Fever Due to Fried Fish.—A report has been presented to the London County Council dealing with outbreaks of typhoid fever which occurred in September last in Southwark, Lambeth and Kensal Town. Great difficulty was at first experienced in tracing the disease to its origin, until one day light was thrown on the matter when the mother of one of the patients was questioned as to what food her boy was in the habit of taking, remarked: "The only thing he ever did eat in this house"—for her son did not live in the infected area but only visited it—"besides bread and butter was a bit of fried fish." This led to further inquiry, and it was found that most of those attacked had consumed this article of food, and, moreover, had obtained it from a partieuular shop. It was found that in Southwark, if this shop were taken as a center and a eirele of a quarter of a mile radius drawn round it, practically the ground in which the exeptional incidence of typhoid fever occurred was covered, and the cases were more thickly distributed towards the center. Out of 10,500 persons eating fried fish from the shop, 101 became infected, while there were only 11 cases in 14,500 persons not dealing at the shop. Again, in the adjacent distriet of Lambeth, where there were some 45 cases, only one ooeurred in which fried fish from a suspected source was not eaten. How the fried fish became a souree of eontagion has not been ascertained.

Paracentesis of the Pericardium.—At the Liverpool Medical Institution, Dr. Glynn described the following ease: A boy aged 17 had pleuropneumonia eighteen weeks before admission to hospital, from which he never reeovered. During the illness clear fluid was aspirated from the left side. On admission there was dyspnea, the respirations being 30 when he was propped up in bed. The pulse was 120, soft and irregular. There was periodical dullness 2½ inches to the right and 5 inches to the left of the middle line at the level of the nipple, and lower reaching the axillary line. The apex beat was absent, and the heart sounds were feeble. The temperature was normal. At the end of a fortnight the pericardium was aspirated and 14 ounces of clear fluid were removed. The urgent symptoms were relieved, the apex beat became perceptible, and pericardial friction sounds were audible for the first time. In a month the fluid reaccumulated and 23 ounces were removed. A mercurial manometer was used on this occasion to estimate the pressure of the fluid in the pericardium by means of a T tube behind the aspirating needle. At the commencement of aspiration the pressure was +2.1 cm.; at the end —2 cm. No organism was discovered in the fluid. The pericardial friction sounds again returned, but they disappeared in a week or two, and there was no evidence of recurrence of effusion. The patient left hospital apparently well at the end of March. It has just been reported that the effusion has returned.

The Registration of Midwives.—Last year a bill for the registration of midwives passed its second reading in the

Honse of Commons by a large majority and went almost unaltered through the standing committee on law. It provided that all women who attend eases of natural labor for gain should undergo a course of training in midwifery, pass an examination and be placed on an offieial register. The value of such a measure is obvious. The majority of the women of the country either can not afford to pay for the services of a medical man or for other reasons are attended by midwives, most of whom are untrained and ignorant. England stands almost alone among the countries of Europe in allowing any woman, however competent, to praetiee midwifery. The Registrar-General's report shows an annual death rate of women in childbirth in England and Wales of between 3000 and 4000. Puerperal fever is responsible for between 2000 and 3000 of these deaths. When a midwife coming from a ease of puerperal fever is warned both by the doctor and by the eoroner, there is power to prevent her attending another eonfinement. Again and again a midwife has been proved to leave a train of deaths behind her. Further, unskilled aid during the puerperal period is responsible for the blindness which results from ophthalmia neonatorum. The bill for the registration of midwives was warmly supported by the leading obstetrieians of the country, other eminent medical men and by the coroners. Unfortunately it received considerable opposition from the rank and file of the profession. The ery was raised that an inferior and imperfectly trained order of medical praetitioners was being ereated whose recognition would be fraught with danger to the puerperal woman, who requires and should receive the highest skill, and not knowledge which could be aequired in a few months' training in a lying-in hospital.

The Late Sir B. W. Richardson, F.R.S.—A remarkable work entitled "Disciples of Æseulapius," by the late Sir B. W. Richardson, with a life of the author, by his daughter, has just been issued. The author was perhaps the most distinguished medical advoeate of total abstinence. He was a very voluminous writer, and, like Mr. Jonathan Hutchinson, published a quarterly medical journal entirely written by himself. But the value of his work lies in its scholarship and literary qualities rather than in any seientifie observations made by him. In the present work his daughter touchingly describes his last hours in an episode which recalls those of the venerable Bede: "Take your pen, please; I will add another chapter to 'Vita Medica'—his last book. "Head the page 'A Last Word.'" He then dictated a few lines. "Yes, Sir Benjamin, that is all—the book is finished." So it was, and so was the life of the author. Two hours later he was seized with apoplexy, from which he died after two days of unconsciousness. The life of the immortal Harvey is briefly sketched. A most interesting aeeount is given of the life of Keats. The idea suggested by Byron that he was "snuffed out" by an article in *Blackwood* or the *Quarterly Review* is declared to be simply nonsense. His death was due to consumption, and perhaps expedited by his own imprudence. The life of Walsley, the courageous founder of the *Lancet*, is full of interest. Among the many reforms due to him was the abolition of flogging in the army. He was coroner for Middlesex, and succeeded in obtaining a verdict of murder in the case of a soldier who had been whipped to death. This made the repetition of such a erime impossible. Another medical reformer, Benjamin Rush, is described as the "American Sydenham." "He was amongst the first to oppose the committal of murder by the state for the purpose of setting an example to individuals not to murder."

Correspondence.

Individual Rights and the County Medical Society.

SPOKANE, WASH, May 17, 1901.

To the Editor:—When a medical man or woman is a graduate of a reputable medical college, and has complied with the laws of his state, regulating the practice of medicine, and is apparently eligible in every way for membership in a county society, if for a trivial reason he is denied admission to his county society, an injury is done that is far reaching in its consequence, both to him, to the local society, to the state society and to the AMERICAN MEDICAL ASSOCIATION, and it tends to foster and keep alive a general opinion that county societies, as well as the state and national, are conducted for the benefit of the few, and that in place of these organizations

being scientific primarily, they have degenerated into social and mutual admiration societies.

By denying a person admission into the county society, one is denied admission into the state and national association. This state of affairs could hardly have been intended when the laws of these organizations were first instituted. I suspect the very respectable minority of the profession, if not a majority, would welcome some plan by which this condition could be altered, and by so doing have many energetic and capable medical men inside of these organizations, and thereby help to relieve the demoralized state into which the profession has fallen in many sections of the country.

It should not be possible for a county society to cast an unalterable stigma on a member of the profession, while at the same time he has no means of defending himself. Our general law convicts no one without a fair trial by jury, and the applicant for membership in a county society should have the same privilege.

I have no ax to grind in bringing this subject forward, as I am a member in good standing in both my county and state societies, and am eligible to membership in the AMERICAN MEDICAL ASSOCIATION. On the contrary, I believe I am acting for the good of the whole profession in making an effort to have our societies placed on a solid and equitable foundation.

I have been steadily engaged in practice for over thirty-one years and have always taken an interest in medical society work. In the natural course of events, I will, in a few years, step down and out, and if I can in a small way help to start a movement that will be of benefit to the profession in general, I will feel amply repaid.

The remedy I would suggest—the national association at its meeting soon to take place, could profitably take up this subject, and by discussion secure a general opinion—is for the AMERICAN MEDICAL ASSOCIATION to require each state and county society to be chartered, then provide that an applicant shall have the right of appeal to the state and national societies in case of rejection. There is no doubt but there are many among the ablest in the profession, who are outside of medical organizations, and who claim that they have been deprived of a right, and without their side being allowed a hearing.

H. G. MAUZEY, M.D.

Antiseptic Treatment of Smallpox.

HOUSTON, TEXAS, May 21, 1901.

To the Editor:—THE JOURNAL of May 11 contains a communication from Dr. A. Bryan, Detroit, Mich., in which he claims to be "the original author of what may aptly be termed the antiseptic treatment of the disease (smallpox)." The date of the publication of this theory and practice in regard to smallpox is given as 1895. This theory and practice may have been original with Dr. Bryan, but in March, 1894, this same treatment and theory was thoroughly presented in the *Texas Sanitarian*, as originating with Dr. I. C. Osborne, of Cleburne, Texas. Dr. Osborne, however, was not the first physician to publish this theory. In August, 1896, I had the pleasure of receiving from Dr. J. Kornitzer, of Socorro, N. M., a pamphlet published by him in February, 1880, at Cincinnati, Ohio, in which he set forth the same views as Dr. Osborne, and that were, later, set forth by Dr. Bryan.

The *Texas Sanitarian* is now the *Texas Medical News*, so if Dr. Bryan cares to look into the subject further he can obtain the desired information from the aforementioned journal of Austin, Texas. Very truly,
S. C. RED, M.D.
[Several other communications have also been received relative to this matter, the others giving personal experience with no references.—ED.]

A Suggestion to Preparatory Schools Regarding Morality from the Common-sense Standpoint.

NEW HAVEN, CONN., May 23, 1901.

To the Editor:—The prevention of venereal diseases is an important subject. Legalized prostitution has its advantages and disadvantages, but the teaching our young men the results of common venereal disorders, has never been attempted in the curriculum of our preparatory schools. If an obli-

gatory course of lectures on the common complications of gonorrhea, chaneroid, and syphilis were to be given in our large schools where young men are prepared for the universities, it seems as if it might have much weight.

The lectures should be given by a physician of experience and should cover the common dangers incident to the disorders, viz.: etiology, symptoms, complications, and sequels. If these lectures were delivered to the graduating class of the preparatory schools, it might have a good effect on the future actions of its members.

The lectures should not be intended to intimidate men, but simply to present morality from its common-sense standpoint, if nothing more.

To-day men are more enlightened than ever. Why not break down the so-called false modesty and educate our young fellows in the real dangers, as well as enlargement of their muscles. Men at college are influenced easily as a rule, if matters are set clearly before them, and if they knew beforehand, in most cases they would not make these mistakes.

G. TOTTEN-MCMMASTER, M.D.

Anesthetization During Sleep.

NASHVILLE TENN., May 20, 1901.

To the Editor:—If the anesthetization of children during sleep is of medicolegal interest I can add one case to the three reported by Dr. Paugh in THE JOURNAL of May 18. A boy of 18 or 20 months was brought to the clinic of Dr. J. A. Bodine, of the New York Polyclinic for circumcision. The child was found to be asleep in the mother's arms and the gradual administration of chloroform was begun without disturbing its slumbers. Complete surgical anesthesia was finally produced without any sign of irritation or symptom of awakening. Recovery from anesthesia was rapid, the child being in much better humor for having been spared the fright and shock of forced anesthesia. The procedure is uncommon, but by no means impossible or even difficult of achievement.

W. C. WELBURN, M.D.

Memphis in 1902.

The Memphis Medical Society has, after thoroughly canvassing the situation through proper committees, unanimously voted to invite the AMERICAN MEDICAL ASSOCIATION to meet in Memphis, Tenn., at its regular annual meeting in 1902. The Cotton Exchange, Business Men's Club, Passenger Association and all commercial interests in the city are anxious to have Memphis selected as the next meeting-place. Memphis, while her hotel capacity is not as large as it might be, compares favorably with any other city of her size. The hotel capacity is approximately 1500, without crowding, and there are definite promises to care for 1560 comfortably, 2200 by crowding, and 3225 by auxiliary resources, namely respectable boarding-houses. The auxiliary resources will cover only rooms in easy reach of the hotels and cafes. Aside from the hotels Memphis offers her homes. Meeting-places for the different Sections, and banquet halls, etc., have been fully planned for

W. BRITT BURNS.

Saratoga Springs in 1902.

In selecting a place for the next meeting of the ASSOCIATION, an effort should be made to find a place that can accommodate all possible delegates, friends and business people interested, and that too without crowding or making it necessary to engage accommodations two or three months in advance. Among the places that will extend an invitation to the ASSOCIATION for its next annual meeting will be Saratoga Springs, N. Y. In extending this invitation Saratoga Springs can and will guarantee, practically unlimited, thoroughly first-class accommodations at prices which will suit every purse. Its summer hotels are the largest in the world, and any or all of them will be open to the accommodation of the ASSOCIATION. Two of its largest hotels will accommodate about three thousand guests, two others about two thousand, and four or five smaller ones from three hundred to five hundred each, and all of these, including the convention hall, within a distance of each other of four city blocks, and this estimate is based on the actual num-

ber which are accommodated in ordinary times at the season's height. In addition to these, it boasts of a number of smaller hotels and many private boarding-houses. Saratoga can accommodate easily twenty thousand guests. The citizens have lately built a convention hall especially designed for the use of conventions. This hall will seat comfortably five thousand persons. Abundant facilities for the meeting of the different branches can be furnished. In addition to its superior and unusual accommodations as a convention town, Saratoga Springs is the health resort of the continent. It lies to the eastern spur of the Adirondacks and its climate is remarkably healthful. Saratoga is a village of unusually beautiful drives; its streets are well paved and delightfully shaded; so abundant is the shade that the village seems planted in the forest. Then we have Saratoga Lake, one of the most beautiful bodies of water to be found in the Adirondacks. This lake is easily accessible by trolley and by one of the most beautiful drives to be found anywhere in the world. Saratoga Springs and vicinity teem with historic interest. Only a few miles away the battles of Saratoga were fought, while a short distance to the north lie the beautiful and historic lakes George and Champlain. The village abounds in beautiful parks and elegant private grounds which are open to the public for drives. D. C. MORIARTY.

511 Broadway, Saratoga Springs.

Association News.

General Executive Committee.

The first meeting of the General Executive Committee of the AMERICAN MEDICAL ASSOCIATION will be held in Parlors 2 and 3, Hotel Ryan, St. Paul, Minn., on Monday, June 3, 1901, at 5 p. m. A full attendance is requested, in order that the committee may get to work early, and be ready for business referred to it by the ASSOCIATION. Subsequent daily meetings will be held in the same place, and about the same hour daily, unless otherwise ordered by the committee. L. DUNCAN BULKLEY, M.D., secretary.

Kentucky State Medical Society.

At the annual meeting of this Society, held in Louisville, May 22, 23 and 24, Dr. J. N. McCormack outlined the salient features of the report of the Committee on Reorganization of the American Medical Association, after which a resolution was introduced and adopted unanimously, urging the delegates of the Kentucky State Medical Society to go to St. Paul and do all in their power towards the adoption of the report after its presentation.

Illinois State Medical Society.

A motion was made and carried at the recent meeting of this Society, endorsing the report of the Committee on Reorganization of the American Medical Association, and the retiring president, Dr. George N. Kreider, was instructed to convey such information to the American Medical Association at St. Paul. A committee of five was also appointed to consider the revision of the Constitution and By-Laws of the Illinois State Medical Society, in conformity with what will be adopted at the American Medical Association meeting, and to report at the next annual meeting.

Resolution of Nebraska State Medical Society.

Resolved, That this Society hereby endorses the plan of the Committee of the American Medical Association of a thorough reorganization of the American Medical Association and all affiliating societies, and all delegates of the Nebraska State Medical Society in attendance of the annual meeting of the American Medical Association at St. Paul are hereby instructed to use all diligent efforts for the accomplishment of this object, and all permanent members are respectfully solicited to do likewise.

The Excursion to Yellowstone Park.

The General Manager of the Northern Pacific asks us to announce that those who have made reservations must deposit \$13 per berth, or \$26 per section, at the St. Paul ticket office

on or before 6 o'clock p. m. Wednesday, June 5. It is necessary for those who are making the arrangements to know approximately how many will go two days before the time of starting so that ample equipment can be furnished and the necessary preparations made. Hence all who propose to go on this trip should secure their reservations as soon after their arrival in St. Paul as is practicable.

Report of the Committee on Transportation.

The Committee on Transportation reports that since its announcement last week, it has been able to secure in the New England Passenger Association an extension of time limit to July 15, for the St. Paul meeting provided the return tickets are deposited with the joint agent not earlier than May 29, nor later than June 15, together with the payment of 50 cents extension fee. The Southeastern Passenger Association has granted the same time limit extension under the same conditions, but has failed to this date to announce a rate. The rate will probably be one and a third, but your Committee is endeavoring to secure the one fare plus \$2 rate out of that territory. Your committee is particularly pleased that it has been able, at last, to secure a uniform time limit extension to July 15, under the usual regulations, in all of the railroad associations on the occasion of the various St. Paul meetings. The Western and Central Associations have granted us a one fare plus \$2 rate for the round trip, and the Trunk Lines and New England roads have granted a one fare and one third certificate plan. The Southeastern Passenger Association rate has not been decided upon finally, but your committee will secure the lowest possible rate, which of course, will not be obtained in time for publication in THE JOURNAL prior to the St. Paul meeting. Delegates residing in this territory will learn the rate from their local ticket agents, and are advised to apply early for their rates and certificates. The same advice in the matter of certificates is hereby given to delegates residing in the Trunk Lines and the New England Territories. Delegates from any of the territories who desire to avail themselves of the stop-off privilege at Milwaukee on returning, are hereby informed that the only road of the Western Passenger Association territory granting this privilege at the request of your committee, and in the best interest of the physicians at large, is the Chicago, Milwaukee and St. Paul Railroad Company. This road in conjunction with the Pennsylvania and its connecting lines out of the East, in consequence of the better facilities offered, and their hearty co-operation with your Committee in the interest of the medical delegates, has been decided upon as the official route to and from the meeting at St. Paul. Your Committee, though human, has declined all personal courtesies offered by several competing roads, and have had, in advising you, but one object in view, our duty and your interests.—H. L. E. JOHNSON, Chairman.

Deaths and Obituaries.

Thomas F. Rumbold, M.D., Jefferson Medical College, Philadelphia, 1862, one of the pioneers in rhinology in the United States, noted for his work in this department, and for his contributions to its literature, a member of the AMERICAN MEDICAL ASSOCIATION, died at his home in St. Louis, May 23, aged 71. The St. Louis Medical Society held a special meeting May 24, to take action on the death of Dr. Rumbold.

Whitcomb Eliphalet Pratt, M.D., College of Physicians and Surgeons, Baltimore, Md., 1885, a widely known and popular physician of Buckingham Court House, Va., and a member of the Virginia State Medical Society and the AMERICAN MEDICAL ASSOCIATION, died from valvular heart disease, after a long illness, at Richmond, Va., May 16, aged 51.

Alexander Stewart, M.D., College of Medicine of Queen's University and Royal College of Physicians and Surgeons, Kingston, Ont., 1889, state examiner for the Modern Woodmen of America and well-known for his professional ability throughout the state, died suddenly at his home in St. Thomas, N. Dak., May 19, from heart disease.

Frederick L. Nutt, M.D., Chicago Medical College, 1878, a prominent and successful physician of McHenry County and a member of the AMERICAN MEDICAL ASSOCIATION, at his home in Marengo, Ill., May 23, from pneumonia, after an illness of two weeks, aged 49.

Paul R. Moore, M.D., New York University, 1859, who retired from practice a number of years ago, and has since resided in Los Angeles, Cal., died at the residence of his son, Dr. Thomas B. Moore, Butte, Mont., May 13, from pneumonia, aged 65 years.

Cyrus D. Morrill, M.D., New York University, 1859, one of the oldest practitioners of Madison, Me., formerly superintendent of schools and representative in the state legislature, died at his home in Madison, May 15, aged 70.

Thomas Alexander Means, M.D., Atlanta Medical College, 1856, a well-known physician of Alabama, and a surgeon in the Confederate service throughout the civil war, died at his home in Montgomery, May 14, aged 69.

George W. Pembroke, M.D., University of Maryland, Baltimore, 1868, died at Friendship, Anne Arundel County, Maryland, May 12, from the effects of a carbuncle on the neck.

Dalton Trumbauer, M.D., Jefferson Medical College, Philadelphia, 1892, died from consumption, May 15, after a long illness, at his home in Coopersburg, Pa., aged 32.

Jacob Derickson, M.D., University of Pennsylvania, Philadelphia, a retired physician of Wilmington, Del., died at his home in that city, May 16, aged about 70.

Robert O'Brien Durrett, M.D., University of Louisville, Ky., 1851, died at his home, Newstead, Jefferson County, Ky., May 12, from paralysis, aged 73.

Conrad Wienges, M.D., College of Physicians and Surgeons, N. Y., died from multiple neuritis at his home in Jersey City, May 23, aged about 53.

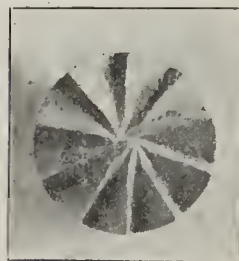
George W. Scott, M.D., Medical College of Virginia, Richmond, 1894, died from pneumonia at his home near Madison Run, Va., May 14, aged 28.

John Adams Wells, M.D., College of Physicians and Surgeons, New York, 1879, died at his home in Englewood, N. J., May 21, from pneumonia.

New Instruments.

New Mastoid Drill.

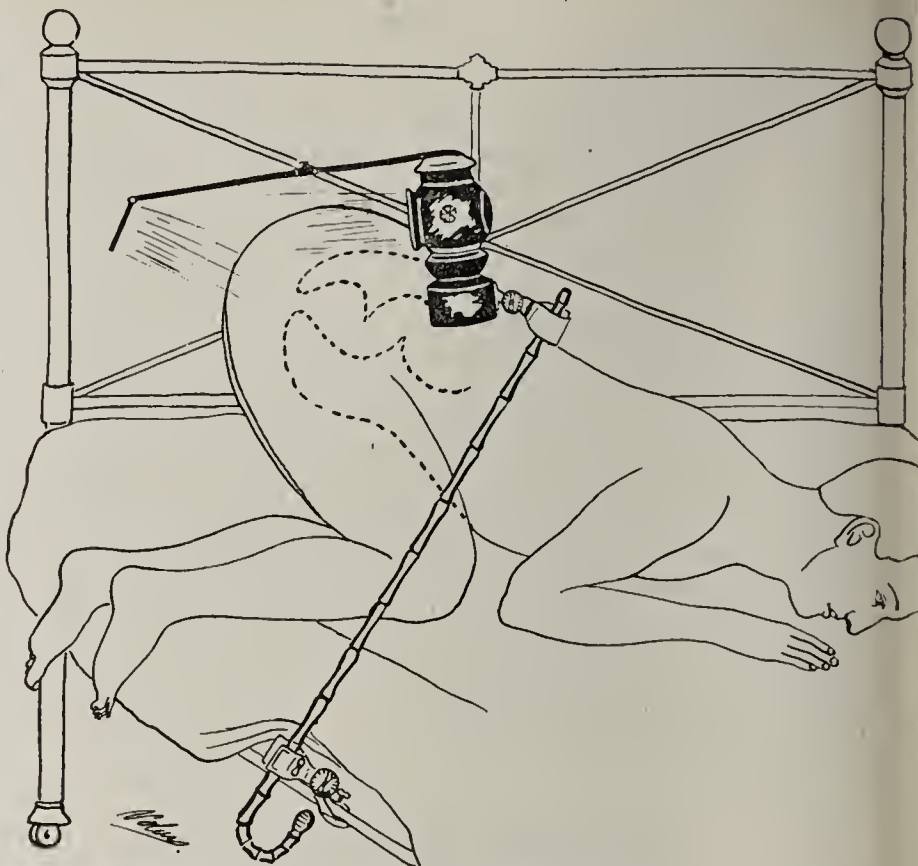
B. A. WASHBURN, M.D.
WICKLIFFE, KY.



End view of
cutting surface.

I present herewith two illustrations of my mastoid drill or gouge. This instrument I have used almost exclusively in place of the regular gouges for mastoid work, and as it has proven very practical, it may be of interest to other members of the profession.

A New Device,



Consisting of the combination of a bicycle lantern, mirror and bar, and a walking-stick, for illumination of the rectum at the bed-side. Thos. Chas. Martin, M.D., Cleveland.

Miscellany.

Value of Vaccination.—Inspector Spalding, of Chicago, states that between Nov. 30, 1900, and May 8, 214 cases of smallpox were reported, of which 182 were of persons who never had been vaccinated, 21 had imperfect, doubtful marks, very old; 7 had fair, but old marks, and 4 only had typical old marks.

Primary Echinococcus of the Pleura Cured with Sublimite.—J. Bokay describes in *Orvosi Hetilap*, 1900, 17, a case of primary echinococcus of the pleura in a boy of 5. Evidences of the parasite were discovered in the fluid obtained by an exploratory puncture and Bacelli's method of treatment was followed. After withdrawal of the fluid through a puncture between the fourth and fifth ribs, 20 c.c. of a filtered 1 per 1000 solution of sublimate was injected. The temperature rose to 39.2 C. for five days, but the symptoms gradually improved. A second injection like the first, a month later, was followed by the rapid disappearance of all symptoms and the patient was dismissed cured with a gain of three kilograms in weight.

Bier's Improved Method of Spinal Cocainization.—The improved technique which Bier has heralded and which he presented at the German Congress of Surgery, April 11, is a combination of subarachnoid injection of cocain and an elastic ligature around the neck to restrict the action of the cocain to the spine and keep it out of the brain. According to the report in the *Semaine Méd.* of April 17, he injects a much weaker solution of the cocain than is generally used at present, and aspirates a corresponding amount of cerebrospinal fluid to make room for it. An elastic band is fastened around the neck sufficiently tight to induce slight cyanosis without much discomfort. By this combination he has been able to reduce to a remarkable extent the unpleasant consequences of medullary analgesia as the increased intracranial pressure interposes an obstacle to the diffusion in the cocain. Further researches in this line, he added, will result in the evolution of a perfected technique of spinal cocainization free from all danger. Constriction of the neck to induce hyperemia of the brain has been utilized recently by Bier as a therapeutic measure, as described in *THE JOURNAL* of January 12, p. 144.

Societies.

COMING MEETINGS.

American Medical Association, St. Paul, Minn., June 4-7.
 Association of Military Surgeons of the United States, St. Paul, May 30, 31, June 1, 1901.
 American Academy of Medicine, St. Paul, Minn., June 1-3.
 National Con. State Medical Examiners and Licensing Boards, St. Paul, Minn., June 3.
 Association of American Medical Colleges, St. Paul, June 3.
 American Medical Editors' Association, St. Paul, June 3.
 Minnesota State Medical Society, St. Paul, June 3.
 Indian Territory Medical Association, Vinita, June 4-5.
 American Proctological Association, St. Paul, Minn., June 4-5.
 American Dermatological Association, Chicago, June 4-6.
 Rhode Island Medical Society, Providence, June 6.
 South Dakota State Medical Society, Huron, June 10-11.
 International Association of Railway Surgeons, Milwaukee, June 10-12.
 Medical Society of Delaware, Lewes, June 11.
 Oregon State Medical Society, Portland, June 11-12.
 American Medico-Psychological Association, Milwaukee, Wis., June 11-14.
 Maine Medical Association, Portland, June 12-14.
 Massachusetts Medical Society, Boston, June 12.
 Colorado State Medical Society, Denver, June 18.
 American Orthopedic Association, Niagara Falls, June 11-13.
 Medical Society of New Jersey, Allenhurst, June 25-27.
 Wisconsin State Medical Society, Waukesha, June 26.
 Medical Association of Nevada, Reno, July 1.
 American Ophthalmological Society, New London, Conn., July 17.

Indian Territory Medical Association.—This association will hold its annual meeting at Vinita, June 4 and 5.

Schuylkill County (Pa.) Medical Society.—At the meeting of this society, May 7, delegates were appointed to the AMERICAN MEDICAL ASSOCIATION.

La Salle County (Ill.) Medical Society.—At the annual meeting of this society, in Ottawa, April 30, Dr. William H. Fraser, La Salle, was elected president.

American Association of Life Insurance Examining Surgeons.—The next session of this Association will be on June 3, in St. Paul, Minn., in the Masonic Hall.

Buffalo Academy of Medicine, Medical Section.—At the recent meeting of the section Dr. Julius Ullman was elected chairman and Dr. Albert E. Woelmert secretary.

South Dakota Medical Society.—The twentieth annual meeting of this society will be held in Huron, June 10 and 11, under the presidency of Dr. C. M. Keeling, Springfield.

Medical Society of the State of Washington.—This society will hold its annual meeting, in Seattle, June 18, 19 and 20, under the presidency of Dr. Park Weed Willis, of that city.

State Medical Society of Wisconsin.—The fifty-fifth annual meeting of this society will be held in Waukesha, June 26, 27 and 28, under the presidency of Dr. John F. Pritchard, Manitowoc.

Medical Society of New Jersey.—The annual meeting of this society, which was organized in 1766, will be held at Allenhurst, June 25, 26 and 27, under the directorship of Dr. John D. McGill, Jersey City.

Bristol County (Mass.) Medical Society.—At the annual meeting of this society, at Fall River, Dr. Milton H. Leonard, New Bedford, was elected president, and Dr. John W. Coughlin, Fall River, vice-president.

Union District Medical Society.—The annual meeting of this society was held in Rushville, Ind., April 25. Dr. Mark Millikin, Hamilton, Ohio, was elected president, and Dr. Everett R. Beard, Liberty, secretary.

Muscataine (Iowa) Medical Society.—At the annual meeting of the society, held May 2, Dr. Henry M. Dean was elected president, Dr. Calvin W. Smith vice-president, and Dr. John L. Klein secretary and treasurer.

Washington City (Iowa) Medical Society.—This society was organized April 26, with the following officers: Dr. Edmund R. Jenkins, president; Dr. J. C. Boice, vice-president, and Dr. George W. Hay, secretary and treasurer.

Albert Lea District Medical Society.—The second annual session of the society was held at Albert Lea, Minn., May 21. Drs. Albert C. Wedge and Hamilton H. Wilcox were re-elected president and secretary respectively.

Spartanburg County (S. C.) Medical Society.—This society was reorganized May 15, and elected Dr. Hugh R. Black president, Dr. Lewis J. Blake vice-president, Dr. G. De Foix Wilson secretary, and Dr. George R. Dean treasurer.

Alumni Association of Cincinnati College of Medicine and Surgery.—At the annual meeting of this association, May 1, Dr. William Roush, Spencerville, Ohio, was elected president, and Dr. Edward S. Johnston, Cincinnati, secretary and treasurer.

Charleston (W. Va.) Medical Association.—This association, which was recently organized, has elected Dr. Alfred S. Patrick president; Dr. William W. Tompkins, vice-president; Dr. Timothy L. Barber, secretary, and Dr. John L. Stump, treasurer.

Albert Lea District (Minn.) Medical Society.—This Society, at its annual meeting elected the following delegates to the Association: Drs. Berthold M. J. Conlin, Owatonna; Peter H. Vesterborg, Forest City, Iowa; and Hamilton H. Wilcox, Albert Lea.

Fort Dodge (Iowa) Medical Society.—At the meeting of this society, May 9, Dr. Alanson M. Pond, Webster City, was elected president; Dr. Thomas F. Grayson, vice-president; Dr. Harley G. Ristine, treasurer, and Dr. W. R. Bates, secretary, all of Fort Dodge.

Savannah (Ga.) Academy of Medicine.—This society has effected permanent organization, with the following officers: Dr. Arthur A. Morrison, president; Dr. Frederick Wahl, vice-president; Dr. J. Oliver Cook, secretary, and Dr. George L. Harman, treasurer.

La Porte (Ind.) Medical Society.—At the annual meeting of this society, at La Porte, April 30, delegates to the AMERICAN MEDICAL ASSOCIATION were appointed; Dr. Horace Wardner was re-elected president, and Dr. Eber L. Annis re-elected secretary, both of La Porte.

Franklin County (Vt.) Medical Society.—At the annual meeting of the society, held at St. Alban's Hospital, May 9, Dr. E. Merriman Brown, Sheldon, was elected president; Dr. William R. Prime, Burlington, vice-president, and Dr. James N. Jenne, St. Albans, secretary.

Dorchester County (S. C.) Medical Association.—The physicians of Dorchester County met at St. Georges, May 15, to organize a county medical association, and elected Dr. P. L. Horn temporary chairman and Dr. John B. Johnston temporary secretary, both of St. Georges.

Aesculapian Medical Society of the Wabash Valley.—The annual meeting of this society was held at Mattoon, May 16. Dr. John A. Baughman, Neoga, was elected president; Dr. Francis D. Lydick, Paris, vice-president, and Dr. Harry McKennan, Paris, secretary and treasurer.

Center County (Pa.) Medical Society.—This society held its regular monthly meeting on May 14, at Bellefonte, and elected the following delegates to represent it at the meeting of the AMERICAN MEDICAL ASSOCIATION in St. Paul: Drs. S. M. Huff, J. Y. Dale, and H. S. Braucht.

Clay County (Mo.) Medical Society.—At the annual meeting of this society, held at Liberty, April 29, Dr. Leander J. Jones was elected president; Dr. John J. Rice, Kearney, vice-president; Dr. F. H. Matthews, Liberty, secretary, and Dr. John H. Rothwell, Liberty, treasurer.

Franklin District (Mass.) Medical Society.—At the annual meeting of this society, held in Greenfield, May 14, Dr. Halbert G. Stetson, Greenfield, was elected president; Dr. Francis J. Canedy, Shelburne Falls, vice-president, and Dr. Benjamin P. Croft, Greenfield, secretary and treasurer.

Middlesex East District (Mass.) Medical Society.—At the meeting of this society held May 9, in Woburn, Dr. Charles E. Chase, Woburn, was elected president; Dr. Joseph W. Heath, Wakefield, vice-president; Dr. Ernest S. Jack, Melrose, secretary, and Dr. Charles Dutton, Wakefield, treasurer.

Fifth District Branch of the New York State Medical Association.—The newly elected officers of the association are: Dr. Emil Mayer, New York, president; Dr. Mary Gage-Day, Kingston, vice-president; Dr. Edmund L. Cocks, New York, secretary, and Dr. Edward H. Squibb, Brooklyn, treasurer.

Colorado State Medical Society.—The coming meeting of this Society at Denver, June 18, 19 and 20, promises to be of unusual interest. A special feature of the first day's program is a report on the history of medicine in Colorado, and on the second a symposium on diseases of the kidney will be held.

Connecticut River Valley Medical Association.—The annual meeting of this Association was held at Bellows Falls, Vt., May 7. Dr. James A. Craig, Westmoreland, N. H., was elected president; Dr. J. Sutcliffe Hill, Bellows Falls, Vt., vice-president, and Dr. Edward R. Campbell, Bellows Falls, Vt., treasurer.

Clinical Society of the District of Columbia.—This society gave its annual banquet May 28. An elaborate program was prepared by the committee, of which Dr. Wilfred M. Barton is chairman, and Drs. Wells, James, Ramsburgh and De Vries the other members. The society then adjourned for the summer.

Union County (Ky.) Medical Society.—The annual meeting of this Society was held in Morganfield, May 6. The following officers were elected: Dr. Vaudois E. Handley, Sturgis, president; Drs. R. L. Martin, Bordley, and I. D. Winston, Sturgis, vice-presidents, and Dr. Wiley L. Dixon, Morganfield, secretary and treasurer.

Essex North District (Mass.) Medical Society.—The annual meeting of this Society was held in Lawrence, May 1. Dr. Frank B. Flanders, Lawrence, was elected president; Dr. John F. Croston, Haverhill, vice-president, Dr. Maurice D. Clarke, Haverhill, secretary and treasurer, and Dr. Alphonso B. Brown, Newburyport, corresponding secretary.

Washington County (Pa.) Medical Society.—The annual meeting of this Society was held in Washington, May 14, when the following officers were elected: Dr. William R. Thompson, Washington, president; Dr. George A. Linn, Monongahela, vice-president; Dr. John A. McKean, Washington, secretary, and Dr. Albert E. Thompson, Washington, treasurer.

New Hampshire Medical Society.—The one-hundred and tenth annual meeting of this Society was held in Concord, May 16 and 17. The following officers were elected: Dr. Daniel S. Adams, Manchester, president; Dr. Irving A. Watson, Concord, vice-president; Dr. Marcellus H. Felt, Hillsboro Bridge, treasurer, and Dr. Granville P. Conn, Concord, secretary.

Ex-Internes' Association of Good Samaritan Hospital, Cincinnati.—At the third annual reunion and banquet of this Society the following officers were elected: Dr. Frank Brunning, president; Drs. Jephtha D. Davis, Frank L. Ratterman and Dudley Webb, vice-presidents; Dr. Robin W. C. Francis, secretary and Dr. John P. Miller, treasurer, all of Cincinnati.

Hampshire District (Mass.) Medical Society.—This Society convened for its annual session at the Northampton Insane Hospital, May 10, elected delegates to the AMERICAN MEDICAL ASSOCIATION and the following officers: Dr. John A. Houston, president; Dr. Clarence R. Gardner, vice-president, and Dr. Arthur G. Minshall, secretary, all of Northampton.

Buffalo Anti-Tuberculosis Society.—The name of the Erie County Society for the Prevention of Tuberculosis has been changed to the Buffalo Anti-Tuberculosis Society. An exhibit will be shown at the Pan-American Exposition, and among other things a stained preparation of a tubercle bacillus found in the expectoration on the floor of a street-car will be shown.

Worcester District (Mass.) Medical Society.—The annual meeting of this Society was held at Worcester, May 8. Dr. Edward R. Wheeler, Spencer, was elected president; Dr. Samuel B. Woodward, Worcester, vice-president; Dr. Lester C. Miller, Worcester, secretary; Dr. George O. Ward, Worcester, treasurer, and Dr. Charles A. Peabody, Worcester, orator.

Alumni Association of Dartmouth Medical College (Hanover, N.H.).—The following officers were elected at the annual meeting of this Association held in Concord, May 16: Dr. Granville P. Conn, Concord, president; Drs. Milton S. Woodman, West Lebanon, and Alonzo S. Wallace, Nashua, vice-presidents, and Dr. Howard N. Kingsford, Hanover, secretary and treasurer.

Chattanooga Medical College Alumni Association.—At the annual meeting of this Association, May 23, the following officers were elected: Dr. D. W. C. Genter, Middlesboro, Ky., president; Drs. Thomas H. Appleton, Collinsville, Ala., J. B. Hughes, Spring Place, Ga., and J. J. Stringer, Oak Vale, Miss., vice-presidents, and Dr. German Haymore, Chattanooga, Tenn., secretary.

Middle Tennessee Medical Association.—The fourteenth semi-annual meeting of this organization was held in Shelbyville, May 16 and 17. Fayetteville was selected as the next place of meeting. Dr. Reginald Stonestreet, Nashville, was elected president; Dr. George W. Moody, Shelbyville, vice-

president, and Dr. James K. P. Blackburn, Columbia, secretary and treasurer.

Brazos Valley (Texas) Medical Association.—This Association held its semi-annual meeting at Calvert, May 15, and elected Dr. Daniel Parker, Calvert, president; Drs. Felix R. Collard, Wheelock, and Selwyn P. Rice, Marlin, vice-presidents; Dr. John W. Hudson, Milano, secretary, and Dr. Wellington B. Briggs, Easterly, treasurer. The November session will be held at Bryan.

Worcester North District (Mass.) Medical Society.—The annual meeting and banquet of this Society was held at Fitchburg, April 22. Dr. Herbert H. Lyons, Fitchburg, was elected president; Dr. Charles E. Bigelow, Leominster, vice-president; Dr. Walter F. Sawyer, Fitchburg, secretary; Dr. Eustace L. Fiske, Fitchburg, treasurer, and Dr. Atherton P. Mason, Fitchburg, librarian.

Long Island College Hospital Alumni Association.—The twenty-first annual reunion and banquet of this body was held May 13, the graduating class being the guests of the Association. Dr. William F. Campbell was elected president; Dr. Burr B. Mosher, vice-president; Dr. Thomas A. McGoldrick, secretary; Dr. John O. F. Hill, treasurer, and Dr. William S. Hubbard, historian, all of Brooklyn.

Erie County (Ohio) Medical Society.—The annual meeting of this Society was held in Sandusky, May 2. The following officers were elected: Dr. Charles Graefe, Sandusky, president; Drs. Maro J. Love, Bloomingville, and Elwood Stanley, Sandusky, vice-presidents, and Dr. Henry C. Schoepfle, Sandusky, secretary, and treasurer. Delegates to the AMERICAN MEDICAL ASSOCIATION were also elected.

Camden County (N. J.) Medical Society.—The annual meeting of this Society was held May 14, and the following officers were elected: Dr. William R. Powell, president; Dr. John G. Doron, vice-president; Dr. Paul M. Meecray, secretary; Dr. Ernest S. Ramsdell, treasurer; and Dr. Harry H. Sherk, historian, all of Camden. A large number of delegates to the AMERICAN MEDICAL ASSOCIATION were elected.

Baltimore County (Md.) Medical Association.—The annual meeting of this Association was held at Towson, May 16. The following officers were elected: Dr. James F. H. Gorsuch, Fork, president; Dr. R. Percy Smith, Sunny Brook, vice-president; Dr. William P. E. Wyse, Pikesville, recording secretary; Dr. Richard C. Massenburg, Towson, corresponding secretary, and Dr. Harry S. Jarrett, Towson, treasurer.

Michigan State Medical Society.—The following officers were elected at the annual meeting of this Society: Dr. Leartus Connor, Detroit, president; Drs. Beverly D. Harison, Sault Ste. Marie, Charles Douglas, Detroit, and Lincoln P. Parkhurst, Middleville, vice-presidents; Dr. Andrew P. Biddle, Detroit, secretary, and Dr. Charles E. Hooker, Grand Rapids, treasurer. It was voted to hold the 1902 meeting in Port Huron.

Jefferson Medical College Alumni Association.—The annual meeting and banquet of this Association was held, May 14, in Philadelphia. The following officers were elected: Dr. William H. Hartzell, Allentown, president; Dr. Henry Tucker, Philadelphia, corresponding secretary; Dr. Frank C. Hammond, Philadelphia, treasurer; Drs. Hobart A. Hare, Orville Horwitz, Joseph S. Neff, and George B. McClellan, vice-presidents.

Southern Illinois Medical Association.—At the annual meeting of this Association held in Metropolis, May 17, the following officers were elected: Dr. Obed A. Dean, Campbell Hill, president; Drs. James A. Helm, Metropolis, and M. D. Empson, Hartford, vice-presidents; Dr. Orange B. Ormsby, Murphysboro, secretary; Dr. Charles E. Riseling, Murphysboro, assistant secretary, and Dr. Alexis T. Telford, Menard, treasurer.

Mercer County (N.J.) Medical Society.—At the annual meeting of this Society, held in Trenton, May 14, Dr. George H. Parker was elected president; Dr. Alexander Armstrong, vice-president; Dr. George R. Moore, secretary; Dr. Dunbar Hutchinson, recording secretary, and Dr. Irenaeus M. Shepherd, treasurer, all of Trenton. Delegates to the State Medical Society and the AMERICAN MEDICAL ASSOCIATION were also selected.

Iowa Medical Women's Social Society.—The fourth annual session of this important adjunct to the Iowa State Medical Society was held in Davenport, May 14. The following officers were elected: Dr. Margaret E. Colby, Clear Lake, president; Drs. Lenna L. Meanes, Des Moines, and Kate A. Hogle-Mason, Mount Vernon, vice-presidents; Dr. Jennie McCowen, Davenport, secretary, and Dr. Agnes Eichelberger, Sioux City, treasurer.

Arkansas State Medical Society.—The twenty-sixth annual meeting of this Society was held at Hot Springs, May 14, 15 and 16. The following officers were elected: Dr. Frank Vinsonhaler, Little Rock, president; Drs. C. R. Chenault, Helena, and William N. Yates, Fayetteville, vice-presidents; Dr. Joseph P. Runyan, Little Rock, secretary, and Dr. Richard C. Thompson, Pine Bluff, treasurer. Little Rock was selected as the meeting-place for 1902.

Medical Association of Montana.—The twenty-second annual meeting of this Association was held in Great Falls, May 15 and 16. The following officers were elected: Dr. Thomas J. Murray, Butte, president; Drs. T. J. McKenzie, Anaconda, and Louis Bernheim, Butte, vice-presidents; Dr. Benjamin C. Brooke, Helena, secretary; Dr. James F. Spelman, Anaconda, corresponding secretary and historian, and Dr. George H. Barbour, Helena, treasurer. The next meeting is to be held in Butte.

Morganfield District (Ky.) Medical Society.—At the fifth annual meeting of the society held at Henderson, May 13, it was decided to change the name of the organization to the "Ohio Valley Medical Association." The following officers were elected: Dr. Cyrus B. Graham, Henderson, president; Drs. Thomas A. Frazer, Christian County, James W. Stone, Henderson, and Labe J. Sigler, Clay, vice-presidents; Dr. Wiley L. Dixon, Morganfield, secretary; Dr. J. A. Humphrey, Henderson, librarian, and Dr. S. S. Amerson, Sullivan, treasurer.

William Pierson Medical Library Association.—Formal organization of this Association was effected at Orange, N. J., May 14. It was announced that in addition to her gift of the extensive and valuable medical library of Dr. Pierson, his widow had given the association \$5000 as an endowment fund. Arrangements have been completed for housing the library in a special alcove at the Stickler Memorial Free Library, where the books will be available for the study of any regular physician, and for a room in the library building for the exclusive use of the members of the association, where they may read or study the books in the medical library alcove and where meetings may be held. The following officers were elected: Dr. Thomas W. Harvey, Orange, president; Drs. William J. Chandler, South Orange, and Dr. Richard C. Newton, Montclair, vice-presidents; Dr. Richard D. Freeman, South Orange, secretary; Dr. J. Hammond Bradshaw, Orange, treasurer, and Dr. M. Herbert Simmons, Orange, librarian.

PHILADELPHIA PATHOLOGICAL SOCIETY.

Meeting held April 25, 1901.

President Dr. Frederick A. Packard in the chair.

Trichinella Spiralis, Trichinosis and Trichina Inspection. A Zoological Study.

DR. CHARLES WARDELL STILES, Washington, spoke upon this topic. According to the speaker the subject of trichina might be viewed from several aspects, such as the hygienic and economic. On this occasion he felt that the choice of the subject was an appropriate one since the discovery of this disease had been made by a Philadelphia physician and scientist—Dr. Joseph Leidy in the year 1847. It was interesting to note the incidents connected with this finding. The history was that while this scientist was eating a ham sandwich, he observed that in the meat small peculiar bodies could be seen scattered throughout its substance. Brushing a few particles aside, he subsequently placed them under a microscope, and found the trichina. As a result of this discovery the most bitter political fight has been made against an American food-stuff than from any discovery ever made. It has cost more paper, ink, and money than any hygienic discovery. In one sense it has given more impetus to bacteriology than any other discovery. In 1848 a German investigator found the trichina spiralis in another animal than the hog. In 1870 when American pork began to compete with other markets of the world the discovery which Leidy had made, was used as an argument for the exclusion of American pork. It is difficult to estimate the financial loss to this country resulting from this controversy, but it doubtless runs up into hundreds of thousands of dollars. Later American pork was admitted to the market through the custom houses in Germany, and what has been the result? By this admission the most thorough system of preventive measures against diseased foods that has probably ever been instituted.

The speaker then outlined the life history of the trichina spiralis dividing it into three stages. The worm is swallowed by man and on gaining admission into the alimentary tract, the females burrow into the muscular walls and become encysted. Subsequently the male and female embryo burrow outward toward the muscles and undergo the same process. Hogs contract the disease by eating infected human offal. Rats by eating infected pork, human cadavers, and by eating one another. Unlike diphtheria and smallpox, trichinosis does not give rise to epidemics.

As to the prevention of the disease the German method is to prohibit as an article of food pork which has not been thoroughly cooked. That degree of temperature which will coagulate albumin, will kill trichina. The government of Germany has also instituted a very expensive system of inspection of pork, by a corps of meat-inspectors supported by the state at an expense of \$3,700,000 per year. To do such work in America a corps of 65,000 microscopists would be necessary. Observations have demonstrated that 2 per cent. of the hogs of America are infected with trichina. The largest outbreak of the disease restricted to one community occurred in Massachusetts where 48 cases had been reported.

The speaker was opposed to the system of trichina inspection by Government microscopists. This system would tend to lead to a false feeling of safety, and persons might then eat infected pork, thus increasing the number of cases of the disease. Thus of 3388 cases of trichinosis found in Germany 132 deaths had resulted from errors of inspection. During the exclusion period of American pork 4083 cases of trichinosis had occurred in Germany. During the years from 1892 to 1898 not one case of trichinosis could be traced to American pork.

In discussing this paper Dr. F. A. Packard stated that several years ago he had endeavored to infect guinea pigs with meat containing trichina without successful results.

DR. J. A. SCOTT spoke of the occurrence of eosinophilia in trichinosis.

DR. RANDLE C. ROSENBERGER spoke of a recent case of trichinosis occurring at the St. Joseph's Hospital in which the eosinophiles numbered 4 per cent.

DRS. A. A. ESHNER, and J. D. STEELE spoke.

In closing Dr. Stiles detailed the method of "pickling" American pork by injecting down the sheath of the long bones a preservative fluid such as saltpeter, salt, and sugar. The old method consisted in simply allowing the pork to be immersed in this fluid, which was not so apt to destroy trichina nor to prevent decomposition of the meat, as by the newer method. Pork packers have been warned to never use borax as a preservative. The government exercises no control over the sale of pork to be carried from one of its cities to the other, nor of the chemicals to be used. As to pork for exportation it must always be thoroughly pickled.

After the meeting Dr. Stiles was tendered a reception at the University Club.

Meeting held May 9.

President Dr. Frederick A. Packard in the chair.

Case of Ball-clot in the Auricle. Death by Occlusion.

DR. W. S. WADSWORTH reported and exhibited specimens from such a case. The previous history was not known except that the man had for some time been on a prolonged debauch, and had been an employe of a factory where he was doing very hard work. His death came on suddenly. At the autopsy a round and large clot was found loose in the auricle, and surrounded by a currant-jelly clot. The clot was round or oval in shape, and probably two inches in length and one and a half inches in thickness. It was enveloped in a more or less tenacious coat which stripped off readily. The center of the clot was a deeper red color. No organization of the clot had probably taken place. The length of time which it had been in the heart of course could not be estimated accurately, but it had probably been present in the auricle for a month or more.

DR. JOSEPH MCFARLAND had seen emboli in nearly all the cavities of the heart. In one case an embolus was the size of a grape. He had recently seen two cases of ball thrombi in the left auricle.

Hemorrhagic Pachymeningitis and Spinal Tumor.

DR. F. S. PEARCE presented "Two Specimens of Hemorrhagic Pachymeningitis, and Tumor in the Spinal Cord." One specimen of pachymeningitis had occurred in the service of Dr. James Tyson, and the other in his own ward. Both of the patients had been males, both were unilateral, and both were probably of chronic duration. One patient was 38 years, the other 71 years of age. In his patient it was suspected that cerebral hemorrhage had taken place. In the case of Dr. Tyson the patient had suffered from hemiplegia, later dying of nephritis. In this latter case a spastic condition was present. In the case of Dr. Tyson the hemorrhage involved the right side of the body, while in his patient the hemorrhage was on the opposite side.

The tumor of the spinal cord seemed to spring from the dura mater in the thoracic region of the cord and producing pressure to such an extent that the cord was completely flattened. In this case the sensation of the lower extremities were only slightly obtunded, but the functions of the cord did not seem to be otherwise impaired.

DR. JOSEPH MCFARLAND then detailed the microscopical appearance of the tumor. He had found a great deposit of lime salts, which was deposited in a peculiar fashion while the general histologic appearance was unusual. The tumor might have been an endothelial growth of cholesteotoma.

Diphtheria Bacilli in Noma.

DR. J. WALSH, after studying several cases of noma, had in several found pure cultures of diphtheria bacilli. He had made diagnosis of diphtheria bacilli only after subjecting the micro-organisms to certain tests, such as injecting it into guinea-pigs, and rabbits, and afterwards by culture methods. Smear cultures had also been made, and afterwards the staining properties had been studied. In most of the cases there had been a mixture of the streptococci, staphylococci and other micro-organisms together with the diphtheria bacilli. The speaker then detailed a series of seven cases giving the result of his findings in these cases. Four of these cases had begun as stomatitis. Of 15 cases of ulcerative stomatitis, in only one was diphtheria bacilli found. In one instance at a certain hospital there were 15 cases of stomatitis, but in these no diphtheria bacilli were found. In some of the cases of noma there had been a previous history of diphtheria a short while before the development of noma. The speaker stated that in this disease different writers had found different kinds of micro-organisms. Noma is often present after an attack of measles.

New Apparatus.

DR. W. W. BARCOCK exhibited apparatuses for rapidly measuring culture media, for washing pathological specimens, and for mounting specimens imbedded in celloidin. The first apparatus consisted of a tube serving the purpose of a burette, which was graduated and under the control of two pinch-cocks, which on being pressed would alternately open and close two separate rubber tubes, thus allowing the fluid to run out of one tube while at the same time the other tube would become full of fluid from atmospheric pressure. The second apparatus was for washing morbid specimens. It consisted of a copper pan, inside of which was another smaller compartment, and so arranged that when a wire sieve was placed over it, and water allowed to enter the pan it would circulate up into the bottles containing the specimens which were inverted over this sieve. In this way a constant stream of water could be made to permeate the specimens quite rapidly.

Rupture of Aorta.

DR. W. E. HUGHES and DR. JOSEPH MCFARLAND presented specimens of a "rupture of aorta." The patient had been a man of 40 years, but the history was indefinite. At the autopsy the pericardial sac was filled with blood. The pericardium itself was normal. The weight of the heart was 650 grams, and contained currant-jelly clots. All the great vessels were filled with blood. A few patches of atheromatous plates had been found. In the ascending arch of the aorta there had been a laceration of the inner coats thus permitting the blood to dissect its way upwards. The lungs were edematous, and the pleura contained serous fluid.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting of Section of Medicine, April 16, 1901.

Dr. E. Franklin Smith in the Chair.

Case Illustrating the Influence of Arterial Spasm on Left Heart.

DR. JUDSON DALAND, Philadelphia, reported this case as an introduction to a discussion on the relation of arterial changes to the heart. The case was that of a healthy girl of 10 years who, after having eaten a large quantity of a certain table sauce, the chief ingredient of which was apparently capsicum, had been made so ill that she had been admitted to hospital. She suffered from headache, fever, anorexia, difficulty in swallowing and convulsions, and the urine contained a few blood cells and albumin one-fourth by bulk. The pulse was over 100 and somewhat irregular, and the radial arteries felt like wires. From the physical signs in the chest it was inferred that the condition of the heart was rather one of acute dilatation than of hypertrophy. Most of the symptoms had disappeared in a few days, and in two weeks the condition of the urine and of the blood vessels was once more normal.

DR. WILLIAM H. THOMPSON said that in all probability acute dilatation of the heart was quite common in scarlatina and in acute rheumatism, as a result of arterial spasm. The small, high tension pulse was so characteristic of scarlet fever that when a physician was called to see a child who had been suddenly taken ill with vomiting and high fever, there was good reason to suspect scarlet fever, even though the eruption had not yet appeared. Dr. Thomson said that he had made a number of observations on the specific gravity of the urine in chronic nephritis, and these had revealed the fact that there were remarkable fluctuations in the specific gravity not only from day to day, but from hour to hour. During these observations the total quantity of urine for the twenty-four hours had been determined, and no change had been made in diet or medication. His explanation was that vasomotor storms occurred in the splanchnic area, and this he considered significant as pointing out the fact that the heart is probably often subjected to intermittent strain, and that this may explain the tendency to cardiac hypertrophy. This strain occurs prior to the atheroma, for it was well known that there may be extensive atheroma without cardiac hypertrophy. He believed that arterio-capillary disease is always the result of toxemia, and that the great therapeutic measure in such cases was fresh air, because this tends to counteract the chemical changes in the blood.

DR. BEVERLEY ROBINSON said that as it was well known that under certain circumstances cardiac hypertrophy is a beneficent provision of nature, it behooved the physician to think carefully before prescribing nitroglycerin or other vasodilators merely with the object of overcoming an increased arterial tension.

DR. RICHARD VAN SANTVOORD remarked that his experience had taught him that the loudness of the second heart sound is no indication of high arterial tension or of the strength of the heart, and this he explained on the theory that the energy with which the valve closes is dependent upon the difference in the blood pressure on the two sides of the valve.

The Climate of Long Island.

DR. LEGRAND DENSLOW read a paper on this subject, based on careful observations made by the government meteorological observers. In this study and analysis the author brought out the novel and important practical information that there is a region in the eastern end of Long Island where the atmosphere is remarkably dry and where each year there are over 100 more days of sunshine than in New York City. In these respects this region compares favorably with other and better known places in the far West. Such a place should prove desirable for residence for persons suffering from diseases of the heart, lungs and kidneys, or from rheumatism.

Stated Meeting of Section on Genito-Urinary Diseases, April 17.

Dr. William K. Otis in the Chair.

Gonorrheal Myositis.

DR. MARTIN W. WARE reported this case, commenting upon

the great rarity of the condition in medical literature, and presenting sections under the microscope and photomicrographs. He had been able to find only three cases of gonorrheal myositis on record.

Modification of Cook's Method of External Urethrotomy Without a Guide.

DR. PERCY R. BOLTON described the method as follows: The position of the apex of the prostate is determined through the rectal wall, and with the finger on this part, the knife is carried up toward the apex until the urethra is entered. The external wound is then enlarged and the division of the stricture completed. His modification consists in making a curvilinear incision across the perineum, exposing the tendinous center of the perineum. The attachment of the sphincter ani is divided and reflected, and the triangular ligament incised transversely. The anterior fibers of the levator ani are pushed backward and the prostate exposed. With the apex of the prostate as a guide, an incision is made into the urethra in the middle line, and prolonged forward.

Gonorrheal, Auto-Reinfection of the Urethra.

DR. FERD. C. VALENTINE presented a paper on this subject. He maintained that in every case the focus of disease could be detected by persistent search. The best aid to diagnosis was a microscopical examination of the sedimented urine. The best treatment was by dilatation and irrigation. Sometimes the diagnosed glands would require direct applications. For purposes of diagnosis one was warranted in producing sufficient irritation to set up a discharge.

DR. LOUIS HEITZMANN said that after many years of patient work he was in a position to assert most positively that microscopic examination of the urine was of very great value in determining the locality of the disease. If a number of examinations of the same case were made at different times, and inflammation of the genito-urinary tract was present, the epithelia sought for would be found.

DR. JOHN R. VAN DER POEL thought many cases of auto reinfection were the result of involvement of the prostate. In such cases, massage of the prostate followed by irrigation was the proper treatment. Good results often followed extreme dilatation, by means of special dilators, of certain portions of the anterior urethra.

DR. DOUGLAS H. STEWART remarked that he had never met with a case exhibiting slight moisture of the urethra in which the urine did not respond to Heller's test for albumin.

DR. FREDERICK R. STURGIS did not believe that the gonococci often invade the prostate. He had had poor success with irrigations, and preferred local applications of a 10 per cent. solution of protargol through the endoscope. For the anterior urethra he often made use of zinc injections with a hand syringe.

DR. W. W. OTIS said that the wonder was not that one occasionally met with cases of auto-reinfection, but that gonorrhea ever was thoroughly eradicated. The surface of the urethra was dotted over with hundreds of openings—the glands of Littré—openings large enough to admit a bristle. It must be evident that the germicides can not get down to the bottom of these glands or into the ducts of the prostate. Why some recover from gonorrhea without the use of a germicide, or, indeed, without any treatment, while others are persistently reinfected though subjected to the most approved treatment, was still an open question, but apparently the element of personal immunity was an important factor.

*Stated Meeting of Section on Obstetrics and Gynecology,
April 25.*

Dr. A. Brothers in the chair.

Dilatation of the Cervix.

DR. H. J. GARRIGUES read a paper on this subject. Among the medical methods of favoring cervical dilatation during labor were injecting into the cervix 1/40 of a grain of atropin dissolved in sterile water; painting the cervix with a 10 per cent. solution of cocaine; the administration of 15 grains of chloral every twenty minutes for three or four doses; the administra-

tion of 10 grains of antipyrin every half hour for three doses. A slow but useful mechanical method of dilating the cervix was by inserting a strip of iodoform gauze into the cervical canal and packing the vagina with creolin gauze until the following day, when the dressing was to be renewed, and the packing carried still higher up into the cervical canal. Where a rapid dilatation was demanded, the manual method would be found excellent. It consisted in introducing first one finger, then two, three and four fingers, and finally the whole hand in the shape of a cone. The various forms of rubber-bag dilators were then described, and the statement made that lateral pressure was to be preferred to the pushing upward of a large conical mass. In urgent cases, some practitioners made use of Dührssen's deep cervical incisions, but while they may occasionally save a child's life that might otherwise be lost, they exposed the mother to immediate danger and remote suffering.

Axis Traction Forceps.

DR. EGBERT H. GRANDIN said that few teachers of obstetrics and few practitioners seem to understand the advantages, under certain conditions, which this form of forceps has over all others. It was surprising that in this country axis traction had never gained a foothold. In 1879 it had been his privilege to attend for a number of months the wards of the maternity in Paris under Professor Tarnier, and he could vividly recall with what enthusiasm Tarnier had demonstrated to him the advantages of the axis traction forceps. Subsequently in his services at the New York Maternity Hospital and at the New York Infant's Asylum he had had ample opportunity to test this instrument and it was now his custom to carry an axis traction forceps to obstetric cases. Over and over again he had succeeded in effecting delivery where other men, more skillful than he, had failed with other types of forceps. Leverage was a necessary accompaniment of traction because it was infinitely difficult to pull in a straight line. Forceful rotation endangers the maternal parts, and moreover the fetus may not follow the movement of the forceps. For the low operation any variety of obstetric forceps should answer. The high forceps operation was limited in his hands to cases in which the membranes had ruptured and the presenting part had engaged. For the high operation traction must be made in the correct axis with the least expenditure of energy upon the part of the operator and with the least interference with the normal mechanism, such as rotation; also with the least compression of the fetal head and with the least danger to the mother's parts. These requirements were certainly best met with the axis traction forceps. With this instrument one substituted, for blind traction, sentient traction. The seesaw motion which almost inevitably enters into the application of the ordinary forceps does not enter into the application of the axis traction forceps. The following cardinal rule must be observed or the axis traction forceps would almost certainly slip: "While making traction the traction rod must ever remain parallel to and almost in contact with the handles." Neglect of this rule made the axis traction forceps a very dangerous instrument.

Version: Indication, Limitation and Technique.

DR. S. MARX at the outset confessed that he was strongly of the opinion that there is a large field for perforative instruments, believing that the life of the mother should be given preference over that of the child. He elects version over forceps for all cases in which the head remains above the brim. In all positions, good or bad, in which the head remains above the brim version should be elected early. In transverse or atypical positions prophylactic version, done as soon as the membranes have ruptured, serves the best purpose. In cases of placenta previa or where prolapse of the funis threatens the child's life, version is indicated. In general, version was indicated in all cases in which the life of the mother was threatened, as for example in uremic convulsions or embolism of the lung, presupposing, of course, full dilatation of the cervix. If the cervix were not fully dilated it must be rapidly secured by manual dilatation or by deep incisions before the version. The following rules should be borne in mind: Always be sure of the position and of the presentation. 2. Be sure that the

fetus is alive, or that its life is in no great danger, as determined if necessary by the introduction of the hand into the uterus and palpating the umbilical cord. 3. Do version if possible before rupture of the membranes or as soon as possible afterward. 4. As clinical experience has shown that after manual dilatation of the cervix the latter is prone to contract again speedily after the delivery of the head, immediate extraction in such a case should be practised after version. Dr. Marx said that he felt that an error was too commonly committed of using the feet as a means of traction during the extraction of the head, and that it was better to use them as a guide and trust largely to the *vis a tergo* for the delivery of the after-coming head. No operative method except perforation should be done in the presence of a dead or dying fetus. When the head was passing the contracted inlet a gain of three-fourths of an inch in the conjugate could be obtained by putting the woman for the time being in a position of exaggerated extension.

Symphiseotomy.

Dr. EDWARD A. AYERS discussed this subject, based on a personal experience with the operation in 11 individuals and done 13 times. There had been no death attributable to the operation, no infection of the joint, no serious hemorrhage, and no general disability. No sutures had been used. Injury to the sacro-iliac joint need not occur, and union at the symphysis was greatly aided by slinging the pelvis in a U-shaped hammock. It was very important to secure full cervical dilatation before operating. The great majority of cases of pelvic contraction beyond the range of the forceps could be delivered by symphiseotomy.

Cesarean Section.

Dr. E. B. CRAGIN discussed this operation. He said that he had done it nine times in the last three years, and had saved both mother and child in every instance except one. In that one the operation had been undertaken solely with the object of easily delivering a woman who at best was so far advanced in carcinoma of the uterus that she had but a short time to live. If the woman were in such poor condition as not to be able to stand an operation like Cesarean section, craniotomy should be done. If both mother and child were in good condition, and delivery by forceps or version were impossible, Cesarean section should be selected in hospital practice. In conditions of moderate pelvic contraction one must decide between Cesarean section and symphiseotomy. The abdominal incision could be made shorter by incising the uterus before bringing it up into the abdominal wound. To avoid adhesions forming between the uterus and the abdominal wall a portion of the omentum should be placed between them.

Dr. CHARLES JEWETT said that version was an operation too much neglected, yet he sometimes used the forceps when the head was above the brim provided he could readily crowd it into the brim and hold it there while applying the axis traction forceps. The open wound for symphiseotomy seemed to him preferable to Dr. Ayers' subcutaneous method. The field for this operation was a small one. The results for both mother and child were not so good from symphiseotomy as from Cesarean section, but symphiseotomy presented some advantages where the woman had been long in labor.

CHICAGO MEDICAL SOCIETY.

Regular Meeting held April 24.

President Dr. James H. Stowell in the chair.

Four Cases of Surgery of the Ureters.

Dr. EDWARD EVANS, of La Crosse, Wis., read a paper, by invitation, on this subject. Reference was made to the bibliography of ureteral surgery: its experimental exploitation; the demonstration of its practicability in the human subject; its technique; the possibility of relieving suffering thereby, preserving useful organs and prolonging life. Credit was given to the work of Van Hook, Martin, Frank, Peterson, Connell, Fenger, and others.

Case 1.—Intermittent hydronephrosis of fourteen years' duration; abnormal vessels adherent to ureter and causing kinking of same; ureterolysorthosis; recovery.

Case 2.—Valvular obstruction of left ureter due to oblique insertion; extra-pelvic operation; division of spur; transverse union; recovery.

Case 3.—Intermittent hydronephrosis; hugely distended pelvis and sacculated kidney; lateral implantation of ureter and kinking of same; extra-pelvic operation through lumbar incision after opening abdomen in mistaken diagnosis.

Case 4.—Cystitis; ureteritis; disappearance of right kidney by inflammatory changes; pyelonephritis of left kidney; suprapubic cystotomy; nephrolithotomy; rectal implantation of left ureter; death twenty months later from uremia.

Dr. WILLIAM T. BELFIELD emphasized the use and value of the X-ray in the diagnosis of kidney and urogenital lesions prior to operative measures.

Dr. CARL BECK stated that the results of implantation of the ureters into the bowel were uniformly the same, experiments on animals having shown that after some months, sooner or later, degenerative or infective processes in the kidneys took place. He referred to a case which had remained in very good condition a year and a half after he had implanted the ureters into the sigmoid flexure.

Dr. JACOB FRANK pointed out that one very peculiar feature following implantation of the ureters was that the cystitis always terminated at the neck of the bladder, the inflammation never extending to the urethra.

Dr. L. E. SCHMIDT spoke on the diagnosis of ureteral obstruction, and mentioned a method introduced by Dr. Kolischer and himself which had proved valuable in several cases.

A Symposium on Ulcer of the Stomach.

Dr. N. S. DAVIS, JR., dwelt on the "Symptoms and Diagnosis of Gastric Ulcer." Attention was called to the frequency with which the malady occurs. Many pathologists have found evidences of former gastric ulcer or existing ulcer in from 3 to 10 per cent of those who were examined at autopsy. By the majority of practitioners only those cases are recognized in which hematemesis occurs, that is, in about one-third of all cases. A majority, instead of a minority, of all cases should be recognized. It is true that in certain ones a diagnosis is impossible. The characteristic symptoms of those in which hematemesis does not occur, but in which a diagnosis can be made, were fully described. The diminished acidity of the urine and the occurrence of an alkaline wave after meals, and the diminished amount of chlorids in the urine were described as evidences of hyperacidity of the stomach and as occurring in strange contrast to the conditions existing in cancer and chronic gastritis with which round ulcer is so often confused. Digestive leucocytosis exists in cases of gastric ulcer, but as a rule is slight or wanting in cases of cancer and chronic inflammation. Persistent and even anemic leucocytosis occurs in most cases, of course, but does not occur in round ulcer. The ratio of hemoglobin to red corpuscles often resembles that of pernicious anemia in cancer, but that of chlorosis in round ulcer. In both maladies hemorrhages often reduce both equally, at least for the time being. The differential diagnosis of the disease was fully described.

Dr. WILLIAM A. EVANS discussed the "Pathology of Ulcer of the Stomach," describing sizes, outlines and situation. As to location, the seats of ulceration are the lesser curvature, the posterior surface, and near the pylorus. Other regions are less often affected. Occasionally the duodenum and the esophagus are the seat.

Under pathology the speaker discussed some questions of greater interest because of their obscurity, and some of these were the relation of sex; the relation of hyperacidity, chlorosis, thrombus and embolus, syphilis, method of healing, comparison with hemorrhagic erosions, question of scars, and the relation of ulcer to carcinoma.

The analysis of 7700 autopsies by Stawell would indicate that ulcer of the stomach is about as frequent in men as in women. Gluzinski says the majority of the ulcers occur in men. The usually accepted figures are, about twenty times as often in women as in men. Greenough and Joslin, as a result of a study of the cases in the Massachusetts General Hospital from 1888 to 1898, conclude that it is four times as frequent

in men as in women. Saundby says it is twenty times as frequent in women as in men.

Hyperacidity and ulcer of the stomach are generally associated. The speaker's opinion is that the hyperacidity results from the continued irritation of the ulcer, and not the ulcer from the hyperacidity. Neumeister and Frenzel have shown that the hyperacid gastric juice does not digest as readily as that which is normal. In any case of marked hyperacidity in a young woman, ulcer as an etiological factor is to be borne in mind. In ulcer of the duodenum no hyperacidity of the gastric juice can be demonstrated as a general proposition.

Among the other etiological factors recognized are embolus and thrombus. The anatomical arrangement of the celiac axis and of the gastric artery would make embolus infrequent. Besides, embolus is not common in people presenting the clinical picture manifested by a case of ulcer of the stomach. Thrombus can frequently be demonstrated.

That there is a relation to chlorosis is beyond question. Again, there is the difficulty of deciding which is the primary lesion. On the one hand, the loss of blood, and, perhaps, more important still, the direct absorption through the ulcer of incomplete digestion products can produce chlorosis. Usually the degree of anemia bears some relation to the loss of blood. On the other hand, women with ulcer of the stomach usually give a history of anemia preceding the ulcer. The same is not true of men. The ulcer does not repair until the anemia is lessened according to Fütterer. This might be true, and the chlorosis be only a contributing factor. Hemmeter and Stokes have collected 21 cases of syphilitic ulcer in the literature up to 1900.

Under the head of results of ulcer of the stomach, the essayist considered methods of healing, scars, carcinoma springing immediately from the ulcer and developing carcinoma from the scar. It is stated by Welch that 5 per cent. of all autopsies reveal scars at the site of healed stomach ulcers. But not every case of ulcer produces permanent scars—scars persisting for years. Scars in actively working organs tend to disappear in course of time. Ziegler in a late study says that ultimately muscle scar tissue is replaced by functioning muscle in many cases.

As to the relation of ulcer to carcinoma, Fütterer holds that carcinoma develops right in the ulcer as a result of physical injury. It develops on the side of impact. Billings quotes Lebert, Rosenheim, Zenker, Hemmeter and Kollmann as believing that carcinoma usually develops in healed gastric ulcer areas. Lebert states that 9 per cent. of carcinomas grow from such scars. Rosenheim says 6 per cent.; Zenker says most of the cases originate in such areas.

DR. JAMES B. HERRICK read a paper on "Treatment of Ulcer of the Stomach." He called attention to the fact that many of these ulcers healed spontaneously, as is proven by the clinical history of cases and by postmortem examinations, with accidental findings of typical scars. The conditions that tend to keep up the process are the general chlorotic state, the local circulatory condition, but above all, the irritation from food which excites peristalsis and vomiting and causes an outflow of the hyperacid gastric juices. Theoretically the best results should be obtained from the treatment securing most nearly perfect rest of the stomach, including freedom from peristalsis, from movements of the viscus, and attending movements of the body. Experience shows it to be true, that the more nearly these ideal conditions are met the better the result. Drug treatment is unsatisfactory. Treatment by light or milk diet gives better results. The results of Leube and others who employ his method are by far the best. Leube puts his patients to bed, applies hot applications over the epigastrium, and gives a minimum amount of a carefully selected food, with occasional drugs to correct hyperacidity. Of 556 cases Leube had examined, there was recovery in 74 per cent., improved in 22 per cent., unimproved 1.6 per cent., deaths 2 per cent.

The treatment by rectal feeding and rest in bed is really but a modification of the treatment of Leube, but it carries the rest of the stomach one degree nearer the ideal of complete rest.

Dr. Herrick then stated the objections to the method, that it was unnecessary, that it was impracticable, that the rectum would become intolerant, that nourishment was not absorbed, that the patient could not stand it and would become dangerously weakened, that the treatment was inefficient, and answered each objection in detail, showing that where the treatment was carefully carried out the objections did not hold. The objection, also urged, that it is difficult to make an accurate diagnosis of ulcer of the stomach, and that the patient might be subjected to this method of treatment when no ulcer was there, was admitted to be perfectly true, yet he regards it as much better to treat for ulcer what is not that disease than to let ulcer go untreated, and no case of gastric disease treated in this manner could be seriously harmed, even though it were not ulcer.

The technique of the treatment was described in detail, importance being laid on securing consent of the patient by a clear explanation of the reasons for the treatment and the advantage of having the patient under the care of a skilled nurse. Absolute rest in bed of from two to six weeks was advocated. Nothing should be allowed by the mouth, not even water, for from three days to three weeks. Nourishing enemata should be given at regular intervals; a cleansing enema of water given every morning; gradual substitution of liquid by the mouth for the enemata could be allowed when the pain, tenderness and vomiting had entirely ceased. It was better in all cases, if possible, to keep the patient on rectal feeding for at least one week. Light diet should be continued many weeks after the patient had left the bed. Attention should be given to the anemia, preferably by the administration of iron. The results of the treatment were almost immediate disappearance of the nausea, vomiting, and pain, and a rapid lessening of the tenderness on pressure. Hunger, thirst and sleeplessness were scarcely complained of after the first 24 hours. Emaciation and weakness rapidly disappeared when the feeding by the mouth was begun. In recent cases of ulcer a cure can be quite confidently predicted. In older cases, of months' or years' standing, there is generally an improvement, occasionally a cure. Certain cases are clearly surgical, chiefly those with alarming severe hemorrhage, or repeated small hemorrhages, not disappearing under rest and rectal alimentation; also cases of perforation, with peritonitis; cases complicated with adhesions, perigastritis, dilatation, etc., and cases with obstinate vomiting, or severe pain that resists the treatment by alimentation. Believing that other methods of treatment are unsatisfactory, and that this method by rest and rectal feeding offers the most favorable conditions for the natural healing of the ulcer, that it is safe, practicable and efficacious, he believes it should be tried in all cases and not reserved for the complicated or desperate ones.

DR. E. WYLLYS ANDREWS read a paper on "The Complications and Surgical Treatment of Gastric Ulcers." Complications requiring surgical treatment are: 1, perforation; 2, hemorrhage; 3, stenosis of the pylorus and vague incurable troubles from ulcers not cured by medical treatment. The writer believes that gastric ulcer is a surgical disease, just as much as an ulcer on the tongue would be. Only the dangers and difficulties of operating cause any such cases to be left in medical hands. As surgery justifies itself by its results, it transfers whole classes of cases to the surgical domain. Those which in the present status of the art may be claimed by surgeons are: All cases of perforation seen early; all cases of bleeding ulcer which have repeated hemorrhages, and most of those which have more than one very large hemorrhage; all cases of intractable gastric ulcer, which, with or without stenosis of the pylorus, seem likely to be benefited by gastroenterostomy or pyloroplasty.

The technique of laparotomy for perforation was given. Operations for bleeding ulcer are much less common, but have shown brilliant results. Two new cases were reported by Dr. Andrews. A new method of removing the ulcer by ligature *en masse* was described, with animal experiments to confirm the conclusions. Cases by Mansell-Moullin and other English surgeons were quoted in which the writer's technique had been adopted.

Operations for incurable stomach ulcer causing stenosis and other forms of disturbance were also alluded to. It was declared by the writer that most of the improvements in gastric surgery were being made by the French and German specialists, whereas American surgeons had taken the lead in intestinal surgery. Gastro-enterostomy is employed by Mikulicz, Doyen, Küster, König and others with brilliant results in gastric ulcer. Pyloroplasty has been done through the floor of a bleeding ulcer. The writer has had best success with pyloroplasty by the Heineke-Mikulicz method and believes it the safest operation, although a majority of writers favor gastroenterostomy.

DR. ARTHUR DEAN BEVAN spoke of the difficulty of making a diagnosis between gastric ulcer and carcinoma. He has seen several cases in the last few years where, on account of the youth of the individual, the history of the case, the excess of hydrochloric acid, the symptom-complex generally, a diagnosis was made of gastric ulcer, and yet operation disclosed carcinoma. He could not agree with Dr. Andrews that gastric ulcer was a surgical disease, any more than cholelithiasis was always a surgical affection. The treatment outlined by Dr. Herrick he considers of great value and rational. Rectal feeding and putting the stomach at rest constitute as rational a treatment for many cases of gastric ulcer as does gastroenterostomy.

DR. JACOB FRANK mentioned retroperistalsis following rectal enemata in a case of gastric ulcer which came under his observation in 1883.

DR. HERRICK, in closing, said he had never seen retroperistalsis following rectal enemata, although a physician with whom he saw a case in consultation told him that he was positive the patient had vomited material which had been introduced per rectum.

THE AMERICAN SURGICAL ASSOCIATION.

Meeting held in Baltimore, May 7, 8 and 9, 1901.

(Concluded from p. 1491.)

Treatment of Arterio-venous Aneurysm of the Subclavian Vessels.

DR. R. MATAS, of New Orleans, read this paper and reported a case of perforation of the right subclavian artery and vein, through the scalenus anticus, by a bullet, the patient being a young man aged 24. The bullet also injured the brachial plexus and caused paralysis of the corresponding upper extremity. Ten days subsequent to the injury the operation was performed. An osteoplastic resection of the clavicle with disarticulation at the sterno-clavicular joint was made under local infiltration anesthesia with eucaïn B. and a temporary traction loop of silk was applied under the first portion of the anomalous subclavian artery, the innominate being absent. The vein was provisionally compressed above and below the anastomotic orifice. Profuse hemorrhage occurred when the vein was detached from the artery in spite of the fact that complete control of the subclavian at its orifice had been obtained, the bleeding being stopped by the application of double ligatures above and below the perforation of the artery. Indirectly the bleeding had its source in the vertebral and internal mammary. The artery between the ligatures was divided, the orifice in the vein closed by a lateral suture and venous circulation re-established. An undeformed bullet, 38 caliber, was extracted, and shock followed, the patient being restored by saline infusion. Primary healing of the operative wound and recovery, with partial loss of the hand and forearm from mortification caused from arterial ischemia and insufficient collateral circulation followed.

Phlebitis following Abdominal Operations.

DR. ALBERT VANDER VEER, Albany, N. Y., read a paper on this subject. Abdominal work gives more anxiety during an epidemic of grippe. Acute, perforative appendicitis is more prevalent in August and September, because of the diet in which young people indulge; also in December and January, because of exercise and exposure. In operations deep in the pelvis, ligating the uterine and ovarian vessels and applying a mass of ligature, it is fortunate we do not have more

serious complications than is generally met with. Where these do arise suspicion may occur at once as to some failure in technique, but we should consider the great range of pathological lesions met with in the pelvis. It is very unpleasant, but very necessary, in these cases to keep the patient two or three times as long as promised at first. The essayist discussed four cases of phlebitis from his own experience.

The literature on this subject is very scarce and there is great question as to whether phlebitis in these cases is of septic origin. In his own cases he was not altogether sure but that the tight bandage may have had something to do with at least two of them. Never has there been delay in the union of the wound. Pain was one of the pronounced symptoms. When the lesion presented there was also a varying and accelerated temperature and pulse. Sex makes no apparent difference, neither does the nature of operation. In all four cases the patient was in a horizontal position, so there was no extra pressure upon the vessels of the extremities. The pelvis was not elevated. Loss of blood slight. Patients all strong previous to the operation, with the exception of case one. Ligatures used were silk; no catgut in the peritoneal cavity.

An Operation for the Radical Cure of Umbilical Hernia.

DR. WILLIAM J. MAYO, of Rochester, Minn., stated that patients suffering from umbilical hernia are usually obese, with attenuated muscles. It is sometimes wise to reduce the weight before operating. The neck of the protrusion should be exposed early and its omental contents ligated off at this point, saving time. The writer has made the following method nineteen times. The steps of the operation are as follows: A transverse elliptical incision is made at the base of the hernial protrusion to and through the peritoneum. Traction upon the hernia exposes its contents at the point of entrance. Return of intestine, if present, and ligation of extruded omentum. Exposure of the aponeurosis above and below the margin of the incision. The lower flap of aponeurosis and peritoneum is slid upward three quarters of an inch into a pocket previously formed, between the upper margins of aponeurosis and the peritoneum; retention by two rows of buried sutures. The sliding can be made from side to side in the same manner, and was so performed in ten of the nineteen reported cases. If the ring is very large the overlapping from above downward is easier of performance.

Prevention and Cure of Post-operative Hernia.

DR. JAMES E. MOORE, of Minneapolis, in this paper said that ventral hernia is rare among good operators except after operations for acute appendicitis. The causes of ventral hernia are sepsis, improper closure of the wound and drainage. The location of the wound is of less importance than its proper closure. Each tissue should be united to its own kind by through and through stitches of silk-worm-gut and buried sutures if absorbable material. Buried sutures of unabsorbable material are objectionable and unnecessary. The crossed suture of Dr. Fowler is a very good one, but requires more time to apply it and causes more pain when removed than the through and through suture. Always avoid drainage when possible. Most cases of pelvic surgery requiring drainage are best drained through the vagina.

AFTERNOON SESSION.

DR. S. H. WEEKS read a paper on "Fractures and Dislocations of the Spine."

Giant Sacrococcygeal Tumors.

DR. CHARLES A. POWERS, of Denver, presented, with photographs, a paper on this subject. A male child was first seen at 3 months of age, at which time there was found an enormous growth occupying the sacrococcygeal region, extending laterally to the buttocks and forward in front of the anus. It was irregularly ball-shaped and in size as large as the head of a child of 6 years. Below and in front the growth was cystic; above and laterally it was firm and in places nodular. The skin over the tumor was of a bluish-red over the cystic parts, normal above and at the sides. Deep palpation showed

no gap in the bony structures. There was nothing abnormal about the rectum. The tumor was moved by the gluteal muscles, but the tension of the mass was not changed when the child cried. There was no paralysis nor anesthesia of the lower extremities. No operation was advised and the growth underwent spontaneous contraction. The skin did not ulcerate, the contents of the cystic portion were absorbed, and when the child was 3 years and 9 months old the tumor had shrunk to the size of a man's fist and was well flattened out over the sacrococcygeal region. The boy is as strong and healthy as other lads of his age; lies on his back and sits like other children; except for its mere presence the tumor gives no symptoms. While this growth lacks pathological confirmation, it is assumed that it is a teratoma or embryoid tumor having a double germinal substratum.

Radical Cure of Inguinal and Femoral Hernia.

DR. W. B. COLEY, of New York, made a report of 800 cases operated upon from 1891 to 1901. The writer believes that the decade that has just passed may be said to have definitely settled the question as to the possibility of permanently curing inguinal and femoral hernia by operative treatment. Whereas ten years ago the mortality of the operation for non-strangulated hernia was not far from 6 per cent, today, in competent hands, it is not more than one-half or one-quarter per cent. In addition to the comparatively large mortality ten years ago, the fact that 50 per cent. of the cases relapsed within two to three years after operation was sufficient to prevent the majority of patients from undergoing operations for radical cure. The writer believes that the method introduced by Bassini in 1890 the highest point in the evolution of the ideal operation for hernia.

Use of Silver Wire and Electricity in the Treatment of Aneurysms.

DR. LEONARD FREEMAN, of Denver, read this paper; it was discussed by Dr. J. M. T. Finney, of Baltimore, Dr. De Forest Willard, of Philadelphia, and Dr. R. Matas, of New Orleans.

DR. M. L. HARRIS, of Chicago, read a paper on "Movable Kidney; its Cause and Treatment," which appears in this issue of THE JOURNAL.

DR. S. J. MIXTER, of Boston, read the following papers: 1. "Two Cases of Abdominal Contusion: Fracture of Spleen—Splenoectomy—Recovery; Fracture of Kidney—Nephrectomy—Recovery." 2. "Nephrolithotomy on Both Kidneys." 3. "New Method of Closing the Defect Following the Thorough Removal of the Breast."

Resection of the Chest Wall for a Large Sarcoma. Successful Use of the Antistreptococcic Serum.

DR. W. W. KEEN, of Philadelphia, read this paper. The author referred very fully to the details of the operation, together with the condition of the patient before and after. In concluding his remarks he called particular attention to: 1. The method of separating the tumor from the chest wall so as to determine more exactly the limits of the disease and lessen the size of the opening to be made in the chest. 2. The division of the ribs anteriorly and posteriorly prior to opening the pleural cavity; this diminished very much the period of danger in the collapse of the lung. 3. The use of Fels' apparatus, which was not satisfactory in this case and for which he prefers to substitute the apparatus of Dr. Bloom, of New Orleans, which he then showed to the Association or the apparatus of Matas, which was then demonstrated by its inventor. 4. The suture of the lung to the chest wall, which was followed by no untoward surgical result. It diminished very greatly the amount of post-operative pneumothorax and in fact one might almost say abolished it. 5. The use of the anti-streptococcic serum and as to whether it was the cause of the fall in temperature or only a coincident, the results seeming to be so striking. 5. The examination of the blood which was of great value as showing the reason for the continued high temperature and led to what the author believes to have been the proper treatment for the condition.

In the opinion of the Doctor it is too early to determine what will be the future of the patient but up to the present

time, a period of nearly seven months, the results have been entirely satisfactory.

Pneumotomy of the Lung.

DRS. HEARN AND ROE reported and exhibited a case of a large abscess of the lung, of 22 years' duration, probably the result of local gangrene following pneumonia, in a male patient aged 26. Pneumotomy was performed and the abscess drained for two years with much improvement in general health; marked lessening of the previous horribly offensive odor, but without any healing or reduction in the size of the cavity. They again operated and excised a portion of the abscess wall, stitching the margins of the remainder to the skin surface, thus converting it into an open cavity, with relief from the annoyance of wearing a drainage tube and of cleansing the cavity and with practically entire cessation of odor. Although about six months have elapsed, the cavity remains unchanged and there is evidence of secondary bronchiectasis for which they assign two probable causes; i. e., cough and cirrhosis of lung tissue. To obliterate the original cavity and to relieve the bronchiectasis or cure it, they propose to remove the greater portion of the lower ribs, with their periosteum, in this way allowing the chest wall to collapse upon the lung.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment will be answered in these columns.]

Insomnia in Melancholia.

R. Hyoscine hydrobromatisgr. 1/4 |015
Camphoræ monobromatæ3i 4|

M. Ft. Cap. No. xii. Sig.: One capsule every two or three hours until effective.

Treatment of Typhoid Fever.

As stated in an article in *Louisville Jour. of Med. and Surgery*, the time to push medicine in treatment of typhoid fever is in the beginning. Produce free elimination by administering either magnesium sulphate or mercurous chlorid. The article further states that the use of intestinal antiseptics should be begun early. The following are recommended:

R. Sodii sulphocarbollatis3iiss 10|
Ext. hydrastis fluidi3ii 8|
Aquæ destil, q. s. ad.....3ii 64|

M. Sig.: One teaspoonful in water one-half hour before taking nourishment, giving the nourishment at 3, 6, 9 and 12 o'clock. As a substitute for the sodium sulphocarbollate guaiacol carbonate may be given in 10-grain doses.

After taking nourishment the following should be given:

R. Pepsini (scale)3iiss 6|
Acidi hydrochlorici dil.3i 4|
Aquæ destil, q. s. ad.....3ii 64|

M. Sig.: One teaspoonful after each feeding.

If constipation is present the substitution of cascara sagrada for the hydrastis in the first prescription is recommended, and the use of normal saline enemas to aid in making the bowels move.

Glycerin as an Antiseptic.

Glycerin is used a great deal as a basis for various medicines. Wunschheim, in *Indian Med. Record*, states that he has investigated its antiseptic properties. He tested the effect of glycerin on various forms of germs, alone and in combination with various antiseptic preparations. It has no special value as an antiseptic, and if used in combination with carbolic acid and other preparations, the antiseptics must be stronger than if used with water. A concentration of 10 per cent. carbolic acid is about as effectual as a 5 per cent. solution in water; but if glycerin be mixed with equal parts of water the disinfectant value is as good as in pure aqueous solution.

Leucorrhea.

According to *Merck's Archives* the following is of service in treatment of leucorrhea:

WHEN AN ACID DISCHARGE IS PRESENT.

R. Sodii boratis	3iv	128
Sodii bicarb	3viii	256
Pot. chloratis	3iv	128

M. Sig.: Two level tablespoonfuls in two quarts of warm water twice daily as a douche.

WHEN ULCERATION OF CERVIX IS PRESENT:

R. Ichthyol	3iv	16
Iodoformogeni	3i	4
Lani	3v	20
Vasellini	3iii	12

M. Sig.: Apply twice daily with a swab.

Ulcers of the Leg.

O. Schulze, as noted in *N. Y. Med. Jour.*, gives the following as dressing in ulcers of the legs:

R. Camphoræ (trituated)	gr. vi	36
Zinci oxidi	3i	4
Adipis q. s. ad	3v	20

M. Sig.: Use as a dressing to the ulcer; or:

R. Camphoræ (trituated)	gr. xii	72
dissolve in		
Olei olivæ	3v	20

and add:

Zinci oxidi	3v	20
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M. Sig.: Apply as a dressing upon gauze and renew twice a day.

Non-indications for the Use of Carbolic Acid.

The *Internat. Jour. of Surgery* states that it is better to discard carbolic acid entirely in treatment of wounds in children. Not only do they develop gangrene very readily from its continuous effect in wet dressing, but fatal cases of poisoning have been known to occur from the application of so weak a solution as 1 in 40.

Impetigo.

Impetigo is a disease which is very frequently found among the poorer classes, and several members of the family may be affected in routine order. Jay F. Schamberg, in *Internat. Med. Mag.*, advises that the crusts first be removed, followed by mild antiseptic applications. He advises the following lotion applied through the day:

R. Hydrarg. bichloridi	gr. i	06
Glycerini	3i	4
Spts. vini rect.	3i	32
Aquæ q. s. ad	3iv	128

M. Sig.: Apply locally several times through the day.

The following ointment should be applied at night:

R. Hydrarg. ammon.	gr. x-vx	66-1
Pulv. amyli		
Pulv. zinci oxidi, āā	3ii	8
Petrolati	3ss	16

M. Sig.: Apply locally at night.

He states that some lesions upon the face will yield more quickly to the following ointment:

R. Resorcini	gr. xv	1
Lanolini		
Petrolati, āā	3ss	16

M. Sig.: Locally applied.

Or as a lotion the following may be used upon the face:

R. Resorcini	gr. xl	266
Acidi borici	gr. xl	266
Glycerini	3i	4
Alcoholis	3ss	16
Aquæ q. s. ad	3iv	128

M. Sig.: Apply locally to the case as a lotion.

He further states that to patches upon covered surfaces, a 10 to 20 grain solution of silver nitrate may be applied.

For Mosquito Bites.

M. Manquet recommends the following application to be applied to the face, upon tender surfaces, and in cases of very young children:

R. Formalin (40 per cent. sol. formaldehyd) 3v	20
Alcoholis	
Aquæ, āā	3x 40

M. Sig.: Apply locally lightly without reaching the smarting point and thus avoid caustic action.

Ingrowing Toe Nail.

R. Sol. plumbi subacetatis	3iv	16
Tinct. opii	3v	20
Aquæ q. s. ad	3viii	256

M. Sig.: Apply on lint to reduce the inflammation and ease the pain.

Treatment of Cancer.

The *Med. Standard* gives the following formulæ in treatment of cancerous growths where surgery is non-indicated:

R. Acidi arsenosi	gr. xv	1
Alcoholis (absolute)	3iiss	75
Aq. destil	3iiss	75

M. Sig.: Cleanse and dry the ulcer and apply with a brush. If no pain is caused in five minutes, another layer should be applied.

—Truncceck.

Another formula is given as follows:

R. Acidi arsenosi		
Orthoformi, āā	gr. xv	1
Alcoholis	3iiss	75
Aquæ	3iiss	75

M. Sig.: Apply locally.

Bougard's paste is also mentioned as recommended by Danial Lewis, as follows:

R. Wheat flour		
Amyli, āā	3ii	64
Acidi Arsenosi	gr. xv	1
Cinnabar		
Ammon. chloridi, āā	gr. lxxv	5
Hydrarg. chloridi mitis	3iiss	48
Sol. zinci chloridi (52 degrees F.)	3viii	240

M. Sig.: Spread a thick layer upon cotton and leave in position for twenty-four hours.

Treatment of Scabies.

Hopf, as noted in *Internat. Med. Mag.*, states that miraculous results are obtained by the use of the following ointment, first having the patient thoroughly scrubbed for several minutes with green soap and hot water. He then puts the patient into a hot bath for several minutes with continued scrubbing. By this method the pustules and burrows are open. The ointment is then well applied:

R. Sulphuris loti	3v	20
Potassii carbonatis	3iiss	10
Adipis	3iv	128

M. Sig.: Apply thoroughly and allow the ointment to remain on for twenty-four hours.

Treatment of Pertussis.

The *Brooklyn Med. Jour.* gives the following formula in treatment of pertussis during the paroxysmal stage:

R. Extracti belladonnæ	gr. i	06
Aluminis	3ss	2
Glycerini		
Syr. zingiberis		
Syr. tolutani		
Syr. acaciæ āā	3ii	64

M. Sig.: One teaspoonful four times a day for a child 2 years of age.

Treatment of Keratitis (Inflammation of Cornea.)

R. Acidi borici	gr. ii	12
Atropinæ sulphatis	gr. 2/3	04
Aq. destil.	3ii	8

M. Sig. Put one drop into the eye morning and night until the inflammation subsides.

Treatment of Pulmonary Emphysema.

Dr. Cailla, in *Post-Graduate* recommends the following in treatment of emphysema following pertussis in children:

R. Potassii iodidi	3ii	8
Spts. ammon. arom.	3i	4
Tinet. opii camph.	3i	4
Syrupi simplicis	3iv	16
Aquæ destil. q. s. ad.....	3iii	96

M. Sig.: One teaspoonful in water every three hours.

Medicolegal.

No Damages for Death of Man or Beast from Fright.—

The Supreme Court of Iowa says, in the case of Lee vs. the City of Burlington, that, as a general, settled rule with reference to human beings, no recovery may be had for injuries resulting from fright caused by negligence of another, where no immediate personal injury is received, and it sees no reason why the same rule should not be applied to animals. Damages, to be recoverable, must be such as, in the ordinary course of things, naturally follow from the act complained of, while death from fright alone is so unusual and extraordinary that one ought not to be held liable therefor.

Damages for Partial Paralysis and Mental Suffering,—

The Court of Civil Appeals of Texas affirms, in the case of the Missouri, Kansas & Texas Railway Company of Texas vs. Miller, a judgment for \$10,000 damages for a freight-train conductor who was alleged to have been seriously and permanently injured to the extent that he was rendered unable to work, had his health destroyed, suffered partial paralysis of his lower limbs from the hips down, and constantly suffered from mental anguish and pain. The court was satisfied by the evidence that he had been made a physical wreck, and a constant sufferer, both physically and mentally, and says that it is unable to see why his mental sufferings in contemplating his changed condition from a bright, happy life to a living death should not form one of the natural results of such an injury, and a proper subject of evidence and of damages.

Extent to Which Physician's Return is Evidence.—

The Supreme Court of Illinois holds, in the case of Howard vs. the Illinois Trust and Savings Bank, that the rule which makes official registers of births and deaths admissible in evidence to prove the facts recorded without the usual tests of truth includes only those facts which occur in the presence of the physician making the return. The return is not evidence of matters of mere hearsay gathered up by the physician, of which he knows nothing. It is only evidence of facts necessarily within the knowledge of the person making the entry. Wherefore, for example, the court holds that a physician's return was not evidence that the child, the birth of which was reported, was his mother's second child.

Medical Examiner made Agent of Company.—

The Supreme Court of Rhode Island holds, in the case of Leonard vs. the New England Mutual Life Insurance Company, that where an application for life insurance says, "The medical examiner will put the following questions, and fill out the answers in his own handwriting," this clearly makes the examiner the agent of the company for this purpose, and the company writes the answers as with its own hand. Moreover, in view of the facts in this case, that the application in question was signed without written answers to the medical part, that it was handed to the expressly authorized agent of the company to receive both the answers and the application, that there was nothing to show that the answers as given were false, and that under the terms of the application the examiner was acting for the company, and not for the insured, in writing down the answers, the court sees no valid ground of objection by the company to a finding which must result in excluding them from being any part of his application. And it holds that if the answers were correctly given, as must be assumed in this case, and mistakenly or wilfully written wrong—the application having been accepted in blank—the fault would lie with the insurance company, and not with the insured.

Insanity that Will Prevent Pronouncing of Judgment.

—The Supreme Court of Arkansas says, in the case of State vs. Helm, that the reason of the rule for prohibiting the trial of a person while he is insane is the incapacity of one who is insane to make a rational defense, and for prohibiting the pronouncement of judgment against him while he is insane is, if sane, he might be able to show cause why judgment should not be pronounced against him, but, being insane, though having a sufficient cause, he might not make it known. It also concludes and decides that, if a person convicted of a crime is, by reason of a disease of the mind, unable to understand the nature of the indictment upon which he was convicted, and the verdict thereon, when explained to him by the court, and is unable to comprehend his own condition in reference to such proceeding, and by reason thereof might not make known to the court or the attorneys in charge of his defense the facts within his knowledge, if any, which would show that judgment should not be pronounced against him, he is, as to the pronouncing of such judgment, to be deemed insane, within the meaning of a statute which forbids the pronouncement of judgment against any person while he is in a state of insanity. But ignorance of the law, it holds, is not competent or sufficient to show such incapacity. And it holds that an instruction should not have been given which authorized the jury to find the defendant insane if they found from the preponderance of the evidence that he could not "intelligently reason."

Power to Exclude Unvaccinated Pupils.—

The Supreme Court of Pennsylvania has affirmed the decision of the court of common pleas in the case of Charles J. Field vs. Martha L. Robinson, principal of the Keystone public school in Philadelphia, referred to on pages 101 and 167 of volume xxxv of THE JOURNAL. Here it was sought by mandamus to compel the principal to admit to the school a pupil without a certificate of having been vaccinated or had the smallpox. The principal's answer was that, under the act of 1895, she was compelled to exclude the child. This answer was demurred to, and the demurrer overruled. The "per curiam" (by the court) opinion of the supreme court is, in full, as follows: "We think the court below did not err in the ruling referred to in the assignments. In *Duffield vs. School District*, 162 Pa. 476, we held that school directors, in the exercise of a sound discretion, may exclude from the public schools pupils who have not been vaccinated. Whether a resolution excluding from the school pupils who have not been vaccinated is a reasonable one, is to be judged of in the first instance by the school directors. In the present state of medical knowledge, and of convincing opinion of those having charge of the public health, the courts will not say that such a resolution is an abuse of official discretion." It has not been shown to our satisfaction that the act of June 18, 1895 (P. L. 203), is unconstitutional. For the reasons above stated, we dismiss the assignments and sustain the conclusions of the court below. Judgment affirmed."

Physical Condition as a Collateral Issue.—

The Supreme Court of Iowa says, in the breach of promise case of Vierling vs. Binder, that it is true, no doubt, that physical defects or disease which incapacitate the woman for the marriage state or for the birth of children, if unknown to the other party to the contract at the time the contract was entered into, may be pleaded and proven in bar to an action for breach of the contract of marriage. Likewise the incapacity or unfitness of the man for the marital relation, accruing after the making of the contract, without his fault, or unknown to him at the time the contract was made, may be shown. But the diseased condition of the plaintiff, which the defendant set up in this case, was alleged as bearing on the question of whether the defendant had entered into any contract of marriage, and not as a bar to the action for breach of contract. Wherefore, the supreme court holds that the trial judge properly limited the jury, in the consideration of the evidence as to the plaintiff's physical condition, to the question of whether a contract of marriage was made, and properly refused to give instructions asked by the defendant directing the jury to consider this evidence as

tending to show that he was not liable for breach of the contract, if made. Furthermore, without discussing the question whether, if the defendant had properly pleaded such defensive matter as a bar, a physical examination of the plaintiff by physicians to be appointed by the court could have been ordered, on the defendant's motion, for the purpose of determining whether her physical condition was such as to present an obstacle to marriage, the court holds that it was not error to refuse to sustain such a motion in this case. It says that, as bearing on the question as to whether the defendant did promise to marry the plaintiff, the evidence of her physical condition was collateral only, and did not relate to the matter immediately under investigation. Certainly a physical examination should be ordered only when it is necessary to determine the existence of the very cause of action or defense pleaded in the case. Such an examination is for the purpose of bringing before the jury, as nearly as may be, the real evidence relating to the cause of action or defense.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Boston Medical and Surgical Journal, May 16.

- 1 *The Treatment of Psoas Abscess by Incision. Robert W. Lovett.
- 2 *Infantile Scorbutus. John Lovett Morse.
- 3 Neuritis Recurring after Atrophy of Both Optic Nerves in a Case of Brain Tumor. Edward R. Williams.
- 4 A Case of Accidental Inoculation of Cancer in a Fresh Wound. A. T. Cabot.

Medical News (N. Y.), May 18.

- 5 *On the Modern Treatment of Acute Gonorrhea. George Knowles Swinburne.
- 6 Chronic Gonorrhea. John Van Der Poel.
- 7 On Gonorrheal Conjunctivitis. Ward A. Holden.
- 8 Treatment of Gonorrheal Stricture of the Urethra. James R. Hayden.
- 9 The Treatment of the Complications of Acute Gonorrheal Posterior Urethritis. James Pedersen.

Philadelphia Medical Journal, May 18.

- 10 *The Disinfection of Wounds with Pure Carbolic Acid. Dr. Von Bruns.
- 11 A Further Report on a Case of Presystolic Murmur Associated with Pregnancy, etc., Originally Reported at the Meeting of the Association in May, 1899. James Tyson.
- 12 An Exceedingly Rare Case of Imperforate Anus. Charles B. Kelsey.
- 13 *The Relation of the Public to the Medical Profession. Wm. H. Thomson.
- 14 Gastric Tetany, with Report of Cases. Wm. Gerry Morgan.
- 15 *The Functional Tests of Hearing. William L. Ballenger.
- 16 Report of a Case of Rupture of the Eyeball from Contusion—Luxation of the Lens—Hernia of the Iris and Ciliary Body. J. W. Sherer.
- 17 Anisometropia. Norburne B. Jenkins.

Medical Record (N. Y.), May 18.

- 18 *The Recent Buffalo Investigations Regarding the Nature of Cancer. Roswell Park.
- 19 *Contracture of the Neck of the Bladder. Charles H. Chetwood.

American Medicine (Philadelphia), May 18.

- 20 Disease and Deformity of the Knee; Etiology, Diagnosis and Treatment. Daniel W. Marston.
- 21 *The Toxin of the Colon Bacillus. Victor C. Vaughan.
- 22 *A Plea for Uniformity of Technique in Widal's Reaction. Randle C. Rosenberger.

New York Medical Journal, May 18.

- 23 *The Pathology and Bacteriology of Uretero-intestinal Anastomosis. (Concluded.) F. Robert Zeit.
- 24 *Air, a Factor in Digestion. Edwin W. Moore.
- 25 *The Proper Administration of the Schott Exercises. Victor Neesen.
- 26 *The Use of the Suprarenal Capsule in Diseases of the Heart. (Concluded.) Samuel Floersheim.
- 27 Relations of Vascular Disease to Heart Disease. William H. Thomson.

Cincinnati Lancet-Clinic, May 18.

- 28 Valedictory Address, Cincinnati College of Medicine and Surgery. W. H. Wenning.
- 29 Progressive Medicine. Franklin H. Lamb.
- 30 Valves of the Rectum. Geo. J. Monroe.

St. Louis Medical Review, May 18.

- 31 *Ureter Catheterization in the Male; A New Ureter Cystoscope. Bransford Lewis.
- 32 *Veratrum Viride. R. C. Atkinson.
- 33 What Should be the Legal Requirements for the Commitment of Insane Persons to Hospitals for Care of the Insane. A. B. Richardson.

Medical Age (Detroit, Mich.), May 10.

- 34 Clinical Lectures in Neurology. Harold N. Moyer.
- 35 The Practice of Medicine as a Source of Income. D. A. K. Steele.
- 36 The Artificial Anastomosis of the Portal and Systemic Veins. Byron Robinson.

Medical Fortnightly (St. Louis), May 10.

- 37 The Surgical Treatment of Fibroid Tumors of the Uterus, with Specimens. W. W. Williams.
- 38 *Strangulated Hernia. J. J. Brownson.
- 39 Diseases of the Stomach. (Continued.) J. M. G. Carter.
- 40 *Research Experiments on the Physiological Action of Petroleum. G. Burbridge White.

Archives of Pediatrics (N. Y.), May.

- 41 The Blood in Infancy and Childhood. (Concluded.) Alfred Stengel and C. Y. White.
- 42 The Value of the Widal Reaction in Infancy and Childhood. John Lovett Morse.
- 43 Experiences in an Epidemic of Typhoid Fever: Fetal and Infantile Typhoid, Scarlatina Complicating Typhoid, and Vice Versa. J. Finley Bell.
- 44 A Case of Streptococcal Infection Successfully Treated by Antistreptococcus Serum. J. S. Fowler.

Journal of Nervous and Mental Diseases (Nyack, N. Y.), April.

- 45 *The Clinical Value of Astereognosis, and its Bearing Upon Vertebral Localization. G. L. Walton and W. E. Paul.
- 46 The Babinski Reflex. C. Van Epps.

Journal of Nervous and Mental Diseases (Nyack, N. Y.), May.

- 47 *A Study of the Cases of Tabes Dorsalis in Prof. M. Allen Starr's Clinic, Columbia University, from January, 1888, to January, 1901. Allan Blair Bonar.
- 48 *The Scapulo-humeral Reflex of Von Bechterew. William Pickett.
- 49 Psychical Form of Epileptic Equivalent. Charles Cary and Julius Ullman.
- 50 Cases Illustrating the Different Diagnosis of Cerebral and Hysterical Hemi-anesthesia. Charles K. Mills and Theodore Weisenberg.

New York State Journal of Medicine (N. Y.), May.

- 51 The Reason for the Existence of the New York State Medical Association. Alvin A. Hubbell.
- 52 *Ulcer of the Placenta; Umbilical Cord Severed Before Birth. Eden V. Delphely.
- 53 *Problems in Etiology, Diagnosis and Treatment of Tubercular Disease of the Upper Air Passages. Jonathan Wright.
- 54 Heart Disease. J. J. Walsh.
- 55 Unity of Action in the State Association. Parker Syms.

Physician and Surgeon (Detroit and Ann Arbor, Mich.), May.

- 56 *The Elimination and Curability of Syphilis. William F. Breakey.
- 57 *Predisposing Causes of Pulmonary Tuberculosis. Donald S. Campbell.
- 58 *The Early Diagnosis of Pulmonary Tuberculosis. Preston M. Hickey.
- 59 A Short Sketch of the Surgical Treatment of Otitis Media Suppurativa. Emil Amberg.
- 60 The Nonsurgical Treatment of Diseases of the Middle-ear. Eugene V. Riker.
- 61 The Cause and Failure After Club-foot Operations. Daniel LaFerte.
- 62 The Management of Trachoma. Charles H. Baker.
- 63 The Etiology and Rational Treatment of Disease. George B. McCallum.

Illinois Medical Journal (Springfield), May.

- 64 *The State Care of Consumptives. John A. Robinson.
- 65 *Sanitarium Treatment of Pulmonary Tuberculosis in Illinois. Florence W. Hunt.
- 66 Observations as to the Efficiency of the Chicago Health Department Method of Fumigation. Adolph Gehrmann.
- 67 *Cholelithiasis. J. W. Hairgrove.
- 68 A Gynecologic Examination. C. C. Hunt.
- 69 The Colonial Treatment of Epilepsy. Daniel R. Brower.
- 70 Diagnostic Sign of Smallpox. J. C. Sullivan.
- 71 Obstructions in the Pathway of Legitimate Medicine. J. H. Miller.
- 72 Surgical Introspection. H. W. Chapman.

Annals of Surgery (Philadelphia), May.

- 73 *The Surgery of the Spleen. J. Collins Warren.
- 74 *Concerning Prompt Surgical Intervention for Intestinal Perforation in Typhoid Fever, with the Relation of a Case. Harvey Cushing.

- 75 *Operative Paralysis of the Spinal Accessory Nerve. Pearce Bailey.
 76 Hydatid Cyst of the Prostate. L. Bolton Bangs.
 77 *The Surgical Treatment of Amebic Dysentery. Francis W. Murray.
 78 *Some New Points in Tendon Surgery. F. S. Coolidge.
 79 *Some Errors in Diagnosis in Conditions Resembling Appendicitis. George Emerson Brewer.
 80 *Rare Complications after Operations for Appendicitis. Willy Meyer.
 81 Report of Three Cases of Peritonitis. John Chadwick Oliver.

Indiana Medical Journal (Indianapolis), May.

- 82 Apparent Periodical Vomiting, with Report of a Case. B. Van Sweringen.

Buffalo Medical Journal, April.

- 83 *Paresis and Cerebral Syphilis. Arthur W. Hurd.
 84 Surgical Complications of Typhoid Fever, as Observed at U. S. General Hospital, Fort Myer, Va. Vertner Kenerson.
 85 Excision of Hemorrhoids. William L. Dickinson.
 86 Functional Disorders of Digestion. Clarence King.
 87 A Brief Resume of the Grosser Animal Nature and its Application in Medicine. G. N. Jack.
 88 Clinical Quantitative Analysis of Protoids in Stomach Contents. A. L. Benedict.
 89 Mental Aberration, Consequent upon Pelvic Disease. L. G. Hamley.

New York Medicinische Monatsschrift, April.

- 90 *Einige Bemerkungen ueber Practische Harnanalyse. Louis Heitzmann.
 91 Die Behandlung der Mittelohreiterung. J. Holinger.
 92 Ein Fall von Schwerer Morphiumvergiftung Subcutane Einspritzungen von Hypermangansäurem Kali geheilt. Leonard Weber.

Journal of Tuberculosis (Asheville, N. C.), April.

- 93 Primary Pharyngeal and Laryngeal Tuberculosis, two Cases Cured. J. W. Gleitsmann.
 94 *Ten Years' Experience with the Tuberculin. Chas. Denison.
 95 Home Treatment of Tuberculosis. Lawrence F. Flick.

Medical Summary (Philadelphia), May.

- 96 Emulsion—Specimen Formulæ. Robert C. Kenner.
 97 La Grippe. Geo. J. Monroe.
 98 Typhoid Fever, etc. Floyd Clendenen.
 99 Is Malarial Hematuria Produced by the Administration of Quinine? B. P. Wilson.
 100 A Review of Hypnotics and Nerve Sedatives. C. W. Canan.
 101 Sugar and the Doctor. Edwin W. Pyle.
 102 Some More Don't's. D. H. Keller.
 103 The Law of Growth, and the Cause of the Action of All Remedies. W. T. Ball.
 104 Some Notes Concerning the Administration of Quinine. W. Thornton Parker.
 105 The Seidlitz Salt. W. C. Buckley.
 106 Fever and its Treatment. J. L. Wolfe.

Chicago Medical Recorder, May.

- 107 *Some Forms of Meddlesome Obstetrical Practice. J. Clarence Webster.
 108 Four Cases of Ureteral Surgery. Edward Evans.
 109 *The So-called Cardiac Neuroses: Classification; Etiology; Pathology. Lewellys F. Barker.
 110 A Short Consideration of Some of the Points in the Pathology of Ulcer of the Stomach. W. A. Evans.
 111 *The Surgery of Gastric Ulcer. Edward W. Andrews.
 112 *The Treatment of Ulcer of the Stomach. James B. Herrick.
 113 *The Gynecological and Obstetrical Significance of Girlhood. Henry P. Newman.
 114 *The Skull and its Contents. W. H. Earles.
 115 Endocarditis in Children, with Report of a Case. Rosalie M. Ladova.
 116 A Case of Atresia Ani Vesicalis. Carl Beck.

Hot Springs Medical Journal, May.

- 117 Surgical Treatment of Abdominal Dropsy following Cirrhosis of the Liver. James T. Jelks.
 118 Chronic Urethral Discharge due to Seminal Vesiculitis. Donald Kennedy.

Southern Practitioner (Nashville, Tenn.), May.

- 119 Removal of Foreign Bodies from the Trachea, with Report of an Interesting Case. Paul F. Eve.
 120 A Modern Surgical Dressing. W. C. Wile.
 121 A Corrector of Iodism. W. H. Morse.

Archives of Ophthalmology (New Rochelle, N. Y.), May.

- 122 Some Advancements without Tenotomies: a Description of the Operation Employed, and Remarks upon the Theory of Advancements in Such Cases. Herbert Wright Wootton.
 123 *Alcohol and Tobacco Amblyopia in Cuba. C. E. Finlay.
 124 Angiosarcoma of Choroid; Four Years' Observation. Kaspar Pischel.

- 125 An Arterio-Venous Aneurysm of the Retina. Dr. Seydel.
 126 *A Contribution to the Symptomatology and Histology of Primary Myxosarcoma of the Optic Nerve, and the the Operative Removal of Such Growths by Kronlein's Method. Th. Axenfeld and Fr. Busch.
 127 *Symblypharon Operation on the Double Everted Upper Lip with the Suturing of a Transplanted Flap to the Tendinous Expansion of the Superior Rectus Muscle, thus Forming a Permanent Retrotarsal Fold. Hugo Wolff.
 128 *Changes in the Fundus in Pregnant and Lying-in Women. Bruno Bosse.
 129 *On the Nutrition of the Cornea. Prof. Ulrich.

Texas Medical Journal (Austin), May.

- 130 A Brief History of the Recent Outbreak of Smallpox in Guadalupe County, and Remarks. Wm. Myers.

Charlotte Medical Journal, April.

- 131 Asthma. Charles S. Jordan.
 132 Intubation and Antitoxin in the Treatment of Laryngeal Diphtheria. J. W. Long.
 133 The Surgical Treatment of Empyema. Southgate Leigh.
 134 Determination of Sex: a Review of the Subject, with Remarks. C. W. Canan.
 135 Galvanic Electricity for the General Practitioner. A. G. Servoss.
 136 Bromidrosis Pedis. F. R. Millard.

Medical Times (N. Y.), May.

- 137 Acute Endocarditis: Benign and Malignant, with Illustrative Cases. Thomas E. Satterthwaite.
 138 A Clinical Lecture Delivered at the New York Post-graduate Medical School and Hospital, April 1, 1901. Henry Dwight Chapin.
 139 Fecal or Intestinal Fistula. Wilfred G. Fallick.
 140 Alcohol in the Practice of Medicine. I. A. McSwain.
 141 Diseased Tonsils a Menace to Health. C. F. Wahrer.

AMERICAN.

1. **Psoas Abscess.**—The questions discussed are: What is the result of incising psoas abscess as far as life and the function of the limb are concerned and, if the incision is advisable, what is the best method of operation. Fifty-four cases of psoas abscess treated at the Children's Hospital, Boston, between 1890 and 1900, are analyzed to answer these questions. The facts as to the age, sex, duration and location of the disease, site of abscess, temperature, mode of operation, after-treatment, results, time and cause of death, mortality, etc., are all taken up in detail. The practical conclusions, so far as they can be deduced from so small a number of cases, are: That fever is not necessarily an accompaniment of psoas abscess formation: that where it does occur the prognosis is not so good as where it is absent; that the best method of operation is by a lumbar or an iliac incision, and preferably the latter. It seems, on general principles, desirable to avoid recumbency for long periods, which makes drainage by an iliac incision almost impossible. It seems, therefore, best to put on a plaster jacket almost immediately after operation, to enable the patient to sit erect and the abscess to drain almost from the first. In this way the writer has obtained better results than by any other method.

2. **Infantile Scorbutus.**—Morse reports six cases of infantile scurvy, and discusses the etiology, treatment, etc. Anemia and general mal-nutrition are probably the earliest symptoms, but are not alone sufficient to warrant the diagnosis. Pain is almost always the first symptom, occurring on motion or handling; is generally in the legs, and next in the back and arms. From the patient's unwillingness to move on this account, paralysis is sometimes suspected. The extremities are often held rigid, and the legs usually flexed at the thighs and knees. Swellings appear as the disease progresses, usually at the ends of the diaphyses, and pyriform or symmetrical in shape. They are due to subperiosteal hemorrhage. If this is extreme, separation of the epiphyses may result. Sponginess and swelling of the gums are the most common symptoms that appear later. Cutaneous hemorrhages are common in severe cases. Hemorrhages from the nose, stomach and bowels are not very infrequent in the worst cases, and hemorrhages at the orbit may cause proptosis. Hematuria is rare and albuminuria rather infrequent. Fever is not a prominent symptom, and usually accidental. The pathologic lesions are, briefly, anemia, hemorrhage, and ulcerative stomatitis. Nephritis is an uncommon complication. The diagnosis is from

rheumatism, purpura, rickets, syphilis, Pott's disease, infantile paralysis and injury. Rheumatism is rare at the age at which this disease occurs. Purpura may be confusing in very severe forms, though the order of the symptoms is somewhat different. The early symptoms in scurvy become the latest in the purpura. Compared with rickets the diagnosis is easy, and if there is any question, the condition is almost certainly scurvy. Syphilis is also characteristic and generally easily distinguished. Pott's disease is rare in the first two years of life. Injury might be suspected if there has been a blow or fall, but other signs usually prevent confusion. An unaccountable stomatitis, with general hyperesthesia and pain on being removed, especially if it occurs on the child's being taken up, and in bottle-fed babies, should excite suspicion. The chief, if not the sole cause of infantile scurvy, is found in the diet, but it is sometimes difficult to see to what error scurvy is due. Generally it occurs in babies fed on prepared foods, but at present it is impossible to draw any definite conclusions as to just what elements in the food are responsible. The conclusions of the Committee of the American Pediatric Society seem within our knowledge, and more specific ones are considered hardly justifiable. They are, viz.: "1. The development of the disease follows in each case the prolonged employment of unsuitable diet. 2. In general, the farther a food is removed in character from the natural food of the child, the more likely it is to be followed by scurvy." In unrecognized and untreated cases death may occur, but with proper treatment recovery is certain. Treatment consists in the regulation of diet and the administration of orange or lemon juice; either alone may be sufficient, but a combination is best. No drug is of any use. Quiet on account of pain is advisable.

5. **Gonorrhea.**—The modern treatment of gonorrhea depends largely upon the microscopic diagnosis, which is insisted upon by Swinburne, and we cannot intelligently treat the disease without it. The findings of the microscope, however, may be misinterpreted, and he gives an instance in which the absence of the gonococci, after the use of a protargol injection, led to a serious mistake. In acute gonorrhea we have a self-limited disease, which, however, is capable of becoming indefinite in duration by neglect, mal-treatment or lack of constitutional vigor. The earlier the diagnosis and treatment the better the results. The germicide treatment favored by the author is the use of protargol in .5 to 2 per cent. solution heated for ten minutes. He dilutes this with a 2 per cent. cocain solution at first, gradually reducing the cocain with subsequent injections. If the case presents itself with the disease in full blast, this is still the best treatment, and if considerable progress has been made he still advises local treatment rather than wait for the decline. In the case of infection of the posterior urethra he uses a soft rubber catheter with a fountain syringe, passing the solution well into the bladder, it being shortly after urinated out. It is important in all cases that the patient should call for examination six weeks after all treatment has ceased to be sure of success.

10. **Carbolic Acid.**—Von Bruns recommends the use of pure carbolic acid as an application to wounds, immediately following it or counteracting it with alcohol, according to the method described by Phelps. He thinks that carbolic acid applied but once, markedly influences the condition of septic wounds, making their course simpler and less interrupted than is ordinarily observed.

13. **The Public and the Profession.**—The chief theme of Thompson's article is the need of public education on medical matters, which would do away with the popular delusions of "Christian Science," etc., if thoroughly carried out.

15.—See abstract in THE JOURNAL of March 30, p. 912.

18. **Cancer.**—The article by Park reviews some of the main conditions and findings in cancer, especially those reported in the Buffalo laboratory, which have been recently published by Gaylord. It is an argument for the infective and protozoan theory.

19. **Contracture of the Neck of the Bladder.**—The condition here mentioned as contracture of the bladder neck, con-

sists of fibroid stenosis of the vesical sphincter or the fibrous infiltration of the glandular or muscular tissue encircling the neck and simulating, symptomatically, stone in the bladder and resembling senile prostatic hypertrophy by the obstruction it produces. The special instrument devised by the author, and his method of operating, which is similar to the Bottini operation excepting that it is made through a perineal opening, are described. A number of cases are reported.

21. **The Colon Bacillus.**—A previous article by Cooley and Vaughan, reporting attempts at isolation of the toxins from the bacilli cells, is mentioned and the facts learned in regard to the substance obtained are here summed up in the following: 1. The toxin is contained within the germ from which it does not, at least under ordinary circumstances, diffuse into the culture-medium. 2. The toxin is not extracted from the cell by either alcohol or ether. 3. Very dilute alkalies do not extract the toxin from the cells. 4. The germ substance may be heated to a high temperature in water without destruction of the toxin. 5. Boiling with a .2 per cent. solution of hydrochloric acid has but little, if any, effect upon the germ cell or its contained toxin. 6. Heating the germ substances for hours at a temperature of the water-bath, with water containing 1 to 5 per cent. of hydrochloric acid, breaks up the cell walls and lessens, but does not destroy, the toxicity of the cell content. Prolonged heating may render the toxin inert. 7. The toxin is separated from the cell wall by the digestion of the latter with hydrochloric acid, and pepsin is markedly active. Each of these propositions is demonstrated by experiments that are here detailed. There are many questions which the authors do not feel free to answer, such as: How is the toxin set free when the germ is introduced into the animal? What is the chemistry of the toxin? Is it a definite compound or is it composed of many substances, as mentioned by Ehrlich in his theory concerning the constitution of toxins? Does not the bacterial cell contain both the toxin and an immunizing body, or may the toxin be changed into an immunizing substance, either by artificial means or in the animal body? These questions await further study. The fact, however, that at least one of the bacterial toxins is a remarkably stable body, and can be retained in a dry stage in permanent form, justifies us in taking a somewhat more optimistic view concerning the probability of ascertaining the chemical constitution of these bodies than that recently expressed by Brieger and accepted by Ehrlich.

22. **Widal's Reaction.**—Difficulties in the recognition of Widal's reaction are pointed out by Rosenberger, who remarks on various methods and modifications that have been advised. Among these he mentions the time limit, which some observers think should occur within fifteen minutes, others requiring longer time. The method of preparing the dilution, the variations in the tests made, size of loop, etc., are also noted, and the points emphasized are: 1. The use of a uniform dilution. 2. A definite time limit. 3. An agreement as to what constitutes a positive reaction. 4. The use of a culture of definite age, and a clear statement as to incubation or non-incubation. 5. A decision as to whether dried blood, fresh blood or serum is to be used. 6. A stated number of tests to be made in a given case. 7. To drop the terms "doubtful" and "pseudo" reaction. 8. Use of terms "positive" and "negative" only.

23. **Uretero-Intestinal Anastomosis.**—The conclusions of Zeit's article are that: 1. Descending infection always results from ureteral implantation into the rectum. The bacillus coli communis is the infecting germ. 2. The primary mortality is large, 84 per cent. in any operation. 3. In 120 dogs operated on, 91 per cent. died of peritonitis due to leakage of the urine and general sepsis and pyelonephritis during the first ten days. 4. Dogs living a longer time died of pyelonephritis, pyelonephrosis and pyemia. 5. Dogs that apparently recovered had granular contracted kidneys due to induration and cicatrization of diseased areas. The rectum acts as a fair substitute for the bladder in such cases. 6. Dogs which had fully recovered from unilateral implantation were living by the other kidney, that of the side operated on being atrophied and granular from an earlier pyelonephritis. The active kidney was two to eight

times the size of the atrophic one. 7. A review of the literature shows that no better results can be expected in man than in animals. 8. The ureters are frequently dilated, but show little or no disease, no matter how extensive the kidney infection. 9. The bladder is always infected by the way of the urethra, whether emptied by operation or not. A purulent cystitis from staphylococcus and bacillus coli was found in every case. 10. An artificial immunity to infection by the colon group is the only hope of making uretero-intestinal anastomosis feasible.

24. **Air in Digestion.**—Moore's article insists on the importance of pulmonary aeration of the blood as a final factor in nutrition.

25. **Schott Exercises.**—Neesen's paper gives the proper method of making the resisting exercises of the Schott treatment, with illustrations.

26. **Suprarenal Capsule.**—The final installment of Floer-sheim's paper gives cases and concludes by saying that after administration of the suprarenal powder: 1. A weak and irregular-acting heart became stronger and more regular. 2. A dilated heart was contracted. 3. A diffused apex beat became localized. 4. A diffused, loud, and rough mitral regurgitant murmur became localized, smoother, and lessened in intensity, while in some cases the murmur disappeared. 5. A murmur which, owing to the extreme weakness of the heart, could scarcely be heard, became more distinct, thus aiding in the diagnosis. 6. The normal cardiac sounds, when indistinct, became clearer and more easily distinguished. 7. In some cases a rapid pulse became less rapid; in other cases a slow pulse became faster. 8. Patients who were very weak, with organic heart disease, were improved. 9. No effect was observed in organic heart disease when the pulse was strong and regular.

31. **Urethral Catheterization.**—Lewis describes a cystoscope devised by himself, which has the advantage of being readily sterilizable by heat or steam, and hot water, and is especially adapted to ureteral catheterization, and also of value for intravesical inspection and for applications to the vesical membranes.

32. **Veratrum Viride.**—The value and comparative harmlessness of this drug is mentioned by Atkinson, who says he has never heard of any fatal cases of poisoning from its use.

38. **Hernia.**—The conclusions of Brownson's article are in substance as follows: The danger of strangulated hernia is in delay. In all cases of abdominal pain a careful examination should be made. The mode of procedure will depend on whether the physician is a surgeon. In any case, gentle taxis may precede operative measures, but if it still fails under anesthesia, the surgeon should be called in. Every case of hernia, strangulated or not, should be subjected to radical cure.

40. **Petroleum.**—From an experimental investigation on animals, and also clinical experience with petroleum, White concludes that petroleum emulsion is inhibitory to the growth of putrefactive and pathogenic bacteria that interfere with digestion, and is, therefore, an agent for relieving flatulence, and an internal antiseptic. By its stimulation of peristalsis and increased diffusion of intestinal contents it aids nutrition, helps the natural movements of the bowels, relieves constipation and favors elimination. Its weight-increasing action is beyond doubt, from the experiments recorded. The weight gained under its influence is much greater in proportion than it or any other oil could afford, even if digested and absorbed. While petroleum is uncombinable and indigestible in itself when mixed with emulsion or digested food material, the effect is very different. It then causes an increased flow of this digested assimilated material through the portal system, and produces tissue more readily.

42.—See abstract in THE JOURNAL of May 11, p.1343.

45. **Astereognosis.**—Walton and Paul discuss the subject of astereognosis with special reference to its localization and publish a number of cases. They find the symptoms present in a

very large percentage of hemiplegies, perhaps one third or more. The difficulties of examining for it are noticed. Every case of Rolandic disease coming under their observation since commencing this study has presented this symptom. In most of these cases capsular lesion was indicated by the paralysis, and it can be fairly assumed that in such cases involvement of the posterior limb is common, or that the sensory and motor fibers have no sharply defined line, but are more or less mingled. In case of complete hemianesthesia involving the trunk the condition is apt to be one of hysteria, with perhaps a superimposed organic lesion. In such cases as reported here, where the astereognostic type of anesthesia is the initial or prominent symptom, the authors say they must remain in doubt as to whether the sensory fibers of the internal capsules or cortical areas are primarily or solely involved, unless focal symptoms or other diagnostic features are added. The practical advantage of localizing the affection lies in the assistance it would give in selecting the seat of operation in case of suspected tumor or other lesions capable of surgical relief. Where there is no other localizing symptom than astereognosis, they think it would be a safe working plan in operable cases to select, for the center of the area to be exposed, a point in the ascending convolution at a height corresponding to the motor representative of the extremity involved. Such cases, however, will be few as compared with those in which the astereognosis is merely an additional symptom with others.

47. **Tabes Dorsalis.**—Bonar has analyzed cases of tabes which appeared in the neurological department of the Vanderbilt clinic since 1901. 286 in number, comprising about 1.2 per cent. of the whole number of cases. Of these, 84.6 per cent. were males, and 15.38 per cent. females, or a proportion of over 6 to 1. The various symptoms are discussed, and they are summed up in the order of their frequency, giving the percentage of cases in which each symptom was noted as follows: Loss of knee-jerks, 95.2; changes in knee-jerks, 3.69; Romberg symptom, 79.02; change in pupillary reaction, 78.67; pains in the legs, 78.67; ataxia in legs, 70.62; vesical disturbance, 62.23; paresthesia and numbness, 54.54; girdle sensation, 48.6; loss of muscular sense, 28.32; crises, 16.78; pains in trunk, 12.93; optic nerve atrophy, 8.74; ataxia in arms, 7.69; pains in arms, 6.99; loss or diminution of sexual instinct, 6; pains in thighs, 4.89; ocular paralyses (strabismus, diplopia, etc.), 3.21; nystagmus, 2.44; arthropathies, 2.09; constriction around legs or thighs, 1.74; tremors, 1.74; perforating ulcers of foot, 1.39; muscular atrophy, 1.39; anosmia, 1.04; deafness, .69; vertigo, .34; loss of taste, .34. These percentages are of interest considering the large number of cases studied. Only one or two of the symptoms were not recorded in all the cases.

48. **Scapulo-Humeral Reflex.**—Pickett has studied the scapulo-humeral reflex of Von Bechterew, which has its center in the cervical enlargement and is claimed by its finder as more constant than the biceps and triceps jerks or the scapular and palmar cutaneous reflexes. It is elicited, he claims, by the percussion hammer along the entire inner edge of the shoulder-blade, most markedly, however, at the inner edge of the scapula near the inferior angle, and consists in adduction of the corresponding humerus toward the trunk, often, also, in slight outward rotation, mainly produced by contraction of the infraspinatus muscle and apparently of the teres minor. Occasionally, by extending to the deltoid and flexors, it leads to abduction of the arm and slight flexion in the elbow-joint. It is claimed by Bechterew that it is absent in poliomyelitis, in the spinal form of progressive muscular atrophy, in neuritis involving the shoulder-girdle muscles; is diminished or absent in muscular dystrophy and spinal rigidity, and is exaggerated in cerebral hemiparesis, especially when there is marked atrophy of the shoulder-girdle muscle; 122 cases were examined by Pickett, of various diseases, including locomotor ataxia, Pott's disease, disseminated sclerosis, etc. From an analysis of the results he finds that it is increased in lesions of the upper segment of the motor system (pyramidal tracts) and is diminished or absent in those involving the reflex path (peripheral

nerves or spinal cord); it is less constant than those involving the biceps or triceps. It or a similar reflex may be obtained about as well at the point of the shoulder, may be elucidated at the base of the scapular spine as well as, or even better than, at the lower angle. Its muscular components are so variable and extensive, and the reflex is so complicated and indefinite as compared with others, that he does not feel much confidence in any deductions drawn from it until clear post-mortem data shall have established its exact correspondence with a somewhat limited portion of the cervical enlargement.

52.—This article was abstracted in *THE JOURNAL* of March 9, p. 681.

53.—*Ibid.*, xxxv., p. 1171.

56. **Syphilis.**—The principal point of Breakey's article seems to be the treatment of syphilis by aiding elimination and allowing Nature to take its course and produce secondary symptoms before applying the specific treatment. The eruption is in a way eliminative, and active specific treatment should not be advocated until the situation is clear and it has a certain prospect of doing good.

57. **Tuberculosis.**—The theory adopted by Campbell is that the predisposition to tuberculosis and scrofula is due to hereditary syphilitic taint, not directly in the family but in the race. The contagiousness of tuberculosis must depend upon this primary condition. The question then is, can syphilis be subdued and controlled, and, if it can, we shall have accomplished more toward prevention of the spreading of tuberculosis and other kindred diseases than by all the other prophylactic measures that have been proposed.

58. **Tuberculosis.**—The importance of a thorough examination of a patient where tuberculosis is suspected is insisted upon by Hickey. He thinks that the question of infection from tubercular areas other than the lungs should be carefully investigated, the digestion and general condition thoroughly looked into, the microscopic examination of the sputum more thoroughly resorted to and the physical signs specially studied. Particular attention should be paid to the expiratory sound, since a diminished and weakened murmur, with prolonged and high-pitched expiratory sound, is the earliest change to be recognized. He thinks the x-rays are likely to be a valuable aid in the early diagnosis, though he has himself as yet been unable to anticipate the results of auscultation by their aid.

64.—See abstract in *THE JOURNAL*, xxxv., p. 1491.

65.—*Ibid.*

67.—*Ibid.*, p. 1415.

73. **Surgery of the Spleen.**—The conditions under which splenic surgery has been tried are enumerated; the operation itself is not a new one. In malarial enlargement numerous operations have been made and the mortality is diminishing. Splenic anemia is treated at some length and a successful case of splenectomy for its relief reported. In splenic leukemia the operation has been almost invariably fatal. Chronic enlargement in infants usually yields without operation. In Banti's disease the mortality is not excessive and surgery seems to afford relief. A number of other conditions, such as abscess, sarcoma, etc., are mentioned, and the operation has a much wider range than might be generally supposed. The reduction in the mortality is largely due to judicious selection of cases. The size of the spleen is less a contraindication than the adhesions it forms. The operation is only distinctly contraindicated in such grave organic lesions as leukemia, cirrhosis of the liver, and amyloid disease. In other affections its merits remain to be tested. The after results are not constant, as a rule, except for the reduction of hemoglobin and red corpuscles and the increase of white corpuscles, and these are only temporary and do not debar the patient from complete restoration to health after splenectomy. A case is reported, besides the one mentioned, where sarcoma of the spleen resulted in death, and one of splenic leukemia with recovery, reported in full detail, one of rupture and one of splenoplexy.

74. **Intestinal Perforation in Typhoid.**—Cushing notices the hopeful feeling in regard to operation for this condition, which exists in this country as compared with Europe, and thinks that 37 cases of actual recoveries after perforation is a cause for congratulation, no matter what the number of failures may have been. Up to the present time 12 cases in Osler's clinic have been operated on, 5 have recovered, and some of the others would have been saved had they been operated on earlier, and had exploratory operation been considered justifiable, as is now the case. It is now a custom there to keep the operating-room ready for immediate use when there is a suspicious case of typhoid in the wards, and most careful watching is kept over all typhoid patients. These, he thinks, will be the occasion of saving 50 to 60 per cent. of the cases of typhoid perforation in the future. Of the 12 cases, all but 3 have been previously reported; one of the 3 is here given.

75.—**Spinal Accessory Paralysis.**—Post-operative or traumatic paralysis of this nerve is treated by Bailey, and a case reported which is of interest as bearing on the question of the nerve supply of the sternomastoid and trapezius muscle. He reviews other cases, and comes to the conclusion that there is more or less variation in this nerve supply. While the sterno-mastoid seems to have its innervation from the accessorius, the trapezoid may be supplied also by some of the cervical nerves. He takes the variation to be as follows: "The spinal center situated between the first and fifth cervical segments of the cord is fixed and constant. As a general rule, the cells of this center send their axones to the trapezius through both the spinal accessory and the cervical nerves. But sometimes there is a variation from this arrangement, in that all the axones pass to the muscle in the spinal accessory, leaving the cervical nerves without function, as far as the trapezius is concerned. Under these circumstances, the motor impulses reach the trapezius exclusively through the spinal accessory, and section of it consequently means total palsy."

77. **Colostomy for Chronic Dysentery.**—The method of treatment advocated for chronic cases of amebic dysentery failing to respond to medical treatment, by Murray, is the production of an artificial anus early in the disease. He would recommend this if after four months of medical treatment the dysentery is not cured. Setting the colon at rest is the only reliable method. He would leave the artificial anus open for a long time, and it should not be closed until it is certain that the ulcer has healed. This can be ascertained by the long rectal tube of Kelly. This method is not of recent date, but has been carried out successfully for several years, in cases of ulceration of the sigmoid and rectum, and by English surgeons in membranous colitis, but it has not been generally put in practice in case of chronic dysentery. He reports a case.

78.—**Tendon Surgery.**—The utility of tendon surgery is pointed out by Coolidge, who emphasizes the necessity of special study of the muscles involved and transplanting or ligating living tendon to replace the paralyzed ones if it can be done. The important points to be considered are: 1. The time of operation, which should not be until the reparative process, after the attack of infantile paralysis, has reached its limit. 2. The amount of strength of muscle to be grafted as compared with the work it will be called upon to do. 3. The location of the grafting. 4. The method of joining the tendon together. 5. The choice of material; the chromicized catgut with a life of four to six weeks ought to suffice. 6. The post-operative treatment should be at least four weeks in the plaster bandage, then massage and passive movement, usually with some appliance to keep the foot in its proper position, for a couple of months more. The use of tenotomy in spastic cerebral paralysis is also mentioned, and cases reported.

79.—**Appendicitis.**—Brewer reports cases illustrating the errors of diagnosis: In 2 the symptoms were found to be due to renal calculi, in 4 to disease of the uterine appendages, in 1 to sarcoma of the ileum, in 1 to cholecystitis, in 1 to suppurative pancreatitis, and in 2 to general sepsis. The cases are reported in detail.

80.—**Complications of Appendicitis.**—The complications mentioned by Meyer are thrombosis of the femoral veins, of which he reports two cases and dissects the cause. He is inclined to believe in the infectious origin of this condition, though the mechanical theory as brought out by Lennander can not be lost sight of. Another complication is intestinal obstruction occurring sometimes after operation for acute perforative peritonitis. In the first case reported the cause of the obstruction was concluded to be abscess perforation into the descending colon, upon the occurrence of which a coil of the small intestine, which had been under great tension during the full expansion of the abscess, became kinked on its sudden withdrawal, and thus formed the cause of obstruction. The second was obstruction from a minute band passing from the cecum over the small intestine to the root of the latter's mesentery, which was successfully relieved.

83. **Paresis and Cerebral Syphilis.**—Hurd holds that there is a difference between true paresis and syphilitic pseudo paresis, and quotes Meckel's table of points of differential diagnosis. One of the strongest points, he maintains, is the different results of specific treatment in cases of syphilitic history and with lesions apart from cerebral. He does not fully accept the dictum of "no syphilis, no general paralysis," though admitting the predominance of syphilitic antecedents. He calls attention to a clinical manifestation of the paresis, which he thinks is quite rare, that is the sudden and acute exacerbation after a more or less prolonged prodromal period, with symptoms of low-grade cerebral inflammation, and holds it is probable that there is here a true localized inflammation of the brain substance distinct from motor tracts and the basal ganglia. Another point that he especially notices is the influence of a traumatism or an ordinary attack of insanity in the induction of paresis.

90.—This article has appeared elsewhere. See THE JOURNAL of May 4, ¶ 32, p. 1279.

94. **Tuberculin Treatment.**—Denison has experimented with Tuberculin treatment in a large number of cases, with Kleb's tuberculin, and antiphthisin, Mumford's asses' serum, Fisch's antiphthisis serum, T. R. Hirschfelder's oxytuberculin, and Ruek's tuberculin and his watery extract; he tabulates the results. The best results were obtained with the watery extract. Out of 45 cases thus treated, 28, or 62 per cent., are living in apparent immunity, 40 of these apparently cured, 9 per cent. much improved, and only 11 per cent. retrograded. His method of treatment, however, covers a shorter period than the others, which perhaps should be considered in the estimation.

107. **Meddlesome Midwifery.**—Webster protests against the use of antiseptic douches which are unnecessary in the absence of any local or chronic infection or venereal disease of the vulva, vagina and cervix, though in such cases vigorous use of an antiseptic may be necessary. He reviews the literature of the normal and pathologic bacteriology of the vaginal contents at considerable length, as supporting his view that prophylactic douching in the majority of cases is unnecessary. Contamination is sometimes produced by unnecessary vaginal examinations by the physician or nurse, and he insists on the importance of cleanliness and believes that boiled rubber gloves should always be used. The over-use of the forceps is also deprecated, and he gives a tabulated statement of the percentage of cases in which these are used in the leading European clinics.

109. **Cardiac Neuroses.**—The anatomic and physiologic data, as far as their bearing on the production of these conditions is concerned, are noticed by Barker. He makes the suggestion that there is much to be hoped for from an analysis of irregularities based upon modern physiologic and pharmacologic research. The most important feature of such analysis at present is in the emphasis laid upon the importance of the heart muscle itself. He thinks it would be well to be wary in the future use of the term "cardiac neurosis" until the dynamics of the processes concerned are better understood.

and suggests grouping them simply under the term "disturbances of cardiac motility."

111. **Gastric Ulcer.**—Andrews reviews the methods and indications of surgical interference in case of gastric ulcer, and offers the following conclusions: "1. Gastric ulcer is a surgical disease. 2. Perforating ulcer should be treated by laparotomy as early as possible. 3. Bleeding gastric ulcer should be treated by operation after resisting medical treatment. 4. Gastric ulcers produce, and are also caused, by pyloric obstruction, and this calls for operation. Many obscure and obstinate stomach troubles are caused by this cicatricial obstruction, and can be cured very safely by surgical intervention."

112. **Gastric Ulcer.**—Herrick describes in detail the method and technique of the rest and rectal feeding method of gastric ulcer, which he thinks offers the most favorable conditions to aid the natural tendency of the lesion to heal, and should receive more attention in text-books and other medical writings. It consists in putting the patient to bed under the care of a trained nurse, emptying and cleansing the bowels, allowing no food to be given at first, except possibly water in small amounts, giving a cleansing enema high in the rectum at regular intervals of four hours. As the pain, tenderness and vomiting decreases or ceases, the rectal feeding is gradually stopped, and feeding by the mouth with a specially prepared diet substituted. The patient is not allowed to get out of bed until rectal feeding has been entirely stopped and food been taken alone by the mouth for several days, and resuming of activity should be gradual. The whole treatment may last for two to six weeks at least, and possibly longer.

113. **Girlhood.**—The points made by Newman are the importance of the proper physical training of girls during the developmental period of puberty, and the prevention of lack of development of the cervix and uterus, which is a serious handicap to their future sexual life, and possibly may result in serious and even fatal conditions after marriage. For this condition of undeveloped cervix he suggests dilatation under anesthesia, supplemented by plastic work to restore the cervix and maintain a proper lumen, as better than subjecting the patient to a course of local treatment in the gynecologic chair.

114. **The Skull and its Contents.**—Earles's paper calls attention to the importance of dural and sclerotic conditions in the cortex following injuries, as being responsible for many epileptic seizures and other troubles, and he advises the uses of the trephine or chisel in every case of severe injury to the head, as evidenced by the symptoms and degree of force received. Careful examination of the soft parts and immediate repair of the injuries should be done as soon after the injury as the circumstances will permit, to avoid sclerosis. When this has been thoroughly established, the sclerosed area should be thoroughly excised and care be taken that the offending area is the one removed.

123. **Alcohol and Tobacco Amblyopia in Cuba.**—Finlay finds that both Cubans and Spaniards in Cuba are far from being immune to alcohol and tobacco amblyopia, and presents 92 cases, which he has met with in a total of 4300; 5 cases of purely alcohol, 31 of tobacco, and 56 from mixed alcohol and tobacco amblyopia. The cases are given in a tabulated form.

126. **Myxosarcoma of the Optic Nerve.**—After reporting a case in which a myxosarcoma was removed from the posterior orbit, surrounding the optic nerve, with microscopical examinations, Axenfeld and Busch call attention to the noteworthy features, which are: 1. The periodic variation of the exophthalmus, with accompanying fever. 2. The almost perfect acuteness of vision and complete field on the day of operation after the exophthalmus had lasted eight months and a considerable tumor of the nerve had developed. 3. The extirpation of the tumor by Kronlein's method, with permanent preservation of the ball. 4. The extensive improvement of the paralysis of the ocular muscles after the operation. 5. The condition and distribution of the medullated fibers in the optic nerve. 6. The existence of hyaline cartilage in the nerve.

127.—**Symblepharon Operation.**—The difficulty of making a permanent retrotarsal fold is considerable in all the symblepharon operations hitherto practiced. From a study of the anatomy, Wolff concluded that the tendinous expansion of the superior rectus, which lies just beneath the conjunctiva, is the natural insertion of the upper conjunctival arch, and might serve as the desired fixed point of attachment for the new-formed upper retrotarsal fold. He has recently had the opportunity to give this operation a trial and reports the case. In future cases, he says, he will do the operation in the following manner: After separating the adhesions until the upper lid can be doubly everted, a horizontal incision will be made in the expansion of the rectus, where the retrotarsal fold should lie. Then, in order to prevent excessive swelling, the lid will be replaced, and perhaps tampons be introduced to check the hemorrhage. After dissecting up the flaps the lid will be everted, so that the flaps may be sutured to the expansion of the rectus in the manner described. It would seem better to cover the tarsal wound also, so as to prevent later a growing over it of the transplanted flap and to avoid the checking of the movements of the upper lid. The advantages of the method lie in the fact that all the available anatomical and pathological relations are taken into consideration: 1. The transplanted flap is attached to the fornix as a natural point. 2. From this it follows that the flap is capable of following all the changes of position of the lid with respect to the eyeball. 3. The transplanted flap is, through this fixation, better adapted to its surroundings and to its base, and therefore more readily becomes attached. 4. Later the expansion of the rectus exercises a constant traction on the new-formed fornix in the direction of the depth of the orbit, and thus prevents the shrinking that often occurs later.

128. **Changes in the Fundus in Pregnancy.**—From a study of 124 gravid women, ranging from the fourth month on, about one-half of them in the tenth month, Bosse concludes that "in a large number of pregnant women there are changes in the fundus, located at the optic disc, and consisting in cloudiness and swelling due to venous stasis and transudation. These neuritic changes are innocent in that functional disturbances of the eye do not occur, or at least are not subjectively recognized, and that they appear soon after labor, without distinction as to whether it is the first pregnancy or a later one."

129. **Nutrition of the Cornea.**—Ulrich experimented on transmission of the fluids through the endothelium on Descemet's membrane, which he thinks does not check the entrance of the aqueous humor into the cornea, but only limits it. He uses ferrocyanid of potassium in his experiments, and he finds that a small amount of aqueous humor thus entering is carried off toward the conjunctiva, thus preventing opacity and swelling. He also made experiments to see the effect of scar tissue, which seemed to show that it is less capable of imbibition than the normal corneal tissue, and that perhaps the lymph circulation offers certain hindrances.

British Medical Journal, May 11.

Experiments upon the New Specific Test for Blood.

GEORGE H. NUTTALL and E. M. DINKELSPIEL.—The recent discovery of specific precipitins that act on various bacterial products—milk, peptone, eggs, albumin and different kinds of blood—has led the authors to undertake the investigation, of which the present paper gives an abstract. They injected rabbits intraperitoneally with horse, dog, ox, sheep, and human serum, and were able to observe the formation of specific precipitins in their blood, the antisera from these animals being tried on twenty-four different bloods with uniformly negative results, excepting a slight action exerted by the anti-serum for human blood on the blood of two species of monkey, where a slight reaction was obtained not at all comparable in intensity to that shown on the addition of the anti-serum to human blood. A slight cloudiness was produced by the antisera for ox blood when added to sheep's serum, and *vice versa*. Some animals already gave an effective serum after the third injection. Bloods which had been dried for two months

and preserved at room temperature in the dark or daylight, or in the dark at 37 C., and also such as had been exposed for a week to sunlight, as well as serum from a blister, the result of a burn, all gave positive reaction when tested for their particular anti-serum. Some human blood which had undergone putrefaction for two months, when diluted 1 to 100 with normal salt solution, gave a marked reaction with the anti-serum for human blood, which it did not do with other blood sera. A rabbit that was treated with some old antidiphtherial horse serum preserved with trichresol in a corked bottle for two years and seven months yielded a specific precipitin for horses' serum. Positive results were also obtained by treating a rabbit with a pleuritic fluid which had been kept in the laboratory for from five to six months and preserved by the addition of chloroform. A slight but distinct reaction was obtained with human nasal and lachrymal secretion. Dilutions of human blood—1 to 100—mixed with an equal volume of dilutions of the blood of ox, sheep, dog and horse and tested for human blood, all gave a positive reaction, and *vice versa*. The control experiments with normal rabbits' serum, as also with non-homologous antisera, gave negative results. These investigations confirm and extend the observations of others with regard to the formation of specific precipitins in the blood serum of animals treated with various sera. The authors, therefore, conclude that these precipitins are specific, although they may produce a slight reaction with the sera of allied animals. The substance which brings about the formation of precipitins, and the precipitin itself, are remarkably resistant. This new test can be applied to blood which has been mixed with that of another animal, and the authors claim that we have in this test the most delicate means thus far discovered for detecting and differentiating bloods, and trust it will be put to forensic use.

The Lancet, May 11.

The Importance of the Teaching of Insanity to the Medical Student and Practitioner in Relation to the Prevention of Insanity. ROBERT JONES.—The responsibility of the doctor in cases of insanity is first alluded to, especially as regards certifying cases, and Jones notices the needs of special knowledge in this regard. The doctor is, moreover, a consultant in regard to engagements, marriages, civil and testimonial capacity, etc., where such knowledge is essential, also in cases of criminal responsibility, and he should have some knowledge also of the subject of anthropology and the signs of degeneracy. The severe mental symptoms arising in the course of bodily disease may also call into play his best efforts. Another of the chief reasons why the medical student should be made familiar with insanity is that it is best treated in its early stages, hence the importance of its early recognition. We are probably on the threshold of important discoveries in regard to this matter, and the need of research is emphasized. The student should be conversant with neurologic methods, especially in histology, should know the changes in the normal secretions, should be familiar with the use of physiologic instruments, blood examinations, etc. A knowledge of psychology or mental physiology is also urged, and the different forms of insanity should be described in a systematic course of lectures, illustrated by actual cases in hospitals and asylums. Jones advocates the issuance of a diploma in mental medicine similar in scope to that in public health, and requiring it to be obtained by all who wish to be medical officers to asylums and hospitals of the insane and those attached to licensed houses for their care. Finally, he would have every public asylum in the country a school for a post-graduate course in mental diseases.

Mental Fatigue in School Children. JOSEPH BELLEL.—The author examined 320 boys of the average age of 11 years, 4½ months, and 140 girls of the average age of 11 years and 8 months, 460 children altogether, by the methods of writing from dictation at various periods during the school hours to test the effect of school fatigue. The conclusions he arrives at are as follows: 1. No conclusion can be drawn as to the influence of single subjects of teaching. 2. The first hour of lessons is a useful mental exercise, because the children are able during that time to overcome the state of inattention in

which they were at the time of coming to school. 3. The morning lessons do not produce great mental fatigue. 4. The midday rest is of great use to the children because it does not destroy the good effects of the mental exercise in the morning and enables them to do work of better quality than that which they produce after a long rest, as one observes at the beginning of the morning lessons. 5. Though immediately after the midday rest the children are in the best condition of mind, an hour or so of application in the afternoon is sufficient to produce such a mental fatigue as to lead, at the end of the afternoon lesson, to the worst work of the day. Therefore, if the morning application does not fatigue, it consumes the mental energy of the children in such a manner that they can not undertake light work in the afternoon without falling into great mental fatigue.

The Practitioner, May.

Composition and Action of Orchitic Extract. WALTER E. DIXON.—The author first notices the historic interest of this extract, showing that it was used by the ancient Romans and was employed up to the end of the seventeenth century, from which time it was dropped until Brown-Séquard revived it. The opposing views held by various persons as to its effects are noted, and he remarks that a very slight glance at the literature shows that tests have been made under widely differing conditions. Some observers use the dried, others the fresh, organs, some sterilize in dubious ways, and some administer the extract by the mouth. The amounts used also vary widely. These should be considered in estimating the value of the different opinions. Brown-Séquard and his immediate followers insisted on the use of the fresh extract, and that it should be injected practically unaltered. It is not fair to condemn their views from experiments performed in altogether different ways. The composition of orchitic extract is noted. It contains a large number of proteids, almost entirely nucleoproteids, also a number of extractives, among which is spermin with others in equal quantity, and probably, at least, as important. Orchitic extract has a decided action on animals, whether injected subcutaneously, or directly into the circulation, and the question arises which of the constituents is the active one. Dixon considers the theory of Pochl that the spermin is especially active and an intra-organic ferment of oxidation not confirmed by the facts. The nucleoproteid is discussed at length, and the author finds that it has a decided action in producing hypoleucocytosis in rabbits. The diminution in the number of leucocytes is mainly at the expense of the polynuclear variety, the lymphocytes being least affected. It also produces a profound alteration in the appearance of the corpuscles; they have an illy-defined contour and show fewer granules; their nuclei are markedly swollen and stain more faintly with methylene blue. When given by the mouth, however, it appears that an immediate hyper-leucocytosis is produced and the excretion of P_2O_5 is increased, the reverse of which appears to be the case with its injection. When injected directly into the circulation orchitic nucleoproteid has an effect upon both the heart and peripheral vessels. The heart is slow, the blood pressure falls and the peripheral vessels dilate; occasionally there is an initial short constriction. The extracts of epididymis and vesiculæ seminales are similar to the extracts of testis, but the effect on the heart is less, while the vasodilatation is greater. Clinical experiments with orchitic extracts are not numerous, but Pregl has found, from the use of ergographic experiments, that its injection leads to increased muscular efficiency, and Zoth has obtained similar results. Henocque found that Brown-Séquard's injections produced a permanent increase in the hemoglobin in phthisis, and, therefore, concluded that they had a beneficial effect on the blood. There is yet much to be learned concerning the action of orchitic extract. Its active constituent is not detected, but it is probable that experiments on eunuchs would lead to valuable results. Orchitic injections administered as suggested by Brown-Séquard have a powerful influence on metabolism, especially showing itself by changes in the urine, in the leucocytes and in the blood pressure.

The Ovary as an Organ of Internal Secretion. WALTER E. DIXON.—The effect of ovarian extract is also studied by

Dixon, who notices the effect of castration, its influence on mammary secretion in animals, all indicating the existence of an internal secretion, and the fact that any portion of the ovary being left in the system, no matter where, in the living condition, prevents the effect of their ablation is still further evidence. The administration of ovarian extract in menstrual disorders and on women with induced climacteric as a result of double ovariectomy has been tried in many cases, and on the whole with beneficial results. He sums up as follows: 1. The presence in the body of ovarian tissue, however small in amount, is sufficient to prevent the distressing symptoms which frequently arise after complete double ovariectomy. It does not appear to matter in what position in the body the portion of ovary remains, and even a transplanted ovary is sufficient to prevent the untoward consequences. 2. The administration of ovarian tissue by the mouth exerts a beneficial effect in patients in whom menstruation has ceased in consequence of disease or complete ovariectomy, and many physicians advocate its use during the menopause. 3. Ovariectomy has a distinct effect on metabolism, as shown by the diminution in gaseous metabolism, the increase in body weight due to deposition of subcutaneous fat, and the diminished excretion of P_2O_5 in the urine. In conclusion, it may be asserted that the ovaries exert a decided influence over the organism as a whole, and all evidence is strongly in favor of the theory that this influence is the result of internal secretion which favors katabolic changes. The secretion may be eliminated either as the result of disease or double ovariectomy, when the well-known series of changes characteristic of the menopause are developed. Castration, therefore, both in the male and female, deprives the organism of a stimulant of oxidation, but no chemical substance has been isolated to which the properties of such an internal secretion can be ascribed. It is probably different, however, in the two sexes.

The Therapeutic Value of Suprarenal Preparations in Addison's Disease. CHARLES R. BOX.—Experiments in the treatment of six cases of Addison's disease by the administration of suprarenal preparations, keeping the patients under daily observation; two of these for a very prolonged period, and observation of two other cases similarly treated, lead Box to the opinion that in these patients it would appear either that: 1. the active substance has not been properly administered; or 2. the requisite material is not present in the suprarenal bodies as at present prepared for administration; or 3. the lack of a certain internal secretion is not the sole or predominant factor in Addison's disease.

Bulletin de la Soc. Med. des Hop. de Paris, May 9.

The Blister Test. H. ROGER AND O. JOSUÉ.—The serum of a blister contains a number of cells in suspension. In health the polynuclear eosinophiles predominate, while they are scanty or entirely absent in the case of infectious diseases, although they reappear as the organism triumphs over the disease. In chronic tuberculosis the number of polynuclear cells may attain or exceed 90 to 95 per cent. In consumptives the cells seem to be swollen as if dropsical. This appearance of the cells may sometimes reveal a latent, unsuspected tuberculosis. The blister test is a valuable index of the intensity of an infection. It is extremely sensitive; a trifling secondary infection superposed may alter the proportions of the cells in the serum.

Lumbar Puncture for Persistent Headache of Bright's Disease. P. MARIE AND LE GENDRE.—Marie reports a case of severe headache in the course of Bright's disease, rebellious to all therapeutic measures. He withdrew 6 c.c. of cerebrospinal fluid by lumbar puncture, and permanently relieved the patient. Le Gendre reports a similar case, the patient a house painter, a victim of lead poisoning, suffering from myosis, cephalalgia and insomnia. The withdrawal of about 13 c.c. of cerebrospinal fluid restored him to comparative health.

Journal de Medecine de Bordeaux, May 5.

Raisins in Urotherapy. P. CARLES.—When the urine is excessively acid Carles counteracts this tendency by administering an acid which becomes transformed in the organism into an alkali, such as potassium bitartrate for instance. The

tartaric acid is consumed and the substance is transformed into potassium carbonate. Being acid, it moderates the gastric acidity rather than stimulates it, while during its transformation into an alkali, it dissolves and carries away with it the uric acid generated in the organism, and re-establishes the balance of the urinary acidity as it reaches the bladder. The potassium bitartrate is more readily soluble when it is in combination with various organic matters, as in grapes. The sugars in the grape have also a diuretic effect. When grapes are in season they are preferable, but during the remainder of the year Charles finds that Malaga raisins answer the same purpose and he prescribes 100 gm. of raisins a day, to be eaten at dessert. Analysis shows that 100 gm. of raisins contain half their weight of sugar and about 2 per cent. of potassium bitartrate or other organic acid salts. Combustion of this amount furnishes 73 eg. of potassium carbonate or 50 eg. of alkaline potassium, and this potassium is able in turn to transform 90 eg. of free uric acid into a neutral, soluble potassium urate. This is about the amount excreted in twenty-four hours in health. Five patients with urinary acidity three times the normal, were restored to normal in twenty-four hours and the total amount of uric acid was diminished, by the simple process of eating 100 gm. of raisins during the day.

Progres Medical (Paris), April 27.

Idiocy and Diplegia in Two Brothers; Atrophy of the Cerebellum. BOURNEVILLE.—Two brothers were received at Bicêtre, aged 10 and 13, both presenting all the cerebrospinal symptoms of infantile cerebral spasmodic diplegia—both complete idiots. The parents were healthy, free from alcoholic or syphilitic taint, and their other five children were healthy. One of the idiots died and the cerebellum was found in a pronounced condition of atrophy. The pyramidal tracts in the spinal cord also showed symptoms of degeneration. He had had measles at 18 months. It is impossible to tell whether the other brother will show the same atrophy of the cerebellum at his autopsy. Thomas was able to find only 28 cases of bilateral atrophy of the cerebellum, mostly post-mortem discoveries in adults. Only three cases are on record that date from childhood. Bourneville is inclined to doubt whether this atrophy of the cerebellum is sufficient to explain the entire clinical picture, which is duplicated in the brother.

May 4.

Transmission of Scarlet Fever to Cats. E. RAPIN.—Some children with scarlet fever had a young kitten for a playmate and the latter soon exhibited all the symptoms of scarlet fever, including the period of desquamation and shedding its fur, which lasted for several weeks. Another kitten brought to the children was affected in the same way and succumbed. A similar experience in another family has convinced Rapin that very young kittens are susceptible to scarlet fever, while older animals probably escape. Behla doubts this transmission of scarlet fever, except for pigs, which are peculiarly predisposed to eruptive diseases. He mentions that a farmer used as bedding for his pigs the straw from mattresses on which four of his children had died from scarlet fever. Two of the pigs soon died from a disease accompanied by a scarlet eruption. Spinola admits that horses are liable to contract scarlet fever, and Schneidemuehl suggests that the disease described by Petrowski among sheep and goats may prove to be scarlet fever.

Consanguinity in the Etiology of the Chronic Nervous Diseases of Children. BOURNEVILLE.—All the cases of consanguineous marriages in the parentage of 2784 epileptics, idiots, hysterics or imbeciles that have been treated at the Bicêtre hospital since 1879 have been carefully recorded. Bourneville found among them a total of 91 cases or 3.23 per cent., in which the parents were blood relations. In 49 they were cousins, in 24 second cousins, in 3, uncle and niece. In the others the relationship was still more distant. The 91 cases included 25 of idiopathic epilepsy, 21 of symptomatic epilepsy and 16 imbeciles. The proportion of 3.23 per cent. is so small that he considers consanguinity a very insignificant factor in the genesis of the chronic nervous diseases of childhood. He claims that marriage between cousins of vigorous constitution,

free from hereditary taint, will result in healthy offspring. If one or both of the parents are hereditarily diseased, the children will suffer, not from the consanguinity, but from the inherited predisposition.

Semaine Medicale (Paris), May 8.

The Heart in Chronic Articular Rheumatism. E. BARIÉ.—Twenty-five case-reports of a cardiac affection complicating chronic rheumatism, including several personal observations, are reviewed by Barié. Pericarditis and endocarditis occur most frequently, with or without hypertrophy of the heart, fatty degeneration of the myocardium or cardiosclerosis. All kinds of pericarditis have been noted, with or without effusion. In the former case it is usually hemorrhagic. The endocarditis involved the mitral valve in four cases and the aortic in seven, but usually it causes an aortic insufficiency. These complications have been observed at all ages; children are not exempt. Barié attributes chronic, deforming nodular rheumatism to two distinct factors. The articular and the muscular lesions of chronic rheumatism may be connected with alterations in the central and peripheral nervous system, similar to the trophic lesions noted in ataxia, general paralysis and certain affections of the spinal cord. This conception has not been sustained by pathological anatomy as yet, but there is no doubt that chronic nodular rheumatism belongs to the group of nutritive diseases, which includes gout and diabetes. This assumption is the more plausible as all three have a tendency to be complicated by cardiac affections. Gout is frequently accompanied by chronic degeneration of the myocardium or valvular endocarditis, while Saundby states that the heart is affected in 60 per cent. of all cases of diabetes. The cardiac affection is probably due to the extension of the dyscrasic process peculiar to each of these diseases, to the cardio-vascular apparatus. The dyscrasic process of gout and diabetes are known, but we are still in the dark as regards that of chronic rheumatism.

Beitraege z. Klinischen Chirurgie (Tubingen), April.

Surgery of Tubercular Kidney. O. SIMON.—This article summarizes the results of Czerny's experiences with thirty-five cases of tuberculosis of the kidney during the last twenty-one years. If unilateral, it should be operated on at once, he states. The only exception is when the affection is merely one manifestation of miliary tuberculosis or when extreme cachexia or advanced general infection forbid intervention. Nephrotomy is a palliative operation, but may be useful as preliminary to secondary nephrectomy. Primary nephrectomy is the operation to be preferred, but a primary nephrotomy, with extirpation of the organ later, may be advisable in case the patient is very weak or the diagnosis or the condition of the other kidney is still dubious. Primary extirpation of the ureter is rarely necessary. Seventeen, or 48.5 per cent., of his 35 patients are still living, and 13, or 37.1 per cent., are in perfect health. Five have passed through one or several pregnancies since. There have been no disturbances in the urinary tract in 18, and 24 have been relieved for more than three years of all or most of their troubles. Internal treatment had been tried and failed in all before surgical intervention was resorted to. One patient died from hemorrhage and shock in a secondary nephrectomy, deferred too long, until extensive adhesions had formed. Two other deaths occurred after primary nephrectomy, both from sepsis.

Injury of the Femoral Vein at Poupert's Ligament. F. FRAENKEL.—After a traumatism in the vicinity of Poupert's ligament that suggests a possible injury of a large vessel, the region should be carefully investigated, even in the absence of indications of much hemorrhage. In case of injury of the femoral vein the wound should be sutured, retaining the lumen intact. If the edges of the wound are crushed, forceps can be applied laterally. These procedures are applicable only in aseptic conditions. Otherwise, resection of the vein between two ligatures is the only resource. Quite a large portion of the vein can be resected; the openings of the afferent veins can be disregarded. The rapid establishment of collateral circulation after ligation or resection of the vein is best promoted by removing the extravasated blood around the vein.

stimulating the action of the heart and favoring the reflux of venous blood from the extremities by raising the foot of the bed. In the thirteen published cases of suture of the femoral vein, the injury occurred during an operation in all but one, and also in one of the two personal cases related by Fraenkel. The others were stab wounds.

Ligature of the Carotid Artery in Resections of the Upper Jaw. C. SCHLATTER.—The ligature of the external carotid artery should be permanent when done as a measure preliminary to resection of the upper jaw. Hemorrhage and the danger of aspiration of blood are thereby much reduced. In exceptional cases the common carotid may require ligation also, but temporary constriction is better under these circumstances than a permanent ligature. The details of three personal cases are given.

Centralblatt f. Bakteriologie (Jena), March 2.

Capillary Double Lamp for Formaldehyd Disinfection. PIORKOWSKI.—A long-necked jar is inverted on a porous plate over a spirit lamp, the whole closed, except the open top of the jar above. The jar is filled with a 40 per cent. solution of formaldehyd. The capillary attraction of the porous plate aspirates the fluid out of the jar as fast as the heat of the lamp evaporates it on the plate. The gas thus generated escapes through the jar into the room and sterilizes superficially even spore-material with 150 c.c. of the fluid to 10 cubic meters of space. Ordinary microbes are destroyed with 50 c.c.

Centralblatt f. Gynaekologie (Leipsic), April.

Removal of Placenta by External Manipulations. W. ZANGEMEISTER.—During the pauses between the labor pains, Zangemeister compresses the uterus with each finger in turn, applied from the sides, front or rear, kneading the organ as it were, and ceasing as the pains recur. This massage assists materially in detaching the placenta, and should always be tried before resorting to manual extraction.

Centralblatt f. Harn u. Sexualorgane (Berlin), April.

Diagnosis of Prostatitis from the "Swimming Drops." F. SCHLAGINTWEIT.—After massage of the prostate, the drops of secretion that are expelled float on the surface if caught in a glass of water, or hang suspended like long bags from the portion floating on the surface. Seminal secretion becomes opaque as soon as it touches the water. Pus sinks in yellowish flakes to the bottom. The "swimming drops" thus enable pus, prostatic secretion and healthy seminal secretion to be macroscopically differentiated.

Centralblatt f. Innere Medicin (Leipsic), April 6.

Guaiacol Treatment of Acute Gonorrheal Epididymitis. B. GOLDBERG.—Lenz has reported fifty cases and Goldberg has an experience of twenty-five cases of acute gonorrheal epididymitis during the last four years treated by rubbing into the parts a salve made of 5 gm. of guaiacol to 10 gm. each of lanolin and resorbin, every twelve hours, using up the entire amount in three or four days, covering air tight after each application. The patient takes 3 to 4 gm. of salol during the day at the same time. The general health and the local conditions remarkably improved and no inconveniences were noted in any case, even in patients with much prostration, cardiac insufficiency or polyarthrititis. The results are more favorable the earlier the treatment is commenced.

April 13.

Sensitive Test for Mercury in the Urine. B. BARDACH.—About 8 gm. of finely pulverized commercial egg albumin are stirred into 250 to 1000 c.c. of urine and the urine is rendered acid with a small amount of 30 per cent. acetic acid. The fluid is then boiled fifteen minutes in a water-bath and filtered while hot. Hydrochloric acid—10 c.c.—is then mixed with the filtrate and a spiral of copper wire placed in the jar, which is then kept in boiling water for forty-five minutes. The wire is then rinsed and when dry is placed in a glass tube fused at one end, a few scraps of iodine are added and the tube is heated. A yellowish or reddish ring appears on the glass with 5 mg. of mercury to the 500 c.c. of urine, and even 2.5 mg. are perceptible.

Jahrbuch f. Kinderheilkunde (Berlin), April 4.

Angina Lacunaris. B. WESTHEIMER.—Angina lacunaris must be considered an acute, infectious disease and treated and isolated accordingly. The incubation lasts four days. Weakly children display a tendency to frequent recurrences and complications. Even healthy children are exposed to danger of the latter. Ice pills and external applications of ice with insufflations of boric acid and saccharin, a fluid, cold diet and rest in bed, will usually prevent complications. Children exposed should not return to school for five days.

Pathology of Infantile Myxidiocy, Sporadic Cretinism or Infantile Myxedema. F. SIEGERT.—The thyroid gland is absent in case of congenital myxidiocy. The alterations in the skeleton are specific and the reverse of those observed in rhachitis, which are typical premature calcification, while in myxidiocy the ossification is defective. If the tendency is arrested by thyroid treatment, rapid growth and tardy ossification follow. Signs of myxidiocy are weakness of muscles, gaping fontanelles, absence of the thyroid gland, changes in the hair and an unusually small number of blood corpuscles, with a proportionate lack of hemoglobin. Acquired myxidiocy may develop after rhachitis. Thyroid treatment and a vegetable diet improve every case and cure recent ones. Great prudence is necessary in the administration of the thyroid extract. Becker has reported that a child 2½ years old took ninety tablets, of .3 each, at one time, with no disturbances. Others have reported deaths after ten days of moderate treatment. Siegert himself lost a patient 18 months old who had taken a tabloid of .324 after gradually increasing from quarter to half a tablet. The thymus was found very large and studded with innumerable small hemorrhages. He warns against thyroid treatment in rhachitis, as the status thymicus is frequent, and large doses may soften the bones.

Monatshefte f. Prakt. Dermatologie (Hamburg), March 15.

Local Treatment of Carcinoma. P. G. UNNA.—Certain cases of rodent ulcer, etc., can be arrested in the early stages by applying a resorcin plaster. If some of the nodules resist this treatment, Unna applied the thermocautery, followed by resorcin in bulk or in an alcoholic solution. If the neoplasm is already of deep growth, he cauterizes at once or induces ulceration with a plaster composed of 5 gm. each of arsenious acid and extract cannabis indica and 20 gm. salicylic acid to each meter of plaster. This combination has the same elective action on cutaneous carcinoma as his simple salicylic-cannabis plaster on lupus tissue. The neoplastic tissue rapidly ulcerates under it, while the sound skin remains intact much longer. He then heals the lesion under a resorcin plaster or a resorcin-benzoic acid evaporating bandage.

Muenchener Medicinische Wochenschrift, May 7.

Diagnosis of Tumors of the Frontal Brain. HOENIGER.—When a cerebral tumor begins with psychic disturbances, or when they appear in the course of its development, the assumption of a frontal tumor is justified. The psychic manifestations are frequently a loquacity and tendency to joke on all subjects—"Witzelsucht," the Germans call it. Hoeniger ascribes this symptom to an irritation of the motor speech center, which is located in the third left frontal convolution. Patients resemble maniacs in this respect, only that the effect of the tumor is felt in the deadening of the motor excitement. The corresponding region in the right hemisphere has also some action on the speech, but this "Witzelsucht" is much more frequent with tumors on the left side. It is occasionally accompanied by facial paresis. Another symptom is the stumbling gait, which he traces to a weakness of the muscles of the lower portion of the trunk, sometimes spasmodically contracted. He describes three cases in detail, showing the localization of the tumor in the center for the rump muscles, in the middle portion of the first frontal convolution. As the tumor grew and encroached on the tissues, the weakness of these muscles first observed developed into permanent paralysis. In proportion as the frontal tumor develops in these cases, frontal ataxia or contractions of the rump muscles or disturbances in speech become manifest as focal disturbances, and associated with these "neighborhood symptoms" appear,

proceeding from the motor region, or in case the tumor develops toward the base, the symptoms proceed from the basal nerves.

Phototherapy with Ultra-Violet Rays. GOERLT.—The benefits of Finsen's complicated apparatus are obtained with a simple electrode devised by Goerlt, which concentrates the ultra-violet rays for local application on lupus, and can be attached to any electric Roentgen apparatus by adding a 6 cm. Leyden jar. The electrode is a round metal box, in which five aluminum balls are mounted on stems in the outline of an S. The spark follows the balls and never passes to the patient. The box cover has a crystal top, and is fastened with elastic cords to the part in order to expel the blood, as the ultra-violet rays are much more effective in the absence of blood.

Therapie der Gegenwart (Berlin), April.

Tuberculosis of the Larynx. M. SCHMIDT.—Congestion of one vocal cord is very suspicious of tuberculosis. A week of potassium iodid will exclude syphilis. The prognosis is not so grave as was formerly supposed. The laryngeal process may heal even with progressing pulmonary tuberculosis. No sharp, irritating foods or drinks should be allowed, and the patient should be forbidden to use his voice, even in a whisper, but should communicate entirely in writing, until cicatrization has progressed for a few weeks or months. When it is found that the parts do not become congested or swollen from whispering, then the use of the voice can be gradually resumed, and will prove a good exercise for the parts. Schmidt uses a 50 per cent. solution of lactic acid, not oftener than every one or two weeks. If possible he removes all the diseased tissue by an endolaryngeal operation. In advanced cases with much stenosis, tracheotomy is preferable to laryngofissure.

Eucain in Spinal Analgesia.—An abstract of a communication by Jedlicka from Maydl's clinic states that eucain has been used in ninety-three laparotomies or other serious operations, with extremely favorable results. A corresponding amount of the cerebrospinal fluid is withdrawn, which prevents the subsequent headache sometimes noted. Nausea and vomiting may occur during the period of analgesia if the stomach is empty, with possible paresis of the anal sphincter and erections. This stage is followed by a normal period, but three to six hours after the injection, headache and elevation of temperature may be noticed. If the headache is very severe, relief can be obtained by lumbar puncture and withdrawal of a little cerebrospinal fluid.

Therapeutische Monatshefte (Berlin), April.

New Operative Treatment of Flat Foot. F. FRANKE.—A successful case of cure of flat foot is described, in which the operation consisted only of shortening the tendon of the tibialis posterior muscle, under spinal cocaine anesthesia.

Present Status of the Conception of Gout. H. ROSIN.—The theory that the essence of gout is a retention of uric acid in the organism is now generally discarded. It has been learned that the sources for the production of uric acid are not confined to the nuclein substances, but may be derived from other albuminous elements in the food. There is no proof as yet that the increased amount of uric acid in the blood-serum in gout is due to more extensive destruction of nuclei. It may possibly be due to an increase in the transformations of other albuminoids into uric acid instead of into urea. Researches have shown that in dogs uric acid is decomposed in the liver, kidneys and muscles. Wiener believes that the uric acid is transformed into glycocol to a greater or less amount. The uric acid in the organism is thus disposed of in the same manner as sugar. The latter process is called glycolysis, and Rosin suggests the term urolysis for the former. It is possible that disturbances in this urolysis may be the exclusive cause of the increase in uric acid in gout. Reviewing the progress in the treatment of gout, Rosin observes that the benefits derived from piperazine in the artificial gout of fowls, have not been confirmed in man. Sodium and quinine acid, however, especially the latter, have been proved to have a powerful dissolving effect on the deposits of uric acid, even in the kidneys, the results in mam-

mals surpassing those obtained in fowls. No more can be expected from them, however, than from antidiabetic diet in diabetes. The essence of the gouty process is not affected.

Wiener Klinische Wochenschrift, May 2.

Iron in Human Milk. J. K. FRIEDJUNG.—A number of tests on nineteen healthy women showed that their milk contained from 3.52 to 7.21 mg. iron to the liter, an average of 5.09 mg. This amount is small but constant, and is evidently important for the proper development of the infant. Unfavorable external conditions, the age of the woman and chronic affections diminish the amount of iron in the milk, and even apparently healthy women whose nurslings do not thrive, are probably deficient in iron. This lack of iron is possibly one of the factors in the less perfect development of bottle-fed babies.

Gazzetta Degli Ospedali (Milan), May 5.

Etiology of Acute Articular Rheumatism. N. ZENDER.—Two patients with an ordinary phlebitis were suddenly attacked by acute rheumatism, articular in one and restricted to the muscles in the other. In the latter case the rheumatism subsided and the patient recovered as several abscesses developed in the muscles involved. The first patient recovered after an extensive eruption of boils.

Anales del Circulo Med. Argentino (Buenos Ayres), xxiv, 1 and 2.

Leprosy in South America. E. R. CONI.—This article was read at the Pan-American Congress held at Santiago in January. It states that there are about 3000 lepers in Brazil, 800 in Argentina, 150 in Paraguay, and 43 in Uruguay, with scattered cases in the more southern countries. Colombia has from 20,000 to 30,000 in a population of 4,000,000. Venezuela has two asylums housing about 300. The congress adopted resolutions to the effect that a committee be appointed by each government to collect data and study the results of systematic and scientific prophylaxis according to the precedents established by Norway. An international committee was also appointed to collect statistics and report at the next congress.

Nordiskt Medicinskt Arkiv (Stockholm), xxxiv, 1.

Conservative Operations on the Kidney in Acute Pyelonephritis. K. G. LENNANDER.—Since 1892 Lennander has operated on five patients exhibiting symptoms of general depression, chills, fever, headache, etc., with no retention, but local pain and tenderness in the hypertrophied kidney with bacteria and pus in the fetid urine. He bisected the kidney in each case and resected the portion containing the miliary abscesses and infiltration. The bacterium coli was found in the resected tissues in every case. The adipose capsule was congested and edematous and the fibrous capsule was detached with remarkable facility. A thick layer of bloody serum was found between the kidney and the capsule in two cases. All the cases were unilateral and the lesions were localized to such an extent that a large portion of the kidney was saved, and resumed its natural functions. All the patients were restored to health except one, in whom the renal lesion was secondary to advanced pulmonary tuberculosis. An incipient tuberculosis of the kidney had probably prepared the soil for the coli infection to develop. Four or five days after the apparently successful resection, hemorrhage from the kidney was followed by general sepsis and death. The other kidney presented evidences of parenchymatous degeneration alone. In his first patient, operated on in 1893, the portion of the kidney involved was about the size of a cherry. The patient was pregnant at the time, has passed through three pregnancies since without disturbance, and is still healthy. The second patient developed symptoms of acute pyelonephritis and miliary abscess-formation as she began to sit up after an abdominal hysterectomy for suspected carcinoma. The kidney was very low and the ureter had become bent on itself. The streptococcus longus was found in the resected portion of the kidney and in the omentum at the laparotomy. The patient rapidly recovered. The third case was a woman of 46, with a history of cystitis fourteen years before. The cystitis re-

occurred after a violent cold, and as it improved under treatment, symptoms of acute pyelonephritis with diarrhea appeared, but no retention. The patient recovered after the kidney had been split and a portion resected, but slight indications of nephritis persisted. Seven months later she passed through a severe attack of pneumonia with acute hemorrhagic nephritis, but rapidly gained her former comparative health. The fifth case was a woman of 40 with an uretero-uterovaginal fistula from her ninth childbirth, from which the acute pyelonephritis and miliary abscesses developed. She was cured by nephrostomy and resection, supplemented later by an extra-peritoneal uretero-cysto-neostomy. Lennander's experience shows that pyelonephritis and abscess-formation is frequently unilateral, that a large portion of the kidney can be saved by early diagnosis and operation, and that this portion will resume the natural functions of the organ.

Resection of a Stricture in the Esophagus. E. SANDELIN.—The esophagus was exposed through an incision along the inner margin of the sternomastoid muscle and the inferior thyroid vessels ligated in two places. The traumatic stricture was easily removed and the stumps sutured. The patient was fed at first with nutritive enemata twice a day for four days, then fluid food by the mouth. It oozed through the wound a little at first. In one month the patient was entirely cured, eating and appearing normal. A permanent sound through the mouth or nose for feeding is considered detrimental by Sandelin, as it is liable to induce vomiting and irritate the wound.

Chronic Pneumococcus Phlegmon. I. JUNDÉLL and F. SVENSSON.—A young woman became suddenly affected with a pseudomembranous, non-diphtheric, sore throat, with symptoms of severe infection. As this subsided it was followed by a lesion in the sternal region resembling Quinke's acute angioneurotic edema—a chronic, progressive edema or serous phlegmon, finally tending to suppuration in the course of three months. The pneumococcus was derived pure from the serum. The fever was very high at first and the patient continued to have some temperature until the phlegmon healed after evacuation, but the general health did not suffer except during the first two days of the onset.

A Case of False Stenosis of the Pylorus. ISRAEL-ROSENTHAL.—The puzzling symptoms in the case described were explained at the autopsy by the discovery that an ulcer in the upper portion of the lesser curvature had retracted the stomach wall in such a way that the lower portion of the pyloric orifice fitted against it like a valve, as soon as the stomach became distended, closing the lumen completely. When the stomach was not distended the valve opened, and the condition might have been easily overlooked during an operation, as the pylorus was permeable for two fingers as soon as the valve fell away from the upper portion of the orifice. The patient had several attacks of convulsions not long before death, probably an equivalent for the tetany sometimes observed in cases of ectasia of the stomach with hyperchlorhydria—evidently a toxic phenomenon.

Epidemic Cerebrospinal Meningitis in Norway. C. LOOF.—All the cases of epidemic cerebrospinal meningitis that have come under the observation of the district physicians are reviewed and tabulated. The first cases were reported in 1815. In many instances it was impossible to discover the origin of the disease, which appeared at several points at once and spread without traceable transmission, some times in isolated farms. Exposure to cold or fatigue were sometimes the accidental cause.

Sodium Cacodylate in Tuberculosis. P. DE LANGENHAGEN.—Four of the eight patients were in early stages of tuberculosis and all regained complete health under treatment with sodium cacodylate. Three in advanced stages of tuberculosis were remarkably improved, gaining 12 kilos in five months on an average.

Diffuse Nephritis. J. W. RUBEK.—The clinical conception of diffuse nephritis or Bright's disease includes the degenerative as well as the inflammatory forms of acute and chronic generalized affections of the kidneys, but not senile

atrophy nor albuminuria without permanent alteration of the organ, nor congested kidney. Diffuse nephritis in all its forms is due to the action of toxic substances, the result of bacterial infection or abnormal metabolism or encroaching from without. These toxic substances induce extensive morbid processes of a compound inflammatory and degenerative nature, principally in the kidneys, but also in the vascular system and heart. Runeberg distinguishes seven clinical varieties: Genuine contracted kidney or granular atrophy; amyloid fatty kidney or amyloid degeneration; simple fatty kidney; nephritis of pregnancy; nephritis induced by a preceding infectious disease; nephritis of the same type as that consecutive to an infectious disease but originating in a cold or trauma, and lastly, toxic nephritis, that is, due directly to toxic substances introduced into the organism. Transitional and combined forms are frequently observed. In differentiating nephritic from non-nephritic albuminuria the chief points are the symptoms in the vessels and heart, and the formed elements in the urine, in addition to the etiology and general course of the affection. Indications of arteriosclerosis and of an endocarditic or myocarditic affection, and the presence of cells and cylinders in the sediment of the urine, speak for an inflammatory process in the kidneys. But these symptoms are not observed in the entirely or predominantly degenerative forms, in which hyalin and finely granular cylinder casts are frequently found in the urine, with remains of degenerated epithelium cells. The cases of granular atrophy frequently simulate digestive disturbances or a nervous affection at first, or the heart symptoms or albuminuric retinitis may be the first to attract the patient's attention. In other cases a severe uremic attack may be the first manifestation of trouble. In all these cases the tense pulse, sclerosed arterial walls, accentuated second aortic sound, loud apex beat and dilatation of the heart and displacement of the apex outward and downward, but especially the increased amount of clear urine at night, and occasional slight albuminuria, suggest the diagnosis of granular atrophy. Sclerosis of the arterial walls and the age are also points in its favor as it usually affects young adults, and also the low specific gravity of the urine. The symptoms of uremic intoxication and of albuminuric retinitis are usually more pronounced than in arteriosclerosis without nephritis. The characteristic symptoms in the vascular apparatus are absent in cases of fatty or amyloid degeneration of the kidney, but this condition is sometimes complicated by granular atrophy, and the differentiation is difficult. The symptoms of hydremic anemia serve to differentiate contracted kidney. The diagnosis of amyloid, fatty kidney is founded on the absence of disturbances in the circulation or heart, the clear, albuminous urine, free from cylinders or formed elements of an inflammatory nature, on the etiology and also on symptoms of amyloid degeneration of other organs, of the spleen in particular. The albuminuria is more constant in case of amyloid degeneration than in the non-nephritic, so-called periodical albuminuria, which disappears at night, and is most pronounced in the morning. The nephritis of pregnancy may lead to a secondary contracted kidney. Indications of blood corpuscles, cylinder casts, and formed elements of an inflammatory nature in the urine in combination with the phenomena in the circulatory apparatus, simplify the diagnosis of nephritis consecutive to a cold or infectious disease.

Queries and Minor Notes.

RED CROSS MEDICAL ASSOCIATION.

GRAND RAPIDS, MICH., May 14, 1901.

To the Editor:—Can you give me any information on "The Red Cross Medical Association?" Is it ethical? Would a physician lower his professional standing by becoming an inspector for such an association? C. B. H.

Ans.—As we understand it the Red Cross Medical Association here referred to is a concern gotten up to exploit the medical profession to their disadvantage, a sort of bureau to furnish cheap medical advice, and therefore not ethical. "Societies for mutual benefit" are specifically not entitled to gratuitous service, nor are such associations entitled to receive medical services at rates that are below what ought to be allowed and are practically gratuitous.

CLIMATES FOR PULMONARY TROUBLES.

NEW HAVEN, PA., May 20, 1901

To the Editor:—Will you give me a list of those states east of the Rocky Mountains where the climate is not especially conducive to pulmonary troubles. In other words, where persons whose lungs are sound, but who have a constitutional tendency to consumption, may live in comparative safety.

E. P.

Ans.—The climates most often recommended are those of the Alleghany Mountain regions, the pine woods regions of the Southern States, the Adirondacks, Minnesota, etc. It is impossible to say, however, just how any given case will do in any climate. Probably, as Knopf says, the best climate for one who fears consumption is the one which permits him to be out doors more and longer at a time than anywhere else. A pure dry air, with some elevation can be found in the regions mentioned, and it is advisable to get these if possible. If a patient can recover or keep well at or near home the better and probably the cure will be more durable, not being dependent on special conditions.

SECRETARIES OF STATE BOARDS.

In the "Queries and Minor Notes," on p. 1359, the question was asked concerning the names of the secretaries of the health boards of certain states. As the inquirer evidently intended to ask the names of the secretaries of the examining boards, these were given, and in some cases they are not the same, as for instance in Michigan, where Dr. B. D. Harison is secretary of a board entirely distinct from the board of health, of which Dr. H. B. Baker is secretary. The answer should have stated that the names given were those of the secretaries of the examining boards whether they were the same as the health boards or not.

New Patents.

- Patents of interest to Physicians, May 7 and 14:
- 673,592. Pharmaceutical instrument. George L. Allen, Bradford, Pa.
 - 673,491. Apparatus for disinfecting, deodorizing, or fumigating. Jean Bardin, Brussels, Belgium.
 - 673,675. Operating table. Wm. F. Bernstein, Philadelphia.
 - 673,598. Vein opener and clamp. Carl B. Dolge, Westport, Conn.
 - 673,769. Composition of matter for poultices, etc. Charles M. Ford, Denver, Colo.
 - 673,827. Atomizer. Charles F. Stroh, Nevada, Mo.
 - 673,630. Pad for medicinal use. Frederick W. Warner, Rochester, N. Y.
 - 34,475. Design, water-bag. Christian W. Meinecke, Jersey City, N. J.
 - 673,872. Support for neck and head. Charlotte von Hillern-Flinsch, Hamburg, Germany.
 - 673,958. Medicine spoon. Charles Langguth, Chicago.
 - 673,916. Splint clamp. Edward M. Lockwood, Phoenixville, Pa.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., May 9 to 15, 1901, inclusive:

William H. Block, captain and asst.-surgeon, Vols., leave of absence granted.

Charles B. Byrne, lieut.-col., deputy surgeon-general, U. S. A., from Fort Sam Houston, Tex., to St. Paul, Minn., as chief surgeon, Department of Dakota.

John Carling, captain and asst.-surgeon, Vols., leave of absence extended.

William O. Cutcliffe, captain and asst.-surgeon, Vols., leave of absence granted.

Euclid B. Frick, captain and asst.-surgeon, U. S. A., member of a board at San Juan, P. R., to examine certain persons as to their fitness for appointment as second lieutenants in the Army.

William R. S. George, contract surgeon, member of board at San Juan, P. R., to examine certain persons for appointment as second lieutenants in the Army.

Luther B. Grandy, major and surgeon, Vols., recently appointed and now at Atlanta, Ga., to proceed to San Francisco, Cal., en route for service in the Division of the Philippines.

Harry M. Hallock, captain and asst.-surgeon, U. S. A., leave of absence granted.

Charles F. Mason, captain and asst.-surgeon, U. S. A., from Washington, D. C., to post duty at Fort Sam Houston, Tex.

Elmer A. Scherrer, contract surgeon, from Fort Grant, Ariz., to Denver, Colo., for annulment of contract.

H. Brookman Wilkinson, captain and asst.-surgeon, Vols., recently appointed, leave of absence granted; from Bishopville, S. C., to San Francisco, Cal., en route to Manila, P. I., for duty in the Division of the Philippines.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ended May 18, 1901:

Medical Director J. C. Wise, appointed a member of a Board for the physical examination of candidates for appointment to the Naval Academy.

P. A. Surgeon W. B. Grove, orders appointing him member of examining board at Annapolis, revoked.

Surgeon O. Diehl, detached from the *Indiana*, and ordered to the Philadelphia Navy Yard.

Surgeon C. Biddle, detached from the Philadelphia Navy Yard, and ordered to the *Indiana*.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the fourteen days ended May 16, 1901:

Surgeon H. W. Austin, to proceed to Washington, D. C., for special temporary duty.

Surgeon R. M. Woodward, granted leave of absence for 10 days from May 7.

P. A. Surgeon W. G. Stimpson, to proceed to Coalgate, I. T., for special temporary duty.

Asst.-surgeon Taliaferro Clark, granted thirty days' extension of leave of absence, on account of sickness, from April 21.

Asst.-Surgeon D. E. Robinson, to proceed to Port Townsend (Washington) quarantine station, and report to the medical officer in command for special temporary duty.

Asst.-Surgeon Dunlop Moore, that portion of bureau order of April 18, 1901, directing him to proceed to San Francisco, Cal., revoked.

Hospital Steward L. W. Ryder, granted leave of absence for fifteen days from May 6.

Surgeon John Godfrey, upon being relieved by Surgeon J. J. Kinyoun, to proceed to Wilmington, N. C., and assume command of the service, relieving Surgeon T. B. Perry.

Surgeon Eugene Wasdin, to proceed to Gardner, Ill., for special temporary duty. Bureau order of May 14, directing Surgeon Wasdin to proceed to Gardner, Ill., revoked.

Surgeon T. B. Perry, upon being relieved from duty at Wilmington, N. C., to proceed to Baltimore, Md., and report to medical officer in command for duty and assignment to quarters.

Surgeon R. M. Woodward, granted 10 days' extension of leave of absence.

P. A. Surgeon G. B. Young, granted leave of absence for two months and twenty-two days from May 30.

P. A. Surgeon W. G. Stimpson, to proceed to Guthrie, Okla., for special temporary duty.

P. A. Surgeon J. A. Nydegger, granted leave of absence for one day.

P. A. Surgeon J. B. Greene, granted leave of absence for ten days from May 15.

Asst.-Surgeon Carroll Fox, to proceed to Sitka and Juneau, Alaska, for special temporary duty.

Asst.-Surgeon F. J. Thornbury, relieved from duty at Chicago, and directed to proceed to Dutch Harbor, Alaska, and assume command of the service.

A. A. Surgeon Francis Duffy, granted leave of absence for two days from May 21.

A. A. Surgeon C. F. Ulrich, granted leave of absence for twelve days, from May 14.

Hospital Steward M. R. Mason, relieved from duty at San Francisco, Cal., and directed to proceed to Dutch Harbor, Alaska, and report to medical officer in command for duty.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ending May 17, 1901:

SMALLPOX—UNITED STATES AND INSULAR.

- Arkansas: Prescott, May 8, 5 cases.
- California: San Francisco, May 4-11, 3 cases.
- Colorado: Forty counties, April 30, 430 cases.
- Illinois: Chicago, May 4-11, 9 cases; Freeport, May 4-11, 2 cases.
- Iowa: Clinton, May 4-11, 1 case.
- Kentucky: Lexington, May 4-11, 8 cases.
- Louisiana: New Orleans, May 4-11, 10 cases.
- Massachusetts: Boston, May 9, 1 case; New Bedford, May 14, 1 case.
- Michigan: Detroit, May 4-11, 1 case; Grand Rapids, April 29-May 11, 6 cases.
- Nebraska: Omaha, May 4-11, 18 cases.
- New Hampshire: Manchester, May 4-11, 8 cases.
- New Jersey: Camden, May 4-11, 1 case; Newark, May 4-11, 3 cases.
- New York: New York, May 4-11, 107 cases, 19 deaths.
- Ohio: Cincinnati, May 3-10, 8 cases; Cleveland, May 4-11, 32 cases; Dayton, May 4-11, 1 case.
- Pennsylvania: Philadelphia, May 4-11, 3 cases; Pittsburgh, May 4-11, 7 cases.
- Tennessee: Memphis, May 4-11, 27 cases, 2 deaths; Nashville, May 4-11, 8 cases.
- Washington: Tacoma, April 27-May 4, 2 cases.
- West Virginia: Huntington, April 13-May 11, 27 cases.
- Wisconsin: Milwaukee, May 4-11, 1 case.
- Porto Rico: Ponce, April 22-29, 3 cases.

SMALLPOX—FOREIGN.

- China: Hongkong, March 23-April 6, 22 cases, 17 deaths.
- Colombia: Panama, April 29-May 6, 4 cases, 1 death.
- France: Paris, April 22-27, 20 deaths.
- Germany: Bremen, April 13-20, 1 case.
- Great Britain: England—Sheffield, April 13-20, 1 case. Scotland—Glasgow, April 26-May 3, 3 deaths.
- India: Bombay, April 8-16, 6 deaths; Calcutta, March 23-April 13, 339 deaths; Karachi, April 7-14, 3 cases, 3 deaths; Madras, March 30-April 5, 5 deaths.
- Italy: Naples, April 22-29, 149 cases, 30 deaths.
- Russia: St. Petersburg, April 13-20, 13 cases, 1 death.

YELLOW FEVER.

- Cuba: Havana, April 28-May 4, 1 case.

CHOLERA.

- India: Bombay, April 8-16, 3 deaths; Calcutta, March 23-April 13, 194 deaths.

PLAGUE.

- China: Lam Ko district, Feb. 14-March 26, 10,000 deaths.
- India: Bombay, April 8-16, 681 deaths; Calcutta, March 23-30, 2557 deaths; Karachi, April 7-14, 229 cases, 214 deaths.
- Japan: Nagasaki, April 19, 1 case, 1 death, on Japanese steamship Taichu Maru.

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Address.

THE PRESIDENT'S ADDRESS.

DELIVERED AT THE FIFTY-SECOND ANNUAL MEETING OF THE
AMERICAN MEDICAL ASSOCIATION, HELD AT ST. PAUL, MINN.,
JUNE 4-7, 1901.

BY CHARLES A. L. REED, A.M., M.D.
CINCINNATI, OHIO.

In approaching the discharge of my duties as presiding officer of the fifty-second session of the AMERICAN MEDICAL ASSOCIATION, I beg to express my appreciation of the generous suffrages by which I have been called to a position of such conspicuous honor. This appreciation becomes all the more pronounced when I reflect upon the magnitude and achievements of this great national body and upon the luster of the distinguished men who have presided over its deliberations. This thought brings me to the first duty of the occasion, and that is, officially to bring to your attention the fact that since our last reunion three of my most illustrious predecessors have been called from their worldly activities to the realm of rewards. Alfred Stillé, Lewis A. Sayre and Hunter McGuire, each a former President of the Association, died within a single week. Their lives were known of men, their records are ornaments of our annals, and their achievements are their eulogies. They labored zealously and with beneficent results, not alone in the scientific field, but in behalf of an organized national profession; and to guard zealously the splendid legacy which they, among others, have left us, must be one object of our labors upon this auspicious occasion. The hope is indulged that steps may be taken to procure suitable portraits of these and of other deceased Presidents of the Association, to be placed in some safe gallery until such time as the Association may be able to transfer them to its own Temple of Fame. I recommend that suitable formal action be taken on this occasion relative to the life, distinguished services, and the death of these lamented *confrères*.

FOREIGN RELATIONS OF THE AMERICAN MEDICAL ASSOCIATION.

The AMERICAN MEDICAL ASSOCIATION accredited delegates during the last year to several foreign medical conventions, notably the International Medical Congress at Paris, the Dominion Medical Association of Canada, the Mexican National Association and the Pan-American Medical Congress at Havana. To each of these organizations the AMERICAN MEDICAL ASSOCIATION sustains relations of peculiar intimacy. As one of the great scientific nations of the earth, the United States is naturally an integral part of the International Medical Congress. This Association, by a resolution presented by your present executive officer, took the initiative in 1891, in organizing the Pan-American Medical Con-

gress. The first reunion of that Congress was held in Washington in 1893, under the presidency of the late lamented Dr. William Pepper. The second was held in the City of Mexico in 1896 under the presidency of Dr. Carmona y Valle, while the third has been held during the last few months in the City of Havana under the distinguished presidency of Dr. Juan Santos Fernandez. This movement has for its object the establishment of closer relations between the medical profession of the different countries of the Western Hemisphere. It has already borne excellent fruit in the increased patronage of our medical schools from the far south, in the improved status of American medical practitioners in Latin America, in a better understanding of quarantine questions in the different countries, and in the development of a concert in the investigation of the medicinal flora of the Western Hemisphere. Our relations with the medical profession of Canada must be of increasing intimacy, and I indulge the hope that while maintaining the national limitations of our Association for delegate and legislative purposes, its membership, with the privilege of participating in all scientific matters, may be freely opened to our brethren who live beyond our immediate borders.

FISCAL AFFAIRS AND THE JOURNAL.

It has passed into unwritten law, born of the gradually developing features of our organization, that your President shall restrict his annual address to a discussion of the affairs of the Association and to the great object to which, by the terms of its Constitution, it stands consecrated—"the common interests of the medical profession in every part of the United States." In compliance with this rule, and realizing that I am leaving scientific questions to be presented by orators appointed for the purpose, I have pleasure in calling your attention to the satisfactory condition of the affairs of the Association, as indicated by the consolidated report of the Treasurer and of the Board of Trustees. From it you will observe that under the judicious management of your Board of Trustees you had a cash balance at the end of the last fiscal year of \$31,004.67, being an excess of \$3,696.66 over the preceding year. Your plant has been increased in value to the amount of nearly \$10,000.00, and the net profits of THE JOURNAL amounted to nearly \$14,000.00. You will be gratified to realize that, in addition, you have safely invested as part of a fund with which to buy a home for THE JOURNAL and for the Association, the respectable sum of \$25,000.00. If, however, you have occasion to feel satisfied with the normal condition of your finances, you must contemplate with pride the rapid increase of your Journal, in quality, size, circulation and influence. The average weekly circulation grew, during the last fiscal year, from 13,672 to 17,446, and I have added pleasure in informing you that, since the period covered by the

report, the weekly circulation has grown to 22,000 copies. For the accomplishment of these splendid results, I feel that you will join me in hearty acknowledgment, not only of the sagacious management by the Board of Trustees, but the tireless industry and the discreet direction of our accomplished editor, Dr. George H. Simmons.

I feel that it is important, however, to call your attention to the fact that it would have been impossible for your Board of Trustees to have accomplished these results if, through its action, the Association had not become incorporated. Leases were to be executed, purchases were to be made, contracts were to be entered into, money was to be loaned, and bonds were to be exacted, to do all of which it was necessary that the Association should become a legally organized corporation. This was effected, *ad interim*, by the action of your Board of Trustees, which procured articles of incorporation under the laws of Illinois, bearing date of April 14, 1897. I am not aware that this fact, attested by the document which I have laid before the Executive Committee, has ever been confirmed by the vote of the Association. I recommend, therefore, that such action be taken at the present session.

If, however, the condition of the Association, and particularly of THE JOURNAL, is, on the whole, occasion for much satisfaction, certain facts revealed by the report are food for thought. Thus, THE JOURNAL has an aggregate circulation two and one-half times greater than the aggregate membership of the Association. It would seem, therefore, that while the profession at large prizes THE JOURNAL, it places relatively less than half as much value upon membership in the Association. This fact becomes strikingly significant when it is remembered that membership can be acquired by those who are eligible at no additional expense and with but trifling inconvenience. Does THE JOURNAL fulfill all the wants of the profession arising in connection with the Association? Are there no additional advantages to be derived from membership? Is there a lack of *esprit du corps*—a lack of the sense of unity in the profession? Is the existing basis of our national organization distasteful to the majority of the practitioners? Do our subscribers embrace a considerable number of practitioners who, under existing rules, can not become members, and whose influence, therefore, cannot be secured in behalf of the Association? These are questions that I am at liberty to ask, and that you are at liberty to answer.

Another thought suggested by the report relates to the disposition of the accumulating surplus. Shall the present policy for creating a fund for the purchase of property be carried out? Shall a larger proportion of the money be expended in still further exploiting THE JOURNAL? Shall the members receive a direct advantage from the earnings of the property which they have created, by reducing the annual dues, or shall a certain proportion of our surplus be expended in conducting original scientific investigations on subjects of universal interest to the profession? I cannot resist the temptation in this connection to venture replies to these questions far enough to say that, in my opinion, a reserve should be held in hand large enough to meet any possible contingencies that might occur by fire or other disaster in connection with THE JOURNAL; that the present generous policy in promoting the welfare of THE JOURNAL should be continued; that the dues of the Association should not be decreased; and that the question of establishing and defraying the expenses of certain commissions for special scientific investigators should

be taken under serious consideration. The question of tuberculosis is not yet a closed chapter. The causation of cancer is yet a sealed mystery. The problems of tenement-house reform are not yet solved. The prevention of various endemic diseases has not yet been made practicable. The systematic investigation of the American medicinal flora, begun under the auspices of this Association more than forty years ago, remains an uncompleted task. These are a few among the many objects of a specific character which demand and should receive the fostering care of the Association.

I feel, however, that at the present moment, and under the existing features of our organization, it would be almost impossible to determine, judiciously, either of these very important questions, and I now bring them before the Association only for the purpose of directing attention to them, with the hope that they may be taken up subsequently and under more auspicious circumstances.

SCIENTIFIC WORK OF THE ASSOCIATION.

The Association began its career with general meetings devoted chiefly to questions of medical education and professional conduct, and to lengthy reports from various standing committees. In 1860 it divided itself into a few sections, each with a certain autonomy, and each devoted to a particular part of our great scientific work. This change was followed by the establishment of the Judicial Council, by which means controversial questions, many of them of a personal character, were eliminated from the general meetings. The subsequent creation of the Executive Committee still further relieved the general meetings of annoying details. Thus relieved, both the general meetings and the sections have grown in scientific importance, emphasizing the persistence of our devotion to what must ever be recognized as the essential, fundamental object of our organization—the cultivation of the medical sciences. It must be acknowledged, however, that great as has been the progress in this particular, too much of the time of our general sessions is yet devoted to the consideration of matters which might, with propriety, be relegated for final action to a smaller body. It would redound largely to the interest of our annual session if the general membership could be entertained and instructed at our general meetings by exercises of a more purely scientific character, of such broad nature that they should not be restricted to any of the sections. A reform in this particular will be a long step in the direction of progress. The sections, in consequence of the faithful labors of their officers, offer strikingly attractive programs for the present session. In several of the lists will be found the names of invited guests who, through fortuitous circumstances, are not members of the Association, but who are, nevertheless, active workers in the scientific field, and whose participation in our labors will enrich the value of our proceedings and enhance the felicities of the occasion. I bespeak for them your cordial welcome. While the officers of sections and your President have exercised the prerogative of inviting guests, who come as guests, and not as members of any class as specified by the Constitution, such invitations have been extended solely with the object of advancing the interests of the Association. I look upon this privilege, which has been exercised by all of my predecessors and by previous officers of sections, as one of extreme importance, and one which should be continued under any plan of reorganization which may be adopted. It is my conviction, however, that the privilege should be hedged about by certain

limitations, one of the most important of which should be that an invitation should not be extended a second time to any person residing within the United States whose professional qualifications may entitle him to membership. With reference to the invitation of persons identified with the allied sciences, the matter should be left absolutely to the discretion of the President of the Association and with the officers of sections.

CONGRESSIONAL AND STATE LEGISLATIVE AFFAIRS.

The AMERICAN MEDICAL ASSOCIATION, during the first fifty years of its existence, exerted relatively little influence upon legislation, either state or national. Since the Standing Committee on National Legislation and the National Legislative Council of delegates from the state societies have been established, and have become coöperative, there is some evidence that the voice of the profession is heeded at Washington. The experience of the splendid committee of the Association, acting in concert with the National Legislative Council during the last year, has, however, shown the serious necessity for more thorough organization in protecting the interests of the profession, and the interests of society as represented through the profession. The inefficiency of our present organization for influence upon Congress was shown in the inability of your committee, notwithstanding its strong *personnel* and the influences at its command, to prevent the degradation of the army medical service. This was accomplished by the passage of a bill under the championship of Senator Hawley, by the terms of which the medical corps of the army is subjected to unfair and humiliating discrimination. This law grades the medical department for rank, promotion, and, in consequence, for pay, below every other department and special corps of the army, and, with the exception of second lieutenants, it is graded below the line. In accordance with its provisions, a medical officer, to obtain a colonelcy, must pass through three times as many files as an officer of either the Quartermaster's, the Subsistence or the Pay departments; more than twice as many as an officer of Engineers or of Ordnance, and nearly twice as many as an officer of the Signal Corps. The effect of this discrimination is not only to lower the rank and pay of medical officers, but must result in lessening the efficiency of the corps by repelling men of spirit and worth.

In every war known to history the deaths from preventable diseases have exceeded those due to battle. At no time has hygienic science been so resourceful as at present in preventing disease. A law which fails to give to armies, either in peace or in war, the fullest protection by the application of the latest scientific developments at the hands of specially trained medical men is unjust to the soldier, to society, and to the medical profession. In view of these facts, the army reorganization law of the last Congress was inexplicable and inexcusable. It, however, forces itself upon your consideration from another standpoint. Physicians are citizens of the Republic. As such they are intellectually, socially, politically and officially the equals of any other element of the body politic. There is no station to which they may not attain; there is no distinction of which they may not be the recipients. Their rights are of manhood origin and their prerogatives are inherent. They are, in every fact, peers of the realm, and the peers of any peers of any realm. When the status of any number of physicians in their representative relationship to society is lowered, the status of the medical profes-

sion in general is menaced in corresponding degree. When the Congress, by the enactment of a law, degrades, relatively, the status of an important body of medical men, engaged in the public service, it strikes at the status of every physician in the country. It becomes, therefore, the duty of every member of the medical profession, jealous of his rights, his prerogatives, and the fair name he may leave his children, to resent as personal between himself and every member of the Congress who voted for this law, the action which cast a stigma upon our profession.

It has been the conviction of many enlightened members of the medical profession that the means employed by the general government for the protection and promotion of the public health are capable of improvement. These duties have devolved upon the Marine-Hospital Service, which was originally designed to give succor to unfortunate people, without other domicile, who were employed upon our rivers, lakes, and the high seas. With the growth of sanitary science this service, being the only established agency available by the government for this purpose, has been largely diverted from its original object. As a result, under the present wise administration of its Surgeon-General, its representatives are abroad investigating the sanitary condition of foreign cities, its agents are at our ports beating back threatened epidemics, while valuable investigations are being conducted in its laboratories. In the exercise of its quarantine functions, however, it comes in conflict with the police power that is guaranteed by the Constitution to the different states. The friction thus engendered has been especially marked in the seaboard states. While this is true, the Marine-Hospital Service, in scope and design, does not fulfill in highest degree the objects of a central coördinating agency for the protection of the public health. It was thought to create a Department of Public Health, with its executive officer in the cabinet, but this idea yielded to that of a bureau in charge of a large Advisory Council, composed of representatives from the various states. Resolutions have been adopted and memorials have been sent to the Congress, committees have been appointed, money has been appropriated by this Association; bills have been introduced, and hearings have been had in committee, with the result that the conditions to-day are precisely the same that they were ten years ago, when the agitation was inaugurated in the session of this Association held at Washington.

Secretary Wilson, of the Department of Agriculture, in his report for 1899, recommended that the Congress appropriate money to defray the expense of a systematic investigation of the medicinal flora of the United States, and of experiments upon the naturalization of medicinal plants indigenous to other countries. This recommendation was based upon the fact that the United States is the only great country which either has not conducted or is not conducting such experiments, and upon the fact that the proposed measure, touching the avenues of industry, manufacture, commerce and the public health, was one of national concern. This measure, however, with its manifest importance, was denied even courteous consideration, while its friends were denied a hearing by the committees of the Congress.

The cause of failure on the part of this Association to procure legislation by the Congress—and with the exception of preventing the passage of the Antivivisection bill last year and securing the enactment of the Quarantine bill this year, our recent efforts must be recognized as failures—I say the causes of our failure

are properly subjects for careful consideration. I have examined the records of the Association from the date of its organization, and have been profoundly impressed with the fact that memorials, resolutions, or even more definite propositions addressed to the Congress have, for the most part, represented the views, or rather the impressions, of the individual members proposing them. They have generally been presented in the general meeting, and have been endorsed without the deliberation essential for wise action; but a deliberation which is simply impossible in the limited time available in our general meetings. In certain instances memorials to the Congress have been presented at one session of the Association, have been reported to committees and reported back for action, either at a later meeting of the same session or at the succeeding annual session of the Association. But it becomes evident that this course lessens the evil but a trifle, for the reason that the committees to which such matters were referred have been constituted either under the leadership of the member proposing the measure or of members of a standing committee who had no interest in or understanding of the proposed measure. Such memorials, resolutions or propositions, when acted upon affirmatively by the general meeting of the Association, have, possibly, been mailed to some member of Congress or of a Legislature, but were not followed by effective work in the rank and file of the profession or among their patrons. When such bills have been presented to the Congress, and have received a certain amount of support from representatives of this Association, they have, as a rule, attained only that degree of importance that have made them valuable to their ostensible champions, as something to trade in the game and barter of legislation for something which would please a larger number of constituents and command a larger number of votes. In view of the fact that, after all, the argument of votes is the only one which appeals effectively to the average Congressman, it behooves this Association, in its efforts to conserve the interests of the profession and of society, to put itself in position to influence the largest number of votes. Every physician, therefore, should, in a perfectly respectable sense, become an active working politician. This subject, however, is of such breadth and of such depth that it may be well for us to pause at this juncture long enough to consider, from the standpoint of fundamental facts, the relationship of physicians to each other, and of the medical profession in the aggregate as an integral factor in society.

THE PROFESSION, THE ASSOCIATION AND THE COMMONWEALTH.

In approaching a study, however brief, of the relation of the medical profession to the state, or, as I prefer to call it, the commonwealth, I feel that I am inviting your attention to an eminently practical theme; one which may enable us to understand the influences by which we have arrived at our present estate, and the means by which we may advance to even greater achievements. As we approach this theme—this eminently practical theme—we discover that the status of the medical profession, like that of every other element of that complex whole which we call society, is a perfectly natural one. Whatever it may be, it has been attained in the process of evolution, and has been, and is determined, by laws as immutable as those which govern the commingling of atoms or the sidereal strides of the planets. It is not the result of conventions or of resolutions or of statutory enactments: but these are to be

interpreted rather as *indicia*, for the time being, of the position of the profession in the body politic. They are, indeed, consequences rather than causes, and as such they are subjects for careful inquiry. It is by a study of them that we are enabled in part to determine those laws, those natural laws, our harmony with which is essential, not alone for the present usefulness and continued progress of the profession but for the ability of the medical profession to conserve the welfare and promote the happiness of society at large.

But I have said that the position of the medical profession is a natural one. The truth of this declaration is apparent when we go back to the beginnings of society—when we examine the evidences presented by primitive peoples. We are familiar with the classic example so frequently utilized as a starting point in the discussion of sociologic phenomena—the example of the two aborigines, one of whom makes better arrows, and the other better mats than his companion, when, presently, one confines himself to arrows, the other to mats, each trading his own for the other's product. Here is an example of the beginning of what the scientists call "specialization of function in the social organism." It is an interesting process, which, based upon varying necessities and diverse aptitudes, results in multiplication of handicraft until somebody is hurt. This is a new necessity, and it is met by a new aptitude, and the possessor of that aptitude—the medicine man, our honored progenitor—steps upon the scene. His companions, appreciating his services, reward him with their arrows and mats; and he, finding the life to his liking, restricts himself to his new-found vocation—and the medical profession is established! As the necessity for his services, whether of charm or incantation, becomes more apparent, the esteem of his fellows becomes more pronounced. As events progress he is accorded certain rights, given certain prerogatives and hedged about by certain limitations, all calculated to increase his efficiency in promoting the common welfare—and thus is the practice of medicine regulated. He is spared from the battle that he may serve his companions, and he stays away from the chase that he may delve into the great mysteries—and thus is medical education inaugurated. He is the exponent, not only of his professional knowledge, but of at least the average intelligence of his people. He is, in short, an integral part of the primitive social fabric. As such, he shares the manners, the customs, the aims, the ambitions of his companions; and he, with them, is controlled by the forces which determine the common state and the common destiny. His status is, therefore, determined by the very laws which control the growth and development of society itself. So true is this that, from the dawn of history until the present day, and in every stage of sociologic development, the civilization of a people may be infallibly determined by the intelligence, the efficiency and the influence of its medical profession.

THE MEDICAL PROFESSION AND SOCIETY FIFTY YEARS AGO.

It would not be to our present purpose to follow the evolution of society as exemplified in any of the civilized people, or, as the scientists say, "distinct ethnic entities of the world," in which the present complexity has been attained by an orderly succession of events. And it would be equally unnecessary to show, what everybody knows, that the medical profession, the heritor, in common with others, of antecedent influences, has been propelled by the same forces and by equally orderly events to precisely the same standard of civilization. The les-

son before us is that of the relation of the medical profession to a society, which, but a few decades ago, was the most diverse in origin and the most heterogeneous in constitution known to modern history; but a society which at the dawn of the twentieth century is one of the largest, richest and most intelligent of the world, a society well amalgamated, and which by common consent of even adverse critics is moving in harmony with the most advanced influences of civilization. I fancy I should suddenly find myself unpopular with the audience if I were to intimate that you, who comprise it—that you, the representatives of the medical profession—have failed to contribute your full quota to the great progress which that society in general has achieved, or that you do not reflect in intelligence and morality the highest type of civilized man. I hasten to allay your apprehension, for I have no such intention. On the contrary I ask you to indulge with me in a retrospect of American society during the last half dozen decades that we may the better understand the important part that you, and the profession that you represent, have played in the attainment of present results.

As I have already stated, the middle of the nineteenth century found diverse conditions of society in the United States. The older cities of the seaboard were the centers of an advanced civilization. The remoter counties of the same state, however, were then, in the absence of railroads, the telegraph and modern mail facilities, more remote from the centers of American influence than is St. Paul to-day from St. Petersburg. The great tide of emigration that had already poured and was yet pouring over the mountains and spreading in lonely habitations or widely separated communities over the vast valley of the Mississippi from the lakes to the gulf was busily engaged with the serious problem of existence. The forest was to be felled and the prairie was to be subjugated, habitations were to be built and crops were to be raised. In the midst of these exactions, institutions of higher learning were established, and to an extent patronized, and some strong men were produced. But it must be recognized as true that society in general had but little time and less money to devote either to schooling or to the amenities of life. The medical profession, under these circumstances, was precisely like the community of which it was a part. There were but few medical colleges, and they, for the most part, were but meagerly equipped. Many doctors became such while going from one town to another. Ignorant inventors of alleged systems of cure hawked their wares in the highways and the by-ways. Dogmatism that was destructive to intelligence was rampant, while schism was fostered by the baneful commercialism that too generally pervaded the heterogeneous mass of forty thousand people that comprised the medical profession. In eight of the twenty-six then existing states no laws affecting medical practice had ever been enacted; in eleven, laws previously enacted had been repealed; in three only were there any restrictive laws, and these proved inefficient; while the facts could not be ascertained relative to the remaining four states.

THE ERA OF ATTEMPTED VOLUNTARY REGULATION OF MEDICAL PRACTICE.

To remedy these evils, and actuated by the love of science, the promptings of self-interest, and by devotion to the interests of humanity, representatives of the various state medical societies met in convention over half a century ago and organized the AMERICAN MEDICAL

ASSOCIATION, with the avowed object of having its members represent and take cognizance of "the common interest of the medical profession in every part of the United States." It sought to cultivate medical knowledge among its members, to elevate the standard of medical education, to promote the honor and influence and interests of the medical profession, and to enlighten the public concerning the relation between the medical profession and society. Emulation and concert of action in the profession and friendly intercourse among those engaged in it were additional aims of the founders of this great body of representative American medical practitioners. A constitution, by-laws and certain rules of conduct were adopted. The Constitution provided for a delegate body, delegates being accredited from recognized medical societies, medical schools and eleemosynary institutions. The rules of conduct prescribed in detail the deportment of a physician, the deportment of the patient, interdicted the licensure of sectarian physicians, and proscribed from consultation those whose practice was based upon an exclusive dogma. The influence of the new Association was extended chiefly through the avenues of the various state societies, many of which adopted the rules of conduct that had been prescribed by the newly formed national body as the basis of affiliation. Several of the state societies, notably those of Massachusetts, Rhode Island and Mississippi, finding either that the prescribed rules of conduct were not suitable to their respective local conditions, or feeling that they were sufficiently in touch with the ordinary forces of civilization to require no such formulæ, never adopted the rules of conduct prescribed by the national body. The medical association of Alabama adopted the rules with rather a *naïve* proviso that somebody be appointed to call attention to such of the special teachings of these rules "as may seem to require elucidation in view of special circumstances and conditions." Other state societies adopted more or less modifying resolutions, but the general spirit of ostracism and aloofness was maintained during the succeeding three decades. The result of this movement was immediately salutary; it developed an *esprit du corps* in the great body of the profession; it gave an authoritative definition to medical education, and it created a strong and influential national body within the profession. At the same time, however, it became apparent that the organization did not possess the necessary inherent strength to accomplish its avowed object to regulate the practice of medicine. As time passed schismatic medicine grew apace, its colleges multiplied, its practitioners appeared all over the country, exemplifying that law that always makes the blood of the martyrs the seed of the church. Quackery of the most flagrant character was found everywhere, and society was unprotected from its ravages, while the inability of a voluntary unchartered organization to enact and to execute plenary laws was reduced to a demonstration. The medical profession, as an organized body, discovered that its relation to the commonwealth was, as the result of its own proscriptive policy, scarcely more intimate or more influential than at the beginning of the thirty years' hopeless experiment.

THE ERA OF EFFECTIVE LEGISLATIVE CONTROL OF MEDICAL PRACTICE.

The era of effective legislative control of medical practice came as the natural reaction from the demonstrated failure to accomplish the same result through voluntary organization; but it came as the result of the sentiment which had been propagated largely through the influence

of this Association. The representatives of progressive medicine, turning from the National Association invoked the aid of their respective state societies in taking up the question with their respective legislatures. The profession in each state, however, recognizing its own local conditions, proceeded in its own way to attend to its own business. The very earliest attempts to secure state legislation revealed the fact that the so-called irregular practitioners, under the stimulus of ostracism and the fostering care of public sympathy thereby induced, had become so numerous and so influential that in the majority of states nothing could be done without their coöperation. It was no longer a theory, but a condition with which the real reformers were confronted—and they met it. California, in 1876, through its regular medical society, took the initiative. After conferences with the representatives of the sectarian societies, and after securing their coöperation, a law was procured creating a licensing board composed of representatives of both the regular and sectarian schools of practice. Illinois, confronted by precisely the same condition, took precisely the same course. Alabama, always progressive, but the happy possessor of other conditions, was able to place the regulation of medical practice for the time being under the control of its incomparable state medical association. Colorado created a mixed board. New York, confronted by conditions even more complicated than those in other states, took up the same task. The profession of that state, acting through its organized body, containing among its members many of the most honored and illustrious names in American medicine, found it doubly necessary to enter into treaty with the denominational physicians. It realized, however, that the rules of conduct to which it had always conformed contained, among other provisions, one which made it unlawful to “* * * examine or sign diplomas or certificates of proficiency for, or otherwise be especially concerned with the graduation of, persons whom they have good reason to believe intend to support and practice any exclusive and irregular system of medicine.”

As the thing expressly interdicted by this rule was the very thing which it was proposed to do, and which had been done in other states, and which it was very necessary to do in New York, the medical society of that state amended the rules of conduct so that it or its members might, at discretion, enter into professional relations with any or all persons whom the law of the state at that time recognized to be practitioners of medicine. When this action was brought to the attention of this national body it resulted, not as might have been expected, in the amendment or the abrogation of the rule which had grown obsolete in the march of events, but in its tacit reaffirmation and in the opprobrious excommunication, for the time being, of the entire profession of the great Empire State. This action, viewed impartially after the lapse of nearly twenty years, becomes the more extraordinary when it is observed that similar action was never taken with regard to Massachusetts or Rhode Island or Mississippi, the societies of neither of which had ever adopted the prescribed rules of conduct; nor with regard to California or Illinois or Colorado, each of which had, by overt act, if not by open declaration, so far as this rule is concerned, taken an equally non-conformist position. It is not surprising that, with such an example before the state societies, the experiment in consistency has not been repeated. But the movement of effective regulative legislation, once inaugurated, happily spread with great rapidity. Mixed boards of licensure

are now to be found in the majority of the states of the Union, and in the majority of such boards are to be found members of the AMERICAN MEDICAL ASSOCIATION engaged in issuing licenses to practitioners of exclusive dogmas, and sitting in consultation with sectarian physicians, not over a dose of medicine, but over the vastly more vital question of the qualifications of those who are to care for the sick of our Republic.

THE MEDICAL PROFESSION AND SOCIETY AT THE BEGINNING OF THE TWENTIETH CENTURY.

The results of the twenty-five years of statutory regulation of medical practice are in striking contrast with the results of the quarter of a century of attempted regulations by methods of proscription. At the conclusion of that humiliating experiment, as at the beginning of it, there was not a single effective medical practice law on the statute books of a single state of the Union. To-day there are forty-eight state or territorial licensing boards, the most of them being composed of representatives of both the regular and the sectarian schools of practice. The laws of the different states are of varying efficiency, the one procured by the Medical Society of the State of New York, at the price of yet-maintained excommunication from this body, standing to-day as the model of excellence for the entire country. Under the influence of these laws, instigated by members of the AMERICAN MEDICAL ASSOCIATION, and which, after all, are but expressions of the sentiments of the medical profession confirmed by society at large, many substantial reforms have been accomplished. The medical schools which, in this country, have labored bravely and efficiently under adverse conditions, have been stimulated to increased efficiency. One of the first changes accomplished was the practical standardization of requirements to enter practice; and one of the first features of this standardization was to secure for the student “the aids actually furnished by anatomy, physiology, pathology and organic chemistry”—the four cardinal studies which, strange-sounding as it seems, it was necessary solemnly and specifically to insist upon a half century ago. It follows, therefore, that with broadened and increasingly uniform curricula, it can not be said that schools even of sectarian antecedents entirely “reject the accumulated experience of the profession,” nor can it be said that, in a sectarian sense, they any longer possess an excuse for existence. Their graduates, or such of them as do not base practice on an exclusive dogma, are, in many instances, met in formal consultation by even conservative regular physicians, and, in more than one instance, are made members of medical societies that are in affiliation with the AMERICAN MEDICAL ASSOCIATION.

The Illinois State Medical Society, which has always been among the foremost in reform movements within the profession, at its recent annual session, unanimously

“*Resolved*, That the school of graduation shall be no bar to membership in the Illinois State Medical Society, providing such physician is recognized by the local societies as qualified and not claiming to practice any exclusive system of medicine.”

The Ohio State Medical Society, by precedent, if not by formal action, established the same rule.

We thus see that the proscriptive rule which, during the more than twenty-five years of its dominance, propagated the very evils it was intended to correct, it rapidly expiring by limitation in the face of new conditions that have been induced, in spite of it, by beneficent and cath-

olic legislation. In the State of New York alone the annual registration of sectarian physicians has diminished nearly 90 per cent. under the operation of its present laws. In the State of Ohio many physicians who are graduates of sectarian schools are making application to have their classification on the register changed to "regular," while equal reactionary movements are observable in other states. Thus we observe the passing of Homeopathy and Eclecticism just as did the calm scientists of Rome witness the passing of the "Humoralism," the "Methodism," the "Eclecticism," and the "Pneumatic School" of that period; and just as passed the "Chemicalism," the "Iatro-Physical School," the "Iatro-Chemical School," and the "Brunonianism" and the dozen other "isms" of later epochs, each leaving its little modicum of truth as the memento of its existence. And let us felicitate ourselves that, with the passing of the particular sectarianism of the last century, there is also the passing of its concomitant evils, such as existed in even greater degree in the time of Galen, who "found the medical profession of his time split up into a number of sects, medical science confounded under a multitude of dogmatic systems," and, as if relating the effect of the cause, the historian continues, "the social status and the moral integrity of the physician degraded." The further results of this new order of things, however, are observable, not alone in the modified curricula of the medical schools, but in the changed organic relations of the institutions themselves. Under the pressure of legal requirements the weight falls with almost fatal force upon the small, private and poorly equipped institutions. These institutions, in the interest of self-preservation, and to protect a respectable alumni, are forced either to expand their enterprises or to seek relations with universities which are deeply founded in the community; or else actually to go out of existence. The majority of the schools seek connection with the universities, by which step alone they become logical objects for endowment, and it is to be hoped that this movement will continue until in this great country medical education shall be as firmly established as it is to-day in any of the transatlantic nations.

Another of the new conditions which has developed within the last quarter of a century, as the result of an increasing professional unity, is the efficient sanitary regulations, national, state and municipal, that now afford protection to the people from diseases that were formerly devastating in their effects. It is not necessary in this audience to mention smallpox, cholera, typhoid fever, diphtheria, anthrax, leprosy and the bubonic plague, each of which has been brought under relatively effective control, but I do feel that it is necessary to emphasize the fact that there are many unsolved problems relating to the prevention of disease that stand as a challenge to the industry, the ingenuity and the courage of the profession. While these various changes have taken place, others of almost equal importance are observable in the relations of physicians to society. While the community, instigated by the medical profession, has given to that profession a legal status, definite and increasingly influential, and has given it certain prerogatives and certain exemptions, it has, likewise, hedged it about with certain limitations and imposed upon it certain liabilities. There are numerous laws, both common and statutory—*lex non scripta* and *lex scripta*—that admonish the physician that his conduct carries with it a liability not defined by self-imposed rules, and the numerous courts of our land proclaim that there are tribunals "other than his own conscience to adjudge

penalties for carelessness or neglect" on the part of the physician. So numerous, so unjust, and so disastrous are actions before such tribunals that they have caused the development of a new, legitimate and beneficent enterprise, in the development of a company to insure physicians against malpractice. It may be true that in certain states and localities these laws are unjust, and that there is a grave error in their administration by judges created under our wretched elective system; but if so, the facts only emphasize anew the necessity for more complete organization of the profession and for the more active exertion of its influence upon elections.

THE REORGANIZATION OF THE ASSOCIATION.

This brings us again to a realization of the fact that the results that can be achieved only by the unification of our national profession can not be attained under the present organization of our Association. The disproportionately rapid growth of THE JOURNAL as compared with that of the Association can have no other significance. The weakness of the Committee on Legislation at Washington was a question neither of personnel or of industry, but arose purely from the fact that there was no efficient organization in the rank and file of the profession by which speedy and effective influence could be brought to bear upon members and senators. Equal difficulty has been encountered in several states where organization has been similarly defective. The demand for more effective organization of the Association has come from all over the country and resulted in the adoption of a motion at Atlantic City authorizing the appointment of a committee of three to report a plan of reorganization at this session. Another motion was adopted authorizing the creation of a supplementary committee of one from each state and territory, entitled a Committee on Organization, which has been filled by appointing for the most part the retiring presidents of state societies for the current year. The Committee on Reorganization, consisting of Dr. J. N. McCormack, of Kentucky; Dr. George H. Simmons, of Illinois, and Dr. P. Maxwell Foshay, of Ohio, has given to the important question entrusted to it a most careful and painstaking consideration. It has laid before you the results of its deliberation. In doing so it has emphasized the principle that this Association has its origin in the organized profession of the respective states. It emphasizes the fact that the delegate body should be so small that it can remain in prolonged session and give to various subjects under consideration that deliberate attention which has not been possible under the existing scheme of organization during the last forty years. It recognizes the paramount importance of the scientific feature of our work by relieving the general meetings and the sections alike of the troublesome details that now consume the limited and valuable time of the Sessions. It remedies the glaring and serious defects in the present constitution. It prepares the Association, by perfecting the organization, to meet important and pressing questions. These considerations, together with the fact that the existing constitutional provision relative to delay of action on pending amendments has been met by the appointment, a year ago, of a committee for the avowed and published purpose of reorganization, and by the action of the committee in laying the results of its work before every member of the Association—I say these considerations, and these facts, prompt me to advise the adoption of the proposed Constitution and By-Laws in their entirety at the present annual session of the Association.

The Committee on Reorganization, under the restrictions of the resolution creating it, has, very properly, left undisturbed the existing rules of conduct. These, if construed to have a fundamental importance, and if rigorously enforced as they now stand, would disintegrate the Association in a single day. This reason, and others already given, confirm me in the conviction that such rules should be either amended or abrogated, or, if reaffirmed, it should be by general resolution endorsing their underlying principles but disclaiming the present applicability of their details. There are, however, various views entertained upon this subject, and that the matter may be approached in a spirit of tolerance, that it may be discussed coolly and impartially, that a consensus may be reached, and that harmony may be attained, I recommend that the general questions of the revision of the rules of conduct be referred to a special committee on ethics, consisting of three members, with instructions to report to the legislative body at the next annual session of the Association.

THE NEW SCHOOL OF MEDICINE.

The changes which I have advocated are essential for the attainment of the purposes of the Association and for the fulfillment of the high destiny of our National profession. They are demanded by the changes that have taken place during the last fifty years. The legislative functions have passed from voluntary organizations to the Congress and the legislatures, where they belong; but it still devolves upon the profession in the organized capacity, to stimulate, to restrain, or otherwise to control the law-making power. The responsibility of the profession is increased, rather than diminished. Science has come to have a clearer meaning. He who now proclaims a dogma cries alone in the night, while the world sleeps. They who demand a creed may read its varying terms only in the progressive revelation of natural laws. Practice has changed. The depletions, the gross medications, the absurd attenuations, the ridiculous antimineralism have given way to a refined pharmacy and to a more rational therapy. Sacrificial surgery has yielded to the spirit of conservatism. Prevention is given precedence over cure. Education implies research and discovery, and all may delve. I proclaim, events proclaim, the existence of a new school of medicine. It is as distinct from the schools of fifty years ago as is the Christian dispensation from its Pagan antecedents. It is the product of convergent influences, of diverse antecedent origin. It acknowledges no distinctive title, it heralds no shibboleth. It is a school of human tolerance, of personal independence, of scientific honesty. It is the slave of neither prejudice nor preconception, and abandons the accepted truth of yesterday, if it only be the demonstrated error of to-day. It places no premium upon personal prerogative, and extends no recognition to individual authority. It makes no proclamation of completeness, no pretention to sufficiency. It recognizes that truth is undergoing progressive revelation, not ending to-day, but continuing through the ages. It yields its plaudits to achievement, and recognizes that he is the greatest among men who reveals the most of truth unto men. It greets as a friend him who thinks, though he think error, for, thinking, he may think truth and thereby add to the common fund. It heeds all things, examines all things, judges all things.

To you, the exponents of this new school, of this new generation, of this new century; to you, representatives of the Democracy of Science; to you citizens of the

Republic of Letters, I extend greetings; and here, in our parliament assembled, here, where our will is supreme, I this day invoke upon our deliberations the spirit of liberty, the spirit of courage, the spirit of progress, the spirit of truth.

Orations.

INTERNAL MEDICINE IN THE NINETEENTH CENTURY.

ANNUAL ORATION IN MEDICINE, DELIVERED AT THE FIFTY-SECOND ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION, HELD AT ST. PAUL, MINN., JUNE 4-7, 1901.

N. S. DAVIS, JR., M.D.

CHICAGO.

It is one of the duties of those who address you, as I do to-day, to review what has been newly discovered in the field of medicine or in some limited department of it. At this first meeting of the AMERICAN MEDICAL ASSOCIATION in the twentieth century, it seems most natural to review what has been accomplished in the last one hundred years. The time at my disposal is too brief to read to you a complete history of the achievements of this wonderful epoch, for more of genuine advancement has been made in medicine during it than during all the preceding centuries together. It is only possible for me to point out some of the reasons for the rapid development of medicine, to recall to your minds some of the most important discoveries and applications of them.

A century is not so long a time as we are apt to think. Our grandfathers were vigorous men, in the prime of life, when the nineteenth century was born. Yet changes so great that they seem miraculous have occurred since then. In 1800 this great country was a wilderness, unknown even to the inhabitants of the few straggling settlements upon the Atlantic coast. Our land contained no great cities. There was little travel from place to place. There were no steamboats nor railways; no telegraphs nor telephones. Information traveled slowly by packet ship, canal boat, and stage coach. The discovery of the wonderful properties of the *x*-ray could not then have been flashed over the world in a day and its genuineness and utility confirmed within a few weeks by experiments made simultaneously in all parts of the world, as did happen at the close of the century. To-day all civilized peoples are so united that knowledge has become the common property of them all. In former epochs geniuses delved alone, inspired only by their own enthusiasm. Often, it was many years before their discoveries became widely known or appreciated; and many more before another genius standing upon land already found ventured upon its exploration.

All this has been changed. Learning is not possessed by a few but by many. In earlier epochs men of genius towered above their contemporaries in learning. To-day thousands crowd about their shoulders, so much higher is the average of learning. All scientific workers are now linked together by the rapid dissemination of news, so that no matter in what part of the world they may be, they are kept conversant with what is being thought and done in every other part and they are thereby inspired to greater mental efforts.

Knowledge is no longer isolated. It is cultivated in centers too numerous to count. Even in this new land

universities with great libraries, finely-equipped laboratories, and corps of brilliant teachers and seekers after new knowledge, are found in every part of it. Medical societies have been organized in every state and city, and in many counties and towns. But at the beginning of the century there were only four medical schools in this country, and four state societies, organized for the advancement of medical knowledge.¹

These changes have been effected chiefly by the rapidity of communication which has been established in all civilized lands and by the greater concentration of the people in large cities.

But it is not in the United States only that the population has increased and concentrated. In 1801 the total population of England and Wales was less than 9,000,000. Of this number more than half lived in the country. At the end of the nineteenth century the population of the same countries was more than 29,000,000, and only one-fifth of this number lived in rural districts. These figures attract our attention to the social changes which have occurred in all civilized lands—changes which have effected not only a greater diffusion of knowledge but have also modified the conditions which produce and limit disease.

DIAGNOSIS.

At the opening of the nineteenth century, "Cullen's Practice of Physic," written late in the preceding century, was the standard text-book. A glance at its contents will give us the clearest conception of the state of medical knowledge at that time. In an edition of this work printed in New York City in 1806 I find no description of structural diseases of the heart; even as a complication of rheumatism heart disease is not mentioned. A single page is devoted to nephritis, but in its description there is no mention of the chemic and microscopic changes in the urine upon which we depend to recognize it and to distinguish its forms. The affections of the respiratory organs were described with similar crudeness, under such chapter headings as "Of Catarrh," "Asthma," "Pneumonic Inflammation," "Peripneumonia Notha," and "Phthisis Pulmonalis," but the catarrhal inflammations of the nose, pharynx, trachea and bronchi were not differentiated from one another, nor were catarrhal and croupous pneumonia, brown induration, hypostatic congestion and edema of the lungs described.

The speculative explanation of diseases and their causes which prevailed at that time is well illustrated by the conclusion reached by Noah Webster, who in his "History of Epidemics and Pestilential Diseases," writes that typhus and nervous fever are due to "conversion of the perspirable fluids of the body into septic matter."

Nothing will help so much to make clear the progress made in medicine in the last century as to compare the resources at the disposal of physicians of our day with those commanded by our grandparents. At the opening of the nineteenth century medical men knew nothing of the clinical thermometer, of percussion, auscultation, uranalysis, clinical microscopy, laryngoscopy ophthalmoscopy, of the sphygmograph, or Roentgen rays.

It was not until the year 1808 that Corvisart spread widely a knowledge of percussion as a means of discovering the physical status of the viscera, although the work of Avenbrugger which he translated and which

was the original description of percussion, had been published nearly fifty years before. The work of Avenbrugger and Corvisart was supplemented in 1819, when Laennec published the result of his labor with the stethoscope which he invented four years earlier. From this time dates our clinical knowledge of diseases of the lungs and heart.

In 1827 Bright pointed out the relationship of albuminuria, dropsy and diseases of the kidneys. At this point clinical chemistry may be said to begin.

At the beginning of the nineteenth century, compound microscopes were almost useless, for the images which their lenses made were so distorted and colored that they could not be properly interpreted. In 1812 Dr. William Hyde Wollaston combined two plano-convex lenses so as to correct the spherical aberration which a single double-convex lens produces; and nearly twenty years later Joseph Jackson Lister discovered the utility of combining lenses of crown and flint glass in order to produce an image in the microscope relatively free from distortions and fringes of color. The more recent invention of the oil immersion lens has made bacteriology possible and has solved many of the problems of infectious diseases which puzzled even our fathers in the fifties and sixties.

The dependence of medicine upon ancillary sciences is well illustrated by the sudden birth and rapid development of new branches of medical knowledge which are dependent on the perfection of the microscope.

This instrument has made histology, embryology, modern pathology and bacteriology a possibility. These departments of science are altogether products of the last century:

It was at the beginning of the century that Bichot divided the structures of the body into what he called "tissues" and showed that there were only a few of them. It is surprising that the great anatomists before him did not make the same discovery.

PHYSIOLOGY.

As modern anatomy has been dependent upon the microscope in order to explain structure, so physiology has been dependent upon experiments on living animals to explain function. It is true that in earlier epochs at considerable intervals of time experiments upon living animals were made, notably by Harvey, when he studied the circulation of the blood, but they were never made systematically until the discovery of anesthesia in the nineteenth century made them painless. No wonder, therefore, that the explanations made by physiologists in 1800 seem to us extremely crude. Haller, for instance, whose printed lectures formed the text-book of most students at that time thus describes the nature of blood: "Hydrostatical experiments demonstrate in the blood first a kind of volatile vapor or exhalation which immediately and continually flies off from the warm juice with a sort of fetid odor coming betwixt that of sweat and urin. This vapor, being caught and condensed in proper vessels appears of a watery nature joined with a small tincture of an alkaline disposition."

A few pages further on what he says of the blood gives us an idea both of the state of physiologic and pathologic knowledge at that time: "For the blood in a sound healthy state, not injured by putrefaction or too violent a degree of heat, is neither alkaline nor acid, but mild and gelatinous and a little saltish to the taste; yet in some diseases it is sharp enough and comes near to a state of putrefaction, as for instance in the scurvy, when it corrodes through its containing vessels and in

1. The colleges were medical departments of Pennsylvania, Columbia, Harvard and Dartmouth (founded 1797). The societies were New Jersey (1766), Massachusetts (1781), Connecticut and New Hampshire (1791).

those who have ascites or dropsy whose waters are often much of an alkaline and corroding nature."

At the close of the eighteenth century the part which gland cells play in forming secretions was not comprehended. It was believed that "the albuminous or hardening juices are separated almost everywhere from the arteries themselves, into continuous excretory canals, without any intermediate organ or machine betwixt them." It was believed that all excretions existed primarily in the blood.

The physiologists of this period appreciated the importance of the lungs and the act of respiration, but their exact use they did not comprehend. Haller enumerates several possible functions which they might perform, yet he did not feel sure that any one of them was the real one. For instance, he says: "Our blood acquires its heat principally in the lungs, for that all animals which have lungs and two ventricles in the heart have the heat of their blood commonly twice that of the atmosphere. But does not this arise from the alternate extension and contraction, relaxation and compression of the pulmonary vessels by which the solid parts of the blood are perpetually rubbed together and closely compressed in the attrition that is made during expiration, as it is more rapidly moved and ground together during inspiration."

Our forefathers one hundred years ago often endeavored to hide their ignorance in long names and resounding phrases, a common practice, indeed, in all times and not wanting to-day, for how much ignorance will our successors find hidden in words now so commonly used as are metabolism and autointoxication.

PATHOLOGY.

Pathology as a distinct department of scientific medicine originated in the nineteenth century. It was not until 1860 that Rudolf Virchow demonstrated conclusively his famous dictum: "*Omnis cellula e cellula.*" His studies of cells in disease laid the foundation and did much to rear the superstructure of cellular pathology. So rapidly has a knowledge of this subject grown that we can unhesitatingly say that we now possess very accurate and detailed information as to the anatomical changes which disease effects. The insight of physicians was so greatly extended into the nature of morbid processes by these pathologic studies that enthusiastic devotees of them felt that the application of the microscope to the study of disease would dispel its mysteries. Increasing information, however, soon demonstrated the limitations which exist as to knowledge derivable from a study of morbid anatomy. Most of us remember how, soon after the birth of bacteriology, it was also hoped that from it at last we would learn the true essence of disease. But we know now that in most ailments after the bacteriologist has discovered the offending micro-organism the chemist must help us, for it is usually a product of the growth of the organism, not its physical presence in the tissues that causes disease.

The production of disease by parasites imbedded in the tissues of the human body was suspected from early times, but was not demonstrated until the end of the first third of the nineteenth century, when James Paget, then a medical student, found unusual nodules in the muscles of a man whom he was dissecting. These Richard Owen demonstrated to be the cocoon of a minute animal which he called *trichina spiralis*. In 1847 Dr. Joseph Leidy of Philadelphia found them also in pork, and soon thereafter it was shown in Germany

that men could become infected by eating pork containing *trichina*, and that in consequence there developed in them a definite train of symptoms.

In 1837 Latour in France and Schwann in Germany, almost simultaneously propounded the view that fermentation and putrefaction are due to the growth of micro-organisms. Liebig, with all the weight of his authority, antagonized this belief in a "vitalistic" explanation of these phenomena. Pasteur undertook to settle the dispute by methods of research, which proved to be the foundation of a new department of science—bacteriology. The results of his experiments were published between 1857 and 1869. He proved that without micro-organisms there could be no fermentation, no putrefaction or decay. These studies prompted many investigators to attempt to demonstrate the suspected relationship of micro-organisms to disease. In 1863 Davaine succeeded in showing that the organisms, seen by him in 1850 in the blood of animals which had died of anthrax, were its cause. This, as some of those before me will remember, aroused a storm of controversy which was not settled finally until after my own student days.

Formerly, such vague terms as "miasm," "humor" and "virus" were used to explain the communicability of contagious diseases, but they have had to be discarded or to be newly defined by the bacteriologist.

It was in the sixties that Lister made his studies upon the relationship of micro-organisms to wound infection. The brilliant, revolutionary results of those studies are too well known to you to require elaboration, besides they belong to the history of nineteenth century surgery rather than to the history of internal medicine. They were, however, so important in settling the relationship of invisible parasites and diseases that they must be mentioned.

It was at this time, too, that Pasteur and Tyndall finally settled the controversy over spontaneous generation which had raged from time immemorial. The world at last felt convinced that even micro-organisms could not exist where an antecedent organism had not been.

It is needless to recapitulate the long list of discoveries rapidly made from this time onward of the causes of infectious diseases, by such men as Koch, Klebs, Loeffler, Fraenkel, Laveran, and many others.

HYGIENE.

Although medical men have been incited to search for the causes of disease in order that they might understand their nature better and therefore be able to treat them better, such studies naturally led more directly to the prevention than to the cure of disease. That is why the recent epoch-making bacteriological discoveries have greatly stimulated the study of preventive medicine. It is true that the prevention of disease has engaged the attention of medical men and statesmen since the earliest times, but the subject was not studied systematically before the last century.

Hygiene as a separate department of medicine, with a literature of its own was created only in the nineteenth century.

While, in the eighteenth century, much was done to improve the hygienic state of individuals, and as a result there began before its close to be a reduction in the mortality rate, which has continued up to the present time, public hygiene or organized efforts to prevent the spread of disease by state and civic interference, was not fairly established until very recently. Even to-day small

communities have no health officers or sanitary inspectors, and few regulations which are intended either to inform the people as to the relative healthfulness of towns and hamlets or by which the spread of disease is to be lessened. These facts show how new and undeveloped as yet the field of public hygiene is. The mortality statistics which have been gathered in cities since the middle of the last century make it possible to point out which cities are the healthiest, and which diseases are the most destructive. It is to be hoped that these statistics in the future will be supplemented by reports of the kinds and amount of illness, whether fatal or not, that may exist in a given place.

The knowledge recently acquired of infections and their spread has already been applied to their prevention. Such diseases as erysipelas, septicemia and tetanus no longer torment surgeons when they can make clean wounds. But as late as 1870 the first of these ailments was common in the hospitals of France. Puerperal fever is to-day as rare as it was common formerly. Typhus fever no longer exists in America, although not uncommon at the beginning of the last century.² Indeed, it is rarely seen in any civilized country to-day.

At the beginning of the nineteenth century small-pox was so prevalent that few persons reached adult life without having had the disease, and the mortality from it in childhood was great. What is the status of this disease to-day? I venture to say there are many physicians in this audience who have never seen a case, and that a majority of them have not treated more than four or five cases during their whole professional experience.

In the early days of this nation's history yellow fever spread to Philadelphia and New York, and provoked much discussion, for it was feared that it would prove as great a pest as cholera. A careful study of the disease and a consideration of the possibility of preventing it was referred to a committee of the New York Medical Society, which reported that yellow fever may be produced in any country by pestilential effluvia. How different is this conclusion from that of recent students of the subject, who assign to it a specific cause, which is transmitted from man to man by its host, mosquitoes.

Cholera has been brought to our shores several times in the last few years, but its spread has been prevented in each case. In Europe it has also been limited to comparatively small areas. Within a year the plague has been found in this country, in Great Britain, and France, but has caused little alarm, so great is the confidence that it will be successfully suppressed. (Let us hope that this confidence is not misplaced.)

PROGRESS IN PREVENTIVE MEDICINE.

What has been accomplished during the last one hundred years by internal medicine the following statistics will show in part, although it must be remembered that mortality statistics gathered before the middle of the century are not reliable. It is estimated that in 1805 in New York City from 35 to 40 deaths occurred in every 1000 inhabitants. During the last decade it has averaged 20 in 1000, and has been as low as 19 in 1000. In 1847 the mortality in London from zymotic diseases was 23.26 per cent.; during the last two decades 19 to 20 per cent. In 1846 the deaths from consumption were 12.67 per cent.; now approximately 9 per cent. The mortality from diseases of the respiratory organs

has been reduced in the same time from more than 12 per cent. to about 7, and the mortality from diseases of the digestive organs has diminished from about 6 per cent. to less than 5. In Chicago the mortality rate has fallen, with small fluctuations, from 46 and 64 deaths per 1000 inhabitants in the cholera years of 1852 and 1854 to 14 in 1898. The following diseases are among those in which the death-rate has fallen progressively: Cholera infantum, croup, diarrhea, diphtheria, dysentery, malaria, measles, scarlet fever and whooping cough. These are ailments the spread of which has been controlled either by isolation or by insuring the people purer food and water. Although the general mortality of Chicago, which is typical of the great cities of civilized countries, has improved, there are some diseases which are increasing in prevalence, notably nervous diseases, heart diseases, cancer, Bright's disease, bronchitis and pneumonia. To the discredit of my native city must it be said that the mortality from typhoid fever reached its highest point at the close of the century, during 1890, '91 and '92, although its cause and its mode of dissemination, as well as its prevention, were well known.³

The general lowering of the death rate is due to the improved hygiene of communities. In what the improvement has consisted is best shown by recalling some of the conditions under which people lived in 1800. At that time few cities had an adequate public water supply. In London water could be delivered at any house three times a week by one of the water companies; but most households depended upon wells. The sewerage system was quite as imperfect. Out-houses and cesspools were attached to each dwelling. The conveyance of sewage from houses by water did not become general until well into the last century. Ventilation of buildings, and especially of public halls, had attracted attention before the nineteenth century; but the real causes of danger from bad ventilation were not appreciated until bacteriology disclosed them.

In 1800 streets were not paved, and rarely cleaned. The habits of the people as regards eating and drinking were bestial. Excessively large quantities of food were consumed by all who could provide it. Alcoholic beverages were universally drunk, and generally in immoderate quantities. No disgrace attached to drunkenness; and it was customary for a man to drink several bottles of wine at a sitting.

Those who compose this audience appreciate how much illness must have been caused by these habits, and how much the relative abstemiousness or temperance of to-day has lessened the percentage of disease.

Prevention of diseases is only possible when a knowledge of their causes, their mode of dissemination, and methods for their suppression is possessed by all the people. Medical men alone can not stop their spread, nor will the making of laws do it. Only the intelligent coöperation of those who are ill and those who are well can accomplish it. It must not be expected, therefore, that as soon as the cause of a disease is discovered, that ailment can be suppressed. Time is required in which to educate all classes of people on that particular subject. Unfortunately, many persons are so obtuse that they will not believe in methods of prevention even when the fullest demonstration of their success has been made. A notable instance of this is seen in the recent repeal

2. Typhus forms an item in the mortality reports of Chicago (and other American cities) as late as 1886. This is probably because it was confused with typhoid. Not during the first quarter and rarely afterwards genuine typhus occurred in this country.

3. The more recent diversion of sewage from the water supply of that city has diminished the mortality from typhoid. Unfortunately, to-day very many communities are not awake to their own danger from this disease or to the possibility of its control.

of laws in England which made vaccination compulsory. The ease with which drinking water may be become contaminated and the danger to health from its contamination is not even now appreciated by the public. It is partly because such thorough knowledge is needed by the laymen that tuberculosis, diphtheria, pneumonia, typhoid fever and similar troubles have not been better controlled in the past. In order that in the twentieth century the fruits of the great discoveries of the last may be gathered, all members of the medical profession must fit themselves to teach their patients what is known of disease and its prevention. Those who are especially adapted to do so must disseminate their knowledge by popular discourses and essays. When hygiene shall be regarded by all classes as necessary and as much a matter of course as the use of the railroad, steamboat, telegraph, telephone, and labor-saving machines, then, but not until then, may striking results be expected.

THERAPEUTICS.

The wonderful, the revolutionary discoveries made by students of internal medicine during the nineteenth century are not always appreciated as they should be, for their results are often demonstrable only by statistics; and the dramatic rescue of individuals from certain death which the surgeon at times accomplishes, unfortunately can not be effected by the therapist. It is not in the nature of his art. Great progress, however, has been made in the use of medicines and remedial procedures. Good reasons can be given for their employment, and their mode of action can be explained. Empiricism no longer governs their use as it formerly did. The placing of therapeutics upon a scientific basis began in the last century when the physiological effect of drugs was first demonstrated by experiments upon animals.

No field of medical research needs cultivation so much or is more certain to yield a rich harvest than therapeutics. It is surprising that we have not a larger volume of accurate knowledge of the effect of drugs than we do possess. Of late pharmacology has been neglected for studies which have temporarily been more enticing to experimenters, such as bacteriology and experimental pathology. Moreover, a knowledge of these subjects is essential to enable a clinician to apply his therapeutic resources to the mitigation of suffering, the support of strength, and the elimination or destruction of noxious substances. One can safely prophesy that the exact utility and the limitations of drugs and medical procedures will be defined in the present century.

To accomplish this, not only is more knowledge required of the physiologic action of drugs, but also better means of accurately measuring their effects when they are given to patients. We know when pain is relieved we can sometimes measure effects produced upon the heart and blood vessels and temperature, but beyond this we depend for knowledge upon the impressions of physicians, impressions which must be corrected and often reversed by a wide experience. Clinicians possess only a few appliances or methods for the exact study of the sick. It is to be hoped that more will be discovered, and that they will also make it possible to register with accuracy the effect of drugs. When this is accomplished, undoubtedly a smaller number of useful drugs will be employed, but these with greater exactness.

It is true that drugs are often used to-day when they are not needed, because patients demand them; but this will be changed when laymen learn that it is the function of a physician to teach them what to do to give nature the best chance to effect repair, what to do to

make themselves comfortable and to preserve life. When they learn that it is a physician's function to teach them how to protect others from the same ailment, to foretell the possibility of recovery or death, and to avert or forestall complications. Medical men should include time and faith in their materia medica as important means of effecting a restoration of health. I do not mean faith in a fetish procured in an apothecary's shop, but faith in the wisdom, honesty and disinterested devotion of physicians which will enable them to accomplish all that can be done for the suffering.

Although the greatest discoveries in the field of internal medicine have been applicable to the prevention of illness in the masses, much has also been done to increase the chances of recovery of individuals who are sick. I need call attention only to a few of the improvements in treatment which have been effected to remind you of more. Typhoid fever, which has been a scourge in all civilized countries, and constantly present in all larger centers of population, has not only been greatly lessened, sometimes even suppressed by improved hygiene, but the chances of recovery of the one who is sick with it have been increased several fold by improved methods of treatment. Twenty-five years ago the mortality from typhoid fever in the hospitals of the world was from 20 to 35 per cent.; to-day it is from 5 to 15. The better results are due to the cold baths which are used, to a more generous supply of fresh air, to proper feeding, and to protection against, or the prompt treatment of, complications.

One great therapeutic discovery has been made at the end of the nineteenth century—the discovery of antitoxins, the natural antidotes to the poisons of infectious agents. For a very long time it had been known that something developed in the human system during the course of many ailments which gave to the sufferer from them for a variable time immunity from a recurrence of the same disease. Until the existence of parasites and of poisons generated by them was proven, an antitoxin was of course unrecognizable. Moreover, the possibility of such a thing in diseases, one attack of which did not cause immunity to others, was not even suspected. But diphtheria antitoxin, the most efficient of those of which we know anything, is one belonging to this last group of ailments. The chemical composition of antitoxins is yet to be discovered. Since antitoxin has been used the mortality from diphtheria has been reduced about one-half. The most extensive collection⁴ of statistics gathered from all civilized countries shows that when antitoxin is used on the first day of the disease, the mortality is 5 per cent, increasing rapidly to 30 per cent when used on the fourth day or later. Before its employment, the average mortality of the disease was from 25 to 35 per cent. To effect a still greater reduction in the death-rate from this ailment, it is necessary that it be recognized early, and that antitoxin be employed more generally as a preventive for those who have been exposed.

That tetanus antitoxin and plague antitoxin are valuable is admitted. Many others, such as pneumonia, typhoid, tubercle, scarlet fever, erysipelas and streptococcus antitoxins are still in the experimental stage. But even though it should be found that few natural antitoxins can be isolated for use as remedies, those already discovered confirm physicians in the hope that specifics will be found some day.

4. Das Oesterischen Sanitätswesen, No. 52, 1900.

Another therapeutic discovery made at the close of the century which has thrown a flood of light upon some obscure points in physiology and pathology, and has restored to usefulness many who were formerly incapacitated and incurable, is that of internal secretions, and especially the role of the secretion of the thyroid gland. Ingredients in the thyroid, suprarenal bodies, and ovaries, produce as definite effects upon the living body as many extracts from plants or synthetic chemicals. The pituitary body, the thymus, and bone marrow may also have a value as yet undetermined. The rescue of those suffering from myxedema and cretinism by the administration of thyroid is one of the few happy dramatic incidents which fall to the lot of the practitioner of medicine.

That a much larger proportion of recoveries from tuberculosis occur to-day than formerly is evident from the statistics of this disease, but this lessened mortality is not due to prevention only. Trudeau has estimated that 18 per cent of all persons have tuberculous lesions, because a reaction to tuberculin can be demonstrated in that proportion. This statement is confirmed by Councilman, who states that his autopsy statistics show that at least 17 per cent. of all who die have had this disease. But in spite of this prevalence the mortality from the ailment is lessening.

Rabies and tetanus are two diseases which until recently were thought to be incurable. Rabies can be suppressed by killing unowned dogs and by muzzling the rest. Upon this point the following statistics from England are very instructive. In 1887, 217 deaths occurred in Great Britain from rabies; in 1888, 160; in 1889, 312. A muzzling law was then enforced. In 1891 the death-rate from the disease fell to 129; in 1892, to 38. The muzzling ordinance was repealed, with the result that in 1894, 248 deaths occurred from mad dog bites, and 672 in 1895. Again muzzling was made compulsory. The death-rate once more diminished; in 1897 it was 151; in 1898, 17; in 1899, 9, and in 1900, none!

Pasteur's great discovery of a method of attenuating the virus of rabies and rendering those who have been bitten by mad dogs immune by rapidly accustoming them to stronger and stronger viruses has reduced the mortality from 16 to 0.33 per cent.

Tetanus, quite common in hospitals formerly, is now prevented by properly cleansing and protecting wounds. It has become so rare a disease that to-day most students do not see a case of it during their college course.

The nineteenth century will be known in the history of medicine as the century of experimental medicine, for it is in that field that the greatest discoveries of the age have been made. The names of Pasteur, Koch and Lister will forever be linked with it as representing its greatest achievements. But these achievements would not have been possible had not the physicist perfected the microscope, and had not Virchow and his pupils explored the field of cellular pathology to its farthest limits. Around Virchow's name as a banner will historians gather the achievements in medicine during the early and middle portions of the century, and around Pasteur's those of its close.

If our greatest needs conditioned the growth of knowledge, we could prophecy what will be the great field of research of the twentieth century, but history teaches us that our needs can often not be met until some sister science has grown, or new methods of experimenting have been devised. Therefore, the future must remain a blank to us. However, we are more apt to accomplish what is needed if the problems are kept clearly in mind.

We greatly need more exact methods of clinical study, more accurate knowledge of the effect of remedial agents and procedures, but more than all else we need a knowledge of the changes which take place in the living tissues in health as well as in disease.

The anatomist has resolved the cellular structure of the body; the physiologist, the laws which govern the action of its organs and the chemic changes which are wrought upon its surfaces; the bacteriologist has discovered the parasites that infest, and often destroy it; the pathologist has described the anatomical changes which disease produces; the clinician has linked all these facts together and has discovered ways of seeing with the intellectual eye disturbances of physiologic function, of determining their cause, and of anticipating the anatomic changes which they will produce. But this does not satisfy us, we want a knowledge of the atomic and molecular structure of cells, of the changes which take place in the atoms and molecules in health and in disease, and of the effect of medicines and remedial procedures upon them. This knowledge chemistry must give us. I feel sure that, standing as we do at the beginning of a new century, expecting greater developments in it than in the last one, we are halting before new discoveries in chemistry, waiting for new methods of studying metabolism in microscopic portions of tissue. When this knowledge is vouchsafed, medicine will make another stride as great as was made when, by the perfected microscope, cellular pathology and bacteriology became possible.

THE VALUE OF CLINICAL MICROSCOPY, BACTERIOLOGY AND CHEMISTRY IN SURGICAL PRACTICE.

ORATION ON SURGERY BEFORE THE FIFTY-SECOND ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION, AT ST. PAUL, MINN., JUNE 4-7, 1901.

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For many years, almost without exception, my predecessors in the address on surgery have devoted their labors to the exposition of some general or special subject in the domain of operative surgery, and while I would in no measure detract from the value of a thorough technical knowledge, we should not in our attention to the *art*, fall short of a proper appreciation of the *science* of surgery.

The experienced surgeon soon learns that it requires more than asepsis and the rapid and skilful performance of an operation to achieve the fullest measure of success; that although a thorough practical knowledge of regional anatomy is essential in the highest degree to the conscientious fulfilment of the professional obligation, it is equally important that there be called into requisition the invaluable aid which laboratory research alone can give in determining an accurate diagnosis; in indicating the most rational measures of treatment; not only in the preparation of a patient for an operation, and in the selection of the safest anesthetic, but for the post-operative management of the case, and in removing as far as possible all doubts as to the prognosis.

Chemical analysis of the normal and abnormal secretions and excretions of the body, *clinical microscopy* and *bacteriology* should form a part of the educational requirement of every surgeon. I do not insist that the busy practitioner should attempt to master all the intricate processes of the laboratory, for this is only possible

to one who devotes years of patient labor in the fascinating department of science, but he should possess that practical knowledge of the chemistry of the body in health and disease, and of clinical microscopy and bacteriology which any diligent student, under a competent teacher, and in a properly equipped laboratory, should be able to acquire in a three months' course of study.

The instances are exceptional in practice where this knowledge can not be applied with great benefit to the patient, and with satisfaction to the surgeon. It is naturally of greatest value in the cases where no emergency for immediate operation exists, but its advantages are not wanting in these rarer cases, since it comes to his aid in the post-operative period.

Laboratory research, especially in the department of bacteriology, has placed not only the medical profession, but the entire human family under lasting obligations for the great benefits which have already been derived from its discoveries, and it may be safely said that it has done more than all else in accomplishing the revolution in surgical thought and practice which has taken place within the last two decades. One of the most notable illustrations of this great advance is the triumph which has been achieved over that once fatal disease, diphtheria.

The discovery by Klebs in 1883, and the isolation and cultivation in 1884 by Loeffler of the bacillus of diphtheria had its logical sequence in Behring's invaluable discovery (subsequently elaborated by Roux) that the blood of animals, especially that of the horse, rendered immune to diphtheria by inoculation, first with attenuated, and then with more virulent organisms, contained a substance capable of neutralizing the effects of the bacilli or their *toxin* when simultaneously or subsequently inoculated in non-protected animals.

This antitoxin serum in its dose of 10 c.c. of either the 600, 1000 or 1500 *immunizing units* is potent not only to arrest the destructive processes which formerly characterized this disease, but to prevent the infection of those who have been exposed to the contagion. How great is the importance of the knowledge that these bacilli are not only always present in the throat of a patient suffering from diphtheria, but that they are frequently found on the nasopharyngeal surfaces and tonsils of persons free from systemic infection, and as shown by Biggs, Parke and Beebe of New York, they may remain as long as five weeks after the membrane has been discharged from infected subjects, all of which points to the necessity for the isolation of the infected individual, and the careful disinfection of the throats of those who have been about diphtheria cases. (McFarland.)

The statistics of Professor Welch of Johns Hopkins University show that the ratio of mortality as a result of these discoveries has been reduced more than 55 per cent., and that in 115 cases, in which by reason of an early diagnosis, the treatment of serum antitoxin was begun within the first three days of the disease, the mortality was only 8.5 per cent. In 546 cases in which the remedy was begun after the third day of the disease, the mortality was 27.8 per cent., the ratio of mortality increasing with fatal precision as treatment was delayed.

To the surgeon, one of the most gratifying results of this great triumph of the laboratory is the fact that he is now rarely called upon to perform the operation of tracheotomy which was formerly distressingly frequent; nor to witness the sufferings associated with intubation

of the larynx. A professional friend in the department of diseases of children informed me recently that whereas a few years ago he had from 10 to 20 intubations of the larynx on account of diphtheria in every month, he now, since the serum therapy was practiced, averaged only one or two.

I believe that what is true of this disease is true of all infectious processes, and that as our knowledge expands, a safe immunizing serum will be discovered for each special toxemia. Even now it would seem that this proposition is proved in other infections in which like diphtheria the pathogenic organisms are localized at the seat of infection, their toxic products alone entering the tissues through the circulation.

Of this type is the spirillum or "comma" bacillus discovered by Koch in 1884 in the intestinal contents of patients suffering from Asiatic cholera. These germs are not found in the deeper organs, the morbid changes in the tissues being due to their toxin. Immunizing injections of cholera cultures have already been experimentally and successfully employed, and promise rich results.

In this same group, bacteriologists claim a place for the diplococcus micrococcus lanceolatus of Fraenkel, the *pneumococcus*. Sternberg and Pasteur isolated this germ in 1880, and in 1884 Fraenkel demonstrated it as the prevailing organism found in the sputum of croupous pneumonia. Very late investigations give encouragement to the hope that serum therapy will soon be applied in the early arrest of the invasion of this most painful and fatal malady. Though pneumonia is strictly a medical disease, its early recognition as a surgical complication, or in view of an anticipated operation, is of very great importance. In a recent case which came under my observation at our laboratory, a specimen of sputum was sent in for bacteriological study. It was not blood-stained or "brick-dust," but yellowish-white in color like the ordinary sputum of bronchitis, and was supposed to be "grippe," or tuberculosis. The bacillus of tuberculosis was not present, but numerous micrococci lanceolati were discovered, and the laboratory diagnosis was made and confirmed within twenty-four hours by the well-recognized symptoms of consolidation with the "brick-dust" expectoration of this disease which supervened.

Tetanus toxemia, or "lock-jaw," the organism producing which was discovered by Nicolaier in 1894, and which for years has baffled the most strenuous efforts of the bacteriologist and clinician seems at last to be classified with the controllable infections. Professor Osler, in the last edition of his "Practice of Medicine," says the immunizing serum of Tizzoni has been successfully and encouragingly employed in doses of 2.25 grams for the first dose, and 0.6 grams for subsequent doses. Of 113 cases treated by this method 63 per cent. recovered.

It was not until the discovery of the bacillus of typhoid by Eberth in 1880 and the pure cultures of this germ secured by Gaffky in 1884, that there was made possible in the vast majority of cases of typhoid fever a positive diagnosis.

The demonstration of Widal that when 10 drops of a twenty-four hour bouillon culture of the bacilli typhi were added and thoroughly mixed with one or two drops of serum from the blood of a typhoid patient, the bacilli lose their motility and become agglutinated in masses, was one of the most brilliant advances in clinical bacteriology, and of great value in surgical diagnosis.

In many of the lesions of the abdominal viscera, and especially in those located in that battle-ground of surgery, the right iliac fossa, where the physical signs and the febrile movement may suggest either beginning typhoid, intestinal toxemia or a pyogenic sepsis, an early diagnosis may be determined in no other way than by the aid of the laboratory.

The practitioner who has not called into requisition the invaluable aid which bacteriology affords in the differentiation of those too often obscure intraperitoneal lesions, can not appreciate the satisfaction which this practical application affords. How often the safety of a patient hangs upon even a few hours time, and alas, how often this precious time is wasted in the uncertainties of diagnosis, when a resort to the demonstration of science, available to all, would have plainly indicated the proper method of procedure. We know too well the fallacy of relying upon the ordinary subjective symptoms, and even some of the objective symptoms afford us no accurate clue to the pathological process which may exist. The pulse and the temperature of commencing typhoid may well be mistaken for the pulse and temperature of an appendicitis. The pain and muscular resistance over the right iliac and the right abdominal region are in many instances practically alike. The nausea, the vomiting, and the general sense of uneasiness point neither directly to the one or to the other disease, but in a crucial test by Widal's reaction, with the blood count pointing to the presence or absence of a leucocytosis, the question is quickly settled. I have seen all the symptoms of appendicitis present in cases in which the blood count contradicted a pyogenic sepsis, and in which Widal's reaction told the story of typhoid. On the contrary, I have dealt with cases which ordinarily would have been most perplexing, in which all the symptoms of typhoid prevailed at a period when it was too early to recognize this disease by Widal's test, and a leucocytosis of from 15,000 to 21,000 proved at the earliest possible moment that the case was one for immediate operation.¹

The discovery by Bollinger in 1877 made the diagnosis of that comparatively rare affection, actinomycosis, clear. In examining the yellow granules and accompanying pus discharged from an infected area he recognized the ray fungus or actinomyces. More recent re-

searches have shown this fungus to be composed of bacilli in various stages of development, some being spores and some more perfectly developed organisms.

In another fortunately rare disease, malignant pustule, caused by the lodgment in an abrasion of the bacillus anthracis, we are indebted to the laboratory for our knowledge of its etiology. The anthrax bacillus discovered by Devaine in 1863 is not usually found in the blood except in the most malignant cases and in the last stages of fatal infection, but they can be demonstrated in the pustule of inoculation with the microscope or by cultures.

Roux and Chamberland, according to McFarland, have found that filtered cultures will produce immunity when properly introduced into animals, and we reasonably hope from these experiments that the serum treatment will before long be made applicable to infected human beings.

Another rare organism is the bacillus of malignant edema, which was discovered by Pasteur in 1875 and called by him *vibrio septique*. There are only two cases of this disease so far reported in man, and they were subjects of abnormally low resistance infected by the hypodermatic administration of a product of musk.

The bacillus pestis or bubonic plague organism was discovered in 1894 simultaneously by Yersin and Kitasato, in blood drawn from the finger tips of infected individuals, and in the broken-down lymph glands, and is described by Kitasato as greatly resembling the micro-organism of chicken cholera.

Bacteriological research has robbed the puerperal state of much of the anxiety and dread which formerly attended this ordeal, not only in preventing sepsis, but in recognizing the infections already established in time to prevent a general peritonitis or septicemia. The puerperal uterus or this organ when the seat of non-puerperal endometritis offers an ideal field for bacterial proliferation and invasion, since septic organisms entering the cavity may rapidly penetrate the endometrium and enter the lymph channels whence they pass into the venous sinuses and lymphatics of the pelvis.

Prof. W. R. Pryor, in a paper read before the New York State Medical Association in 1900, says, "puerperal sepsis if not rapidly fatal almost always produces lesions which seriously damage the pelvic organs or the viscera," and that "time is in this serious condition an important element." He recommends the early employment of the Döderlein tube, which, after sterilization, is passed into the uterus, being protected from contact until the fundus is reached. From the serum and debris thus obtained cultures are made, and the character of the operation—either curettage or hysterectomy—determined by the result of bacteriological investigation.

Not only does the laboratory come to our assistance in the diagnosis of certain obscure surgical lesions of the stomach, but it is still more valuable as an aid in arriving at the exact condition of the digestive functions of this organ, any derangement of which it is at times exceedingly important to correct in order to bring a patient into suitable condition to stand an operation. Thus it is important to determine in certain instances whether or not free hydrochloric acid exists in this organ, and while the total quantity poured into the stomach in the digestive process can not be accurately measured, clinical chemistry can closely estimate the total quantity found at a given moment during digestion. The acid-combining power of the proteids is known, and by certain tests it is feasible to estimate

1. Two of the cases occurring in my own work within the last few months may emphasize the great value of this technique.

A man of 30 was seized with quite severe pains which were confined to the region of the caecum and appendix. Upon palpation there was well marked resistance in the muscles immediately over these organs which was not observed in any other part of the abdominal wall. He had vomited on one or two occasions and the temperature ranged from 101 to 103 F. on the second day of this attack. The questions which were presented to the consultants were whether this temperature could be accounted for by intestinal toxemia, by appendicitis, or incipient typhoid. Although it was too early in the history of a typhoid case to encourage the belief that Widal's reaction would be present, this was made, and with negative results. On the following day, the symptoms still pointing toward typhoid fever, a careful blood count was made and the leucocytes did not count over 7000. Assured from this that no dangerous pyogenic process was present, the idea of operation, even exploratory, was abandoned until the examination might be repeated on the succeeding day. A second careful blood count showed no leucocytosis, and on the fourth day, although Widal's reaction was still absent, the case was declared to be typhoid, and the subsequent history proved the diagnosis to be correct, since a few days later the reaction of typhoid was present, and the patient went through the regular stages of this fever.

In a second case, a male patient, 45 years of age, there was a typical typhoid tongue, temperature ranged from 100 to 103.5 F., tenderness and muscular resistance in the right iliac fossa and loose discharges from the bowels not unlike those frequently met with in typhoid. Widal's reaction was tried with negative results on three successive days. The blood count on the fifth day showed the leucocytes numbering 21,000, justifying a diagnosis which excluded typhoid, and confirmed the suspicion of pyogenic sepsis.

sufficiently close for a satisfactory diagnosis, the quantity of hydrochloric acid secreted. The small quantity of hydrochloric acid which combines with ingested inorganic elements is lost to gastric digestion, serving as it does its function in this process in the intestines. The far greater proportion combines with the proteids in satisfactory quantity, while any excess remains free in the stomach.

It is clear, as stated by Van Valzah and Nisbit, that the hydrochloric acid which combines with the proteids, and that which remains free, together roughly represent the activity of acid secretion. It is logical then to conclude that the quantity of hydrochloric acid loosely combined with albumin, together with the quantity remaining free in the contents withdrawn at the end of a particular time after eating a particular meal is a practical and clinical measure of the secretive activity of the peptic glands, and of the digestive work of the stomach. All of this is made sufficiently exact for practical purposes by the laboratory method of analysis after the simple test-breakfast of Ewald and Boas, or the more elaborate test-meal as recommended by Germain-Sée.²

The presence of lactic acid in the stomach contents as shown by Kelling's test³ has a distinct diagnostic value, since it takes place in comparatively rare conditions, and since these conditions are seldom fulfilled except when carcinoma is present.

Lactic acid is dependent upon the presence of a special bacillus which thrives in the stomach under abnormal conditions, and is capable of converting glucose and lactose into lactic and carbonic acid. Boas goes so far as to insist that the persistent presence of lactic acid in noteworthy quantity during the digestion of a saucer of oatmeal, chemically free from lactic acid, is a specific sign of carcinoma of the stomach.

While the stomach may under varying conditions contain hosts of various bacteria in addition to the one just considered, there are only three others that are of importance as pathogenic organisms. First, the *sarcina ventriculi* (in their usual cube arrangement) which when found indicate insufficiency of the stomach muscle

2. The simplest method is that known as the test breakfast of Ewald and Boas in which on an empty stomach, usually in the early morning, a breakfast roll which contains about 5 gm. of proteids, 39 gm. of carbohydrates, 1/3 gm. of fat, 3/4 of a gm. of ash, and weighs 70 gm., and 350 c.c. of water (about a glass and a half) are taken. The bread should be thoroughly chewed and insalivated before being swallowed with the water. Usually in one hour's time a tube is introduced and the contents of the stomach withdrawn, usually by expression, or by siphonage and then filtered. An estimate of the acidity of the filtered contents is made by using a deci normal solution of potash or soda. The number of c.c. of this solution which will neutralize 100 c.c. of the filtered contents of the stomach expresses in figures the acidity of the fluid withdrawn. At the end of an hour, under approximately normal conditions of digestion, the total acidity should be 50 to 60, the hydrochloric acid albumin 30 to 40, the free hydrochloric acid 10 to 20. Any departure from this rule shows the abnormal absence or excess of this important agent.

The test meal of Germain-Sée is at times preferable, since it contains a larger quantity of proteids than the test breakfast of Ewald and Boas just given, but the method of procedure is practically the same. The presence of hydrochloric acid can be recognized by Gunzborg's reagent which is composed of:

Phloroglucin	2 gr.
Vanillin	1 gr.
Alcohol (absolute)	30 gr.

By spreading three or four drops of this reagent in a porcelain crucible, adding upon this the same quantity of the filtered contents, and slowly warming the crucible, after several seconds, a red color appears, and at times the red crystals of free hydrochloric acid are seen. Or the simpler method of employing a filtered paper which has been soaked in a 0.5 per cent alcoholic solution of diamethylamidazo-benzol and dried. This, in the presence of a trace of free hydrochloric acid turns distinctly red.

3. Kelling's test consists of 5 c.c. of the filtrate diluted to 50 c.c. with distilled water, to which one or two drops of official 5 per cent. solution of the perchlorid of iron are added. The yellowish-green tinge indicates the presence of lactic acid.

due to non-malignant obstruction. They are not found in carcinoma, since they perish in the presence of lactic acid, which, as we have just shown, is so common in malignant diseases of this organ.

Another micro-organism is the *yeast plant* also found when motor insufficiency exists. It may be present when the stomach contents are alkaline, neutral or acid.

The *bacillus geniculatus* is present under the same conditions which produce the lactic acid organism and is considered also to be suggestive of carcinoma.

When the presence of blood is suspected in the stomach and is not clearly defined by the microscope, chemistry comes to our aid in its recognition by the glacial acetic acid and ether test.⁴

A study of the discharges from the rectum is as yet of little value to the surgeon. Beyond the recognition of blood or pus, or cast-off cell elements in certain malignant neoplasms, there is but a single organism which is of real diagnostic value, namely, the ameba of dysentery, described by Lamb in 1859, which is a motile mass of protoplasm about 20 micromillimeters in diameter containing a single nucleus, and one or several vacuoles.

In the differentiation between the pathogenic organisms of specific and non-specific urethritis, microscopy and bacteriology are our only infallible guides. They teach us to eliminate the various bacteria found in the external genital and urinary passages, not bearing directly upon the etiology of urethritis, and to recognize distinctly the two forms of diplococcus, the gonococcus of Neisser, and the pseudo-diplococcus, which, while not morphologically different from the specific disease-producing organism, can be readily distinguished by special modes of staining as well as by cultures. In the daily routine of practice the exact nature of every suspicious urethral discharge should be subjected to careful scrutiny. The patient is entitled to the satisfaction of a negative result, which is easily demonstrated by staining the smear with methylene blue which clearly defines both organisms. If no cocci are revealed all anxiety is put at rest, but if there are present both varieties of these organisms, occupying as they do, the protoplasm of the pus corpuscles, a further research and the differentiation of the true form from the false diplococcus is imperative. The pseudo-coccus retains the violet color of the aniline-gentian water violet stain, while with careful laboratory technique the addition of the Bismarck brown brings out the gonococcus, the protoplasm of a single pus corpuscle showing at times both the blue stain of the pseudo-coccus and the diplococcus of Neisser which retains the brown color.⁵

4. To 10 c.c. of the filtered contents add 3 c.c. of glacial acetic acid, and extract the coloring matter of the blood by shaking with 5 c.c. of ether. This turns the ether extract brown. When this discoloration does not take place there is no blood. To carry the demonstration further, to the brownish decanted ether extract, 10 drops of fresh tincture of guaiac with a few drops of peroxid of hydrogen are added. After vigorously shaking, the mixture becomes clear blue if blood is present.

5. Dr. Jeffreys, the director of the laboratory in the New York Polyclinic employs the following differential stain:

Use Gram's stain followed by a contrast stain, such as Bismarck Brown. To prepare this stain proceed as follows:

Prepare aniline water by emulsifying 8 drops of aniline oil in about 10 cubic centimeters of water. Filter through a wet filter. To this aniline water, add about one-tenth its bulk of a saturated alcoholic solution of gentian violet. Stain smear with this "aniline water gentian violet" one or two minutes. Wash in warm water and then immerse in Gram's solution for one minute. The formula for this solution is as follows:

Iodin	1 gram.
Iodid of potash	2 grams.
Water	300 c.c.

Thoroughly wash in 95 per cent. alcohol until no more blue appears to wash out; then wash in water. Counterstain for one minute with a saturated solution of Bismarck brown in 3 per cent. aqueous solution of carboic acid. Wash, dry, and mount in balsam. After this treatment, pseudo-gonococci should be stained violet, and gonococci should be brown.

Bearing in mind the fact that the gonococcus of Neisser may remain dormant in these passages for months, and, as maintained by some observers, for years, incapable of a further inoculation of the seemingly immunized patient, but capable of exciting the most acute and injurious inflammation in an innocent victim, it becomes a matter of the greatest importance to subject to most careful study the external genito-urinary passages where an infection has once existed. It has been demonstrated that an artificial urethritis as that which nitrate of silver produces will develop the dormant gonococci and cause their presence in the discharge.

Keys and Chetwood, in their excellent volume on venereal diseases, place well-deserved emphasis upon the value of the Gram test for recognizing these organisms. They properly insist that the diplococci should be of the recognized size and have within the protoplasm of the pus corpuscle their proper shape and arrangement and remain negative to Gram's staining. Even when cultures are made to demonstrate the specific organisms beyond all doubt, resort should still be had to the Gram staining as a final means of identification.

In cases of pyelitis, many of the difficulties which formerly stood in the way of differential diagnosis between renal calculi, simple pyogenic pyelitis or the presence of tubercular disease in this organ, are now overcome by the careful methods of the laboratory.

The presence of the bacilli of tuberculosis in one or both kidneys, even when they are exceedingly infrequent in the discharge, can be demonstrated in urine drawn by urethral catheterization, or by the more simple process of bladder segregation, when the suspected organisms are with other detritus thrown down by the centrifuge. The carbol-fuchsin stain decolorized with 5 per cent. sulphuric acid, brings out in brilliant red the outlines of the bacilli of tuberculosis, while the addition of 95 per cent. alcohol decolorizes the smegma bacillus, and thus eliminates this possible source of error to any but the more expert laboratory workers.⁶

In the effort to arrive at the general condition of a patient, the chemical, microscopical and bacteriological study of the urine is only second in importance to that of the blood, and when we consider the additional and exact information which can thus be obtained concerning any pathological process at any point in the urinary tract, the value of this analysis is very materially increased. A careful study of the urine is always indicated before determining what anesthetic it is safest to employ in the operation to be undertaken. When there is no important lesion of the heart, either in its valvular mechanism or in the blood supply and nutrition of its muscular walls, few surgeons, I hold, would employ ether in a protracted operation in which there was any suggestion of an acute nephritis, or in certain chronic forms of Bright's disease.

It is commendable practice to study through several days the quantity of urine passed, keeping accurate measurement, as well as making a qualitative analysis of that which is passed under conditions as near as possible similar to those to which the patient had been

subjected before coming under observation, and then under conditions of rest, with proper alimentation and the free opening of the alimentary canal with calomel and Carlsbad salts (which agents in my experience most readily do away with fermentation and the production of gases in the bowels) to note the changes which occur in excretion.

The presence of oxyluria is in my opinion a contra-indication to a serious surgical operation, for the reason that it is pathognomonic of a disturbed nutrition due to insufficiency of the digestive fluids, and to fermentative processes in the intestinal tract.

An excess of *uric acid*, evident in the rosettes or rhombic or quadrate crystals (one-sixth objective), found in the urine *which has not been passed* more than three or four hours, has also a pathological significance scarcely less than that of oxyluria. It indicates a condition of defective nutrition which is part of the gouty or rheumatic diathesis, predisposes to chronic nephritis and is one of the symptoms of various acute inflammatory processes, of leukemia, cirrhosis of the liver, gastro-intestinal catarrh, and is often present in diabetes mellitus.

The chemistry and microscopy of the urine further informs us when ammoniacal decomposition of the urine is taking place within the bladder, suggesting insufficiency of this organ due to obstruction of the urethra or to atony of the bladder muscle. The large rhombic masses or stellate and cross-shaped rosettes of the triple phosphates only exist in these abnormal conditions of the bladder, and with the brownish colored thorn-like crystals or urate of ammonia are important aids to diagnosis.

The presence of epithelia from the various portions of the urinary or genito-urinary tract, of spermatozoa and various bacteria chiefly pyogenic in character, are further and well-recognized evidence of the value of the microscope in surgical diagnosis. In rarer instances, the hooklets of echinococcus, the embryos of filaria and the ova of hematobium Bilharzii are thus discovered in the urine. The writer has been able once to demonstrate the presence of the eggs of the last-named parasite in the bloody urine of a missionary in Africa where he had by long residence acquired the disease.

From the laboratory we are taught the well-known tests for albumin and sugar by which all sources of error may be eliminated in determining not only their presence but the quantitative analyses as well. The pathological conditions in which these substances are excreted are at times exceedingly grave, and it is of vital importance that their presence be discovered so that timely and judicious treatment may be instituted, or operation avoided which under such unfortunate conditions would be invariably fatal.⁷

In glycosuria the surgeon must know whether he is dealing with what Pavey designates as alimentary diabetes, in which the sugar eliminated by the urine is derived solely from the food as result of defective carbo-

6. The following process is used at the Polyclinic Laboratory in determining the presence of the tubercular bacillus in the urine and feces. The sediment is thrown down in the centrifuge, the smear dried slowly over the Bunsen burner and stained with carbol-fuchsin, which is then warmed over the Bunsen burner for three or four minutes without being dried. Then wash with water and decolorize with 5 per cent sulphuric acid, and again wash with water. After this add 95 per cent alcohol, which decolorizes the smegma bacillus and again wash in water, counterstain with Methylene blue, and dry. With the 1/12 oil immersion, the clusters of tubercular bacilli are readily seen.

7. To determine the presence of albumin, the nitric acid and heat test is classical and reliable. The simplest quantitative analysis as recommended by Hare is to fill the tube for the centrifuge to the 10 c.c. mark with urine, to which is added 2½ c.c. of potassium ferrocyanide solution (one part to ten) 1½ c.c. of acetic acid is also added. After mixing the fluids well the centrifuge is rotated until the albumin is precipitated. Every 1/10 c.c. mark on the tube represents 1 per cent. by bulk of albumin; that is, if the albumin extends up to the 3½ c.c. mark, the albumin amounts to 35 per cent.

Fehling's test in the demonstration of sugar and the quantitative analysis by means of yeast fermentation is another important laboratory process, without recourse to which the surgeon in a certain group of cases can not satisfactorily work.

hydrate assimilation; or whether that almost hopeless condition of composite diabetes in which abnormal disintegration is taking place, is present.

No less important is the estimate of the amount of urea which is being eliminated in a given quantity of urine. Employing the simple apparatus of Doremus with the sodium hypobromite solution⁸ within a few minutes time, by the evolution of nitrogen gas in the presence of this, the amount of urea which is being carried off by the kidneys is readily demonstrable.

Non-parasitic chyluria (that form not due to the presence of filaria) is a rare affection, but it does exist, the fluid coagulating almost like jelly. In these conditions the microscope shows little that is pathological excepting some minute granules and oil droplets similar to those in milk. (Osler.)

The presence of blood in the urine, even in the most minute quantities, can in almost all cases be recognized by the microscope, and in those exceptional instances of hemoglobinuria in which the corpuscles have disappeared, the blood crystals of Teichmann may be recognized by the addition of a drop of strong acetic acid to a few drops of urine placed upon a watch glass. For this condition of blood pigment in the urine in which the blood-cells are absent, Osler suggests the name methemoglobin. He further states that when granular pigment or darkly-pigmented urates or fragments of blood-disks do not point clearly to the presence of blood, the two absorption bands of oxyhemoglobin, and more commonly, the three absorption bands of methemoglobin, of which the one in the red near G is characteristic, may be determined by the spectroscope. In general, however, the red and white blood corpuscles and filaments of clot are clearly recognizable with the one-sixth objective. Even without the microscope the presence of a very minute quantity of blood distributed through the urine can be recognized by Heller's test of adding a few c.c. of urine to a drop or two of strong solution of caustic soda, and boiling the mixture. If blood is present a bottle-green color is produced and the phosphates fall to the bottom of the test-tube in fine flakes, tinged brownish-red by the coloring matter of the blood. (Hare.)

When blood is found in the urine as a complication of papilloma of the bladder, particles of the broken-down tumor are very frequently found in the urine, and under the microscope the epithelial elements of this neoplasm are easily recognized and point clearly to the source of the hemorrhage. In hemorrhage from the kidney substance blood casts tell unmistakably of its source.

Chemistry demonstrates in the urine the presence of indican or indoxyl sulphate of potassium, a product resulting from the decomposition of albuminous products in the intestinal tract under the influence of bacteria. It is always suggestive of persistent constipation, is found in obstruction of the intestinal canal, carcinoma of the liver or stomach, in peritonitis, and is one of the symptoms of pernicious anemia. Urine containing this substance if treated with two or three times its volume of hydrochloric acid turns a violet color.

A careful analysis of the various casts found in the

urine under different conditions is of inestimable value. Blood casts indicating not only hemorrhage from the kidney, but acute inflammatory conditions, and casts composed of pus corpuscles and studded with micrococci suggesting pyelonephritis, are most valuable results in laboratory research. It also tells us of the existence of granular casts which indicate a chronic or subacute inflammatory process in the substance of the kidney, which is accentuated when fatty casts are found, and that hyaline casts have a grave significance, as they are most frequently associated with chronic interstitial nephritis, and that the waxy variety is very common in chronic suppurative processes, usually in the bones and joints.

To-day, one of the most attractive subjects of laboratory research is the blood, and although hematology is practically in its infancy, many valuable discoveries have already been made, and in the proper study of a patient, a knowledge of the blood is as essential as that of the urine. It may throw no light upon many cases, but the reward will be tenfold in that particular instance where the diagnosis is made definite and clear. It is necessary to know the normal blood thoroughly by constant practice in order to recognize the abnormal changes which may be present in a given case, and I can think of no more useful way of spending the time not taken up by practice than by going over these important features of laboratory technique.

A knowledge of hematology enables the surgeon to detect any form of anemia and to determine whether it is a type of blood impoverishment which can be corrected, or whether it is of the graver or more pernicious forms which would either preclude an operation, or if this were absolutely necessary, would enable him to announce to those entitled to information, the gravity of the outlook. In ordinary practice it is not always essential to differentiate between a pernicious anemia or a leukemia, or whether this latter condition is present in the lymphatic or splenic-myelogenous form, for the reason that all of these graver varieties call a halt to operative measures when these can be avoided. But the anemia which comes from malnutrition or malaria, or chlorosis, can be positively diagnosed by a study of the blood.

The richness of the hemoglobin may in a fair measure be determined by the comparative color test of the blood in proper solution, as observed through von Fleischl's hemometer. When a low percentage of hemoglobin is present, it is an indication to avoid any operative shock until the impoverished condition of the blood can be corrected by proper nourishment, by rest, or by medication, when this is positively indicated. This also suggests the aid of the microscope in a further investigation as to the condition of the corpuscular elements of the blood. It is advised by Mikulicz never to operate when the register of the hemometer shows less than 35, and it would probably be safer to place the standard ten or fifteen points higher. Even in the simple forms of anemia, the degenerative changes in the blood elements, especially in the red cells, are easily recognized, and are full of valuable suggestions.

When the red cells are near the normal count (about 6,000,000 to the c.c.) they may still show certain characteristic deformities of individual cells (poikilocytosis) as well as variations in size in the presence of microcytes and macrocytes which appear in the field, and which are not seen in the normal blood. If the red cells are paler in color than normal, if they undergo crena-

8. Solution A, bromin and sodium bromite each 125 grams, water 1000 c.c. Solution B, sodium hydrate 400 grams, water 1000 c.c. Take of A and B each one part, water three parts. They are only to be mixed when needed for use. After the tube has been filled with the solution the pipette is filled with urine to the one c.c. and the point carefully introduced beyond the bend. The urine in the pipette is then expelled by compression of the bulb, care being taken not to force any air into the tube.

tion or breaking at the edges, and do not form rouleaux, it is evident that anemia is present.⁹ The danger signals are still further in evidence when nucleated red cells (normoblasts) appear, and when there is added to these either the giant red cells (megaloblasts) or abnormally small microblasts, the condition is still more serious, since these corpuscles never exist in the normal blood.¹⁰

Hematology further enables us to differentiate with reasonable precision between chlorosis and pernicious anemia. In the former, though pale in color, the blood coagulates rapidly, while in the latter coagulation takes place slowly and the red corpuscles do not tend to the formation of rouleaux. The red cells in chlorosis (which are smaller and paler than normal and are frequently deformed) vary from 4,000,000 to 2,000,000, rarely falling as low as 1,000,000, while in pernicious anemia in which the average diameter of the red cells is increased, the count rarely rises above 1,000,000, and often below this. Cabot gives 1,000,000 as the average number per cubic millimeter. The white cells are also diminished, varying from 4200 to as low as 500, with lymphocytosis as a prominent feature. Megaloblasts are found in both conditions, but while plentiful in pernicious anemia are rarely noticed in the milder disease, chlorosis. The more megaloblasts in pernicious anemia, the more hopeless the case.

The surgeon would be extremely unfortunate to fail in the recognition of these often obscure lesions, and if possible to correct them before subjecting his patient to the severe ordeal of an operation. In the early recognition of septic processes—chiefly pyogenic—surgery can no longer disregard the value of the blood count, especially the estimation of the leucocytes.

The relative number of leucocytes in a given quantity of blood, or their proportion to the red corpuscles can be readily determined by the use of the Thoma-Zeiss apparatus which, is as well known, consists of two pipettes, one for the red and one for the white, with a well-outlined and peculiarly constructed slide or counting apparatus, and employed with the ordinary one-sixth laboratory objective. The differentiation by the use of the Daland hematocrit is not considered sufficiently exact to be satisfactory in the hands of the majority of hematologists. It is essential in making these differentiations to bear in mind the normal conditions that at the sea level the average number of red cells per cubic millimeter is 5,000,000 in men, and 4,500,000 in women, and 6,000,000 in the young and more vigorous adults, while the white cells average about 7500 per cubic millimeter for each sex.

Certain conditions not considered normal, influence the number of leucocytes since in the latter months of pregnancy they are moderately increased, and after parturition, and during the early weeks of lactation, a leucocytosis may be present, without pathological significance. After hemorrhage the leucocyte count is increased, and in diphtheria, erysipelas, trichiniasis, all extensive forms of endometritis and all acute pyogenic processes, leucocytosis exists except in those cases where the vitality of the individual has been overwhelmed by the severity of the septic process, under which condition the leucocytes no longer respond to the demand for the protection of the tissues, and are not present in the

superficial blood in even normal proportions. It is probable that the application of this knowledge is more profitable at present in a study of the various lesions of the abdominal and thoracic organs. We know that in a certain proportion of cases of infection, temperature does not always indicate the increasing gravity of the lesion, while the degree of sepsis can be in great measure determined by the leucocyte count. In impaction of feces, extrauterine pregnancy, floating kidney, gall-stone colic, renal colic, ovarian neuralgia, intussusception, volvulus, internal hernia, twisted pedicle, etc., there is no leucocytosis unless complicated with an acute septic process. In abscess of the liver the leucocyte count ranges from 12,000 to 48,000, while there is a well-marked increase in all the septic pyogenic processes of the lungs and the pleura.

In osteomyelitis the leucocyte count ranges as a rule from 15,000 to 25,000, and at times higher. Since in the early stages of this disease it is at times difficult by subjective symptoms to differentiate between rheumatism or gout, the leucocyte count is invaluable in demonstrating at once the pyogenic process.

In that very rare disease, trichiniasis, the leucocytes register sometimes as high as 30,000, but the special feature is the presence of a large number of eosinophile cells, sometimes as high as 50 per cent., and in rare cases 67 per cent. of the total number of leucocytes being this form of corpuscle. A very considerable number of cases have been reported within the last year in which the diagnosis had been determined by the presence of eosinophiles.

Not only can the presence of the plasmodium malariae be recognized in the red blood cells, but hematology is already able to determine between the different varieties of the malarial parasite. It has been shown that the tertian organism takes forty-eight hours to develop and undergo sporulation; the quartan seventy-two, while the estivo-autumnal passes through irregular phases, varying from forty-eight hours to several days.

We are enabled to demonstrate also the presence of the spirochete of relapsing fever discovered by Obermeier in 1873. Although the cork-screw or spiral threads are rarely seen unless the blood is examined in the height of the fever-paroxysm, diplococcus-shaped bodies believed to be the spores of this organism are found in the periods of remission.

The time allotted has permitted hardly more than a suggestion of the methods of laboratory research, applicable in the daily routine of surgical practice. To me the moral of the lesson is that the *science* and *art* of surgery are inseparable.

THE PROGRESS AND TENDENCY OF HYGIENE AND SANITARY SCIENCE IN THE NINETEENTH CENTURY.

ORATION ON STATE MEDICINE BEFORE THE FIFTY-SECOND
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Hygiene is a department of medicine whose object is the preservation and promotion of health and deals, therefore, with all the factors likely to influence our physical welfare. It is not an independent science, but rather the application of the teachings of physiology,

9. The average red corpuscle (normal) is seven micro-millimeters in diameter.

10. A normoblast is a nucleated red cell not over 10 mm. in diameter, with a nucleus not more than one-half the diameter of the same.

chemistry, physics, meteorology, pathology, sociology, epidemiology and bacteriology to the maintenance of the health and life of individuals and communities. The subject is very properly divided into personal and public hygiene. In the former the doctrines are applied to individuals, in the latter to communities and states.

This branch of medicine has received such an impetus within the last few decades that many persons regard it of modern origin; such, however, is not the case, for on turning to early history we almost invariably find that the health of the population has been made a subject of legislation. Hygiene was practiced by the Egyptians, the old Indians and Hebrews, and a study of the habits of the primitive peoples shows that a desire to prevent disease is innate to all men.

The Greeks and Romans paid special attention to the physical culture of their youth; they also paid much attention to the water-supply, and Athens was provided with sewers at an early period of her history.

The teachings of Hippocrates, 400 B. C., doubtless bore many fruits, and whether it is true or not, as stated by Galen, that he ordered, during a pestilence at Athens, aromatic fumigation and large fires in the streets, we have at least his writings on air, water, soil, habitations and occupations and his views of local and seasonal influences on sporadic and epidemic diseases. In Homer's "Odyssey" reference is made to Ulysses purifying his house with burning sulphur, and Aristotle, in his "Politica," shows his sanitary acumen when he says: "The greatest influence upon health is exerted by those things which we most freely and frequently require for our existence, and this is especially true of water and air."

The Romans, amidst their military operations, found time to construct the "Cloaca maxima" about 2400 years ago, which not only served for the removal of refuse, but also helped to drain many of the marshes, and constitutes the principal sewer of modern Rome. Aqueducts were made to cover miles upon miles of the surrounding plains, and their splendid ruins, many of which have been restored and are now used for their original purpose, attest the munificence and abundance with which the first of sanitary requisites was supplied to the Eternal City. It is stated that between 400 B. C. and 180 A. D. about 800 public baths were established, among them the "Thermæ Caracallæ," which alone would accommodate 3000 bathers at one time.

During the reign of the Cæsars attempts were made to drain the Pontine Marshes; sanitary officials and physicians to the poor were appointed and homes for poor girls and orphans were established. In the meantime the true spirit of Christianity asserted itself, and we read of the establishment of hospitals as early as the fourth century; these were speedily followed by infant and orphan asylums and homes for the poor and incurables. During the Middle Ages sanitation received a decided check, ignorant and brutal prejudices appear to have been the ruling spirits and for many reasons it was the most insanitary era in history.

PESTS AND INSANITARY CONDITIONS OF THE MIDDLE AGES.

About this time most of the towns in Europe were built in a compact form, surrounded with walls; the streets were narrow and often winding for defensive purposes, shutting out light and air from the houses. The accumulation of filth was simply frightful. Stables and houses were close neighbors, human filth was thrown on the streets or manure heap. The dead were buried

within the churchyards. Sewers and aqueducts having been permitted to fall into disuse, the inhabitants were compelled to resort to wells with polluted subsoil water. All the conditions were favorable for the spread of infectious diseases and in the Fourteenth Century alone the Oriental or bubonic plague, according to Hecker, carried off one-quarter of the population of Europe, or over twenty-five million victims.

Although this disease had been described as early as the third century, B. C., a lamentable state of ignorance is shown, when we remember that the majority of people regarded the plague as the dispensation of God's providence, an evidence of divine wrath, which they hoped to allay by all sorts of self-inflicted punishments, and the passion plays of Oberammergau and elsewhere originated about this time. Others accused the Jews of being the cause, and hundreds were burned at the stake until Pope Urban IV. placed them under his special protection. The Faculty of Paris attributed the epidemic to the conjunction of planets on a certain day in 1345, and the Faculty of Leipzig, with equal gravity, asserted that it was connected with earthquakes, unseen waves of air, inundations, etc. Venice, alone of all Europe took a sensible view of the matter, and for the first time in history, in 1348, appointed three guardians of public health, and the rules adopted later to isolate infected houses and districts for forty days has given rise to the term quarantine—from *quaranta giorni*.

The repeated invasion of the Oriental pest appears to have everywhere compelled some sanitary efforts and an imperial decree in 1426 required the appointment of city physicians throughout Germany, whose duty it was to adopt preventive measures. A city ordinance of Nürnberg in 1562 gives detailed directions as to the quality of bread, beer and wine offered for sale, the cleaning of streets and houses, the disposition of infected clothing and bedding, the fumigation with sulphur and straw of pest-houses, etc.

In 1685 Prussia established a central medical bureau, and appointments of health officers and privy medical counsellors were made, whose duties consisted in advising the men entrusted with the care of the government on matters relating to public health, and some of these titles are still in vogue in Europe. At the beginning of the eighteenth century, Prussia, upon being threatened with an invasion of the bubonic plague from Austria, created the "Collegium Sanitatis," popularly called the "Pest College," which was really the beginning of the present state board of health. In 1762 a sanitary council was established in every Prussian province, for the prevention of disease among man and animals. About the same time sanitary improvements in the way of widening streets for the purpose of supplying more air and light to the habitations, and better methods for the collection and removal of the wastes of human life were introduced, but, broadly speaking, at the close of the seventeenth century the habits of the people in Europe were generally filthy and in striking contrast to those observed among the most untutored savages of the present day.

In Madrid, we are told by Barcome, in his history of epidemics, "that not even a privy existed in 1760. It was customary to throw the ordure out of the windows at night, and it was removed by scavengers the next day. An ordinance having been issued by the king that every householder should build a privy, the people violently opposed it as an arbitrary proceeding, and the physicians remonstrated against it, alleging that the filth

absorbed the unwholesome particles of the air which otherwise would be taken into the human body. His majesty, however, with commendable zeal, persisted, but many of his citizens, in order to keep their food wholesome, erected privies close to their kitchen fire-places."

With such unsanitary conditions we need scarcely be surprised that the mortality in towns was greater than their birth-rate and that the city population had to be recruited continually from the country. Toward the close of the eighteenth century many sanitary reforms were effected, however, especially in connection with infant and orphan asylums, and the management of schools and prisons. Of special importance is the brilliant discovery, or re-discovery, of vaccination by Jenner in 1796.

PROGRESS OF SANITATION IN THE NINETEENTH CENTURY.

The nineteenth century can boast of many advances in hygiene, particularly since the European invasion of cholera in 1830. The English towns which had been visited by this disease and those fearing similar scourges were willing to profit by their sad experience, and freely instituted sanitary reforms in the establishment of sewers, public water supplies, sanitary homes, etc.

The example of England was followed by all civilized nations, with similar results. The efforts of sanitation, as taught by Dr. Parkes, were demonstrated during the Crimean War and, as beautifully expressed by Virchow during our Civil War, reached "the highest point in humane efforts ever attained in a great war," and we may proudly add have even been excelled during our late Spanish-American War.

PROGRESS OF SANITATION IN THE UNITED STATES.

While the people of the United States were not slow in adopting and originating sanitary measures of great value, our ideas of personal liberty, guaranteed to us by the Constitution, evidently prevented early legislation in matters of public health, for fear that such legislation might affect the personal habits of the citizen and lessen his freedom of action. Dr. Samuel W. Abbott, in his masterly exposition of "The Past and Present Condition of Public Hygiene and State Medicine in the United States," records, however, the gratifying fact that the early colonists recognized the need of preserving their records, which constitute the foundation stone of public hygiene, by enacting a law in 1639 "that there be records kept of the days of every marriage, birth and death of every person in this jurisdiction."

The importance of vital statistics is not fully appreciated at the present day, and yet, as remarked by Dr. Billings, "when we wish to study the healthfulness of a city, whether it is getting better or worse, or judge correctly the effect of certain sanitary laws, we should not only know the number of deaths, but also the amount and character of the prevalent disease, together with accurate information as to the number of population at different ages." It is a matter of regret, therefore, that even now only ten states, Connecticut, Delaware, Maine, Massachusetts, Michigan, New Hampshire, New Jersey, New York, Rhode Island and Vermont, have anything like a satisfactory system of vital statistics.

According to Abbott: "Up to the close of the eighteenth century and for several decades of the nineteenth, almost the only health legislation which was enacted in the different states in the Union consisted in a few laws relating to smallpox, since this pestilence was scarcely

ever absent for many years at a time from any city or village, 'till after the general introduction of vaccination."

Dr. Waterhouse, of Cambridge, having secured a supply of vaccin lymph from Dr. Jenner, introduced vaccination in Boston in 1800, and Dr. Scaman in New York in 1801. In the same year President Jefferson received some virus from Dr. Waterhouse and was vaccinated by Dr. Grant, of Georgetown.

The invasion of cholera from Canada in 1832, and the epidemic of 1848-1849 here, as in Europe, aroused public interest in sanitary reforms, and the legislature of Massachusetts in 1849 appointed a commission to make a sanitary survey of the state, and we are told by Dr. Abbott "that this was done none too soon, for in that year the general sanitary condition of the state, as shown by the report of the commission, was deplorable and the death-rate unusually high. Only a few towns had then introduced public water-supplies. Cholera was beginning to appear again and dysentery and other infectious diseases were more destructive than they had been for many years."

HEALTH BOARDS.

New Orleans having lost 8000 victims of cholera in 1832, out of a population of about 55,000, and anxious to maintain a quarantine, secured the enactment of a law in 1855 for the establishment of a state board of health; in 1869 a more comprehensive board was established in Massachusetts, followed in 1870 by California, since which time nearly all of the states and territories—forty-two in number—have followed the example. *Pari passu* and in many instances preceding the establishment of state boards of health, sprung into existence our local boards of health, who adopted measures for the control and restriction of infectious diseases, for the abatement of local nuisances, for the sanitary inspection of the food-supply, schools, public buildings and institutions and tenements; street cleaning and removal of refuse, registration of vital statistics, supervision of burials and of municipal water-supply, sewerage, and sewage disposal, care of bathing establishments, regulation of offensive trades, etc.

EFFECTS OF VOLUNTARY ORGANIZATION ON SANITATION.

In September, 1872, the American Public Health Association was organized; in 1873, the Section on State Medicine of the AMERICAN MEDICAL ASSOCIATION was created; since then the American Climatological Association, the Sanitary Council of the Mississippi Valley, the American Sanitary Association, and the American Health Resort Association have been organized, and numbering, as they do, among their members some of the best minds in the profession, much good has been accomplished by these bodies, and the so-called "sanitary conventions" in molding public opinion and in framing and recommending health laws. There is no doubt, however, that all these organizations were stimulated into existence by the lofty tenets of our Code of Ethics,¹ in which the duties of the profession to the public were prescribed as early as 1847.

1. Article 1, paragraph 1, reads: As good Citizens, it is the duty of physicians to be ever vigilant for the welfare of the community and to bear their part in sustaining its institutions and burdens; they should also be ever ready to give counsel to the public in relation to matters especially appertaining to their profession, as on subjects of medical police, public hygiene and legal medicine. It is their province to enlighten the public in regard to quarantine regulations, the location, arrangement and dietaries of hospitals, asylums, schools, prisons and similar institutions; in relation to the medical police of towns, as drainage, ventilation, etc., and in regard to measures for the prevention of epidemic and contagious diseases, and when pestilence prevails it is their duty to face the danger and to continue their labors for the alleviation of the suffering, even at the jeopardy of their own lives.

Indeed, the AMERICAN MEDICAL ASSOCIATION, according to Dr. N. S. Davis, Sr., gave prominent attention to State Medicine and sanitation from its first meetings. At the second annual meeting, in 1849, standing committees were appointed on forensic medicine and on hygiene and reported annually on these topics and on meteorology, medical topography and epidemic diseases until 1860, when work in Sections was commenced. Dr. A. N. Bell, of New York, delivered the first address on State Medicine in general session of the ASSOCIATION in 1874, followed in 1875 by Dr. N. I. Bowditch, of Boston.² In this connection, I may say that there is need of reliable information on the geographical distribution of diseases like goiter, cretinism, etc., and county medical societies would contribute much to the common fund of knowledge by placing on record information of this character.

NATIONAL BOARD OF HEALTH.

The cholera epidemic of 1872 and 1873 resulted in the appointment of a commission by Congress. This, together with the yellow fever epidemic of 1878 in the Southern States, affecting, according to Sternberg, over 74,000 persons, with 16,000 deaths, called attention to the necessity of some central sanitary organization. In March, 1878, Congress created a national board of health, whose duty it was to make investigations into the causes and means of prevention of contagious and infectious diseases, to indicate measures of national importance and to be a center of information for all matters relating to public health. For want of appropriation this important body has ceased to exist, and since 1883 the duties relating to international and interstate quarantine have been discharged by the Surgeon-General of the U. S. Marine-Hospital Service; his bureau, apart from the management of hospitals and stations for the care of sick and disabled seamen of the merchant marine, has also undertaken the collection and dissemination of mortality statistics and sanitary information, scientific investigation into the causes of disease, the physical examination of immigrants under the law, excluding those affected with contagious disease—service in the office of consuls at foreign ports to assure the accuracy of bills of health—and other miscellaneous duties. Since Congress has failed to act upon the President's repeated recommendation and the petition of numerous medical societies for the creation of a national health establishment, there is no good reason why the scope of duties and powers exercised by the Marine-Hospital Service should not be enlarged. Indeed, the last Congress appropriated sufficient money for the erection for a laboratory "for the investigation of infectious and contagious diseases and matters pertaining to the public health," which marks the beginning of a new era in national sanitary legislation.

NATIONAL AND INTERNATIONAL QUARANTINE.

The question of an efficient system of national and international quarantine against Asiatic cholera, yellow fever, smallpox, typhoid fever, bubonic plague, leprosy has engaged the attention of sanitarians for years, especially since it became known that these diseases, particularly cholera, are generally carried along the highways of travel and commerce. Special efforts were made after the completion of the Suez canal and other rapid transit facilities, to guard Europe from the invasion of cholera from India, and since 1892 these efforts have been quite fruitful. At all events with

efficient quarantine regulations involving inspection of vessels, passengers and crew, the detention of the sick and disinfection of all others, including personal effects, cargo and vessels, and proper notification, we have been enabled to keep these diseases from our shores, and if other nations do the same, they should be restricted to their original home. General Wyman's plan, as outlined in his address before the Pan-American Medical Congress, contemplates an international system of sanitation; while his proposition refers especially to yellow fever in the Western Hemisphere, it is equally applicable to the home of cholera and the oriental plague.

In the light of the recent researches by Reed and Carroll as to the transmission of yellow fever by means of mosquitoes, our views concerning quarantine and disinfection in this disease may have to be modified, but in the meantime the fight against the mosquitoes will go on; whether this will be effectually accomplished by insecticides and screens, or the more rational method of drainage of the soil, remains to be seen; in either event malarial countries will likewise be benefited.

HAS HUMAN SUFFERING BEEN MITIGATED AND HUMAN LIFE GREATLY PROLONGED BY EFFORTS IN SANITATION?

Our answer is an emphatic "Yes." Professor Finkelburg, of Bonn, estimates that the average length of human life in the sixteenth century was only between 18 and 20 years; at the close of the eighteenth, it was a little over 30 years, while to-day it is over 40 years; indeed, the span of life since 1880 has been lengthened about six years, as shown by statistics, in Mulhall's "Dictionary of Statistics" (4th edition, London, 1899).

The mortality of London between 1660 and 1678 was 80 per 1000 of inhabitants; from 1728 to 1780, 51 per 1000; from 1801 to 1835 it was still 29, while at the present time it averages between 17 and 19 per 1000.

INFLUENCE OF SEWERS AND PUBLIC WATER-SUPPLIES.

Without underestimating the brilliant achievements of Jenner's discovery of vaccination in 1796, which as a preventive measure has saved millions of lives, no two factors have contributed so much to the general result as the improvement of the air we breathe and the water we drink. Indeed, we have ample evidence that, with the introduction of sewers and public water-supplies, the general mortality in numerous cities, during the past forty years, has been reduced fully one-half, the good effects being especially shown by a marked decrease in the number of cases of typhoid fever, diarrheal diseases and consumption. The vital statistics of Great Britain furnish the proof. The mortality of Salisbury within the last thirty years has been reduced from 40 to 16 per 1000; at Dover, from 28 to 14 per 1000; at Rugby, from 24 to 10 per 1000; at Croydon, from 28 to 15 per 1000, and at Matlock, from 18 to 9 per 1000.

The history of every sewered city shows a lessening of the typhoid death-rate subsequent to the construction of the sewers and that the typhoid rate is always higher in sections supplied with privy pits and box privies, than in the houses connected with sewers. In 1895 the speaker pointed out that typhoid prevailed in the city of Washington and suburbs in 1 of 81 houses with privies, and in only 1 in 149 of those connected with sewers, and the health officer of Nottingham has since then presented similar evidence. The only reasonable explanation for this is that sewers carry away the filth that otherwise would contaminate the soil and ground water, but even if there were no wells, these makeshifts are still a source of danger in so far as they favor the

2. Information kindly furnished by Drs. N. S. Davis, Sr., and Geo. H. Simmons, letter of April 18, 1901.

transmission of the infection by means of flies, nor can the possibility be ignored that the germs in leaky or overflowing boxes may reach the upper layer of the soil, and, with pulverized dust, gain access to the system. This conclusion, and the agency of flies in carrying the germs from box privies and other receptacles from typhoid stools to the food-supply, was enunciated in my report in 1895 and appears to have found ample support in the experience of the late Spanish-American War.

INFLUENCE OF IMPROVED WATER-SUPPLIES.

According to Dr. Abbott, the number of towns in the United States before 1800 having a public water-supply was only 16, supplying about 2.8 per cent. of the existing population; in 1850 there were only 83 public water-works, supplying about 10.6 per cent. of the census population; in 1897 the total number was 3196, supplying about 41.6 per cent. of the population.

A summary of the evidence on this subject reveals the significant fact that cities, both at home and abroad, in which there has been the most marked decrease in typhoid fever death-rate, are those in which a pure supply has been substituted for a pre-existing contaminated one. Thus, for example, the typhoid fever death-rate in Boston in 1846-1849 was still 17.4 per 10,000; in 1890-1892 it had fallen to 3.2 per 10,000, the city having in the meantime expended \$25,000,000 on its water-supply. The typhoid fever death-rate in Chicago from 1890 to 1892 averaged 12.5 per 10,000. After improving the water-supply it fell with every step in improvement until last year it was only 1.9 per 10,000, a total reduction of 84.8 during the decade. The rate from this disease in Lawrence, Mass., for five years prior to 1893, was 12.7 per 10,000. After the establishment of sand filters, in September, 1893, the rate fell during the first twelve months to 5.2 per 10,000.

Munich was notorious for its excessive typhoid fever death-rate, it being 29 per 10,000 in 1856. With the introduction of a pure water-supply and improved sewer system it has fallen to less than 2 per 10,000. The experience of London, Berlin, Vienna, Albany and a host of other cities has been precisely the same.³

SEWAGE DISPOSAL AND RIVER POLLUTION.

When we remember that in 1896, 41 per cent. of our population lived in towns having public water-supplies, and only 28.7 per cent. in sewered towns, we fear that the municipal authorities have failed to recognize the necessity that a system of public sewerage must go hand in hand with the public water-supply, the neglect of which simply compels recourse to the various makeshifts for the collection and removal of excreta, and leads to soil pollution and all the other evils already referred to.

In view of the fact that self-purification of rivers is a slow and uncertain process, and that streams once polluted with excrementitious matter can not be considered a safe water-supply, it is high time for civilized communities to take steps toward removing the danger to be found in rivers, which are the sewers and at the same time the sources of public water-supplies.

We know, from statistics collected by the Marine-Hospital Service, that the towns and cities located on the banks of the Ohio, Potomac, Mississippi, Merrimac, Connecticut, Missouri, the Red, the Columbia and

Wabash rivers show a marked prevalence of typhoid fever, confirming what has elsewhere been proved, that this disease, as also cholera, dysentery and diarrheal diseases can be carried from one town or city to another by means of water-courses. There were probably no fewer than 35,000 deaths caused by typhoid fever alone throughout the United States last year and, based upon an estimated mortality of 10 per cent., it is within reason to assume a yearly prevalence of 350,000 cases of this disease. The average duration of a case of typhoid fever is not less than thirty days. If we calculate that an average of \$1 a day is expended for care, treatment and loss of work, and that the value of a human life is \$5000, we have a total loss in the United States of \$185,500,000 per annum, from one of the so-called preventable diseases. Reduce the prevalence of this single disease one-half, which has been accomplished in England, and the oft-recurring question: "How is it our fathers got along without these so-called modern improvements?" will be satisfactorily answered from an economic point of view.

One of the most pressing needs is an investigation into the pollution of water-supplies when such pollution affects or threatens to affect the sanitary condition of the people of more than one state, because the individual states are powerless to protect themselves against the misdeeds of their neighbors. Mr. Barthold's bill for the appointment of a river pollution commission was defeated; yet that same Congress appropriated \$40,000 for the extermination of the gipsy moth. England enjoyed the benefit of such a commission as early as 1855, and, in order to prevent, remedy and remove the danger of polluted water-supplies, adopted a comprehensive system for the disposal of sewage and water filtration, the fruits of which have already been referred to.

No community or individual has a right to pollute streams used for public water-supplies any more than a man has to contaminate his neighbor's well. This principle is very well appreciated by some of the nations in Europe. Thus the inhabitants of a town in Belgium suffered from the effects of a river polluted by the French and the French Government not only compelled the offending town to dispose of its sewage by irrigation, but also granted a subsidy for this purpose.

In the interest of public health it is to be hoped that every state in the Union will take steps toward the prevention of river pollution, except when towns are located close to the sea, and no lower towns are obliged to use the water for drinking purposes.

In 1878 the British Government appointed a committee to inquire into the several methods of sewage disposal and concluded that it can be best and most cheaply disposed of by the process of land irrigation for agricultural purposes, but as this is not always practicable other modes of dealing with sewage have been proposed.

It is a gratifying fact that within the past ten or twelve years over 100 communities in the United States have established plants for the disposal of sewage. The first attempt was made in 1872 at the state insane asylum, Augusta, Me., since which time seventy-eight plants for the disposal by irrigation, and fifteen by chemical treatment have been established and over forty more projected.

PURE FOOD AND DRUG LEGISLATION.

The first movement toward securing comprehensive legislation against the adulteration of foods and drugs

3. In 25 cities using unfiltered water the average typhoid death-rate is still 7.7 per 10,000; in 5 American cities supplied with water filtered by the American process, the rate is 5.5, against a rate of 1.1 per 10,000 in cities supplied with water filtered by the natural or English method. The average rate of 5 cities in Europe supplied with mountain springs or deep wells from unpolluted sources is only 0.7 per 10,000.

in this country was made in 1879. This is all the more surprising because Dr. Mann, in his "Medical Sketches of 1812," remarks that "the bread on the Niagara was made of damaged flour, such as was either not nutritious or absolutely deleterious." It was believed also that the flour contained in some instances an earthy substance, and that this adulterating substance was plaster-of-paris. Again, during the Civil War, as early as the winter of 1861-62, an extract of coffee furnished the troops in the vicinity of Alexandria produced nausea and vomiting, and subsequently a government contractor, for having practiced food adulteration, was sentenced to a protracted imprisonment.

Instances, therefore, were not wanting pointing to the necessity of such laws; nevertheless, it was not until 1881 that three states, New Jersey, New York and Michigan passed laws to prevent the adulteration of food and drugs. The law in New York commenced in the summer of 1882. At the close of the year 286 samples of food and drugs had been submitted to the public analyst for examination, of which 194 had been reported on. Of 119 samples of food, 50 were found adulterated; while of 75 samples of drugs, 32 were adulterated.

Since 1883 quite a number of states have enacted similar laws, but I regret to say that in spite of the absolute necessity for national legislation, which has been agitated ever since 1892, so far every bill presented to Congress has failed to become a law, and food adulterated in one state can be taken to another and sold. It would lead me entirely too far even to touch upon all the frauds which are daily perpetrated. Some adulterations are harmful, others are not. I will simply refer to a very universal article of food, viz., milk. New York City obtains its milk-supply from five states, and amounted in 1896 to nearly 729,000 quarts a day. Analysis of the milk sold some years ago showed an average dilution with 33 per cent. of water. The state inspector found 12 per cent. water added and 20 per cent. of cream removed, the fraud amounting to over \$10,000 a day. The results in St. Louis, Chicago, and elsewhere were similar, and indicated the desirability of stringent laws to protect the pocket of the consumer, but when we remember the frightful infantile mortality, and the fact that the speaker has recently presented his conclusions, based upon 195 epidemics of typhoid fever, 99 of scarlet fever and 36 of diphtheria and that 52 of these outbreaks occurred in this country since 1882, we see at once that the milk traffic should be under strict sanitary control.⁴

LAWS REGULATING THE SALE OF DRUGS AND POISONS.

Forty-two states and territories have enacted laws to regulate the sale of poisons, but a careful study shows that they should be amended, and greater restriction placed on the sale of poisons generally. A recent investigation by a committee of the Medical and Surgical Society into the extent of the opium and drug habit in the District of Columbia developed some interesting facts, and led to the conclusion that one class of subjects have developed the opium habit by the use of the milder preparation of opium and some of the various proprietary or secret remedies commonly employed as domestic remedies, such as paregoric, McMunn's elixir, chlorodyne, blackdrop, soothing syrup, diarrhea mixtures, pain-killers, etc. Those of another class have evi-

dently acquired the habit by the constant use of prescriptions containing opium, or its preparations, for the relief of pain, the individuals being at first quite unconscious of the enslaving nature of the drug. Still another class of persons belong to the moral degenerates of fast men and women who have acquired the habit by contact with opium habitues, including opium smokers, and through solicitation, invitation and persuasion have fallen victims to the vice. Since the opium habit is often established by the unauthorized and indiscriminate renewal of prescriptions containing opiates, the New York legislature very wisely enacted, in 1886, a law that no pharmacist shall refill more than once prescriptions containing opium or morphine, or preparations of either, in which the dose of opium shall exceed $\frac{1}{4}$ grain, or morphine $\frac{1}{20}$ grain, except with the verbal or written order of a physician.

It is clearly the duty of the state to close opium dens and restrict the sale of poisons, and in regard to the sale of patent and proprietary medicines containing poisonous drugs, the contents should be expressed on the label and the word poison added.

PATENT AND PROPRIETARY MEDICINES.

By the term patent medicine, as properly employed in this country, England and Europe generally, it must be understood that the composition is known and can be seen at the patent office. The proprietary medicine is a secret preparation protected by a trade mark in this country, and hence preferred by the owner, but both are vaguely termed by the public patent medicines. Up to Dec. 10, 1900, the United States patent office had issued patents on the following:⁵ disinfectants, 321; extracts, 250; hair dyes and tonics, 48; insecticides, 180; internal remedies, 376; plasters, 56; topical remedies, 371; veterinary, 78. Trade marks:⁶ drugs and chemicals, 319; medical compounds, 5974, and increasing at the rate of about 250 a year.

The proprietary medicines are subject to the control of the state authorities, and if containing alcohol in sufficient quantity to be intoxicants are subject to internal revenue laws; but so far as my knowledge extends, little or nothing has been done in this country and in England to control the sale of secret remedies. Dr. G. Danford Thomas, Coroner of London and Middlesex, before the International Congress of Hygiene, in 1891, very justly urged that all proprietary medicines should be under the patent laws, because the composition is at least disclosed; he would abolish licenses to sell them and confine the sale to chemists and druggists only. In these matters we could certainly profit by the example of the Japanese, Italian, French and German laws. In the interest of public health the profession should demand adequate legislation; as it is now, hundreds of these proprietary preparations, the composition of which need not even be disclosed to the patent office, are advertised in medical journals.

INDUSTRIAL HYGIENE.

The relations of occupation to health and life were studied as early as 1700 by Ramazzini, an Italian physician, and since then numerous monographs have appeared. We know to-day that persons habitually engaged in hard work, especially in factories and indoors, present a higher mortality than persons more favorably situated, and that the character of occupations influ-

4. The results achieved by the health officers of every large city, notably by Reynolds, of Chicago, Wende, of Buffalo, and Woodward, of Washington, in the reduction of infantile mortality, amounting in some instances to over 50 per cent., show the advantages of pure food legislation.

5. Information kindly furnished by Dr. J. B. Littlewood, of the Patent Office.

6. Information collected from files of the U. S. Patent Office, by the author.

ences, to a great extent, not only the average expectation of life, but also the prevalence of certain diseases. We know, for example, that tuberculosis is much more frequent among persons engaged in dust-inhaling occupations, and that the sharp angular particles of iron and stone dust are more liable to produce lesions of the respiratory mucosa than coal, flour, grain and tobacco dust. We know, too, that certain establishments, like slaughter-houses, glue, soap and candle factories, chemical factories, etc., are more or less productive of noxious and offensive gases, and that workers in lead, mercury, arsenic, phosphorus, poisonous dyes, etc., suffer especially from the injurious effects, and that other occupations, such as mining, railroading and contact with moving machinery, involve special danger to life and limb.

For all these reasons the laboring classes need special protection, and in order to render this efficient, it must be provided for by the enactment and enforcement of suitable laws. In 1864, 1867 and 1870 England enacted the so-called factory laws. According to Miss S. S. Whittlesey's "Essay on Massachusetts Labor Legislation," child labor, here as in England, was the first aspect to receive attention in legislation as early as 1836. The first law as regards safety and sanitation was enacted in that state in 1877, since which time, from information kindly furnished by the Hon. Carroll D. Wright, of the U. S. Department of Labor, thirty-two states have enacted similar laws, including legislation requiring seats to be furnished saleswomen in stores and shops. Indeed, in some of the states the latter requirement is the only sanitary regulation. As a result of these laws, the majority of which were enacted during the last decade, commendable progress has been made in the way of ventilation, heating, lighting, removal of dust and injurious gases, means of escape in case of fire and prevention of injuries by moving machinery.

It is quite true there are other factors which affect the health and longevity of wage-earners adversely. So, for instance, unsanitary dwellings, faulty nutrition—the results of badly prepared food and cold lunches—can not fail to lower the power of resistance to disease, especially when the individual, in consequence of these very causes, has also become a victim of the alcohol habit.

SANITARY DWELLINGS FOR WAGE-EARNERS.

No field affords better opportunity for philanthropic work than the erection of sanitary homes for wage-earners at reasonable rentals, the encouragement of cookery schools, the establishment of sanitary lodgings, model eating-houses and other betterments of industrial conditions.

The vital statistics of London show that the mortality in the improved dwellings for wage-earners is far below the general mortality of the city, the difference being specially marked in the infantile mortality; the general average during the five years ending December, 1890, was 153 per 1000, while in the "George Peabody" and the "Metropolitan dwellings" it was only 136 and 121 respectively.⁷

7. At a recent meeting of the American Social Science Association, held in Washington, April 18, 1901, Mr. J. H. Patterson, Dayton, Ohio, read a paper on factory sanitation and described a large manufacturing plant of which he is the head, and their close adherence to the principles of hygiene and the uplifting of mankind. The interior of the factory is painted in cheerful colors, extra windows were made to give light, forced ventilation to afford plenty of fresh air, and all dust and acid fumes are carried away by exhaust fans. Bath-rooms and well-furnished toilet-rooms are on

RURAL HYGIENE.

When we consider the fact that over 70 per cent. of our population reside in rural districts, that the "bone and sinew" of these are engaged in agricultural pursuits, and that they do not enjoy the benefits of enforced sanitation by local health boards, we see at once the desirability of the family physician extending useful suggestions on healthful building sites and homes, disposal of house wastes, the importance of a pure water-supply, wholesome and properly cooked food, etc. As it is now, the diet is faulty, especially the hot biscuits, greasy fried dishes, while wells and privies are often dangerous neighbors. The undue prevalence of typhoid fever in rural districts could be materially checked by disinfecting the stools with three times the volume of boiling water and the adoption of the earth closet system. This is all the more important since infection is often spread through the milk-supply, and many of our urban population contract disease in the country during the summer months. While prompt disinfection of the excreta is the only rational method, we should also make an effort to get rid of the flies by prompt disposal of the horse manure in which they breed, the abandonment of open privies and surface pollution, removal of garbage and other fly-breeding matter.

SANITATION OF PRISONS.

Most commendable progress has been made in the construction and management of modern prisons. The mortality at the close of the last century, among prisoners in some of the French prisons, was 250 per 1000; between 1840 and 1849 it was still 80.2 per 1000, at St. Gallen, while to-day it is less than 30 per 1000. Tuberculosis, typhoid fever, diarrhea, croupous pneumonia and mental disorders are the most prevalent diseases, but much will be done in future to reduce the excessive mortality by improved lighting, heating, ventilation, good food, bathing facilities, etc.

In some of the damp, dark and gloomy prisons of Germany over 50 per cent. of all the deaths are from consumption. In the Mill-Bank prison of London, from 1825 to 1842, were 175 deaths, of which no less than 75 were due to tuberculosis. Besides, 90 prisoners were set free on account of being hopelessly afflicted with pulmonary tuberculosis. In the Illinois State Prison, at Joliet, during the year 1895, 39 deaths were reported from consumption; in 1900 only 8 occurred. This decrease appears to be due directly to segregation of tuberculous subjects.

HOSPITALS, SANITARIA AND DISPENSARIES.

Perhaps no country in the world can boast of better hospital facilities than our own. Indeed, many of our institutions are perfect in sanitary architecture and equipment. There are in the United States no less than 1776 hospitals, including 35 special hospitals for consumptives; 308 sanatoria; 213 dispensaries, and over 8000 mineral springs, of which 727 are health resorts. Un-

all the floors. All seats have backs. Clean aprons are furnished by the company, and a dining-room where hot meals are served and a course in domestic economy is conducted. The grounds around the factory, and the houses of the employees, are healthful and attractive. "We have demonstrated," said Mr. Patterson, "that this system pays the employee, the manufacturer and the buyer: in the health of one, profit of the second, and the improved quality of the product purchased by the third." Bulletin No. 31, Department of Labor, November, 1900, contains an article on betterment of industrial conditions, showing what has elsewhere been accomplished, every effort being in the right direction, except that free medical attendance is being furnished by certain companies, involving a contract system with physicians, which ought never to gain a foothold on American soil, because it has proved a bane to the profession elsewhere.

fortunately the liberality with which medical charities have been supplied has given rise to shameful abuses, and persons who would shrink from seeking charity in any other form have abused the privileges offered by hospitals and dispensaries.

Correction of Abuses.—In 1896, speaking of the city of Washington, no fewer than 21 per cent. of the population received free medical treatment; the medical association in 1897 adopted certain rules compelling the attending staff of hospitals and dispensaries to require evidence of dependency; as a result of this system there has been a gradual but positive decrease in the number of charity patients, amounting to over 9000 last year. It is the simplest, most just and effective remedy for the correction of this evil.

SCHOOL HYGIENE.

During the year ending June 30, 1900, there were 15,341,220 children enrolled in the common schools of our country. When we consider that the mental and physical vigor of a nation depends largely on the environments of childhood and youth, it seems strange that up to within forty years little or no attention should have been paid to the hygiene of schools. The occurrence of so-called school diseases is not surprising when we reflect that children, on beginning school, enter upon a new life and environment. Up to this time they have been allowed to run and play in the open air, exercise the body and senses, without restraint, but now without a period of transition they are obliged to remain for several hours a day in close and sometimes unsanitary school rooms, taxing their minds and straining their eyes for near objects. Experience teaches and statistics confirm the conclusion, that quite a number of children suffer from certain physical defects and diseases, which because rarely observed before the school period, may be justly attributed to school environments. Among the most common of these affections are myopia, lateral curvature of the spine, dyspepsia, anemia, muscular debility, headache and nose-bleed, nervous affections and tuberculosis. Ware, of our own country, as early as 1812 called attention to the fact that myopia was most frequently developed in the school room, and during the past forty years we have been enlightened as to the cause of this and other defects, and many excellent monographs have been written on the construction of school buildings, arrangement of recitation-rooms, as regards light, ventilation, adjustable seats and desks, proper type for text-books and more rational methods of mental and physical training. This, together with a commendable zeal on the part of the authorities to correct existing evils, has resulted in many reforms, the fruits of which are already apparent in a decrease of the diseases referred to.

Medical Inspection.—I can not enter into details concerning the prevention of the spread of infectious diseases among school children, but desire to emphasize the necessity of medical inspectors, whose duty it should be to visit the schools, examine pupils, and give such directions as will reduce the dangers of spreading contagious diseases to a minimum; they should also make sanitary inspection of the buildings and present such recommendations as are necessary in the interest of the health of both the pupils and teachers, and as the physicians were perhaps the first to recognize the fact that "the system of education should be made to fit the child, not the child the system," the teachers may derive much aid from such consultations; among the cities that have inaugurated such inspections since 1894 are Boston,

New York, Brooklyn, Chicago, Milwaukee, Louisville, St. Louis, Philadelphia, Jersey City, Brookline, Mass., Buffalo, Minneapolis and Salt Lake City, and they have proved of inestimable value.

SMALLPOX AND COMPULSORY VACCINATION.

In this connection, attention is invited to the undue prevalence of smallpox in the United States; the total number of cases reported to the U. S. Marine-Hospital Service during the past fall and winter, up to March 29, was 11,964, as compared with 7279 cases for the corresponding period of the preceding year, and it is doubtless due to neglect in vaccination. Dr. Abbott estimates the vaccinated portion of the inhabitants of the United States at not far from 90 per cent., and the revaccinated portion at probably 50 per cent. With the introduction of glycerinated animal lymph every vestige of prejudice against vaccination should cease, and compulsory laws should be enacted in every state, so that smallpox here, as in the German army, may become practically unknown. While quite a number of states have enacted laws requiring that unvaccinated children shall not be admitted to the public schools, it is believed that these laws are not rigidly enforced.

VENEREAL DISEASES.

A careful perusal of Dr. Prince A. Morrow's article on the "Prophylaxis of Venereal Diseases" (*Phila. Med. Jour.*, April 6, 1901) should stimulate our efforts in the prevention of diseases, which affect not only the offender, but innocent wives, the offspring and not infrequently even the medical attendant. According to Fournier, one-seventh of the population of Paris is syphilitic, and Morrow, from statistics gathered in New York, believes it is quite possible that Fournier's figures, with some modification, may apply to New York. Neisser holds that gonorrhea is, with the exception of perhaps measles, the most widespread of all diseases. Other German authorities have computed that fully three-quarters of the adult male population and one-sixth or more of the adult females have contracted gonorrhea; that 80 per cent. of all deaths from disease of the uterus and its adnexes are of gonorrheal origin, while blenorrhea neonatorum contributes a contingent to our asylums for the blind estimated at from 10 to 20 per cent.—from 40 to 60 per cent. before the Credé method was instituted—not to mention the destructive effects on the procreative functions. Dr. S. M. Burnett, of Georgetown University, believes that 15,000 of the 50,000 blind persons in the United States lost their sight from this cause, which according to his calculation involves a financial loss to the commonwealth of seven and one-half millions annually.

The measures which have been proposed for the control of the social evil and the prevention of its consequences are numerous enough, but not so easy of practical application. On the whole I believe the remedy lies in public education, and the task as usual falls on the medical profession, especially the trusted family physician. Public lecturers on the purity of man commit a serious mistake, however, when they picture the consequences of the social evil, without offering a suitable remedy. We should make a strong plea in favor of continence, and tell our young men that while the sexual passion is very strong it can be accelerated or delayed, excited or lowered by the influence of the will. We should assure them that by the cultivation of pure thought, removal of temptation, normal, mental and vigorous physical exercise, continence may not only

become possible, but easy. And we can hardly go astray if we follow Dr. Parkes in advising a pure young man to make his home, after the age of 21, and thus secure himself both from the temptations and expenses of bachelorhood.

THE MANAGEMENT AND CONTROL OF INFECTIOUS DISEASES.

It is the field of infectious diseases where preventive medicine has and doubtless will continue to achieve its greatest triumphs, and there is ample room, when we consider that during the census year of 1890 there were not less than 102,199 deaths from consumption, 74,496 from pneumonia, 74,711 from diarrheal diseases, 41,677 from diphtheria, and 25,058 from typhoid fever. In spite of centuries of groping after facts, we knew nothing of the real nature of infectious diseases until the middle of the present century, and even twenty-five years ago the text-books still discussed the subject of miasma and contagia, whose nature had never been demonstrated to our senses. With improved microscopic lenses and the development of bacteriology, more especially the discovery of the anthrax bacillus by Davaine, Pollender and Brauell (1849-1855), scientific medicine had its birth, and to-day we know that such diseases as tuberculosis, glanders, leprosy, cholera, erysipelas, wound and puerperal infections, gonorrhea, pneumonia, cerebrospinal meningitis, typhoid fever, diphtheria, malaria, influenza, dysentery, bubonic plague, and possibly carcinoma are caused by living organisms, capable of reproduction within and without the body, and this is a strong argument in favor of the microbic nature of other infectious diseases, in which the specific organism has not yet been isolated.

The eradication of preventable diseases is the highest aim of scientific medicine to-day. The public should be made familiar with the nature and causes of infectious diseases, and be taught that many are a source of danger, against which it is entitled to be warned by proper notification through the health officer. This notification should be made compulsory in cholera, yellow fever, smallpox, chicken-pox, typhus and typhoid fever, diphtheria and membranous croup, scarlet fever, tuberculosis, cerebrospinal meningitis, leprosy, glanders, bubonic plague, whooping-cough and measles. And let me say that a prompt and correct diagnosis is the first and most important step in preventive measures. The health department should have competent medical inspectors and a clinical laboratory for the verification of the diagnosis, and have the power in certain of these diseases to display warning signs, enforce isolation and disinfection, and to take such other steps in the way of immunizing agents as may be deemed necessary to limit their spread.

Isolation, to be effective, should extend to all persons who have come in intimate contact with the patient, but this is rarely enforced except in smallpox, in the case of the attending physician, and the wage-earners of the family, but it is clearly their duty to take special precautions in the way of clothing and personal disinfection. Matters of this kind ought never to be left to the discretion of the family, nor the attending physicians, for even members of the profession often entertain widely opposing opinions on the subject of quarantine and disinfection, but the principles which ought to be carried out, apart from being a matter of conscience, should be accepted in a practical sense and embodied in effective laws.

Disinfection.—Scientific disinfection had its inception

with the labors of Koch and Sternberg some twenty years ago. Although, as we have seen, certain physical and chemical agents were used empirically for ages, now we know from laboratory experiments that they are effective, because they destroy the vitality of the germs. We also know that, in most of the contagious diseases, the infective matter is given off by the patient chiefly through the secretions and excretions, and it is evident that disinfection to be of value must be directed to these and all the media with which the patient has come in contact.

"IF CERTAIN DISEASES ARE PREVENTABLE, WHY ARE THEY NOT PREVENTED?"

My answer is, that while every scientific physician familiar with biologic research knows full well that if the methods of prevention recommended by sanitarians, including the prompt disinfection of the dejecta of every typhoid fever patient, the expectoration and excretions of diphtheria and tuberculosis patients, for example, were adopted, these diseases would be reduced to a minimum and probably eradicated in the course of a few years. The facts are, these recommendations have not been generally adopted, because the knowledge gained by experimental medicine is not sufficiently diffused. Nor are we responsible for the fact that so many of our states still permit every charlatan to practice one of the most difficult and responsible of all professions without a uniform and rigid system of examination. However, we owe it to ourselves and to humanity to take positive steps in behalf of higher medical education and laws regulating the practice of medicine. So long as we permit the existence of irregular and incompetent practitioners, so long will the public be deceived, and so long as we tolerate the exponents of so-called "Christian Science," osteopathy, and other quacks, infectious diseases will be spread as the result of ignorance and neglect. A strong organization, such as is proposed for the AMERICAN MEDICAL ASSOCIATION and the various state medical societies will speedily accomplish this and other reforms.

[During the year 1900 there were 119 regular medical schools in this country, with 1079 female and 21,673 male students; of these 22,752 students, 2327, or about 10 per cent., had degrees of A.B. or B.L. Number of graduates last year, 4720. The homeopathic schools had 1584 male and 325 female students, and the eclectic 500 male and 52 female students. The number of registered physicians in the United States in 1900 shows an average for the whole of about 1 to 636 inhabitants. In 31 states and territories, according to D. McIntyre, an examination is required, in 9 certain diplomas are accepted, all others must be examined; in 5 only a diploma is required, and in 5 the laws practically impose no restriction. In 1900 there were 150 national and state medical societies, 1097 county and local medical societies, and 282 medical journals, of which 28 were exclusively devoted to hygiene and public health.]

FORECAST OF THE RESULT OF THE CENSUS WORK UPON THE MORTALITY STATISTICS.

Notwithstanding these and other disadvantages in the way of defective sanitary legislation, the American medical profession has reason to be proud of its work in the century's progress of hygiene and preventive medicine. It may be truly said that every hospital or other medical charity owes its foundation and success to the activities of the medical profession. Nay, every law inscribed on the statute books, in the interest of public health in this and other countries is the work of our noble profession. Acting upon the lofty principle that the education and betterment of the people in sanitation is not less humane than the healing of the

sick, the American medical profession has filled the measures of its philanthropy by advocating laws to "regulate the health and physical well-being of communities," and thereby lessen its own income, but the results obtained during the last ten years are sufficient recompense. By the courtesy of Mr. Wm. A. King, Chief Statistician of the U. S. Census Bureau, I am enabled to give you a forecast of the result of the work upon the mortality statistics at the close of the century:

The mortality returns for the twelfth census, which relate to the year beginning June 1, 1899, and ending May 31, 1900, have not yet been tabulated in full, but sufficient progress has been made to permit a comparison of the preliminary results with the figures for 1890 for a portion of the country.

Considering these results for these states in which the returns were secured from registration records in both 1890 and 1900, there appears to have been an absolute decrease in the general death-rate of about 1.5 per 1000 of population. This decrease seems to be most marked in the rates due to scarlet fever, whooping-cough, diphtheria and eroup (combined), typhoid fever, malarial fever, consumption, diarrheal diseases, and diseases of the nervous system, the decrease in the mortality from diphtheria and eroup amounting to more than 50 per cent. On the other hand, the rates due to carcinoma and tumor (combined), Bright's disease, heart disease and dropsy (combined), and pneumonia are apparently greater than in 1890, the increase being most marked in case of Bright's disease, carcinoma and tumor, and pneumonia.

The death-rate by age periods in the registration states has not yet been computed as the population figures are not yet available, but the effect of the decrease in the rates due to the causes specified is shown by a decrease in the proportion of deaths occurring at each period up to 30 years.

The results in the decreased rate of diphtheria, eroup, scarlet fever, typhoid fever, whooping-cough, consumption, malarial fever and diarrheal diseases are the direct outcome of preventive medicine and are as gratifying as they are striking. We note with regret the increased rate in Bright's disease, heart disease, dropsy and pneumonia, and may well pause to inquire whether our ever-increasing "National Drink Bill," averaging 17.68 gallons per capita, may not be a factor in the development of these diseases, especially since there is reason to believe that the habitual and immoderate use of alcohol, apart from increasing the connective tissue and causing cirrhosis, also produces fatty degeneration, especially of the heart, liver and arterial coats, probably because it promotes the conversion of albuminoids into fats.

Without wishing to under-rate the brilliant achievements in surgery of the brain, stomach, intestines, liver, gall-bladder and other abdominal organs, and even wounds of the human heart which have been successfully sutured in four of the nine cases reported, what after all are the ultimate benefits compared with the results obtained by improved methods in sanitation?

Since our knowledge of the nature of infectious diseases has been more and more defined, scientific methods for their prevention have been applied. We have learned, too, that in addition to the germ there must be a suitable soil for its proliferation and that sanitation will not only destroy the environments for its development without the body, but also place the system in the best possible condition to resist its toxic action.

The application of this knowledge has saved millions

of lives besides an incalculable amount of human suffering and distress, not to mention the economic aspect of the question. When we remember all this and the fact that Jenner's discovery at the close of the last century, of a fundamental and practical method of producing artificial immunity, has been far eclipsed in the last twenty years, and that we possess to-day not only curative but also protective sera for diphtheria, erysipelas, tetanus, plague and possibly cholera, tuberculosis, typhoid fever, pneumonia, and a number of other immunizing agents for diseases of man and lower animals, we have reason to believe that the solution of the problem of immunity is only a question of time, and we may indeed expect great possibilities in our battle against infectious diseases.

To the solution of this problem, the labors of Salmon and Smith, Sternberg, Welch, Osler, Councilman, Reed and other Americans engaged in experimental medicine have contributed their full share. Progress has crowned our past, we will not retrograde. Let our conduct raise no blush on the cheek of posterity. Let us hand in hand with heart and mind join in promoting the welfare of American medicine, until she has reached the proudest pinnacle in the world of science, until she has become the fountain-head of knowledge for the benefit of mankind. Then when at last we are called upon to pass through the portals beyond, Minerva Medica, in her sweeping robes of state, will proudly but reverently present us to the Supreme Healer of the Universe as types of the true physician.⁸

Symptoms of an Affection of the Pancreas.—Scherschewski calls attention to the fact that the pancreas lies directly above the aorta and its plexus and receives its blood-supply from the same vessels as the liver and spleen. It is therefore probable that an affection of the spleen is usually complicated by a sympathetic lesion in the pancreas. Slight enlargement of the pancreas compresses the aortic plexus but as the enlargement progresses, the lumen of the aorta is also compressed and below this point the aortic sound is transformed into a murmur. A constant murmur, therefore, in the aorta indicates enlargement of the pancreas. Changes in the size of the spleen in the course of a few days, suggest an affection of the pancreas in the absence of malaria. Compression of the aortic plexus causes girdle pains and typical pains in the bladder and ureter. They are inconstant, resemble gall-stone colic, are more or less periodical, appear soon after eating and last one or two hours. They frequently appear at 1 to 2 a. m. They are not severe but are accompanied by intense nausea and weakness. They are never accompanied by defecation and have no connection with the amount or quality of the food. Another symptom is a pulsation in the stomach region, with cardiac distress and palpitations, independent of the condition of the stomach or ingestion of food. In most of his fourteen cases there was a history of malaria six or seven years previously. Malarial cachexia is probably due to an affection of the pancreas in many cases. In four patients the influence of a trauma was evident. He administered pancreatin in doses of .3 gm. after meals, with or without .01 ext. belladonnæ, with plastic clay on the stomach region, sometimes alternating with ice. Devoto has recently announced that any factors, traumatic or otherwise, which diminish the resistance of the organ or allow the penetration of the bacterium coli into the pancreatic duct, favor the evolution of acute pancreatitis. It may be accompanied by effusion, hemorrhagic or not, or by suppuration.

8. In the preparation of this address, I have been greatly aided by the Library of the Surgeon-General's Office, the historical monographs on hygiene, by Professor Finkelburg, of Bonn, now deceased, and Dr. S. W. Abbott, of our own country. I am also greatly indebted to Dr. W. T. Harris, the Commissioner of Education, and Dr. A. E. Miller of his Bureau. Other acknowledgments have been made in the text and are gratefully renewed.

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SATURDAY, JUNE 8, 1901.

THE DISINTEGRATION OF THE PERSONALITY.

Cases of so-called double consciousness or multiple personality are rather numerous in medical and psychologic literature and are generally of a common type—the individual possesses or is subject to two conditions of consciousness, in either or both of which he or she is unconscious or amnesic of his doings in the other. Such conditions are not at all infrequent in epileptics and often afford opportunities for interesting studies and speculations. It is not often, however, that we have a well reported observation of multiple personalities, co-existing as it were simultaneously in the subject from their first appearance to their final exit from the scene. What appears to be such a case forms the subject of a recent article by Dr. Morton Prince,¹ whose reputation as a physician and neurologist gives it the credibility that might otherwise be questioned.

The subject was a neurasthenic young woman, in whom a second state of consciousness could be induced by hypnotism. Upon both these was superimposed a third state, which became continuous. This third personality, which Dr. Prince calls B. III., and identifies with the subliminal consciousness, was co-existent with and independent of the other personality, B. I., knew all her thoughts, while with B. I. the reverse was true. B. III. was morally deficient and lively in disposition and hated B. I., who was hyperconscientious and depressed, and delighted in annoying and playing tricks upon her. Still later a fourth personality was super-induced upon both of these, which Dr. Prince calls B. IV. This was, in some respects, like B. I., but different in several important particulars, unimpressionable, quick tempered, not a musician, etc. By a course of reasoning founded upon close observation and the complete history of the case, Prince concluded that none of these four personalities fully represented the original Miss B., who, owing to a severe mental shock, became disintegrated and "as a complete psychical composition, departed this life in 1893. B. I. and B. IV. are each different disintegrated parts of the complete Miss B. In these disintegrations of the primary consciousness, a certain portion split itself off and became dormant. The remainder persisted as a modified personality, B. I." B. II. was simply B. I. or B. IV. hypnotized, while B. III. is the independent subliminal self. The conclusions which Prince considers justified by this case, are: 1. The subliminal self may become developed into a

true independent personality, which may be awake contemporaneously with the primary consciousness, or may be awake alone, the other personalities being asleep. 2. Other so-called and apparent personalities may be nothing more than the primary self, mutilated by disintegration. 3. The absence of knowledge, and hence amnesia, on the part of the primary self of the subliminal is dependent on the normal psychophysiologic arrangements. 4. The amnesia of one mutilated self for another mutilated self is due to disintegration and to a severance and rearrangement of psychophysiologic associations. 5. Theoretically any number of personalities are possible according to the number and direction of the lines of cleavage. Each personality would depend on different combinations of different disintegrated pieces of the normal self. 6. Personalities may develop accidentally, as the result of accidental fracture, without design, and not be the result of education. 7. The subliminal consciousness is not necessarily the equivalent of the hypnotic self. 8. Personalities may represent any different psychic compounds. One may be that peculiar group of psychic elements which is called the subliminal self, and another may be a disintegrated compound of the ordinary supernatant self. 9. Two or more personalities may have successive existences in time, or when one is the subliminal self they may be co-existent. 10. Personalities, including the subliminal self, may be hypnotized, and thus the personalities may become still further disintegrated.

The details given by Prince, of this case, read almost like a fairy story, but it is obviously impossible to reproduce them more fully here. It is, in its way, a remarkable case from a psychologic point of view, but its medical interest is largely in that it is reported by an eminent neurologist presumably well qualified to study and detect hysteric manifestations and imposition, if they occurred. If the conclusions are accepted, their suggestiveness in many cases of mental derangement will occur readily to many who have had a wide experience with morbid mentality. These possibilities of disintegration of the self do not seem, at first sight at least, to simplify matters, but it may be otherwise estimated by the psychologists. Thus far the case has apparently escaped notice in medical literature, but it is as striking, or even more so, as the classic cases, so often quoted, of Azam, Mesnet and others.

SCLERODERMA WITH FACTITIOUS URTICARIA.

It would appear that two sets of affections result from deranged function of the thyroid gland, one due to excessive and the other to diminished activity. The type of those belonging in the first group is exophthalmic goiter, by the side of which it is possible there may be ranged a number of disorders that have been comprehensively included in the designation "vasomotor ataxia," such as symmetrical gangrene, morbid blushing and flushing and dermographism or factitious urticaria. In the second group belong myxedema and cre-

1. Proc. Soc. Psych. Research, xl, Feb., 1901.

tinism, probably also scleroderma and possibly adiposis.

There are on record cases in which a case beginning as exophthalmic goiter has in the course of time been transformed into one of myxedema, and factitious urticaria not rarely appears in association with scleroderma; so that we have here evidence of the apparently paradoxical fact that there may be present in the same case at the same time indications both of increased and of diminished activity in the function of the thyroid gland. Bettmann¹ has recently placed on record two cases of scleroderma attended with factitious urticaria of a peculiar type. One of these occurred in a military officer, 39 years old, who for four or five months had noted moderate but progressive swelling of both hands, with a sense of coldness in some of the fingers, occasional cyanosis and pallor and circumscribed sloughing. Slight swelling appeared also in the feet, and indurated areas could be felt in the abdominal wall. From time to time, without appreciable cause, hard swellings developed on the feet, pitting on pressure and disappearing in the course of a few hours. In addition transitory irregularly circumscribed painful red spots appeared, especially on the soles. At points where the cathode was applied in the course of electric treatment redness resulted, persisting at times for twenty-four hours—on one occasion gooseflesh, likewise lasting for hours. On drawing the fingernail rapidly and without great pressure over the skin of the chest and the back factitious urticaria developed slowly, attaining its maximum intensity in the course of a few minutes, but persisting for an unusually long time—even for five or six days. The second patient was a machinist, 26 years old, with circumscribed induration of the abdominal wall and of the right lower extremity. In this case also factitious urticaria of slow development and lasting for twenty hours could be induced by irritation of the skin of the chest and the back.

Factitious urticaria of from eight to twenty-four hours' duration is exceptional, although it has been observed, but there is no previous record of a duration of six days. In the first case reported the condition persisted unchanged during the two months the patient remained under observation. In the second it subsided coincidentally with improvement in the general state. It is impossible to determine whether the peculiar manifestation was related to the scleroderma, either primarily or secondarily, or whether it was merely a coincidental and independent disorder.

INFLUENZA OR PULMONARY TUBERCULOSIS?

Since the pandemic of influenza ten years ago there have been annual recrudescences of the disease, and on such intimate terms with it has the laity gotten that it feels competent to make the diagnosis; so that any obscure illness during the winter is likely to be looked upon as influenza. The symptomatology of this dis-

order, furthermore, is not so sharply defined as always to permit of ready diagnosis, even by the physician, and we fear that the bacteriologic evidence is not often invoked. It would, therefore, not be surprising if much of that which is designated influenza were found actually to be something else.

Dr. R. J. M. Buchanan¹ makes the not improbable suggestion that many of the so-called sporadic cases of influenza are really symptomatic of the initial infection of tuberculosis, or possibly an exacerbation of a latent tuberculosis previously unsuspected or undetected. Some support is apparently given to this view by the contention of a recent writer² that influenza is one of the most important predisposing factors in the etiology of tuberculosis.

The following clinical picture may be observed: The patient is seized with headache, rheumatic pains in the lower extremities, with tenderness in the fingers, a feeling of heaviness in the legs and a sense of swelling of the feet, sensations of chilliness alternating with warmth, sweating on slight exertion, increased frequency of pulse and elevation of temperature. Cough develops, with pain on one or the other side, often at the level of the angle of the scapula or in the interscapular or infraclavicular region on one or the other side of the sternum and tightness and constriction of the chest. On auscultation, crepitation may be audible over a small area of the lungs, not uncommonly about the angle of one or the other scapula. The expectoration may be slight and clear, or more tenacious and presenting a gelatinous appearance. The symptoms may subside in the course of a few days, the temperature decline by lysis, convalescence ensue and complete recovery take place. This may be permanent or it may be followed by a return of the previous symptoms. In other cases there may be noted a slowly developing lack of energy and an undue readiness of fatigue. The appetite fails and becomes capricious. Weight is lost and pallor appears.

The lesson taught by observations like these is that the diagnosis of influenza should not be made too lightly, and that in any event the possibility of tuberculosis should be considered and, so far as possible, excluded. The probability of cure in cases of tuberculosis is directly proportionate to the promptness with which appropriate treatment is instituted.

ILL-CONSIDERED SENTIMENTALISM.

The trustees of a Chicago juvenile reformatory institution refused to permit the boys under their care to be examined with reference to their physical and mental peculiarities, etc., on the ground that it was, as a local newspaper expresses it, "a sort of psychologic vivisection with incidental publicity." It was held, apparently, that it would be cruelty to subject youthful criminals to any examinations for the purpose of testing for the signs of

1. Liverpool Medico-Chirurgical Journal, March, 1901, p. 38.

2. Dr. J. Ruhemann: "Aetiologie und Prophylaxe der Lungentuberkulose," Jena, 1900.

degeneracy. Nothing should be done to make them feel their degradation, and such procedures as were proposed were considered, in the language of the editorial commending the course of the trustees, as "unwarranted intrusion and gratuitous insult." The consideration for juvenile criminals is in line with that for older ones, which seems at times to become a dominating idea of certain sentimental reformers. It should be remembered that the public-school children of Chicago had been put through similar tests without protest, and the publicity would be only of the collective results and not of individual defects. The plea of "gratuitous insult" is, therefore, rather unwarranted, and the refusal looks like a confession of degeneracy and a plea for avoidance of its demonstration. Since such investigations have a certain value to the public, and there is no sound reason for their hindrance, the act of the officials in refusing to permit them in this case can be considered as hardly anything less than a malfeasance in office as well as an exhibition of silly sentimentalism.

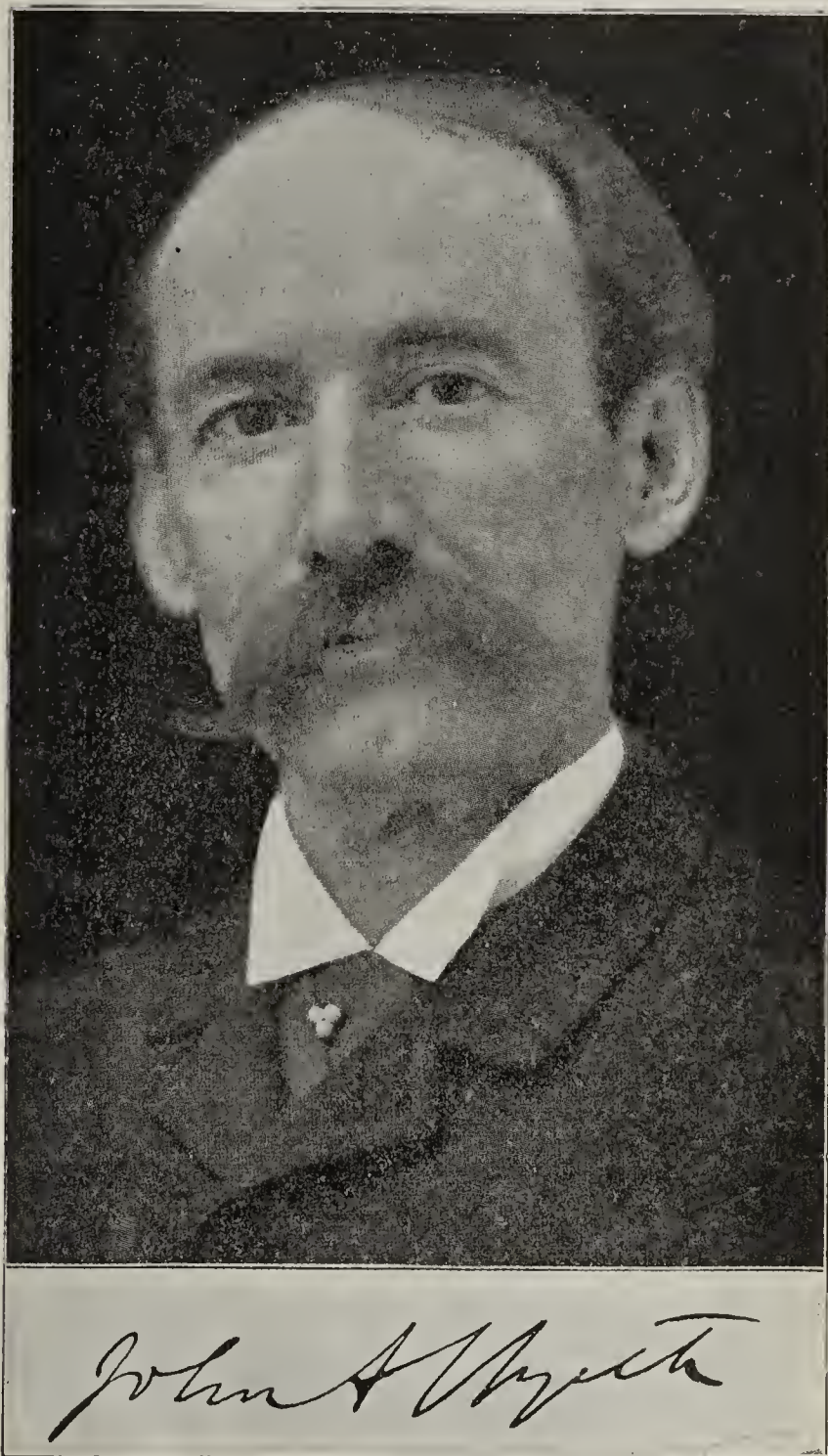
BIG PAY FOR A BEGINNER.

The practice of medicine is not considered usually as the most rapid method of building up a fortune, and there is no general impression that is better supported by facts. Occasionally, however, like thunder out of a clear sky, something happens that apparently reverses the order of things, and such has just been reported by the Chicago dailies. What is said to be one of the largest claims ever filed against an estate in the local probate court is the charge of \$100,000, by a woman physician of Chicago, against the estate of a millionaire who died in June, 1900, for medical attendance and services under an alleged special contract, according to which she was to care for him as long as he lived. It is not the size of the bill alone that astounds one, but the apparent attending circumstances. She graduated in the spring of 1897. The millionaire died in June, 1900. Hence her medical services as a qualified practitioner could hardly have extended much over two years. This gives the handsome income of nearly \$50,000 a year from the date of graduation. Such prizes as this fall to but few, and if the facts are as reported, and the still more important "if" in regard to the collection of her bill results according to her demand, she will be colossally eminent among the practitioners of her sex. Whether she collects her bill or not, she has attained a notoriety, which she may consider desirable; it is not an altogether unnatural suggestion that such demands on estates are sometimes made for the personal advertisement they bring.

PRESIDENT-ELECT DR. JOHN A. WYETH.

The newly-elected President of the AMERICAN MEDICAL ASSOCIATION, Dr. John Allan Wyeth, is a southerner, having been born May 26, 1845, in Marshall County, Ala. His father was Judge Louis Wyeth of Alabama; his grandfather, John Wyeth, one of the early publishers of Philadelphia. His early education was received at the Lagrange Military Academy and during the civil war he served as a private soldier in the 4th Alabama Cavalry. Some of his experiences therein have served for subjects of his later literary work. His

medical studies were carried on in the University of Louisville, and later at Bellevue Hospital Medical College, New York. After a brief period of practice in Alabama he removed to New York City, where he quickly became a prominent figure in the profession, taking almost at once a position on the teaching force of his alma mater, and also an active part in society proceedings and medical matters generally. Since then his record is before the profession; it is needless to say that it is an honorable one, and one that includes numerous



and valuable contributions to the sum of medical knowledge. It is indeed by his practical work in surgery that he is best known to the general profession, and this has made his name a familiar one to every practicing physician. His contributions to surgery and other departments need not be enumerated; they include not only many articles in the current medical literature, but also a well-known text-book and other works of note. It is not only as a scientific medical writer that he is known, he has contributed also to general literature, his best known work being his life of General N. B. Forrest, which has a decided historic as well as a literary value.

THE CORPUSCULAR HYPOTHESIS.

Up to the present the atom has been looked upon as the expression of the ultimate divisibility of matter, and all our theories have been moulded on this conception. No chemical inference has been able as yet to make probable any breaking up of this unit, but recent physical research seems likely to undermine our belief in its indivisibility. In a recent lecture on cathode-ray phenomena, Prof. J. J. Thomson demonstrated the results of a series of remarkable studies of certain electrical phenomena that indicate the possibility that what we have been calling atoms, and considering as the ultimate particles, are themselves only combinations or constellations of still more minute bodies. The details of these researches are too elaborate to be reproduced and, though stated in a semipopular form by Professor Thomson, are still not easy to make readily comprehensible to the casual reader not already considerably familiar with the physics of electricity. Taking only the statement of the results as given, it would appear that the particles sent out by the cathode rays, and also from certain metals or minerals, such for example as radium, and from all metals when sufficiently heated, convey charges of electricity which, supposing them to be atoms, are one thousand times greater than is carried by an ion in electrolysis. By an ingenious calculation based on certain known facts on condensation of moisture, Professor Thomson has been able to demonstrate that the charge conveyed was the same as in electrolysis, but that the particles conveying it were only one-thousandth the weight of a hydrogen atom. These corpuscles, as they have been named, are always negatively electrified; as far as known, nothing smaller than an atom is ever positively electrified. The final outcome of these researches, as the *Electrical Review* says, lies "in the womb of the future," but the suggestion, however indefinite it may be, of their possibilities, is inevitable. We have only to consider what has been already gained from the X-ray in medicine and surgery to see the probability of rational explanations in the future of much of what has been and is still to us mysterious and unknown. It is not worth while, however, to build on these results any too expansive deductions. To quote again from the *Electrical Review*: "The puzzle of the universe will no doubt be only moved back one step further by Professor Thomson's discoveries, and we shall doubtless be as far as ever from the dream of the materialists of the middle portion of the past century, who looked to an explanation of the cosmos on purely mechanical lines."

THE ROCKEFELLER INSTITUTE FOR MEDICAL RESEARCH.

From apparently authentic sources, it is announced that the preliminary steps have been taken for the establishment in New York City of an institute for medical research, by Mr. John D. Rockefeller, whose name it is to bear. That he has seen fit to set aside a considerable sum of money for the advancement of medical science in this country will be hailed with universal approbation. We hope that his example may not long remain isolated, but that other wealthy men with liberal tendencies may find medicine and medical

institutions, hitherto somewhat neglected, worthy objects for their generosity. The eloquent plea of Dr. W. W. Keen,¹ in his presidential address before the AMERICAN MEDICAL ASSOCIATION last year, for endowments for medical institutions, sets forth most adequately the special grounds why endowments are needed, and it is certainly encouraging and stimulating to learn that Mr. Rockefeller has become a patron of scientific medicine. The purpose of the institute is to furnish facilities for original investigation, particularly in such problems in medicine and hygiene as bear upon the prevention and treatment of disease. The board of directors is composed of prominent pathologists and physicians in the large cities along the Atlantic coast, four of the seven members residing in New York. It is not intended to build immediately, but abundant funds have been placed at the disposal of the board so that research will be undertaken at once in several different laboratories. Buildings and equipment commensurate with the scope and aim of the foundation will receive consideration later. This announcement is a fitting one for the beginning of the new century, and it is fraught with great benefits to medicine in general. It will ultimately result in the establishment in New York City of an institution similar to the Pasteur Institute in Paris, the Institute for Infectious Diseases in Berlin, the Institute for Experimental Medicine in St. Petersburg, and the Jenner Institute in London. At this institute will be collected able original investigators, who will bend their energies to the solution of hidden problems in medical science, unhampered by other and often quite irksome duties. The plan adopted in regard to the work for the immediate future increases the opportunities for research very greatly indeed, and will appeal strongly to young men who are looking for just such advantages. It stands to reason, however, that the general and actual results to be expected from this plan can hardly equal in importance those that will be obtained when trained, mature investigators set to work in a properly equipped and fully organized institute.

SMALLPOX PROBABLY SPREAD BY INFECTED FEATHER BED.—The State Communicable Disease Inspector has reported to the Michigan State Board of Health office that in one case of smallpox which he visited recently he was informed that the child sick with smallpox had been for a few nights sleeping on the same feather bed on which one of the relatives of the family laid in Missouri, in which family smallpox existed, about two years ago. There was no other known source from which the disease could have been contracted by the child. The feather bed was sent to the family in Michigan from the family in Missouri some little time ago. This should be a warning to persons having dangerous communicable diseases in their families, to be sure that all things are thoroughly disinfected before using them again.

TO REMOVE ADHERENT DRESSINGS.—Mikulicz moistens the edges of the gauze with a little peroxid of hydrogen, and no matter how firmly they may be attached or mixed with the tissues, the effervescence of the peroxid mechanically detaches them at once, without the slightest pain or inconvenience.

1. JOUR. A. M. A., June 9, 1900.

Association News.

AMERICAN MEDICAL ASSOCIATION.

Fifty-second Annual Meeting, held at St. Paul, Minnesota, June 4-7, 1901.

OFFICIAL MINUTES OF THE GENERAL SESSIONS.

JUNE 4—FIRST GENERAL SESSION.

The Association met in the Metropolitan Opera House, and was called to order at 10:20 a. m. by the Chairman of the Committee of Arrangements, Dr. John F. Fulton, of St. Paul.

Prayer was offered by Bishop H. B. Whipple, after which Dr. Fulton introduced the Hon. R. A. Smith, Mayor of St. Paul, who delivered an address of welcome.

Address of Welcome.

In behalf of the City of St. Paul I extend to you my most cordial welcome. Aside from the natural pride which each man has in the community in which his life is cast, I believe there is much to warrant me in extending to you my congratulations on selecting St. Paul as the scene of your National Convention. Here you have exemplified, to an extent visible perhaps nowhere else in the world, the magic influence on the public and the individual health of favorable natural conditions. These natural conditions have been availed of to the utmost by the local members of your profession in the practice of their grand calling, so that your present hosts, the good people of St. Paul, thus enjoy the double blessing of long life and small doctor-bills.

St. Paul, as the statistical records of mortality show, is the healthiest city in the world; and it is so, I believe, in greatest measure, because of the high degree of perfection to which your profession has brought the science of hygiene. To the individual members of your profession among our fellow citizens, and especially to those of them who have from time to time been charged in our official life with the protection of the health of our people, we all regard ourselves as deeply indebted. Their profession, too, is indebted to them for the splendid demonstration they have here offered of the wonderful results which can be accomplished through the intelligent direction of the skilled physician and surgeon.

Within the lifetime of a single generation the soil upon which you now stand has upheld the Indian tepee. Here the Indian Medicine Man has, within that period, wrought his charms. The Indian tepee has been succeeded by the modern equipped hospital and the sanitary human dwelling; the incantations of the Indian doctor are forever silenced, and the cold and impersonal influence of medical and surgical science—as typified in the Medicine Man of Civilization—sways the lives and conserves and protects the health and happiness of human society. The change from the old conditions to the new, as illustrated in fifty years of life in the Capital City of the Great Northwest, is such as not only the members of your profession, but humanity itself, should rejoice in.

In common with all our people I sincerely hope that your stay with us will bring to each and every one of you that sense of pleasure, and leave with you those cherished recollections which enter so largely into the delights of the lives of all of us. The welcome which the people of our city extend to you is indeed a sincere one; and I beg of you not to measure its depths by my own unfortunate inability to give expression to it.

If most of you should not, as I believe you will not, come among us again, I feel that it is good advice for all of you to take with you—that if you can not come again yourselves you will at least send us those of your patients whom you can not cure, and we will send them back to you in such a condition of health that if they are not thereafter living monuments to your skill, they will at least all live long enough to prevent any alarming fluctuations in the visible supply of patients. (Applause.)

After the address of welcome by Mayor Smith, Dr. Fulton presented the President of the Association, Dr. Charles A. L. Reed, of Cincinnati, Ohio.

President Reed, on taking the chair, invited the vice-presidents and all ex-presidents of the Association who were present to take seats upon the platform.

Dr. Philip Marvel, of Atlantic City, third vice-president, took the chair, and President Reed delivered his address, which was punctuated with applause throughout its delivery.

At the close of the address, Dr. Ingals, of Illinois, moved that the President's address be referred to the Executive Committee, with instructions to report back to the Association on its many valuable recommendations. He moved further that the thanks of the Association be extended to the President for his able address and for the careful review of the numerous subjects of interest to the Association. Carried.

At this juncture, Dr. J. R. Pennington, of Chicago, made a brief speech, during which he unveiled the portrait of Dr. N. S. Davis, of Chicago, the subject of his remarks.

Presentation of Portrait of Dr. N. S. Davis.

Mr. President and Members of the American Medical Association: Of all the methods adopted by artists for perpetuating the memory of those who have acquired distinction in any department of human activity, none, as suggested by the President in his able address, are more pleasing to the majority of intelligent men and women than correct portraits that present, not only the contour, but also much of the living expression of those they represent. Consequently a large proportion of the higher educational institutions and permanently organized scientific, philosophic and professional organizations, seek to preserve the portraits of their founders and more distinguished members as a part of their permanent archives.

In the hope of initiating work in this part of the archives of the American Medical Association, I come prepared to present for your acceptance the portrait of one whom you will all recognize as pre-eminently the founder of this Association, and for more than fifty years its most constant attendant and faithful guide in every department of its work: One who has perhaps done more than any other individual in promoting the efficient social organization of the medical profession throughout the United States, and in elevating the standard of medical education: One who has been a pioneer investigator in the departments of physiology, hygiene, preventive medicine and medical journalism: One who has been an untiring and valuable contributor to medical science and literature, and who has enjoyed the highest official honors that his profession could bestow—President of this Association and of the Ninth International Medical Congress: One who in his own city organized the first permanent general hospital and established clinical instruction therein, and who was one of the founders and active supporters of the Chicago Relief and Aid Society for aid to the poor, of the Chicago Academy of Sciences, the Chicago Historical Society and the Chicago Medical Society: One who has been a life-long advocate and exemplar of temperance, morality and religion, and who still, in his 85th year of life and 65th year of medical practice, devotes five or six hours daily to his patients and attends promptly to all the duties of good citizenship in strict obedience to his favorite maxim, "He is most happy who is contributing most to the happiness of others."

Now, Mr. President, I have the honor of unveiling the portrait of Dr. N. S. Davis, the subject of these remarks, and trust that its acceptance will carry with it the appointment of a committee to secure without cost to the Association the portraits of all the ex-Presidents of the American Medical Association.

On motion of Dr. Warner, the portrait of Dr. Davis was accepted by the Association, and thanks extended to Dr. Pennington for its presentation.

Dr. Love, of New York, moved the appointment of a committee of three for the purpose of securing portraits of all living presidents and ex-presidents of the Association, as far as possible, and expressed the hope that the time would come when the Association would have a magnificent home with a building of its own in which upon the walls may be hung the portraits of the living presidents of the Association and the noble men who had died. Carried.

The President announced that he would appoint this committee later.

Dr. Simmons, the Secretary, then read his report, which was referred to the General Executive Committee.

Report of Secretary.

To the Officers and Members of the American Medical Association: As nothing of especial importance has arisen during the past year in connection with my office, my report as Secretary will be brief and will consist in simply congratulating you on the continued increase in membership and the prosperity of the Association. The membership at the present time is some-

thing over 10,600, which shows an increase over last year of between 1500 and 1600—the largest increase in any year in the history of the Association. I have submitted to the Judicial Council, *pro forma*, correspondence in regard to two special cases of membership for its decision and advice.

I wish to call attention to Article VIII of the Constitution, under duties of the "Committee of Arrangements." In this article is the following: "It shall be the further duty of this committee to verify and report upon the credentials of membership, to receive and announce all essays and memoirs voluntarily communicated, either by members of the Association, or by others through them, and to determine the order in which such papers are to be read and considered, and to fix a definite hour each day for the general addresses before the Association. This committee shall prepare for publication the official program of each meeting, and with such program it shall publish the Constitution, By-laws and Code of Ethics of the American Medical Association."

I also call attention to Section 5 of Article III of the By-laws, the first paragraph of which is as follows: "It shall be the duty of every member of the Association who proposes to present a paper or report before a Section, to forward either the paper or an abstract indicative of its contents, and its length, to the Chairman of the Committee of Arrangements," etc. As the above duties have for years, and are now, performed by the Secretary, I would suggest that the Constitution and By-laws be amended to accord with existing conditions in this regard. Respectfully submitted,

GEORGE H. SIMMONS, Secretary.

Dr. L. Duncan Bulkley read the report of the General Executive Committee.

Report of General Executive Committee.

The General Executive Committee held its first session of this meeting yesterday afternoon and considered carefully the program for 1901 in reference to the various regulations concerning it which had been passed at last meeting of the Association, and beg to report as follows:

In former years it has been noted that the number of papers was largely in excess of what was right and necessary and by resolution of the Association directed that the number be considerably reduced, to perhaps not over 35 in each Section. This has been measurably well accomplished and the total number of papers on the program this year is 391 as against 491 last year, and 615 in 1898, the highest number reached. The largest number in any section this year is in that of Practice of Medicine, 43 papers.

The committee beg, however, to call the attention of the Association to the fact that the regulation adopted some years ago and reinforced last year, providing for abstracts of papers for the program, has not been carried out to any great extent, and submits the following figures. Of the total number, 391 papers, there were abstracts printed of only 196, while 205, or the majority of them, had no abstracts printed. The committee recommends for adoption by the Association, the following resolutions:

Resolved, That hereafter no titles of papers be printed in the program unless the required abstract is furnished and printed in connection with the same.

Resolved, That the Secretary of the Association prepare and issue to all the chairmen and secretaries of Sections, printed slips containing the rules and regulations in regard to the length of papers, their abstracts, and also some printed matter which can be sent by the officers of sections to those desiring to read papers, that they may be fully informed of the rules of the Association in advance.

The committee have to report that, in accordance with instructions, they arranged with Dr. Flexner, of Philadelphia, to give a pathologic lecture on Wednesday evening, illustrated with lantern slides. At the very last moment a telegram came from Dr. Flexner saying that he was unable to carry out his proposed plans and the committee have only to regret that the notice was received too late for them to substitute another essayist. The committee therefore announce that the pathologic lecture, as stated on the program for Wednesday evening, will not be given.

The committee desires to call attention to the absence from the program of the rule governing the submission of abstracts for publication, and also that requiring the Sections to adjourn during sessions of the General Association.

L. DUNCAN BULKLEY, Secretary.

Inasmuch as this report contained several items, each item was considered separately and adopted.

It was then moved that the report be adopted as a whole, which was seconded and carried.

The President announced as the next thing in order the joint report of the Treasurer and the Board of Trustees, which was read by Dr. T. J. Happel, Tennessee.

Report of Board of Trustees.

Report of the Board of Trustees of THE AMERICAN MEDICAL ASSOCIATION, made at St. Paul, Minn., June 4, 1901:

To the Officers and Members of the American Medical Association:

As required by our Constitution and By-Laws, your Board of Trustees begs leave to submit the following report. We desire, however, before entering upon the report, to state that heretofore it has been customary for the Treasurer to submit his report direct to your body, but under our laws, it is made the duty of your Board of Trustees to "annually audit and authenticate his accounts, and present a statement of the same in its annual report to the ASSOCIATION." This duty we have performed, and in our JOURNAL report, that of the Treasurer is included. The combination of the two reports in one prevents confusion and repetition, inasmuch as the receipts of the ASSOCIATION are represented by the two accounts jointly, the Treasurer receiving and receipting for membership fees, and the interest on investments, whilst the JOURNAL receipts for all subscriptions, advertisement sales, etc.

We would add further that all of the accounts of the Treasurer and THE JOURNAL office have been carefully scrutinized by expert accountants, and certified to as all correct in every respect:

REPORT OF TRUSTEES OF JOURNAL A. M. A., FOR YEAR ENDING DEC. 31, 1900.

Your JOURNAL business shows for the year 1900 as follows:	
1900.	Debits.
Jan. 1.—Cash on hand, Treasurer's office.....	\$13,556.36
Jan. 1.—Cash on hand, Journal office.....	799.15
Loans repaid during year 1900.....	3,163.50
Membership fees for year 1900.....	40,110.00
Registration fees, Atlantic City.....	6,150.00
Interest on bonds, U. S.....	525.00
Advertisements.....	44,060.70
Subscription.....	17,618.94
Reprints.....	2,525.18
Section reprints.....	405.70
Buttons.....	568.65
Sales.....	558.93
Jobbing.....	1,492.00
Postage.....	12.70
P. Marvel.....	239.27
Chicago Pathological Society.....	451.35
Electros.....	129.33
Sundries.....	169.11
Metal.....	23.85
Loss and gain.....	50.00
Pay roll refunded.....	5.51
American Academy Railway Surgery.....	162.00
General expense.....	10.22
	\$131,787.45

EXPENDITURES IN TREASURER'S OFFICE.

	Credits.
Mergenthaler Linotype Co.. Balance, two machines...	\$5,400.00
Linotype machine rent one year.....	550.00
Crocker-Wheeler Motor for Journal office.....	225.00
Latham Machine Co., stitcher Journal office.....	223.25
Printing press for Journal office.....	2,925.00
Paper cutters for Journal office.....	325.00
Salary of clerk for Treasurer.....	300.00
H. P. Newman, Treasurer, honorarium.....	1,000.00
Postage for Treasurer's office.....	540.00
Sundries for Treasurer's office.....	82.28
Premium on Treasurer's bond.....	100.00
Trustees' account, Chicago meeting.....	452.50
Trustees' account, Atlantic City meeting.....	844.35
Incidental expense of Trustee.....	25.20
Expenses of secretary of Trustee.....	36.70
W. B. Atkinson, salary and expense acct., Atlantic City.	138.00
H. P. Newman, salary and expense acct.....	98.00
G. H. Simmons, Editor, Atlantic City.....	75.00
Stenographers, Atlantic City.....	1,113.63
E. A. Reilly, expense registration, Atlantic City.....	280.25
R. A. Hamilton, services.....	52.12
B. G. Kalb, stenographer, Atlantic City.....	105.00
Extra services, Spec. R.R. Agt., Atlantic City.....	29.00
Philip Marvel, Chairman Committee Arrangements....	370.42
Gold Medal Prize.....	85.00
Geo. M. Gould, express on prize medal acct.....	2.70
Safety box rent.....	10.00
Expense account, list of members for Journal.....	25.00
Expense, U. O. B. Wingate.....	210.50
Expense account of Committee on National Legislation	226.20
Expense pathologic exhibit.....	246.53
Secretary's office (ledger).....	7.00
Exchange on collections.....	49.00
Duplicate fees, Ret., Atlantic City.....	40.00
Total Treasurer's office.....	\$16,192.63

EXPENDITURES IN JOURNAL OFFICE.

Pay roll	\$25,560.86
Salaries	11,788.33
Editorials, reporting and news	6,775.13
Rent	1,500.00
Journal stock paper	25,192.07
Miscellaneous paper	1,430.26
Second-class postage	5,616.06
Stamps	2,124.07
Stamped envelopes, Committee Arrangements	233.20
General expense	2,381.53
Traveling expenses	388.90
Advertising and subscription commissions	4,956.79
Collection and exchange	181.28
Button account	735.86
Ink	1,069.80
Electros	994.03
Type	200.32
Electric power	740.15
Metal	183.83
Sundries	60.85
Accountant's charges	200.00
Press-room and office furniture and fixtures	453.02
Book-shop bindery (binding)	376.34
Bindery supplies	68.72
Smith-Premier Typewriter Co.	163.89
Shaw-Walker Co.	75.31
Sales	118.00
Section reprint, express charges	47.99
American Medical Association, express charges	46.43
C. U. Gordon, P. M. deposit	60.00
Subscription account refunded	93.07
Reprint account refunded	9.25
Linotype appliances	57.49
Machinery supplies	546.57
Jobbing account refunded	50.00
Advertising account refunded	3.25
American Academy Surg. reporting	60.00
Total expense Journal office	\$94,542.65

Total expense Treasurer's office for year 1900	\$16,192.63
Total expense Journal office	94,542.65

Aggregate	\$110,735.28
1901.	
Jan. 1.—Cash in hand of Treasurer	\$15,512.23
Jan. 1.—Cash in hand of Journal office	5,539.94

Aggregate	\$131,787.45
Jan. 1, 1899, cash bal. on hand	\$18,729.95—Treas.
Jan. 1, 1900, cash bal. on hand	13,566.56—Treas.
Jan. 1, 1901, cash bal. on hand	15,512.23—Treas.
Jan. 1, 1899, cash bal. on hand	\$931.31—Journal
Jan. 1, 1900, cash bal. on hand	799.15—Journal
Jan. 1, 1901, cash bal. on hand	5,539.94—Journal
As compared with Jan. 1, 1900, you have in your Treasurer's hands now a larger amount by	\$1,945.87
And in the Journal office a larger amount by	4,740.79

Total	\$6,686.66
But you have \$3,000.00 less invested, the Indianapolis loan having been repaid.	
Cash on hand is as follows:	
Jan. 1, 1901, invested in U. S. bonds	\$10,812.50
Jan. 1, 1901, cash in Treasurer's office	15,512.23
Jan. 1, 1901, cash in Journal office	5,539.94

Total	\$31,864.67
As compared with Jan. 1, 1900	28,168.01

Excess	\$3,696.66
In addition to this, you have paid out for machinery in the printing department as follows:	
Two Mergenthaler linotype machines	\$5,400.00
One Mergenthaler linotype machine, rent one year	550.00
One Crocker-Wheeler motor	225.00
One Latham Machine Co. stitcher	223.25
For printing press	2,925.00
For paper cutter	325.00
Total paid out for machinery	\$9,648.25

There was estimated in the report of last year the cost of the press, \$2,925.00; one stitcher, \$223.25; one motor, \$225.00: one linotype machine, \$3,100.00; total \$6,473.25
Making an excess over estimate of 3,175.00

Now, in addition to this, we have bought a third linotype machine, paying cash down as one year's rent on the same \$550.00
We owe a balance on this machine of 2550.00

Our paper account, as well as all others, has been paid for to date.
If now you add to the excess of cash of the year 1900, over that of 1899..... \$3,696.66
the amount paid out for machinery during the year 1900, as shown above..... 9,648.25

You have your profit for 1900\$13,344.91
Your Board would report to you that we ordered enough money invested to make our investment, when added to the

\$10,000 in United States bonds, about equal to the sum of \$25,000, par value. We trust this will meet your approval. Toward securing a permanent home for THE JOURNAL, you now have invested in gilt-edged securities \$25,000, which yearly grows by the interest at least.

PLANT.

We do not deem it necessary to give a detailed inventory of press-room and proof-room furniture and fixtures. The additions to the same would fully balance wear and tear and would leave us with about the same valuation as last year, viz., \$515.

OFFICE FURNITURE AND FIXTURES

Can be disposed of in the same way, \$1004.50.

MACHINERY AND PLANT.

In this department everything has been paid for except the third linotype machine, the account for which is not yet due. The value of this department, not including the linotype machine, is \$19,571.80.

RECAPITULATION.

The sum total of the items mentioned, viz., press-room, proof-room and office furniture and fixtures, and machinery and plant, less 5 per cent. for wear and tear, after all additions, amounts to about \$21,000. The office, with the addition of one or two small motors which your Editor was authorized to buy, is almost complete, and can now do all of its own work. Its quarters are crowded, and for that reason some things can not be done to the best advantage.

There has been a steady growth in THE JOURNAL. An effort has been made by your Trustees and Editor to increase the quantity and quality of the reading matter in THE JOURNAL. It should be the best medical journal published in the world. With the support of a united profession it can be so made.

Your Board of Trustees has endeavored also to carefully guard the advertising pages of THE JOURNAL. Many advertisements have been refused, the quality of which were questionable. The formulæ of all internal medicines have been demanded, and as a rule published with the first insertion of each advertisement. This rule has not been so rigidly applied to medicines for external use. All medicines advertised in the newspapers, for the benefit of the laity, have been refused space in THE JOURNAL. A few contracts that had been made before such an order was passed had to be filled. As a result of the adoption of this rule some medicines that were advertised direct to the laity have been withdrawn from the newspapers and now appear in medical journals alone.

ADVERTISING DEPARTMENT.

The following comparative statement indicates the increase in advertising collections during the past twelve months: Collections for 1899 were \$33,760.82; for 1900, \$44,060.70; showing a gain of \$10,299.88.

Our advertising collections for 1898 were \$23,629.71, thus indicating an increase of \$20,430.99, nearly doubling our revenue from this source in two years.

For the four weeks of January, 1901, THE JOURNAL carried over \$1000 worth of advertising in each issue, and unless something unforeseen happens, there is no reason why this average should not be maintained throughout the year, making the revenue from advertising for 1901 considerably in excess of that of 1900.

SUBSCRIPTION DEPARTMENT.

The following figures indicate the gross issue of THE JOURNAL each week during 1900:

Weekly Edition.		Weekly Edition.	
Jan. 6...	14,350	July 7...	17,550
Jan. 13...	14,350	July 14...	17,600
Jan. 20...	14,600	July 21...	17,600
Jan. 27...	14,600	July 28...	17,525
	57,900		70,275
Feb. 3...	14,600	Aug. 4...	17,550
Feb. 10...	14,800	Aug. 11...	18,100
Feb. 17...	15,200	Aug. 18...	18,100
Feb. 24...	15,200	Aug. 25...	18,100
	59,800		71,850
March 3...	15,200	Sept. 1...	18,050
March 10...	16,125	Sept. 8...	18,350
March 17...	15,600	Sept. 15...	18,500
March 24...	15,700	Sept. 22...	18,680
March 31...	15,950	Sept. 29...	18,640
	78,575		92,220

April 7... 15,800		Oct. 6.... 18,725	
April 14... 16,550		Oct. 13.... 19,090	
April 21... 17,100		Oct. 20.... 19,000	
April 28... 16,300		Oct. 27.... 19,200	
	65,750		76,015
May 5... 16,150		Nov. 3... 19,250	
May 12... 16,100		Nov. 10... 19,185	
May 19... 27,000		Nov. 17... 19,230	
May 26... 17,500		Nov. 24... 19,300	
	76,750		76,965
June 2... 16,600		Dec. 1... 20,000	
June 9... 17,100		Dec. 8... 20,100	
June 16... 17,000		Dec. 15... 20,600	
June 23... 17,000		Dec. 22... 20,650	
June 30... 17,400		Dec. 29... 20,650	
	85,100		102,000
	423,875		483,325
		1900.	1899.
Grand total		907,200	710,750
Weekly average		17,446	13,672

The total number of copies issued during 1899 was 710,950, during 1900, 907,200, indicating an increase of 196,250, or 27 2/3 per cent. The following indicates net gains and losses for twelve months ending Jan. 1, 1901:

STATE.	Gain for the Year.	Loss for the Year.
Alabama	104	..
Alaska	1	..
Arizona	3	..
Arkansas	24	..
California	49	..
Colorado	29	..
Connecticut	86	..
North Dakota	1	..
South Dakota	10	..
Delaware	11	..
District of Columbia.....	60	..
Florida	15	..
Georgia	308	..
Illinois	391	..
Idaho	5	..
Indian Territory	12	..
Indiana	199	..
Iowa	224	..
Kansas	122	..
Kentucky	69	..
Louisiana	69	..
Maine .....	..	17
Maryland	146	..
Massachusetts	81	..
Michigan	141	..
Minnesota	53	..
Missouri	228	..
Mississippi	17	..
Montana	10	..
Nebraska	97	..
New Mexico	5	..
Nevada	2	..
New Hampshire	32	..
New Jersey	229	..
New York	530	..
North Carolina	69	..
Ohio	122	..
Oklahoma Territory	35	..
Oregon	13	..
Pennsylvania	535	..
Rhode Island	10	..
South Carolina	99	..
Tennessee	293	..
Texas	101	..
Utah	11	..
Vermont	7	..
Virginia	154	..
Washington	30	..
Wyoming	10	..
West Virginia	16	..
Wisconsin	133	..
U. S. Army	78	..
U. S. Marine-Hospital.....	..	..
Canada	9	..
Cuba .....	..	3
Hawaiian Islands	2	..
Mexico	6	..
Philippine Islands	11	..
Porto Rico	7	..
Foreign	8	..
	5122	20

The figures given below indicate the count of the mailing list Jan. 1, 1901, as compared with that of Jan. 1, 1900:

	Jan. 1, 1900.	Jan. 1, 1901.
Copies to members	8445	9841
Copies to subscribers	4623	8339
Copies to advertisers	233	306
Copies to exchanges (domestic)	153	149
Copies to exchanges (foreign)	59	49
Copies to med. colleges and libraries..	108	113
Copies to subscription agents	4	45
	13,635	18,842

This indicates an increase of 5207, of which 5102 are new members and subscribers. This is nearly double the increase of 1899 over 1898, the increase in members and subscribers in 1899 being 2.628.

The following is a comparative statement of the net subscription collections for the years of 1899 and 1900:

	1899.	1900.
January	\$1,094.46	\$3,614.08
February	525.25	1,167.24
March	952.76	1,388.89
April	741.27	1,719.06
May	669.93	1,585.90
June	733.05	1,334.75
July	1,851.73	3,456.42
August	1,208.38	1,246.03
September	798.36	1,273.91
October	1,313.20	3,285.49
November	920.71	1,748.12
December	1,474.42	1,872.14
	\$12,283.52	\$23,697.03

Indicating an increase of.....\$11,408.51

Our subscription collection for January, 1901, were \$4,862.74, which is \$1.248.66 more than that for January, 1900.

THE JOURNAL has made an effort to improve in the quality of reading matter. How well it has succeeded you must judge. The figures presented in the first part of this report show that as a matter of financial policy it has been a success. As the number of readers of THE JOURNAL increases, it becomes more and more valuable as a medium of medical advertising, and the increase in revenue from that source shows that advertisers are not slow to appreciate that fact.

The Board of Trustees would also call attention to the fact that the frequent changes made in the program of the work of the Sections, all of which work is done in THE JOURNAL office, adds much to the expenses incident to printing of the JOURNAL. Your Board has deemed it best to instruct the Editor to make no changes in the program after May 4 of each year. It is suggested also that too many papers are on the programs of some of the Sections, and many of them are read only by title, and yet they must be treated and published, as if read and discussed by the Section. Your Board would suggest that such papers should be treated as volunteer papers. Especially should this apply when more than one paper is furnished by the same author at any annual meeting. In arranging the programs of the work of the different Sections your Board would suggest that the secretaries give preference to those who write for only one Section, over those who have furnished, or propose to furnish, papers for two or more Sections. This will limit the number of papers, and will tend to improve the quality. This course will become a necessity in view of the increased number of Sections, and the fact that each Section will be furnished a reporter so that all discussions can be reported in full. Under an order from your Board of Trustees, all stenographers will be employed by the Editor, to enable him to control all papers, and abstracts of the same. Your Board having directed an enforcement of Section 7 of the By-laws, in regard to the publication of papers, no paper will be published in THE JOURNAL which has appeared in full or in abstract form in any other journal, and no stenographer will be re-employed who furnishes any such abstract to any other journal.

Unless some curtailment of the number of papers to be published in THE JOURNAL can be obtained along the lines just suggested, the publication of many valuable papers read at our annual meetings must of necessity be delayed for nearly a whole year, a thing pleasant neither to the writer nor Editor. The ASSOCIATION might come to the relief of the Editor by limiting by by-law or otherwise the number of papers in each Section to thirty-five. If this is done, and the papers not read are ordered treated as volunteer papers, then much more room can be gotten in THE JOURNAL for papers from some of the best medical men in this country.

In order to still further improve the quality of the material, to eliminate as far as possible all that would be of little value to our readers and to fix the responsibility for all that is admitted to the pages of THE JOURNAL, your Trustees suggest that hereafter no paper presented to any section shall be printed until it has received the approval of the three members of the Executive Committee from that section, evidenced by their signatures to said paper.

INCREASED EXPENSES.

A glance at the credit side of your financial exhibit will show that with the increase in your circulation there has been a pro rata increase in certain expenses connected with your JOURNAL. The paper bill for the year 1900 was \$2,874.23 more than during 1899, and second-class postage \$1704.41 more, and ink \$427.01 more; making an increase in these three items alone of \$5005.65. It is not necessary to enumerate other items. These are presented as object-lessons.

We have referred to a few of the many sources of unnecessary expenses connected with the publication of our JOURNAL. Many of them could be avoided, if all Section officers, as well as ASSOCIATION officers, would make it a rule in future to comply with the letter of our Constitution and By-laws. Let all papers not considered worthy to appear in THE JOURNAL be passed upon and rejected by the Section officers, and not throw the burden of this responsibility upon the Editor or the Publication Committee of the Board of Trustees. Let the number of papers be limited to thirty-five to the Section, and let no changes be made in the programs of the Sections after May 4.

We present you this report in printed form, gotten out in our JOURNAL office, so as to have it ready for distribution to each member of the ASSOCIATION as he registers at our annual meeting. We trust that the work of your Board will meet your approval. In closing this report, we feel that we can present THE JOURNAL to you at the close of business at the end of the fiscal year, Dec. 31, 1900, as no longer an experiment in medical journalism, but as an assured success—a journal of which the ASSOCIATION may well be proud.

Respectfully submitted,

A. GARCELON, President,
H. L. E. JOHNSON, Secretary.
E. E. MONTGOMERY,
I. N. LOVE,
JOSEPH M. MATHEWS,
E. FLETCHER INGALS,
MILES F. PORTER,
W. L. RODMAN,
T. J. HAPPEL,

Board of Trustees.

On motion of Dr. Tuckerman, Ohio, the joint report of the Treasurer and Board of Trustees, with the recommendations contained therein, was adopted.

Dr. Bishop, Pennsylvania, moved that the Board of Trustees and the Editor of THE JOURNAL be extended a vote of thanks for their valuable and efficient services, which was unanimously carried.

The President announced as the committee to secure portraits of ex-presidents and living presidents, Drs. J. R. Pennington, of Illinois, W. L. Rodman, of Pennsylvania, and N. P. Dandridge, of Ohio. He also suggested in this connection that at present the Association had no appropriate depository for the excellent work of art which had been presented, and that it would be well for the committee to make arrangements to deposit this portrait of Dr. Davis in some art gallery until such time as the association would be able to provide quarters for its own art treasures.

The next thing in order was the report of the Committee on National Legislation, which was read by the Chairman of the Committee, Dr. H. L. E. Johnson, of Washington, D. C.

Committee on National Legislation.

Second Annual Report of the Committee of the American Medical Association on National Legislation, presented to the St. Paul Meeting, June 4, 1901.

WASHINGTON, D.C., June 4, 1901.

To the President and Members of the American Medical Association:

Gentlemen:—We have the honor to report that at the last meeting of your Association, the constitution and by-laws were amended so as to provide for a standing committee known as the committee on National Legislation, said committee to be appointed annually by the President. In conformity with this, your honorable President appointed the following named gentlemen to constitute that committee: Drs. William L. Rodman,

of Philadelphia, William H. Welch, of Baltimore, and H. L. E. Johnson, of Washington, D.C., who had served in this capacity during the past year, and reported to the Association at the meeting at Atlantic City, their work during the year with the recommendations, and the minutes of the annual conference held at Washington, D.C., with the delegates from the state societies, and the army and navy marine-hospital services. Their proceedings and recommendations were favorably reported upon by your General Executive Committee, and subsequently approved by the American Medical Association in general session.

We are pleased to report that as a result of the combined efforts of your committee, and the delegates to the annual conference, the obnoxious Senate Bill No. 34 entitled, "For the Further Prevention of Cruelty to Animals in the District of Columbia," known as the "Antivivisection Bill," has been defeated, and rendered practically impossible of passage in the future. As a result of the second annual conference held at Washington, Feb. 20 and 21, 1901, we have the honor to report the passage of Senate Bill No. 4171, entitled, "An Act Granting Additional Quarantine Powers and Imposing Additional Duty upon the Marine Hospital Service," and the defeat of Section 150 H. R. Bill 13,423, "The Codification of Postal Laws." This section, if it had become a law, would have cost the American Medical Association about \$30,000 extra in postage in connection with the distribution of THE JOURNAL to our members and subscribers. We observe with great satisfaction and hope for future national influence of the American Medical Association, and the Committee on National Legislation, that the medical societies of the several states and territories are beginning to appreciate the importance of the annual conference, and the necessity of state co-operation in matters of medical legislation, both local and national, as evidenced by the increased attendance at the second annual conference which was held at Washington, D. C., in February last, at which conference the delegates in session appointed the standing committee of the second annual conference with full power to represent them, and act, *ad interim*, in all medical matters arising in the Congress of the United States. Two special matters were thoroughly discussed in their various phases, and received the unanimous approval of your committee and the conference. The first dealt with the unification of medical practice acts in the several states and territories, and showed a consensus of opinion that medical education and requirements should be raised to a given standard, said standard being adopted by the several states, thereby permitting mutual acceptance of medical licenses to practice. To this end the following resolution of Dr. John B. Roberts, of Philadelphia, was adopted:

Resolved, That the chairman appoint a sub-committee of three to study the question of uniform medical legislation on the basis of uniform medical education, and that this sub-committee report at the next meeting of this conference.

The chairman, Dr. Johnson, appointed Drs. Emil Amberg, of Detroit, Mich., Dudley S. Reynolds, of Louisville, Ky., and John B. Roberts, of Philadelphia, Pa. The other matter, of probably greater magnitude, at least from a legislative point of view, was the importance and absolute necessity of state medical organization in connection with the American Medical Association, through your Committee on National Legislation. The universal opinion of the delegates in conference was that the medical societies should be thoroughly organized throughout each State and have a principal representative through whom the entire regular profession of the state should be brought promptly in touch with your Committee on National Legislation, the American Medical Association, the National Congress, or a State Legislature whenever necessity requires. To this end, the following resolution of Dr. William H. Welch, of Baltimore, Md., was adopted:

Resolved, That the chairman of this conference send to each state society a communication, stating the character of the organization, and the purpose of this conference, advising each society to conform with the action of the American Medical Association, requesting the appointment of two members, as delegate and alternate, a State Committee on National Legislation to represent the State Society in this conference, and to co-operate with the National Committee. Each state society is requested to send to the Chairman of the National Committee, the names and addresses of the delegate and alternate.

To further carry out this important matter of state medical organization, the following motion of Dr. H. M. Bracken, of Minneapolis, Minn., was adopted: *Moved*, That a committee of five, with power to increase its number, be appointed by the chairman, to carry into effect state medical organization. The Chairman, Dr. Johnson, appointed Drs. C. R. Shinault, of

Helena, Ark., W. P. Goff, of Clarksburg, W. Va., L. B. Tuckerman, of Cleveland, Ohio, H. M. Bracken, of Minneapolis, Minn., and Charles E. Quimby, of New York City, N. Y.

We quote and reiterate our recommendation of last year, and we can not urge too forcibly its importance in connection with the future efforts of your committee. "Your committee is of the opinion that an annual conference at Washington, D.C., to consider pending national and state medical legislation, is desirable, in that it will tend to awaken interest in national medical affairs and will give the state and national legislators a medium for better understanding the wishes of the country at large with respect to medical questions. We recommend that the American Medical Association request affiliating medical societies of the several states and territories to provide in their constitutions for the appointment of a State Legislative Committee whose duty it shall be to consider all medical legislation arising in the state legislatures and in the national congress, and advise their constituent members thereof; further, the appointment of one member and an alternate to represent their society when called upon by your Committee on National Legislation to a general conference in Washington, each society paying out of its treasury the expenses of such delegate or alternate to said conference. We suggest that such committee shall be carefully selected with respect to special individual qualifications for such service, and that the tenure of office shall depend upon individual fitness for the position."

We officially report that on Feb. 20 and 21 of this year, in accordance with the constitution of the American Medical Association, your Committee on National Legislation held an annual conference at Washington, D.C., with the delegates from the medical societies of the various states, and the government services. We submit herewith the transactions of said conference, and recommend that it be printed in full in THE JOURNAL. We further recommend that the American Medical Association approve the several resolutions quoted and adopted by the second annual conference. Very respectfully,

H. L. E. JOHNSON, M.D.,

WILLIAM H. WELCH, M.D.,

WILLIAM L. RODMAN, M.D.,

Committee on National Legislation.

Minutes of the Second Annual Conference of the Committee on National Legislation, Held at Washington, D. C., February 20-21, 1901.

The Committee on National Legislation had several meetings during the year, and the Chairman was instructed to send the following communication to the Secretary of the Medical Societies of each State and Territory of the United States, in accordance with the by-law of the American Medical Association:

WASHINGTON, D. C., December 28, 1900.

MY DEAR DOCTOR:

On behalf of the Committee on National Legislation of the American Medical Association, I earnestly request you to send, at your earliest opportunity, the names and addresses of the delegate and alternate who are to represent your State Medical Society at the annual conference at Washington, D. C., this winter.

When you furnish me the names I will notify them at once of the date of the proposed conference. Please refer to the report of the last conference, which appears in the JOURNAL of June 16, 1900, page 1547, and the report of the Trustees, on page 1559; also the report of the General Executive Committee of the Association, on page 1561, JOURNAL of same date. Respectfully,

H. L. E. JOHNSON, M.D.,
Chairman.

Subsequently, to those societies who did not respond, the following communications were sent:

WASHINGTON, D. C., January 23, 1901.

MY DEAR DOCTOR:

On behalf of the Committee on National Legislation of the American Medical Association, I earnestly request you to send, at your earliest opportunity the names and addresses of the delegate and alternate who are to represent your State Medical Society at the annual conference at Washington, subject to the call of the Association's Chairman.

Please refer to the report of the last conference, which appears in the JOURNAL of June 16, 1900, page 1547, and report of the Trustees on page 1559, and also report of General Executive Committee on page 1561, JOURNAL of same date. If your State Society has not appointed a delegate and alternate will you please urge upon the members the importance of so doing? Respectfully,

H. L. E. JOHNSON, M.D.,
Chairman.

WASHINGTON, D. C., January 23, 1901.

DEAR DOCTOR:

As your Society has not sent the name of the delegate and alternate to the Annual Conference of the Committee on National Legislation of the American Medical Association which meets here on February 20 and 21, 1901, will you please send the enclosed to the proper appointing officer or Committee of your Society that it may promptly reach your delegate or alternate, when such appointment is made?

Very truly yours,

H. L. E. JOHNSON, M.D.,
Chairman Committee on National Legislation.

Following thereon a regular call for meeting was sent.

WASHINGTON, D. C., January 30, 1901.

DEAR DOCTOR:

The Committee on National Legislation of the American Medical Association hereby requests you to meet in annual conference at Washington, D. C., on February 20 and 21, 1901, at 11 o'clock a. m., at the Arlington hotel, to consider various medical matters now pending in the National Congress of the United States and any other medical matters of local interest to your Society.

All the hotels of the city are crowded at this season of the year, but the proprietor of the Arlington Hotel, Mr. Frank V. Bennett, will provide for your room and comfort either there or at an annex on your arrival.

Please notify me by mail promptly that you will be present at this conference. I leave Washington on the 1st proximo to attend the third Pan-American Medical Congress at Havana, Cuba, and expect to return to Washington by the 12th or 15th, at which dates any correspondence from you will be promptly answered.

In case you cannot attend please forward this to your alternate.

Very truly yours,

H. L. E. JOHNSON, M.D.,

Chairman Committee on National Legislation.

The conference was called to order by the Chairman, Dr. H. L. E. Johnson, of Washington, D. C., at 11:20 a. m., February 20, 1901, at the Arlington Hotel. The minutes of the last conference were read and approved.

PRESENT: Dr. Dudley S. Reynolds, Louisville, Ky.; Dr. Emil Amberg, Detroit, Mich.; Dr. Charles E. Quimby, New York, N. Y.; Dr. H. M. Bracken, Minneapolis, Minn.; Dr. C. S. Rodman, Waterbury, Conn.; Dr. W. P. Goff, Clarksburg, W. Va.; Dr. L. B. Tuckerman, Cleveland, Ohio; Dr. C. R. Shinault, Helena, Ark.; Dr. U. O. B. Wingate, Milwaukee, Wis.; Dr. Walter Wyman, Surgeon-General United States Marine-Hospital Service; Dr. Henry A. Beaudoux, Fargo, N. D.; Dr. H. L. E. Johnson, Washington, D. C.; Dr. George S. Armstrong, Spokane, Wash.; Dr. John B. Roberts, Philadelphia, Pa.; Dr. William H. Welch, Baltimore, Maryland; Dr. J. B. Massie, Houston, Tex.; Dr. Wm. L. Rodman, Philadelphia, Pa.; Dr. George M. Sternberg, Surgeon-General, United States Army.

The Chairman, Dr. Johnson, announced that the medical societies of the following States had nominated delegates, but their representatives had not appeared: Colorado, Florida, Indiana, Kansas, Maine, New Hampshire, Rhode Island, Tennessee; and that the medical societies of the following States had made no nominations to the conference: Alabama, Arizona, California, Delaware, Georgia, Idaho, Illinois, Indian Territory, Iowa, Louisiana, Mississippi, Missouri, Montana, Nebraska, Nevada, New Jersey, New Mexico, North Carolina, Oklahoma Territory, Oregon, South Carolina, Utah, Vermont, Virginia, Wyoming. The Massachusetts Medical Society sent the following communication, declining to send a delegate, and voting to lay the matter upon the table:

THE MASSACHUSETTS MEDICAL SOCIETY.

ROXBURY, MASS., February 25, 1901.

H. L. E. JOHNSON, M.D.

Chairman Committee on National Legislation, American Medical Association.

MY DEAR DOCTOR:

In reply to your communication of 23d instant I would say that on or about the 7th instant I wrote to inform you that at a meeting of the Councillors of this Society, held on 6th instant, it was voted to lay on the table the matter of appointing a delegate to represent the Massachusetts Medical Society at the meeting of the Committee in Washington, D. C.

Yours Respectfully,

F. W. Goss,
Recording Secretary.

The Chairman, Dr. Johnson, addressed the conference, stating the object of the call, and outlined the work of the Committee *ad interim*, stating that after the first conference adjourned the special committee, consisting of Drs. H. L. E. Johnson, Washington, D. C.; W. P. Goff, West Virginia; H. M. Bracken, Minnesota, and L. B. Tuckerman, Ohio, as directed, drew up a preamble to the Senate and House of Representatives denouncing in positive terms, and urging against the passage of Senate Bill 34, known as the Antivivisection Bill, and had the same submitted to the Senate by the President *pro tempore*, Senator Frye. The bill is practically dead. We have heard nothing about it recently, and its former urgent supporters appear to have lost heart, at all events they are not pushing the matter.

Many of those who signed the original petition for the passage of the bill, have concluded the measure was too radical. We think the conference is to be congratulated upon its success in this particular. Following the instruction of the last conference, your committee called upon the different committees of Congress, in the interest of the other measures, endorsed by you.

The Chairman, Dr. Johnson, presented the following resolution, which was proposed at the meeting of the American Medical Association, at Atlantic City, June, 1900, and referred to the Committee on National Legislation, which decided to refer it to you for your consideration:

Resolved, That this Association heartily endorses the bill (H. R. 11019) now before Congress, providing that the rank, pay and allowances of the Surgeon-General of the United States Army shall be that of a Major-General of the United States Army, and that a committee of three be appointed by the President to assist in the securing of its passage.

On motion this resolution was endorsed.

J. LAWTON MIERS, M.D.

I. N. LOVE, M.D.

JOSEPH M. MATHEWS, M.D.

The Chairman stated that in December last, the Committee on National Legislation was appealed to by many prominent physicians, to co-operate with them, in urging an amendment to Senate Bill 4300, known as "the Army Reorganization Bill." The amendment proposed was to section 18, and referred to the medical department of the Army.

Your Committee saw the Chairman in charge of the matter in the House of Representatives, presented their objections to the measure, and later, arranged with the Chairman of the Senate Committee on

Military Affairs for a hearing. This was promptly agreed to by the Chairman, Senator Hawley, but subsequently this hearing was positively refused, the Chairman of the Committee sending the following letter to your Chairman:

UNITED STATES SENATE,
COMMITTEE ON MILITARY AFFAIRS,
CITY OF WASHINGTON, December 15, 1900.

Mr. H. L. E. JOHNSON, Chairman
American Medical Association, Washington, D. C.

MY DEAR SIR:

Personally I should be very glad to hear you as a representative of the Medical Association; but the committee has determined to stop taking testimony because we have had a flood of it, and we are anxious lest we shall be late in passing the reorganization bill and bring calamity upon our people in the Philippines. Our good friend, Surgeon-General Sternberg, has spoken to the committee and talked as long as he pleased. I think the committee understands pretty well the real needs of the staff corps. Yours very truly,

J. R. HAWLEY.

Upon receipt of this, your Chairman called upon several members of this Senate Committee, objecting positively to their course in this matter, and sent to the Chairman the following communication:

WASHINGTON, D. C., December 16, 1900.

Hon. JAMES R. HAWLEY, Chairman
Senate Committee Military Affairs.

DEAR SIR:

Your favor of the 15th instant, in which you decline giving further public hearing in the matter of the Army bill, S. 4300, has been received, and in reply thereto, I beg to say:

We, the Committee on National Legislation, which represents the American Medical Association, and each State and Territory Medical Society of the United States, do most respectfully, but earnestly, disapprove section 18 of said bill as reported by the House of Representatives, and request that the following be substituted therefor:

Sec. 18. That the Medical Department shall hereafter consist of one surgeon-general with the rank of brigadier-general; ten surgeons with the rank of colonel; twenty surgeons with the rank of lieutenant-colonel; eighty surgeons with the rank of major; two hundred surgeons with the rank, pay, and allowances of first lieutenant of cavalry for the first five years' service, and with the rank, pay, and allowances of captain of cavalry after five years' service; the Hospital Corps as now authorized by law, and the Nurse Corps: *Provided*, That all vacancies in the grade of colonel, lieutenant-colonel and major, created or caused by this section shall be filled by promotion according to seniority, subject to the examinations now prescribed by law, and that all vacancies in the grade of surgeon with the rank of lieutenant shall be filled by selection after competitive examination: *Provided*, That the period during which any surgeon shall have served as a surgeon or assistant-surgeon of volunteers, or as a surgeon under contract, since April twenty-first, eighteen hundred and ninety-eight, shall be counted as a portion of the five years' service required to entitle him to the rank of captain, but that after he attains the rank of captain his relative rank for subsequent promotion shall not be disturbed by anything herein. That on and after the passage of this Act the President may appoint, for duty in the Philippine Islands, fifty surgeons of volunteers with the rank, pay, and allowances of major, one hundred and fifty surgeons of volunteers with the rank, pay, and allowances of captain of cavalry: *Provided*, That so many of these volunteer medical officers as are not required shall be honorably discharged from the service whenever in the opinion of the Secretary of War their services are no longer necessary, and that the period for which they are appointed shall be limited to two years from the passage of this Act. That on and after the passage of this Act the President may appoint contract surgeons who have rendered faithful and satisfactory services for a year or more to be surgeons of volunteers with the rank, pay, and allowances of first lieutenants of cavalry, subject to honorable discharge whenever in the opinion of the Secretary of War their services are no longer required: *Provided further*, That all surgeons appointed shall be of good moral character and shall have passed a satisfactory professional and physical examination.

This request is made in the interest of the Medical Department of the Army and the Civilian Medical profession of the United States. As you find it impossible to grant us the audience promised, we respectfully request that this communication be laid before your Honorable Committee for consideration.

Very respectfully yours,

H. L. E. JOHNSON, M.D.,
Chairman Committee on National Legislation,
American Medical Association.

Following the receipt of the above, your Chairman was promptly invited to appear before the Committee on Military Affairs of the Senate, and requested to explain the amendment suggested by your Committee. After an hour's conference and argument with the Committee, notwithstanding the fact that the matter had been practically closed, in recognition of your wishes the amendment to section 18, proposed by your committee, was referred to a special sub-committee of their members for consideration, who finally reported against the same. In order to reinforce the position taken by your Committee, your Chairman telegraphed the various members of the conference, and THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION as follows:

December 18, 1900.

Dr. ———:

As Legislative Delegate, from your State Society, wire at once Senator Hawley to vote for amendment to pending Senate Army Bill 4300, proposed by Committee on National Legislation.

H. L. E. JOHNSON, M.D., Chairman.

CHICAGO, ILL., Dec. 18, 1900.

EDITOR JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION:

The Committee on National Legislation has been in conference with the Military Committees of the Senate and House of Representatives, considering the Army Reorganization Bill (S. 4300), and has recommended a substitute for Medical Section 18, to meet the wishes of the civilian physicians of the United States and the Surgeon-General of the Army. The Committee on National Legislation appeals to every member of the American Medical Association,

requesting that he write or telegraph at once, to both Chairmen, Senator Hawley and Representative Hull, urging them to vote for, and favor the passage of the substitute proposed by your Committee. The original bill is highly objectionable.

H. L. E. JOHNSON, M.D.,
Chairman Committee on National Legislation.

This situation made us thoroughly appreciate the absolute necessity of thorough organization in the various States. We recommend a most thorough organization in the medical societies in the several States, so that your committee, *ad interim*, will be enabled to call upon some duly appointed individual, who will be able to bring the pressure of the entire medical profession of his State, to act for, or against, a measure in Congress when called upon by your committee. Many letters were received in reply to the telegrams of your chairman, one of which, from Dr. Black, is herewith presented, as it is in line with our suggestions:

ILLINOIS STATE MEDICAL SOCIETY.

JACKSONVILLE, ILL., February 13, 1901.

H. L. E. JOHNSON, M.D., Washington, D. C.,
Chairman Committee on National Legislation, American Medical Association.

DEAR DOCTOR:

As Chairman of the Committee on Medical Legislation of the Illinois Medical Society, I have been appointed to represent Illinois at the proposed meeting in Washington on the 20th and 21st of the present month.

I regret to say that it will be impossible for me to attend this meeting without there should be some radical change in my arrangements. In Illinois we are devoting our greatest energy towards organizing. Whatever influence we may be able to exert on legislation must come by an organized effort.

The Legislative Committee is using every means to secure a correct list of the members of all local societies in the State. In Illinois our local societies comprise at least four thousand members. We hope to soon have these men in a closer and more uniform organization, and by that means will be able to bring far more influence to bear on National as well as State legislation. Anything that I can do from this distance to forward the interests of your committee will be gladly undertaken.

Regretting my probable inability to attend your meeting, I am,
Very respectfully,

CARL E. BLACK, Chairman.

It seems to me that this is the secret of the success of this Conference—thorough organization. When you leave Washington and your committee, we are willing at all times to come to the aid of the physicians of the various States, but we must have some person appointed in each State to reach the various physicians in his individual State, so that they can correspond with their Members and Senators, expressing their wishes on a particular subject. Medical legislation has often been proposed by laymen, objectionable to the doctors, and medical men, comprising the cream of the profession, have objected to the measures, but no attention was paid to their wishes. The other day when a question came up in Congress about a particular clause in a certain bill, it was stated that Workingmen's Union, No. so-and-so, had drawn the bill, through their attorneys, and that it would undoubtedly pass. It seems to your committee that our profession should be given some recognition. If the members present will act on this, and appoint some man in each State, we can do more in the future. With respect to the Army Bill, Senate 4300, it has passed out of our hands, and is now a law. I want to call to your attention the article by Dr. Amberg, "The Present Status of Interstate Reciprocity, concerning licenses to practice medicine" (*Medical News*, October 27, 1900), which is very important and shows a great deal of work and thought on his part.

This practically sums up the work, *ad interim*, with the exception that at the last Congress we acted on Senate Bill 4171, which is herewith presented:

56th Congress,
1st Session.

S. 4171.

Report
No. 1833.

IN THE HOUSE OF REPRESENTATIVES.

May 28, 1900.

Referred to the Committee on Interstate and Foreign Commerce.
May 29, 1900.

Referred to the House Calendar and ordered to be printed.

AN ACT

To amend "An Act granting additional quarantine powers and imposing additional duties upon the Marine-Hospital Service," approved February fifteenth, eighteen hundred and ninety-three.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That an Act granting additional quarantine powers and imposing additional duties upon the Marine-Hospital Service, approved February fifteenth, eighteen hundred and ninety-three, be amended by addition of the following sections:

"Sec. 10. That the Supervising Surgeon-General, with the approval of the Secretary of the Treasury, is authorized to designate and mark the boundaries of the quarantine grounds and quarantine anchorages for vessels which are reserved for use at each United States quarantine station; and any vessel or officer of any vessels or other person, other than State or municipal health or quarantine officers, trespassing or otherwise entering upon such grounds or anchorages in disregard of the quarantine rules and regulations, or without permission of the officer in charge of such station, shall be deemed guilty of a misdemeanor and subject to arrest, and upon conviction thereof be punished by a fine of not more than three hundred dollars or imprisonment for not more than one year, or both, in the discretion of the court. Any master or owner of any vessel, or any person violating any provision of this Act or any rule or regulation made in accordance with this Act, relating to inspection of vessels or relating to the prevention of the introduction of contagious or infectious diseases, or any master, owner or agent of any vessel making a false statement relative to the sanitary condition of said vessel or its contents or as to the health of any passenger or person thereon, shall be deemed guilty of a misdemeanor and subject to arrest, and upon

conviction thereof be punished by a fine of not more than five hundred dollars or imprisonment for not more than one year, or both, in the discretion of the court.

"Sec. 11. That any vessel sailing from any foreign port without the bill of health required by section two of this Act, and arriving within the limits of any collection district of the United States, and not entering or attempting to enter any port of the United States, shall be subject to such quarantine measures as shall be prescribed by regulations of the Secretary of the Treasury, and the cost of such measures shall be a lien on said vessel, to be recovered by proceedings in the proper district court of the United States and in the manner set forth above as regards vessels from foreign ports without bills of health and entering any port of the United States.

"Sec. 12. That the medical officers of the United States, duly clothed with authority to act as quarantine officers at any port or place within the United States, and when performing the said duties, are hereby authorized to take declarations and administer oaths in matters pertaining to the administration of the quarantine laws and regulations of the United States."

Passed the Senate May 26, 1900.

Attest: CHARLES G. BENNETT, Secretary.

56th Congress, Report
1st Session. HOUSE OF REPRESENTATIVES. No. 1833.
GRANTING ADDITIONAL POWERS, ETC., UPON MARINE-HOSPITAL SERVICE.

May 29, 1900.—Referred to the House Calendar and ordered to be printed.

Mr. Corliss, from the Committee on Interstate and Foreign Commerce, submitted the following

REPORT.

[To accompany S. 4171.]

The Committee on Interstate and Foreign Commerce, to whom was referred the bill (S. 4171) to amend "An act granting additional quarantine powers and imposing additional duties upon the Marine-Hospital Service," approved February 15, 1893, beg leave to submit that this measure is necessary for the efficient performance of the duties devolving upon the Marine-Hospital Service.

We therefore recommend that the said bill do pass.

The Chairman, Dr. JOHNSON, continuing, said: This bill is now on the verge of passage. General Wyman will fully explain the features and necessity of this measure, and then we can close up the work, *ad interim*, and take up general matters, by States.

GENERAL WYMAN, U. S. Marine-Hospital Service: This bill was introduced in the Senate and House, and came up before the Senate Committee with some amendments and was by them reported favorably, and then it passed the Senate. It then went over to the House Committee, by whom it was reported favorably and placed on the Calendar. On account of the shortness of time remaining of this session an effort was made to gain unanimous consent to have the bill passed in one of the morning hours. There was no objection to the bill, but the gentleman who brought it up had inquired about it from one of the members who knew nothing about it, and he was a little tart in his reply, and in consequence he said: "I object." This prevented it from being brought up at that time. I have seen the Chairman of the Committee, and spoken to him of the importance of this bill, and urged him to put it through. I received a nice letter from him in reply, in which he said he would do so.

It had been reported favorably to the House by the committee, and the chairman of the committee has the privilege, by vote of the committee, to bring any matter up at the proper time whenever an opportunity is given to report bills. Mr. Hepburn said he would bring it up at the proper time. Another way is under the suspension of the rules. Last Monday was one of these days, and Mr. Corliss made a report; but the measure of the World's Fair at St. Louis was up, and there was no time then to take up our matter. Mr. Corliss will watch it closely and pass it, because there will be no objection.

The National Quarantine law passed in 1893 is a fine law, but the only penalty for a foreign ship leaving a port without a bill of health is through a court of law.

If the master of the ship says there is no one sick and there is some one sick, we have no way of punishing him for it. Heretofore we have been obliged to use the State quarantine laws for punishment, but we cannot do it as effectively under them as we could under our own. The penalties are not excessive, but there should be some penalty which would cause the master and officers of vessels to respect the law. The importance of it now lies in the fact that Congress passed laws granting additional quarantine powers to Hawaii and Porto Rico, and our own country should have the same, so that we may have some way of protecting ourselves from the introduction of contagious diseases. These laws are made to apply in the Philippines and Cuba. While the penalties might not be imposed, yet if we had the power of inflicting them it would be a great aid.

Another feature is for the National quarantine officers to administer oaths. Every State has this power, but we have not. One other feature relates to the surveillance of vessels that may leave foreign countries, such as Cuba, and hover around our coast claiming they don't enter our ports; they come within the 3-mile limit and we have no way of preventing them. They call themselves fishing smacks, and are often manned by new arrivals from Spain who are not immune. They come to the Florida coast for the purpose of smuggling tobacco and rum, and all we can do is to drive them off. We purchased a swift yacht and cruised along the coast to ward them away from the 3-mile limit. We have to put aboard a customs inspector. This law empowers the Secretary to make such regulations as will keep the coast safe from such vessels and not allow them to put a sick man ashore, and charge all expense against the vessel, which we would seize and transport to the nearest quarantine station for disinfection, the vessel paying all expenses.

Another feature of the bill is to make out the anchorage so that any intrusion may be punishable by a fine. Infected vessels are placed within this anchorage, and should any vessel try to have

communication with the infected ship we can drive them off or capture them. This bill will give us the necessary authority to impose a fine upon them. Everything is smooth, and the only thing now is to get it through. The chairman of our committee and Mr. Corliss are quite interested in it, but of course the time is getting short; but if the committee could interest the speaker and get him to recognize some one in the interest of this bill it will pass at once, and I think this can be done with some tact.

DR. TUCKERMAN, of Ohio, then moved that the special committee be authorized to represent to the members of the House Committee who have this bill in charge the urgent necessity of getting this bill through. Seconded by Dr. Goff, of West Virginia. Carried.

The Chairman, Dr. JOHNSON, suggested that they individually bring this matter to the attention of their Senators and Members, when they are seen this afternoon.

The Chairman, Dr. JOHNSON, said it might be well for the Conference to pass on the *ad interim* action of the committee.

DR. JOHN B. ROBERTS, of Pennsylvania, moved that the Conference approve the action *ad interim* of the Legislative Committee of the AMERICAN MEDICAL ASSOCIATION and its subcommittee. Seconded by General Wyman. Carried.

The Chairman, Dr. JOHNSON, on behalf of the Medical Society of the District of Columbia, extended an invitation to the members of the Conference to attend its evening meeting.

GENERAL WYMAN: It has occurred to me since sitting here that it might interest you to come to the Bureau and Laboratory of the Marine-Hospital Service. It will give me great pleasure to have you attend.

The Chairman, Dr. JOHNSON, then called the delegates by states, for any matter they might wish to present the Conference.

DR. C. R. SHINAULT, of Arkansas, said he had nothing special to report.

DR. C. S. RODMAN, of Connecticut, had no business to introduce. He said: I may report from Connecticut that in consequence of the meeting here a year ago the Connecticut Medical Society introduced a recommendation to provide for reciprocity and, perhaps what is inseparable for a State Board, that a practitioner may have his license revoked on conviction of crime. This was introduced in the Connecticut Legislature last week, and we hope to have it passed. If so, it will be the result of your meeting last year. From my own experience, a larger representation might be gotten here if the President of each State Society was notified and the matter brought to his attention.

The Chairman, Dr. JOHNSON, for the District of Columbia, said: We have several matters pending; the principal one is the reclamation of the Anacostia flats. This is a disease-breeding spot which affects the health of those in the public schools, Insane Asylum, Navy Yard, Arsenal, and the entire southeastern section of this city. Another matter is the water supply and filtration. The Potomac water here is the worst in the United States. We also have the bill, which has already been referred to, granting additional quarantine powers to the Marine-Hospital Service, and I urge that this be considered. All these things have been placed before the House and Senate and shifted from committee to committee because of our nonentity in Congress. We have a foothold on the Rivers and Harbors Bill. The water supply should be considered at once. We have possibly more typhoid fever here than in any other city in the United States.

DR. DUDLEY S. REYNOLDS, of Kentucky: I had not the privilege of being with you last year. I have learned a great deal since I came here, and I see now more fully the value of this committee, and when I return home I will endeavor to present a synopsis of the work to our State Society in May in Louisville. I know of nothing that Kentucky has to request.

DR. W. H. WELCH, of Maryland: I was not instructed to bring any special matter before the Conference. Apropos of your remarks, Mr. Chairman, on organization, I might say that our Society has appointed two delegates to represent them in this Conference, and it might be useful for this Conference to prepare a statement to be sent to each society to appoint two of their members who can be appealed to at any time.

DR. REYNOLDS, of Kentucky: A great many State societies have no knowledge of this committee and its possibilities, and if a brief statement was prepared, giving the nature of the organization, it would do much good. Not only should each society be requested to appoint two members as a committee, but it is also important that the chairman of this committee communicate with them. Each society should also report at this Conference as to their legislative work, and communicate with this Conference as to what they desire brought forward.

GENERAL WYMAN: Shall these two appointees be delegate and alternate?

DR. WELCH, of Maryland: Yes. If they could not attend, appoint a proxy, and bring this to the attention of each Society at their annual meeting.

RESOLUTION OF DR. WELCH.

I move that the Chairman of this Committee send to each State Medical Society a communication stating the character of the organization and the purposes of this Conference, and advising each Society to conform with the action of the AMERICAN MEDICAL ASSOCIATION, requesting the appointment of two members as a State committee on national legislation to represent the State Society in this Conference and to cooperate with the National Committee. Each State Society is requested to send to the Chairman of the National Committee the names and addresses of the local committee.

DR. REYNOLDS, of Kentucky: I would suggest that a subcommittee draft a report of the request.

DR. QUIMBY, of New York: Would it not be better for the societies to comply with the regulation?

DR. TUCKERMAN, of Ohio: The necessity of doing it now rests on the fact that a number of State societies meet before the AMERICAN MEDICAL ASSOCIATION meeting, and if they are communicated with now they will act this coming spring.

DR. REYNOLDS, of Kentucky: The idea I have about this resolution is, that it intends to notify these States which have not been informed that the AMERICAN MEDICAL ASSOCIATION invites each State Society to appoint a delegate and alternate.

DR. H. M. BRACKEN, of Minnesota: Mr. Chairman, who has provided for the alternate in the various States? In our State I was informed that no alternate was requested. These matters can be made clear to us now.

The Chairman, DR. JOHNSON, submitted a copy of the letter sent to each Society, and stated that each State and Territory Society had been communicated with, both this and last year.

The Chairman, DR. JOHNSON: Dr. Welch's resolution is in order.

The resolution was stated and carried.

DR. EMIL AMBERG, of Michigan: I should like to bring up the subject of interstate reciprocity. It appears to me that this subject is not entirely within the scope of this Committee, because this has more to do with interstate legislation. It is my opinion that the AMERICAN MEDICAL ASSOCIATION should appoint a special committee for this purpose. This requires study of the preliminary and medical education and the laws of each State, and I would therefore move that the AMERICAN MEDICAL ASSOCIATION, not appreciating fully the importance of this movement at its last meeting, the following resolution be adopted:

WHEREAS, The medical profession of the United States desires uniform medical legislation on the basis of uniform medical education, and

WHEREAS, The AMERICAN MEDICAL ASSOCIATION is the main representative of the medical profession of this country.

I move that the Legislative Conference of the AMERICAN MEDICAL ASSOCIATION, and affiliated societies recommend to the AMERICAN MEDICAL ASSOCIATION, at its next meeting at St. Paul, that the Association appoint a committee of three, which committee shall study the question of uniform medical legislation on the basis of uniform medical education, and that this committee report at the meeting of the Association in 1902, and that the actual expenses of this committee, not exceeding \$600 for one year, be paid by the Association.

Seconded by Dr. Shinault, of Arkansas.

DR. JOHN B. ROBERTS, of Pennsylvania: I think if any legislative work is to be done, this Conference is the place, and far better than creating another committee, with other expenses, to do the same work we are doing now.

The Chairman, DR. JOHNSON: The matter of incurring extra expense to the AMERICAN MEDICAL ASSOCIATION would be referred to the Board of Trustees for approval. We could appoint from this Conference a committee and present it to the AMERICAN MEDICAL ASSOCIATION for its approval.

DR. JOHN B. ROBERTS, of Pennsylvania, offered the following amendment to Dr. Amberg's resolution:

Resolved, That the Chairman appoint a sub-committee of three to study the question of uniform medical legislation, on the basis of uniform medical education, and that this sub-committee report at the next meeting of this Conference. Dr. Amberg accepts Dr. Roberts' amendment, which, on motion, was carried.

DR. AMBERG, of Michigan: Something should be done on this matter at the next meeting of the AMERICAN MEDICAL ASSOCIATION.

The Chairman, DR. JOHNSON: In this matter we of the District of Columbia are annoyed. We have Maryland on one side and Virginia on the other, and we cannot practice in either place without examination, nor can they come here to practice.

DR. REYNOLDS, of Kentucky: Dr. Amberg is anxious for the AMERICAN MEDICAL ASSOCIATION to be heard throughout the country on this subject, and it will be met entirely by the amendment offered by Dr. Roberts. What we do here we report at the next meeting at St. Paul, that goes into the minutes of the AMERICAN MEDICAL ASSOCIATION, and if they approve of what we have done, that is then the expression of the AMERICAN MEDICAL ASSOCIATION itself.

The Chairman, DR. JOHNSON: The AMERICAN MEDICAL ASSOCIATION has already gone on record as requiring a four years' course in medicine before one can become a member of the AMERICAN MEDICAL ASSOCIATION, if they graduated after a certain date. What we want is a uniform requirement in granting license.

DR. REYNOLDS, of Kentucky: Yesterday, in this room, there was a conference of the Association of American Medical Colleges; this matter was considered and a conclusion reached which will give great impetus to the movement.

DR. AMBERG, of Michigan, moved as follows:

I move that the Chairman of the Conference be instructed to inform, in future, all members of the committee at least two months in advance about the principal features which will come up for consideration at the meeting and which are known to him at that date, and later on those which present themselves, until the date of the meeting.

Seconded by Dr. H. A. Beaudoux, of North Dakota.

The Chairman, DR. JOHNSON, informed the Conference that the motion is unnecessary and unwise, as certain important matters might come up after the notifications are sent out.

Dr. Amberg withdrew his motion.

DR. H. M. BRACKEN, of Minnesota, had nothing at present to report. The State Association is in sympathy with this work so far as it understands it. Bearing on the action upon Dr. Welch's resolution, I spoke to him about it, and his idea is that of a principal and alternate. I think it should be so expressed in notifying each Society.

The Chairman, DR. JOHNSON: Will Dr. Welch please explain his resolution?

DR. WELCH, of Maryland: One the delegate, the other alternate.

The Chairman, DR. JOHNSON: By unanimous consent, the change is made in the resolution of Dr. Welch.

DR. C. E. QUIMBY, of New York: I have no special report to make because this appointment was made rather suddenly. Therefore there is nothing to request in the direction of legislation from New York. We have in New York the typical organization. It is really Dr. F. H. Wiggin to whom the credit is due for having put the association where it now stands. The essence of that force lies in the basic principle of its organization, which is absolute equality for every part of the State, and the State Association is the County Association, and these are the State Associations. We have a council which is elected by the branches. It is divided into district branches. Of course there are a number of counties that

have no association. These apply to the district branches. There is therefore a provision made for every man to be a member of the State Association and then the AMERICAN MEDICAL ASSOCIATION. There is one delegate for every ten members. These are the delegates to the AMERICAN MEDICAL ASSOCIATION. This authority lies with the County Association. The right of entrance is also decided by the County Association, so that the men among whom he lives decide as to his fitness for membership. The County Association Treasurer collects dues for his association. The State Association fixes its dues, and each County Association fixes its own. The necessity of these district branches will not appear in any other State as in New York.

The State Association was very slack for a time. There were five associations when the new charter was granted. Now these county associations are being formed at the rate of one a week. I have heard of three in the last few days. It is spreading, and in New York they are rushing to come in out of the rain. The candidates elected at each meeting number from 10 to 25. I think the most satisfactory part of the report is in its influence on members in showing them a unified body with the authority among themselves. There has been nothing in New York within twenty years which has done as this has. The only committees are an executive and a legislative committee. The County Association rules on all legal matters of ethics. The County Association committees are all made subordinate to the State Association. So we are prepared to carry on organization. We have all our committees ready and are a perfectly organized body, not only in numbers, but in the character of the men who are coming in.

DR. H. A. BEAUXOUX, of North Dakota, had nothing to bring before this body. We have troubles of our own in our State. We have taken steps to close the back door and are doing it successfully. We expect to succeed in bringing about clean medical practice in our State and stop magnetic institutions and quacks.

DR. C. R. SHINAULT, of Arkansas: When my name was called before I did not know what to say or what was wanted. I had no instructions from my society. We are in sympathy with this Conference, and we want our medical law improved. There is a bill before our Legislature now to that effect. At present the only restriction we have is a board that is empowered to examine applicants and decide as to their abilities as practitioners. There are several counties that do not have three graduates. This bill calls for the appointment of two members from each Congressional district, which will constitute the examining board and board of health. We hope then to have better laws. The board now passes any one who has weight as a voter.

DR. L. B. TUCKERMAN, of Ohio: We have in our State enforced the medical examination law for the first time, and it has resulted in a very great thinning out of incompetents. Nearly 30 per cent. failed. The State Board did not enforce its full requirements, but we think it will next year. The State Society endorsed fully the action of the Conference here. There is one matter which concerns the AMERICAN MEDICAL ASSOCIATION, and it seems to me we might act on it here because during the next year, if this proviso passes, it will cost the AMERICAN MEDICAL ASSOCIATION to mail its journal about \$30,000. There was a commission appointed to codify the postal laws and some things were added. The daily papers have had it in for weekly papers for years. They tried to shut out the weeklies, but it was discovered in time and stopped. In Section 150 of H. R. 13423 we find "that the rate of postage on newspapers and periodicals not exceeding two ounces in weight, when the same are deposited in a letter carrier office, for delivery by its carriers, shall be uniform at 1 cent each; and periodicals weighing more than two ounces shall be subject, when delivered by such carriers, to a postage of 2 cents each, and these rates shall be fully prepaid by stamps affixed." If this proviso passes, the AMERICAN MEDICAL ASSOCIATION will be obliged to affix a 2-cent stamp to each copy that goes to a subscriber. If this were a necessity it would be all right, but when the Government has to pay the railroads nearly four times as much per ton more than the express companies pay, it is liable to shut out from the denizens of country districts all literary work, because subscribers will be required to pay from \$1 to \$1.50 more per year. I therefore move that we take immediate action in this matter.

Seconded by DR. WELCH, of Maryland.

Carried.

DR. REYNOLDS, of Kentucky: I would suggest that Dr. Tuckerman appear before the Senate Committee, and that he be authorized to use any expression as the sentiment of this body.

The suggestion was approved.

DR. JOHN B. ROBERTS, of Pennsylvania: We received the reports and adopted the suggestions of the AMERICAN MEDICAL ASSOCIATION. We have nothing special to present, but I feel sure that the want felt is some reciprocity clause. The delegate from Arkansas (Dr. Shinault) also says that this is desired. We should give the right to practice to those who deserve it.

DR. GEORGE S. ARMSTRONG, of Washington: I have nothing to report. We have a permanent committee on legislation, and as soon as the legislators are elected we get the names of all members and the doctors who have a pull with them, and when we want anything done we notify those doctors having a pull: they interview the legislators, and the bill passes. Our Members and Senators will vote for anything we like.

DR. L. B. TUCKERMAN, of Ohio: I hope everyone here will see his Senators and Representatives before we go home and speak about the things we will act on here. The committee will not have half the effect that the home doctor has.

DR. WILLIAM P. GOFF, of West Virginia: I have no special subject to report. Our State Society is thoroughly in sympathy with the Conference. Our society appoints a delegate yearly, but takes no further interest in the matter.

DR. U. O. B. WINGATE, of Wisconsin: I have nothing to report, except that our society is in thorough harmony with this Conference, and that at its last meeting it amended its constitution to create a committee of one to meet with this Conference, and also to consider reciprocity.

GENERAL WYMAN, U. S. Marine-Hospital Service: I have nothing to report beyond what I have already said.

DR. D. S. REYNOLDS, of Kentucky: This is a luxurious semi-senatorial body. We meet here at 11 o'clock. I have very important demands at home, and wish to give my vote to Dr. Tuckerman.

Before I leave the city I will address a communication to Senator Lindsay, of Kentucky, in reference to the postal law bill.

Dr. L. B. TUCKERMAN, of Ohio: I move that to-morrow the first business will be the discussion of the details of the Army Bill and the matters which the Committee on National Legislation presented. I would be glad if General Sternberg could go over the matter with us. I want to give notice to Congress that a lay Secretary, who don't know a bacillus from a bedbug, has no business to sit down upon the medical profession in the way he has. Seconded by Dr. Beaudoux, of North Dakota. Carried.

Dr. D. S. REYNOLDS, of Kentucky: I move that the Chairman of this Committee furnish each of the delegates to this conference with a copy of these proceedings within thirty days. Seconded by Dr. W. P. Goff, of West Virginia. Carried.

Dr. C. S. RODMAN, of Connecticut: In the matter of sending of delegates, I have had a double experience, in securing a delegate and then coming myself. I am satisfied that two or three things should be provided. First, each state should be asked to pay the expenses of the delegate, and second, to select an alternate. It would be much better, I think, for each delegate to select his own alternate. The Society cannot depend on the alternate, if the delegate cannot attend. I found it quite a task to get a man to come here for me. I certainly think that the State Society should be asked to provide for an alternate, but that the delegate should select him, and that the State Society should be asked to pay the expenses. The President should be notified a month before the meeting of his State Society. At the annual meeting of the Connecticut State Society held last May, I do not believe there was a man in attendance who was aware of the fact that the AMERICAN MEDICAL ASSOCIATION provides for the expenses of delegates. Therefore I wish to emphasize it.

The Chairman, Dr. JOHNSON: A copy of the transactions was sent to the delegate who represented your Society last year, and was published in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION. Consequently all concerned should have been thoroughly informed on these matters. The AMERICAN MEDICAL ASSOCIATION does not provide for the expenses of State delegates—that is a mistake.

Dr. H. A. BEAUDOUX, of North Dakota: I move we accept the invitation of General Wyman for 9 o'clock to-morrow morning, and from there proceed here, to meet at 11 o'clock. Motion carried.

A motion to adjourn was made and carried.

SECOND DAY, THURSDAY, FEBRUARY 21, 1901.

The Chairman, Dr. JOHNSON, called the meeting to order at 11:10 a. m., and announced that the first order of business was the consideration of the law, formerly known as Senate 4300, the Army Reorganization Bill.

Dr. L. B. TUCKERMAN, of Ohio: I went up yesterday to the document room of the House and Senate and tried to get the full history of the bill. I got the bill as passed. I have a few copies of these, but the things that were knocked out I haven't got. I presume the best way to proceed would be for General Sternberg to explain to us about the things that got in that should not have, and about the things that did not that should have been added.

SURGEON-GENERAL STERNBERG, U. S. Army: In making my recommendation for an increased medical department, I asked for one I thought we should have for the size of our army, and this draft of my recommendation shows what I asked for. I may say here that for an army of 100,000 men the surgeon-general should have the rank of major-general. I shall be retired a year from next June, so I don't expect to get it, but my successor undoubtedly will. You can't get everything from Congress at once. Instead of giving us ten assistant surgeons-general, with the rank of colonel, they gave us eight. Instead of twenty deputy surgeons-general, with rank of lieutenant-colonel, they gave us ten. Instead of giving us eighty surgeons, with rank of major, they gave us sixty; and instead of two hundred assistant surgeons, with rank of captains and first lieutenants, they gave us two hundred and forty. They gave us forty more. They gave us about the same number all the way through, although they gave us more of the latter grade. This is bad politics on the part of Congress and something the medical profession should stand up against a little later. The fact is that the bill as passed has not done injustice to anyone. It promoted two lieutenant-colonels to be colonels, four majors to be lieutenant-colonels, and it promoted fourteen captains to be majors, and promoted the men below them. It did no injustice to anyone now in the service. It appoints a larger number of assistant-surgeons, who will not have the same opportunity for promotion. It is these men who are coming in now who will suffer. They will be captains in five years, that is the law. But his promotion to a majority will be slow. A man now gets to be a major in fifteen to eighteen years. The man who comes in now will have to serve twenty-five years or more before he attains his majority. This should be corrected by legislation. I presented the matter in the most forcible way to Congress, and we are on record as claiming this. If Congress gives this to us, the medical corps will not have suffered. Their estimate was for an army of 60,000 and not for the necessary estimate I prepared for the existing army of 100,000 men. This bill includes two hundred officers to serve two years. They would not give us the number of officers in the regular Army that I wanted. I then made a special claim for two hundred officers of volunteers, fifty as majors and one hundred and fifty captains. This has passed, and it will help us out for two years. At the end of these two years they go out because their time expires, and then we must have some additional legislation to increase the number of men in the regular army. This, then, is the time to strike for an increase in the corps, before the men go out. We must then again present the plea for more men in the higher grades. We have really no reason to abuse Congress. They have provided for our present needs. They have also authorized the appointment of as many contract surgeons as I require. I made an earnest effort to obtain volunteer commissions for the contract surgeons. I urged that all contract surgeons who have rendered satisfactory service for one year should be commissioned, but they did not put this in the bill. So we have gotten nothing for our deserving contract surgeons. We must still retain a great many contract surgeons in the service. Whatever defects there are in the bill as passed don't really do any injustice to the present men of the corps, and these defects can be remedied later. So we must not urge addi-

tional legislation now, but in a year or two this matter should again be taken up. Say at your next annual meeting it should be taken up by the profession. There was great urgency to get this bill through. If I had called upon the profession to block legislation until we could get what we wanted, it would have resulted in our getting nothing, so let it rest until later.

Dr. L. B. TUCKERMAN, of Ohio: I would inquire of the Surgeon-General if by the next annual Conference there could be a bill prepared embodying what would be an ideal medical service in the Army.

SURGEON-GENERAL STERNBERG: Yes, this could be done. It could be best prepared in my office.

Dr. L. B. TUCKERMAN, of Ohio: I move that this Conference request the Surgeon-General, as a member of this Conference, to prepare a bill creating an ideal medical service, with the provision that the Surgeon-General shall have the rank of Major-General. Seconded by Dr. William L. Rodman, of Pennsylvania. Carried.

SURGEON-GENERAL STERNBERG, U. S. A.: I would like to add that I was not so greatly disappointed that Congress did not give us a larger medical corps for this reason: If you have to get hastily three or four hundred additional men, you are not sure of getting the best; so, in the long run, it won't take long to fill the 130 vacancies which they have given us.

The Chairman, Dr. JOHNSON: In behalf of the Army Reorganization Bill, which is now known as Public No. 30, approved February 2, 1901, I wish to say I appeared before the Senate Committee with the Surgeon-General. I presented the letter, a copy of which I had read here yesterday, making a request to them to grant us a hearing, and accept a substitute for Section 18. A hearing was given; but they did not accept our suggestions. I think, while it is very well to act on the advice of the Surgeon-General, it behooves this Conference to stamp that bill as not in accord with the wishes of the medical profession at large. We speak in behalf of the medical men of the country who differ from the men from West Point and Annapolis. We present ourselves for medical appointment, thoroughly equipped to master the situation before us; but this is ignored. This Conference should go on record as disapproving the Senate's action in ignoring the wishes of the medical men of this country. This will pave the way for a future consideration of this subject. If deferred, it will come up later as new matter, before new men, who know nothing about its history. This communication should be sent to the Chairman of the Military Committee of the House and Senate, and let them understand that we don't approve their action. Notwithstanding the amount of work the Surgeon-General and I had before this committee, we and you have been ignored completely.

Dr. L. B. TUCKERMAN, of Ohio: I move that the Chairman (Dr. Johnson) and Dr. Welch be empowered to draw up a suitable communication to Congress, stating our views on their ignoring the medical profession of the United States, and give them notice that they will hear from us later. Seconded by Dr. C. S. Rodman, of Connecticut.

The Chairman, Dr. JOHNSON: This will have more weight if drawn up by members from the States, because those of us who reside in the District have no vote; let us all sign, and then it will have still more weight. I think Dr. Tuckerman would be the man to draw up the communication.

Dr. C. E. QUIMBY, of New York: If this motion prevails I must oppose it on the grounds of politics. I am not versed in politics, but in New York we learn that when you are beaten, don't call the other man names. The men on that committee were as sincere in doing their duty as we were in doing ours. The Surgeon-General says they have done us no injustice. He also says, this matter can be remedied later. It would be wiser for us to say to those men that at a future time we will be allowed to explain more clearly, and that they will then agree with us. I oppose the sending to any committee in Congress a communication condemning their action, because it did not agree with us.

SURGEON-GENERAL STERNBERG, U. S. A.: Our recommendations are a matter of record, and as a matter of fact, the resolutions would be pigeonholed, and it would do no good, even though it might be some satisfaction to us. Let us be satisfied and take up the matter later *de novo*. They are not sure in their own minds how many troops they must have in the Philippines. If they provide it for 100,000 and the number required was only 50,000, they would have done an unwise thing. They provide it for the immediate necessities, and I think it well to start in on the campaign now. Moreover, when we are demanding legislation, this Conference should have its delegates on the spot to urge the matter, and present our views. This Conference won't be able to accomplish any great results unless it gets at them from behind. Each man should see his own Senator and Representative. As a matter of practical politics it is hardly worth while to pass this resolution.

Dr. Tuckerman withdrew his motion.

The Chairman, Dr. JOHNSON: This demonstrates the necessity of thorough organization in the States, so that we can come in contact with the radicals of the State Societies.

SURGEON-GENERAL STERNBERG, U. S. A.: I would like to say in this connection, impressing upon all Congressmen and Senators the fact that medical men now have a very extensive education. After graduating from some college, they have four years at a medical college, and at least one year at some hospital, and these men cannot be induced to come into the Army without promotion.

Senator Proctor says, "you get to be a first lieutenant right away, and the West Point man is only a second lieutenant." The West Point man goes in there, when a mere boy, and has not such an extensive education. I endeavored to bring this fact before the committee, but it had no weight with them. The committee could not recommend more than they could pass. We must educate the individual members of the committee to understand this, and I think we will get all we expect at some future time.

The Chairman, Dr. JOHNSON: The next matter for consideration is the codification of the postal laws, as applied to our medical JOURNAL.

Dr. L. B. TUCKERMAN, of Ohio: After adjournment yesterday I went to the Senate, with a letter to Senator Lindsay, of Kentucky, from Dr. Reynolds. I pointed out to him the clause which related to medical journals, and other periodicals. He took it to Senator Chandler, who said the bill would not go through with that proviso—we can be positively assured that it will not go through that way.

Incidentally, I want to emphasize the remarks of General Sternberg. The only way to secure legislation is for each one of us to see our Senator and Representative personally. We thought we were beaten in Ohio. The osteopaths had secured, by treating legislators' wives, the support of one of the members of the State Senate, and it looked as though he had a majority of the votes, and he could bring it up at any time. We called up his family physician, who took the first train for his home. They had lunch together, during which they had a heart-to-heart talk. He said to the legislator, "Thomas, you want to go to Congress? If you bring up this bill there are eighteen votes against you." Thomas dropped the bill. The purpose of this organization is to get a firm grip on every Congressman's appendix. I think if we carry it to the States and organize on the New York plan, in five years we can bring from any district enough pressure to bear on each Congressman.

Dr. C. R. SHINAULT, of Arkansas: I saw Senator Berry and two Congressmen. Senator Berry gave me his assurance that he would help us. He was very submissive, and he said he was at our mercy, and would grant anything we wanted.

Dr. C. E. QUIMBY, of New York: I saw Senator Depew and had the Postal Bill in my hand, and had gotten nearly through the formal greeting, when he took the bill, glanced at it, and threw it down, saying: "That will never pass."

Dr. EMIL AMBERG, of Michigan: I wish to say that Senator McMillan expressed himself in the same terms as Senator Depew with reference to the Postal Bill.

GENERAL STERNBERG: With reference to antivivisection legislation, this has been killed for the present. If it is ever revived we should protest against it.

Dr. L. B. TUCKERMAN, of Ohio: In reference to Senate Bill 4171, I saw my Representative, and called his attention to the importance of it, and telegraphed to my home, and had them wire Chairman Hepburn, to push it along. This bill should pass this Congress, as we may have an epidemic of yellow fever this summer.

The Chairman, Dr. JOHNSON: This bill has already passed the Senate and is waiting in the House for final action.

SURGEON-GENERAL WYMAN, U. S. M.-H. S.: There are two ways in which this bill can come up. The chairman of the committee has the privilege of presenting to the House on his committee day such measure as he chooses, and he assures me that he will get it through. There is no objection to it on the part of anybody. It can be put through when there is a call of committees. There is a morning hour once a week on Mondays or on suspension day, when a motion can be made to suspend the rules, and put the bill through. On this day the speaker must recognize some one who will move that this bill do pass. On account of the St. Louis World's Fair project, Mr. Corliss could not get recognition.

Dr. C. E. QUIMBY, of New York: What provision is made for watching, recognizing and following bills of interest to the medical profession?

The Chairman, Dr. JOHNSON: Our committee, the Committee on National Legislation, looks after all such bills.

Dr. JOHN B. ROBERTS, of Pennsylvania: I should like to have some provision made for a permanent secretary to this committee.

The Chairman, Dr. JOHNSON: This is already provided for.

The Chairman, Dr. JOHNSON: Yesterday there was a resolution passed directing the Chairman to appoint a committee on uniform medical legislation, etc. The Chair appoints Drs. Amberg, Reynolds and Roberts.

The Chairman, Dr. JOHNSON: I think we would be very remiss if we did not appoint a Committee on State Organization. This committee should devise some way of reaching the voters. I would suggest that a committee of three be appointed for this purpose.

Dr. L. B. TUCKERMAN, of Ohio: Would it not be better to recommend that the American Medical Association appoint a committee for this purpose?

The Chairman, Dr. JOHNSON: That would be very unwise. The American Medical Association has done all it ought to do: it has appointed a permanent committee on legislation and provided for an annual conference. We should appoint some of our members to confer with the States, so that they can discuss the matter in the various sections of the country.

Dr. H. M. BRACKEN, of Minnesota: I move that a committee of five, with power to increase its number, be appointed by the Chairman, to carry into effect state medical organization. Seconded by Dr. H. A. Beaudoux, of North Dakota. Carried.

Dr. H. M. BRACKEN, of Minnesota: What have we to do so far as appointing our chairman is concerned?

The Chairman, Dr. JOHNSON: Nothing. The appointment is provided for by the American Medical Association.

Dr. L. B. TUCKERMAN, of Ohio: I would move you that the committee of the American Medical Association, on national legislation, shall represent the annual legislative conference, and shall act *ad interim*, and that due notice of the meetings thereof shall be published in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION. Seconded by Dr. W. P. Goff, of West Virginia. Carried.

The Chairman, Dr. JOHNSON: The Committee on National Legislation is empowered to act *ad interim* for the American Medical Association. It will now, also, act for the conference.

Dr. H. A. BEAUDOUX, of North Dakota: This committee of three is appointed for one year only; therefore I move that it be appointed for all time to come, for the reason that you are thoroughly conversant with the work.

The Chairman, Dr. JOHNSON: While we have worked faithfully last year, and this, we might not do so next year. One cannot be lazy on this committee. We have already served two years. There is a large amount of work for this committee to do.

Dr. H. A. BEAUDOUX, of North Dakota: I move that this conference recommend to the American Medical Association a three-year term for this committee instead of one. Seconded by Dr. L. B. Tuckerman, of Ohio.

The Chairman, Dr. JOHNSON: This, if proposed, will lie over to be acted upon next year, as it is an amendment to the Constitution.

Dr. W. H. WELCH, of Maryland: The American Medical Association appoints a number of committees. This is the prerogative of the president. I ask that we do not ask for a longer term than the law allows.

Dr. C. E. QUIMBY, of New York: It strikes me that if we let the matter rest, we shall accomplish what we want, and men by their good work will come forward. We would have influence with the President, and can call his attention to them.

The Chairman, Dr. JOHNSON: When this matter comes up between the Trustees and Executive Committee, and they wish to make the terms of this committee three years, I shall oppose it, for I believe a committee should not be foisted upon the American Medical Association for more than one year. When a committee does good work the Association may want them to serve longer.

Dr. H. M. BRACKEN, of Minnesota: Let us leave it alone. The committee shall be made up from Maryland, Pennsylvania and Washington, D. C.

Dr. WILLIAM L. RODMAN, of Pennsylvania: As a member of this committee, I think it should be left as it is now. The President of the American Medical Association should appoint whom he desires.

Dr. H. A. BEAUDOUX, of North Dakota, withdrew his motion.

Dr. L. B. TUCKERMAN, of Ohio: I move this conference appoint a committee of one to urge on Congress the immediate passage of S. 4171 passed by the Senate and now pending in the House. It should be passed at this session, because the dangers from the loopholes in the present law will menace us materially before another Congress can meet. Seconded by Dr. C. R. Shinault, of Arkansas. Carried.

The Chairman, Dr. JOHNSON, appoints Dr. L. B. Tuckerman, of Ohio, as this committee of one.

Dr. C. R. SHINAULT, of Arkansas: The Southern Congressmen, as a rule, are all favorable to the bill. They realize that summer is coming and the country is in danger.

The Chairman, Dr. JOHNSON: I would suggest that all the members see their Senators and Representatives in the interest of this bill.

Dr. W. P. GOFF, of West Virginia: I think the committee on organization is a very important one. The different State Societies appoint a number of delegates, and take it as a matter of course. If this matter of State organization is gotten at in the proper way it will make the State Societies treat this matter in a different manner. Those who don't might not be in sympathy with this conference.

Dr. C. E. QUIMBY, of New York: Is it not possible to do this work in one day? We come here for business and not for pleasure, and we can get to work early in the morning of the first day and have the afternoon for pleasure, and in the evening another session, and thus complete the work in one day.

Dr. L. B. TUCKERMAN, of Ohio: It seems to me that the present system is about as good as we can do. We got together and cleared up the business yesterday: went to Congress, and came back and had a session to-day, and have now cleared up the balance of the business. By putting in one more day, those of us whom it takes more than one day to get here, might not be able to accomplish our mission.

Dr. C. R. SHINAULT, of Arkansas: It will be time enough to consider this at our next meeting, and then we will probably have to have more than two days on account of the length of business.

The Chairman, Dr. JOHNSON: When the two days' session was decided upon by our committee it was arranged that during the first day of the session we would complete as much work as possible, and go to Congress on the same day, and close up all business on the following day. We could have our meetings earlier in the morning. I don't think it wise to have a one-day conference. We could not accomplish much.

Dr. H. M. BRACKEN, of Minnesota: If we had a night session, we could not leave the city until the next morning. Would it not be possible to have the meetings earlier in the season?

The Chairman, Dr. JOHNSON: The object of having the meeting now, was because the new session of Congress began in December, and to call us together simply for the Army Bill would have been unwise, so we decided to call it when it was deemed most advantageous. The next Congress, a long session, will do much work in the summer, and we might meet in December although we are empowered to meet but once in each year. I think it will be wise to leave to the judgment of the committee when to call the next meeting. It would be well for the delegates to send us word when they can most conveniently attend.

Dr. H. M. Bracken, of Minnesota, suggested the middle of January.

Dr. W. P. GOFF, of West Virginia: I move that a vote of thanks be extended to the Chairman for his great interest in this work.

Seconded by Dr. L. B. Tuckerman, of Ohio.

The Chairman, Dr. JOHNSON: I had rather this be given to the committee. We have labored equally.

The motion was put and carried.

The Chairman, Dr. JOHNSON: The Chair appoints as the Committee on State Organization; Dr. C. R. Shinault, of Helena, Ark.; Dr. W. P. Goff, of Clarksburg, W. Va.; Dr. L. B. Tuckerman, of Cleveland, Ohio; Dr. H. M. Bracken, of Minneapolis, Minn., and Dr. Chas. E. Quimby, of New York City. The committee has power to increase its number.

On motion the conference adjourned to meet at the call of the Chairman.

The following letter was presented by Dr. Tuckerman to the chairman of the Committee on Interstate and Foreign Commerce, in the House, and National Quarantine and Public Health, in the Senate, and a personal interview obtained with each committee.

WASHINGTON, D. C., February 21, 1901.

At the annual meeting of the National Legislative Conference of the American Medical Association and Affiliated State Medical Societies held at the Arlington, February 20-21, the following resolution was adopted, and Dr. L. B. Tuckerman, of Cleveland, Ohio, was appointed a special committee to present the same to the committee of the House. The resolution is as follows: *Resolved*, That this Conference urge the immediate passage of S. 4171, which has already passed the Senate and is now pending in the House for the reason that the dangerous loopholes in the present quarantine law will occasion a serious menace to the public health before another Congress can meet.

Respectfully,

H. L. E. JOHNSON, M.D., Chairman.

The Chairman has the pleasure of congratulating the Conference, and announcing the passage of bill S. 4171, to amend "an Act granting additional quarantine powers and imposing additional duties upon the Marine-Hospital Service." This bill is now a law and is known as Public No. 141, approved March 3, 1901.

H. L. E. JOHNSON, M.D., Chairman.

On motion of Dr. Emil Mayer, New York, the report of the Committee on National Legislation was referred to the General Executive Committee.

The President called for the reading of the report of the Committee on Reorganization, when Dr. Connell, Pennsylvania, moved that the report be read by title and referred to the Nominating Committee. Seconded. It was then moved and seconded that the motion of Dr. Connell be laid on the table, which was carried. Dr. McCormack then read the report of the Committee on Reorganization.

Report of Committee on Reorganization.

Officers and Members of The American Medical Association: We, your Committee on Reorganization, respectfully submit the following:

We have keenly felt from the first the magnitude of the task set for us, but in all the months of exacting labor, we have been spurred on by the hope that our work would, if wisely performed, and if accepted by you, mark the dawn of a new era in the history of American medicine. After full consideration of the problems before us we early reached the conclusion that it would be useless at this late date to suggest the adoption of either half-way or compromise measures, and, therefore, we have prepared and now submit a completely revised Constitution and By-Laws designed to federate all the state organizations into this Association, to foster scientific medicine, and to make the medical profession a power in the social and political life of the Republic.

In a recent issue of THE JOURNAL we submitted for your consideration a full outline of the changes proposed and, in an exhaustive manner, presented the reasons for our recommendations. We earnestly request that every member of the Association shall, before passing judgment upon our work, carefully consider all the facts and arguments presented. Such examination will make it clear that we have been conservative, suggesting only such changes in the organic laws as are essential to the accomplishment of the high purpose for which the Association was organized.

It will be seen that we have left the Code of Ethics, based upon the original resolution of adoption, undisturbed and still in force. We have carefully preserved the membership of all those now in the Association, and have jealously guarded the rights and privileges of each state organization now in affiliation with this body.

In accordance with your instructions we have also submitted to the larger Committee, composed of one member from each state, a detailed scheme for the organization or reorganization of state and county societies, in harmony with, and in completion of the general plan, in which we ask your concurrence.

The various portions of the scheme of organization proposed are inter-dependent and should be permitted to stand or fall together. During the time devoted to the preparation of the report, we have considered the various questions in detail, and have rejected many propositions that we at first thought worthy of adoption, so that we feel that no amendment can be proposed from the floor which has not already been fully considered. We appreciate the fact that some of the details proposed are to a certain extent experimental, and their true value can only be determined by the test of experience.

As all the changes outlined, and the reasons for them, have been fully placed before you, no discussion of any part of them will be attempted here. the Constitution and By-Laws clear and distinct in every provision, being submitted as our unanimous report.

Respectfully,

J. N. MCCORMACK,
P. MAXWELL FOSHAY,
GEORGE H. SIMMONS,
Committee on Reorganization.

At its conclusion, Dr. Harris, New York, speaking in behalf of the delegation of the New York State Medical Association, which had unanimously endorsed the general plan reported by the committee, offered the following resolution:

Resolved, That the report of the Committee on Reorganization be referred to a Joint Committee composed of the General Executive Committee and the Enlarged Committee on Reorganization (representing as it does all the states); and that

this Joint Committee meet at the rooms of the General Executive Committee, at the Hotel Ryan, during the afternoon and evening, to give a hearing to any member who desires to be heard on the subject of this report; and that this Joint Committee be requested to report to-morrow morning.

After presenting the resolution, he moved its adoption, which was seconded and carried.

At this point some confusion arose as to what disposition had been made of the report.

The President stated that the report had been referred to a joint committee composed of the General Executive Committee and the Enlarged Committee on Reorganization.

Dr. Baldy, Pennsylvania, moved a reconsideration of the action taken by the Association in referring the report to the General Executive Committee, etc. This motion was seconded.

Dr. Harris, New York, thereupon moved that the motion of Dr. Baldy to reconsider be laid on the table, which was seconded and carried.

Dr. Baldy then stated that the Chair had no right, according to parliamentary law, to recognize a motion to table a motion of reconsideration, and he therefore appealed from the decision of the Chair.

The Association sustained the Chair in his ruling.

Dr. Happel, Tennessee, made the point that when a motion to table a motion to reconsider was made and carried, it prevented the Association from taking any further action upon the matter for that day, according to parliamentary law.

This report was submitted to a committee composed of one representative from each State, Territory and Government Service at a meeting held at the Hotel Ryan, June 3, 1901.

This committee, after regularly organizing, considered the Constitution and By-Laws as submitted, section by section, and unanimously recommend it for adoption by this Association. The following states were represented. The names of their representatives are appended, and submitted herewith. [The states and representatives are given on next page.]

On motion, the Association adjourned until Wednesday.

JUNE 5.—SECOND GENERAL SESSION.

The Association met at 11 a. m., and was called to order by the President.

The President introduced His Excellency, S. R. Van Sant, Governor of Minnesota, who welcomed the Association on behalf of the state.

Address of the Governor.

Mr. President, Ladies and Gentlemen: A welcome is none the less cordial because it is twenty-four hours late. Age improves some things, particularly in the medical profession. I have been associated with doctors and have worn their badges from time to time, and I have attended their banquets, and I confess to you that I am pretty near out of ammunition. I have said all of the good things I can say about your splendid profession. I have for a long time been interested in the work of the medical profession. I have done all I could for you and am ever willing to advance your interests. I am not going to talk to you this morning about medicine. I don't know any more about that subject than you do yourselves. (Laughter.)

We are somewhat proud of our University and of the medical profession of the great state of Minnesota. You can scarcely realize what a great state you have come to. This state is so large that it would take a great many states of the size of Rhode Island to fill it, and then there would be lots of territory left. We have here great wheat fields; we grind the wheat into flour and feed the world. We will send to other states 20,000,000 tons of iron ore, and will have enough left for the next 250 years.

I would call your attention to the beautiful and peerless women we have in this state; also we have the bravest men that can be found anywhere, and I think you will agree with me on the first proposition before you leave our beautiful city and state.

As I was entering the hall this morning, I noticed a reference to your next place of meeting. The notice stated that the convention should go south in 1902 and the reasons for it were given. I want to say a word or two along that line. I was one of the members who opposed the Grand Army of the Republic going south in 1895. I thought it ought to go to a northern city, but I want to say to you, that I am glad now that the Grand Army of the Republic crossed the Ohio river

and met in the beautiful city of Louisville. We received a cordial welcome to that city. They received us with open arms, and I never saw more patriotism to the square inch than in that city. The old flag greeted us on every hand. It was placed on public buildings, on churches and private residences, and the word "Welcome" was written everywhere. I shall never forget the sight I saw under the glare of the electric lights of the red, white and blue. There was one sign which pleased me very much. It was written in very large letters over the jail, "Welcome." (Laughter.) I want to say to you that when we heard that you were going to meet in St. Paul we tore our jail down (laughter), and we can not give you a welcome in that place, and we don't want to do so.

Here the governor spoke of the beauties of the south and referred to the monuments that were erected to distinguished men. He concluded his remarks by saying: "I sometimes think doctors have special privileges. This is hardly fair in a republic like ours. For instance, if I treat you, I pay the bill. If the doctor treats me or my family, I pay the bill still. (Laughter.) I do not know whether it is a good wish to make to a body of doctors or not, but it is a good thing for a lot of politicians. That wish is this: 'I don't know what you want, but I hope you will all get it.'" (Applause.)

Following the address of welcome by the governor the minutes of the previous general session were approved as read.

The next order was the report of the Joint Committee, consisting of the General Executive Committee and the Committee on Organization upon the report of the Committee on Reorganization. This report was read by the Chairman of the Joint Committee, Dr. H. O. Walker, Michigan.

Report of the Transactions of the Reorganization Committee on Revision of Constitution and By-Laws.

The Committee on Organization of the Constitution and By-Laws of the American Medical Association met in Parlor Four of the Hotel Ryan, St. Paul, Minn., at 11 a. m., June 3, 1901, and were called to order by Dr. McCormack, of Kentucky, Chairman of the Special Committee on Reorganization. Dr. G. N. Kreider, of Illinois, was elected chairman, and Dr. H. M. McClanahan, of Nebraska, elected Secretary. On request of the Chairman, Dr. McCormack stated the object of the meeting was set forth in the following resolutions passed at the 1900 meeting of the American Medical Association:

Resolved, That a committee be appointed by the Association on the organization of the profession throughout the United States to coöperate with the Committee on National Legislation; this Committee to consist of one member from each State and Territory represented in the Association.

Resolved, That a committee of three be appointed by the President to prepare plans in detail for such Committee on Organization, to enter into correspondence with the officers of the various State societies, and take such action in the premises as it may think advisable, and that the Trustees be requested to appropriate a sum not exceeding \$150 for the necessary expenses of the Committee.

After briefly calling attention to many of the inconsistencies and the cumbersome condition of the present constitution, he submitted for the consideration of the members of the Organization Committee a printed copy of the results of the Special Committee on Reorganization and asked its indulgence in giving a careful examination. It was moved and seconded that the report of the Special Committee on Reorganization be accepted for consideration, which was carried, and a copy placed in the hands of its members. On motion of Dr. R. E. Conniff, of Iowa, the meeting then adjourned until 2 p. m.

PARLOR 4, HOTEL RYAN, ST. PAUL, MINN., JUNE 3, 1901.

The Committee on Organization was called to order by the Chairman, and in the absence of its Secretary, Dr. R. Harvey Reed, of Wyoming, was elected Secretary, and, in pursuance of its action at the morning session, the Committee on Organization proceeded to consider the proposed Constitution and By-Laws, section by section. After a full consideration of each section, the following proposed Constitution and By-Laws were unanimously adopted, section at a time, then adopted as a whole, after which they were duly signed by the members present or their authorized proxies. There being no other business before the Committee, a motion to adjourn was carried.

R. HARVEY REED, Secretary.

Approved: GEO. N. KREIDER, Chairman.

We, the undersigned, have examined and hereby indorse and approve of the revised constitution for the American Medical Association:

Drs. G. W. Harrison, Alabama; J. A. Dibrell, Arkansas; John L. Wills, California; W. W. Grant, Colorado; G. A.

Shelton, Connecticut; John Palmer, Jr., Delaware; Wm. N. Fisher, District of Columbia; G. N. Kreider, Illinois; G. W. McCaskey, Indiana; R. E. Conniff, Iowa; Joseph M. Mathews, Kentucky; Alonzo Garelon, Maine; H. O. Marey, Massachusetts; A. W. Alvord, Michigan; J. N. Griffith, Missouri; H. M. McClanahan, Nebraska; H. D. Didima, New York; Geo. Cook, New Hampshire; Philip Marvel, New Jersey; John A. Wyeth, New York; W. J. Means, Ohio; J. A. Crook, Tennessee; J. W. Aird, Utah; G. T. Vaughn, U. S. Marine-Hospital Service; Charles Richard, U. S. Army; T. L. Catterson, Washington; A. H. Thayer, West Virginia; J. H. Pritchard, Wisconsin; R. Harvey Reed, Wyoming.

Constitution.

ARTICLE I.—TITLE OF THE ASSOCIATION.

The name and title of this organization shall be THE AMERICAN MEDICAL ASSOCIATION.

ARTICLE II.—OBJECT OF THE ASSOCIATION.

The object of this Association shall be to federate into one compact organization the medical profession of the United States, for the purpose of fostering the growth and diffusion of medical knowledge, of promoting friendly intercourse among American physicians, of safeguarding the material interests of the medical profession, of elevating the standard of medical education, of securing the enactment and enforcement of medical laws, of enlightening and directing public opinion in regard to the broad problems of state medicine, and of representing to the world the practical accomplishments of scientific medicine.

ARTICLE III.—COMPOSITION OF THE ASSOCIATION.

SECTION 1.—This Association shall consist of Delegates, Permanent Members, Members by Invitation, Honorary Members, and Associate Members.

SEC. 2. *Permanent Members*.—Permanent members shall consist of such members of the state societies, together with their affiliated local societies, entitled to representation in this Association as shall make application for admission, in writing to the Treasurer, and accompany said application with a certificate of good standing signed by the president and secretary of the society of which they are members, and the annual fee.

SEC. 3. *Members by Invitation*.—Members by invitation shall consist of distinguished physicians of foreign countries who may be invited by the officers of Sections or of the Association. They shall hold their connection with this Association until the close of the annual session to which they are invited, and shall be entitled to participate in all of its affairs, as in the case of permanent members, but they shall not be assessed the annual dues.

SEC. 4. *Honorary Members*.—Honorary members shall be physicians of foreign countries who have risen to pre-eminence in the profession of medicine.

SEC. 5. *Associate Members*.—Representative teachers and students of the allied sciences not physicians may become associate members by the vote of the House of Delegates.

ARTICLE IV.—HOUSE OF DELEGATES.

SECTION 1.—The House of Delegates of the AMERICAN MEDICAL ASSOCIATION shall consist of (1) delegates elected by permanently organized state and territorial medical societies in affiliation with this Association; (2) two delegates elected by each of the component Sections of this Association; (3) one delegate each from the medical departments of the U. S. Army and U. S. Navy, and one from the U. S. Marine-Hospital Service.

SEC. 2.—The total membership of the House of Delegates shall not exceed 150, and the delegates representing the state societies shall be apportioned among the several affiliated state and territorial medical organizations in direct ratio to their true membership.

ARTICLE V.—SECTIONS.

In order that its appropriate scientific work may be expeditiously and systematically performed this Association shall be divided into Sections, each of which shall be devoted to the encouragement and pursuit of knowledge in one of the recognized branches into which the science and art of medicine are for convenience divided. New Sections may be organized from time to time as the necessity for their existence arises.

ARTICLE VI.—BRANCHES.

The House of Delegates shall have authority to provide for and create such branch organizations as may be deemed essential to the promotion of the welfare of the medical profession.

ARTICLE VII.—MEETINGS.

The regular meetings of the Association shall be held annually. The place of meeting shall be determined, with the time of meeting for each next successive year, by vote of the House of Delegates.

ARTICLE VIII.—OFFICERS.

SECTION 1.—The officers of this Association shall be a President, four Vice-Presidents, a Secretary, a Treasurer, and nine Trustees.

SEC. 2.—The officers of this Association shall be elected by the House of Delegates.

SEC. 3.—Each officer, with the exception of the Secretary and the Board of Trustees, shall hold office for one year or until his successor is elected and installed. Three trustees shall be elected annually by the House of Delegates for a term of three years.

SEC. 4.—No member of the House of Delegates shall be eligible to any of the offices mentioned in the foregoing sections of this article.

ARTICLE IX.—FUNDS AND APPROPRIATIONS.

Funds for meeting its current expenses and awards from year to year shall be raised by the Association by an equal assessment of not more than ten dollars annually on each of the permanent members; by voluntary contributions for specific objects; and from the profits of its publications. Funds may be appropriated by the House of Delegates in accordance with the articles of incorporation for defraying the expenses of its annual meetings, for publication; for enabling standing committees to fulfil their respective duties, conduct their correspondence, and procure materials necessary for the completion of their stated annual reports; for the encouragement of scientific investigation by prizes and awards of merit; and for defraying the expenses incidental to specific investigation.

ARTICLE X.—REFERENDUM.

SECTION 1.—The General Session shall have the right to discuss questions referred to it by the House of Delegates, and it may, by a two-thirds vote, order a general referendum on any question pending before the House of Delegates.

SEC. 2.—The House of Delegates shall, upon a two-thirds vote of its own members or upon a two-thirds vote of the General Session, submit any question, either through the JOURNAL, or by mail, to the general membership for final vote; and if the persons voting shall comprise a majority of the members, the majority of such votes cast shall determine the question, and shall be binding upon the House of Delegates.

ARTICLE XI.—AMENDMENTS.

The House of Delegates shall have authority to amend any article of this Constitution by a three-fourths vote of all the members composing the House of Delegates, *provided* that such amendment shall have been proposed in open meeting of the House of Delegates one year previous to being acted upon, shall have been published at least three times in THE JOURNAL during the interim, and shall have been officially transmitted to each affiliated state and territorial society for consideration at their annual meetings.

By-Laws.

CHAPTER I.

MEMBERSHIP.

SECTION 1.—No permanent member shall take part in the proceedings of the Association or of any of its Sections, until he has exhibited his credentials to the proper officer or Committee, entered his name and address in full on the registration book and paid his annual dues. He shall also indicate the Section to which he will officially attach himself.

SEC. 2.—Permanent members who have complied with the foregoing regulations shall at all times be entitled to attend the General Sessions and Sections and to participate in the affairs of the Association, so long as they continue to conform to its regulations.

SEC. 3.—No individual who shall be under sentence of expulsion or suspension from an affiliated society of which he may have been a member, or whose name shall have been dropped from the rolls of the same, shall be received as a member or shall be allowed to continue as a member of this Association, until he shall have been relieved from said sentence or disability by such society; nor shall any person not a member of his local medical society be eligible to membership in the AMERICAN MEDICAL ASSOCIATION.

SEC. 4.—Members may vote for Section officers only in that Section with which, upon registration, they have declared their intention of uniting.

SEC. 5.—Any permanent member who shall fail to pay his annual dues for one year, unless absent from the country, shall be dropped from the roll of permanent members, after having been notified by the Secretary of the forfeiture of his membership.

SEC. 6.—Honorary members shall be elected by the House of Delegates on the nomination of a Section, but not more than three Honorary Members shall be elected in any one year.

SEC. 7.—Honorary and Associate Members shall have all the rights of membership except those of voting and holding office. They shall not be assessed for dues, nor shall they be entitled to receive THE JOURNAL free.

SEC. 8.—The House of Delegates shall have authority to provide for membership under proper restriction from among the members of recognized medical societies of neighboring countries, provided that the right of representation in the House of Delegates shall be restricted to affiliated state medical societies in the United States.

CHAPTER II.

GENERAL SESSIONS.

The General Sessions shall include all registered members and delegates, who shall have equal rights to participate in discussions and to vote upon pending questions. Each General Session shall be presided over by the President, or, in his absence or disability, by one of the Vice-Presidents. Before it there shall be delivered upon the opening day of each annual meeting, the address by the President, whose recommendations shall thereupon go to the House of Delegates for action, and on each following session such addresses on scientific subjects as are assigned to orators selected for the purpose. It shall have power to create committees or commissions for scientific work of special interest or importance, and to receive reports of the same, provided that any expense incurred in connection therewith by the Association must first be authorized by concurrent action of the House of Delegates and the Board of Trustees.

CHAPTER III.

HOUSE OF DELEGATES.

SECTION 1.—The House of Delegates, as far as may be consistent with the Articles of Incorporation, shall be the legislative and fiscal body of the Association. Its sessions shall be open to the members of the Association, but except upon invitation of the House of Delegates, they shall have no right to participate in its proceedings.

SEC. 2.—Each state and territorial society entitled to representation shall have the privilege of sending to the Association one delegate for every 500 of its resident regular members, and one for any additional fraction of that number; but each affiliated state and territorial society shall be entitled to at least one delegate.

SEC. 3.—The House of Delegates once in every three years shall appoint a committee of five on reapportionment, of which the President and Secretary shall be members. It shall be the duty of this committee to examine the membership lists of all the affiliated state and territorial medical societies, and to determine therefrom the number of delegates to the Association to which each state or territory shall be entitled for the ensuing three years, beginning with the annual meeting next succeeding that at which the reapportionment is approved by the House of Delegates.

SEC. 4.—Members of the House of Delegates shall be elected for a term of two years, and those state and territorial societies

entitled to more than one representative are requested to so arrange such election that one-half of their delegates, as near as may be, shall be elected each year.

SEC. 5.—In order that each state and territorial medical society may properly provide for a full delegate representation at each meeting of the Association, it shall have the authority to elect alternates, who, upon presentation of the proper credentials, shall be empowered to serve as delegates in the absence of the regularly-elected delegates. Provided that in case of the absence of the regularly appointed delegate or alternate, then the permanent members from that affiliated society, who are present at that meeting, shall select one of their number, who shall represent that society, and provided further, that when only one permanent member is present from any society, that member shall represent that society.

SEC. 6.—No one shall serve as a member of the House of Delegates who has not been a permanent member of the AMERICAN MEDICAL ASSOCIATION for at least two years.

SEC. 7.—Every Delegate from a state or territorial society before being permitted to take part in the proceedings of the House of Delegates must deposit with the Secretary, or other designated officer or committee, a certificate signed by the President and Secretary of the State Society from which he receives his authority, stating that he has been regularly and legally elected a Delegate to the AMERICAN MEDICAL ASSOCIATION for a definitely stated term, and the delegates from the sections shall present credentials signed by the president and secretary of the section they represent. This certificate shall be subject to review by the Judicial Council, and all disputes as to credentials shall be investigated by the Judicial Council and determined by vote of the House of Delegates.

SEC. 8.—The House of Delegates shall approve all memorials and resolutions of whatever character issued in the name of the AMERICAN MEDICAL ASSOCIATION before the same shall become effective.

SEC. 9.—The House of Delegates shall present a summary of its proceedings to the last General Session of each annual meeting of the Association, or it shall publish the same in a bulletin to be issued each day during the annual meeting.

SEC. 10.—A majority of the members composing the House of Delegates shall constitute a quorum for the transaction of business.

CHAPTER IV.

ELECTION AND INSTALLATION OF OFFICERS.

SECTION 1.—All elections shall be by ballot.

SEC. 2.—The election of officers shall be the first order of business of the House of Delegates after the reading of the minutes on the morning of the last day of the annual meeting. Only those in attendance at the annual meeting at which the election occurs shall be eligible for election.

SEC. 3.—The officers elected at each annual meeting of the Association shall be installed at the closing General Session.

CHAPTER V.

DUTIES OF OFFICERS.

SECTION 1. *President*.—The President shall preside at the General Sessions and over the House of Delegates, preserve order and decorum in debate, give a casting vote when necessary, and perform all the other duties that custom and parliamentary usage may require. In addition to these duties the President, on the morning of the first day of the annual meeting following his election, shall deliver an address, not exceeding forty minutes in length, upon such matters as he may deem of importance to the Association. He shall discharge such other duties as the Association may impose on him from time to time. He may at any time make such suggestions as he may deem for the best interests of the Association, either to the General Session, or to the House of Delegates, or to any standing or special committee of the Association, provided that said suggestions are submitted in writing. He shall not be eligible for re-election.

SEC. 2. *Vice-Presidents*.—The Vice-Presidents, when called upon, shall assist the President in the performance of his duties, and during his absence, or at the request of the President, one of them shall officiate in his place. In case of the

death, resignation, or removal of the President, the vacancy shall be filled by the senior vice-president, beginning with the first. They shall perform all other duties prescribed for that office.

SEC. 3. *Secretary*.—The Secretary shall keep in separate books the minutes of each day's proceedings of the General Session and of the House of Delegates, which minutes shall be read and presented for adoption by the respective bodies. He shall give due notice of the time and place of each next ensuing annual meeting; notify all members of committees of their appointment, and of the duties assigned to them; hold correspondence with other permanently-organized medical societies, both domestic and foreign; and carefully preserve the archives and unpublished transactions of the Association.

It shall also be his duty to verify the credentials of members, to receive and announce all essays and memoirs voluntarily contributed, to determine the order in which such papers are to be read and considered, and to fix a definite hour each day for the general addresses before the Association. He shall prepare for publication the official program of each meeting. It shall be the duty of the Secretary to provide a special registration book for members of the House of Delegates, in which shall be recorded the name of every delegate in attendance at each meeting, together with that of the society which he represents. It shall also be his duty to prepare a roll of delegates attending each annual meeting to facilitate voting by roll-call.

The Editor of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION shall be Secretary of this Association.

SEC. 4. *Treasurer*.—The Treasurer shall have charge of the funds and property of the Association, and shall pay out its moneys only on the order of the Board of Trustees, properly attested by their respective officers. He shall give to the Board of Trustees bond for the safe keeping and proper use and disposal of his trust, and through the same Board he shall present his accounts, duly authenticated, at every annual meeting of the House of Delegates.

SEC. 5. *Board of Trustees*.—The Board of Trustees shall consist of nine members, three of whom shall be elected annually by the House of Delegates and shall serve for three years. It shall be the duty of this Board to provide and superintend the publication and distribution of all such proceedings, transactions, and memoirs of the Association as may be ordered to be published in such a manner as may be directed, and in doing this it shall have authority to appoint an editor and such assistants as it deems necessary, determine their salaries, and procure and control such materials as may be necessary for the accomplishment of the work assigned to it. Further to facilitate its work, it shall be the duty of the secretaries of the Association and of the several Sections during each annual meeting, or as soon thereafter as practicable, to deliver to the Board, or such editor or agent as it shall appoint, all such records of proceedings, reports, addresses, papers, and other documents as may have been ordered for publication either in the General Sessions, in the House of Delegates, or in the Sections. All moneys received by the Board of Trustees, or its agents, resulting from the discharge of the duties assigned to them, must be paid to the Treasurer of the Association, and all orders on the Treasurer for disbursements of money in any way connected with the work of publication must be endorsed by the President of the Board of Trustees and countersigned by the Secretary thereof. All matters of the Association pertaining to the expenditure of other moneys shall be referred to the Board of Trustees who shall make a report of the same within twenty-four hours after the same are referred to them, and if the House of Delegates orders the expenditure of money in connection with said report, the payment shall be made by the Treasurer as provided above. It shall be the further duty of the said Board of Trustees to hold the official bond of the Treasurer for the faithful execution of his office, to annually audit and authenticate his accounts, and to present a statement of the same in its annual report to the House of Delegates, which report shall also specify the character and cost of all the publications of the Association during the year, and the amount of all other property belonging to the Association, under its

control, with such suggestions as it may deem necessary. In the event of vacancy of the office of Treasurer, by death or otherwise, the Board of Trustees shall fill the vacancy *ad interim*.

SEC. 6.—All business of each annual meeting shall be completed by the officers who have served through the meeting.

CHAPTER VI.

STANDING COMMITTEES.

The Standing Committees shall be the following:

1. A Committee of Arrangements.
2. A Judicial Council.
3. A Committee on Medical Legislation.
4. A Committee on Nominations.
5. A Committee on Transportation.

And such other Committees as the House of Delegates may create from time to time.

CHAPTER VII.

DUTIES OF COMMITTEES.

SECTION 1. *Committee of Arrangements.*—The Committee of Arrangements shall be appointed by the President, and shall be composed of seven members residing in the place at which the Association is to hold its next annual meeting. It shall be required to provide: 1. A hall for the General Sessions. 2. Halls for the Sections. 3. Rooms for Committees. 4. Rooms for postoffice and the force thereof. 5. Rooms for registration and the force thereof. To meet these expenses the Committee of Arrangements shall have the proceeds of the exhibition hall. This arrangement must be agreed to by the representative of the local committee inviting the Association, before a place for the meeting of the Association is selected by the House of Delegates.

SEC. 2. *Judicial Council.*—The Judicial Council shall be composed of nine members, three of whom shall be chosen annually by the House of Delegates, and shall serve for three years. All questions of a personal character, including complaints, protests, and credentials, shall be referred at once, after the report of the Committee of Arrangements or other presentation, to the Judicial Council without discussion.

The said Council shall organize by choosing a President and Secretary, shall keep a permanent record of its proceedings, and shall report its findings to the House of Delegates at the earliest practicable moment.

SEC. 3. *Committee on Medical Legislation.*—The Committee on Medical Legislation shall consist of one delegate from each state to be appointed annually by the President of the Association. It shall be the duty of this Committee to represent before Congress and elsewhere the wishes of this Association in regard to pending medical and sanitary legislation. It shall be the duty of this committee to consider and act upon all proposed national, state, or local legislation that in any respect bears upon the promotion and preservation of the public health, or upon the material or moral welfare of the medical profession. It shall have power to fill any vacancies that may occur in its membership, and to act *ad interim* when necessity arises.

The Committee on Legislation shall report to the House of Delegates at each annual meeting its action during the previous year, and shall recommend such action regarding pending legislation as it shall deem proper.

SEC. 4. *Committee on Nominations.*—The Committee on Nominations shall consist of nine members, not more than one from one state or territory, selected annually by the House of Delegates. It shall be the duty of this committee, after consultations with the members of the Association, to hold one or more meetings at which the assignment of the offices of the Association for each ensuing year shall be carefully considered. The Committee shall then on the morning of the third day of the annual meeting report the result of its deliberations to the House of Delegates in the shape of a ticket providing one, two, or three names for each office, but not more than one candidate for each office shall be named from any one state or territory. Nothing in this section shall be construed to prevent additional nominations being made by the members of the House of Delegates.

SEC. 5. *Transportation Committee.*—The House of Delegates shall appoint a Committee on Transportation, which Com-

mittee shall secure railroad rates for the annual meeting and publish the same in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION sufficiently early to enable all who desire to attend the annual meeting to obtain necessary information.

SEC. 6. *Duties of the Committees.*—The Standing Committees shall discharge all the duties imposed on them by the By-Laws and such other duties as the Association may from time to time direct.

SEC. 7.—The members of the Standing Committees whose appointments are not otherwise provided for shall be selected and appointed by the president of the Association before the adjournment of the annual meeting.

SEC. 8.—The Special Committees shall perform the duties for which they are created, and when the report of a special committee is received and acted on said committee shall cease to exist.

SEC. 9.—All Special Committees shall be appointed by the officer presiding over the meeting at the time the special committee is directed to be constituted. No one appointed on a special committee, who fails to report at the meeting next succeeding the one at which he is appointed, shall be continued on such committee, unless a satisfactory excuse is offered.

SEC. 10.—The House of Delegates shall have authority to appoint committees for special purposes from among members of the Association who are not members of the House of Delegates, and such Committees shall have the right to report to the House of Delegates in person, and to participate in the debate thereon pending the adoption of such reports; but they shall not have the right to vote.

CHAPTER VIII.

TIME OF SESSIONS.

SECTION I.—The General Sessions of the AMERICAN MEDICAL ASSOCIATION shall be held at 11 a. m. and 7:30 p. m. of the first day of the annual meeting, at 7:30 p. m. of the two subsequent days, and at 12 noon of the concluding day.

SEC. 2.—The various Sections of the Association shall hold their first session of each annual meeting at 2 p. m. of the first day, and on subsequent days of the annual meeting they shall be in session from 9 a. m. to 12 noon and from 2.30 p. m. to 6 p. m. until their respective programs are completed, or as the Sections themselves may otherwise provide.

SEC. 3.—The House of Delegates shall hold its first session of each annual meeting at 2 p. m. of the first day, and on subsequent days at such time as may be necessary to complete its business, provided that it shall not meet at hours that will conflict with the General Session of the Association.

CHAPTER IX.

SECTIONS.

SECTION 1.—The AMERICAN MEDICAL ASSOCIATION shall be divided into the following Sections:

1. Practice of Medicine.
2. Surgery and Anatomy.
3. Obstetrics and Gynecology.
4. Ophthalmology.
5. Laryngology, Otology and Rhinology.
6. Diseases of Children.
7. Materia Medica, Pharmacy and Therapeutics.
8. Physiology and Dietetics.
9. Nervous and Mental Diseases.
10. Cutaneous Medicine and Surgery.
11. Hygiene and Sanitary Science.
12. Stomatology.
13. Pathology and Bacteriology.

SEC. 2.—Each Section shall be composed of such members as have complied with Sections 1, 2, 3, and 4 of Chapter I of these By-Laws.

SEC. 3. *Officers of Sections.*—The officers of each Section shall be a Chairman, a Secretary, and an Executive Committee. The latter shall consist of the last three retiring chairmen. At the commencement of the afternoon session of the third day of each annual meeting, each Section shall elect its own officers to serve for the ensuing year, their duties to commence with the close of the annual meeting at which they are elected and to continue until their successors are elected and qualify. Each

Section shall elect annually two representatives to the House of Delegates. In each Section a nominating committee of three members shall be elected by open ballot on the first day to make nominations for section officers.

SEC. 4. *Addresses in Sections.*—The Chairman of each Section shall prepare an address on recent advances in the branches belonging to his Section, including such suggestions in regard to improvements or methods of work as he may deem important, and present the same to the Section over which he presides on the first day of its annual session. The reading of such address shall occupy not more than twenty minutes.

SEC. 5. *Papers Before Sections.*—It shall be the duty of every member of the Association who proposes to present a paper or report before a Section to forward either the paper or an abstract indicative of its contents, and its *length*, to the Secretary of such Section, at least one month before the annual meeting at which the paper or report is to be presented. This abstract shall contain not less than fifty nor more than two hundred words.

It shall also be the duty of the Secretary of each Section to arrange such papers in the order in which they shall be read, after which he shall send such information to the Secretary of the ASSOCIATION at least twenty-eight days before the annual meeting, for publication in the official program for the use of all members attending the annual meeting.

SEC. 6. *Length of Papers and Discussions.*—No paper, the reading of which occupies more than twenty minutes, shall be read before any Section. Authors, however, may read abstracts before the Section within the allotted twenty minutes. Such papers shall be referred by the Section to the Executive Committee or to a sub-committee specially appointed for their examination. Such committee shall be allowed twenty days for such examination: at the end of which time they shall forward the Papers to the Board of Trustees, or to the Editor, with such recommendations as they may deem proper. No member shall address the Section more than once upon the same subject, nor speak longer than five minutes without the approval of the Section.

All papers presented directly to the Association, and other matters, may, at the discretion of the Association, be referred to the various Sections for their consideration and report.

SEC. 7. *Publication of Papers and Reports.*—No report or other paper shall be entitled to publication in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, unless it be approved by each member of the Executive Committee of the Section before which it is read.

Authors of papers are required to return their proofs within two weeks after their reception.

Every paper received by this association and ordered to be published, and all plates or other means of illustration, shall be considered the exclusive property of the Association, and shall be published and sold for the exclusive benefit of the Association.

The Board of Trustees shall have full discretionary power to omit from the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, in part or in whole, any paper that may be referred to it by the Association, or any one of the Sections, unless specially instructed to the contrary by vote of the Association.

No report or other paper shall be presented to this Association, or any one of its Sections, unless it be so prepared that it can be put at once into the hands of the Secretary to be transmitted to the Board of Trustees, and all papers read before sections must be approved by each member of the Executive Committee of that section.

No paper shall be printed as having been read before this association unless it has actually been read by its author or unless for special reasons when the author has been present and prepared to read the paper the Association or Section to which it is presented shall unanimously vote to have it read by title. All other papers shall be treated by the board of trustees and editor as volunteer papers

CHAPTER X.

ADDRESSES.

The House of Delegates shall elect annually, three members to deliver addresses in the General Session of the next ensuing annual meeting—one on some topic or topics relating to general medicine, one relating to general surgery, and one relating to state medicine. None of these addresses shall exceed thirty minutes in its delivery.

CHAPTER XI.

DELEGATES TO FOREIGN MEDICAL SOCIETIES.

The President shall be authorized to appoint annually delegates to represent this Association at the meetings of such scientific bodies in foreign countries as are in affiliation with this Association, whose appointment is not otherwise provided for.

CHAPTER XII.

RULES OF ORDER.

SECTION 1. This Association shall be governed by the rules of order prescribed in "Roberts' Manual."

SEC. 2. *The Previous Question.*—When the previous question is demanded, it shall take at least ten members to second it; and when the main question is put under force of the previous question and negatived, the question shall remain under consideration as if the previous question had not been enforced.

SEC. 3. *Duties of Members.*—No one shall be permitted to address the Association, until he shall have announced his name and residence, which shall be distinctly repeated by the chair; but no member, except an officer of the Association, or an appointed orator, or an officer of a committee presenting a report, shall be permitted to address the General Sessions from the platform. Remarks shall be limited to five minutes.

SEC. 4. No new business shall be introduced at the General Sessions of the Association on the last day of each meeting, except by unanimous consent.

CHAPTER XIII.

ORDER OF BUSINESS.

SECTION 1. *General Sessions.*—The order of business of the General Sessions at the annual meetings of the AMERICAN MEDICAL ASSOCIATION shall at all times be subject to the vote of three-fourths of all the members in attendance; and, until permanently altered, except when for a time suspended, it shall be as follows:

1. The calling of the meeting to order by the President elected the preceding year, or, in his absence, by one of the Vice-Presidents.
2. Reading and adopting of minutes.
3. The report of the Committee of Arrangements.
4. The reception of members by invitation.
5. Reports of standing committees in the order named in the Constitution.
6. The annual address of the President.
7. The reception of the reports of all special committees and voluntary communications, and their reference to the appropriate Sections or committees.
8. The reading and consideration of the reports of the Committees on Prize Essays, of Chairmen of Sections, and of any special committees.
9. Resolutions introducing new business, and instructions to the standing committees.
10. Reports from the several Sections.
11. Unfinished and miscellaneous business.
12. Report of the House of Delegates.
13. Adjournment.

SEC. 2. *The Opening Session.*—The opening session shall be for the addresses of welcome, and the responses thereto, for the report of the Committee of Arrangements, and other exercises pertaining to the opening of the General Session, and for such other business as may be provided. At this Session the President shall deliver his annual address, which shall be referred to the House of Delegates for action.

SEC. 3. *The Closing Session.*—The closing session shall be devoted to such exercises as may be provided, to the report of the House of Delegates, to the announcement of the election of officers, and to their installation.

SEC. 4. *House of Delegates.*—

1. Call to order by the President.
2. Reading and adopting of the minutes.
3. Reports of officers.
4. Reports of committees.
5. Consideration of recommendations contained in the President's address.
6. Consideration of memorials, resolutions or other business referred from the General Session.
7. Consideration of memorials, resolutions or other business referred from the Sections.
8. Consideration of memorials, resolutions or other business referred from the State Societies.
9. Unfinished business.
10. New business.

SEC. 5. *Sections*.—Each Section shall have authority to arrange its own order of business.

CHAPTER XIV.
AMENDMENTS.

The House of Delegates shall have power to frame by-laws for its own government and for the government of the Association, and to amend the same, *provided*, that the proposed amendment shall be submitted in writing and lay over one day before it is acted upon; and provided, further, that it shall receive the affirmative vote of three-fourths of the Delegates present at the meeting.

CHAPTER XV.

These By-Laws shall be in effect and force after the close of the annual meeting of 1901; provided that the Sections shall elect delegates during the session for 1901-2, and provided further that nothing in these By-Laws shall be construed to repeal the rules of the Association governing the relation of members to each other and to the Association.

After the reading of the report, the President asked the Association what disposition it would make of it.

Dr. Harris, New York, in order to properly bring the report before the Association, moved that the full report of the Joint Committee on Reorganization, including the Revised Constitution and By-Laws, be received and adopted. Seconded.

After the report was discussed by Drs. Bulkley and McCormack, Dr. Bulkley expressed the hope that the motion to adopt the report would be carried unanimously, if possible.

There were cries of "Question! Question!"

The President then put the motion and declared the report adopted by a large majority.

Dr. McCormack then moved to reconsider the vote by which the report was adopted, and that the motion to reconsider be laid upon the table. Carried.

Dr. Maher, California, moved that a report of the proceedings of the General Sessions, together with copies of the revised Constitution and By-Laws be printed and mailed to each delegate as soon as possible after final adjournment. Seconded.

Dr. Reynolds, Kentucky, moved as an amendment that a copy of the Constitution and By-Laws be printed in separate form, in order that the members may put them in their pockets for reference, and that a copy be distributed to every member. Seconded. The motion as amended was carried.

The President stated that inasmuch as there might be some clerical errors in the Constitution and By-Laws that had been adopted, he suggested that a committee of three be appointed for the purpose of engrossing the Constitution and By-Laws.

Dr. McMurtry, Kentucky, moved that the Committee on Reorganization attend to this matter. Carried.

This Committee consists of Drs. J. N. McCormack, P. Maxwell Foshay, and George H. Simmons.

Dr. Love, New York, moved that a vote of thanks be extended to the Committee on Reorganization for its superb report. Carried.

Dr. John A. Wyeth, New York, was then introduced and delivered the oration in surgery. (See page 1611.)

The President called for the report of the Committee on American Medical Association Medal, and in the absence of Dr. Osler, Baltimore, chairman, the report was passed.

The report of the Committee on Senn Medal, Dr. Maurice H. Richardson, Boston, chairman, was called for, and in the absence of Dr. Richardson, Dr. F. H. Wiggin, New York, made a verbal report in behalf of the committee, stating that the committee had received two papers during the year, and after due consideration of the matter came to the conclusion that neither paper was of sufficient scientific interest to warrant any award, and therefore no award was made this year.

The President said that the report of this committee required no action on the part of the Association, and that the committee would be continued.

The next order was the report of the Committee on the Rush Monument Fund, which, in the absence of Dr. James C. Wilson, Philadelphia, chairman, was read by Dr. Henry D. Holton.

Committee on Rush Monument Fund.

H. D. HORTON, Treas., in account with Rush Monument Fund:	
1901.	Dr.
June 1, To cash on hand	\$365 05
June 28, To cash from Dr. A. Jacobi	100 00
June 29, To cash from West Virginia Medical Society.	50 00
To cash from Averill note	765 00
To interest from funds invested	602 50
	<hr/>
	\$1882 55

	Cr.
By one thousand dollar bond Western Union Telegraph	\$1000 00
By interest and expenses	140 67
By cash on hand	741 88
	<hr/>
	\$1882 55

Amount of Fund June 1, 1901.

Funds invested in bond and mortgage	\$11,200 00
Cash on hand	741 88
	<hr/>
	\$11,941 88

Dr. Reed, Wyoming, moved that the report be received and placed on file. Carried.

The report of the Committee on Scientific Research was called for and the secretary read the following letter:

Committee on Scientific Research.

BALTIMORE, June 1, 1901.

Dr. George H. Simmons, Secretary of the American Medical Association:

Dear Doctor:—I regret that it is impossible for me to be present at the meeting of the American Medical Association this year.

I do not suppose that Dr. Wood has been able, on account of illness, to send a report in behalf of the Committee on Scientific Research. I can not learn that there was any organization, and certainly there has been no meeting of the Committee. Dr. Wood, however, inserted notices in the medical journals calling attention to the existence of the grant by the Association, and requested that applications for appropriations from the fund be sent to him before a specified date. Ten such applications were received, and Dr. Wood communicated with the members of the Committee by letter regarding the selection of applicants and the amounts to be appropriated to each. A decision in this matter had not been reached when Dr. Wood became so ill that he could give no further attention to it. He then asked me to take the matter in hand. You may recall that I then communicated with you, and that you suggested that in view of the lack of previous organization and of meeting of the Committee, and the lateness of the season remaining for action, it might be well to postpone further action until after the meeting of the Association. I have followed your suggestion. There have been ten applications for appropriations from the funds, several of which at least were eminently deserving.

While I regret that the initiation of this important undertaking on the part of the Association has not led to results during the first year, I sincerely trust that the grant will be continued. If the \$500 appropriated by the Association last year could be added to an additional \$500, making \$1000 for the coming year, I believe that much good would result. If this is not deemed best, I hope that at least the appropriation of \$500 will be continued for another year. I should suggest that the committee be not limited as now to the granting of sums not exceeding \$100 to a single individual. It would be well, I think, in selecting the Committee to consider somewhat the care with which the members can be brought together for conference.

Hoping that the Association will continue these grants for research, I am, very truly yours,

WILLIAM H. WELCH.

Dr. Bert Ellis, California, moved that the report be referred to the General Executive Committee with instructions to report back to the Association. Seconded.

Dr. Happel, Tennessee, asked whether the report did not involve the expenditure of money, to which the President replied it did, and the President suggested that it would be well to refer it both to the Board of Trustees and the Executive Committee for a joint report.

This suggestion was accepted by the mover and seconder of the original motion, and the motion as amended was carried.

Dr. Sims, New York, offered the following resolution:

Resolved, That this body deplores the action of Congress in abolishing the army post exchange, or canteen, and, in the interests of discipline, morality and sanitation, recommends its re-establishment at the earliest possible date.

Dr. Reed, Wyoming, moved that the resolution be adopted, which was seconded, and after some discussion a motion was made to lay the resolution on the table, which was carried, there being 54 for, and 25 against, tabling the resolution.

Dr. Reed, Wyoming, then brought up the matter in a different form and moved that a committee of three be appointed by the President to take up this resolution and present it before the proper body for consideration. Seconded.

The Chair ruled that the motion of Dr. Reed revived the specific subject that had been disposed of, and stated that if a motion was made to incorporate the general subject in proper

terms, it might come within parliamentary rules. Dr. Reed, Wyoming, thereupon moved that a special committee be appointed to consider the question of asking Congress to repeal the Canteen Act. Seconded.

It was moved as an amendment, that instead of appointing a special committee, the matter be referred to the Committee on National Legislation. Seconded.

The amendment was accepted, and as amended was carried.

The Secretary announced the members of the Nominating Committee.

On motion, the Association then adjourned until Thursday.

Nominating Committee.

The Secretary announced the members of the Nominating Committee as follows:

COMMITTEE ON NOMINATIONS.—Alabama, W. G. Harrison; Arizona, R. W. Craig; Arkansas, Joseph P. Runyan; California, Bert Ellis; Colorado, C. K. Fleming; Connecticut, J. W. Wright; Delaware, John Palmer, Jr.; District of Columbia, G. L. McGruder; Florida, ———; Georgia, Thos. D. Coleman; Idaho, ———; Illinois, Hugh T. Patrick; Indian Territory, ———; Indiana, C. A. Daugherty; Iowa, Donald Maerea; Kansas, R. S. Magee; Kentucky, W. H. Wathen; Louisiana, ———; Maine, Seth Gordon; Maryland, ———; Massachusetts, Geo. J. Engelmann; Michigan, F. W. Robbins; Minnesota, A. J. Stone; Mississippi, W. H. Barr; Missouri, C. H. Wallace; Montana, T. J. Murray; Nebraska, W. S. Conwell; Nevada, ———; New Hampshire, Geo. Cook; New Jersey, Richard C. Newton; New Mexico, Edwin B. Shaw; New York, E. Elliott Harris; North Carolina, James A. Burrough; North Dakota, J. N. Wear; Ohio, Jos. E. Cook; Oklahoma Territory, R. D. Love; Oregon, Andrew C. Smith; Pennsylvania, W. S. Foster; Rhode Island, Philip K. Taylor; South Carolina, Charles F. McGahan; South Dakota, D. W. Rudgers; Tennessee, G. C. Savage; Texas, Bacon Saunders; Utah, S. C. Baldwin; Vermont, M. R. Crain; Virginia, Christopher Tompkins; Washington, N. Fred Essig; West Virginia, A. H. Thayer; Wisconsin, W. H. Earles; Wyoming, R. Harvey Reed; U. S. Marine-Hospital Corps, Geo. T. Vaughn; U. S. Army, Major Richards.

Report of Committee on Nomination.

Your Committee on Nomination met June 5, with Dr. Wm. H. Wathen, chairman, and Dr. Thomas D. Coleman, secretary, and begs leave to report as follows:

For President for the ensuing year, Dr. John A. Wyeth, New York; first vice-president, Alonzo Garcelon, Maine; second vice-president, A. J. Stone, Minnesota; third vice-president, A. F. Jonas, Nebraska; fourth vice-president, John R. Dibrell, Arkansas. Treasurer, Henry P. Newman, Illinois. Secretary, Geo. H. Simmons, Illinois. On motion, the ballot of the committee was cast for Geo. W. Webster, Illinois, for Librarian. Board of Trustees, term expiring 1904: W. W. Grant, Colorado; John F. Fulton, Minnesota; T. J. Happel, Tennessee. Judicial Council: Geo. Cook, New Hampshire; H. H. Grant, Kentucky; John B. Murphy, Illinois; Philip Marvel, New Jersey; Louis H. Taylor, Pennsylvania; John L. Dawson, South Carolina; N. Fred Essig, Washington. Oration in Surgery: Harry Sherman, California. Oration in Medicine, Frank Billings, Illinois. Oration in State Medicine, J. M. Emmert, Iowa. Place of Meeting, 1902, Saratoga Springs, N. Y. Chairman of Committee of Arrangements: G. F. Comstock.

[At the General Session, June 6, the preceding officers were elected.]

Book Notice.

MUNICIPAL SANITATION IN THE UNITED STATES. By Charles V. Chapin, M.D., Superintendent of Health of the City of Providence. Cloth. Pp. 970. Price, \$5.00. Providence, R. I.: Snow & Farnham. 1901.

Dr. Chapin's work is a valuable compilation of the data of sanitary legislation in the United States, including the laws in regard to the registration of vital statistics. It is a compendium of sanitary practice, and not intended so much to say what should be done as what has been and is being done. The author's personal opinions are not obtruded, though they may be indicated in places. The utility of such a volume is at once apparent; there are few who are interested in sanitary matters who have not at times felt the need of a work of the kind. It does not materially lessen its value that it is impossible for it to be absolutely up to date: that would be impossible with the

extensive field covered and the ever-present vicissitudes of municipal legislation. It is, nevertheless, probably as nearly so as it is possible for such a volume to be, and it is therefore a most valuable work of reference and one that will not be likely to be soon superseded. A thorough inspection reveals comparatively few deficiencies and a surprising number of facts that might reasonably be expected to escape notice. The chief trouble, as it appears to us, is, that in this country at least, sanitary legislation and sanitary practice do not always go hand in hand; the execution of the laws is too often defective. It would be impossible, however, to indicate all such deficiencies in a volume like this, which is on the whole the best, as the most recent and thorough work of its kind available for the physician and sanitarian. The author has conferred an obligation on both by its production.

Societies.

COMING MEETINGS.

South Dakota State Medical Society, Huron, June 10-11.
International Association of Railway Surgeons, Milwaukee, June 10-12.
Medical Society of Delaware, Lewes, June 11.
Oregon State Medical Society, Portland, June 11-12.
American Medico-Psychological Association, Milwaukee, Wis., June 11-14.
Maine Medical Association, Portland, June 12-14.
Massachusetts Medical Society, Boston, June 12.

AMERICAN GYNECOLOGICAL SOCIETY.

26th Annual Meeting, held in Chicago, May 30, 31, and June 1, 1901.

President Dr. Ely Van de Warker, of Syracuse, N. Y., in the chair.

An address of welcome was delivered by Dr. Fernand Henri, of Chicago, which was responded to by the President.

DR. CHAUNCEY D. PALMER, of Cincinnati, read a paper on

Intraligamentous Cysts; Their Diagnosis and Treatment.

This paper had special reference to the diagnosis and treatment of these tumors. He spoke first of the classification of ovarian tumors in our text-books as being unsatisfactory. What we need is a classification that is helpful in the way of diagnosis and treatment. He spoke then of oöphoritic, paroöphoritic and parovarian cysts. He then referred to the symptoms and signs before removal which would enable the operator to differentiate intraligamentous cysts.

All ovarian cysts of whatever kind should be removed by surgical procedures, the sooner the better. But the removal of intraligamentous cysts demands the most correct knowledge of the parts and surroundings and superior skill. The assayer then dwelt upon the advisability, if not necessity, of operators availing themselves of the extraordinary opportunities, when the abdomen is opened, to see and to feel and to map out what it is, where it is, and determine what methods are best to adopt in the removal of pelvic growths. Intraligamentous cysts are, as a rule, easily peeled out of the broad ligaments. Enucleation, first suggested by Dr. Mynter, of Buffalo, can be done, but it ought only to be attempted when the attachments are superficial. An attempt begun in the old way on some intraligamentous cysts may have to be abandoned as an incomplete operation, or as an inoperable case. Many such cases have died on the table. He referred to the danger of wounding the ureters, wounding the uterine arteries, and then he earnestly advocated the advisability of completely exsecting the uterine as well as the appendages thereof, when the cysts are bilateral, and where they are deeply embedded within the surrounding textures. This new method of procedure, while seemingly the more radical way, is the only rational method of a skillful surgical extirpation of the diseased structures.

DR. WILLIAM H. WATHEN, of Louisville, read a paper on **Improved Technic in the Surgical Treatment of Uterine Myomata.**

The perfection of technic in operations for the removal

of uterine or pelvic myomata is the result of the application in these operations of the variety of details suggested and practiced by different surgeons, and operators no longer speak of hysterectomy as an operation peculiar to anyone, nor can they in many instances outline in advance the complete technique to be observed or carried out in an operation. The dangers during the operation are hemorrhage or injury to the bladder, ureters or intestines, and if the surgeon is prepared to avoid these, and operate speedily, there is hardly a condition that may not be successfully treated. Unless there is some contraindication, myomata not larger than a fetal head may be easily removed per vaginam, and if the operator uses well-constructed forceps no successful operator would wound the bladder, the intestines or the ureter, the last-named of which, if necessary, may be protected by ureteral catheterization, which may also be used as a means of protecting the ureters in the suprapubic method. Experience will aid in the selection of cases suitable for the vaginal method. While the author has removed with ease uterine myomata twice the size of a fetal head, he has had great difficulty in removing one much smaller than a fetal head.

Painful Menstruation as a Factor in Determining Character of Operations on the Uterine Appendages.

DR. PHILANDER A. HARRIS, of Paterson, N. J., said that extra-uterine suppurations so commonly resulting from gonorrheal infection of the uterus, and from ordinary infections of childbirth and abortion, are of such frequent occurrence as to quite overshadow in importance all other causes of acquired dysmenorrhea. Not all cases of suppuration in the uterus or tubes cause painful menstruation. A small percentage of such cases, even in the presence of extensive and long-continued suppuration, menstruate painlessly. Tubal suppurations may, and usually do, cause painful menstruation before the development of ovarian abscess. This is proven by the fact that surgeons so often have excised both suppurated tubes, at the same time leaving both ovaries, which appeared healthy, with the arrest of all pelvic pains and restoration to health, including a cure of the dysmenorrhea. Ovarian abscess frequently develops from tubal suppuration, with the effect of increasing, modifying or localizing not only intermenstrual pains, but also the pains of menstruation. Pronounced and persistent primary dysmenorrhea, or the dysmenorrhea which exists from puberty, will probably not be obliterated by the simple excision of diseased tubes, except, as in certain rare instances, it be due to gonorrheal infection prior to the beginning of menstruation, in which event it would be curable by excision of the tubes, vaginal incision and drainage, or the removal of the pyogenic sacs in the ovaries. By excision of a tube is meant its removal to the uterine mucosa by making an elliptical incision in the uterus about the tube and closing the chasm with sutures. The author's partially conservative surgical work in this connection has shown him that, while he has maintained for about 95 per cent. of all women thus operated the item of menstruation, he has had a higher percentage of relief and symptomatic cures, and far greater satisfaction with the results obtained than accrued from his former and more extensively mutilating and exsective operations.

DR. E. C. GEHRUNG, of St. Louis, read a paper entitled Status of Menstruation.

Menstruation is not, as has been supposed, a special function of the generative organs of women, but only the perverted counterpart of the menstruation of the lower animals. This transformation into a monthly "hemorrhage" (menorrhagia) has generally been brought about by the necessities and results of the social, moral and connubial life of mankind as well as through the transmission by inheritance of certain debilities of the generative apparatus, and more especially by the erect position and its natural consequences, assumed by the human species. This fact being admitted, the profuseness and prolongation of the sanguineous loss is a proof that it is now a physiologico-pathologic condition, predisposing to ane-

mia and all its direful consequences, pre-eminently to the nervous system. In the great majority of cases the quantity of blood lost during so-called normal menstruation is an unnecessary, and therefore pathologic, waste of the very essence of life. It stands to reason that in all cases of depressed vitality this loss should be reduced as much as possible. The best means for controlling the waste is the vaginal (not uterine) tampon, applied "secundum artem." Whenever curettage is not indicated or applicable, and where it has failed in gaining the desired result, the tampon is the means indicated. Chronic and acute inflammation of the pelvic organs are contraindications. Unless the restriction of the waste is put in execution, tonics are useless, because they simply increase the pressure and consequently the waste, while after the repression, or simultaneously with it, they seem to work wonders.

The Age of First Menstruation in the United States.

DR. G. J. ENGELMANN, of Boston, read a paper on this subject. Over 10,000 observations as to the time of first menstruation of American-born women, many with reference to points never before investigated, here or elsewhere, gives him ample material for an authoritative solution of the questions involved. These observations, from his own practice and that of helpful friends, are many, and the identity of results obtained in far distant points, Montreal and New Orleans, St. Louis, Cincinnati and Boston, vouches for their correctness. Furthermore, they are corroborated by all previous records, a total of 6,000, in such points as these may cover. The American-born are more precocious than the women of other countries in the same zone; 14 is the age of puberty in the United States and Canada; 15.5 in the temperate zone of Europe. The native American is more precocious than the American born of foreign parents, but the latter closely approximates the American of American parentage, even in the first generation. Racial characteristics fade rapidly away; the age of puberty in Germany is 15.5 to 16, in Ireland 15.3, and for the girl born in America of German or Irish parentage 14.5, in St. Louis as it is in Montreal; the Canadian-French are the only exception, between 14 and 15 in their native land, these alone of all races are more precocious than the American of the same class when born in this country, 13.7 is the mean age; climate here has absolutely no influence; race very little. Mentality, surroundings, education and nerve stimulation stand out prominently in this country as the factors which determine precocity.

Cancer of the Uterine Fundus.

DR. J. M. BALDY, of Philadelphia, read this paper. It is with the object of calling attention of the profession to, and emphasizing as emphatically as possible, the wide practical difference between cancer of the cervix and cancer of the fundus, that this paper is presented. It has been said that practically all cases of cancer of the cervix eventually die of the disease; that practically all cancers of the fundus remain well if operated upon. This statement is more generally true than one would suppose at first glance. It has been my own, and the experience of other surgeons. Less than 5 per cent. of cases of cancer of the cervix are cured, no matter what line of treatment is followed. Twenty-four cases of cancer of the fundus have passed through my hands. Of these, 3 were either too far advanced for operation, or refused operative treatment. On the remaining 21 cases hysterectomy was performed by the vaginal method, the abdominal method or the combined vagino-abdominal method. Two of the 21 cases died of the operation. Of the 19 remaining cases, all are alive and well to-day, with two exceptions. One of these died of pneumonia seven years after operation. It is strongly suspected from the reports that the other one has recurrence. Making all allowances for mistakes and the general unreliability of statistics, the fact stands out strongly that about 75 per cent. of these cases are well and free from signs of cancer, as against 5 per cent. or less of cancer of the cervix.

The Status of Hysterectomy for Uterine Cancer.

DR. CYRUS A. KIRKLEY, of Toledo, Ohio, read a paper on this subject. The paper was a plea for conservatism in the surgical

treatment of uterine cancer, and contrasted its pathology and treatment of half a century ago with that of the present. Electro-cauterization, as practiced by Dr. Byrne, was given the preference over all methods of operating. It had not received the recognition it deserves. Dr. Byrne's skill in its application could only be acquired as in other operations. Freedom from danger and longer period of exemption were its strongest recommendations. An old table published by Dr. Byrne in 1889 was referred to, so that in comparison vaginal hysterectomy might have the advantage. In a total of 367 cases there was not a single death from the operation. The position held by our fathers fifty years ago, that hysterectomy for cancer has its narrow limitations, that it should be done early, if at all, and that only temporary relief can be hoped for, is just as true to-day.

Prolapse and Procidentia of the Uterus.

DR. HENRY T. BYFORD, of Chicago, read this paper. He holds that the essential feature of the prolapse is the want of supporting power of the pelvic connective tissue. To suture the uterus to the abdominal walls is to support the pelvic connective tissue by means of the uterus and is wrong and inefficient. The best and most rational method is to draw up and attach the peri-uterine tissue and thus keep the uterus up by means of its natural supports. In addition to the ordinary operations for lacerations and relaxation at the vaginal outlet, the author proposed a method which he described in detail.

Panhysterokolpectomy, A New Prolapsus Operation.

DR. GEORGE M. EDEBOHLS, of New York City, read a paper under this title. There is room, in the treatment of complete prolapse of the uterus and vagina, for an operation which, properly and successfully performed, will guarantee a certain and permanent cure of the prolapse. Such an operation is panhysterokolpectomy, the essentials of which consists in complete removal of the uterus and vagina, followed by operative obliteration or columnization of the bed of the genital tract. The tubes and ovaries are not disturbed, if healthy; if diseased, they are removed with the uterus and vagina. Obliteration and columnization of the bed of the removed uterus and vagina is effected by means of from seven to nine buried pursing sutures of chromicized catgut placed about 2 to 2.5 centimeters apart, and running parallel to each other. Each suture gathers the raw surfaces from the periphery in circular fashion, and draws or purses them together in the median line. It is buried by being pushed upward towards the abdomen, while the next suture is being tied beneath it.

The effect of the completed operation is to build a solid pelvic floor 10 to 15 centimeters in depth, and to establish broad apposition of the base of the bladder and the anterior surface of the rectum, conditions similar to those obtaining in the male pelvis.

Pus in Abdominal Operations.

DR. HUNTER ROBB, of Cleveland, read this paper. The author has become convinced that operators not infrequently err in carrying out radical abdominal procedures when the patient's resistance is in such a lowered condition that she is very apt to succumb to the shock of the operation *per se*. Such a condition must always be given careful consideration when deciding for or against operative interference during an acute attack of a localized or more or less generalized pelvic peritonitis. Believing that this factor has a very important significance in influencing results, the speaker has made it a rule during the acute stage of a pelvic abscess to defer an operation so long as it seems safe to do so. In the meanwhile, the patient is kept perfectly quiet on her back in bed, and heat in the form of flaxseed poultices or turpentine stupes is applied to the abdomen. A vaginal douche of a gallon of a warm one per cent. solution of carbolic acid, or a saturated boracic acid solution, is given twice daily. For nourishing the patients he depends upon nutritive injections entirely.

After briefly discussing drainage in pus cases, the author gave the clinical and bacteriological analyses of 72 consecutive, unselected abdominal sections for suppurative diseases of the tubes and ovaries, with two deaths.

Removal of the Female Urinary Bladder for Malignant Disease.

DR. MATTHEW D. MANN, of Buffalo, said that treatment may be removal through the urethra, the vaginal septum, or by suprapubic cystotomy. The operations are the removal of the growth and its base; resection of part of the bladder; or cystectomy. The ureters need no attention at the time of the operation, as by the removal of a portion of the anterior vaginal wall they will discharge into the vagina. If possible, the ureteric openings into the bladder should be left intact. This will rarely be possible. He does not believe in uretero-intestinal anastomosis. The vagina can be used as a receptacle for the urine, as was done by Pawlik. If this be done, there will be little danger of infection traveling to the kidneys, as the newly made bladder can be kept clean.

The operation is done in the Trendelenburg position. The peritoneum over the bladder being cut, the bladder is enucleated by the fingers, and the base, with the anterior vaginal wall still attached, is removed. The uterus is then removed, and the peritoneum closed over the floor of the pelvis. Mann reports two cases, both of which recovered from the operation.

Total Extirpation of the Urinary Bladder.

DR. J. WESLEY BOVÉE, of Washington, D. C., gave an epitome of the history of operative procedures in partial and complete removal of the bladder, and a digest of 96 cases, which he had collected from the literature. He discussed the methods of disposal of the ureters, the indications and contraindications, and the results of all operations up to date.

Shock from a Clinical Standpoint.

DR. EUGENE BOISE, of Grand Rapids, Mich., read a paper with this title. The generally accepted idea that the pathology of shock is essentially a paresis of the vasomotor nerves, does not seem to be borne out by the clinical manifestations, when analyzed according to undisputed physiologic facts. The basis of the theory of paresis is the thought that the extremely low arterial tension of shock is inconsistent with vasomotor stimulation, which, by causing arterial contraction, should give high tension. On the contrary, the symptoms of shock can, in reality, only be explained by the theory of extreme stimulation of the entire sympathetic system. Laboratory experiments have demonstrated that extreme stimulation of the cervical sympathetic will cause cardiac and arterial spasm with consequent low arterial tension by reason of incomplete diastolic relaxation of the heart. Post-mortem records show that in fatal cases of shock the heart is found contracted and empty, even ruptured, showing a condition of extreme stimulation of the vasomotor system, rather than paresis. In shock, then, there is arterial and cardiac spasm, with consequent low tension. This causes the peculiar pallor and the condition of mental and physical lethargy. The perspiration of shock is caused by stimulation of the secretory nerves of the sweat glands, branches of the sympathetic system. Experiments have shown that the secretion of perspiration is independent of vascular conditions. The other clinical manifestations of shock can readily be explained by this theory of hyper-irritation of the entire sympathetic system, and only by this. Moreover, those remedies which are of benefit in shock are such as act as sedatives to the vasomotor nerves. Nitrite of amyl and nitro-glycerin are noted arterial relaxants, and yet they are very beneficial in shock; so, also, with strychnia. The opinion of operators of large experience is that to be of benefit it must be given in very large doses. And yet all therapeutists agree that in such doses strychnia paralyzes the vasomotor center and the intracardiac ganglia, and therefore is absolutely contraindicated if the vasomotor nerves are already paretic; so also with normal saline infusion. To derive the greatest benefit it should be used intravenously and at a temperature of 118 or 120. Thus, when diluted by the mass of blood in the vena cava, the temperature is so reduced as to be sedative to the irritated cardiac and arterial nerves and muscles, and their spasmodic condition is relieved. Therefore, shock is essentially a hyper-irritation of the entire sympathetic system of nerves.

Resections and Exsections.

DR. FERNAND HENROTIN, of Chicago, presented the salient

points concerning the questions involved in resection of the ovaries and tubes, as there is still much doubt regarding the results obtained, and as to the proper methods to pursue. He considered the subject of resection and exsection under three heads: 1, diseases involving the tubes; 2, ovarian disease; 3, chronic composite diseases. These three topics were taken up seriatim, and discussed at great length. The author has performed at least 250 operations which might be classified as salpingotomies, salpingectomies, and ovarian resections. He could safely state that 40 per cent. may be termed delayed and partial cures, or failures. Of this 40 per cent. the heaviest proportion by far comes from such as have had salpingotomy or tubal resection performed. The next most complaining class are those in which the ovaries alone were resected and the least suffering and the best health are found among those in whom the tubes when affected were entirely exsected and the whole or portion of the ovaries was removed. He has not had to re-operate more than five or six times. By salpingotomy the author means opening into the lumen of the tube, and by tubal resection is meant the removal of a portion of a tube including the mucosa, and his statement presumes a material pathologic alteration in the portion removed or incised. Under such conditions, he had no hesitation in stating that for every baby born there would be 40 uncured or partially cured patients.

The Future of Gynecology as a Surgical Specialty.

The President's Address was on the future of gynecology as a surgical specialty. The general scope of DR. VAN DE WARKER'S address was given in an anecdote of a noted ovariologist who was invited by the President to contribute a paper to the Section on Obstetrics and Gynecology of the AMERICAN MEDICAL ASSOCIATION, at the session at which he presided as Chairman. The ovariologist declined on the ground that he was not a gynecologist. That ovariectomy and hysterectomy and other abdominal operations were general surgical procedures, and were more in the line of the general surgeon than the gynecologist, and wound up his letter of refusal by predicting that the time was not far distant when these operations would be by general consent of the public in the hands of the all-round surgeon. The speaker asks the question if that time has not arrived. The public consults the general surgeon as frequently as the special surgeon. A large proportion of the major pelvic operations are now made by men who are not specially recognized as gynecologists. Surgery in general has made as marked advances in all directions as that which was at one time by common consent relegated to the specialist. The lay public has become more familiar with serious abdominal operations made by the general surgeon than those made by the gynecologist. The old operation, ovariectomy, is but rarely seen in the title of a paper, and is relegated from the current journal to the pages of the text-books. The same may be said of the removal of the tubes and ovaries, the removal of pus sacs, Battie's and Tait's operations. Great international reputations were made in these fields, which is no longer possible. The influence of the gynecological surgeon will, however, always be felt. To him as a man of last resort will always be left the question of methods and expediency. Total hysterectomy for cancer is yet on trial. It is already abandoned by able men, while others are hopeful of good results. We know little of the subject of genital ptosis in women; our treatment of uterine displacements is rank empiricism. Would not the gynecologists of France be doing a better service to their country and to science if they were to find the cause and conceive the remedy for the decadence of the birth-rate, rather than bend their energies in finding a new way to perform an operation?

Indications for Cesarean Section as Furnished by Pelvic Contractions.

DR. J. W. WILLIAMS, of Baltimore, stated that in 2123 cases delivered in the obstetrical department of the Johns Hopkins Hospital, 278 (13.1 per cent.) had contracted pelvis. The pelvis were measured both externally and internally, and designated as contracted when the conjugata vera was 10 cm. or less in generally contracted, and 9.5 cm. or less in flat, pelvis. Of the patients 941 were white and 1182 black. Contracted

pelvis occurred in 6.91 per cent. of the former, and 18.1 per cent. of the latter. That is, in every 14th white and every 6th black woman. Of the 278 cases 199 ended spontaneously (71.58 per cent.). The number of spontaneous labors decreased with the increase in the pelvic contraction, as shown by the following table: Conjugate vera 10.9 cm., 77.28 per cent. spontaneous; 8.9-8 cm., 61.54 per cent. spontaneous; 7.9-7 cm., 33 1/3 per cent. spontaneous; 6.9-5.5 cm., 0 per cent. spontaneous. The cases requiring operation were delivered by high forceps, version, symphysiotomy, Cesarean section, craniotomy, upon the dead child, or embryotomy, according to circumstances, giving a gross fetal mortality of 12.96 per cent., and a gross maternal mortality of 2.88 per cent., which, by deducting the cases in which the death of the child or the mother was not due to the operators, gave a corrected mortality of 4.32 and 0.72 per cent. respectively. In view of the markedly improved results following Cesarean section, the indications for its performance should be widened. Thus we find that Zweifel, Olshausen, Reynolds, Bar, Charles and Cragin have performed 162 operations with 5 deaths, a mortality of 3 per cent. He therefore believes that in uninfected cases the upper limit for the absolute indication for Cesarean section should be advanced from 5.5 to 7 cm., and the relative indication from 7 or 7.5 to 8.5 for flat, and 9 cm. for generally contracted pelvis. With the absolute indication the operation should be done either at the end of pregnancy or the onset of labor; but when the relative indication is present the woman should be allowed to go into the second stage of labor, and have bearing-down pains for one hour, when, if the head does not show signs of molding or descending, Cesarean section should be performed, instead of forceps upon the movable head or version. So that at present Cesarean section for the relative indication should compete with high forceps or version, instead of with craniotomy upon the living child, as in the past. On the other hand, if the patient be infected, or her surroundings such that an aseptic operation can not be performed, high forceps or version should be attempted, followed by craniotomy in case one fails to deliver the child by their means, and Cesarean section reserved for those cases in which an absolute indication is present on the part of the pelvis.

Circumstances which Render the Elective Section Justifiable in the Interests of the Child Alone.

DR. EDWARD REYNOLDS, of Boston, summed up his experience and study of the subject in the following propositions: 1. The Cesarean section performed late in labor, or in the presence of infection of the uterus or other complicating constitutional conditions, has been shown by the experience of almost every operator who has tried it, to have so high a mortality as to be totally unjustifiable when performed in the interest of the child alone. 2. When a Cesarean section is performed on a healthy woman, early in labor, and under other otherwise favorable circumstances, for merely mechanical indications, it has, in skilled hands, no mortality other than the fractional percentage incidental to all considerable operations *per se*. 3. The inconveniences and high morbidity rate of symphysiotomy render it distinctly inferior to the section as an operation of choice, but it is an operation which, as compared to craniotomy, or prolonged and forcible high forceps work without it, involves almost no increased risk to life. 4. The induction of premature labor for contracted pelvis results in so high a fetal mortality as to be unwarranted when placed in opposition to the performance of the Cesarean section at the beginning of labor and in favorable cases.

The Technique of Cesarean Section.

DR. MATTHEW D. MANN, of Buffalo, first discusses the relative merits of the Saenger and Porro operations. He concludes that there is no rivalry, but that each has its proper place. The classical operation should be done in all elective cases, when the woman is in good health, the operation done in time, and all the conditions favorable. The Porro operation should be done when the uterus is septic; when gonorrheal infection is known to exist; when the uterus refuses to contract; when there are large fibroids, or ovarian tumors, which can not be removed without injuring the uterus. Small fibroids usually

disappear after pregnancy. Other indications for the Porro are: Disease of both ovaries; when the uterus is torn, or ruptured in labor; in cancer of the cervix; when the patient is greatly reduced and bearing the operation badly; in osteomalacia and bad atresia of the vagina.

The Place of Symphyseotomy as Contrasted with Section.

DR. CHARLES JEWETT, of New York City, presented the following conclusions: 1. Symphyseotomy is still a useful operation within a very limited range of pelvic contraction. 2. It is suited to conditions in which only very little additional pelvic space is required for delivery. 3. It is a valuable recourse, therefore, in cases in which forceps unexpectedly proves inadequate. 4. Axis-traction forceps, with the aid of posture, should always be tried before resort to symphyseotomy. 5. Its results would be much improved by restricting it to pelves with a conjugate of not less than 7.5 cm., 3 inches. 6. Under equally favorable conditions its total mortality should be no greater than that of Cesarean section. 7. When the pelvic space permits, it should replace Cesarean section in the presence of exhaustion. 8. It may be elected primarily as an alternative of Cesarean section, when the operator can be assured that the degree of obstruction is well within its safe limit. Here the choice of operation is largely a matter of individual preference. 9. Within its proper field symphyseotomy is better than Cesarean section for an operator of little experience in abdominal surgery.

Relative Merits of Bipolar Version with Slow Extraction and Accouchement Force in the Treatment of Placenta Previa.

DR. HENRY D. FRY, of Washington, D. C., stated that podalic version was discovered by Paré in the 16th century. The method was practiced and prompt delivery recommended in all cases of placenta previa. Until the discovery by Braxton Hicks, in 1861, of the bipolar method of version, subsequent literature added little of value except the use of the tampon; rupturing the membranes; and separation of the placental attachment as far as the finger could reach.

The mortality of these methods of treatment was from 25 to 50 per cent. for the mother, and from 50 to 80 per cent. for the infants. The main cause of death was loss of blood during the dilatation of the os, and from laceration of the site of the placental attachment. The advantage of bipolar version is the ability to successfully perform it with very little dilatation and with consequently less loss of blood. In placenta previa a fatal result is usually due to hemorrhage or sepsis. The hemorrhage is unavoidable and incident to dilatation of the os. Consequently the method requiring the least degree of dilatation necessary to perform version will naturally be expected to give the least hemorrhage. After dilatation be obtained in sufficient degree to insert several fingers, further continuance of the process by manual means is likely to endanger the integrity of the soft parts. In other words, the artificial dilatation sufficient to perform bipolar version is comparatively safe, while that necessary for the insertion of the hand and internal version is dangerous. The rapid delivery of the infant in accouchement force adds additional risk of rupture.

Scratch Marks on the Wax-Tipped Bougies in Diagnosis Calculi.

DR. HOWARD A. KELLY, of Baltimore, exhibited nine drawings made by Mr. Becker, showing scratch-markings made in wax-tipped bougies by calculi in the kidney and ureter, also pictures of the calculi and the bougies used were shown. A mixture of melted dental wax and olive oil, equal parts, was used to tip the renal catheters. This substance produces a smooth and highly polished surface, which on coming in contact with a stone is scratched or gouged in longitudinal striæ. The mucous membrane of the urinary tract cannot possibly affect the waxed surface.

DR. ANDREW F. CURRIER, of New York, said that the importance of this class of injuries is measured not merely by the immediate damage to the skull or the soft parts of the head, but by the possibility of death as a near or remote result, by the possibility of lifelong defect or deformity, and especially by such detrimental effect upon the structure of the brain

that development is arrested or prevented, the individual manifesting mental incompetence in any degree between slight backwardness and hopeless idioey. Unfortunately, post-mortem examinations in fatal cases from this cause are seldom made, hence our pathological knowledge of the subject is incomplete. The free use of the obstetric forceps has, on the whole, produced favorable results, but it is equally true that its untimely, injudicious or unskillful application has caused injury to many mothers and destroyed the lives of many children.

Tetanus Following Celiotomy, with Report of Two Cases.

DR. HENRY C. COE, of New York, in his introductory remarks stated that tetanus is such a rare complication of abdominal section, that many operators of large experience have never had a case. Statistics have shown that the disease is especially fatal after ovariectomy and hysterectomy. Tetanus is a rare cause of death after aseptic operations, as shown by reviews of various hospital records. Environment seems to make little difference. In Bellevue Hospital, where conditions are apparently most favorable to development of tetanus, this is almost unheard of, except as the result of wounds received before the patient is admitted. In the General Memorial Hospital, on the contrary, where the conditions are infinitely better, two fatal cases have occurred since the Hospital was opened (1887), and both in the service of the writer. In both cases tetanus followed clean operations, after a normal convalescence, and under conditions which were quite inexplicable.

DR. J. DUNCAN EMMET, of New York City, read a paper on "Myomectomy During Pregnancy with Delivery at Full Term."

The following officers were elected for the ensuing year: President, Dr. S. C. Gordon, Portland, Me.; first vice-president, Dr. George M. Edebohls, New York City; second vice-president, Dr. Edward Reynolds, Boston; secretary, Dr. J. Riddle Goffe, New York City; treasurer, Dr. J. Montgomery Baldy, Philadelphia. Atlantic City, N. J., was selected as the place for holding the next annual meeting.

AMERICAN ACADEMY OF MEDICINE.

Twenty-sixth Annual Meeting, held at St. Paul, Minn., June 1-3, 1901.

President Dr. S. D. Risley, of Philadelphia, in the chair.

Drs. L. Duncan Bulkley, of New York; Thomas D. Davis, of Pittsburg, and Dr. G. Hudson Makuen, of Philadelphia, were appointed the nominating committee. Forty-two new members were added to the fellowship.

The First Year Medical Curriculum.

DR. THOMAS D. DAVIS, of Pittsburg, said there had been great changes in the curriculum of the academical departments of all our institutions of learning—changes—not advances. He did not agree that many of the changes had been improvements in education. It would appear that the courses in arts and sciences had been arranged mainly to give a short cut into the profession rather than to broaden and deepen the foundations of true mental development. It is his conviction that no plan surpasses for true professional education foundation the old severe classical course, particularly valuable in developing the judgment and reason and forming the habits of application and mental concentration. Anything that can not show its advantages in dollars and cents has been placed in the background. He impressed the importance of the subjects taught in the last two years of a college course, and believes that the first-year course of a medical school should approach the last-year course in a college. A four-year medical course is not of itself an advancement in medical education. An entire rearrangement of the curriculum in our medical schools is necessary to correspond to the four years required. Botany should be taught, to give a more correct foundation for the vegetable materia medica.

DR. LAERTUS CONNOR, of Detroit, believed that colleges of all kinds were committing a grievous wrong to their students in not having them taught so to write that they could be understood clearly and forcibly, as well as in not teaching them how to talk when upon their feet. Without this training they are handicapped. If necessary, this instruction should be put in with the study of anatomy and chemistry. Manual training

in that their fingers might be able to follow out the students' perceptions was also advocated; as was also "a little bit of business training" which would make the physician more prosperous, and more reputable in the minds of those in business circles. A number of physicians are wrecked because they lack business training.

DR. V. C. VAUGHAN thought it a mistake that our students were not more frequently compelled to write theses, and that the abolition of the requirement was a backward step. Before a man studies medicine he should know mathematics through plain trigonometry. Also, the man who will get the best out of medicine must have a reading knowledge of French and German. He should have some knowledge of both Latin and Greek. The fact that a man has an A. B. degree may mean much or almost absolutely nothing. He thought it time that those interested in medical education in this country should force the literary school to give courses that properly lead to medicine. He expressed himself in sympathy with the law enacted by the New York legislature compelling every student to stay four years in a medical school, no matter what degree he may have.

DR. ALBERT GOLDSPOHN, of Chicago, heartily endorsed Dr. Vaughan's sentiments in regard to a knowledge of French and German. He felt that there is no possibility of a man keeping abreast with what the world affords unless he were a thorough student of German and French, from them getting the substance of what the rest of the world produces. A deficiency in the medical curriculum of to-day is the failure to appreciate the power of mind over matter, the want of a proper understanding of this psychologic part of man. The amount of instruction in histology is grossly defective. He felt that a good, thorough college course and then a four years' medical course likely to do the most good.

DR. EDWARD JACKSON, of Denver, thought that the study of logic and psychology as carried on furnished a very poor outfit, or a very insufficient guarantee of a logical mind or an ability to apply psychologic principles to general facts. In illustration, a baseball or billiard player learns to do a certain thing with perfect accuracy, promptness and ease, and yet knows nothing perhaps of the names or forms of classification or arrangement of the muscles by which he does it, still less of the nerves paths by which he accomplishes his purposes.

DR. L. DUNCAN BULKLEY thought that crowning evil of medicine, the advertising drug business, was due to faulty education in our medical schools. Another fault was in too great a crowding from minutiae. He emphatically approved of the suggestion that students be required to write a thesis at the end of each year. He had seen too often in young men coming up for hospital examinations a want of concentration of thought.

Is the Demand for Reciprocity Based on Fact or Fancy?

DR. CHARLES MCINTIRE, of Easton, in this paper gave the results in the examination of reports of the various state boards of medical examiners for 1900, in order to form an estimate of the comparative number of physicians who seek to move from one state to another. The figures quoted in the paper give the entire number examined, the number failing, and of those failing, the number who were not graduates of the last class. A tabulated statement showed that out of 511 individuals, 292 could have had an opportunity of taking a state examination elsewhere. A considerable number failed, and were coming up for a second, only to fail again. It would be far from the truth to infer that of the larger number who were sustained in their examinations, the same proportion of older men presented themselves; at the same time, many such are included in those who received a license, and it will not be an overstatement to assume that the number of those who passed the examinations, who would have had the privilege of reciprocity extended to them, fully offsets the number who failed in the examinations, who had never made the effort to practice elsewhere. If so, there are at least 292 out of the total number examined who would have been able to avail themselves of the privilege of reciprocity, or about 7.5 per cent.

The Desirability of Reciprocity in Medical Licensure.

DR. J. N. HALL, of Denver, said that an experience of six years on the Colorado State Board of Medical Examiners dem-

onstrated that many physicians of excellent repute seek a residence in that state because of illness, either personal or otherwise. Though such men are fitted to practice medicine they are rusty on the details of the foundation studies. Reciprocity between states having stringent requirements would be of the utmost benefit to men of this type. Reciprocity, however, should not be established, except among those states where requirements are essentially equivalent.

Reciprocity in Medical Licensure from the Standpoint of a Physician Who Changes His Residence.

DR. EDWARD JACKSON, of Denver, in this contribution, said that about one in every four or five physicians changes his field of practice from one state to another, at some time during his professional career. In making such a change the difficulty is not with the practical branches, but with passing the examination in what may be regarded as the preliminary studies—chemistry, anatomy, etc. The physician who removes across state lines can not justly be expected to keep better posted in those branches than the most of those who do not move. "Reciprocity" seems liable to be a waiting for others to do something rather than a practical measure of relief. The acceptance of the certificate of another state board, as evidence of a proper acquaintance with such preliminary studies, would remove the chief hardship. The main obstacle to this is fear of "lowering the standard." But the "standard" in many states is already "so high" as to favor evasion and special legislation letting in all sorts of irregular practitioners and to threaten the permanence of laws regulating medical practice.

Some of the Ethical and Sociologic Relations of the Physician to the Community.

DR. S. D. RISLEY in his presidential address showed that a most striking characteristic of the medical man is a sense of obligation to the community, that this ethical attitude finds expression, not only in the daily routine of his laborious professional service, but in a pronounced educational influence on all those lives which pertain to the healthfulness of the people and their socio-medical welfare; that this influence is signally exerted in the investigations and control of the relation which our defective classes sustain to the social body. Almost suddenly the student of social evolution has come to realize that through the altruistic spirit of our civilization a rapidly increasing percentage of degenerates have grown up in our midst, a fact which presents a serious and most complex problem for solution by the new century. Two suggestions are made for its arrest: 1, the legalization of means to prevent propagation of defectives by a sexualization; and, 2, by a wider education of the community regarding the importance of selection in the marriage contract and its control by the state. To solve it wisely and humanely will require the best efforts of the churchman and the physician and the statesman.

ILLINOIS STATE MEDICAL SOCIETY.

Fifty-first Annual Meeting held at Peoria, May 21-23, 1901.

President Dr. George N. Kreider, Springfield, in the Chair.

At a preliminary meeting of the Society, called by the Legislative Committee, several propositions were discussed. The question of a medical practice act and board of examiners was taken up, freely discussed, and a committee appointed to draft a bill providing for a Board of Medical Examiners in the State, the committee to consult such laws as are operating best in other States. A resolution was adopted requiring that a bill be introduced in the next legislature, urging that the true names and quantities of ingredients be plainly printed on each package of patent medicines and nostrums offered for sale, the Society being instructed to do what it can to further the passage of such bill provided the Legislative Committee believes it can be done without jeopardizing other desirable bills.

Resolved, That school of graduation shall be no bar to membership in the Illinois State Medical Society, providing such physician is recognized by the local society as qualified and not claiming to practice any exclusive system of medicine.

STATE SOCIETY JOURNAL.

After a free discussion, the following resolutions were adopted:

Resolved, That as far as practicable the *Journal* of the Society be made the official organ of the city, local, county and district societies in the state.

Resolved, That the *Journal* may accept all ethical advertisements under the same restrictions that apply to advertisements in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

Resolved, That the Judicial Council select some member of the Society to act as Editor and Manager of the *Journal*, said Editor and Manager to be paid a reasonable salary out of the net profits to be derived from the publication; the amount of salary to be determined by the Judicial Council.

REORGANIZATION.

A committee of five, consisting of Drs. Graham, Pettit, McAnally, Ochsner and Roskotten, was appointed to study the plan of reorganization as submitted by the Secretary of the AMERICAN MEDICAL ASSOCIATION, Dr. George H. Simmons. This Committee reported as follows: Your Committee would respectfully recommend the following, believing that this form of notice is sufficiently comprehensive to allow of all desired changes and yet sufficiently specific to meet the requirements of the constitutional provision relating to amendments.

Notice is hereby given in accordance with Article IX of the Constitution that, at the next annual meeting of the Society, to be held in May, 1902, such changes in the Constitution and By-Laws will be presented for consideration and adoption as will provide for reorganization on the basis of the following propositions:

1. That the work of the Society be divided into two parts, *scientific* and *general business*, the latter to include the nomination of officers, the control of finance, the conduct of the *Journal*, work relating to legislation and such other matters as may be referred by the Society, and to be conducted by delegates who shall be chosen by the constituent societies.

2. That membership in good standing in a county medical society, or, in the absence of such county society, then in a district or city covering the county of residence, shall constitute membership in the State society.

The Committee also recommended that the Society be requested to appoint a committee of three to formulate and adjust the proposed amendments during the coming year.

The report was unanimously adopted.

This meeting was the most successful in the history of the Society, both as regards its scientific work and attendance. The number of members who registered was a little over four hundred, and at one of the sessions nearly six hundred physicians were present.

OFFICERS.

The following officers were elected for the ensuing year: President, Dr. J. T. McAnally, Carbondale; first vice-president, Dr. M. L. Harris, Chicago; second vice-president, Dr. J. W. Hensley, Peoria; secretary, Dr. E. W. Weiss, Ottawa; treasurer, Dr. Everett J. Brown, Decatur; editor and manager of the *Society Journal*, Dr. George N. Kreider, Springfield.

Quincy was selected as the place for holding the next annual meeting.

The following are the officers of sections:

Practice and Medicine—Chairman, Dr. R. B. Preble, Chicago; secretary, Dr. S. E. Munson, Springfield.

Surgery and Obstetrics—Chairman, Dr. E. E. Mammon, Bloomington; secretary, Dr. William E. Schroeder, Chicago.

State Medicine—Chairman, Dr. J. M. Wilcox, Clinton; secretary, Dr. W. K. Newcomb, Champaign.

NEW YORK OBSTETRICAL SOCIETY.

Regular May Meeting.

Dr. N. J. Boldt in the chair.

Two Ventral Fixations, One Ending in Rupture and One in Cesarean Section.

DR. ROBERT L. Dickinson, of Brooklyn, read this paper. He said that although ventral fixation and suspension had been re-

ported in some hundreds of cases, the two complications here presented were sufficiently rare to warrant publication. Cesarean section had been done eight times up to 1889, and rupture of the uterus was not common.

The second case presented four points of interest: 1. The uterus was more displaced, more upside-down, so to speak, with a cervix located higher above the promontory than in any case he could find reported, namely, at the third lumbar vertebra. 2. The stretching or distension was not, as usual, at the expense of the posterior wall chiefly, helped by contributions from the lateral walls, with a squat uterus as a result, but was largely from the right lateral wall. 3. Failure to recognize this new condition—lateral distension—prevented him from considering liberation of the adhesion in the seventh month. 4. Ventral fixation had taken place though suspension had been attempted.

Ventral Fixation for Prolapse; Rupture of Uterus; Death.

L. H., 35, German, married eight years, had had four children; the labors were easy, but severe laceration had occurred with a complete prolapse of the uterus and vagina. In February, 1899, a famous gynecologist did "ventral fixation, intra-abdominal shortening of the round ligaments, and vaginal plastics." At term a tumor was said to obstruct delivery and version and perhaps embryotomy was done. After three weeks of sepsis, she was sent in to his service at Brooklyn Hospital, in a sinking condition. Peritonitis with extensive exudate surrounded a right-sided rent running from external os to cornu, splitting the broad ligament and into the peritoneal cavity, four fingers wide. The uterine globe extends half way to the navel, the fundus is fixed to a scar above the pubes, and the posterior wall is thin and relaxed. The anterior wall is 2 inches thick and runs from the top of the scar half way back across the pelvis, and almost from side to side, even at this late date. The patient never rallied.

Cesarean Section for Ventral Fixation of Uterus; Death.

A delicate patient weighing less than one hundred pounds, had severe dysmenorrhea until after an operation by a celebrated gynecologist four years ago. She says that a one-inch cyst was removed from the left ovary, and that her womb was "tacked up in place." She was married in October, 1899, in her thirty-third year, and last menstruated on January 1, 1900. Nausea began in February and lasted throughout. On March 1 there occurred a threat of miscarriage with a marked flow of three days. Constipation, with somewhat persistent intestinal toxemia, troubled her throughout her pregnancy. The kidney action demanded constant stimulation and attacks of headache were frequent. In August he found the pelvic measurements ample, and abdominal examination showed the fetus in the right sacro-anterior position, of normal size. At the right side of the fetus and a little anterior to its highest point, the ovary could be detected; further forward the tube, and still further forward and downward the round ligament swept in the shape of a crescent from the middle of Poupart's ligament upward and forward. The distance between the ovary and upper end of the round ligament showed that the cornu was stretched. The right cornu being thus thrown forward, the left horn was searched for at the same level on the posterior and opposite side of the uterus, but such was the sensibility of the neurotic patient that anything like a satisfactory examination was impossible. It was therefore supposed very natural, that one end of the suspensory ligament which bowed this fundus forward was attached below at the scar above the pubes, and the other end above, at or behind the level of the tube. The portio vaginalis was in front of the promontory. When she had run beyond term, with slight labor pains at times during several days, he anesthetized her to make a complete examination and to induce labor by dilating and dragging the cervix forward. The right horn of the uterus was, as stated, high and to the front. The left ovary and round ligament, however, instead of being at the same level, lay along Poupart's ligament. The external os was crowded against the middle of the

first sacral vertebra. A strong double tenaculum was made fast in the anterior lip to pull it downward, and the longest finger was passed into the cervical canal. Instead of the usual length of four centimeters, he could pass his finger nearly 10 centimeters into the cervical canal. Though unable to reach an internal os, the finger tip passed to the first lumbar vertebra. The anterior wall facing downward into the pelvis was at least 4 centimeters thick. One-half hour of persistent effort with the strongest downward traction, the hand in the vagina and the finger in the cervix, failed to reach or stretch or bring forward the internal os. He worked to the danger point of rupture. No bag would stay within the cervical canal to stretch it. Professor Jewett saw her in consultation. On the same day no active pains intervening, a Cesarean section was done, at Brooklyn Hospital. The first child was delivered within 45, the second child within 70 seconds. The broad ligaments were seized by Dr. Westbrook. The first child lay in a right sacral position with its placenta in front of it completely covering the second child, which the tension and the sensitiveness of the uterine wall had prevented them from detecting. The second child was in the right occipital position with its placenta posterior. There was moderately free blood loss from the slackly contracting uterus, and some shock. As the incision in the uterus lay in the long axis of the mother's trunk, it ran from behind the right horn diagonally across the fundus to the front of the left horn, the major part of it being necessarily on the rear wall of the uterus. The patient was put to bed in fair condition, but died of shock within twelve hours. There was no internal bleeding, as demonstrated by the removal of the upper abdominal stitch. The girl weighed 5 pounds, 10 ounces; the boy 5 pounds, 4 ounces. They have gained nearly an ounce a day.

Band or Ligament Stretched by Enlarging Pregnant Uterus.

As bearing on the matter of ventral suspension and the stretching of the new suspensory ligament made at that operation, and running from the fundus to the anterior abdominal wall, he presented a series of diagrams from a case of adherent retroflexion. This case had a slender ligament on the opposite side of the uterus. The patient was a delicate little woman of 26, who had been treated with pessaries for fifteen months by a female who has no place in our medical directory, and had ulceration of the vaginal fornix and a peritonitis in the cul-de-sac. A year or more later she became pregnant. He drew attention to the way in which the uterus drags on the ligament which fastens the fundus to the cul-de-sac, to the development of the fetus in the bay window of the anterior wall, and to the final result wherein he showed the uterus in good position at term. He knew positively that the ligament was ultimately torn away because, after delivery, the uterus staid forward easily, and because, at a laparotomy ten years later, he found in the middle of the rear wall of the body of the uterus the old depressed scar of that adhesion. As a matter of comparison he showed a picture of a ligament as seen six months after operation. The patient was a neurasthenic with an aggravated retroflexion of an enlarged uterus and microcystic ovaries. As she was but 21, he resected the ovaries at the first operation, March 28, 1900, and sutured the uterus to the abdominal peritoneum with three sutures of chromicized gut. October 7, 1900, he did an abdominal hysterectomy for persistent pelvic pain. The cause was evident. The strip of apparently sound ovary, .5 cm. in width, left on each side, had grown to a size greater than that of a normal ovary. Moreover, the broad ligaments presented one of the very marked conditions of varicose veins. These suspensory ligaments are sufficient to hold the fundus forward, but readily pull away in the pregnancy. He had seen the ligaments suspending the uterus in five cases where the abdomen had to be reopened. In one a 6-inch ligament allowed the fundus to drop back to the mid sacrum. In four it did its work well.

In 37 of his cases of suspension whose later histories he had searched he found two pregnancies. The first was that of a highly nervous woman of 36, whose retroflexion was corrected by suspension after curetting, repair of cervix and perineum, and anterior colporrhaphy. The cystic left ovary

was removed and a tiny fragment of the right ovary. A year later he had to empty her uterus for pernicious vomiting at the second month. The ligament permitted a 3-inch play of the fundus, and the suspension can not be credited with the need of abortion. He used two chromic gut sutures, through uterine wall and abdominal peritoneum. The second pregnancy was after suspension for fixed retroversion, in a woman of 32 years, who had had one child. Both ovaries were resected. Pregnancy began three and a half months after operation. Now, at her seventh month, the abdominal wall presents two prominences, one above and one below, the scar, and the round ligaments indicate that the fundus is bowed forward, yet the cervix is not high up nor is the anterior wall thickened within the pelvis.

DR. PAUL F. MUNDÉ said that the first case was operated upon by him two years ago. She had a complete prolapse and he did an operation that was rather unusual for him, making a broad denudation on each lateral wall and another on the posterior vaginal wall from cervix to vaginal orifice. He did this latter because there was a large ulceration present which he did not wish to leave. The denudations were closed with sutures, tying them as he went and replacing, at the same time, the vagina and uterus. The perineum was closed as high as possible. The abdomen was then opened for the purpose of performing uterine suspension. Three silk sutures were introduced, one at the fundus uteri, one just below the Fallopian tube, and the third on a level with the round ligaments. The round ligaments were also shortened by doubling them upon themselves and stitching them together with chromic catgut sutures. The patient made a good recovery and was discharged from the hospital with the uterus and vagina in absolutely normal position.

He had seen but one other case of pregnancy after ventral suspension for retroflexion where the woman went on to the fifth month, when intermittent uterine contractions occurred and she miscarried. He did not favor ventral fixation or suspension for backward or downward dislocations. The case that Dr. Dickinson reported was the first of the kind in his experience in which a serious accident occurred from subsequent confinement, and he doubted very much if, in the future, he should not continue to perform the operation which had done him good service for years, that is, the Alexander operation, which he had done in over 300 women and in whom he had seen many a pregnancy and a normal confinement with the uterus remaining in a normal position; for this reason and for its almost perfect safety he preferred the Alexander operation to any other method of suspending the movable retro-displaced uterus, when the appendages are normal.

DR. EGBERT H. GRANDIN said that it had always seemed to him where a fixation or a suspension was done and the sutures were passed posterior to the fundus of the uterus, that these women, if they became pregnant, would have their pregnancies interfered with and if they went to full term, would have difficult deliveries, because the uterus was placed in an exaggerated position of ante flexion. He passes the suture through the parietal peritoneum through the body of the uterus anterior to the fundus, and thence through the parietal peritoneum. He wished to secure a suspensory ligament of parietal peritoneum whereby the uterus could undergo normal movements and, in the event of pregnancy, the anterior position not being exaggerated, he had never seen the reason why the uterus should not rise and develop as it should normally and pregnancy progress to term without difficulty. This method of lifting the uterus to a higher level and maintaining it there relieves the congestion or varicosities of the broad ligaments, which are necessarily present when the uterus has been retroflexed for years.

DR. JOSEPH E. JANVRIN used two sutures inserted into the anterior wall of the fundus on a level with the beginning of the Fallopian tubes. Results have been excellent.

DR. A. PALMER DUDLEY did not believe in ventral fixation, nor in ventral suspension if done in such a manner that it would interfere with Nature. He never used a buried suture. Nature never intended that the uterus should become fixed,

but that it should be supported; therefore, he supported it, and did so in this manner: Two sutures are used, passing them through the fundus of the uterus, scarifying the organ between the two sutures, and then closing the abdominal wound with the same sutures. In twenty days he removes the sutures and Nature forms the ligament which suspends the uterus. He thought the mistake made in this operation was in using a buried suture that can not stretch or accommodate itself to Nature.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment will be answered in these columns.]

Hemoptysis.

Lemoine, as noted in *Med. News*, advises a hot foot-bath and purgation with the following combination:

R. Pulv. Sennæ	
Sodii sulphatis, āā.....	3ss 16
Aq. bullientis, q. s. ad.....	Oi 500

If the hemorrhage is subsiding use only magnesium sulphate.

For continuous small bleeding, he uses the following:

R. Quininæ sulphatis.....	gr. v 30
Pulv. ergotæ.....	gr. viii 50

M. Sig.: One such capsule every morning.

In sudden large hemorrhages, omit the foot-bath and envelop the legs in iodized cotton and bathe the hands in hot water to dilate the peripheral vessels. He states that perchlorid of iron is useless and ergot not very good, but ergotol may be given hypodermically.

Treatment of Neurasthenia.

The following outline of treatment has been recommended in neurasthenia:

R. Hydrarg. chloridi mitis.....	gr. 1/10 006
Podophylli	gr. 1/4 015

M. Sig.: One such capsule often repeated and followed in the morning with Carlsbad salts.

And as intestinal antiseptic the following:

R. Sodii sulphocarbollatis.....	gr. v 30
Pot. permanganatis	gr. i 06

M. Sig.: One such capsule before each meal.

Or:	
R. Sodii sulphocarbollatis	
Sodii benzoatis	
Beta-naphthol, āā.....	gr. v 30

M. Sig.: One such capsule before meals.

Baths, exercise, rest and proper diet complete the cure.

To Abort Furuncles.

R. Sodii boratis	3i 4
Aeidi boraciei	3i 4
Aeidi salicylici	3i 4
Pulv. acidi tanniei.....	3i 4

M. Sig.: Apply the powder, sprinkled upon a yeast poultice to the affected part.

The Use of Elaterin in Ascites.

A. H. Bigg, in *Med. Record*, states the great benefit derived from the employment of elaterin in combination with suitable adjuvants and correctives. He employs the following in removing ascitic fluid:

R. Elaterin	gr. 2/3 04
Strych. sulphatis	gr. 1/4 015
Glonoini	gr. 1/20 003
Ext. digitalis	gr. iiss 15
Caffeinæ citratis	gr. x 66
Pulv. earyophylli.....	gr. x 66

M. Ft. cap. No. x. Sig.: One capsule every three to six hours.

He emphasizes the importance of pushing the treatment until four to six copious evacuations per day are maintained, and until permanent relief is obtained. He combines with the elaterin, the heart stimulants in order to avoid the tendency to depression, which very frequently accompanies the active hydragogue cathartics.

Treatment of Epilepsy.

H. Campbell Thomson, as noted in *Month. Encyclop. of Med.*, states that when cases will not stand the bromid salts in high doses, because of the resultant toxicity developed, a 10 per cent. solution of bromin made up in oleum sesami may be given. This emulsion is prepared as follows:

R. Gum. acaciæ	3vi 192
Olei sesami	3viii 256
Syr. simplicis	3ii 64
Ol. gaultheriæ.....	m. xl 2 66
Aquæ	3vi 192
Add	
Bromi puri	3ii 69

M. Sig.: One tablespoonful night and morning, increasing as directed.

Treatment of Tinea.

In tinea involving the scalp in children, the following is recommended as a hair wash:

R. Tinct. cantharidis	3iiss 6
Tinet. eapsici	3iiss 6
Olei ricini	3ii 8
Eau de Cologne, q. s. ad.....	3iii 96

M. Sig.: Use as a hair wash.

Or:

R. Sodii boratis	gr. xl 2 66
Spts. camphoræ	3i 4
Glycerini	3ii 8
Aq. aurantii q. s. ad.....	3iii 96

M. Sig.: Use as a wash to the scalp.

Treatment of Pulmonary Tuberculosis.

The following prescriptions are noted in *Merck's Archives* for constitutional treatment of tuberculosis:

R. Arseni iodidi	
Strychninæ sulphatis	
Hydrarg. chloridi corros., āā.....	gr. i 06
Quininæ sulphatis	
Iodoformi, āā.....	3ii 8

M. Ft. pil. No. xl. Sig.: One pill three times a day.

Or:

R. Ichthyol	
Creosoti carbonatis, āā	3iv 16
Glycerini	3vi 24
Aq. menth. pip.....	3iiss 10

M. Sig.: Ten drops, gradually increased to thirty drops in wine or lemonade three times a day.

Mercurial Stomatitis.

While a patient is taking large doses of mercury for any length of time, the physician must watch the condition of the patient's mouth, according to Dr. C. Bruhm, in *Berl. Klin. Woch.*, as it is usually in the mouth where the early symptoms of mercurial poisoning are first noticed. The patient should be required to rinse and cleanse the mouth frequently. If a stomatitis appears, pure tincture of myrrh may be applied to the gums. If the stomatitis is severe the gums should be painted with a 3 to 5 per cent. solution of chromic acid or a 5 to 10 per cent. solution of silver nitrate. In some cases it will be found necessary to discontinue the mercurial treatment for a certain length of time.

Treatment of Mercurial Sore Throat.

A. I. Liant, in *Phila. Med. Jour.*, states that to prevent mercurial angina, the patient should be instructed to wash the mouth with some antiseptic both before and after each dose. The sore throat is best treated with peroxid of hydrogen, while the ulcerations should be treated by the applications of silver nitrate, chromic acid and glycerin emulsion of iodoform.

Orexin Tannate as a Stimulant to the Appetite.

Zeltner, in *Phil. Med. Jour.*, states that he has obtained

splendid results in more than thirty cases from the use of orexin tannate. It was employed in the anorexia of phthisis in thirteen cases and proved very efficacious in most of them. In seven cases of uremia there was marked improvement in five. The advantage of the tannate over other preparations of orexin is that it causes no burning sensation in the stomach. It was given in 5-grain doses twice daily, two hours before meals.

Orexin tannate is a yellowish, odorless, tasteless powder, insoluble in water. Its general use is as an antiemetic, stomachic and to increase the appetite. It is contraindicated in excessive acidity of the stomach and gastric ulcers.

Headache Dependent Upon Ovarian Disease.

W. Sinkler, of Philadelphia, in *Sys. of Pract. Ther.*, advises the following:

R. Ammonii bromidi	℥vi	24
Ext. hydrastis flu.....	℥ss	16
Tinct. gent. comp.....	℥iss	48
Aquæ	℥iv	128

M. Sig.: One dessertspoonful three times a day in water.

In anemic headaches associated with uterine disorders he states that Hamilton recommends the following:

R. Ammon. bromidi	℥i	32
Tinct. cannabis indicæ	℥i	4
Mucilag. acaciæ	℥iv	128
Spts. menthol. pip.	℥ii	8

M. Sig.: One teaspoonful in water three times a day.

Treatment of Acne Rosacea with Adrenal Extract.

Munro, as observed in *Amer. Med.*, administers adrenal extract both internally and externally to cause constriction of the dilated blood vessels affected. Five-grain doses of the dried extract are given twice daily and afterward increased to six times a day. If giddiness or nausea occur the dose is reduced or the drug temporarily withdrawn. Locally the extract is applied as a paint by dissolving one tabloid in a dram of sterilized water and painted on at night after bathing the affected parts. The first application causes smarting and hyperemia, which soon passes off, leaving the parts anemic. In addition the face is bathed in hot water and the following lotion applied and allowed to dry:

R. Sulphuris precip.	℥iss	6
Zinci oxidi	℥ii	8
Calamini	℥iii	12
Glycerini	℥ii	8
Aq. rosæ	℥vi	192

M. Sig.: Apply locally.

He states that the object of the above line of treatment is to prevent the formation of pustules. This treatment does not apply to the hypertrophic forms of the disease.

Treatment of Asthma.

The following is recommended by Eshner:

R. Hyoscine hydrobrom.....	gr. 1/6	01
Strychnine sulphatis	gr. ¾	05
Morphine sulphatis	gr. vi	36
Sodii bromidi	℥vi	24
Liq. potass. arsenitis.....	℥ii	8
Tinct digitalis	℥iv	16
Infusi gentiane comp. q. s. ad.....	℥vi	192

M. Sig.: Two teaspoonfuls every three hours in water.

Treatment of Pertussis.

J. E. Godson, in *Birmingham Med. Rev.*, states that he has derived marked benefit by the use of creosote vapor as an inhalation. He uses it with steam by means of a kettle or steam-spray producer, by the use of a dry or moist inhaler, sometimes by sprinkling the creosote on a cloth hung up to dry in a room, or by vaporizing over a spirit lamp. He has found that the best results are obtained by the continuous inhalation. His method of treatment is as follows: Begin with the continuous inhalation of creosote by suspending cloths saturated with creosote solutions, both in the day and night rooms. The density can be regulated by varying the number of cloths. The

chest and upper part of the spine should be treated by counter-irritation. Good air, warm clothing and wholesome food are necessary.

Medicolegal.

Nature of Drug Used as Abortifacient if Immaterial.—

The Supreme Court of North Carolina holds, in the case of *State vs. Crews*, that there was no error in charging the jury that if they believed that the defendant advised and procured a certain-named woman to take turpentine with intent thereby to procure her miscarriage, it made no difference whether it would procure abortion or not, he would be guilty; that is it made no difference whether turpentine was a noxious drug or not if the defendant advised the woman to take turpentine with intent thereby to procure her miscarriage he would be guilty. At common law, it says, the noxious nature of the drug was essential, but under the North Carolina statute the essential ingredient in the offense is the intent with which the medicine, drug, or other thing whatsoever is used. The nature of the drug or article is material only as throwing light upon the intent. It is no defense even if the defendant could show that the drug would not in fact cause a miscarriage. The law deems no experiments in an effort to procure abortion innocent when the jury is convinced that the drug or other article was used with the criminal intent to procure such attempted abortion.

Sufficient Information Against Illegal Practitioner.—

The Supreme Court of Nebraska holds, in *Sofield vs. State*, that the information on which trial was had in this case was not defective in substance although it omitted to state the name or names of the persons upon whom the accused, who was charged with the crime of practicing medicine without a license or certificate so to do, practiced his profession. The court holds that the averment that he "did unlawfully practice medicine to divers and sundry persons, whose names are to the county attorney unknown," was sufficient. Of course, it says, the county attorney was not required to set out in the information the names of the persons the accused treated, when such persons were unknown to such officer, and he so pleaded in the information. The case, it explains, is distinguishable from one where the information omitted the names of the persons treated, and failed to allege that their names were unknown to the county attorney. Furthermore, it holds that an information need not negative the exceptions of a statute which are not descriptive of the offense, and that, therefore, the information in question was not defective in failing to contain any negative averment relative to the exceptions contained in section 17 of chapter 55 of the Compiled Statutes of Nebraska bearing on this offense.

Physician's Certificate No Shield to Abuse of Writ.—

A certificate of the attending physician of a child of 12 years of age, who had been sick with the measles, that she had so far recovered that removal from the premises would not injure her health, the Supreme Court of Iowa holds, in the case of *Bradshaw vs. Frazier*, was not a legal shield in an action for damages for an alleged abuse of process in the execution of a writ of removal in proceedings against her stepfather causing her death, the evidence being conflicting as to when the certificate was issued in fact, and as to the examination made by the physician before issuing it. The court says that it was proper for the jury to consider it in determining the issues presented, but the court should not say as a matter of law that it was a complete defense. Nor does it consider that the contributory negligence on the part of the parents, and on the part of the relative with whom the child remained a few days after the ejection, if it existed, as contended, would be a defense in such a case. Without a statute on the subject, it says that there can be no doubt that the law will more carefully guard the health of a human being than it will personal property; otherwise, it would not deserve the respect of the meanest inhabitant of the state.

Bills for Services in Cases of Contagious Diseases.—

The Supreme Court of Michigan holds, in the case of *Browne vs. the*

Board of Supervisors of Livingston County, that, where a physician presented his bill to the board of supervisors as a bill for services rendered to indigent persons, and received an order and money thereon without protest for an allowed smaller sum than the amount of the bill, he could not afterward collect the balance claimed to be due him by presenting a bill for services rendered under section 4424 of the Compiled Laws of Michigan in caring for contagious diseases, and crediting thereon the amount received, although the services rendered were really of the latter character. In the same opinion, but in what may be called the case of O'Neil vs. the same defendant, it further holds that the duty of examining into each case to which he is called is imposed upon the health officer as one of the general duties of his office by section 4460 of the Compiled Laws of Michigan, and that for determining in such cases whether the patients are affected with a disease dangerous to the public health his compensation is fixed by section 4462, at not less than \$2 a day, to be paid by the township, city, or village of which he is health officer. Section 4424, concerning contagious diseases, does not provide that the costs of these services may be recovered from the supervisors. That section covers expenses that are incurred after such determination. The question of whether the patient is afflicted with a disease dangerous to the public health must be first determined. The expense of determining this is not an expense incurred in taking care of the diseased person. If it is determined that the disease is dangerous, then the provisions of section 4424 apply to the case. For the former services, the examining into the case, the township, city or village must pay; for the latter, or caring for a person afflicted with a disease dangerous to the public health, the county must pay.

Right to Examine Body Does Not Extend to Dissection.

—Certain policies of insurance against loss through external, violent, and accidental means provided that any medical adviser of the company should be allowed, as often as he required, to examine the person or body of the assured in respect to the alleged injury or cause of death. The question was raised whether this gave the company the right to have the body exhumed and have an autopsy of it after it had been buried, or, in other words, to dissect it. The United States Circuit Court, in Kentucky, holds, *Sudduth vs. Travelers' Insurance Company*, that it did not. It does not think that the ordinary and natural meaning of the words referred to, when fairly construed, would have such a meaning. To put it a little differently, it does not think that any ordinary person, in agreeing to the stipulation for an examination of the insured before or after death, would suppose he was agreeing to what would have been much more clearly expressed by the word "autopsy" or by the word "dissect." That is to say, it does not think that one would ordinarily suppose that the word "examine," as applied to the human body, either living or dead, would, by the force of the term, include, or by an insured, at least, would be supposed to include, the idea of cutting it up. The word "examine" may not definitely express the same idea to every person who sees or who uses it, but the court says that it is quite clear to it that it does not, in the clause of the contract under consideration in this case, include the idea either of an "autopsy" or of a "dissection," if there is any essential difference between those two words in this connection. While an autopsy, generally speaking, always includes an examination, the court does not think that an examination always includes an autopsy, or that it can be fairly held that the simple word "examine," as used in the policies sued on, would be accurately defined in the same words as those used to define either "autopsy" or "dissection," when endeavoring to arrive at the mutual agreement of the parties at the time they were contracting, particularly when construing policies for insurance against death from external causes only, and which ordinarily would only involve or require external inspection. It may be that the right to dissect a body, even after burial, is or would be an important right to the company; but that, the court adds, would make it all the more necessary for it to express it in language in no way ambiguous or doubtful, or which, in order to effect the company's purpose, would have to be extended beyond its ordinary import.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

American Medicine, May 25.

- 1 *Apoplexy and Hemiplegia. Harold N. Moyer.
- 2 *A Case of Intermittent Claudication. David Reisman.
- 3 Disease and Deformity of the Knee; Etiology, Diagnosis and Treatment. Daniel W. Marston.
- 4 *Chronic Heart Disease in Children relieved by Systematic Movements. John Madison Taylor.
- 5 Peripheral Venous Thrombosis in Cardiac Disease, with Report of a Case. J. A. MacGregor.
- 6 *A Hitherto Undescribed Reaction Following the Inoculation of Vaccine Virus. A Preliminary Report. Heinrich Stern.
- 7 Pregnancy Complicated by Fibroid Tumors. Cesarean Hysterectomy at Eighth Month. Mary Almira Smith.
- 8 *On the Use of Alcohol in the Treatment of Carbolic Acid Burns and Poisoning. F. Pirkner.

The New York Medical Journal, May 25.

- 9 Hyperacidity (Superacidity, Hyperchlorhydria, Superaciditas Chlorhydrica); a Clinical Study. H. Illoway.
- 10 *Nasal Condition Observed in the Aged. Beaman Douglass.
- 11 What Route Shall we Adopt in Examining the Eye Muscles? Alexander Duane.
- 12 *Ossiculectomy for Chronic Suppurative Otitis Media. J. A. Stucky.
- 13 The Importance of Early Recognition of Abdominal Infections. W. D. Hamilton.
- 14 Antistreptococcus Serum in Two Cases of Puerperal Septic Infection. A. J. Primrose.

Boston Medical and Surgical Journal, May 25.

- 15 *Municipal Care of the Consumptive Poor. S. A. Knopf.
- 16 Echinococcus of Liver and Perforation into the Lungs and Bronchi. William F. Gay.

Medical News, May 25.

- 17 *Some Notes on Medical Diagnosis. Wm. N. Berkeley.
- 18 *The Mineral Waters of Mt. Clemens, Mich., as Viewed and Compared with Those of European Watering Places. Richard Leuschner.
- 19 The Treatment of Chronic Purulent Otitis Media. James F. McKernon.
- 20 *Tuberculosis of the Iris. William F. Mittendorf.

Medical Record, May 25.

- 21 *Orchitis and Epididymitis in Typhoid Fever. Francis P. Kinnicutt.
- 22 *The Operative Treatment of Umbilical Hernia in Adults. Jos. A. Blake.
- 23 *The Borderland of Insanity: Where and What is It? Henry Waldo Coe.
- 24 Recurrent Oculomotor Paralysis: Report of a Case with Remarks. Wm. M. Leszynsky.

Philadelphia Medical Journal, May 25.

- 25 *The Surgical Treatment of Chronic Ulcer of the Stomach. A. W. Mayo Robson.
- 26 *Late Results of the Treatment of Inexorable Sarcoma with the Mixed Toxins of Erysipelas and Bacillus Prodigiosus. Wm. B. Coley.
- 27 *Trauma as an Exciting Cause of Paralysis Agitans. F. Savary Pearce.
- 28 Two Cases of Lobar Pneumonia Following Ether Anesthesia with Unusual Course. W. S. Schley.

St. Louis Medical Review, May 25.

- 29 The Operative Management of Retro-Peritoneal Abscess of Appendicular Origin. Gilbert Geoffery Cottam.
- 30 *Dr. Gaylord's Cancer Parasite—A Criticism. C. Fisch.
- 31 Antitoxin in Diphtheria. Robt. F. Amyx.

Cincinnati Lancet-Clinic, May 25.

- 32 *Gonorrhea in Women. Can its Frequency be Lessened? J. Ambrose Johnston.
- 33 *What is the Significance of Cervical Lacerations: Some Points Connected with Their Treatment. Chauncey D. Palmer.
- 34 A Case of Locomotor Ataxia. Mark A. Brown.

University of Pennsylvania Medical Bulletin (Phila.), May.

- 35 *A Trimanual Method of Percussion for the Detection of Cystic or Loculated Fluids in the Abdomen. John G. Clark.
- 36 *Recent Statistics on the Primary and Ultimate Results of Hysterectomy for Cancer of the Uterus. John G. Clark.
- 37 Diagnostic Curettage of the Uterus. Brooks M. Anspach.
- 38 A Unique Case of Sarcoma of the Uterus, Associated with Fibroma of the Inguinal Canal. John G. Clark.
- 39 Unique Pathological Changes in Two Cases of Uterus Bicornis Unicollis. 1. Unilateral Pyometra and Pyosalpinx. 2. Myoma. John G. Clark.

- 40 *A Practical Application in Abdominal Surgery of Scientific Investigations on the Function, Anatomy and Pathology of the Peritoneum. John G. Clark.

New York University Bulletin of the Medical Sciences, January.

- 41 *Gelatin as a Food-stuff. Graham Lusk.
42 *On a Method of Balancing the Acids and Bases of the Urine for the Recognition of the Pathologic Excretion of Organic Acids and the Approximate Determination of Their Amount. C. A. Herter and A. J. Wakeman.
43 The Alloxurie Bodies; Their Origin and Estimation. John A. Mandel.
44 *A Few Experiments Upon the Effect of Low Temperatures and Freezing for Various Periods of Time on Typhoid Bacilli and Other Varieties of Bacteria. Wm. Hallock Park.
45 The Development of the Conception of Disease. Horst Oertel.
46 A Brief Report of Two Interesting Cases of Bacterial Infection of the Urinary Tract. Wm. H. Park and Robert J. Wilson.

American Journal of Obstetrics (N. Y.), May.

- 47 A Visit to the Wards of the Promaternity Hospital: A Vision of the Twentieth Century. J. W. Ballantyne.
48 *Infant Feeding. Henry Dwight Chapin.
49 *Results of Treatment of Cancer of the Cervix, and the Unreliability of Statistics on the Same. J. M. Baldy.
50 *A Flap Operation for Atresia of the Vagina. George H. Noble.
51 Muscle-cell Sarcomata of the Uterus. William H. Weir.
52 Report of Two Additional Cases of Rupture of the Symphysis Pubis During Labor. Joseph B. De Lee.
53 Points of Similarity and Dissimilarity of Cronpous Pneumonia and Pulmonary Tuberculosis in Young Children. Samuel S. Adams.
54 Cycle Vomiting. George N. Acker.
55 Ovariectomy in the Eightieth Year. Wilmer Krnsen.
56 Varicocele of the Broad Ligament. John B. Shober.
57 A Case of Infective Fever Resulting in Premature Labor, Peritonitis, and Death. John H. Girvin.
58 *Some Recent Operative Work for the Relief of Prolapse of the Uterus and Bladder. I. S. Stone.
59 Dermoid and Other Cysts of the Ovary. Samuel W. Bandler.

The Providence Medical Journal, April.

- 60 Diagnosis Between Appendicitis and Typhoid Fever. Maurice H. Richardson.
61 The Relation of Mental Content to Nervous Activity. E. B. Delabarre.
62 The Disagreement between the Physician and the Pharmacist. John E. Groff.
63 The Dangers of Some Common Eye Diseases if Not Properly and Promptly Treated. V. L. Rala.
64 Nitrous Oxid Anesthesia in General Surgery. Albert H. Miller.
65 Appendicitis at the Rhode Island Hospital 1891 to 1900. Donald Churchill.

Canadian Practitioner and Review (Toronto), May.

- 66 *A Case of Primary Abdominal Pregnancy. J. E. Pickard.
67 History of a Case of Smallpox. J. Godfrey.
68 Diphtheria vs. Acute Follicular Tonsillitis. John Ginn.

The Post-Graduate, May.

- 69 The Operation of Litholapaxy. James Pederseu.
70 Typhoid Fever in Children. Henry Dwight Chapin.
71 Artificial Respiration. Thomas E. Satterthwaite.
72 Report of Clinic—Hernia, etc. Dr. DeGarmo.

Buffalo Medical Journal, May.

- 73 *Experiences with the Recent Epidemic of Rabies in Buffalo, N. Y. Ernest Wende.
74 *Rabies. Mazyek P. Ravenel.
75 Notes upon the Rabies Epidemic in Rochester, with a Report of a Verified Death from Hydrophobia. George W. Goler.
76 Toxemia of Pregnancy. Montgomery A. Crockett.
77 A Brief Résumé of the Grosser Animal Nature and its Application in Medicine. (Concluded.) G. N. Jack.

Western Medical Review, May 6.

- 78 Endothelioma (Adenoma) of the Base of the Tongue Simulating a Stoma of the Tongue. J. E. Summers, Jr.
79 Analgesia from Spinal Subarachnoidal Cocainization. John B. Murphy.
80 Psoriasis. E. J. Angle.
81 *Facial Paralysis. J. M. Alken.
82 The Need of More Thorough Physical Examination of the Abdomen. Wilson O. Bridges.
83 Compensation and Failure of Compensation in Heart Disease. Millard Langfeld.
84 Cretinoid Myxedema, or Arrested Development Causing Degeneracy Treated by Desiccated Thyroid. M. H. Evans.
85 Two Cases of Appendicitis of Unusual Course. Herman E. Pearse.

Richmond Journal of Practice, April.

- 86 Pathology of Diseases of the Liver. M. D. Hoge, Jr.
Annals of Gynecology and Pediatrics (Boston), May.
87 Malignant Disease of the Breast. J. Collins Warren.
88 *Pregnancy and Tuberculosis. M. Samuel Bernheim.
89 Chronic Laryngitis in Children. J. L. Goodale.

- 90 *Nausea and Vomiting During Pregnancy. J. Richard Taylor.
91 Empyema. Frederick G. Smith.
92 Emergency Hospital at the Pan-American. Herbert Shearer.
93 The Nature and Treatment of "Weak Back" in Women. Charles W. McIntire.

The American Practitioner and News, April 1.

- 94 The Progress of Surgery in the Nineteenth Century. Wm. O. Roberts.
95 The Causes of Death after Abdominal Operations. Louis Frank.

St. Louis Courier of Medicine, May.

- 96 The Mesogastrium—Omentum Majus. (Concluded.) Byron Robinson.
97 *Our Daily Bread. George Homau.

Annals of Otology, Rhinology and Laryngology (St. Louis), February,

- 98 *Myxoma of Larynx. Joseph S. Gibb.
99 A Case of Primary Tuberculosis of the Nasal Septum. William L. Balienger.
100 *The Treatment of Laryngeal Tuberculosis at the Montefiore Home for Chronic Invalids (N. Y.). W. Freudenthal.
101 *Laryngeal Tuberculosis. J. Homer Conlter.
102 Acute Edema of the Larynx: Report of a Case. Frank C. Todd.
103 *On the Use of Camphorol, Menthoxol in Diseases of the Ear. F. C. Hotz.
104 An Exceptionally Large Myxofibroma (Occupying the Naso- and Oro-Pharynx and Having its Origin in the Posterior Third of the Middle Meatus). Redmond Payne.
105 A Case of Sternutation. Dr. Mosse.
106 Opacities of the Vitreous and Retinal Detachment Following Ethmoido-frontal Sinusitis. Dr. Broecker.

American Gynecological and Obstetrical Journal (N. Y.), May.

- 107 Chronic Appendicitis. Willis E. Ford.
108 *Vesico-vaginal Fistulae. M. C. McGannon.
109 *Uretero-vesical Implantation—Three Cases. J. F. Baldwin.
110 *The Streptococcus in Gynecology. Guy L. Huener.
111 Spinal Anesthesia in Cases Strongly Contraindicating General Anesthesia—A Report of Five Cases. Andrew J. Downes.

Cleveland Journal of Medicine, May.

- 112 Empyema of the Gall-bladder. Dudley P. Allen.
113 *The Physical Characteristics of the Pneumonia of Influenza. George W. Moorehouse.
114 A Case of Embolism of one of the Right Lenticulo-Optic Arteries Complicating Pneumonia, with Autopsy. Charles J. Aldrich.
115 Lead Poisoning. Hubert L. Spence.
116 A Case of Cardiopulmonary Murmur Illustrating the Importance of Differentiation. P. Maxwell Foshay.

Occidental Medical Times (San Francisco), May.

- 117 Diagnosis of Renal Calculus. F. B. Carpenter.
118 *The Medical Treatment of Renal Calculus. Wm. Watt Kerr.
119 *Remarks on the Surgical Treatment of Renal Calculus. Emmet Rixford.
120 Surgical Treatment of Rachitic Deformities. S. J. Hunkin.
121 A New and Convenient Arrangement of Bi-focal Lenses. George H. Powers.

Memphis Medical Monthly, May.

- 122 Gall-Stones; A Report of Seven Cases. Frank D. Smythe.
123 Some Notes on Antitoxin—Diphtheria and Streptococcus. C. M. Sebastian.
124 Report of Cases from the Eye and Ear Service of the City Hospital (Panophthalmitis, etc.), January and February, 1901. E. C. Ellett.
125 Acute Catarrhal Enteritis. D. M. Hall.
126 Bronchitis. B. T. Bennett.
127 Report of Three Cases of Acute Infantile Spinal Paralysis (or Poliomyelitis). J. G. Pou.
128 Treatment of Diseases with Static Electricity. W. T. Watson.
Journal of Cutaneous and Genito-Urinary Diseases (N.Y.), May.
129 Annular Lichen Planus: the Report of a Case of the "Ring-formed Papule," with its Histopathology. Martin F. Engman.
130 *Mercury in the Treatment of Lichen Planus—Report of Seventeen Cases—Disease Regarded as a Syphilide. Thruston G. Lusk.
131 *Condylomata Acuminata Linguae (Venereal Warts of the Tongue). M. L. Heidingsfeld.
132 Diverticulum of the Bladder, Accompanied by Persistent Bacteriuria. George Knowles Swinburne.
133 An Apparent Case of Varicella in Utero. Joseph Grindon.

The Medical Herald, May.

- 134 A Case of Ectopic Pregnancy. Enos Mitchell.
135 Faculty Address at Commencement of Eusworth Hospital Medical College, at Tootle's Opera House, March 18, 1901. P. I. Leonard.

- 136 *Clean Surgery versus Mutilating and Unscientific Obstetric Procedures as Practiced Upon the Viable Unborn Infant. J. E. Summers, Jr.

Medical Dial, May 1.

- 137 Report of Cases. (Syndactylism, etc.) Charles W. Willams
138 *The Hospitals of Japan. Edward C. Register.
139 Some Practical Points in the Surgical Treatment of Dysmenorrhea. Southgate Leigh.

Southern Medical Journal, April.

- 140 Chronic Ulcers: A Clinical Report. J. W. P. Smithwick.
141 Opium Poisoning Treated with Permanganate of Potassium. Eustorjoi Calderon.
142 The Medical Treatment During the Adolescent Period. Edwin Rosenthal.

Georgia Journal of Medicine and Surgery, May.

- 143 Internal Derangement of the Knee-Joint, with a Report of Two Cases of Removal of the Internal Meniscus or Semilunar Cartilage. George Ryerson Fowler.
144 Medical Supervision of Schools and School Children. Edgar J. Spretling.
145 Report of an Unusual Surgical Case (Complicated Fracture of Leg). Hugh Burford.
146 Ophthalmia Neonatorum from the Standpoint of the General Practitioner. M. L. Currie.
147 Hypertrophic Elongation of the Cervix Uteri, with Complete Eversion of the Vagina from Fibroid Tumor of the Cervix. Restoration by Supravaginal Amputation of the Cervix and Inversion of the Vagina. George Henry Noble.
148 Prognosis in Chronic Non-Exudative Nephritis. Norman C. Varian.

AMERICAN.

1. **Apoplexy.**—The definition of apoplexy is discussed and the common use of the term criticised by Moyer. The importance of distinguishing cerebral hemorrhage from thrombosis and embolism from a practical point of view is emphasized and their diagnosis pointed out. It is impossible in many cases to distinguish between the conditions. When in doubt, treat the case carefully, avoiding those measures which may do more harm than good, and he strongly condemns the use of strychnin and ergot. The diagnosis, he points out, will depend largely on the previous history, the suddenness of the attack, the co-existing conditions, etc.

2. **Intermittent Claudication.**—This disorder, first mentioned by Charcot, consists of an intermittent inability to walk, due pathologically to a deficiency in circulation, largely connected with obliterative endarteritis of the peripheral arteries. Its etiology coincides largely with that of arterial sclerosis, which is the principal anatomic condition found in the disease, but as arterial sclerosis is common and intermittent claudication rare, other factors must take their part, and these are presumably vasomotor disturbances, which may in turn be connected with endarteritic changes in the vasa nervorum. The majority of patients with this intermittent claudication are Hebrews, and excessive users of tobacco. After reporting a case, Reisman suggests as treatment a diet largely vegetable; exclusion of alcohol, tea, coffee, etc.; the use of alkaline mineral waters, moderate exercise, avoidance of fatigue, protection from cold and dampness, galvanism, and for drugs iodids and nitroglycerin and cardiac stimulants of the strophanthus order. His case was benefited by the use of bromids and nitroglycerin.

4. **Chronic Heart Disease in Children.**—Taylor gives the details of his experience in the treatment of chronic heart disease in children, especially noting the fact that in many cases apparently hopeless conditions may be no detriment to a long life, and that much may be done to restore cardiac activity, as is shown by the results of training. Physicians are often ignorant on these points, and often give worse advice than practical trainers. What is true of boys is still more true of girls, who have a complex circulatory apparatus made for special strain during periods of gestation. The advantages of the exercises are the prevention of congestive developments in the liver, kidneys and lungs, keeping up the functions of the skin and of the nervous system and generally assisting in healthy metabolism. While he believes in rest in bed in marked cardiac disorders, he believes that when the condition improves there comes a time when some activity may be com-

menced under guidance and rule, preventing irregular and damaging results. No harm can come from employing certain systematic procedures, passive movements by the operator twice a day when absolute rest is still required, and as the condition improves the use of gentle massage of the limbs, and later of the trunk, twice or thrice a day. Still later forced breathing to exercise the diaphragm and lungs, teaching the child to lift the shoulders and make them flexible by placing the clasped hands on top of the head and making repeated efforts at raising and lowering the scapular muscles. While still lying on the back, active extensions of the limbs in different directions may be made, and as the condition improves the operator may meet these extensions with a certain amount of increasing resistance, watching the effect, however, on the pulse and circulation. Later the child may be allowed to sit up and the exercise carried still further. Neck exercises are of great advantage, moving the head, and the muscles of the upper thigh and hips should receive special attention in cases of weak heart and lungs. Later more complex movements suitable for more vigorous children may be employed.

6. **New Vaccine Reaction.**—A new reaction recently noticed by Stern consists in the improvement following vaccination in lithemic and rheumatic disorders. He found this out at first accidentally and then looked up a number of other cases where the same results occurred. Later he vaccinated, with their consent, two more sufferers from lithemia, the vaccination not being necessary as a protection from smallpox, and in both with benefit. All the cases had one symptom in common, pain, though they were, clinically speaking, cases of uricacidemia, rheumatism and neuralgia, and he thinks there is enough evidence that the vaccin virus had a positive influence. He suggests as an explanation that the reaction is a secondary one. The system in its endeavor to rid itself of the virus develops increased oxidizing qualities. He admits the possibility that the symptoms may be due to bacterial activity, and the reaction also to the influence of cytorhyctes variolæ, the variola-vaccina-sporozoa. He does not offer these facts as showing that vaccination is a specific for pain, for it is not, but simply to call attention to its possible occasional influence.

8. **Carbolic Acid.**—Pirkner reports a case of a child who swallowed a tablespoonful of pure carbolic acid. He was called in about half an hour after the dose was taken, and administered absolute alcohol, which apparently relieved the child, but was too late to cure it entirely. He thinks, however, that this case alone is sufficient evidence of the antidotal effect of alcohol on the amount of carbolic acid that remained in the child's stomach when it was given. He suggests that there may be a possible danger in the use of alcohol when a certain amount of carbolic acid has been absorbed, and he would advise under similar conditions not to repeat the dose of alcohol if it can not exert its specific effect because of the large amount of chemically unchanged carbolic acid in the circulation.

10. **Nasal Conditions in the Aged.**—Douglas has examined with special care all cases above 45 years of age which came under his observation in his clinics, and finds a surprising number of cases with nasal pathological conditions, which are not shown by any subjective symptoms. Five cases are reported. He theorizes on this phenomenon and suggests a possible explanation. It would appear, he thinks, as if nasal symptoms were not so much caused by these pathological conditions as by associated ones of disturbed circulation and nerve irritation. This draws our attention to the fact that chronic congestive interference with circulation, lymphatic obstruction and neurotic temperament are very important factors in nasal cases, and the symptoms may not disappear with the mere mechanical removal of the lesions.

12. **Ossiculectomy.**—The anatomical construction of the middle ear favors pathological conditions, and the question arises whether, in view of the great importance of these conditions, radical conservative treatment is most advisable. Stucky has removed necrosed ossicles in twenty-nine cases with results justifying the operation. In only two of these was the

stapes removed. The treatment outlined is as follows: After removing the ossicles and all or part of the tympanic membrane and having the cavity thoroughly curetted, the anterior attic wall is removed, and we have free drainage and can make remedial applications which could not otherwise be done. He thinks this is the most conservative and satisfactory procedure and better than the radical surgical treatment, at least as a first resort.

15. The Consumptive Poor.—Knopf reviews the statistics of the mortality of tuberculosis, and calls attention to the fact that consumption is not a hopeless disease, though in the unhealthy conditions of the city tenements, its prognosis is bad. The condition, also, of the poor in cities is especially unfavorable to recovery. He points out the economy of early care in these cases, and insists on the educational advantages of sanatoriums in a hygienic way. He thinks there is little danger of such institutions diminishing the value of real estate, and gives an instance where the opposite result occurred.

17. Medical Diagnosis.—Berkeley reviews the various points in regard to diagnosis, the importance of the instruments of precision, and of the use of the microscope; the avoidance of brilliant snap diagnoses, which he thinks are risky; the necessity of close, rigid examination, which he goes over in detail, and finally the need of logical judgment from the facts obtained. The details of the article are numerous and the reader is referred to the original.

18. Mt. Clemens Springs.—The medicinal waters of Europe are noticed, many of them in more or less detail, and compared with those of Mt. Clemens. Leuschner claims that the latter have the combined properties of the waters of Aix-la-Chapelle, Wildbad, Kreuznach, Oeynhausien and Nauheim. He maintains that with the scientific management of the waters of Mt. Clemens, many if not all the benefits obtained in these other localities would be readily obtained. He shows how absorption takes place through the skin and into the general circulation, and the concentration of the Mt. Clemens salines is a distinct advantage. The value and efficacy of the Mt. Clemens sulpho-iodo-bromo-salines have been amply established in rheumatic, gouty and syphilitic conditions, and skin diseases, nervous disorders, alimentary catarrhal affections, diabetes, etc.

20. Tuberculosis of the Iris.—The different forms of iris tuberculosis are described by Mittendorf, who finds it sometimes a primary and sometimes a secondary affection, which may be divided into two classes, the solitary and multiple forms, and the latter may be divided again into chronic and acute. As a rule, it is a disease of youth or middle life, and one eye is usually alone affected. In the first class described there is generally tuberculosis in the general system, not necessarily, however, of the lungs, and it is characterized by one or more grayish nodules developing in the iris, early appearance of ciliary injection and intense pain in the eye and forehead, and synechiæ. The disease rapidly advances and the vision becomes impaired, the humors become turbid, the whole eyeball may become filled with tubercular matter and enucleation is likely to be required. Another form occurs in the early stages of pulmonary tuberculosis, and runs a much slower course. It may last several months, and be entirely relieved with the general improvement of the patient. The third form is more serious, and usually leads to great impairment of the vision and loss of the eyeball. There is a single tubercular deposit at the bottom of the anterior chamber, involving the ciliary body, which is very painful, and as the tumor develops it presses on the cornea, which soon breaks down. Even this disease, however, may yield to treatment, and partial recovery from the disease be obtained. As regards treatment, he thinks hot water applications better than cold. Morphin may be required. Iridectomy may be suggested, but he does not think it promising as an operative measure, and if the disease appears resistant after the usual internal and local measures, very often a complete removal of the affected eye is advised. While this may not prevent the infection of the other organs, it removes the principal cause of the danger and relieves pain. A strong solution of atropin is ad-

visable, and it counteracts to some extent the effects of the morphin given to relieve the suffering. Three cases are reported.

21.—See abstract in *THE JOURNAL* of May 18, p. 1415.

22. Umbilical Hernia.—After reviewing the various operations and the conditions which require them, the author remarks that slitting the sheath of the recti and union in several layers is the best for small hernia. Of the various methods of doing this, he thinks lapping the abdominal wall is the method particularly applicable in cases where there is stretching of the linea alba with separation of the recti. It consists of the division of the linea alba above and below the sac in the median line for the necessary distance, with or without incision of the ring and a portion of the linea alba. The entire wall on one side is then lapped in front of the other and there sutured, so that the ventral surface of one side is in contact with the dorsal surface of the other. This method has been tried by him in three cases since last September, and he credits the earliest record of this operation to Sapiejko, in December, 1898. Some of the more apparent advantages of the operation are: 1, the doubling of the abdominal wall at the hernial site; 2, the breaking of the lines of suture; 3, the broad surfaces for union; 4, the obliteration of the separation of the recti, and the reduction in the size of the abdomen. Its field is really not limited to herniæ proper, but also includes the treatment of pendulous abdomens, and of enteroposis due to laxity of the abdominal wall.

23. Borderland of Insanity.—Coe's article is a general review of the early manifestations of mental derangement, when the condition has hardly developed into acute alienation. Under this head he classes insomnia, eccentricity, lack of control of emotions and passions, imperative conceptions when they go beyond the safe degree, obsessions, and sexual aberrations and excesses to which he gives considerable space.

25.—See abstract in *THE JOURNAL*, May 25, p. 1491.

26.—See extract in *THE JOURNAL*, May 25, p. 1490.

27. Paralysis Agitans.—The effect of commotio cerebri as a cause of definite organic changes in the neuron has been brought to Pearce's attention in a case of Friedreich's disease, and he has noticed also conditions of tremor in cases not otherwise hysterical recovering after rest and nutritional measures. He has been led to suspect, therefore, that disorganization of the glia and neurons arise from undue commotion in the nerve centers. He brings up paralysis agitans particularly as a disease of indefinite pathology, though interstitial plaques of sclerosis and hardening of the blood vessels are known to occur, and he says he has no doubt that not a few cases of this disease date their onset of actual tremor from the time of a fall or other concussion. He would say that the older the case, the more likely is trauma to be its cause, and even senile tremor may date from an injury. Thus excitation of the afferent axons may cause an increase of irritation of motor neurons, the reflex message being carried back accentuated, producing tremor of the muscles, and therefore of the extremity involved. Two cases are reported, which seem to him to illustrate his views, and he says: The conclusions which seem to be the more definite as regards trauma as an exciting cause of paralysis agitans, are that the later the origin of the disease, is trauma more apt to have been the exciting cause; in any event, it is more apt to produce an aberrant type of the malady, especially when the insult to the nervous system has been primarily in the periphery of the body rather than of the central neurons.

29.—See abstract in *THE JOURNAL*, Jan. 12, p. 128.

30. Gaylord's Cancer Parasite.—Fisch criticizes Gaylord's paper and work, declaring his methods faulty and his results inconclusive and unsatisfactory. He says he would advise him to search for the same body in young granulated tissue, and if he then uses the old safranin-gentian method or Fleming material, or one of the more recent methods of Benda, he thinks he will not hear again of the parasite.

32. Gonorrhea in Women.—Johnston reviews the facts showing the dangers of this disease, and calls attention to the

importance of educational methods in combating its extension.

33. Cervical Lacerations.—The dangers of lacerations of the cervix from hemorrhage, sepsis, etc., during or shortly after parturition, the delayed involution which is induced in these cases, the dangers of cicatricial tissue becoming malignant, are considered by Palmer. He advises a primary tracheloplastic operation, which he thinks is one of the most satisfactory operations in surgery. He suggests that it is possible that more deliberation in labor cases, and the avoidance of unnecessary interference with instruments, etc., may be effective in diminishing the frequency of these injuries. The importance of their early recognition at the time of their occurrence, and their correction at this time are dwelt upon, and he also calls attention to the frequency of imperfect results, like, for example, the want of restoration of normal symmetry in the operation, the production of artificial stenosis, and the leaving of unhealthy cicatricial tissue.

35. Trimanual Abdominal Percussion.—For the detection of blood in obscure cases, Clark has employed for two years past the trimanual method, which he here illustrates. On bimanual examination of the pelvic mass of questionable consistence, the intestines intervening between the anterior abdominal wall and tumor may dissipate the percussion impulse of the abdominal hand, and although fluid may be present, a wave of sufficient intensity to be felt by the vaginal touch is not induced. To overcome this difficulty the tumor mass should be confined as closely as possible between the two examining hands, while the percussion is made by an assistant. With light taps even small collections of fluids may be detected by the quick, responsive, pulsatile wave passing from the abdominal to the pelvic mass. He has systematically employed it in the differential diagnosis of abdominal tumors. He finds this method of singular value, and has looked in various text-books to see if it has been hitherto described, but finds no mention of it.

36. Uterine Cancer.—The statistics from various series of the results of hysterectomies for cancer of the uterus are studied by Clark, and he concludes that any operation, no matter how grave it is, which offers the highest percentage of cures is advisable. He does not think glandular metastases as frequent as he formerly considered them, and while he believes that the glands should be removed, he thinks the condition of the patient should be considered beforehand. His rule, therefore, is to complete the chief part of the operation, viz., hysterectomy, and then, if the patient's conditions justifies, the iliac glands may be dissected out. Even then he thinks the removal of prognostic rather than of curative value, for if they are involved he does not think the patient will escape a recurrence of the cancer, but if they are free a favorable opinion can be given. Suspicious cases of hemorrhage about the menopause should not be allowed to go longer than one month at the most without a thorough examination. If an early diagnosis is made and operation performed, we have a greater percentage of cures. It is only by careful microscopic examination of curettings that a definite decision can be made.

40. Abdominal Surgery.—The researches of various authors on the anatomy, physiology and pathology of the peritoneum are first noticed by Clark, who gives a rather full abstract of the comparatively recent article by Wallgren in regard to streptococcal infection of the peritoneum, and sums up the following as the most important practical points contained: 1. Great decrease in the number of micro-organisms within an hour, both through their intraperitoneal destruction and through their rapid absorption into the general system where they are dealt with. There is, therefore, no possibility of limiting septic matter through gauze or glass drainage to any free surgical field within the abdomen. 2. Vigorous streptococci which remain behind develop within six hours a repellent or destructive quality for leukocytes, and the lethal fight is therefore inaugurated and well underway before drainage, as ordinarily employed, can possibly exercise any beneficial action. In many cases, therefore, where drainage is employed the patient recovers in spite of, and not because of it. Based upon practical experience in a large series of abdominal sec-

tions, and sustained by his own and the above detailed scientific investigations, he believes, therefore, that the thorough irrigation with normal solution of the peritoneal cavity after abdominal operations for the purpose of removing all possible debris of infectious matter, and then leaving behind large quantities of salt solution, is the most effective preventive measure we have against post-operative peritonitis.

41. Gelatin as a Food-Stuff.—Gelatin is recommended by Lusk as an accessory food-stuff in diseases where there is a high tissue waste, since it protects the body from too large a proportion of proteid waste. Small quantities are nearly as beneficial as larger ones. It can never be fully substituted for proteid food.

42. Acids and Bases of Urine.—The term balancing the acids and bases of the urine as used by Herter and Wakeman refers to determining the basic values of the chief known bases of the urine and comparing them with the corresponding basic values of the chief known acids of the urine, thus demonstrating the departure from the state of health as shown by failure of the known acids to balance the known bases, or the excessive bases, in case of acid intoxication. The method is described in detail with formulæ which can not be reproduced, and the reader is, therefore, referred to the original.

44. Low Temperatures and Bacteria.—Park has experimented with typhoid bacilli in ice at different periods, also in liquified air, and gives the results. The practical points appear to be that these and probably some other bacilli are capable of retaining their virulence and vitality for considerable time in a condition of extreme cold. The bacilli of typhoid patients thrown out with disinfection might easily be infectious until spring and typhoid bacilli after a thaw be carried in water for long distances. It is difficult to say just how long ice from infected water may remain dangerous, but the longer it remains frozen the less the danger. In spite of the rather rapid purification due to freezing, we should discourage the use of ice from infected water unless it remains frozen for at least five months. After mid-summer one could rule out ice infection from natural ice absolutely unless contaminated in shipping. Liquid air seems to diminish rapidly the living activities of typhoid, colon and hay bacilli and staphylococci, the last two, however, having greater resistance than the two first.

48. Infant Feeding.—Two questions to be answered are: 1. How can we get cow's milk which is clean? and 2. how can we modify it to have it resemble mother's milk? About 200 species of bacteria have been grown on milk and about 20 produce lactic fermentation. The accurate differentiation of all these bacteria is impossible, but they can be broadly divided into lactic acid forms and saprophytes. The pathogenic bacteria are introduced through water used in cleansing the vessels or through persons handling the milk. Lactic-acid bacteria come from the teat, and the first few streams of milk contain the largest number: it is best to throw these away. The putrefactive bacteria come from the manure on the udder or teats of the cow, which should be kept as clean and disinfected as they can be. Chapin remarks that there is a great amount of unnecessary fear about tuberculosis in milk. Tubercle bacilli, he says, do not grow well in milk, and while the disease may be attributed to it, the fear has been greatly exaggerated. When the milk has been collected with all the necessary precautions as to the washing of the cow and cleanliness of the milker and utensils, it should be rapidly cooled, as microbes do not grow readily in milk below 50 F. Last summer milk was collected in Illinois, New Jersey and New York, rapidly cooled, aerated and sent to Paris, and drank there during the Exposition as better than that produced near at hand. When we get a clean milk we are on the right way, but anything that masks the effect of the dirt in the milk is bad. The two principal chemicals are boric acid and formaldehyde. Pasteurization is not always a good practice, and the author never employs it excepting in very hot weather when he can not be sure of the milk. The approximate difference between human and cow's milk is stated and details given as to changes that are required. The milk should be put into the bottles in

the dairy, and not in the shop in town, and the less it is handled the better. If it is kept from 12 to 24 hours nine-tenths of the butter fat is on top, and this is an aid to dilution. He objects to the use of the siphon and believes in the use of the dipper. The different kinds of cows and the quality of their milk are discussed. The Guernseys and Jerseys give 5 per cent. butter fat, the average-grade 4 per cent. butter fat, and the Holsteins and common stock 3 per cent. It is better to get the average from twenty or thirty cows rather than the milk from one, and he is just as willing to use the 3 per cent. milk as the 5 per cent., as it is more uniform. The details of making up the proper dilution are given and tables to aid in the estimation. He thinks the less we manipulate the milk for the baby the better, and objects to centrifuging to get thick cream; the use of gravity cream and the dipper is better. There are two types of milk, the hard-curdling and the soft-curdling milk. Cow's milk is of the hard-curdling and woman's is of the soft-curdling type. This is the great difference to be borne in mind. Decoctions of cereals like barley water or wheat-flour gruel are effectual diluents, better than simple water. He generally orders his gruel to be made as follows: Two tablespoonfuls of wheat or barley flour, made into a paste with cold water and added to a quart of water, then boiled for fifteen minutes, and with a little salt we have ordinary gruel. Wheat is as good as barley, though barley may be better if the baby has diarrhea. For constipation use oatmeal gruel. He dextrinizes this gruel, preparing his own diastase by taking a tablespoonful of ordinary malt barley in a teacup with about two tablespoonfuls of water and put in the refrigerator over night. In the morning one tablespoonful of thin fluid that looks like tea is taken off, and contains active diastase. After putting it into the gruel, in a few moments you can see it become thin. It should be put in after it is cool enough to taste. When it stands it separates into the clear, which is soluble starch, and the part underneath cellulose. In this method we have a sufficient aid to digestion of cassein of cow's milk, which makes the hard curd soft and flocculent, and the nutritive value is improved by the digestion of starch. But diastase can be bought if desired, and he has used a preparation, *cereo*, a glycerite of diastase, one teaspoonful of which will digest a pint of gruel or a saucer of oatmeal in five minutes. This does away with the objection of those who say a baby was not meant to digest starch; neither was a baby intended to digest cow's milk.

49. Cancer of the Cervix.—Baldy says this disease is universally conceded in its inception to be a local one and the hope of a cure rests in an early removal of the disease. In spite of the extravagant claims of surgeons, especially the Germans, the results have not been so good. Kelly's work in the Johns Hopkins Hospital, as reported by Cullen on cancer, bears out this conclusion. It is claimed by these statistics that about 20 per cent. of patients out of a total of 73 are cured. This means, of course, 20 per cent. of those operated upon. In studying the tables, however, it appears that 68 patients of cancer of the cervix have been refused operation. In other words the cases have been picked cases. The percentage then drops at once to about 10 per cent. Including in this every case of possible false diagnosis and doubtful or borderline cases, and so on, the 10 per cent. falls away. He thinks, therefore that the statistics of the Johns Hopkins Hospital show a cure of 5 per cent. or less, accepting them at their best. This is in accordance with Baldy's own experience.

50.—This article was abstracted in *THE JOURNAL*, XXXV, p. 1426.

58. Prolapse of the Uterus and Bladder.—This condition is, according to Stone, often ignored as regards its treatment, which he thinks is a great mistake and due to the want of appreciation of existing pathologic conditions and the necessary utilization of changed structures in the tissue for their relief. Our first aim should be to prevent the descent of the uterus and bladder. The recto-vaginal fascia and that between the uterus and bladder, and bladder and vagina, is always permanently over-stretched in bladder prolapse. He compares this pelvic outlet with the inguinal ring and divides it into two planes,

corresponding to the external and internal abdominal ring. The upper contains the anterior surface of the broad ligament and the lower what is called the pelvic floor. The operation proposed by the author is described as follows: After the patient has been prepared for the operation and placed in the lithotomy position he incises along the median line at the crest of the cystocoele through the thickness of the vaginal wall. This incision, if about 2 inches in length, gives ample room, and can be enlarged if desired. The thickness of the wall can be easily estimated and can be divided with the scissors without fear of cutting into the bladder. The sides of the incision are caught with forceps and pulled apart, when the white cellular tissue shows, and the separation may be continued. With a gauze sponge we can rapidly separate the flaps from the bladder as far on each side as may be required. In prolapse of that portion of the vaginal wall under the urethra, a free hemorrhage can be avoided if we do not separate them too far laterally. There is a most satisfactory use of this method in loss of control of the neck of the bladder. The operation in such cases is merely removing the urethrocele, and results excellent as far as his experience extends. The incision extends the entire distance from the meatus to the cervix uteri when we operate for prolapse of the bladder. When the bladder is pushed away from the vaginal wall through a short incision first made, the opening may be extended at will with the scissors and the bladder pushed beyond danger of injury. With two pairs of forceps he holds the edge taut and can see how much tissue can be removed. In a case prolapsed sufficiently to allow the uterus to reach the floor of the pelvis or the cervix to nearly reach the uterus, we may expect excellent results after this operation without opening of the abdomen or resorting to utero-suspension or fixation. He gives diagrams showing the relative position before and after operation of the vagina and bladder, the latter being folded over on itself to a certain extent.

66. Primary Abdominal Pregnancy.—In the case reported, Pickard claims to have found the child fully developed, weighing 8½ pounds in the abdominal cavity with normal uterus, the ovaries and the Fallopian tubes normal and intact and no signs that the ovum had ever entered the Fallopian tubes or that the pregnancy had ever been tubal. He concludes that he had in the case reported a primary abdominal pregnancy.

73.—This article appeared in *THE JOURNAL* of April 6, p. 940.

74. Rabies.—Ravenel gives the history of rabies and also the discovery of the lesions in the ganglia by Van Gehuchten and Nelis, which he thinks is one of the most important facts in the history of the disease. He ends his paper with the following conclusions which he thinks are justified: 1. When present, the capsular and cellular changes in the intervertebral ganglia, taken in connection with the clinical manifestations, afford a rapid and trustworthy means of diagnosis of rabies. 2. That when these changes are not present it does not necessarily imply that rabies is not present. The lesions afford contributory evidence more or less valuable, depending on the duration of the clinical manifestations. 3. That in certain cases when the capsular changes are slight, such as in animals dying or killed in the early stages of the disease, the changes are more marked in the disto-peripheral end of the ganglion. 4. That the rabie tubercle of Babes is present sufficiently often to furnish valuable assistance in cases where only the central nervous system is obtainable without any of the ganglia, but in cases where the ganglia can be had they offer a simpler and easier method of diagnosis than do the brain or cord themselves.

81.—See abstract in *THE JOURNAL* of April 16, p. 982.

88. Pregnancy and Tuberculosis.—Bernheim finds that the influence of pregnancy is the more serious as it supervenes at the more advanced stage of the disease. In case of cured or improved tuberculosis the influence of pregnancy is the more serious as the tuberculosis is the less distant and the cure more recent. As regards advice as to marriage for tuberculosis patients, it is exceedingly difficult to establish a rule, as the disease is very capricious in its course and one is in doubt

even after the absence of all bacilli whether the cure is so thoroughly established as not to be annulled by some disease like la grippe or conditions of physical fatigue like pregnancy. It is proper to advise that pregnancy may awaken the old tuberculosis and that it may possibly reopen the whole past illness. In fact he would systematically prohibit maternity in all tuberculous patients, even those recovered.

90. Nausea and Vomiting During Pregnancy.—The chief causes of this complication, according to Taylor are: 1. Deficient excretion due to carelessness in regard to the condition of the bowels and kidneys. 2. Mechanical reasons, the pressure on the rectum by malpositions of the uterus, or tumors, with or without adhesions, causing reflex disturbance. 3. Nervous irritability. In all cases careful physical examination should be made to determine the pathologic facts, and the cause, whatever it may be, removed. In cases of nervous irritability the exciting cause should also be looked after and possibly malaria or other toxins. Rest in bed, avoidance of excitement, the use of potassium bromid, valerian fluid extract, dilute hydrocyanic acid or other nerve sedatives are mentioned. The pernicious vomiting of pregnancy described by some textbooks is simply the intensification of ordinary conditions, usually due to prolonged neglect or ignorance. There is danger in the suggested remedies of dilatation of the cervix or emptying the uterus, since there are many women whose statements are unreliable in this regard and whose neglect of treatment is the direct outcome of their desire to have a miscarriage at any price.

97. Our Daily Bread.—Homan reviews the methods of bread making and claims that there is no special difference as regards wholesomeness between alum and cream of tartar baking powders, and says that the prejudice against alum dates from the time when it was used to whiten flour. Much of the nutritive value of the flour is dissipated in the common everyday methods of baking bread, and the method of bread-making has not yet reached perfection. Serious dyspeptic difficulties may follow the use of yeast-made bread, as well as baking-powder bread.

98. Myxoma of Larynx.—After noticing the previous literature, Gibb reports his case and calls attention to the lack of characteristic symptoms and the need of careful examination. In this case the growth was only visible by the laryngoscope during forced attempts at phonation. He thinks it safer in laryngeal cases to withhold a positive diagnosis until a number of examinations have been made and on different days, and after exhausting all the resources at our command to obtain a quiet larynx.

101. Laryngeal Tuberculosis.—Coulter finds guaiacol one of the most reliable therapeutic agents, using a rather stronger solution than that recommended by Donnellan, rarely having trouble with a beginning of 20 per cent. solution and gradually increasing its strength so that at the end of ten days or two weeks we can use an 80 per cent. or full strength solution. Previous to the use of guaiacol he cleanses the mucous surface with a warm alkaline, sterilizing spray, not too vigorously applied and then applies the anesthetic of holocain and antipyrin, 1 per cent. of the former and 1.5 per cent. of the latter before using the guaiacol. He has found no remedy so frequently or generally satisfactory in its results. Where he can use the injection method this is specially valuable, as the speedy relief it gives to the dysphagia is most gratifying to the patient.

103. Camphoroxol and Menthol in Ear Diseases.—From a suggestion of Prof. Stetter, of Königsberg, Hotz was lead to use these oxols in ear troubles, swabbing the attic region in one case with the undiluted drug. While his experience is limited, he thinks he owes considerable to these remedies. Being non-irritating they can be used at the early stage of infectious otitis and may perhaps arrest the disease so as to prevent serious complications. While their main field for usefulness is in the tympanic cavity they may also be quite serviceable in the after-treatment of mastoid operations and in certain affections of the external meatus.

108.—This article was abstracted in THE JOURNAL, XXXV, p. 1424.

109. Uretero-Vesical Implantation.—Baldwin reports three cases in which he implanted the ureters into the bladder from which they had been severed after excision of malignant growths, by passing a forceps into the bladder through the urethra and selecting a point on the bladder wall which could be most easily approximated to the proximal end of the ureter. This point was opened, the forceps pushed through, and the end of the ureter caught and drawn into the bladder, to the opening in which it was then carefully united with fine catgut. When tension was too great to render implantation safe, the bladder wall was fastened with adhesion to other tissues to relieve the tension. He thinks that by artificial dislocation of the bladder in this way the range of attachment can be so increased as to take in all or nearly all cases in which injury to the ureters occurs during hysterectomy. It is a much simpler operation than uretero-ureteral anastomosis. In all three of these cases the result was good, without any leakage.

110. The Streptococcus in Gynecology.—After reporting cases, Hunner concludes that: "1. The gynecologist should make a probable diagnosis of streptococcus infection from the history alone. 2. The characteristic post-puerperal streptococcus lesion is the dense cellulitic mass usually situated in the subperitoneal tissues, and localized on one side or in one region. Palpation as an aid in diagnosis, is second in importance only to the history. Case 2 demonstrated that there are exceptions to this rule. 3. Having made a diagnosis of probable streptococcus infection, consider well the method of operating. As you have seen from this brief series, many cases can be reached without entering the peritoneal cavity. Where it is absolutely necessary to do celiotomy, use great care in guarding the general cavity, and if contamination of the pelvis occurs, leave a free supply of gauze, not so much for drainage as for the purpose of keeping the intestines away from the infected area, until there is formation of protective granulations."

113. Pneumonia of Influenza.—Moorehouse points out the following as the more important differentiations between influenza and other forms of pneumonia. The lobar pneumonia of influenza is most certainly atypical. The onset lacks the distinct rigor, the severe chest pain and dyspnea are not usual, and the general symptoms of influenza are present. The consolidation is less complete, the crepitant râles are less numerous and bronchitis is apt to be a complication. The pulse tends to be rapid, weak and irregular. The temperature is usually lower and shows remissions when they would not occur ordinarily in croupous pneumonia and the termination of fever is usually by lysis, though this is not invariable. In some cases the febrile movement may terminate quite rapidly after a shorter course than is common in true pneumonia, the consolidation persisting for some time after normal temperature. The sputum is rarely rusty, though it may be either blood-streaked or bright-red from the copious capillary hemorrhages. It is apt to resemble bronchitis sputum and especially likely to be purulent. The lobular pneumonia of this type is often more insidious than usual. Sometimes localized consolidation may be found in one place one day and in another the next. This, however, is more characteristic of congestion than consolidation. Not infrequently the consolidation becomes widely spread and closely resembles lobar pneumonia, and certain complications may occur. The serous cavities are specially subject to inflammation; there may be dry or serous pleurisy or purulent effusion and empyema or pericarditis. In the lungs the tuberculous process seems often to start from this, or gangrene or abscess may occur. Some of these complications are doubtless due to mixed infection. The diagnosis would rest ultimately on the demonstration of the Pfeiffer bacillus, but not all the pneumonias occurring during the progress of influenza can be charged to this.

118. Renal Calculus.—The principal points in the treatment of renal calculus mentioned by Kerr, are the relief of pain for which he advises heat and the free imbibition of hot drinks before the use of narcotics. Of these last the best is morphin injected into the back over the offending organ. The dose should be reasonably large. He has never had any occasion to use chloroform between the attacks. The alkaline constitu-

tional treatment is the only one which has yielded satisfactory results, but its scope is very limited. His experience has led him to prefer citrate of potassium or lithia or a combination of these. The benefit derived from the use of mineral waters is largely due to the imbibition between meals of large quantities of water, and patients should therefore be advised to drink freely, especially before retiring for the night, as then the urine is more liable to become concentrated and precipitation take place. If the calculus be of the uric acid variety the diet should be regulated according to the condition. If of the oxalate variety suitable measures are also indicated.

119. Surgical Treatment of Renal Calculus.—The indications for the surgical treatment of renal calculus as stated by Rixford are: 1. Cases with history of sudden pain in the region of the kidney or with hematuria, with or without vesical irritability, and those which develop uremic symptoms should be operated upon at once. 2. Cases of calculus shown by the *x*-ray to be incurable by medical means, should also be operated upon at once. 3. Cases in which small stone located by the *x*-ray remains unmoved for a long period require operation. 4. Cases where symptoms of stone persist and show no improvement are properly surgical cases. The danger of the morphin habit and of irreparable damage to the kidney should be considered. 5. Cases where the calculus has led to pyonephrosis, pyonephritis, etc., should be operated upon and cases of pyelitis if the diagnosis shows no evidence of subsidence, should not be trifled with, but operation should be done in time.

130. Lichen Planus.—Lusk uses bichlorid of mercury in doses of 1/16 to 1/12 t. i. d. or biniodid in dose of 1/6 gr. following up the treatment after the disappearance of the lesion with smaller doses. Mercury in doses of 1/12 gr. of bichlorid, 1/2 gr. of protoiodid, and 1/6 gr. of biniodid, is not merely a tonic, but a decided alterative, and few can stand such doses except syphilitics. Lichen planus, he holds, is a syphilide, acquired or hereditary, and the excellent results from this use of mercury is corroborative of this opinion.

131. Condylomata Acuminata Linguae.—Heidingsfeld concludes: "1. Extra-genital condylomata acuminata conform not only in clinical character, but also in histologic structure, to condylomata acuminata of genital location. 2. The chief pathologic change is an akantosis. 3. Though there is no relative increase of connective tissue, there is an absolute one, and hypertrophy of the papillæ is active, not passive, in character. 4. The so-called epithelial fibrillation is a normal process, consisting of spinous processes accentuated by hypertrophy and over-staining."

136.—See abstract in THE JOURNAL of April 6, p. 981.

138.—This article has appeared elsewhere. See THE JOURNAL of January 26, ¶146, p. 290.

FOREIGN.

British Medical Journal, May 18.

Some Remarks upon Analysis of 5000 Cases of Death from Malignant Disease. E. N. NASON.—The opportunity of analysing more than 5000 cases of death from various forms of cancer was utilized by Nason while preparing the report of the committee appointed by his branch of the British Medical Association to inquire into the subject. In these 5000 cases 1837 were males and 3018 females, and in 145 the sex was not stated. This at first sight seems to show a marked tendency of females to the disease in a proportion of about 62 to 38 per cent. of males. This preponderance, however, is shown on examination to be due to the great frequency of uterine and mammary cancer. In all the female cases it was found that in 40 per cent. it was one of these two organs that was affected, hence this liability is due to the possession of these two organs and not to a greater tendency to malignant disease. In fact if cancer in organs peculiar to sex be excluded, the male is found to be most subject to this affection, in a proportion of about 53 to 47 per cent. Nason accounts for this by assuming that the predisposing causes of cancer are more frequently in operation in the males than in females. Among these he mentions trauma and syphilis. It is interesting to note that while a steady and remarkable increase in cancer mortality has oc-

curred during the last thirty years, it is far more noticeable in males than in females. The last decennial report of the Registrar-General shows that the increase in mortality between the years 1861 and 1870 was as great as 78 per cent. among males and only 42 per cent. among females. It is no doubt true that the statistical increase is not altogether genuine, but is partly due to increased skill in diagnosis. This would especially apply to malignant disease occurring in the region of the stomach, pylorus and other internal organs where it is liable to occur. In the following situations cancer is far more likely to occur in the male than in the female; namely, tongue, bladder, esophagus, jaws, face, neck, limbs, lips and stomach, and a very large proportion of deaths from cancer in the male are due to cancer of the stomach and pylorus. The author gives two interesting diagrams showing the proportionate liability at various ages, from which it appears that while cancer of the uterus and breast reach their maximum frequency about the menopause, or a little later, cancer of the rectum and stomach occur most frequently in the seventh decade, and that there is a more or less abrupt drop after the maximum. This fact teaches us that although up to a certain age with probable decreasing cell vitality, the liability to cancer increases, after that age the reverse is the case, thus making it appear that the diminution of vitality beyond a certain point fails to give the stimulus required by malignant growths. The conclusions of the committee are repeated, and the following may be mentioned as some of the more certain predisposing causes: 1. Prolonged local irritation, due to various causes, setting up local inflammatory changes in the irritated tissue. 2. The immediate or after-effects of direct and sudden injury, whether mechanical, thermal, or chemical. 3. Syphilis and possibly other constitutional diseases which are associated with local tissue changes. 4. The tissue degenerations of advancing years varying with the age. 5. Individual proclivity. 6. The presence of fetal remnants or "cell rests." 7. (According to the committee's report) the residence in the neighborhood of a sodden and sewage-soaked soil. Now all these predisposing causes, except possibly the last, resolve themselves into conditions in which the resisting power of the individual cells have most probably been reduced. At any rate the vitality of the cells or their power of specialization has been interfered with. This decreased vitality affords just the conditions, Nason believes, in which a parasitic organism may have the most chance of success.

The Lancet, May 18.

The Pathology and Diseases of the Thyroid Gland. WALTER EDMUNDS.—In his second lecture Edmunds reviews the symptoms produced by the operation of parathyroidectomy, which in his hands were not so bad as those of total excision in dogs, though other authors, Vassale and Generali, have found them worse. The changes which occur in the thyroids after this operation are the diminution or disappearance of the colloid, which is replaced by watery secretion, with changes in the vesicles and secreting cells identical with those described compensatory hypertrophy; but the thyroid lobes do not become enlarged but apparently diminish. This coincides with the view that the parathyroid glands furnish the secretion and the thyroids store it. The symptoms following the operation were the usual ones following athyroidea, namely, tremor, unstable gait passing into paralyses of the hind limbs, emaciation and weakness. In two of the dogs marked narrowing of the palpebral fissures was noticed. On rabbits, in experiments to test the effect of parathyroidectomy, the eyes became wider for a time, but have since become normal. The conclusion is that the excision of the thyroid glands and the parathyroids produces enophthalmos and narrowing of the palpebral fissures, while parathyroidectomy does the same. These are the results of experiments with the nervous system intact, but experiments of cutting out or excising the laryngeal and vago-sympathetic nerves leads to the inference that the secretion of the thyroids is under the central nervous system, and the results of deprivation of the thyroid secretions by the removal of the glands in whole or in part are probably due to defective in-

nerve to a certain extent. The effect of excess of thyroid, as observed after giving large doses of thyroids are noted, and those produced on the eyes, Edwards concludes, are caused by action through the cervical sympathetics, and they correspond to the effect of their stimulation. He excised a length of the cervical sympathetic on one side in two monkeys and then fed them on large doses of thyroids. In twelve days it was noticed that there was exophthalmos and dilatation of the pupil on the operated side while on the other the reverse condition was noticed.

Flies and the Science of Scavenging. G. V. POORE.—Considering the multiplication of flies which is such that the female fly might readily have 25,000,000 descendants in a hot summer, and the experience in the South African War with typhoid dissemination, Poore calls attention to the necessity of the early removal beyond their reach of all decomposing matter. Instead of having deep trenches for the burial of offal and excretions, which should be removed at once, he would have shallow ones which can be quickly dug and quickly filled. The immediate removal of all organic refuse and its instant covering with earth is in his opinion the solution of the important health questions involved in diseases disseminated through flies and otherwise.

Annales de l'Institut Pasteur (Paris), March,

Anticoagulating Serum. J. BORDET and O. GENGOU.—The fibrin-ferments derived from various animals have a specific, anticoagulating action on the serum of other animals. They neutralize the fibrin-ferment and precipitate the plasma, modifying the fibrinogen and thus preventing coagulation.

To Isolate the Typhoid Bacillus. L. REMY.—Inoculation of a guinea-pig is the best means of determining the typhoid nature of a micro-organism suggesting the typhoid bacillus. The inoculation fails, however, if the microbes have been agglutinated. Remy recommends the direct process for making cultures of the typhoid bacillus and the coli associated: one loop of the mixture in 10 c.c. of sterilized water. One loop of this dilution in 10 c.c. of sterilized water and two loops of the latter dilution in gelatin containing .25 per 1000 of phenic acid, and three loops in gelatin containing 5 per 1000 of phenic acid. The indirect process consists of three passages through acid bouillon, containing .5 per 1000 of H_2SO_4 with 5 per 1000 phenic acid. The tubes should be kept at 25 to 30 C.

Variability of the Typhoid Bacillus. E. SACQUÉPÉE.—The tendency of the typhoid bacillus to become agglutinated varies under different conditions. When long in contact with an immunized or immune subject, it loses the power to become agglutinated, but spontaneously regains this faculty in a plugged tube. The modifications are merely due to its becoming accustomed to its environment, and show that the "Eberthiform" is also a true typhoid bacillus.

Archives Generales de Medecine (Paris), April.

The Urinary Secretion in Syphilis. J. PATOIR.—All the old and new diagnostic measures applied to the study of the urinary function in forty-six syphilitics showed that in 50 per cent. the general nutrition was disturbed during the period of the eruptive manifestations of the disease, and also the functions of the kidneys and liver, except in the very mild cases. In the young, the disturbances are a hyperactivity of nutritional processes and of the eliminating function of the kidney. In the elderly and debilitated, this reaction on the part of the organism does not occur, and existing insufficiency of the kidneys is aggravated. Specific treatment restores the general nutrition to normal and there is also a spontaneous tendency in this direction during the intermissions of the disease.

Gastric Toxins. R. CASSAET.—The assumption that certain pathologic conditions of varying gravity originate in abnormal changes in certain food-materials in the stomach is corroborated by Cassaet's comprehensive researches. These abnormal transformations of the food may be due to a superabundant or too powerful gastric juice, or to disturbance of the motor functions of the stomach. The pathologic condi-

tions are dependent upon these digestive disturbances, cease and recur with them, and are consequently closely connected with them. The reproduction in animals of the entire series of pathologic conditions is a convincing argument in favor of the generation of toxins in the stomach. The symptoms include vasoconstriction, mydriasis, myosis, partial or complete anesthesia, spasms in the extremities, general convulsions, somnolence after eating and coma. It may be possible before long to determine the nature of the toxin from the character of the symptoms observed, and by appropriate measures to nullify its action. It may even be possible to prevent its entering the circulation by modifying the composition of the blood or the osmotivity of the stomach contents. The future may even suggest a means of neutralizing the toxin after it has passed into the circulation, by administering some definite chemical antidote or antitoxin.

Bulletin d'Electrotherapie (Paris), April.

Chemical Electrolysis in Hypertrichosis. E. A. WEIL.—Instead of the tedious intrafollicular electrolysis, Weil applies the electricity all over the surface, first pulling out the hairs and moistening the surface with a solution of nitrate of silver or of chromic acid. Under the influence of the electricity, the cations, the silver and chromin, pass into the follicles and, combining with the chlorin of the tissues, evidently form an insoluble silver chlorid which prevents further growth of the hairs. Experiments on himself showed that the destruction of the hairs on the spots treated was complete.

Nord Medical (Lille), May 15.

Electric Treatment of Mucomembranous Enterocolitis. E. DOUMER.—The writer of this communication has been very successful with the application of the continuous current in the treatment of mucomembranous enterocolitis. The obstinate constipation was conquered at first, and this was followed by the gradual healing of the anatomic lesions and subsidence of all symptoms. The current was applied commencing with 30 to 40 ma. and increasing to 50, during eight or ten minutes, reversing the current each minute. Even when the current was increased to 150 ma. the patient bore it without the slightest injury or production of an eschar. Until the stools become normal, which occurs in ten or twelve days, he repeats the treatment every day, but after this at longer intervals, and discontinues it the twentieth to the twenty-fifth day. The electrodes are covered with several thicknesses of chamois skin, moistened with water or gelatin, and placed at the lowest point of the iliac fossæ. The results in all his seven cases were completely successful.

Presse Medicale (Paris), May 11.

Extradural Spinal Cocainization. SICARD.—The new method of spinal cocainization proposed by Sicard has proved its usefulness for medical analgesia, but is inefficient as a measure for surgical anesthesia. It is completely harmless and enables the cocain to be introduced without fail into the extra-dural or epidural space. He calls it "the method of extra-dural injections by the sacrococcygeal route."

Revue de Chirurgie (Paris), May.

Remote Results of Forced Instrumental Massage in Treatment of Club-Foot. E. VINCENT.—During the last twenty years Vincent has operated on about 500 club-footed patients by tarsotomy or osteoclasis. The osteoclast he uses for the purpose, illustrated in the cut, is a modification of the Robin osteoclast. All his patients walk well, but none have come to the dissecting table, even from an intercurrent disease, consequently he is not able to offer proof of the anatomic conditions. Radiographs are useless, as the ossification is too incomplete in the young for the parts to cast a shadow. He has never known of any inflammatory lesions after the tarsotomy. It produces a traumatism resembling a sprain. The parts are held immovable by the osteoclast, and the operator manipulates them with his hand or the lever, or both. The portions of the bones in which the ligaments are inserted are sometimes torn out when the ligaments refuse to stretch or break, but this traumatism soon heals and aids

in holding the parts in normal position. An actual fracture occurred in only one case. Investigation of cases operated on ten to twenty years ago shows that the tarsotomy was never followed by osteitis or arthritis of the foot in a single instance, while the benefits of the operation have persisted unaltered for eight to twelve years and more. Except in very mild cases, it is better to wait until the child is 1½ to 2 years old before operating. Post-operative massage is indispensable and the wearing of a well-fitting apparatus for years.

Perihepatic and Pleural Complications of Appendicitis.

L. LAPEYRE.—There are two varieties of pleurisy due to appendicitis, the pyohemic, from embolic infarcts, which may be either on the right or left side, and the pleurisy from propagation, which is always on the right side. The latter is usually purulent, but serous pleurisy has been observed as also chronic pleurisy of the base without effusion. Both forms of pleurisy are consecutive to a subphrenic abscess, and the pleurisy is merely the final termination of a suprah hepatic or subhepatic abscess, passing through the diaphragm or transmitted by the lymphatics. The route of propagation is always by way of the peritoneum and the right parieto-colic sinus. The first retrocecal abscess may be at a distance from the appendix, but from this primary focus there is always an uninterrupted continuity of the lesions to the diaphragm. The dry, incessant cough and stitch in the side indicate that the inflammation has reached the diaphragm, and may appear even when the pleura is still intact. The termination is generally fatal, death occurring between the fifteenth and the thirtieth day. The only effective treatment is anticipatory, removing the appendix at once before these complications have time to develop. Cases are on record in which appendicectomy 48 hours after the first indication of appendicitis failed to arrest the ascending inflammation.

Semaine Medicale (Paris), May 15.

Fifteen Grams of Fowler's Solution Ingested Without Intoxication. R. LÉPINE.—A man 40 years of age had suffered for several months from gastric disturbances of an alcoholic origin, when he took by mistake 15 gm. of Fowler's solution in a glass of sweetened water, just as he was retiring, and went to sleep at once. He was awakened two and a half hours later by intense pain in the stomach and thirst. He vomited constantly for several hours, but when seen by the physician, twelve hours later, there were no serious symptoms and the recovery was rapid without active medication. He had ingested 15 cc. of arsenious acid in the solution. Lépine ascribes the absence of intoxication to the constriction of the pylorus from the preceding gastric disturbances and the irritation of the poison. The stomach walls evidently did not absorb the arsenic. The contraction of the pylorus in this case—which has also been noted by Lépine in experiments with animals—shows that the pylorus in intoxications may play the part of a protective sphincter. When summoned to attend a person who has taken poison, if it is impossible to induce vomiting or practice lavage of the stomach, contraction of the pylorus should be promoted. A subcutaneous injection of 5 mg. of apomorphin, for instance, would not induce collapse, and if it did not produce vomiting, would at least cause the pylorus to contract. When this protecting mechanism is working, then the lavage can be done with less urgent haste.

Centralblatt f. d. Grenzgebiete d. Med. und Chir. (Jena), iv, 1 to 9.

Treatment of Diabetic Gangrene. H. WOLF.—In this review of 172 communications on diabetic gangrene, Wolf states that writers agree in waiting for demarcation, on antidiabetic diet, in cases of non-inflammatory gangrene, but with the inflammatory form, expectant treatment is only allowable under close supervision, and is dangerous even in these conditions. Investigation of the arteries, especially of the four arteries of the foot, is of great importance in all cases of gangrene in diabetics. Whenever the pulse is weak or imperceptible in the four arteries of the foot, operations below the malleolus are usually inadequate. If the pulse in the

popliteal artery is likewise imperceptible, the operation should be at the point where the pulse is felt again. If during the operation the severed vessels do not bleed enough, the limb should be amputated at a higher point during the same narcosis. Operations on the thigh have no special advantage over those of the leg or knee. Local anesthesia—but not infiltration anesthesia—is preferable to general narcosis. The latter, with the operation, favors the onset of coma. A comatose condition, however, is no indication against operating. Five to ten grams of sodium carbonate beforehand is recommended as a preventive measure. Irritating antiseptics and tightly drawn sutures should be avoided. Lindner lost none of six patients on whom he operated, and Bunge none in four, but the general statistics collected show that 50 out of 110 patients died, and 28 out of 75 that were operated on, a proportion of 37.3 per cent. The possibility of the development of gangrene should always be borne in mind in examining elderly diabetics. In Wolf's 118 collected cases none of the patients were under 40, and almost all were approaching the 60th year. Violent pains in the lower limbs should not be diagnosed gout or rheumatism, as they may be due to the affection of the vessels of the nerves which frequent precedes the development of gangrene. There is often a history of pains, paresthesia, and especially formication in these cases, and careful attention should be devoted to these symptoms. Diabetics should observe great care in cutting the nails or corns, and extreme cleanliness and comfortable foot-gear are indispensable. Even a slight injury requires immediate surgical treatment. Erb and Bunge recommend in case of symptoms of alterations in the arteries, hot foot-baths with galvanization of the feet and potassium iodid. Massage of the lower limbs is also extremely beneficial, both in preventing or treating arteriosclerosis in these cases, or even incipient gangrene. The question of prophylaxis deserves more attention than hitherto accorded. All writers agree that operative measures must be preceded by antiseptic bandages and anti-diabetic diet. Powders are applied by some to transform the gangrene into a dry lesion, and thus hasten demarcation. The most important factor in treatment is the close supervision of the patient. Bunge warns against allowing the most favorable moment for surgical intervention to slip past. The inflammation is liable to spread suddenly. Tuffier will not operate unless he is able to reduce the amount of sugar in the urine. Godlee distinguishes between the deep, vascular, and the superficial, neurogenic gangrene, stating that the former is rapidly progressive and requires prompt amputation, while the latter form is chronic, and expectant treatment is indicated. Wolf, however, rejects this classification, as it does not include the gangrene in which bacteria are the chief agents.

Pigmentation of the Skin in Case of Affections of the Pancreas. W. MAGER.—Study of the literature on this subject demonstrates that pigmentation of the skin is not the direct result of an affection of the pancreas, but is merely one manifestation of the general hemochromatosis in consequence of the cachexia. Some of the affections of the pancreas, such as pigment-cirrhosis, are of a secondary nature caused by the hemochromatosis, which is the result of the profound alteration in the blood such as is caused by a malignant neoplasm or diabetes. Bronzed diabetes is therefore not a special affection, but is rather merely a severe form of diabetes, accompanied by general hemochromatosis and its consequences.

Hysterical Scoliosis. G. MUSKAT.—Three of the fourteen cases of hysteric scoliosis on record are dubious. The age varied from 8 to 35 years, but the majority of the patients were approaching or just past puberty. A fall or violent emotion was the direct cause in a few instances, on a predisposed soil. The muscles of the concave side are usually contracted, rigid, tense and painful. The spine is not painful nor twisted, and there is no indication of a hump. Treatment should be addressed to the hysteria. A supporting corset is recommended by several, but Dolega relates one case in which it proved injurious. The prognosis is not absolutely favorable. Some cases recover without treatment, others after a few days

of appropriate measures, while some resist all kinds of treatment for months, and one case was dismissed uncured. In general the cure is complete in a few weeks, but recurrences may be observed after a longer or shorter intermission.

Thyroid Treatment. L. HASKOVEC.—Fifty-eight important publications on the treatment of myxedema are reviewed in this communication. Haskovec in conclusion quotes Lanz to the effect that most of the symptoms of intoxication observed during thyroid treatment are caused by toxic substances generated by putrefaction of the gland or its extracts. These symptoms as a whole are called thyroidism, and Buschan distinguishes between a physiologic and pathologic thyroidism. The physiologic symptoms are headache, slight dizziness, pains in limbs, accelerated pulse in persons who eat much meat, increased diuresis and elimination of nitrogen, and loss of flesh. Pathologic thyroidism includes nausea, vertigo, tremor, high temperature, albuminuria, glycosuria, fainting, collapse, angina pectoris, epileptic and uremic attacks, and even possibly, sudden death. Haskovec does not accept this classification of symptoms, observing that the reaction to the treatment differs in different individuals, and as the essential element of the thyroid gland is still unknown, we are unable to dose or foretell its effect in every case. Persons with defective thyroid development are most susceptible. Further research and reports of experience are urgently needed in this line of physiologic and pathologic thyroidism.

Movable Liver. L. TELEKY.—Only 70 or 80 cases are on record in which the liver was actually movable, that is, detached from the diaphragm. Of these patients, 90 per cent. were women. The abdomen was pendulous in 16 out of 21 cases, and only 4 were nulliparæ. The removal of a tumor favors the detachment of the liver, and there are usually predisposing congenital conditions, such as the slackness or absence of the suspensory or coronary ligaments. Lesions that render the liver heavier also favor its dislocation, but some unusual exertion or trauma is usually the direct cause. Twenty-three operations on account of movable liver have been reported. It is remarkable that cardiac affections are so rarely complicated with movable liver, as they affect the suspending apparatus injuriously in several ways, by diminishing the aspirating capacity of the thorax, by relaxing and enlarging the vena cava, by the development of ascites and by the increased absolute and specific gravity of the congested liver. This immunity is possibly due to the fact that persons with severe cardiac affections are usually confined to their bed, and are consequently not exposed to the conditions that produce dislocation of the liver in the predisposed. Among the 185 communications quoted, a number of writers consider the corset a protection against dislocation of the liver rather than a factor in its production, but tight skirt bands are considered injurious in this respect. Tight lacing may twist the liver on its axis forward or backward and the subjective disturbances may be severe, but it can not cause downward dislocation of the liver. Einhorn classifies cases of movable liver as, 1, without symptoms; 2, with symptoms of dyspepsia; 3, hepatalgia; 4, colic pains in the liver, and 5, symptoms of asthma. Other symptoms may indicate occlusion of the biliary passages or interference with the ureter or bladder, but disturbances of the circulation are slight and rare. Hematemesis was noted in one case, a liver-cough in another, ceasing as the patient reclined, fever in a few others and pains extending to the neck. The diagnosis was correct in only four of Boetticher's 23 collected cases operated on. The epigastrium was sunken in a few. The patient should be examined standing. The relaxed ligaments and abdominal wall should be strengthened by tonic measures, supplemented by orthopedic appliances in pronounced cases, but if these fail, the organ must be restored to its proper position and fastened in place. Almost all the patients treated by hepatopexy have been relieved of their disturbances and restored to their former working capacity. The freshening of the surface of the liver is the most important factor in operating, as wounds of the liver display a marked tendency to the formation of solid, fibrinous adhesions. Protracted after-treatment is also important, the

patient on his back, the pelvis elevated. Among the various methods of hepatopexy described, Depage combined laparectomy with the shortening and fastening of the ligamentum teres. He excised a large portion of the pendulous abdominal wall and of the linea alba to the margin of the rectus muscles, and sutured the ligamentum teres in the upper corner of the wound. This restored the liver to its normal position, in which it was supported by the shortened abdominal wall.

Spinal Cocainization. F. HAHN.—In this review of the 1708 published cases of anesthesia by means of spinal cocaineization, it is stated that in 110 the analgesia was a failure. Severe, threatening symptoms were observed in 25 per cent of all cases, and 8 deaths have been reported consecutive to spinal cocaineization. Forty-one authors in the United States have reported 586 operations under this method of analgesia, while only one has been reported in England. This was a strumectomy—the only operation above the thorax that has yet been recorded.

Centralblatt f. Chirurgie (Leipsic), May.

Arrested Ether Narcosis. KRONACHER.—It is unnecessary to use as much ether as generally employed in minor and medium operations. Kronacher for three years has been individualizing the amount to each case and found a very small amount sufficient to abolish pain, although deep narcosis was not obtained. In extracting twenty teeth from one patient, for instance, she screamed as each tooth was drawn, but afterwards stated that she felt no pain. This minimum narcosis is not followed by any after-effects and the patients retain their consciousness, but later have no remembrance of what occurred during the narcosis. His technique is as follows: 5 to 10 c.c. ether are poured on an ordinary mask, allowing considerable access of air, then 10 to 20 c.c. until agitation is noticed, then a few more inhalations, when the mask can be removed and the operation commenced. Possibly further inhalation of 10 to 20 c.c. may be found necessary. The anesthesia thus obtained lasts ten minutes. Even in major operations the ether employed can be restricted to the bare amount sufficient to abolish pain.

Apparatus for Infiltration Anesthesia. L. MOSZKOWICZ.—By means of the simple apparatus described, the syringe is dispensed with and the fluid is automatically injected. A jar is filled half full of the anesthetic fluid. Two tubes with faucets pass through the stopper into the jar, and a rubber tube is attached to each. The right-hand rubber tube terminates in a needle tip for the injection, and a piston syringe is attached to the left-hand tube. A few strokes of the piston compress the air in the jar; the faucet is turned to prevent the escape of the air and the syringe is removed. Opening the faucet in the right tube sends the fluid in a jet under the influence of the compressed air. This tube and tip can be removed and boiled with the other instruments. The jar can be kept warm by standing it in a basin of warm sublimate solution and the needle tip can be placed with the instruments on the table. Gersuny has been using this apparatus extensively and is much pleased with it.

Deutsche Med. Wochenschrift (Leipsic), May 9.

Successful Serum Diagnosis of Tuberculosis. E. ROMBERG.—Von Behring makes an emulsion of tubercle bacilli which is conveniently handled and has proved successful in the serum diagnosis of tuberculosis. Romberg announces that this emulsion is agglutinated by the serum of tuberculous subjects the same as Arloing and Courmont have succeeded in agglutinating homogeneous cultures of living bacilli. He also states that blood taken from the placental portion of the umbilical cord of newly-born infants, who in all probability were free from tuberculous taint or infection, failed to produce agglutination. On the other hand, he found that the serum of 56.4 per cent. of persons who showed no clinical evidence of tuberculosis possessed the agglutinating property. All the patients with clinically evident tuberculosis, agglutinated except a few in the most advanced stages, and those in whom the lesions had apparently healed. These facts indicate that the serum reaction is no assistance for the early diagnosis of an already manifest tubercular infection—it is

positive in persons with no clinical symptoms of tuberculosis and fails in a certain number of clinically certain cases. The proportion of the former, however, corroborates Naegeli's assertion in regard to the frequency of tubercular lesions in persons over 18. The positive result of the test is considered by Romberg certain evidence of the existence of a progressive or at least not yet inactive tubercular process. He also believes that the negative result testifies either to actual freedom from tuberculosis or to the healing up of an existing tubercular process or to a very advanced stage of the disease. He considers this serum diagnosis a most valuable means of detecting still latent tubercular processes. His material is too small—only 95 cases—for him to proclaim his convictions with certainty.

Work of Cancer Investigating Committee. The committee has held four meetings since its organization in February at Berlin. In the various addresses and reports we note that von Leyden is in favor of the parasitic theory of malignant neoplasms, and thinks that a parasitic origin offers a much better outlook for successful prophylaxis. The statistics presented show that "cancer" has increased by 50 per cent. in Prussia since 1888. There are 10,000 patients with "cancer" among the 500,000 inmates of the various hospitals and sanatoriums throughout the country. The records of the life and sickness insurance companies are a valuable mine of information for such investigations. They seem to reveal a decrease in the number of cancers among the poorer classes and an increase among the well-to-do. Pfeiffer urged that every case of carcinoma reported should be accompanied by the pathologico-anatomic proof, and this could easily be accomplished if the pathologic institutes would investigate the material sent in by members of the committee and others interested, and if some uniform definition of the term carcinoma could be decided upon. The experience of the Gotha Life Insurance Bank has been that the residences of the Roman clergy in south Germany are frequently actual "cancer houses." Behla stated that cancer is endemic in Luckau, but confined to certain localities and houses. Examining these houses, he found that each one was damp and mouldy, especially in the cellars. He also noticed that persons most frequently affected were those whose business took them into cellars, dealers in fruits, wine merchants, farmers, etc., or else brought them in contact with wood, such as carpenters, cabinet makers, masons, woodsmen etc. Villages that have many cases of cancer have always a damp subsoil while others on a dry foundation seem to be almost immune to cancer. The fungus growth, *merulius lacrymans*, or "Hauschwamm," is constantly spreading in the houses of central Europe. It is estimated that every tenth recently constructed building in Berlin is invaded by the *merulius*. Whether it is pathogenic for man or not is not yet decided, but in animals it induces a proliferation of epithelium and connective tissue. It develops with yeast-like features, and its spores may alight on food, vessels, water, etc. He urges that the connection between the presence of this mould and the prevalence of cancer be borne in mind in collecting statistics in future. A subcommittee was appointed to collect and report all cases of malignant neoplasms published in the medical literature. The government has awarded 3000 marks for the expenses of the committee and the congress of internal medicine and a sickness insurance society have each given 500 marks.

May 16.

Occult Gastric Hemorrhages. I. BOAS.—By the term "occult hemorrhage" Boas means an oozing of blood too insignificant to be detected by the naked eye in the stomach contents and yet by its persistence, a serious menace to the health. Repeated investigation of the stomach contents of 83 individuals showed that these occult hemorrhages never occurred in the course of gastric neuroses, acid or subacid gastritis, hyperacidity, hypersecretion or moderate ectasia. Traces of blood were found occasionally in cases of gastric ulcer, and consecutive stenosis of the pylorus, also in a patient with stenosis of the duodenum, in syphilis of the stomach and in a case of probably carcinomatous stenosis of the large intestine. On the other hand, the blood was found constantly in a third group of

cases which included all of carcinoma of the stomach—a total of twenty. Independently of the chemical composition of the stomach contents or of the motor functions of the organ, blood was found invariably in the stomach contents in these cases, although the closest examination failed to reveal the presence of blood by ordinary tests. Blood was also found in the stools at the same time, but was not macroscopically apparent. The traces of blood were rendered evident by Weber's guaiacum test, described in the *Berlin Klinische Wochenschrift*, 1893, No. 19. It is more reliable and sensitive than any other chemical, spectroscopic or microchemical reaction. This "occult hemorrhage" is not a very important diagnostic point in itself, but combined with others, it affords a valuable corroboration of other diagnostic measures for the determination of carcinoma or ulcer of the stomach, differentiating them from a gastric neurosis. Traces of blood in the feces are equally significant. Boas has noted macroscopically evident hemorrhage in 36 per cent. of 100 cases of certain carcinoma of the stomach. The discovery of these occult hemorrhages suggests that perhaps they are the most important cause of the marasmus accompanying carcinoma. Such patients are bleeding to death by droplets, and it may be possible by appropriate medication to arrest this tendency and thus prevent this waste of the vital fluid.

[Simon describes the guaiacum test for blood in urine as a mixture of equal parts of tincture of guaiacum and oil of turpentine, which has been ozonized by exposure to the air. It is allowed to flow carefully along the side of a test tube upon the urine to be examined, in such a manner as to form a distinct layer above the urine. In the presence of blood pigment a white ring, which gradually turns to blue, will be seen to form at the surface of contact.—ED.]

Therapie der Gegenwart (Berlin), May.

Treatment of Hammer Toe. F. KAREWSKI.—This annoying condition can be cured without danger of recurrence, by exposing the contracted flexor tendon through a longitudinal plantar incision, and opening the joint, severing the tendon. The phalanges are then made to protrude from the wound by hyperextension, and the articulating surfaces are trimmed with bone-cutting forceps until they are in easy contact with each other without tension of the soft parts. There is no recurrence of the deformity with this technique, which Karewski has been following for ten years.

Therapeutische Monatshefte (Berlin), May.

Influence of Certain Substances on the Gastric Secretions. A. HERZEN.—The writer's experiments demonstrate that ordinary dextrin and Liebig's extract of beef have a powerful action in stimulating the secretion of gastric juice and in the production of pepsin, if administered in the amount of 25 to 50 gm. at a time. The dextrin increases the production of pepsin while the beef extract affects pre-eminently the secretion of gastric juice. Alcohol has also a powerful effect in promoting the secretion of the gastric glands, but has no peptogenic power. Even introduced by the rectum, this elective influence on the gastric glands is strikingly apparent. Chemically pure, white dextrin does not affect the gastric secretions, but the allied carbohydrates, inulin and liver-glycogen, seem to possess marked peptogenic power, but even with as much as 25 to 50 gm. there is no stimulation of the gastric secretion. If after their ingestion, however, 5 c.c. of alcohol are administered by the mouth or rectum, a gastric juice extremely rich in pepsin is secreted in abundance. The physician by these means is enabled to control the gastric secretions at will. The detailed report of the experiments and tests was published in a recent issue of *Pflueger's Archiv*.

Treatment of Puerperal Fever. AUFRECHT.—The success obtained by Aufrecht in the treatment of croupous pneumonia with the subcutaneous injection of quinin, and the fact observed that pneumonia occurring in the lying-in period is frequently accompanied or followed by puerperal fever, suggested that the injections of quinin might prove as effective in the latter affection as in the former. Three years of experience have confirmed the truth of these premises and demonstrated the great value of this method of treating puerperal fever, which Aufrecht now urgently recommends to the profession. All cases

of puerperal endometritis in his service are treated by intra-uterine injection of a 2.5 per cent. solution of carbolic acid, whenever the temperature reaches 39 C., repeated two or three times in the twenty-four hours. The fluid must be warm and the injecting catheter be provided with a deep groove on the outside for the escape of the fluid, which is caught and measured as it emerges from the vagina. The quinin is injected in the proportion of .5 gm. quinin hydrochlorate in 17 gm. of warm water in the side of the abdomen, into the subcutaneous connective tissue, the needle held perpendicularly as the patient reclines.

Necessity of Isotonic Solutions for Local Anesthesia.—The disturbances noted after the injection of cocaine or eucain, are due to the fact that the fluids are not isotonic with the blood serum. They can be entirely obviated if the solution is rendered isotonic by adding salt. Braun and Heinze in recent works have recommended the formula: Eucain B .1; sodium chlorid .8 and distilled water 100, at body temperature.

Zeitschrift f. Orthopaedische Chirurgie (Stuttgart), ix, 1,

Treatment of Severe Scoliosis. C. DEUTSCHLAENDER.—Scoliosis is not merely a lateral curvature of the spine but is frequently also a horizontal, frontal or sagittal torsion. Since this fact has been understood the results of treatment have been better. Correction of the deformity can be accomplished in most cases unless there are irreparable lesions. The indifference and scepticism of many physicians in regard to the curability of severe scoliosis have driven many patients to charlatans. A trained eye and clear understanding of the pathologic conditions are necessary to individualize treatment to the case. The prognosis is of course better during the periods of rapid growth, but even in adults the results justify treatment, although one and a half to two years may be required or even more. The spinous processes are no indication of the extent of the distortion. Specimens are illustrated showing that the processes may be almost on a straight line, while the rest of the spine is extremely distorted. The shape and position of the ribs are dependent on the spine and, therefore, the condition of the latter can best be estimated by the arcs of the ribs and their oblique diameters. The contracted and rigid muscles are first restored to normal by gymnastic exercises and the spine mobilized. In the mobilizing exercises efforts must be directed to transform the irregular, slanting ellipsoid formed by the deformed arcs of the ribs, with its unequal diameters, into a regular oval as in normal conditions, with both diameters equal. The Schulthess pendulum apparatus is the most effective for this functional correction, but good results are obtained with less expensive appliances, especially the sloping plane and the Hoffa-Barwell sitting frame. The plaster cast is applied in the latter, an assistant pressing the thorax into the correct shape. The cast holds the entire spine in extension, fitting close under the lower jaw and ears, but allowing considerable motion of the arms. It should not be taken off for eight to twelve weeks and then only with extreme care, the patient reclining at first all day, not even bathing. The fifth day the patient can get up for an hour and after a week he need not stay in bed, but gradually return to the mobilizing and strengthening exercises. The physician should see the patient two or three times a year thereafter and the latter should take a month's course of gymnastics and massage every year if possible.

Books Received

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

CLINICAL PATHOLOGY OF THE BLOOD. A Treatise on the General Principles and Special Applications of Hematology. By James Ewing, A.M., M.D., Professor of Pathology in Cornell University Medical College, New York City. Illustrated with 30 Engravings, and 14 Colored Plates drawn by the Author. Cloth. Pp. 432. Price, \$3.50. Philadelphia and New York: Lea Brothers & Co. 1901.

INDUCTION COILS. How to make, use and repair them, including Ruhmkorff, Tesla, and Medical Coils, Roentgen Radiography. Wire-

less Telegraphy, and Practical Information on Primary and Secondary Battery. By H. S. Norrie, Second Edition, Revised and Much Enlarged. Cloth. Pp. 269. Price, \$1.00. New York: Spon and Chamberlain. 1901.

ORAL SURGERY. A Text-Book on General Medicine and Surgery as Applied to Dentistry. By Stewart Le Roy McCurdy, A.M., M.D., Professor of Anatomy and Surgery, Pittsburg Dental College. Cloth. Pp. 368. Price, \$3.00 net. Pittsburg, Pa.: The Calumet Publishing Co. 1891.

TRANSACTIONS OF THE AMERICAN PEDIATRIC SOCIETY. Twelfth Session, Held at Washington, D. C., May 1, 2 and 3, 1900. Edited by Walter Lester Carr, M.D., Volume XII. Cloth. Pp. 249. Reprinted from *Archives of Pediatrics*. 1900.

PROCEEDINGS OF THE CONNECTICUT MEDICAL SOCIETY, 1900. One Hundred and Eighth Annual Convention, held at New Haven, May 23 and 24. Cloth. Pp. 394. Published by the Society. 1900.

NATIONAL CONFEDERATION OF STATE MEDICAL EXAMINING AND LICENSING BOARDS. Transactions of the Tenth Annual Meeting, held at Atlantic City, N. J., June 4, 1900. Paper. Pp. 71. Easton, Pa.: Chemical Publishing Co. 1901.

HEALTH AND HYGIENE FOR THE HOUSEHOLD. By John Joseph Nutt, B.L., M.D., Member of the American Medical Association. Cloth. Pp. 69. Price, \$0.50. New York: The Abbey Press.

MUNICIPAL SANITATION IN THE UNITED STATES. By Charles V. Chapin, M.D., Superintendent of Health of the City of Providence. Cloth. Pp. 970. Price, \$5.00. Providence, R. I.: Snow and Farnham. 1901.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., May 16 to 22, 1901, inclusive:

Aristides Agramonte, contract surgeon, is relieved from further duty on the board investigating infectious diseases prevalent in the Island of Cuba, and will report to the commanding general of the Department of Cuba for assignment.

Dallas Bache, colonel and asst. surgeon-general, U. S. A., sick leave of absence extended; relieved from further duty in the office of the Surgeon-General of the Army.

Charles N. Barney, contract surgeon, member of board at Fort Monroe, Va., to determine the fitness of officers of the Army for promotion.

Louis Brechemin, major and surgeon, U. S. A., relieved from duty on examining board at Denver, Colo.

George E. Bushnell, major and surgeon, U. S. A., member of an examining board at Denver, Colo., vice Major Louis Brechemin, surgeon, U. S. A., relieved.

Jere B. Clayton, lieutenant and asst.-surgeon, U. S. A., member of a board at Fort Myer, Va., to examine officers of the Army for promotion.

Christopher C. Collins, lieutenant and asst.-surgeon, U. S. A., member of a board at San Francisco, Cal., to examine officers of the Army for promotion.

Joseph J. Curry, captain and asst.-surgeon, Vols., from the Army and Navy General Hospital, Hot Springs, Ark., to Manila, P. I., via San Francisco, Cal., for duty as a member of the board to investigate tropical diseases.

William B. Davis, major and surgeon, U. S. A., member of a board at Fort Meyer, Va., to examine officers of the Army for promotion.

William H. Forwood, colonel, asst. surgeon-general, U. S. A., on being relieved from duty as chief surgeon, Department of California, to report in person to the Surgeon-General for duty in his office.

Charles M. Gandy, captain and asst.-surgeon, U. S. A., former orders amended so as to direct him to proceed from Fort Slocum, N. Y., on the transport *Ingalls*, via the Suez canal, to Manila, P. I., for duty in the Division of the Philippines.

Luther B. Grandy, major and surgeon, Vols., leave of absence extended.

Frederick N. C. Jerraud, contract surgeon, from Buffalo, N. Y., via Seattle, Wash., to Fort St. Michael, Alaska, for duty in the Department of Alaska.

Henry S. Kilbourne, major and surgeon, U. S. A., member of a board in San Francisco, Cal., to examine officers of the Army for promotion.

John A. Metzger, major and surgeon, Vols., leave of absence extended.

R. M. O'Reilly, lieutenant-col. and deputy surgeon-general, U. S. A., member of a board at Fort Monroe, Va., to determine fitness of officers of the Army for promotion.

George P. Peed, captain and asst.-surgeon, Vols., leave of absence extended.

Ira A. Shimer, lieutenant and asst.-surgeon, U. S. A., leave of absence granted.

Edward D. Sinks, captain and asst.-surgeon, Vols., recently appointed, and now at Batavia, Ohio, to proceed to Manila, P. I., via San Francisco, Cal., for assignment in the Division of the Philippines.

Richard P. Strong, lieutenant and asst.-surgeon, U. S. A., from the Division of the Philippines to duty at the Army and Navy General Hospital, Hot Springs, Ark.

Eugene L. Swift, captain and asst.-surgeon, U. S. A., to report in person to the president of the examining board in Washington, D. C., for examination for promotion.

Frederick A. Washburn, Jr., major and surgeon, Vols., recently appointed, and now on leave, to proceed to Manila, P. I., via San Francisco, Cal., for duty in the Division of the Philippines.

Jean C. Whitney, contract dental surgeon, from Washington, D. C., to Manila, P. I., via San Francisco, Cal., for duty in the Division of the Philippines.

Allie W. Williams, lieutenant and asst.-surgeon, U. S. A., from Fort Columbus, N. Y., to duty at Fort Logan, Colo.

Francis A. Winter, captain and asst.-surgeon, U. S. A., from San Francisco, Cal., to Fort Sheridan, Ill., for post duty.

Appointments, promotions and other changes in the regular and volunteer medical forces of the Army, reported from the Adjutant-General's Office, April 15 to May 15, 1901:

During the month ending May 15, 1901, the following promotions and other changes in the status of medical officers of the regular and volunteer forces were reported from the office of the Adjutant-General of the Army. Previous changes of this character were published in THE JOURNAL of May 11, 1901:

Appointments, Regular Army.—None.

Promotions, Regular Army.—Lieutenant-Colonels Henry Lippincott and Calvin DeWitt, deputy surgeons general, to be colonels and assistant surgeons general, the former to date from April 13, the latter from May 7, 1901; Majors Charles K. Winne and Timothy E. Wilcox, surgeons, to be lieutenant-colonels and deputy surgeons general, the former to date from April 13, the latter from May 7, 1901; Captain Charles E. Woodruff, asst.-surgeon, to be surgeon, with the rank of major, to date from April 13, 1901.

Retirements, Regular Army.—Colonel Charles C. Byrne, assistant surgeon-general, May 7, 1901, he having attained the age of 64 years.

Appointments, Volunteers.—To be surgeons with the rank of major: Ernest K. Johnstone, of California, April 11, 1901; Captain Charles Lynch, asst.-surgeon, U. S. A., April 22, 1901; Samuel C. de Krafft, of Maryland, April 26, 1901; Captain Isaac W. Brewer, asst.-surgeon, U. S. Vols., May 7, 1901; Captain George P. Peed, asst.-surgeon, U. S. Vols., May 7, 1901; William L. Whittington, of Missouri, May 7, 1901; William D. Bell, of New York, May 7, 1901, and Lawrence C. Carr, of Ohio, May 7, 1901. To be assistant-surgeons, with the rank of captain: Edward D. Sinks, of Ohio, and Abraham D. Williams, of Florida, May 7, 1901; Luther P. Howell, of Ohio, and Leonard K. Graves, of New York, April 15, 1901; A. A. Surgeon Joseph C. Garlington, March 13, 1901; Roger P. Ames, of Louisiana, April 18, 1901; Howard A. Grube, of Michigan, April 16, 1901; Samuel T. Weirick, of Missouri, April 20, 1901; Michael E. Hughes, of Massachusetts, April 27, 1901; Percy L. Jones, of Tennessee, April 22, 1901; Fred. W. Palmer, of Michigan, and H. Brookman Wilkinson, of Alabama, May 4, 1901. Hospital Steward, to be assistant surgeon with the rank of first lieutenant, 34th Regiment of Infantry: Eliphlet C. Baldwin, April 13, 1901.

Promotions, Volunteers.—Captain Abram L. Haines, asst.-surgeon 31sts Infantry, to be surgeon with the rank of major, April 5, 1901; Captain Harold L. Coffin, asst.-surgeon 39th Infantry, to be surgeon with the rank of major, March 22, 1901; Captain William D. Bell, asst.-surgeon, 42d Infantry, to be surgeon with the rank of major, February 2, 1901; Captain Charles L. Furbush, asst.-surgeon, 44th Infantry, to be surgeon with the rank of major, April 2, 1901; First Lieutenant Richard S. Griswold, asst.-surgeon, 26th Infantry, to be asst.-surgeon, with the rank of captain, April 24, 1901; First Lieutenant Joseph L. Sanford, asst.-surgeon, 29th Infantry, to be asst.-surgeon, with the rank of captain, March 21, 1901; First Lieutenant Charles M. Galbraith, asst.-surgeon, 47th Infantry, to be asst.-surgeon, with the rank of captain, March 23, 1901, and First Lieutenant William W. Purnell, asst.-surgeon, 48th Infantry, to be asst.-surgeon, with the rank of captain, April 23, 1901.

Horribly Discharged, Volunteers.—Major George H. Penrose, surgeon, April 19, 1901.

Commissions Vacated by New Appointments, Volunteers.—By promotion to major and surgeon, U. S. A., Major Walter D. McCaw, surgeon, 42d Infantry, February 2, 1901. By appointment as major and surgeon, U. S. Volunteers: Major Franklin A. Meacham, surgeon, March 22, 1901; Major William F. Lippitt, Jr., surgeon, 44th Infantry, April 2, 1901; Major Charles M. Drake, surgeon, March 23, 1901; Major Henry F. Hoyt, surgeon, March 24, 1901; Major Samuel T. Armstrong, surgeon, March 22, 1901; Major William F. de Needeman, surgeon, March 22, 1901; Major Ira C. Brown, surgeon, March 27, 1901; Major Frederick J. Combe, surgeon, April 17, 1901; and Captain Frederick A. Washburn, Jr., asst.-surgeon, 26th Infantry, April 24, 1901. By promotion to captain and asst.-surgeon, U. S. Volunteers: Captain Howard A. Grube, asst.-surgeon, 48th Infantry, April 23, 1901; First Lieutenant Thomas T. Jackson, asst.-surgeon, 44th Infantry, April 13, 1901; and First Lieutenant Laurel B. Sandall, asst.-surgeon, 43d Infantry, March 25, 1901.

Mustered Out of Service, Volunteers.—Captain Albert H. Eber, asst.-surgeon, 30th Infantry, April 3, 1901, and Major James E. Shellenberger, surgeon; Captain H. Brookman Wilkinson, asst.-surgeon, and First Lieutenant Eliphlet C. Baldwin, asst.-surgeon, all of the 34th Infantry, April 17, 1901.

Appointments Declined, Volunteers.—By Major Herbert W. Cardwell, surgeon, U. S. Volunteers, the appointment of major, surgeon, March 22, 1901; Major Charles F. Mason, surgeon, 26th Infantry, the appointment of major, surgeon, April 24, 1901; Capt. Charles L. Furbush, asst.-surgeon, 44th Infantry, the appointment to major, surgeon, March 31, 1901; First Lieutenant Loren B. T. Johnson, assistant surgeon, 36th Infantry, the appointment of captain, asst.-surgeon, April 10, 1901; A. A. Surgeon Thomas C. Stunkard, U. S. A., the appointment of captain, asst.-surgeon, April 11, 1901; A. A. Surgeon Harry S. Moore, U. S. A., the appointment of captain, asst.-surgeon, March 20, 1901; A. A. Surgeon Verdo B. Gregory, U. S. A., the appointment of captain, asst.-surgeon, April 15, 1901; A. A. Surgeon Thomas W. Bath, U. S. A., the appointment of captain, asst.-surgeon, March 28, 1901; A. A. Surgeon Joseph C. Garlington, the appointment of captain, asst.-surgeon, March 21, 1901; A. A. Surgeon James B. Pascoe, U. S. A., the appointment of captain, asst.-surgeon, March 25, 1901; Nelson Miles Black, of Wisconsin, the appointment of captain, asst.-surgeon, April 29, 1901.

Navy Changes.

Changes in the Medical Corps of the Navy for week ended May 25:

P. A. Surgeon R. M. Kennedy, ordered home from the *Bennington*, via public conveyance.

Asst.-Surgeon M. V. Stone, detached from the *Buffalo*, and ordered home to wait orders.

Asst.-Surgeon C. H. DeLancy, detached from the *Baneroft*, when put out of commission, and ordered to the *Buffalo*.

Asst.-Surgeon F. M. Furlong, ordered home via public conveyance.

Asst.-Surgeon D. B. Kerr, ordered home, via public conveyance.
Asst.-Surgeon E. J. Grow, ordered home via public conveyance.
Asst.-Surgeon D. G. Beebe, ordered home via public conveyance.
Asst.-Surgeon C. D. Langhorne, ordered home, via public conveyance.

Asst.-Surgeon J. Stepp detached from the *Castine* and ordered to the *Isla de Luzon*.

Asst.-Surgeon E. J. Grow, detached from the *Isla de Luzon* and ordered to the *Castine*.

Asst.-Surgeon E. Thompson, detached from the *Solace* and ordered to the *Petrel*.

Asst.-Surgeon R. W. Plummer, detached from the *Petrel* and ordered to the *Nashville*.

Asst.-Surgeon F. M. Furlong, order detaching from *Brutus* and ordered to Guam, L. I.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended May 23, 1901:

Surgeon C. T. Peckham, granted leave of absence for thirty days from April 19, on account of sickness. Granted thirty days' extension of leave of absence, on account of sickness from May 20.

Surgeon A. H. Glennan, to rejoin station at Habana.

P. A. Surgeon C. P. Wertenbaker, to proceed to Meridian, Miss., for special temporary duty.

P. A. Surgeon J. B. Greene, granted five days' extension of leave of absence.

Asst.-Surgeon C. E. Decker, granted leave of absence for ten days from May 11, on account of sickness.

Asst.-Surgeon Taliaferro Clark, granted leave of absence for thirty days from May 22.

Asst.-Surgeon G. M. Corput, to proceed to South Atlantic quarantine. Granted leave of absence for one month.

A. A. Surgeon J. C. Rodman, granted leave of absence for four days.

A. A. Surgeon A. W. Slaughter, granted leave of absence for four days from June 4.

BOARD CONVENED.

Board convened to meet at Washington, D. C., May 20, 1901, for the purpose of making physical examination of applicants for cadetship in the Revenue-Cutter Service. Detail for the board; Surgeon L. L. Williams, chairman; Asst.-Surgeon B. S. Warren, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended May 24, 1901:

SMALLPOX—UNITED STATES AND INSULAR.

Alaska: May 11, Hoonah, 15 deaths; Killisnoo, 4 cases.
California: Los Angeles, April 27-May 11, 12 cases; San Francisco, May 4-11, 6 cases.
Illinois: Chicago, May 11-18, 6 cases.
Indian Territory: Coalgate, May 11, 65 cases.
Kansas: Wichita, May 4-18, 37 cases.
Kentucky: Lexington, May 11-18, 4 cases.
Louisiana: Baton Rouge, May 5-12, 2 cases, 1 death; New Orleans, May 11-18, 9 cases, 2 deaths.
Massachusetts: Boston, May 11-18, 10 cases; New Bedford, May 16-18, 5 cases.
Michigan: Detroit, May 11-18, 58 cases.
Minnesota: Minneapolis, May 4-11, 23 cases.
Nebraska: Nebraska City, March 30-April 6, 2 cases; April 20-27, 3 cases; South Omaha, April 23-May 21, 36 cases.
New Hampshire: Manchester, May 11-18, 4 cases.
New Jersey: Jersey City, May 5-19, 15 cases; Newark, May 11-18, 4 cases, 1 death.
New York: New York, May 11-18, 105 cases, 13 deaths.
Ohio: Cincinnati, May 10-17, 9 cases, 1 death; Cleveland, May 11-18, 54 cases; Youngstown, May 4-18, 2 cases.
Pennsylvania: May 11-18, Lebanon, 4 cases; Philadelphia, 3 cases, 1 death; Pittsburg, 2 cases; Steelton, 2 cases; Williamsport, 1 case.
Tennessee: May 11-18, Memphis, 12 cases; Nashville, 3 cases.
Utah: Salt Lake City, May 4-11, 7 cases.
Washington: Tacoma, May 1, 1 case from Vashon Island.
West Virginia: Wheeling, May 11-18, 8 cases.
Wisconsin: Fond du Lac, May 11-18, 1 case.
Hawaii: Kauai, Lihue, April 23, 1 case; Waimea, May 6, 1 case.
Porto Rico: Ponce, May 6-13, 3 cases; San Juan, May 4, 2 cases.

SMALLPOX—FOREIGN.

Austria: Prague, April 20-27, 4 cases.
Belgium: Antwerp, April 20-27, 5 cases.
France: Rheims, April 8-15, 2 cases.
India: Bombay, April 16-23, 6 deaths; Calcutta, April 13-20, 93 deaths; Karachi, April 14-21, 4 cases, 3 deaths; Madras, April 13-19, 11 deaths.
Malta: April 14-20, 1 case.
Russia: Moscow, April 14-21, 6 cases, 2 deaths.
Odessa, April 20-27, 5 cases, 3 deaths; Warsaw, April 13-20, 4 deaths.
Spain: Malaga, April 16-20, 1 death.

YELLOW FEVER.

Cuba: Havana, May 6-11, 2 cases.

CHOLERA.

India: Bombay, April 16-23, 4 deaths; Calcutta, April 13-20, 96 deaths; Madras, April 13-19, 1 death.

PLAGUE.

Africa: Cape Town, to April 14, 291 cases, 118 deaths.
China: Hongkong, March 23-April 6, 31 cases, 28 deaths.
India: Bombay, April 16-23, 459 deaths; Calcutta, April 13-20, 389 deaths; Karachi, April 14-21, 270 cases, 238 deaths.
Japan: Nagasaki, April 17, 1 death.

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Address.

THE NATURAL METHOD OF TEACHING THE SUBJECT OF MEDICINE.*

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BALTIMORE, MD.

There are three great groups of studies in the medical school. The first includes the mechanism of the normal body; the second, a knowledge of the abnormal; the third, a knowledge whereby deviations from the normal may be prevented and rectified.

To become acquainted with the structure and functions of the normal body, the student spends two or more years in the laboratories, and this part of his work has, within the past quarter of a century, not only increased enormously, but a complete revolution has been effected in the methods of instruction. Much more difficult is it to give to the student a thorough training in the other great groups of studies, and I think among teachers there is a feeling that the work along these lines has not progressed quite so satisfactorily as it has in the subjects embraced in the first group. I wish to tell a plain tale of the method of teaching medicine at the Johns Hopkins University. There is nothing very novel about it, except that in the third and fourth years the hospital is made the equivalent of the laboratories of the first and second; and in it the student learns the practical art of medicine. This may be called the natural mode of teaching the subject.

Ask a practitioner of twenty years standing how he has become proficient in his art, he will reply, by constant contact with disease; and he will add that the medicine he learned in the school was totally different from the medicine he learned at the bedside. The graduate of a quarter of a century ago went out with little practical knowledge, which increased only as his practice increased. In the natural method of teaching the student begins with the patient, continues with the patient, and ends his studies with the patient, using books and lectures as tools, as means to an end. The student starts, in fact, as a practitioner, as an observer and repairer of disordered machines, with the structure and orderly functions of which he is perfectly familiar. A mechanism of astounding perplexity, the human body is subject to so many accidents and derangements that no worker, however skilful, can deal with all, and the apprentices can only know well a few of them, but he can learn principles of action, and can be taught how to repair the more important of the disorders to which the machine is liable.

Novel conditions confronted us in planning the work of the Johns Hopkins Medical School. The physio-

logical and pathological laboratories had been organized for many years, and the hospital had been open for four years before the school proper was established. The students were carefully selected, having had a previous training in the sciences. Most helpful of all, there were no traditions to consider in arranging the curriculum, which as laid down by the University, embraces a three years' preliminary course (in which the sciences and modern languages are the main subjects), followed by a four years' medical course, the first two of which are devoted to anatomy, physiology, pharmacology, physiological chemistry and pathology, and the third and fourth to the subjects of medicine, surgery, obstetrics and the specialties.

A word first as to the general arrangement of the department of medicine. The personnel consists of a professor, who is ex-officio in charge of the medical department of the hospital, an associate professor, and a corps of instructors and assistants. The number of beds in the medical wards ranges from 100 to 125, and there is a large out-patient department. There are eight resident physicians on the medical staff, four appointed annually from the graduating class as internes, and four seniors, more or less permanent; the first assistant (the associate in medicine), upon whom devolves the main responsibility of the service in the absence of the professor; the second assistant, who has charge of the private patients and helps in the ward teaching; the third assistant, who has charge of the clinical laboratory and takes the class in clinical microscopy; while the fourth assistant is bacteriologist to the service and has charge of the isolation ward. These senior assistants are encouraged to remain as long as possible, and they are most essential factors in the scientific work and in the teaching. The out-patient medical department is in charge of the associate professor, with a corps of instructors and assistants.

The work of teaching is conducted in the following manner:

I. PRELIMINARY INSTRUCTION IN NORMAL DIAGNOSIS.

As a teacher can take nothing for granted in a medical student, there is given in the last term of the second year a brief preliminary course, dealing with the application of anatomy and physiology to practical medicine, more particularly with reference to the heart and lungs. The student is instructed how to study the sounds of the heart in health, and the characters of the respiratory murmur, and the anatomical relations of the organs to the surface markings are carefully considered. While instruction of this sort really belongs to anatomy and physiology, there are advantages in having it taught with clinical application, so that the associate professor of medicine, Dr. Thayer, holds these demonstrations and practical exercises.

II. THE WORK OF THE THIRD YEAR.

We take as our motto the old maxim: "The whole art

* The Annual Address delivered before the Society of Internal Medicine, Chicago, May 15, 1901.

of medicine is in observation." The work consists in, first, the training of the senses in the observation of disease; secondly, courses in physical diagnosis and clinical microscopy; and, thirdly, practical work in history taking, fourthly, the general medical clinic in the amphitheater.

(a) *The Observation Class.*—The student must first be taught to observe and can not do better than begin his acquaintance with disease among out-patients. A man with typhoid fever in bed, scoured and cleaned, looks very different from the poor fellow who totters into the dispensary. Connected with the examining rooms of the out-patient department is a large room, in which a class of seventy-five can be easily accommodated. Here at 12 o'clock on three days of the week is held what we call an observation class. Three or four cases are examined in the hour by students taken in rotation. The student asks the questions, repeats the answers and makes the examination. He is taught to use his senses in a simple and orderly manner. The seeing eye and the feeling finger are products of long training. How to see and what to see, how to touch and what to touch constitute the main lesson of the hour. Loeke well remarks: "Nicely to observe the history of diseases in all their changes and circumstances is a work of time,

month, arranging it systematically. At the end of the session the eight students who have given the monthly "round-ups" meet and make a general report, which is read on the last day of the class. I pass around the book of the last session, which will give you a very good idea of the work, and I give here the following summary:

Cases, 230; deaths, 15; mortality, 6.5 per cent.

	Cases.	Deaths.
1. Specific infectious diseases	61	6
2. Diseases of the digestive system.....	35	7
3. Diseases of the respiratory system.....	21	0
4. Diseases of the circulatory system	32	1
5. Constitutional diseases	17	0
6. Diseases of blood and ductless glands	20	0
7. Diseases of kidney	5	1
8. Diseases of nervous system	22	0
9. Diseases due to animal and vegetable parasites	4	0
10. Diseases due to Intoxications	6	0
11. Pregnancy	1	0
12. Anatomical and pathological curiosities	6	0

Figure 2.

Figure 3.

accuracy, attention and judgment." A diagnosis is not always reached, and the treatment is not necessarily discussed. The important point is a study of the objective features of the case. Fig. 1 illustrates this class in session. Fig. 2 is from a photograph of the class-book giving the work during part of the month of January. To teach the student to follow the natural history of disease is most essential; a case is not shown to-day and dismissed finally, but I insist that the student shall follow it to the finish. For this purpose each day I begin with a routine question: What have you to report on your cases? Usually four or five minutes are taken in statements relating to patients who have been before the class. A good number of the cases, as you see by one of the columns on the chart, go to the wards, where the students have the privilege of visiting and watching the progress. In cases which return to their homes, the student is encouraged to make a visit at least once a week, or when, as often happens, the patient lives out of town, a correspondence is begun. At the end of each month there is a clinical "round-up." The student whose turn comes, analyzes the material of the

To get the student into the habit of following the cases is most important, and it adds very much to his interest in the work. In connection with this observation class we unite a certain amount of elementary training. For example, there is a dictionary on the table, and if the meaning of a word is doubtful, if the derivation is needed, or if the pronunciation is wrong the student is asked to look it up for himself. He is also made to help considerably in the teaching by reporting upon certain subjects. Fig. 3 illustrates some of the questions which have been set this session. In the report lucidity and brevity are regarded as the essentials. In looking up the literature of a subject I refer the student either to the "Index Catalogue" or to "Neale's Digest," or very often I give him specific references to the literature. If a book is not in the Library of the Medical School, or in that of the Medical

and Chirurgical Faculty, the librarian sends for it from the Surgeon-General's Library. Two purposes are served: 1, the student is taught how to study a problem in the literature, and he has a chance, if he wishes, to show what he can do with his tongue or pen in presenting the subject; and, 2, both students and teachers often get most useful information. For example, I had never seen nor read the original description of either Basedow or Graves on exophthalmic goiter until a third-year student presented the question before the class. I like to have the original descriptions of diseases presented in this way; Sydenham's account of chorea, Huntington's account of the progressive chorea of adults, Gull's description of myxedema, Addison's paper on the adrenals and his description of pernicious anemia. Bell's account of facial palsy, Colles' law, Corrigan and his cardiovascular relations. For example, not long ago, in prescribing Fowler's solution, I asked a student, who was Fowler? Of course he did not know, nobody else knew, I did not know myself, but last week we had an opportunity of hearing all about him. Then again some of our most interesting reports have related to the use of drugs, as, for example, the history of the introduction of iron into practice; who was Bland? the composition of the pill that bears his name; the introduction of iodid of potassium into practice. The historical method used in this way has a very valuable place in the class room. I can not too strongly commend to teachers the observation out-patient class for junior students. Not only is the material of the very best sort, but in the long run it is a decided advantage to the patients in a dispensary to be made the subject of instruction for medical students, and, moreover, in an ambulatory clinic the student sees close at hand the unwashed maladies, not the distant prepared and altered picture of the amphitheater. In a class of this sort the patient and the student do the most of the teaching. You will see by the list of diseases that I am not particular; anything will do, so long as it has an educational value. Occasionally a patient comes in whose malady demands a short explanation, but the primary importance of the class is to give the student a practical, objective, first-hand acquaintance with disease.

(b) *Physical Diagnosis and Clinical Microscopy.*—To train students in the use of instruments of precision is a slow and difficult matter. A large portion of the time of the third year is occupied with the class work in physical diagnosis and clinical microscopy. During the first two terms the associate professor of medicine, Dr. Thayer, with a staff of assistants, drills the class systematically in the use of the stethoscope and the methods of examining the heart, lungs and abdominal organs. Here again the out-patients are used in the large teaching room adjacent to the Dispensary. Special cases are also taken from the wards. Plenty of time, oft-repeated opportunities and intelligent supervision of patient and student are the essentials in teaching physical diagnosis. A valuable addition to this teaching is a course in medical anatomy, given by one of the instructors in the anatomical laboratory.

A necessary adjunct to a modern hospital is the clinical laboratory, in which students can work, and in which they study systematically the methods of investigation of the blood, sputa, urine and secretions. Twice a week from two to four in the afternoon, the third-year class is drilled in these methods by Dr. Emerson,

the resident physician in charge of the clinical laboratory. Familiarized thoroughly with the use of the microscope by prolonged laboratory courses in histology and pathology in the previous years, the student is ready to appreciate the modern clinical methods for investigating disease which are so essential in diagnosis. Fig. 4 shows the class at work. I may remark that the clinical laboratory is in immediate proximity to the wards, and has accommodation for about 110 students. As each student has his own place throughout the session and his own microscope, the laboratory becomes in reality what its name indicates, and to it the student goes at his leisure to work at his specimens, or, for private research. Conducted properly, with a protracted course and ample material, this class becomes one of the most popular, as it certainly is one of the most useful, in the curriculum.

(c) *History-taking.*—To take a good history, to take one in a methodical manner, and last, but by no means the least, to put it down in a legible, attractive manner, takes careful training and much practice. In the observation class opportunities are offered which familiarize the student to a certain extent with the methods of procedure, but during the last term of the course groups of students in rotation take the histories of the out-patients, and these are supervised by the corps of instructors. During the summer small groups of the students are assigned for work in the out-patient rooms, and they in this way are able to get additional practice in this all-important art.

(d) *The General Medical Clinic.*—This part of the work I will describe more fully in a few moments in relation to the work of the fourth year. I may here say that the third-year students participate actively in it. From them the committees on pneumonia and on typhoid fever are selected, and they are sometimes asked to report on special subjects before the class.

In addition to this work in general medicine, we have thought it advisable to place the subject of clinical neurology in the third-year. The student comes to it fresh from a very thorough training in its anatomical and physiological aspects and there is no department of medicine in which the practical application of these two scientific branches is more immediate than in diseases of the nervous system. In the neurological dispensary, under Professor Thomas, a very similar method is followed, so that in seeing the work of the clinic twice a week and taking histories they get a very fair knowledge of the more common diseases. Altogether our experience of the past five or six years warrants the conclusion that by this method the junior student is given a good start in the right direction, which, as Plato somewhere remarks, is the chief value of education. The special advantage of the method is that throughout the entire session the student is brought into intimate contact with the patients, and is enabled to familiarize himself quietly, and without any rush or hurry, with the use of the instruments of precision in clinical work. Of course we direct the reading in a certain measure. I encourage them to begin at once to read one of the medical weeklies, and to keep up their French and German by glancing, at any rate, at the *Berliner* or the *Deutsche Medicinische Wochenschrift* and also *La Semaine Médicale* or the *Progrès Médical*. Sometimes I refer them specifically to a journal article, more frequently to some article in "Allbutt's System," or in "Nothnagel's Handbuch."

III. THE WORK OF THE FOURTH YEAR.

This consists of three distinct parts.

(a) *The Clinical Clerks and Ward Work.*—The group of fourth-year students, which numbers usually between fifty and sixty, is divided into four sections, each one of which serves for two months in rotation in the medical, surgical, gynecological and obstetrical departments of the hospital, either as clinical clerks or as surgical dressers. Six beds are assigned to each clerk, who is responsible for the history of the case, the daily records, and who personally does all the blood and urine work, or any minor operations that are required in connection with the cases. On three mornings of the week, from

indeed, under the supervision of the house physician, he practically has charge. The house physician in each ward is also a teacher, superintending the records, helping the clinical clerks in the conducting of examinations, who receive from him in all directions friendly advice and assistance. Cases of typhoid fever or of pneumonia, studied in this way day by day, give to the student that practical acquaintance with disease, in which the very essence of the teaching of medicine consists. Then he has an opportunity, too, of learning all the minutiae in practice that are so important—the supervision of the tub-bath, the preparation and giving of enemata, the mode of giving medicines, and the



Figure 4.

nine to eleven, I make the visit in the wards with the clinical clerks. The histories of the new cases are read, the patient examined, questions asked, and in general a Socratic method of instruction is followed. On the alternate days the associate in medicine and first assistant, Dr. Futeher, takes the group of clinical clerks at the same hour, so that they have routine instruction daily in the wards from nine to eleven. It is in the ward, after all, that the student must learn to recognize and to treat disease. The work of the third year is but preliminary and introductory to a routine daily systematic instruction at the bedside. He has an opportunity of watching the cases day by day, of which

study of their action, all these he sees as a part of the routine work.

I have only one criticism to make. The period of time occupied in medicine is only half as long as it should be, and each senior student should serve in the wards for at least three months, or, better still, for six months. One point has to be taken into consideration. We have adopted the concentration plan, and the group of clinical clerks in medicine when on duty in my wards have that as their major subject, and are not specially pressed by other work, but I feel it would be very much better to extend the length of service.

I meet my clinical clerks one evening in the week

for an hour and a half or two hours, and discuss in a friendly, social way the events of the week. This, too, gives me an opportunity to talk for a quarter of an hour or twenty minutes upon some subject of general interest relating to the history of medicine, or to some special disease in which they are interested. Once a week, also, Dr. Futcher, my first assistant, has a general meeting of the house-staff, in which matters relating to the teaching and general work come up for discussion.

We lay much stress and emphasis on the character of the work done in the wards. It counts in the final estimate, and the house physicians and my first and second assistants are consulted with reference to its quality.

(b) *The General Clinic in the Amphitheater.*—At twelve o'clock on Wednesday I hold a clinic at which the general experience of the week is discussed. The clerks are grouped in the arena and the cases of interest are presented. The clinical clerk reads the history and, if it is a fever case puts the chart on the blackboard. Fig. 6 gives a view of the clinic, with the professor and student discussing the problems of a case. I like the clinical clerk and the patient to do the teaching, adding comments here and there, or asking the former questions; sometimes giving ten or fifteen minutes talk on some special feature or on a group of cases. The fatalities of the week are discussed, and the specimens shown, in which way the clinical pathology of the diseases is considered, the mistakes in diagnosis acknowledged and corrected and many valuable lessons learned. Cases are reported which may not have been before the clinic, though many of the third and fourth year classes may have seen them in the Dispensary or in the wards.

As I mentioned, junior and senior students attend this class, and as far as possible we try in it to discuss the great diseases as they come with the seasons. During the first term we discuss malaria and typhoid fever, and at every clinic cases are shown and the features of the diseases discussed. From November 1 to April 1 there is one monotonous bill-of-fare, pneumonia; while in the spring the clinical diet is more diversified. I often tell the members of the observation class that they need to know but one disease well—syphilis—as in mastering it they will grasp a greater range in general and special pathology than in any other affection. In the Wednesday clinic I try to present during the session all the clinical phases, complications and sequelæ of the two great acute infections, typhoid fever and pneumonia. The entire experience of the hospital is presented to them without, so far as is possible, the omission of a single detail of importance. Early in the session committees are appointed to report on certain diseases, particularly those just mentioned. During the months of October, November and December the first question asked at the clinic is: How are the typhoid fever patients? and so far as possible every case presenting features of interest is, if not shown at the clinic, reported upon on or after the lecture. Dr. Futcher takes a group to the ward to see the patient, should he be too ill to bring down. On a blackboard, as shown in Fig. 6, the Typhoid Committee puts, in order of occurrence, the complications and sequelæ of the disease, so that we can refer to them, and that the students may copy them for reference. As we have between 80 and 90 cases of typhoid fever during the session, a student in the two years gets a very extensive knowledge of the disease at first hand. Even greater emphasis is laid upon the teaching of pneumonia—the

great acute disease, the present “captain of the men of death,” to use a phrase of John Bunyan. After December 1 the cases begin to come in, and, week by week, until April, or even until the middle of May, there is the recurring question, How are the pneumonia cases? Week by week the record is placed on the blackboard, as shown in Fig. 7, and the clerks report on the new cases, on the progress of the old, and the lesions of the fatal cases are discussed. Questions of diagnosis, prognosis and treatment constantly arise, and by the end of the session a large amount of concrete, first hand information has been laid before the class. Reference is frequently made to valuable papers in the literature, and I am glad again, and before this Society, of which he is the honored Secretary, to bear witness to the great usefulness of the series of exhaustive papers on pneumonia by Dr. Wells. The table gives the main facts of each case; the arrow indicates a death. As the number increases the mortality is given every week. A final report is made by the Committee at the end of the session, and the cases are arranged in five groups.

1. Croupous pneumonia proper.
2. Ether and surgical pneumonia.
3. Terminal pneumonia.

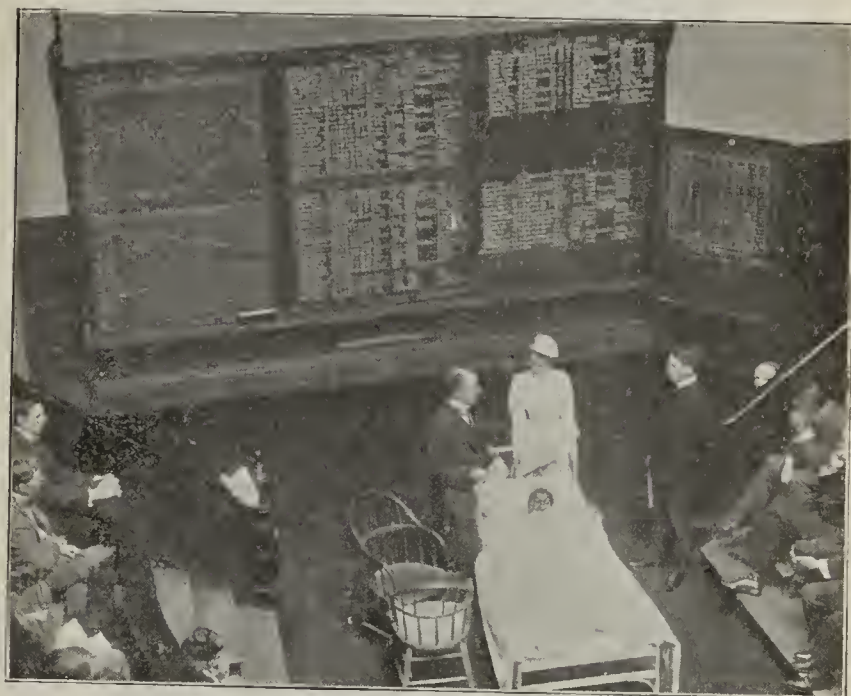


Figure 5.

4. Cases admitted as pneumonia, or diagnosed as such, but which turn out to be something else.

5. Cases admitted with the complications or sequelæ of pneumonia.

As on an average about 60 cases occur during the session, the student during his third and fourth years gets a fairly comprehensive picture of the disease. And here let me make a brief digression. I would rather teach medicine from pneumonia and typhoid fever cases than from all other diseases put together. They remain the two great acute infections, always with us, and of perennial interest. It would do good if every teacher in the country would devote half the time of his clinic for the next few years to them alone. That we have not done our duty in the matter of typhoid fever, the experience of the Spanish-American War plainly showed. The culpable ignorance on the part of practitioners of well recognized facts about the disease is to be laid at our doors. Half a dozen lectures on the subject, and the demonstration of a few cases in the amphitheater will not give men a working knowledge of the disease, which can only be had by personal contact with patients in the wards. Think of the thous-

ands of cases of typhoid fever in the hospitals of our large medical centers—how small a number are watched from beginning to end by our senior medical students; and yet it is in the wards alone that a saving knowledge of the disease can be obtained. Of the natural history of no other disease is it so vital for the student to have a clear conception. It is a malady, moreover, of such surpassing interest and of such infinite variety; one, too, for which we can do so much, that the better it is known the more successful will the practitioner be in his warfare against it. Of equal importance is it that the student shall know pneumonia thoroughly. I spoke of it a few minutes ago as the captain of the men of death, a term which John Bunyan applied to consumption. In the recent March *Bulletin of the Department of Health*, of Chicago, Dr. Reynolds, the commissioner, shows that here, at least (and I believe the same holds good throughout the country), pneumonia now heads the list as a cause of death. There were more than 25,000 deaths from it during the past decade in this city! Think, too, of the enormous advantages offered by the large hospitals for the study of this

In his advice to students Erasmus urges them to read, first, the best books, and I am firmly convinced that the best book in medicine is the book of Nature, as writ large in the bodies of men. You remember the answer of the immortal Hunter, when asked what books the student should read in anatomy—he opened the door of the dissecting-room and pointed to the tables. Erasmus further adds that the important thing is not how much you know, but the quality of what you know, and in the natural method of teaching medicine the quality is certainly of the best, since it is the knowledge grounded in personal experience, and out of which wisdom may arise. That was a keen comment of Tennyson's when he said, "Knowledge comes, but wisdom lingers," indicating the difference between the two, a difference never better expressed than in the well-known lines of Cowper:

"Knowledge and wisdom, far from being one,
Have ofttimes no connection. Knowledge dwells
In heads replete with thoughts of other men;
Wisdom in minds attentive to their own.
Knowledge is proud that he has learned so much;
Wisdom is humble that he knows no more."

Typhoid Fever, 1900-1901.									
Name	Age	Sex	Adm.	Disch.	Di.	Seal.	Comp.	Remarks	
Edwards, John	25	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Smith, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Johnson, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Williams, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Miller, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Wilson, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Moore, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Clark, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Green, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
White, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Black, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Gray, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
King, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Brown, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Miller, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Wilson, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Moore, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Clark, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Green, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
White, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Black, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Gray, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
King, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Brown, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Miller, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Wilson, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Moore, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Clark, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Green, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
White, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Black, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Gray, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
King, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Brown, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Miller, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Wilson, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Moore, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Clark, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Green, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
White, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Black, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Gray, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
King, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Brown, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Miller, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
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Moore, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Clark, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
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White, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
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King, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Brown, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Miller, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Wilson, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Moore, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Clark, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Green, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
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Black, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Gray, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
King, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
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Clark, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Green, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
White, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Black, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Gray, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
King, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Brown, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Miller, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Wilson, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Moore, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Clark, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Green, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
White, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
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Gray, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
King, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Brown, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Miller, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Wilson, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Moore, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Clark, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Green, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
White, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Black, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Gray, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
King, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
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Green, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
White, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Black, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Gray, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
King, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Brown, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Miller, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Wilson, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Moore, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Clark, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Green, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
White, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Black, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Gray, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
King, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	10-11
Brown, John	21	M	10-11	10-11	10-11	10-11	10-11	10-11	1

practitioner who begins his life work as a student among patients, learning for himself under guidance how to observe, how to think, learning what disease is and how it is to be treated. Years ago, my preceptor, Dr. Bovell, placed in my hands Latham's "Clinical Medicine," and he marked a passage which contains the alpha and omega of clinical teaching, and with it I will conclude: "In entering this place," speaking of the wards of St. Bartholomew's Hospital, "even this vast hospital, where there is many a significant and many a wonderful thing, you shall take me along with you, and I will be your guide. But it is by your own eyes, and your ears and your own minds and (I may add) your own hearts that you must observe and learn and profit. I can only point to the objects and say little else than 'see here and see there.'"

RELATION OF THE MEDICAL PROFESSION IN THE TWENTIETH CENTURY TO THE TUBERCULOSIS PROBLEM.*

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At no epoch in medical history has the tuberculosis problem been treated by the medical profession with more energy, more enthusiasm, and more success than at the present time. This awakening to the danger of tuberculosis, particularly in its pulmonary form, consumption, is primarily the result of the labors of four great men, Villemin¹, Koch,² Cornet,³ and Fränkel.⁴ It was Villemin who first showed beyond a shadow of doubt the transmissibility of tuberculosis and its infectious character. To Koch we are indebted for the proof of the microbic origin of tuberculosis; to Cornet and his pupils for the demonstration of the infectiousness of tuberculous dust, and to B. Fränkel for the very interesting experiments in drop infection.

From the works of the men whose names we have just mentioned we learned not only the true etiologic character of tuberculosis, but also how to prevent infection. The prophylaxis of tuberculosis has become an exact science and is now practiced in all civilized countries with more or less rigor. Wherever it is practiced with the greatest rigor the mortality from consumption has correspondingly decreased.⁵ Thus we have in Paris 4.9 deaths from phthisis pulmonalis for every 1000 inhabitants, in Vienna 3.81, in New York 2.26, in Berlin 2.19, and in London only 1.87 deaths from consumption in every 1000 inhabitants.

The curability of tuberculosis was pathologically demonstrated as early as 1838, when Carswell⁶ wrote "pathological anatomy has, perhaps, never given more decisive proofs of the curability of a disease than it has given for pulmonary consumption." Clinical evidence goes as far back as to the Arabian school. Avicenna,⁷ who lived from 980 to 1037, and his pupils recorded the first authentic cures of the disease. It seems, however, in spite of the teachings of the masters of old, that up to the middle of last century the medical men as well as the laity gradually came to consider consumption a divine visitation, in the face of which all they could do was to fold their hands and await the fatal termination.

Through the genius of Hermann Brehmer this nightmare of the incurability of consumption was at last dispelled. His thesis for the final degree of Doctor of

Medicine, "Tuberculosis primis in stadiis semper curabilis," is characteristic of the man's life work.⁸ He not only cured himself of consumption, but during the thirty years of his directorship of the Goerbersdorf sanatorium he cured thousands of patients suffering from pulmonary tuberculosis, and made happy men and women of them and useful members of society. The service which his most celebrated pupil, Dr. Dettweiler, rendered to modern phthisiotherapy by inaugurating the rest-cure in the open air, is certainly equally great.⁹ The Brehmer-Dettweiler method, which represents the open air and hygienic and dietetic treatment of consumptives under constant medical supervision, must really be considered up to this date the only rational treatment, the one which has given thus far the best and most satisfactory results.

To our own country belongs the honor of first having given the benefit of this most rational treatment of consumption, not only to the well-to-do but also to the unfortunate sufferers of limited or no means. We may well be proud that we can say, the first people's sanatorium for consumptives was begun, seventeen years ago, in the Adirondack Mountains, under the directorship of Dr. E. L. Trudeau,¹⁰ the American pioneer in modern phthisiotherapy. Of the great and good work this man has done we all know. His example has been the incentive to many similar noble enterprises.

The tuberculosis problem in our own country is nevertheless far from being solved. Tuberculosis is and must always be considered not only in a purely medical but also in a social aspect. Without statesmen, without the municipality, without philanthropy, this great tuberculosis problem will never even approach its solution. The bulk of the work, however, must be done by the medical profession, and I may perhaps say right here, not by the specialist, nor the sanitarian or health-officer, but by the general practitioner. It is the family physician who sees the early cases of pulmonary tuberculosis, which are the most hopeful ones. By his periodic examinations of all the members of the family he will not only often discover the very earliest signs and symptoms of the disease and institute immediate treatment, but by his familiarity with the constitutions of every one of the family he will inaugurate such preventive measures and treatment as will build up and fortify the only as yet predisposed individual to such a degree that it will make the invasion of the bacilli practically impossible.

It seems as if the tuberculosis problem, viewed in its modern aspect, will help to hasten the time when the physician's calling shall have attained its highest ideal—namely, the prevention of disease. The physician must not only be a healer but also a doctor, that is to say, a teacher. Let us, however, not forget that physicians are men, husbands and fathers, and they want to live and support their families. The true family physician should be paid and well paid for preventing disease. The family who engages him should realize that the timely word of advice concerning the proper mode of living, hygiene and care, is worth a good consultation fee.

I go still further in my views on this subject by saying that even the poorest family should have a family physician whose duty it would be to care for them in case of sickness, but who should also pay them regular visits at any other time as an advisor and teacher of home-hygiene and the proper mode of living. Since the poor family will not be able to pay the doctor for his services, he should be remunerated decently from the public funds.

* Address delivered, by invitation, before the Buffalo Academy of Medicine, Buffalo, N. Y., May 14, 1901.

I know I will be told that this would be Utopian and altogether too expensive to the community. I will refute this statement and prove by figures that it would be cheaper for the community to engage well-trained physicians for families that are not able to pay their own doctor than to wait until they get sick and have to be nursed and cared for at public expense. Since we are speaking of the tuberculosis problem only we will confine ourselves to this one disease. Supposing a large community is obliged to take care of a thousand consumptive poor who come to its institutions in the incurable state of the disease to be nursed and taken care of until they die. The average daily cost of a patient in the hospitals of our American cities is not less than one dollar and a half. The average stay of a poor consumptive when he seeks the public hospital is, as a rule, nine months. From the day of his entrance to his demise he costs the community at the very least \$400. For a thousand patients this would make \$400,000. It is well known that 75 per cent. of early cases can be cured under proper hygienic and dietetic care in about six to eight months, at a cost of from \$1 to \$1.25 a day as inmates in a properly conducted sanatorium.

Statistics show that the death-rate from consumption is highest between the ages of 17 and 35, that is to say, at a time when the individual should be a most useful member of the community, self-supporting if not supporting a family. Those familiar with the life of the average American workman will know how he and his family often shrink from the thought of entering a hospital. These men will make all possible sacrifices in order to keep the sick member of the family at home, and provide such medical attendance for him as they are able to procure. But timely and regular medical attendance is rather the exception than the rule among poor families where there is a consumptive invalid. They will first try all kinds of quack remedies, ask their druggist for advice, or, attracted by some glaring advertisement of a sure cure of consumption, fall into the hands of some unscrupulous charlatan.

It is evident that there would not only be a direct benefit to the families of the laboring classes from timely and judicious treatment of any of their consumptive members, either at home or in a sanatorium, but the community at large would be a direct and indirect gainer. By providing medical attendance to families unable to pay a regular physician, or by placing the consumptive patient in time in a sanatorium, the pulmonary invalid has 75 per cent. of chances of cure and is prevented from infecting his own kin and neighbors. Seventy-five out of one hundred consumptive patients will be prevented from becoming burdens to the community. All this would be direct gain to the respective municipality; but the indirect gain to the commonwealth by curing and making strong and useful citizens of seventy-five out of every hundred tuberculous persons who were otherwise doomed to death in the prime of life is well nigh beyond calculation.

There is no doubt in my mind that tuberculosis as a disease of the masses can and should disappear in civilized countries, and it devolves upon us as medical men of the twentieth century to devise means and propose measures to our municipal authorities, state legislatures and philanthropists that will best accomplish this much-desired end. The old Scotch proverb, "an ounce of prevention is worth a pound of cure," is perhaps not more applicable to any disease than to tuberculosis, and particularly to phthisis pulmonalis. We all acknowledge

Koch's bacillus as the true etiologic factor in tuberculosis, but we also know that in health the accidental inhalation of a few bacilli, the swallowing of some tuberculous milk, or even a scratch infected with tuberculous matter, are rarely of any consequence. The healthy nasal secretion is bactericidal; the ciliated epithelium of the upper respiratory tract is a physical hindrance to the bacilli. The gastric secretions, too, are, in a large measure, bactericidal, and the phagocytic power of the white blood-corpuscles is, in the healthy individual, the best safeguard against the invasion of the bacilli.

It is the badly-housed, underfed, overworked people, weakened by disease, intemperance and excesses, who soonest fall a prey to the tuberculosis bacillus. We as physicians must insist that the dark, dreary, badly-ventilated tenement home and lodging house should disappear. By giving to the laboring classes better tenements, where sunshine, light and air are plentiful, with at least 600 cubic feet of space allotted to every individual, we will save many a one from becoming tuberculous.

The underfeeding of the poor is perhaps more often caused by ignorance than want. It may be a surprise to some if I say that because of ignorance there is more waste in the families of the poor in cooking and house-keeping than in the families of the well-to-do. To combat this evil it will be necessary to introduce lessons in proper cooking and economic housekeeping into the curriculum of our girls' schools. What is saddest of all is that the underfeeding of the poorer classes extends to the children, especially during their school age, when the organism is growing rapidly and the desire for good and abundant food is most pronounced. The child of poor parents gets up in the morning, takes a hasty breakfast of mush and milk, and then runs off to school with a few crackers in his pocket or a penny or two with which to buy a roll. It is evident that such a child can not resist the invasion of any serious disease, and certainly not that of tuberculosis. The need of giving to children of the poor, while attending school, a substantial meal at lunch time has been realized in some German cities, and in our country in the city of Boston. In the latter city, with the sagacity characteristic of Boston people when dealing with philanthropic problems, these lunches are, however, not entirely free. They feared, and justly so, that to give these lunches away might have a tendency to pauperize. In German cities they give meat sandwiches and a glass of milk; in Boston the lunches furnished to children are mainly nutritious soups, milk or cocoa and crackers, or plain buttered sandwiches. The prices for school lunches, furnished by the New England Kitchen, of Boston, vary from 5 to 10 cents. In German cities where this experiment has been tried, careful statistics have been kept which showed that nearly every one of the children increased in weight from one to two pounds within a very few weeks, and their capacity for intellectual work had increased correspondingly. I have said before that the cause of the malnutrition of the poor is often to be found in ignorance. In a wealthy family, if a child or grown person grows thin in spite of plenty of food, the family physician would be consulted, and not infrequently would discover the cause of malnutrition to be the fact that the food given to the patient was not the proper kind, and with a change in the right direction the patient improves. The poor alone have no one to turn to for advice; they only go to the dispensary when they are really sick; they have neither time nor are they

observant enough to discover slight ailments such as an impaired digestion or lack of assimilation, conditions which are the true forerunners of consumption. I say again, give to every family, too poor to pay for a family physician, the right to select such a one and have the municipality pay for his services, and the commonwealth will be the gainer at the end financially as well as in the saving of life.

Whatever has been accomplished in some of our states in the direction of prohibiting child labor and in the regulation of working hours for adults has been accomplished through sanitary authorities, that is to say, physicians. They solicited the aid of wise statesmen, and thus we enjoy, at least in some communities, humane laws in this respect. We all know, however, how much more is to be done in this direction by taking children under 14 years and child-bearing women from the mines and factories.

Phthisiogenetic diseases, such as smallpox, scarletina, measles, la grippe, are all diseases which the earlier they are discovered the more chance there is of their taking a favorable course. The one who discovers them first among the well-to-do is the family physician. He may discover the early symptoms of these diseases on his regular visit before the sufferer himself has an idea of being a patient. In the family of the poor the disease must be far enough advanced for a layman to discover it before medical aid can be expected. Let me here show the great good which is accomplished by school physicians in communities which are wise enough to inaugurate such truly efficacious methods of preventing disease. I can not plead strongly enough for the employment in every community of a sufficient number of skillful and competent practitioners as school physicians and a reasonable remuneration for their services. The school physician, during his daily inspection of the children, will not only detect acute contagious disease, such as variola, diphtheria, scarlatina, measles, etc., but he will also detect chronic diseases, such, for example, as tuberculosis, and through its early recognition and timely and judicious treatment save the life of many a child. Of course, a regular periodic examination of the chest of all the children would have to be a part of the work of the school physician.

Venereal diseases, excesses and intemperance may be classed under one heading, and may be called a trinity of evils resulting from ignorance. While the social reformer and clergyman may do their grand work in helping to combat them, I claim that here again the family physician has to do the bulk of the work. The latter, who should be, and I am glad to say often is, the confidential friend of every one of the family, old and young, will, more than anybody else, be able to warn the young man of the danger which besets him when starting out in life. If a member of the family has been unfortunate enough to contract a venereal disease, the family physician will see that proper treatment is instituted and all precautions taken to prevent further infection. Again it is the family physician, friend and advisor, who may exert the most beneficent influence on old and young by pointing out to them the danger of excesses of any kind, and particularly intemperance, for let us not forget that alcoholism is one of the most important phthisiogenetic diseases. In European sanatoria for tuberculous and scrofulous children statistics show that more than 25 per cent. of the little inmates are of alcoholic parentage.

The physician acquainted with the tendencies of the

individuals entrusted to his care will know when to sound the note of warning. He will be able to combat the idea which, alas! is still very prevalent among the laity, namely, that alcohol is a good remedy for consumption. He will exert all his influence to show that alcohol is not a food, but, when taken in excess, a dangerous, powerful poison, destroying body and soul, undermining the strongest constitution, causing untold misery and want in many once happy and prosperous families. With such a medical advisor given to him by a wise and beneficent government, the honest but poor laborer will be protected from tuberculosis and other diseases, and the moral influence which a true physician can exert in these environments must be of incalculable value to any community.

Now, however, comes the question, what are we to do with the countless individuals with whom prevention is no longer possible because they are already tuberculous? First, we must decide whether or not it is wise to favor compulsory notification or registration of tuberculous cases. If compulsory registration of a tuberculous patient who comes under the observation of a physician should mean additional hardship to the sufferer or his family, I would certainly protest against such procedure. If through such a notification the health officers would have a right to interfere with the hygienic and therapeutic management inaugurated by the attending physician, I would also consider compulsory registration ill advised. On the other hand, I think it most advisable that every physician should be requested, in the interest of statistical as well as demographic science, to report to the respective health authorities the age, profession and residence of every tuberculous individual under his observation. Many of the underlying and not yet quite comprehended causes of some of the predisposing agencies to consumption may thus be discovered and the remedies found. But as I have said, no hardship to the tuberculous patient or his family should arise from this procedure. As long as the patient and his friends obey the instructions given by the physician, so long should they remain unmolested. I think the custom of the New York City Health Board, which furnishes physicians with postal cards for reporting cases, is a most admirable one. These cards read as follows:

REPORT OF CASE OF TUBERCULOSIS.

New York,.....190..
 Name of Patient Age.....
 Sex Occupation
 Residence
 Previous cases in family, and relation to patient.....

 Do you wish an inspector to visit the premises and instruct the family regarding prophylaxis? Answer yes or no.....
M.D.

Residence.....

NOTE.—Cases of tuberculosis will NOT be visited by an inspector from the Department of Health except upon the request of the attending physician.

No reasonable objection can be made to such a procedure. Every conscientious physician will see that his directions are carefully carried out. The Board of Health might, however, aid him if it chose, by sending to the physician reporting cases of tuberculosis leaflets giving needed information to consumptives and those living with them; additional verbal explanation on the part of the attending physician will enhance the value of such instruction leaflets. In case of demise or removal a disinfection of the consumptive's apartments should become obligatory. It may also be necessary, if

the patient or his family wantonly disregards the hygienic precautions necessary to prevent communicating the disease to others, that the attending physician seek the aid of the health officer to enforce a proper hygiene. However, I repeat, let us not exaggerate the contagious nature of tuberculosis by adding unnecessary hardships to the sufferings of the consumptive, his relatives or friends, for pulmonary consumption is, after all, not a contagious but only a highly communicable disease. The contact *per se* of a clean consumptive is not dangerous, nor is there any danger for those who live with such a one. Treat the consumptive who is conscientious and does his very best to protect his fellowmen from infection with the utmost kindness, and do not let him feel as if he was an outcast from society. Let us, as physicians of this enlightened age, be intelligent workers in the antituberculosis crusade, but, I pray, let us not become phthisiophobic, nor encourage phthisiophobia.

Let us educate the whole community to the true nature of consumption. There should not be a city of any size in the Union without a society for the prevention of tuberculosis, and these societies should be in contact with a great national society. It is a sad fact that our great country is still without a national antituberculosis organization. England has its "National Association for the Prevention of Tuberculosis"; France has its "Oeuvre anti-tuberculeuse"; Germany has its "Central Committee for Antituberculosis Work," and even Russia has a "Pirogoff Society for the Study of Tuberculosis." Within your immediate neighborhood, across your beautiful Niagara Falls, you will find an excellent organization under the name of "The Canadian Organization for the Prevention of Tuberculosis," with His Excellency the Earl of Minto, the governor-general, as honorary president, and as president, Sir James A. Grant, M.D., K.C.M.G.

I am delighted to learn that you have such an association in your midst under the name of "The Erie County Anti-Tuberculosis Society," and it seems to me that the Pan-American Exposition would offer a good opportunity to appeal to all existing anti-tuberculosis societies of this continent, or at least of the United States, to combine into the formation of a great American association for the prevention of tuberculosis. It is evident that a great power for good would be exerted through such a national association. The excellent results accomplished by similar societies in other countries should be a great incentive to us for emulation. I trust that from the distinguished president of the Erie County Antituberculosis Society such an appeal for a union will go out, and I am sure it will meet with universal success and appreciation.

You know the aims of these societies are to educate the general public in the prevention of tuberculosis by lectures and the distribution of suitable literature, and to encourage the erection of sanatoria available to all affected. Our Canadian brothers have, however, added to the scope of their work by seeking the cooperation of life insurance companies, benefit societies, railroad companies, factory owners, and other organizations whose material interests would be benefited directly by the work of the association.

Largely through the efforts of one of your own townsmen, my distinguished friend, Dr. John F. Prior, we will soon have in the State of New York, in the Adirondack Mountains, a sanatorium for the consumptive poor. This will, I believe, offer accommodations for from 200 to 300 patients. Buffalo, as the second largest city of

the state, will be entitled to the proportional number of fifteen to twenty beds. To use the pictorial language of that great physician, the late Professor Dacosta, of Philadelphia, this must seem like "a drop of relief in an ocean of woe." You should have your own sanatorium, created by your city government and with the help of the philanthropists of your own city. This sanatorium, belonging to Buffalo, should be situated at not too great a distance from the city, but preferably in a well-drained locality where the air is pure and good water abundant. Furthermore, you should have a city hospital for consumptives situated in or near the city, in a healthy spot where there is as little traffic as possible. This institution should serve as a reception hospital for all cases of tuberculosis; the more advanced should be retained here, and those having a fairly certain chance of cure or marked improvement should be sent to the sanatorium. A special city dispensary should be established for the treatment of ambulant tuberculous patients or for the control of such as have left the sanatorium cured or improved. To guard the improved consumptive against relapse, to guide him even after having left the institution, is a very important portion of the solution of the tuberculosis problem.

Besides this there should be a special institution, in a particularly healthy spot, for the treatment of tuberculous and scrofulous children. Let us bear in mind that the cure of a scrofulous or tuberculous child may mean saving the life of a man or woman, for had they not been treated during childhood they might have succumbed to tuberculosis at maturity, or a few years later.

As to the need of such institutions in your city, it would hardly seem necessary to say anything. Every one is acquainted with the situation. You have any number of tuberculous poor in your midst, for whom there is neither hospital nor sanatorium. Many of them live in badly constructed buildings, and being without medical supervision infect their own kin and neighbors besides reinfecting themselves. If they move they leave infected rooms behind them. Dr. Delaney Rochester, Dr. John F. Prior, and a number of others, more familiar with your local situation than I am, have repeatedly urged the establishment of such institutions, and I can only repeat here the forcible words of Dr. Prior, as correctly as I can remember them, when he said: "Let us treat the tuberculous patient at the right place and at the right time when there is still hope for their recovery, and not at the wrong place and the wrong time until they die."

That there is no danger to either nurses or help or to the neighborhood from a well conducted sanatorium or special hospital for consumptives, all those familiar with the institution work know very well. Those who doubt these statements I must refer to the reports of the Adirondack Cottage Sanatorium, where not one case of contagion among the nurses has taken place in the seventeen years of its existence. In localities where German institutions are situated, statistics show that the mortality from tuberculosis has actually decreased in the surrounding villages since the establishment of the sanatoria.¹¹ The clean habits of the inmates of the institutions, which the villagers imitated, have doubtless been the cause of the improved sanitary condition of the respective villages.

Supposing, then, you would have in your city the institutions enumerated above; if every family, poor or rich, would have its physician, the selection of the

proper cases for the respective institutions would not be difficult. The family physician could coöperate with the institution physician, and the most harmonious work could be accomplished. I have pleaded in the first portion of my paper for the just remuneration of the family physician of the poor by municipal funds, and have shown by figures that the commonwealth would be the gainer by employing and paying competent physicians for this work. It would be unjust should we expect the physicians of tuberculosis sanatoria, hospitals or dispensaries, who labor for the same noble work and also indirectly save thousands of dollars to the public treasury, to do this work for nothing. The Massachusetts State Sanatorium for Consumptives, the only institution of that kind now in operation, pays its visiting and house staff well for their services. This progressive state has learned that it is wise, best and just to do so. Let other states follow this example.

In assuming the state or municipal care of consumptives we must prevent pauperizing. There should be in every community a tuberculosis commission, composed of people skilled in dealing with charity problems. The duty of this commission, which should be in the employ of the city or state, must be to investigate every case applying for free treatment in an institution. It is my belief that if a patient is able to pay the entire or a portion of the expense of his maintenance in a sanatorium, he should be made to do so, providing that the other members of the family remaining at home are thereby not exposed to privation or want.

The scheme whereby the Germans are gradually coming nearer and nearer to the solution of the tuberculosis problem is, I fear, not practicable in this country. There the state invalidity insurance companies, which are under government control, have been the means of reducing the mortality from, and morbidity of, tuberculosis in a most remarkable degree. In Germany, the moment an individual enters upon the career of an ordinary laborer or servant he is obliged to be insured against sickness, accidents and old age. If he develops tuberculosis he is immediately sent to one of the many sanatoria of that country.¹² The government authorities, who are at the head of these state insurance companies, have long since learned that through a timely treatment in a sanatorium the tuberculous individual is most speedily and lastingly cured, and consequently with the least expense.

The insurance companies have erected several sanatoria, but they are not sufficient to accommodate the large number of individuals who avail themselves of the privilege to enter these institutions for treatment. Therefore the insurance companies have made arrangements with no less than seventy-eight German people's and private sanatoria and now have 5000 beds in all at their disposal to which to send their tuberculous invalids.¹³ In the United States not even our rich and powerful private insurance companies will insure a member of a tuberculous family, much less a person suffering from incipient phthisis.

In my humble opinion the tuberculosis problem can not be solved in any other way in this country at the present time than by methods I have endeavored to outline. We must consider our social conditions and customs and treat the cause and the effect at the same time. The American general practitioner of the twentieth century must be a physician, sanitarian and teacher of hygiene. His services in preventing disease should be considered as valuable, and more so, than his services in curing disease. The state must compensate him for

whatever he does in the promotion of the health and wealth of the community. To the American physician of the twentieth century will then belong the honor of having solved one of the most difficult medical and social problems of our time. High as the ideal of the physician has always been, from the time of Æsculapius to the present, an intelligent American public will, through just and wise legislation, enable the physician of the twentieth century to rise still higher. To be a true doctor, to attain the highest ideal of all, he must not only be a healer but a teacher as well.

16 West Ninety-fifth Street.

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Original Articles.

GUMMA OF THE SPERMATIC CORD, WITH REPORT OF A CASE.

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My reason for presenting this short paper is twofold: 1, on account of the interest involved in the study of syphilis *per se*, and 2, on account of the rarity of its manifestations in this particular location, namely, the spermatic cord. Cases have, however, been observed in which a syphilitic enlargement of the cord has been diagnosed. Thus Verneuil¹ has recorded a case of gummatous swelling of the cord in a patient who had also a gumma in the heart. The specimen in this case was presented to the Society of Anatomy of Paris, in 1856. The morbid growth was found, after death, to be the size of two fists; it occupied the scrotum and ascended along the cord as far as the iliac fossa. The growth had been mistaken for a carcinoma during life.

Lancereaux² gives details of a case in which, in connection with syphilitic disease of the testis and epididymis, the cord was enlarged and swollen in several places, one of the swellings being as large as a chestnut. Recovery took place under iodid of potassium. Fournier³ again mentions a case of syphilitic testes where the cord was involved. In inherited syphilis also the cord may be affected. A child under the care of Obedenare,⁴ with enlargement of the testis, had also enlargement of the spermatic cord. However, late syphilis seems very rarely to attack the cord independently of the neighboring or connecting structures.

Morrow⁵ says, that on one occasion, in the case of a gentleman who had contracted syphilis some years previously, he observed the appearance of a painless, quite

firm tumor which attained the size of an almond, in connection with the cord of the left side, just outside of the external ring. Under mixed treatment this soon disappeared.

Bert⁶ reports a case in which both spermatic cords were affected. On one side absorption of the nodules took place under specific treatment, while the nodules on the other side broke down and discharged a gummatus material, the remaining scrotal structures being apparently free from disease.

Heliot⁷ reports two cases, the correct diagnosis of which is open to question.

Kocher⁸ observed two gummata in the spermatic cord of a patient, one of which was as large as a goose egg.

M. Von Zeissl⁹ observed a suppurating tumor of the right side of the scrotum involving the vas deferens. The tumor was irregular, elastic, and of the size of a pigeon egg. The patient presented a relapsing syphilide.

Mauriac¹⁰ describes a case of a solid tumor of the right spermatic cord appearing ten years after the first manifestations of syphilis, and draws attention to the extreme rarity of specific affections of the cord alone.

Reclus¹¹ reports two cases of syphilitic inflammation of the spermatic cord, with stiffening and rigidity of the vas deferens.

Goldenberg¹² reports an interesting case with microscopic findings of a round, sharply circumscribed, hard mass, apparently cystic to the touch, about 2 cm. in diameter, situated on the left posterior surface of the scrotum, about one-quarter of an inch from the raphe. The testicle and epididymis were perfectly normal.

Brossard¹³ says syphilitic gummata are present in the form of small nodules, which are painless, intimately connected with the spermatic cord, surrounded by its tissues, and entirely distinct from the testes. They seem to be smooth and elastic to the touch. In the two cases which came under his observation, they did not show any tendency to soften or to ulcerate; nevertheless, we should not from this conclude that such a course or termination is impossible, or even improbable. His first case died from an intercurrent affection, and in the second case the gumma had been removed by a surgeon a short time after its development.

I report the following case: C. S. presented himself for treatment in 1897, with a history as follows: In the fall of 1890 a sore appeared on the right side and about the middle of the shaft of the penis four weeks after intercourse, followed by enlarged glands, chain-like in character, affecting only the right inguinal region. There was no pain nor tenderness on pressure, and this was followed by a roscola eruption. Early in 1891 mucous patches appeared in the mouth and on the fauces. In 1897, when the patient came under my care, he complained of pain and tenderness along the left tibia from the knee down to the ankle, the pain becoming intensified at night. On the right foreleg five ulcerating gummata presented, kidney-shaped, with undermined edges, and emitting considerable serous discharge. The ulcers had existed for about nine months, and promptly healed under the potassium iodid treatment, but as is usual in these cases the patient then disappeared. In August, 1899, he again presented himself with a firm, painless tumor, about the size of an almond, presenting just outside the external ring, in connection with the cord of the right side. This promptly disappeared under the iodid treatment and inunctions of vasogen mercury, 33 per cent., since which

time no further syphilitic manifestations have been noted.

It has already been stated that the spermatic cord in syphilitic affections of the testes and epididymis is very seldom involved. It occurs less frequently as an independent manifestation.

Neumann¹⁴ says: "Usually one finds on palpation that the cord inside the scrotum is decidedly thickened, so that the individual parts can not be differentiated, the consistency is decidedly increased, at times it is even of cartilaginous hardness. In most cases this thickening extends from the epididymis to the cord; occasionally, however, there is an intervening normal portion between the epididymis and cord. The surface is sometimes smooth, sometimes uneven or tumor-like. The tumor, as a rule, is sharply defined, solitary and unilateral; at times there are two, separated one from the other, sometimes touching each other. They are generally round or oval, varying in size from that of a cherry to that of a goose egg. With the large gummata, they extend into the inguinal region, or may involve the inguinal canal. A certain amount of pain, either spontaneous or due to pressure, may be present. When the tumors attain the size of the testicle the skin will be stretched, the folds of the scrotal skin will be more or less obliterated, slightly reddened, without any marked symptoms of inflammation. At the external ring can be felt a constriction, sometimes superficial, sometimes deep. In large gummata which extend into the inguinal tract the coverings of the cord are changed, just as they are in gummatus orchitis.

"The diseases of the testicle and epididymis come chiefly into consideration in the differential diagnosis. In those extremely rare cases of independent syphilitic diseases of the cord the presence of other symptoms of syphilis and evidence of previous syphilitic diseases are to be considered. In some cases the diagnosis can only be made by the result attained by antisiphilitic treatment."

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SURGICAL SHOCK.*

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Shock is a condition of sudden depression of the whole of the functions of the body, due to powerful impressions upon the system by physical injury or mental emotion. Its more obvious manifestations are lowered activity of the cardiac, respiratory and sensory functions. The symptoms of shock may present all degrees of gravity, from profound collapse quickly succeeded by death to a mere temporary impairment of mental vigor, with transient diminution of muscular energy and a

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slight irregularity of the heart's action, signs which it is very hard to distinguish from syncope, if, indeed, it is possible.

As shock is a disordered function and due to no structural change, its pathology is obscure and difficult to determine. The term "shock" has been employed indiscriminately to describe all cases of sudden death following injury without hemorrhage, and in which post-mortem examination failed to reveal any visible or adequate cause. As accuracy of diagnosis has increased, many cases formerly classed as shock have been eliminated, and opinions as to the pathology of true shock have crystallized into two leading theories, based on certain functional disturbances in the vascular and nervous systems, respectively. One of these theories is that the phenomena of shock are produced by the suspension of the nervous power, manifesting itself through the circulation, resulting in paralysis of the heart and abdominal vessels, and of the whole vasomotor system. The great mass of blood stagnates in the abdominal arteries and veins and the heart muscles are insufficiently supplied with oxygen and are unable to force the small amount of blood through the empty vessels.

The other and better theory, which seems more fully to account for all the phenomena of shock, is that it is due to irritation of the peripheral ends of the sensory and sympathetic nerves and a general functional paralysis of the nerve centers, both spinal and cerebral, which causes arrest or enfeeblement of the cardiac action and disturbed respiratory action. Death from shock may be immediate and result from cardiac arrest. Post-mortem examination of these cases usually shows the right cavities of the heart and great venous trunks distended with blood.

The symptoms of shock are of two general kinds, those due to a stunning or blunting of the vital powers, and called torpid shock, and those attributable to mental terror or agitation, and called crethistic shock, or prostration with excitement. As types of these two classes I desire to present two cases strikingly similar as to character and extent of injury, and yet showing the most marked contrast in symptoms.

The first of these was a woman, 19 years old, injured in a gasoline explosion. The patient lay conscious, yet dazed, seeing with the eye, but apparently failing to perceive with the brain; hearing, but not heeding, or replying only to loud and persistent questions; the eyes dull, vacant, motionless; the face animated by no expression, but pale and bathed in cold, clammy sweat; the features contracted, the finger-nails blue, the body and limbs occasionally convulsed by a shiver, the pulse irregular and very rapid, the respiration slow and irregular, deep sighing inspirations, alternating with shallow and scarcely audible ones. Her temperature was 2 degrees below normal. Reaction could not be induced, and death occurred in five hours, the patient having merely "paused in the act of death."

The second case was a man, 21 years of age, scalded by steam from a locomotive in a railroad wreck. There were the same physical signs of shock as in the torpid case, so far as pulse, respiration, pallor and coldness of the surface were concerned. In addition there was the most extreme and unceasing restlessness and excitability. The patient tossed wildly from side to side, complaining of a fearful oppression and want of breath, shouting in the most piercing tones, and using the most profane and obscene epithets, with a countenance expressive of intense anxiety and the keenest agony. Consciousness seemed unclouded, but preoccupied by the

mental and physical anguish, questions being answered, if at all, in a loud and angry tone, the intervals occupied with moaning exclamations. There was burning thirst and fluids were swallowed eagerly. In short, this case well illustrated the comprehensive description of Gross, who says that in shock "the machinery of life has been rudely unhinged." This condition persisted in slowly lessening intensity for twenty-four hours, when reaction was fully established.

From ordinary uncomplicated shock recovery is usually complete. Occasionally, however, a permanent impairment of health follows, as in a case coming under my care in which a man of 35 years was entangled in a coil of live electric wires. Shock was decided, but not profound, and recovery seemed perfect. The patient, however, soon began to show a change of disposition. Formerly cheerful, amiable and kindly, he became moody, sullen and uncertain of temper, and in an attack of pneumonia some ten months later developed homicidal tendencies, and died in acute mania. In this case, doubtless, organic change of the nerve centers had supervened.

A predisposition to shock may exist in persons of sensitive nervous disposition or in the subjects of organic disease, especially of the heart or kidneys.

In those cases of sudden death, formerly classed as secondary or delayed shock, cases in which an interval of hours or even days has elapsed after an injury or an operation without the appearance of any untoward complications, some other explanation must be sought. No theory of nerve injury remaining latent for days and then suddenly manifesting itself with such violence as to terminate life in a few hours, is sufficient. The explanation may be found in pulmonary edema, or in renal congestion, pre-existent or developed as a result of an anesthetic, in concealed hemorrhage or in septic collapse from the sudden absorption of poisonous matters by a large serous surface, such as the peritoneum. Or it may be found in fatty embolism, that is, embolism of small arteries of the lungs, and very commonly of other organs, due to minute drops of fluid fat, which, having been set free somewhere in the periphery—generally in connection with the medullary cavity of bones—are carried into the circulation and follow its ordinary course. It is not easy in all cases to account for the force which is necessary to cause the oil drops to enter the veins. Sometimes the nature of the accident itself will give a reason for it, in the crushing or laceration which includes bones, muscles, subcutaneous fat and vessels alike. In other cases it has been suggested that the liquid fat from the broken-down cells stagnating in a wound is suddenly caught up when the stage of syncope passes off and the heart recovers; or it may be that from the commencement of inflammation there is a sudden increase of pressure and local tension. In these cases the patient may after the accident experience primary or true shock, or may appear perfectly calm and unaffected, his pulse and respiration may be normal and there may seem to be nothing wrong, but after some hours or days the pulse becomes quicker and softer, the eye bright and restless, the respiration embarrassed, the extremities cold and exhaustion or coma and death may supervene. A brief history of a recent case will illustrate:

The patient was a man, 25 years old, five feet seven inches in height, weighing 180 pounds and presenting an appearance before the accident of perfect health. He fell, unnoticed, from the platform of a passenger train moving at the rate of about fifteen miles an hour; was

found within five minutes after the accident, and at once removed on a stretcher to his home, about one-third of a mile distant. A simple oblique fracture of the left femur, at about the middle of its shaft, was the only injury found. Shock was marked, though not extreme. Some rigors and vomiting occurred and the heart was weak. Heat was applied and a hypodermic of morphia and strychnia and a small amount of whisky were given. Reaction was soon established and the fracture was reduced and dressed. The patient passed a good night and seemed to be doing perfectly well in all respects. About fifteen hours after the injury he began to be drowsy, and a slight but persistent cough developed. Soon the pulse increased in frequency and the respiration showed slight embarrassment. These symptoms, except the cough, grew steadily worse. He roused with more and more difficulty, and less perfectly, until in four hours coma was complete. The pulse became very rapid and irregular, the respiration became stertorous and finally assumed a Cheyne-Stokes character; the surface of the body became cold and cyanotic and, twenty-three hours after the accident, the patient died.

At the autopsy fat was found in the heart, lungs, liver and kidneys. The lower lobe of the right lung was hepatized and the blood-vessels of the brain were filled with dark fluid.

As to treatment in this class of cases, the measures suitable to true shock are of most value, as heat, opium, strychnia, digitalis, alcoholic stimulants and intravenous infusion or hypodermoclysis of normal saline solution.

When fracture or crushing injury of large bones has occurred it is very important that the limb be immobilized as soon as possible, so that the freeing and absorption of fat cells may be prevented.

NON-CONSTRICTIVE DRESSINGS FOR FRACTURES.*

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It should be our aim and object in the treatment of diseases and injuries to under no circumstances interfere with the beneficent effort of Nature. In the treatment of fractures with our cumbersome splints and dressings, with many and constrictive forms of bandages of myriad name and nature, with material in some cases so heavy as to make the patient weary with its ponderosity, is it not time to stop and review the whole subject of this form of treatment and study it in its simplicity, aiming to aid and not retard Nature in her effort at repair. We should remember that all indications are fulfilled if the broken fragments of bone are in apposition and at rest. This idea of rest applies to all injuries, but at this time I wish to limit the question to the treatment of fracture, although the principle is the same, in a large measure, to all.

We all know that an unimpeded circulation will give a more rapid healing process than if impeded in the slightest degree. And why should we disturb the circulation? Can we so apply our dressings as to meet all indications in the treatment and yet not interfere with the circulation? I think we can in nearly every instance.

I am well aware that this is contrary to ordinary teaching, and you may answer that it can be done in but few cases. It will surprise you, however, to find in how

many cases, and what fine results you will have without constrictive dressings.

The old and well-tried fracture-box is one of the forms in which the principle is applied partially, but here we have lateral pressure and thus far defeat the plan of avoiding any interference with the circulation. There is for all fractures of the leg and thigh a plan of suspension that meets all requirements. By means of an iron rod properly bent, the so-called Hodgen's splint is a form that can be easily used and is almost always available. It can be made in a few minutes by an ordinary mechanic, or by the surgeon himself if he has the proper mechanical skill to practice his profession. Additional to the rod, a few safety-pins, a piece of cloth to make a suspension for the leg, a cord to suspend the leg when the splint is adjusted, and your dressing is complete. It can be used in all cases of leg and thigh fracture, and can be adjusted to any degree of flexion by merely bending the rod at the knee; extension can easily be applied by adjusting the bed to the point of attachment of the cord to the ceiling. Many surgeons will agree as to its usefulness in fractures of the leg, but if you will study recent reports you will find the best results in treatment of fractures of the femur by this means. There should be no constriction whatever. The patient can move about to a limited degree in his bed, and he can not displace the fragments if the ordinary mechanical principles are complied with.

Compound fractures can be as easily and comfortably dressed as if the fracture were uncomplicated. If a foot-piece is needed, it can be made by cutting in a piece of board at the proper angle, and by means of wedges this can be adjusted to completely support the foot, but in most instances the needed support to the foot is had by making a stirrup of a piece of bandage and attaching it to the splint higher up. I do not insist on this special form of splint, but insist that the principle should be applied, and mention this form only for its simplicity, availability and effectiveness.

A modified form of application of Hodgen's consists in supporting the leg by short strips of bandage fastened on either side, preferably by safety-pins, to admit of free inspection of all parts of the injured limb without disturbance.

For the arm the principle of non-constrictive dressings can be applied in a modified form, either by a trough or in some other simple manner. I use bent wire. In clavicle fractures, by requiring the patient to lie on his back on a firm smooth mattress, all indications are fulfilled and results are excellent.

I need not mention the trouble and anxiety with splints and ordinary dressings, but wish to say that all ready-made splints remind me of attempting to fit every man with one pair of boots. If you must use one, make it for the individual.

Remembering the principle of non-constriction of the limb, the splint applied with plenty of padding and tied on with a very few strips of bandage is much better and far safer than one applied with the ordinary roller with many turns. It is very easy to loosen or tighten the strips, but not easy to adjust the roller without cutting it entirely away.

Plaster-of-Paris splints or casts should never under any circumstances be used for a primary dressing. This may be very radical as a statement, but as a question of practical experience it is abundantly supported by many unfortunate results. Do we consider how rigid a plaster cast is—that it contracts after being applied? How difficult, if it is causing pain or the limb be painful,

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to inspect the fracture or remove the dressing! Then you may ask when to use plaster—only when all swelling has subsided, absorption of extravasated blood taken place, and you wish to give your patient his freedom during convalescence. Practically then, use plaster-of-Paris dressing after the bone has united and you wish to protect the point of injury from possible results of attempting to move about. Another point is, under no circumstances use this dressing without plenty of cotton or other padding next the skin. It is never proper to use plaster-of-Paris without this plentiful layer of cotton.

There are many forms of retentive dressings which come and have a trial and are forgotten. Many of them, like wigan, silicate, starch, wire-cloth and others have advocates, and all are useful, but useful only when convenient. We have these things in mind only to be applied when they are easily reached. But under no circumstances can all fractures be dressed with one form of dressing or one kind of splint. You can find bark or a limb of a tree in the forest, that will make a splint to fit the case in hand, and I believe that every surgeon ought to be able to dress his case of fracture with what he can find on the spot. If he expects to manage such cases successfully, he should have mechanical ingenuity to adapt conditions to his needs and not be helpless because he may not have his favorite dressings with him. But these are all to be considered as temporary and applied to meet the needs of transportation, and in all cases when the patient reaches his home or a permanent residence he should have a non-constrictive dressing and be made comfortable.

I can give positive results from actual experience in many cases with this principle applied, but one of each kind will be more than enough.

CASE 1.—A railroad brakeman had his leg broken by a derailment, a car crushing him. He received an immediate dressing of plaster-of-Paris, and within a short time, from constriction of the dressings, the pain became unbearable and, when first seen by me, the dressing had been cut, the leg was covered with large blisters, was very much swollen and still painful. This visit was at night, but by making a sketch and giving an ordinarily bright young man directions, he brought a splint—Hodgen's—ready for use in less than an hour. After suspending the leg and adjusting the short strips of bandage there was no further trouble, and healing was uneventful.

CASE 2.—An impacted fracture of the neck of the femur was treated with a similar splint and sand-bags, with a good recovery, a useful limb, and no unpleasant symptoms. This patient was a woman, very much emaciated and neurasthenic. She now walks with scarcely a perceptible limp.

CASE 3.—A crushing injury of the leg was caused by a heavy log striking it, in a man of 55, of phlegmatic temperament. He was dressed in a fracture-box at first, applied very loosely, but swelling occurred to such an extent that I was obliged to suspend the leg and remove every form of constriction. Enormously large blisters, filled with bloody serum, extended from the knee to the ankle, the foot was cold, and every appearance of gangrene occurred, yet by suspension and non-constriction I succeeded in getting a result which, being slow—about two months—was as perfect as if in a younger man with a better constitution. In this case there was no possibility of saving limb or life with any form of constriction.

CASE 4.—This was similar to Case 3 in every way, as to constitution and conditions of the system. The injury was a fracture of the malleoli with dislocation. Four hours after the injury I found the patient as free from pain as if he had sustained no hurt; he had slept and was comfortable, and yet there was complete displacement with laceration of all structures at the ankle-joint, sharp fragments of bone pressing dangerously on the skin to such an extent that perforation was almost complete. There was no sensation on reduction. Blisters similar to those in Case 3 formed over the injured parts. Similar open treatment was given, with good recovery in a reasonable time.

CASE 5.—This was a fracture of the middle third of the femur, with contusions of various parts of the body. The patient had been struck by an engine on a crossing. Suspension, non-constriction and healing without shortening was secured.

In some of these cases any form of constriction would have produced disaster, and if we get good results in our worst cases with such dressings, how much better must be the healing powers in the ordinary case. How much anxiety is saved by the ready inspection, ease and comfort and gain in time to the patient!

ACUTE GLAUCOMA DEVELOPING IN A CATARACTOUS EYE, AFTER CATARACT EXTRACTION IN OTHER EYE. IRIDECTOMY AND CURE.

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Among the more serious affections of the eye, there is not one which demands such prompt and proper attention as that known as acute glaucoma, or the so-called green cataract of the early writers. And while it is the usual and every-day facts and phases of a subject which should demand our most considerate attention, yet it is likewise true that we should be cognizant of the unusual and atypical, in order that our mission may be best fulfilled. Such is the excuse for that which is to follow.

Glaucoma is said to be secondary when it occurs as a result of some previously existing disease of the eye; and complicating, when it occurs in the presence of another eye affection, but without apparent etiologic relation to the same. The case in point probably belongs to the latter class, though the distinction is largely a matter of individual opinion.

Exclusive of nationality, the factors which predispose are old age, with its accompanying changes, hypermetropia, and a small cornea. Of these, the first and last were present.

Various theories have been advanced as to the mechanism of the disease, most of which are no longer tenable since the demonstration of the nutrition processes and the path of the circulation of fluids in the normal eye.¹

A general review of the late literature on the subject leads one to accept these facts: 1. That glaucoma is due to a disturbance of excretion rather than an increase of secretion. 2. That this excretory blockade is accomplished by an abnormally swollen ciliary body pressing the iris-base against the periphery of the cornea, to which it soon becomes adherent, and in this manner causing a retention of fluid by closing the filtration angle. 3. That the only reliable and safe method of treatment is broad peripheral iridectomy, done early and under general anesthesia.

1. De Schweinitz: p. 376.

Noyes² says that irideetomy performed in one eye for the relief of glaucoma may occasion the outbreak of acute glaucoma in the other and previously healthy eye, he having seen one instance of this. It is to be presumed that the simple cataract extraction, in a case without evidence of glaucoma, would exert a similar influence, even though the iris was not cut. This fact must be explained by reflex ciliary irritation.

Numerous cases have been reported in which glaucoma followed cataract extraction—either simple or with iridectomy—in the eye operated on, having usually been caused by peripheral adhesions of the iris. Pagenstecher³ divides these cases into two groups: 1, those in which the process is a direct result of the cataract operation; and 2, those in which it appears after the eye has regained its function. He further says that it occurs more often after the simple than the combined operation, and that it may follow dissection.

Dabney⁴ reports a case in which the instillation of two drops of a 1 per cent. solution of atropia into the conjunctival sac of a man of 22 years, suffering from a purulent conjunctivitis, induced symptoms of acute glaucoma. In ten days vision had returned to normal. It is interesting to note that the patient's mother had glaucoma.

Treacher Collins⁵ studied two cases of congenital and one of traumatic aniridia with glaucoma, in each of which the filtration angle was blocked—in the congenital cases by a stump of undeveloped iris, externally invisible; and in the traumatic case by a pulling forward of the ciliary processes. So much for these unusual traits of glaucoma; but as to the case in point, I have as yet seen no instance mentioned of acute glaucoma in a cataractous eye, following simple cataract extraction of the other eye. Such was the case under consideration. The clinical history is as follows:

Mrs. H. D., an American, 80 years of age, and housewife by occupation, was first seen on Aug. 8, 1900, when she was found to have binocular senile cataract. She gave a history of having lost all vision in the left eye twelve years before, and that in the right eye five months before. She had good light perception over the normal visual field in each eye. On August 13 I removed the lens from the left eye, making a 3 mm. flap, and no sooner was the corneal section completed than the lens appeared in the wound and had only to be lifted out. This occurred, as is sometimes the case, without any pressure being exerted and without capsulotomy, the lens escaping intact—due, no doubt, to the over-ripe and atrophied condition of the lens, and to lack of adhesion of the posterior capsule to the lenticular fossa. By this result we had no fear of cortical remnants, nor of capsular cataract. The usual after-treatment was adopted and recovery was uninterrupted.

On October 5, or fifty-three days after the cataract extraction in the left eye, acute glaucoma developed in the right, with premonitory symptoms for two weeks previously. Tension was increased to +2 or +3, pain severe, paroxysmal in character and worse at night. The cornea was hazy and anesthetic; the iris discolored, dilated to a mere ring, and fixed.

The object of treatment, from the beginning, was not necessarily to save vision, but to give relief in such a manner as to make our patient comfortable for her few remaining years.

After temporizing with instillations of eserine, alone and with cocaine, warm boric acid solution as a collyrium, hot compresses, and repeated paracentesis of the anterior chamber through the base of a large central corneal ulcer which had formed, a broad peripheral iridectomy was made on November 11, under cocaine anesthesia—which proved rather unsatisfactory, owing to hardness of the eyeball.

The patient complained of some indefinite pain for four or five days following, during which time the tension was slightly plus. Since then she has been entirely free from pain, with tension about normal. She is wearing a +11.00 sph. over the left eye, which gives a vision of 20/200.

SITOPHOBIA OF ENTERIC ORIGIN.*

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Sitophobia, meaning fear of food, is a condition which may last a long period of time and, if not successfully treated, may endanger life. It is therefore natural that this subject should command the full attention of the practitioner.

When I first used the term sitophobia I was not aware that Guislain¹ had already employed the same word to designate the refusal of food which is so often encountered in cases of melancholia and in the insane. For this condition, however, the word introduced by Sollier², namely, "sitieirgy," meaning refusing food, seems to be more appropriate. For, in the insane, the patients do not want to eat, not because they are afraid of the food, but for different reasons; either they are in a state of depression, unwilling to do anything, even eating, or they have suicidal ideas, or they have illusions that the food may be poisoned, etc. I may be, therefore, permitted to reserve the term sitophobia for those conditions only in which there is distinct fear of taking food on account of resultant bad consequences. Sitophobia in this sense has nothing to do with the insane and is found in mentally perfectly sound people.

In my paper, "The Diet of Dyspeptics,"³ I have already alluded to the importance of sitophobia and its management.

While, however, in the above article sitophobia is spoken of as occurring in cases of disorders of the stomach, principally those accompanied by pains, of late I had the opportunity to observe the same condition in persons who had no gastric symptoms whatever and in whom "the fear of food" was due to some intestinal difficulty. I shall, therefore, in this paper speak of the latter group of cases, or of "sitophobia of enteric origin."

A good illustration of the importance of this condition will be found in the following case, which I beg to describe:

William H., 28 years old, bookkeeper, had always been well up to two and a quarter years ago. At that time he became constipated, which condition gradually grew worse, occasionally alternating with diarrhea. Off and on, mucus was observed in the stool. His appetite was good, but he suffered at times from headaches and disturbed sleep. Patient consulted me for the first time in March, 1900, and was given magnes. usta in conjunction with ferratin and olive oil enemas, after which he improved for awhile. He went to the country, where his condition again became worse. On his return to the city, in August, patient was given podophyllin pills, which, however, did him no good. He then went to another physician, who ordered some medicine and injections of water.

These remedies not proving of benefit, patient again resorted to the podophyllin pills and injections every day, using both these means from September, 1900, to March, 1901. Often he would go without a movement of the bowels for seven to ten days. During all this time he ate much less than he was previously accustomed to, because he was afraid "that he would get entanglement of the bowel." His weight steadily grew

* Read before the New York Academy of Medicine, May 16, 1901.

1. Guislain: Eulenberg's Realencyclopädie der Medizin, 1887, Bd. xii, p. 696.

2. Sollier: Revue de Médecine, août, 1891.

3. Max Elmhorn: Medical Record, Jan. 1, 1898.

2. Diseases of the Eye, p. 566.

3. Klin. Monatsbl. f. Augenh., May, 1895.

4. Am. Prac. and News, Feb. 16, 1889.

5. Ophthalmic Review, April, 1891.

less, and dropped from 138 to 101½ pounds. He became exceedingly nervous, irritable and hypochondriacal. Of late he felt so weak that he had to abandon his vocation. At this time (March, 1901) he again consulted me, looking very badly, and being hardly able to walk. After undressing he looked almost like a skeleton, every bone being visible, not unlike a Roentgen picture.

On examination, besides this extreme condition of emaciation, pronounced anemia was found. The thoracic organs did not present anything abnormal, while the abdominal cavity appeared somewhat caved in (almost trough-like) and showed an "apparent tumor," situated above the navel to the left of the spine. There were no areas painful to pressure. The urine contained neither sugar nor albumen. The knee reflex was present.

The diagnosis of emaciation due to inanition without any organic trouble was made and the patient treated accordingly. He was advised to eat six times a day; a rectal injection of a pint of warm olive-oil was ordered every night, and he was given internally calcined magnesia and ferratin. He was told to eat plain, wholesome food, plenty of fruit, bread, and at least a quarter of a pound of butter daily. He immediately improved; his bowels became regular, and hardly a month later he weighed 128½ pounds, having gained on an average almost a pound every day. He now looks the picture of health, has ruddy cheeks, feels strong, and is able to take long walks without any fatigue.

Another case not unlike the one just described is the following:

Joseph W., 23 years old, ladies' tailor, had been suffering for the last two years with digestive disturbances (fulness after eating and constipation). Six months ago he consulted me, complaining principally of severe constipation. He was given tincture of rhubarb, but his condition did not seem to improve much. The appetite was not especially good and the constipation became more obstinate. He was afraid to eat much, as he believed the more he ate the more he would be constipated and the sooner he would have to resort to a cathartic. He ate everything, but only in small quantities. He was also compelled to take a glassful of whisky in the morning on an empty stomach and two to three times during the day in order to be able to do his work. He gradually became weaker, and lately lost 15 pounds. His weight now is 110 pounds.

On examination, patient is found to be emaciated and pale. The thoracic as well as the abdominal organs do not reveal anything abnormal. The tongue is not coated. Urine contains neither albumin nor sugar. Patellar reflexes are present.

The diagnosis of habitual constipation with sitophobia was made and the patient treated accordingly.

In the two cases above detailed the sitophobia developed as a sequel to obstinate constipation. The patients were afraid to tax the intestinal tract with much food, as it was apparently unable to dispose of even small quantities of the most delicate aliments.

I have, however, seen instances in which chronic diarrhea also gave rise to sitophobia. Of the many cases I have observed I will report only one.

Mrs. N. O., about 33 years old, had been complaining for the last four or five years of great flatulency and diarrhea. She had four to six movements daily and one or two during the night—about 3 or 5 a. m. The dejecta were either watery or mushy, and always contained a considerable amount of mucus. Before an evacuation took place there was always a great deal

of rumbling in the bowels, accompanied by slight colicky pains and passing of flatus. Her appetite was fair and there was no discomfort after meals. Patient, however, was very careful in her diet, taking principally mutton broth, scraped beef and toasted bread, and of these very small quantities. She was afraid of aggravating her trouble by partaking of more food. Patient had constantly lost in flesh in the last two years, altogether about 40 pounds. She feels weak, complains a great deal of dizziness, a dry sensation in her mouth and restless sleep, and is unable to attend to her household duties.

The physical examination shows that a condition of enteroptosis prevails. The gastric contents do not reveal anything abnormal. The fecal matter contains some mucus and a considerable quantity of undigested food.

The diagnosis of enteroptosis and chronic enteritis is made. Patient is put on a liberal diet—salads, fruits and coarse vegetables excepted—she is permitted to eat everything. She is also instructed to partake of kumyss, and bread and butter between meals. Besides the diet, patient is given tannigen (seven and a half grains three times a day). Under this régime she has steadily improved, gained considerably in weight, and her bowel trouble has almost yielded to a great extent, although it has not entirely disappeared.

Remarks.—In the observations just narrated the sitophobia was marked and had its origin in the belief that the bowel trouble might become aggravated by partaking of nourishment to some extent. Nor are these cases rare. Sitophobia of a moderate degree is almost an every day occurrence in various intestinal disorders.

Having emphasized the fact that sitophobia is met with in enteric affections, it does not appear superfluous to describe its dangers and also its treatment.

While in conditions accompanied by diarrhea the avoidance of food may for a short while exert a beneficial influence upon the intestinal affection, it is quite different in most cases of habitual constipation. The latter condition becomes the more aggravated the less food is taken. The constipation growing more pronounced, the patient is still more afraid to partake even of the small quantities of food which he has hitherto managed to enjoy. Thus there is a *circulus vitiosus*: constipation causing sitophobia, which of itself aggravates the former affection.

But even in diarrhea, with sitophobia causing an insufficient quantity of food to be ingested, there is, after a short interval of apparent improvement, a relapse. The deficient nutrition leads ultimately to an undermining of the constitution. The natural resources for combating disease are weakened; nervous symptoms manifest themselves. Thus the diarrhea quite soon is again as bad as ever.

Moreover, sitophobia, no matter what be its cause, if left to itself is bound to endanger life. A person who habitually is taking an insufficient quantity of nourishment is slowly starving, and if there be no change in the mode of living, starving to death.

It is hardly necessary to dwell upon the symptoms which appear in this state of subnutrition. They are a host and hardly need any comment: general anemia, and then anemia of the brain, dizziness, dryness in the throat, extreme fatigue, insomnia, etc. Occasionally I have met with albuminuria, which promptly disappeared upon improving the nutrition.

Another important feature of sitophobia is the habit which the patient develops of eating minute portions.

The condition which has led to sitophobia may have been remedied and thus the sitophobia as such may not exist any longer, still the acquired habit of eating very little may persist. This certainly can produce the same dangers to life as the original sitophobia.

Treatment.—The patient must be made to eat sufficient quantities of food, no matter what is the underlying condition causing the sitophobia, and no matter how this is done. Sometimes persuasion alone is sufficient. Occasionally in very pronounced cases of sub-nutrition an ample diet can not be adopted at once, but must be arranged gradually, accustoming the patient to more nourishment step by step. In some instances various medicaments will be helpful in carrying out this plan, thus the bromids in nervous conditions, or codein in painful affections. Sufficient nutrition is the foundation upon which to build the structure of health. The former lacking, no matter what treatment may be instituted, the structure will sooner or later collapse. If a solid foundation is laid by a sufficient diet, it is often quite easy to achieve perfect recovery. For, the usual means of treatment will then prove successful in eradicating the primary disease.

THE RELATION EXISTING BETWEEN DISEASES OF THE CONJUNCTIVA, NOSE AND THROAT.

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My purpose in selecting this subject is not that I have any thing especially new or original to offer, but rather because I feel certain that in our text-books and literature too little time and space are devoted to the intimate association which exists between the conjunctiva, nose and throat, and as a consequence, faulty results are sometimes obtained in their treatment. From an anatomic standpoint, we admit a close relation through the lachrymal channel, and accept this as a most intimate and direct means of communication between the nose and conjunctival cul-de-sac, and do not hesitate to ascribe to certain conditions found in the nasal cavity the cause of disease so frequently found in the lachrymal sac and canal. It is not, however, to this direct means of communication, and the generally accepted lachrymal diseases, which I desire to call attention, but rather to the class of cases more frequently met and to which less importance is placed upon this factor of association between the conjunctiva, nose and throat.

Relatively speaking, conjunctivitis in all that the term implies embodies as large and perhaps a larger variety of manifestations than any other disease in the domain of ophthalmology. Mere mention of the classification of conjunctivitis found in our text-books to-day is sufficient to emphasize the above.

And, then, as we turn to our text-books on diseases of the nose, nasopharynx and throat, we are again surprised at the varied manifestations of disease found here, admitting, therefore, that the conjunctival cul-de-sac and the nasal cavities are alike so frequently involved in inflammatory change, with the intimate means of communication existing between these two tissues (via the lachrymal channel), etc., why should we not expect an association of tissue change? Besides the continuity of membranous tissue existing between the nasal cavities and conjunctiva, we have also an

equally intimate association existing through the nerve and blood supply, and it might not be out of place at this time to review for a moment the blood and nerve supply of these parts, that we may the more readily comprehend their association. Granting to the lachrymal canal a direct means of communication, we find that the mucous membranes of the nose and conjunctiva are supplied alike, by sensory nerves derived exclusively from the fifth or trifacial nerve. The upper half of the conjunctiva is supplied by the ophthalmic division of the trigeminus, and the lower half by the superior maxillary division, the nasal branch of the ophthalmic division of the fifth passing from the orbit by way of the anterior ethmoidal foramen, to the anterior nasal fossa, supplies this fossa and the anterior one-third of the superior turbinals (Sappey and Morris), while the entire remaining part of the Schneiderian membrane is supplied by the nasal branches of Meckel's ganglion, the sensory roots of this ganglion are derived exclusively from the second division of the fifth, while other nasal and descending branches of this ganglion supply the soft palate, uvula, nasopharynx, tonsils, orifices of the Eustachian tube, and Rosenmueller fossa. Thus we see there is established a most perfect ramification of one and the same nerve (or branches of the same), reaching from the upper conjunctival tissue to the base of the tonsil. Through the circulatory media we have also a more or less intimate association of the conjunctival cul-de-sac and nose, though not so intimate as the nerve supply. We find from the internal carotid artery the ophthalmic branch entering the orbit, giving off the lachrymal, frontal and palpebral arteries, which supplies blood to the major portion of the conjunctival cul-de-sac, while from the same ophthalmic branch we find the anterior and posterior ethmoidal arteries passing through their respective canals into the cranial cavities here, after supplying in part, the ethmoidal cells and dura, pass downward to the nasal cavity to supply the superior and middle sulcus of the anterior nasal fossa, as well as the anterior halves of the superior and middle turbinal bones. The remainder of the nasal mucous membrane is supplied by the spheno-palatine and descending branches of the internal maxillary (Zuckermandel), with a possible communication existing between this and the angular artery, through the foramen of the nasal bone.

From the standpoint of the venous circulation, we likewise find fairly intimate association existing between the conjunctiva and nasal cavity. We find a circle of veins completely surrounding the orbit—a perfect network or reservoir, derived from the lachrymal, supra-orbital, frontal, nasal, angular and transverse facial, draining the upper and lower eyelids and their conjunctiva, and the angular vein lying upon the internal palpebral ligament, possibly receives a vein through the foramen of the nasal bone, from the anterior nasal fossa (Gray and Quain). In the nasal cavity the veins form a deep venous plexus, over the inferior turbinal and posterior portion of the middle and superior turbinals, as well as lower and posterior portion of the septum, almost the entire plexus, drained by the spheno-palatine vein. We find also a similar dense plexus extends around the nasal duct as far upward as the lachrymal sac, establishing a very intimate relationship between the mucous membranes of the nose and conjunctiva, through the lachrymal canal.

It has also been suggested that a more or less direct communication between the conjunctiva and nose exists through the lymphatic, but according to Gray, Morris,

Testute, Quain, Henley, Cunningham, Heath and Deaver, no evidence of either direct or indirect association exists, as we find the Schneiderian membrane discharges its lymphatics into those channels, following the internal maxillary artery, ending in the deep lymphatics of the neck (Gray).

Admitting, therefore, that the lymph channels play little, if any, part in common in the disturbances under discussion, we do admit a more intimate association by means of the arteries, and a still greater one through the venous association, while the nerve supply for each is practically one and the same, and added to this is the lachrymal canal so generally accepted. How, therefore, can we underestimate the importance of the association of disease in the nose and conjunctiva, and as a most plausible explanation for this association, in the greater number of instances we should and most naturally do look to the most intimate means of connection between them, which (excepting the lachrymal canal), we must admit to be, through the nerve supply, and excepting certain well-established disturbances, such, for instance, as lachrymal blennorrhea, etc., due to membranous continuity, it would seem that nerve reflex is our most plausible theory by which to explain the greater number of disturbances so frequently met, existing alike in the nose, throat, and conjunctiva, which theory I am forced to believe from my increasing daily experience. It is true that we must ascribe to venous stasis or impaired return flow of blood a prominent place in the production of many catarrhal manifestations in the conjunctiva, resulting directly from nasal hypertrophies and the circulatory disturbances arising therefrom, which can be readily understood when we recall especially the venous circulation as it exists in these parts. A very admirable reference of this circulatory disturbance in the nose is mentioned by Dr. Edwin Pyncheon in an article on "Impaired Ventilation and Drainage of the Nose as the most common Causes of Nasal Catarrh." Granting the immediate cause in this class of cases to be circulatory, who can estimate the part played by the nerve reflex as well?

Cases illustrative of the purpose of this paper are too numerous to mention. How frequently, for instance, is the ophthalmologist baffled in his treatment of both acute and chronic conjunctivitis, marginal lid troubles, etc., until proper attention has been given to an existing rhinitis or pharyngitis? One of the most common illustrations of this is found in phlyctenular conjunctivitis. Here, no sooner is one attack of phlyctenules relieved, when the child is seized with a new cold and, the conjunctivitis is lighted up anew, with more phlyctenular ulcers perhaps. This goes on, spring and fall, despite the ophthalmologist's best efforts, until the adenoid vegetations, pharyngeal tonsils or nasal hypertrophies, one or all, have been relieved. Whether the association of these diseases in the conjunctiva and nasopharynx in circulatory (impeded circulation) or nervous, or both, is immaterial; the intimate association is plainly verified by the treatment, and to the physician who disputes it, let him refer to his records of cases cured, without due attention, not only to the conjunctival disease, but to that as well in the nose or nasopharynx.

Another condition which is equally illustrative of this intimate association is chronic conjunctivitis. Here our patient suffers with lid trouble for months, and perhaps longer, benefited temporarily, to be sure, by careful treatment to the conjunctivitis, to be harassed by an exacerbation of the conjunctivitis on the slightest exposure, when upon examination of the nose we find

more or less complete nasal obstruction from hypertrophies, due, perhaps, to septal ridges, spurs or deflection, or on examination of the throat a chronic pharyngitis with tonsillar hypertrophy.

It is my daily experience, and I am sure it is that of others, to have these cases to deal with, and no permanent relief is obtained until due attention is given to the nose and throat, as well as to the conjunctiva. I have in mind a case which is very illustrative of the conditions under discussion: A. W., 18 years of age, consulted me in April, 1899, suffering from conjunctivitis, from which he stated he had been a sufferer several times yearly for about four years, and which always returned when he suffered from a cold. The conjunctivitis was general, involving both eyes, confined to the bulbar as well as the tarsal conjunctivæ, with decided swelling of the membrane—a perfect picture of acute conjunctivitis. On examination of the nose I found complete stenosis of right nostril from turbinal hypertrophy and extreme displacement of septum to right, with marked hypertrophy of lower and middle turbinates and entire mucous membrane of left nostril. Upon questioning I found that before receiving a broken nose in a game of football four years previous, he had never been troubled with sore eyes. Since correcting the nasal defect, as completely as possible, which I did a month later of the same year, the young man has only suffered one attack of sore eyes (conjunctivitis), which was in March of the present year.

I speak of this case especially, because it is one in which the eye trouble dates distinctly from time of injury to the nose, and a practical cessation of attacks of conjunctivitis followed the correction of the injury to nose; and, further, because it is quite evident that the considerably increased blood supply to nose accompanying a cold, and the impairment in its free circulation from swelling, and mechanical misplacement, precipitated his attacks of conjunctivitis. But it is not always true that marked stenosis of the nasal fossæ is necessary in order to excite conjunctival irritation; nor that all nasal stenoses of greater or less degree do excite conjunctivitis. We sometimes find apparently insignificant disturbances in the throat and nose closely associated with, if not a causal factor in, conjunctival irritation, i. e., how frequently when suffering from an apparently mild post-nasal pharyngeal irritation are we annoyed by a similar mild but annoying conjunctivitis? Especially aggravated is this in the morning, after a night's sleep, which latter symptom is undoubtedly due to faulty circulation (more or less sluggishness or impairment in circulation), favored by the horizontal position of the body from the night's sleep. Another evidence of this association is the picture, familiar to all, seen in hay fever. No less is the irritation or inflammation found in the nose than that found in the conjunctiva, but it may be said that this is a constitutional condition, affecting both membranous expanses alike, or that it extends, by continuity of membranous tissue, from the nose to the eye, or that it is reflex, but it matters not, the inseparable association of the two serves to emphasize this subject.

But we are more ready to ascribe to septal deflections, inferior turbinal hypertrophies, ordinary colds, hay fever, etc., an association with conjunctivitis than we would be to concede to the middle turbinated body a cause for the production of conjunctivitis, because the middle turbinal is less commonly considered a disturbing factor in the nose, and for this reason I desire to mention a case, which I treated for conjunctivitis in

1899: M. S., aged 24, referred to me by a rhinologist, who had the lady under treatment at that time for hypertrophy of the left middle turbinal, which was in intimate contact with the septum. She consulted me for the relief of a more or less constant redness and irritation of left eye, and to avoid an erroneous conclusion in the mind of the reader, that the operative interference in the nose might possibly be the exciting cause of the eye irritation—let me say that the eye trouble had existed for a long period previous to consulting her rhinologist. The suggestion at the time of examination that the conjunctival disturbance might entirely disappear upon the relief of the nasal disorder was fully verified, for as the encroachment or pressure of the turbinal against the septum was relieved her eye trouble became less, until now, for the past year, she has had practically no conjunctival irritation whatever—illustrating to me very clearly that it is not necessary to have nasal stenosis or a general hypertrophic condition in the nose in order to produce a conjunctival disturbance, but rather, as in this case, only one comparatively small focus of irritation may excite, purely by nerve reflex, a very marked disturbance in the conjunctiva.

I might go on indefinitely and mention cases to illustrate the purpose of this paper, but it is unnecessary. Personally, I have always been impressed with the importance of the association of diseases of the Schneiderian and conjunctival membranes, and when one stops for a moment to consider their intimate anatomical relations, which I trust the reader will pardon me for recalling so in detail. I am quite certain my reasons for being so impressed will appear well founded, and when the ophthalmologist, in treating conjunctivitis, will constantly bear in mind that he is not treating an isolated tissue, but rather one which is by continuity, blood and nerve supply, inseparably related to other structures—equally and even more exposed to disease—the problem becomes a more simple one and the results of treatment more satisfactory.

103 State Street.

ROUND LIGAMENT VENTROSUSPENSION OF THE UTERUS.*

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ARGUMENT.

1. All suspensions of the uterus, of whatever kind, are makeshifts. 2. Anchorage of the uterus by means of the round ligaments is the nearest approach to the ideal. 3. As a choice between evils the round ligament suspension is superior to all others, both from a physiological and utilitarian standpoint. 4. The author's method and its advantages.

There is not, and never will be, an ideal suspension of the uterus in the sense that it meets all the requirements of a mobile organ, untrammelled in its functions and held within physiological limits. The nearest approximation to this condition as applied to the retroposed organ is found in the shortening of the round ligaments as devised by Alexander, and the nearest approach to an ideal operation for effecting this shortening is the modification of the Alexander operation as devised and practiced by Kellogg. But this is not a suspension in the common acceptance of the term—it is rather an

anchorage. The Kellogg operation, while beautiful, safe, efficient, and in the hands of its author, easy of execution, requires skill and training for its execution and will never become popular on account of the difficulty in finding the ligaments. It is not applicable to the majority of cases demanding operative interference, in that it makes no provision for liberating the adherent uterus. Supplemented by abdominal section, whereby the adhesions may be overcome, it leaves nothing to be desired. The intraperitoneal shortening of the round ligaments by doubling them upon themselves is fundamentally defective in that the slender and weak distal extremity of the ligament is relied on to sustain the uterus, which the stronger ligament in its primitive form was incapable of doing. None recognizes this fact better than he who has practiced the Alexander operation and has oftentimes found this part of the ligament not larger than a violin string. The Kelly ventrosuspension operation has much in its favor in that it is easy of execution and usually stable in its effects. But it is open to the objection of rendering the uterus practically immobile if it is to be of permanent advantage, or failing this the uterus gradually draws away and finally sinks unrestrained into its former abnormal position. The Kelly operation, as is now well known, often leads to serious embarrassment in pregnancy and occasionally offers insuperable obstacles to parturition. My experience with the operation has been quite extensive and has embraced a period of years. I have found it in the main effective in keeping the uterus anteposed, and have seen less evil resulting from parturition and pregnancy than is generally credited to it. Very recently I found a woman in the hospital on whom I had performed the operation some four years ago, and who in the mean time had borne three children. She stated, in answer to my queries, that she had experienced no bad effects in her pregnancies or in labor. I found, on examination, the uterus firmly attached to the anterior abdominal wall, and that it was in perfect involution—her babe being five months old—but that she was suffering from one of the most extensive cervical lacerations that I had ever witnessed. The Kelly operation is beautifully adapted to the post-climacteric woman and to women who have been rendered sterile by removal of the uterine appendages.

The various operations for fixation of the uterus—vaginal and abdominal—are open to the same objections as the Kelly operation, and most of them have fallen into disuse. The need of the hour is an operation that will utilize the natural supports of the uterus, that will insure a certain amount of mobility, that will adapt itself to the various functions of the uterus—pregnancy and parturition—and that will be lasting in its results and withal easy of execution. We know that the round ligament grows *parra passu* with the development of the uterus in pregnancy, and that it returns to its primitive condition after parturition. I have recently had to remove a uterus in the fifth month of pregnancy, and in that case the round ligaments were developed to the size of the little finger and were long enough to be lax with the fundus at the umbilicus. We have all seen such things repeatedly, but having the subject in mind at the time I took special note of the condition of the round ligaments in this case. Theoretically the same changes should occur in the ligament which had been implanted in the abdominal wall. It is but just to say that the idea of implanting the round ligaments in the abdominal wall originated with Ferguson, and it was from him that I received my first hint. I had,

* Read before the American Association of Obstetricians and Gynecologists, at Louisville, Ky., Sept. 18, 1900.

however, on one occasion previous to this, sutured the round ligament to the peritoneum in the same relative position, but as I was not able to follow the case up I am unable to say with what result. There are, however, to my mind some objections to the Ferguson operation in that he cuts the ligament and thus destroys its continuity. He also makes two lateral incisions in the deeper structures of the abdominal wall, which have to be sewed up. Furthermore, he uses a sound in the uterus to support it while operating.

This latter requires a trained assistant and is not devoid of possible injurious effects.

STAGES OF OPERATION.

The steps of the operation as modified by me are as follows:

1. *A median abdominal section.* This section is from three to four inches long and at the usual site between the umbilicus and pubis.

2. *Break up the adhesions and bring the fundus forward.* After which the patient may be placed in the Trendelenburg position.

3. *Seize the round ligament on one side and bring it to the opening.* The ligament may be picked up between

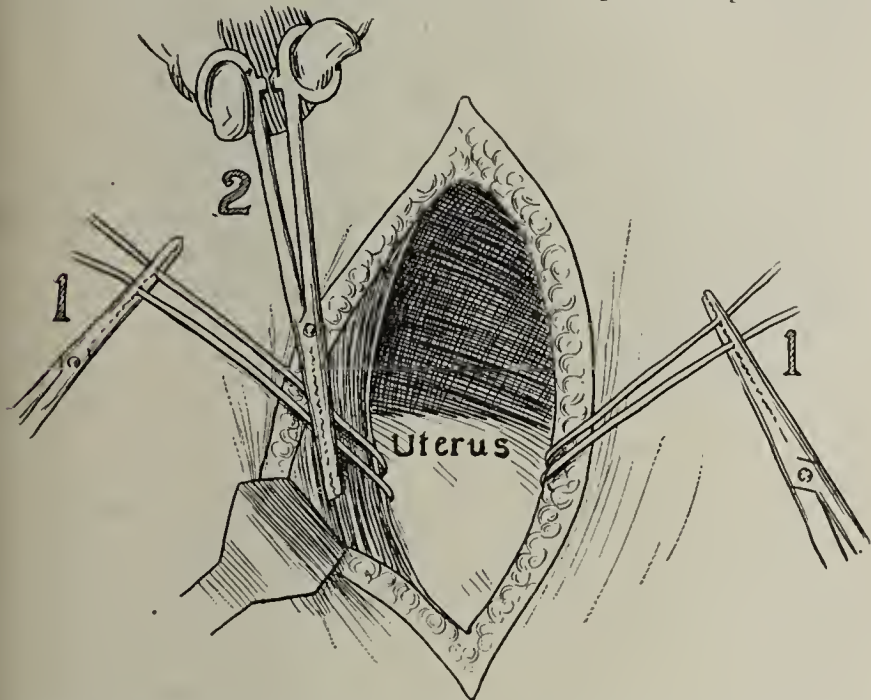


Fig. 1.—1. A thread has been thrown around the round ligament on either side and the ends secured by clamp forceps. 2. The overlying tissues are retracted and the perforating forceps applied to the surface of the rectus muscle, through which it is thrust into the cavity.

the thumb and finger, or by the aid of a bullet or blunt forceps. At the onset of my work in this line I had forceps specially constructed for the purpose, known as the button forceps, but which of late I have practically discarded as being unnecessary.

4. *Carry a silk thread under the ligament at a distance of about one and one-half inches from the uterus.* This can be most conveniently done with an aneurysm needle, though an ordinary needle answers the purpose very nicely. This forms a loop under the ligament, which is not to be tied, but after withdrawing the needle the two ends are brought out of the abdomen and secured in the bite of a snap forceps.

5. *The other round ligament is secured in the same way and the ends of the thread brought out of the abdomen and held in the bite of another snap forceps.*

6. *Catch up with a volsellum the fascia, muscle and peritoneum at the margin of the incision and an inch or so from the lower angle of the same and make traction.* This pins the layers together, prevents retraction of the muscle and facilitates the next step.

7. *Thrust the perforating forceps (specially devised for the purpose) through into the peritoneal cavity and seize the thread which holds the round ligament.* The perforation is made slantingly, the forceps entering the fascia one-half inch from the edge and emerging on the peritoneal surface from one-half to three-fourths of an inch farther from the edge. The handle of the forceps is next tilted outward, which everts the lip of the incision and brings into view that end of the forceps which is in the cavity. The jaws are opened and the thread placed between them.

8. *Remove the clamp forceps from the thread and withdraw the perforating forceps.* This brings with it the thread and the thread in turn brings the ligament through the perforated wound in the abdominal wall.

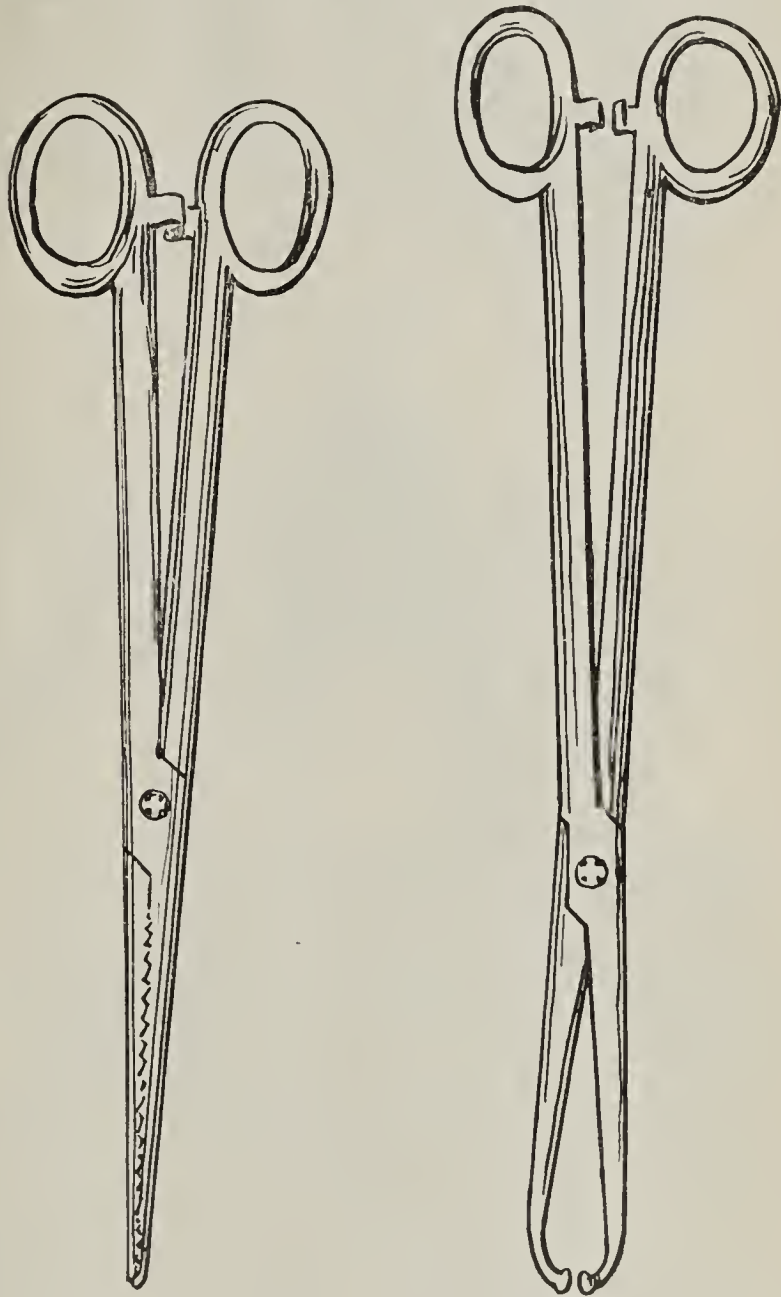


Fig. 2.—Perforating forceps.

Fig. 3.—Button Forceps.

9. *While the ligament is held taut fasten it into the wound.* This is done by a catgut suture which is passed through its base including the tissues on either side, then back again where it is tied. The thread which held the ligament is cut close to the ligament on one side and withdrawn. This, to prevent infection by pulling through the ligament that portion of the thread which had been exposed.

10. *Treat the opposite side in the same manner and close the median abdominal incision.* The projecting free ends of the ligaments are gathered up en route by the running catgut suture which closes the fascia and drawn to the middle line.

A defect in my operation as originally devised was in gathering up all the slack of the distal extremity of the ligament. This in some cases gave rise to a tensive, drawing feeling that was quite uncomfortable. I now merely

take up a small loop of the ligament, or just sufficient to project above the surface of the rectus muscle. Formerly I had rather an elaborate technique in the way of suturing the ligament so that it might not retract into the abdomen. Experience has taught me that such precaution is unnecessary. I now merely pass a catgut suture through the ligament in one direction and back in the other and tie the two ends. I have recently had to curette a case on which I had performed the operation in the early part of May last, and in doing so drew down the uterus so that the cervix protruded from the vulva. On removing the forceps the uterus crawled back into the pelvis and in a few moments had resumed its normal position. As to the possibility of incarceration of the bowel between the uterus, round ligament, and anterior abdominal wall I regard the chances as exceedingly remote. Strangulation I regard as utterly impossible. In a demonstration of the operation before the members of the Ohio Medical Society, in May last, I passed the four fingers of my right hand into this opening after completing the operation. In a recent contribution by

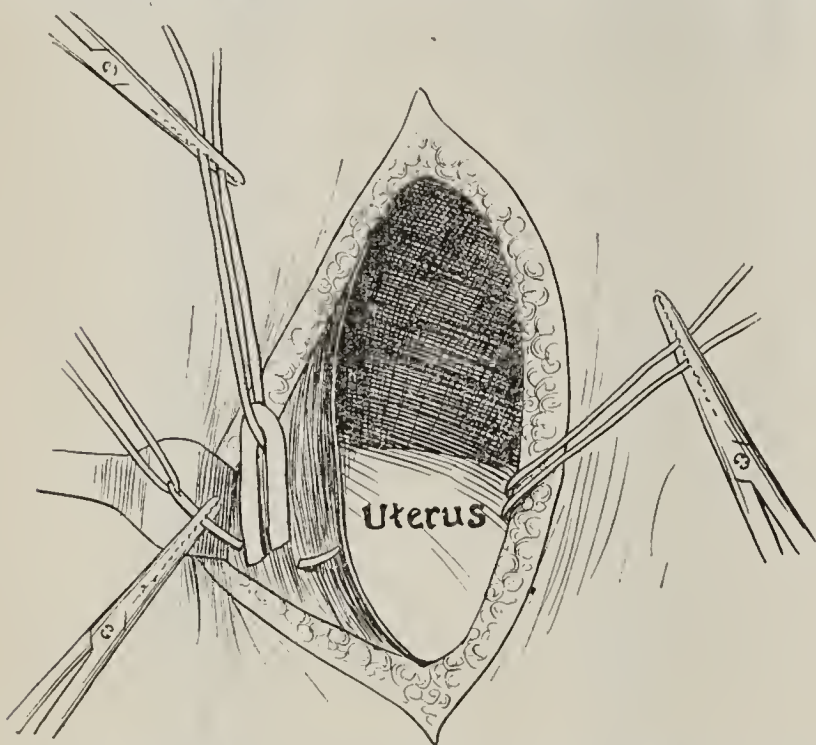


Fig 4.—The perforating forceps is withdrawn, bringing after it the round ligament, through the base of which a suture is being passed.

M. Richelot, he recommends that the round ligaments be drawn up over the fundus and stitched into the lower angle of the abdominal incision. Here I should fear strangulation, as the space between the uterus and ligaments is so limited. That the bowel may insinuate itself in front of the uterus is a fact well attested, although it must be admitted that such an occurrence is very rare under normal conditions. In one case of my own the operation of ventrosuspension was followed by obstinate constipation and distress in the hypogastrium, with gaseous distension of the bowels. Suspecting that some coils of intestine had found their way between the uterus and abdominal wall. I directed the patient to assume the knee-chest position, which relieved the condition.

In conclusion, I wish to say that the careless and unclean operator will almost assuredly be disappointed in this operation, as suppuration is prone unless the most scrupulous aseptic detail be adhered to. Not only should there be a careful preliminary cleansing of the parts, but there should be frequent ablution of the hands during the operation, and it should be the aim of the operator to handle the parts as little as possible and to complete the operation as expeditiously as con-

sistent with good work. I desire to say, furthermore, that increased experience with the operation confirms all my preconceived notions as to its value and adds to my desire that it should be more generally known and practiced.

MAGNETIC FOREIGN BODIES IN THE EYE.

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The class of patients with whom we have to deal in our subject may be said to belong for the most part to laborers or mechanics, whose daily occupation requires that they strike steel upon steel or steel upon iron as the case may be.

We may speak of steel or iron interchangeably. Either causes deflection of the magnetic needle; each can be located by means of the Röntgen rays; both are attracted by the magnet, and the one is as destructive as the other.

Small particles of iron or steel are occasionally found loose in the conjunctival sac. When seen there they have usually first struck and probably loosely imbedded themselves in the cornea or bulbar conjunctiva and afterward become dislodged. They are then principally found just under and a little above the margin of the upper lid and are naturally easily removed.

Small chips of iron or steel are frequently found imbedded in the cornea—they then cause considerable pain, lachrimation and photophobia. If located in the horizontal meridian or a little below it the degree of pain may be lessened by the patient's constant effort to limit the act of nictation, thus keeping the eye open as much as possible, thereby diminishing the amount of irritation caused when the lids are in contact with the foreign substance. Such particles of iron may be overlooked by the patient or his friends. If left alone they rust and cause more or less infiltration and frequently are the seat of infection. We are enabled to detect them in good daylight or by means of focal illumination—still more definitely by the use of a corneal magnifier. If loosely imbedded, we may use a probe around which is wrapped a piece of absorbent cotton, moistening it and wiping the foreign body off. If firmly imbedded, the cornea should be anesthetized either with cocaine or holocain, the eye steadied with the fingers and under good illumination the foreign body removed with a spud or gouge made for that purpose. Or we may loosen the particle and apply a strong magnet. If rust is present it is well to remove as much of it as possible.

If the foreign body is deeply located in the tissues of the cornea, we should, if necessary, cut the overlying portion with a small cataract knife and then apply a strong electromagnet. In this way we lessen the possibility of further injury to the cornea or of having a sharp piece of iron penetrate into the anterior chamber during the process of removal.

The importance of strict asepsis in all cases can not be over-estimated. If infection is already present, we should use an antiseptic and then irrigate with an aseptic or mildly antiseptic solution. If much irritation is present, instill atropin and apply a pressure bandage.

Small sharp pieces of iron are occasionally found imbedded in the sclera. Owing to its elasticity and density, it, in many cases, resists the impelling force of the foreign body sufficiently to prevent penetration, or, on the contrary, it is entirely penetrated by it. It is

as a rule easy to locate and remove these pieces of iron from the sclera.

Before considering the more complicated subject of injuries due to penetration by, and retention of, the magnetic body, we will speak of the history and diagnosis of such cases. The patient, perchance, tells us that he has been working with hammer and chisel, and that upon striking a blow something hit him in the eye. Occasionally bystanders are the recipients of small pieces of steel in the eye. Many times patients try to assure us that nothing has penetrated the globe. They complain often of having only comparatively slight pain; of photophobia, lachrimation, together with more or less diminution of vision. We may find only a linear scar, the edges of which are already in apposition.

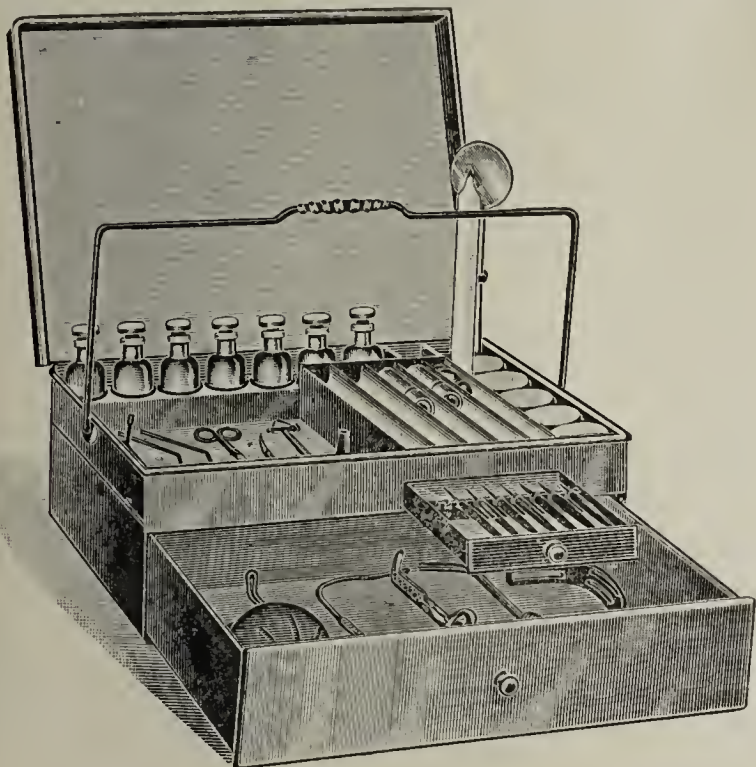


Figure 1.

After examining the eye well in good daylight, we determine approximately the amount of visual acuity—field of vision—then examine under focal illumination and with the ophthalmoscope. Next in order is the sideroscopic examination. The value of the sideroscope in determining the presence of iron in the eye, and too, its approximate location, is much underrated. Dr. Thomas Pooley of New York was the first to use the compass needle in determining the presence of iron in the eye. All sideroscopes have been modifications of

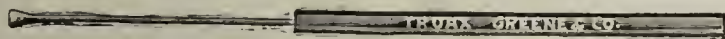


Figure 2.

his. In 1894 Asmus devised one which has been successfully used up to the present time, but as it is somewhat complicated in construction, it requires the services of a good assistant for its successful employment. I have seen Professor Hirschberg get brilliant results with this instrument of Asmus's, and two years ago it was my pleasure to see him demonstrate, before the Berlin Ophthalmological Society, a sideroscope designed by himself. Its mechanism is simple and it gives excellent results. In structure it consists of wood, brass and glass. There are two substantial wooden brackets which should be firmly attached to a solid wall running north and south, or nearly so. Upon the upper bracket is an adjustable upright standard, the upper part of which consists of a glass tube. In the middle of the standard is an oblong chamber of brass on each end of which is fastened a small glass capsule. In the up-

right tube is a fine brass thread attached above to a revolving screw. On the end of the thread hangs a magnetic needle, upon the middle of which is fixed a small mirror. Upon the lower bracket swings a standard, bearing a lamp, rays from which pass through a strong lens on to the mirror of the swinging needle. A graduated scale is placed in position and the lamp so adjusted that the reflected rays fall upon a graduated screen.

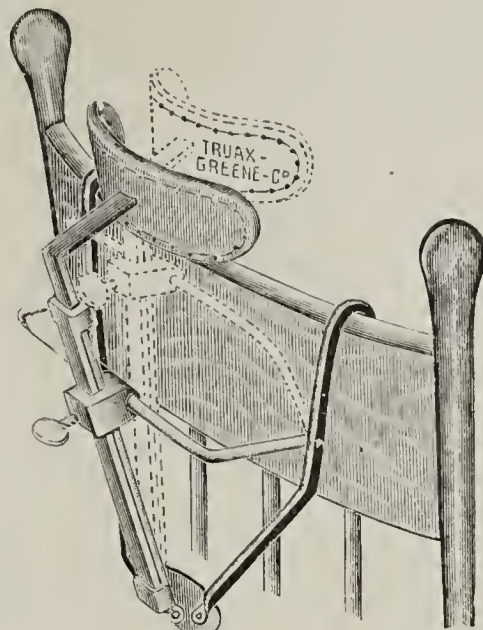


Figure 3.

For convenience of expression we may divide the eye vertically and horizontally, thus giving us four quadrants, an upper and lower nasal and an upper and lower temporal quadrant. Cut No. 1 shows the glass rod—within which is balanced a magnetic needle—as being almost in contact with the eye at about the juncture of the lower and middle third of its lower nasal quadrant, 7 mm. from the sclerocorneal junction. Here we find the needle gives the greatest reaction which,

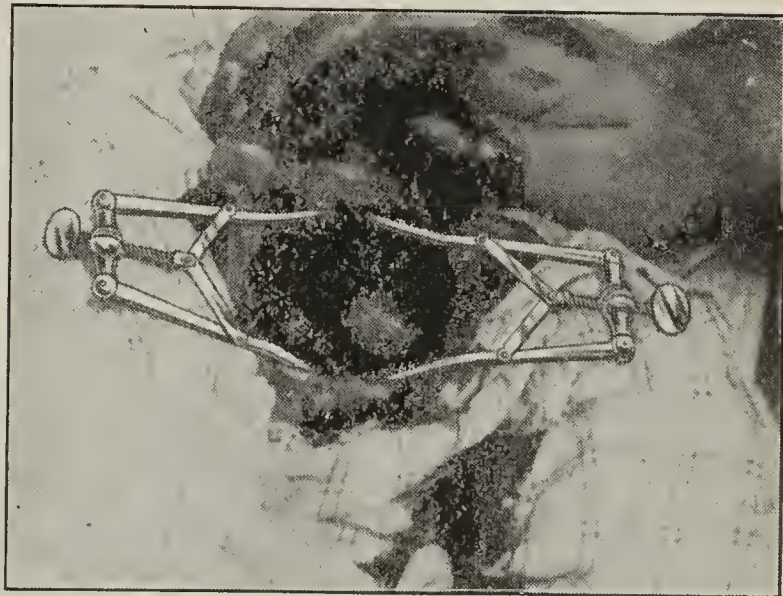


Figure 4.

as the indicator shows upon the screen, measures 4 degrees. If we get little or no reaction of the needle when applied to an eye in which we have good reason to believe iron is present, we should bring the patient's eye into the field of a strong electromagnet. This magnetizes the retained iron and consequently results in its giving a better reaction when the eye is again brought into the field of the needle.

In no case should we undertake an extraction nor should we even cause dislodgment of a chip of iron until we have if possible determined its location and relative size. In order to do so it will frequently be necessary to utilize the Röntgen rays. The first foreign

body removed successfully after location with Röntgen rays was reported by Williams.¹ De Schweinitz, Hansell, Sweet, Oliver, Percy, Friedenbergl and others have since reported favorable cases.

In order to obtain good results in *x*-ray work,² the head and eye of the patient must be kept motionless during exposure. This is best accomplished by having the patient lie upon a table designed for that purpose. The eye should be kept closed. Knowing that the rays travel in straight lines, we endeavor to place the tube and plate in such a position that we get a bitemporal skiagraph and also one taken in a fronto-occipital direction.

Before making an exposure in the bitemporal direction, four pieces of fuse wire, each 6 mm. in length, are placed—and held in position by means of ordinary court-plaster—over the temporal region of the eye so that the enclosure represented between their inner ends corresponds to an area a little larger than that corresponding to the lateral area of the eye. These pieces of fuse wire show distinctly on the plate after development.

If there be upon the plate more than the four regular outlines of the wire, we know we have a foreign body, and, moreover, we know its approximate size, location and shape as seen from this direction. We may still better locate it by placing a piece of paper cut exactly

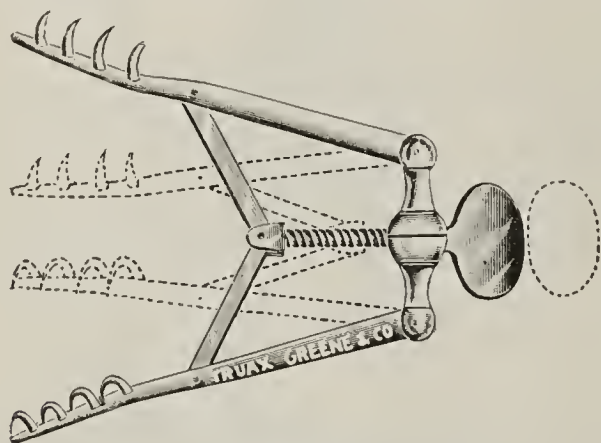


Figure 5.

the size of the normal eye upon the plate between the four artificial landmarks, and mark upon it the location of the foreign body. Then, in turn, we place the paper over the area between the landmarks upon the patient, then designate the location of the foreign body by means of an anilin pencil.

In the anteroposterior exposure two pieces of wire may be used. They are placed, one upon the upper, the other upon the lower lid in such a manner as to represent the diameter of the eye from above downward. Comparisons are in like manner made here as before.

We now come to the subject of the extraction of the magnetic body. The use of the magnet in surgery of the eye was first recorded about 250 years ago, when Wm. Fabry, a German, removed a small piece of iron from the cornea by means of a lodestone (1656). It is a little over half a century (1842) since Meyer, also a German, removed, through the wound of the sclera, a piece of iron from the vitreous, using a thirty-pound magnet. About a quarter of a century later, McKeown, of Belfast, made the first recorded equatorial incision (1874) for the removal of a piece of iron from the vitreous, which he accomplished by means of a magnetized rod of iron—the so-called permanent magnet. In 1877 Hirschberg perfected his electromagnet, and two years later operated successfully with it on a difficult case, making the first recorded meridional incision.

In 1894 Haab, of Zurich, constructed a giant magnet on the principles of the one used by Meyer in 1842. So many good descriptions of the magnet have been published that I shall here say but little regarding its structure. It consists of a cylinder of soft iron, around which is wound many layers of insulated copper wire. There is a cut-off switch fastened to the wall, also a resistance box at its base, with a number of steps which allow the gradual admission of the current, thus enabling an assistant to regulate the amount of force required by the operator. Meyrowitz has mounted the Haab magnet so that it may easily be moved in practically any direction.

I find that when in the recumbent position, the patient is often under much better control. This applies particularly to those cases in which the amount of traumatism is great.

The Hirschberg magnet consists of a soft bar of iron around which is wound a coil of fine insulated wire. It is a hand magnet provided with a number of variously shaped points of different sizes. It can be connected to a series of dry cells or to a zinc carbon element, and will support as high as 500 grams. It should be used in conjunction with the Haab. What the one will not accomplish, the other, in a large majority of cases, will.

Knowing the position of a foreign body lodged in the interior of the eye, we elect as to whether we shall remove it through the tract of entrance; draw it by means of a large magnet into the anterior chamber and afterward through a corneal section, remove it with the small point of the Hirschberg magnet; or we may decide that a meridional or an equatorial incision is preferable. In each instance it is our aim to remove the iron by such a method that it will result in the least injury to the eye.

The Haab magnet is and has been much used as an important factor in diagnosis. When used for that purpose the head of the patient is brought gradually toward the pole of the magnet. If pain be then present or increased we know that the foreign body has impinged upon the tissues; finally, if after we have turned on the full force of the current, we get no pain nor increase of pain, we reverse the current and apply the magnet to the eye so that its power-lines shall have had effect from all directions, and then if the patient complains of no pain, we infer either that there is no magnetic body present or else that it is too firmly imbedded to be affected by the magnet.

The magnet as a diagnostic instrument should be applied only after all other means have failed to show the presence of iron or steel in the eye. It is of the greatest importance that the patient be seen as soon after the injury as possible.

VARIABILITY OF THE TUBERCLE BACILLUS.

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The variability shown by tubercle bacilli in their staining reactions and morphology has been made the subject of much study for more than a year at Fort Stanton, N. M. Facts have been observed which, so far as we have been able to ascertain, have not as yet been described in the literature of tuberculosis, or at most vaguely alluded to, and which we believe have importance in establishing early and correct diagnosis, as well as in other stages of the disease.

1. Trans. of Am. Ophthal. Soc., vol. ii, p. 708.

2. I am much indebted to Dr. Harold Sneve for aiding me in my efforts to obtain good radiographs.

Our purpose now is to demonstrate the important fact that tubercle bacilli from different subjects, and from the same subject at different times, undergo changes in their affinities for certain dyes, to the extent, at times, of rejecting one or several while displaying avidity for others.

This phenomenon has been observed and studied by P. A. Surg. Cobb for several years past, to as great an extent as official duties allowed, but not until detailed at Fort Stanton was it possible for him to give the matter the attention it deserved. Since then the results of our experiments have not only confirmed his earlier tests, but also brought out some new facts hitherto unobserved. In this connection the reader is referred to Cobb's article in the "Annual Report of the Marine-Hospital Service" for 1898.

The text-books all seem to unite in stating that tubercle bacilli are best stained and demonstrated by fuchsin solutions, given solutions properly made up, of course, and sufficient experience and manual skill on the part of the operator in destaining and counterstaining. Now, in view of the fact that there are several preparations in the market designated as fuchsin, as well as modifications of the same substance under the names of magenta, rosanilin, solferino, etc.—all classed under the head of fuchsin—it is evident that the books are not at all clear as to what preparation is referred to as fuchsin. Generally little or no mention is made of the fact that several other dyes than fuchsin are able to stain tubercle bacilli equally well; or if alluded to at all the impression is usually conveyed that they require many hours in time, and the employment of aniline oil as a mordant, which of course renders solutions so unstable as to be worthless in a short time. The different preparations of fuchsin, and the varieties known as magenta and rosanilin possess markedly different physical properties very easily observed, as varying solubility in alcohol, water and other liquids, staining of tubercle bacilli and other micro-organisms, etc. Grubler's fuchsin (S) is quite soluble in water, sparingly so in alcohol, gives no metallic luster in solution, and rarely is able to stain tubercle bacilli. Merck's fuchsin (anilin-red) is the entire reverse of Grubler's, but the latter's preparation of magentaroth seems physically identical with it. Of course, bacteriologists are aware of the different uses of the fuchsin preparations and varieties, but general practitioners are not always so, and often make the error of employing acid fuchsin (fuchsin S) in sputum examinations, which rarely stains tubercle bacilli, being intended for other purposes. This mistake is not to be wondered at, seeing that the instructions in the books are not sufficiently definite on this point. Grubler's Sudan III seems to be a most reliable stain for tubercle bacilli, while Merck's is said to be worthless for that purpose.¹ We have also noticed differences in efficiency in bottles of certain dyes from the same maker, especially so with methylene-blue, gentian-violet, fuchsin and safranin. Up to the present time we have had best results from Grubler's Sudan III, magentaroth, Merck's fuchsin, and Merck's methyl-violet. Malachite-green (Merck's) has worked beautifully in several cases, but our experience with it is only recent. Regarding mordants, we prefer carbolic acid to anilin oil, and use it with all stains except Sudan III, which does not require a mordant. As remarked before, anilin oil makes solutions very unstable, while those containing carbolic acid last much longer, except-

ing rosanilin which does not seem particularly valuable. To avoid complexity it is best to make all the formulas relatively identical, that is, where their physical properties permit. Thus the solution in which the different dyes are dissolved may consist of 5 per cent. carbolic acid in 25 per cent. alcohol. From 1 to 2 per cent. of any dye may be added and the solution is complete, though saturated solutions would be as good or better, but in the case of very soluble dyes the mixtures would be too expensive. Sudan III is an exceptional stain both in composition and principle, and for staining tubercle bacilli all that is necessary is to use a saturated solution in absolute alcohol. Except in rare instances any of these stains should do its work within two minutes, either hot or cold. Sudan III when dissolved in turpentine will also stain tubercle bacilli. The same destaining fluid, consisting of HNO_3 or HCl , alcohol, or H_2SO_4 25 per cent., or sweet spirits of niter, can be used for all stains except Sudan III, which only requires plain alcohol.

The method employed in this laboratory in preparing the specimen for staining is one known as the Berlin method. Cobb improved this method, and as it is far superior to that in general use it will be described.

A portion of the sputum is removed with a wire hook, not necessarily of platinum, and transferred to a clean slide held between the thumb and index finger of the left hand. A second slide is now taken in the right hand, held in like manner, and pressed down upon the sputum on the first slide, and they are then drawn apart and pressed together alternately until a spread of uniform distribution is effected on the apposed surfaces of both slides, with the exception of a space one-half to three-quarters of an inch from each proximal end where the slides are grasped by the thumbs and fingers. The slides are then dried and fixed in the usual manner, and are ready for staining. When ready for examination, a drop of oil of cedar or glycerin is placed directly on the spread and the oil-immersion lens brought in contact with it. As this method dispenses with cover glasses its advantages are obvious. Cover glasses are objectionable, owing to their small size, brittleness, liability to cut and infect the fingers of the operator, and the general nastiness of the cover glass method. The improved Berlin method prevents error in demonstrating the staining qualities of any stains employed, as both spreads are prepared in the same manner and should contain the same relative number of bacilli. The demonstration of variability is also well shown here when one spread is beautifully stained by one method, and the other spread, when some other stain is used, often gives negative results. Glycerin is to be preferred to oil of cedar for oil-immersion work not intended to be permanent, as slides thus used are much easier to clean. But it should be clearly understood that even with glycerin it is not easy to rid slides of stained tubercle bacilli. It seems incredible that these germs can preserve their form and staining properties as they do in the presence of heat and alkalies, but we have often detected fairly well stained tubercle bacilli on slides boiled one-half hour in solutions of caustic potash. About the most reliable cleaning reagent we have employed is concentrated lye in strong solution, in which the old slides should be boiled at least one hour. Before proceeding with the subject of variability it may be of interest to note that tubercle bacilli can often be stained in absolute alcoholic solutions of several dyes to which pure carbolic acid is added. This is only mentioned because the books

1. Rosenberger, in the Journal of Applied Microscopy, June, 1900.

lead one to believe that the presence of water is essential.

In a small percentage of cases the bacilli are found to possess so little affinity for any stain that even very dilute acid destains them almost instantly, and only by the most delicate manipulation can they be demonstrated. In a few exceptional cases no tubercle bacilli can yet be shown by any method, though the patients present undoubted physical signs and symptoms of tuberculosis. Such cases, however, as well as the preceding ones, usually contain bodies of irregular conformation resembling bacilli and showing some affinity for the primary stains. These bodies may possibly be involution forms of tubercle bacilli. In a few cases experimented with who have lesions other than pulmonary, such as tubercular tonsil and lupus vulgaris, the bacilli seemed to indicate a preference for Grubler's fuchsin (S.)—the poorest stain for sputum. Only a few pulmonary cases here can be made to show tubercle bacilli with Grubler's fuchsin (S.), but these also stain with other colors. A very curious fact noted in several patients immediately upon their arrival was the impossibility of making their bacilli retain any stain by a quick method, though specimens exposed to the stain 18-24 hours were beautifully stained. This condition was not permanent, however, and in the course of a few days the bacilli would stain in the usual way. Differences in size of the individual bacilli are often observed, and as a rule seem to depend on the length of time the disease has been present, the older cases showing bacilli of nearly uniform size and few in number, while recent cases are apt to exhibit considerable variety in this respect, the sputum being loaded with bacilli, some so large as to inspire doubt as to their identity with the Koch bacillus, even though staining similarly and having the same granular structure. The so-called branching form of tubercle bacillus is occasionally met with in acute cases, though its occurrence is comparatively rare and its special significance, if any, is unknown.

In order to explain the fact that tubercle bacilli could not be demonstrated at all times in sputum from any subject, it has been frequently claimed—by observers who apparently employ only one primary stain—that the bacilli in question are absent at such times, and, presumably, only appear in sputum coincident with acute exacerbations in which active tissue destruction is going on. We must take exception to this statement or inference since making use of a variety of staining methods, confidently believing that in no well marked case in which tubercle bacilli have once been demonstrated are they ever absent from the sputum, though often rejecting one or other stain temporarily. This belief receives additional emphasis from the fact that introduction of sputum from such cases supposed to be free from tubercle bacilli into the peritoneal cavities of guinea pigs usually produce the lesions of tuberculosis and subsequent death.

Of course, sputum is more appropriate for demonstration of a large number of tubercle bacilli when raised in the early morning than during the rest of the day, but that fact can be readily explained on purely physical reasons. During the night, if the patient sleeps well, the pulmonary sputum accumulates, and as its water is transformed into vapor and removed with the breath, it becomes quite dense, and naturally contains many more bacilli than at other times.

It is often astounding when, after negative or doubtful results with one stain the specimen is tried with an-

other or several others, and is then seen loaded with typical tubercle bacilli. On one occasion bacilli in the sputum of a certain patient could only be made to retain gentian-violet, but several days later the phenomenon was reversed, methylene-blue being held with avidity, while the former dye was so imperfectly retained that a diagnosis would have been impossible by its agency alone. Many other instances of variability have been encountered, and the importance of such in practical diagnosis must surely be considerable.

For quickly staining tubercle bacilli in tissue sections the following method is convenient: Place the section on the slide, and when the alcohol has evaporated apply a drop of a weak solution of egg albumin and gelatin; dry in air, fix with heat, and stain same as sputum spreads, except that heat should not be applied and staining and destaining ought to have about double the time.

THEORIES OF VARIABILITY.

In view of the natural doubt likely to arise as to the bacilli which exhibit such remarkable variability being genuine tubercle bacilli, it may be well to enumerate the several other species of bacteria which, according to the text-books, possess the power to retain certain anilin dyes in the presence of dilute mineral acid. They are the following: 1. *Lepra bacillus*. 2. *Smegma bacillus*. 3. Acid-resisting bacteria in butter. 4. *Bacillus of syphilis* (Lustgarten). 5. *Timothy-hay bacillus*.

It is exceedingly improbable that any of these bacilli can be responsible for the peculiar variability toward stains so often noticed in connection with our patients when staining for tubercle bacilli. The bacillus of leprosy is out of the question, of course. The smegma bacillus can also be eliminated from further consideration in the large majority of cases, for obvious reasons. The acid-resisting bacteria found in butter might perhaps be present now and then in the mouth shortly after a meal, but they would not likely occur in large numbers in deep pulmonary sputum, and even if they did, they would shortly appear as colonies on glycerin agar plates inoculated from the sputum. A number of such tests failed to develop bacilli of that character, and examination of oral secretion from several healthy persons did not reveal bacilli capable of holding anilin dyes in presence of acid.

Lustgarten's bacillus of syphilis has always occupied a precarious position, which has become more so since the recent work of Van Niesen has been described. The discovery of the smegma bacillus nearly proved its death blow, but it managed to partially outlive that event, probably because of Lustgarten's claim that his bacillus had also been obtained from the central portions of gummata. Providing it is really an independent organism, it is probable it would stain as the tubercle bacillus usually does, and possibly this germ does figure to some extent in tubercle cases where the syphilitic infection is comparatively recent, but as at present there is no differential test, and as syphilitic consumptives are decidedly in the minority any way, Lustgarten's bacillus can not be considered a very formidable antagonist to the tubercle bacillus when it comes to a demonstration of acid-resisting germs in sputum from a patient having physical signs of tuberculosis.

Regarding the timothy-hay bacillus nothing definite can as yet be said, but considering its habitat, and as a result its association with stables, corrals, etc., its relation and possible identity with the acid-resisting germs in butter becomes a matter of interesting speculation.

The alleged saprophytic form of tubercle bacillus described by Ferran should be briefly mentioned. He asserts that spermin is produced in the cultures, but as we have not yet been able to obtain his full report as to the staining properties and pathogenesis of this variety, nothing further can be said about it here.

Scratches on the surfaces of slides will frequently confuse and mislead a beginner, and their frequent occurrence on slides that have been used several times should always be remembered. They hold the primary stains in presence of dilute acid and after moderate boiling, and often closely resemble bacilli, but generally they can be recognized without difficulty if the following points are borne in mind:

1. Several usually occur in series, resembling minute arcs of a circle.
2. All members of the series have about the same degree of curvature.
3. Their extremities are generally pointed.
4. A granular appearance is not usual.
5. They stain deeper than tubercle bacilli, and have greater power of refraction.

The subject of scratches on the surfaces of glass slides is mentioned here because of the fact that errors in diagnosis are known to have been made from this source.

THE PHYSICS OF VARIABILITY.

It can be taken for granted, in view of Koch's and Klebs' experiments, that the only reason tubercle bacilli are able to resist the destaining action of acids is because of the large amount of fat they contain—about 22 per cent. Possibly and very probably the physical condition directly responsible for the apparent absence or great scarcity of tubercle bacilli in the few cases where we were not able to make satisfactory demonstrations while undoubted physical signs of the disease were present is a relatively small percentage of fat in the individual bacillus. Klebs asserts that when tubercle bacilli are exposed to the action of strong alkalies for some time they lose their power of retaining stains against acids, and thereafter act like most ordinary bacilli toward stains and destains. While the fat hypothesis may hold good for the cases just mentioned, it cannot explain the variable affinity of genuine tubercle bacilli for different anilin dyes whose principle of action is apparently the same. In these cases it would seem that some essential modification in the fat or stroma or capsule is brought about, varying in nature and extent, so that at one time a certain stain or set of stains has a greater chemical affinity for the modified bacterial substance than at another. We have often noted that a specimen in which no typical bacilli could be demonstrated nevertheless contained granular bodies which held the primary stain. Klebs states that these are disintegrated tubercle bacilli. We were usually able to demonstrate typical bacilli in such cases at a later period. Sputum is, as a rule, strongly alkaline, and that fact may have some importance in the cases recently alluded to where the bacilli can only be found with difficulty or not at all, the hypothesis of saponification to a greater or lesser extent being then tenable. But the amount of alkalinity alone could not explain, for instance, why gentian-violet is preferred to methylene-blue at times, or the reverse. The peculiar sweetish taste so common in the sputum of tubercle subjects may perhaps indicate the presence of one or more substances having special mordant or destaining properties for certain stains. So far as we are aware, previous chemical experiments to isolate this

sweet substance, or substances, have resulted negatively. Tuberculous sputum does not give the Ehrlich diazo-reaction, fresh or boiled, acid or alkaline, only showing a deep yellow ring when the ammonia is added, and not the intense red one frequently seen in the urine. In our experience this reaction is most marked in the urine of cases where the disease is actively progressing and constitutional symptoms are quite severe. The output of urea is increased in this altitude.

Whatever the chemistry involved, it is probable that the phenomenon of variability is ultimately the result of one of two factors, or a combination of both, namely: 1. The production of a specific antitoxin. 2. The presence of extensive mixed infection.

That a specific antitoxin is produced in tuberculosis as in other infectious diseases there can be no reasonable doubt, and that being admitted, it seems certain its presence must affect the vitality of the bacilli more or less. The changes thus brought about may have for their visible manifestation the capricious staining reactions so much discussed here; in which case the variations exhibited would indicate the different stages of vitality possessed by the bacilli, some stains having affinity for strong organisms and others for debilitated ones. Speculation along these lines naturally brings in the subject of immunity at the same time, and certain aspects of it are nowhere better exemplified than in the clinical observation of a number of tuberculous patients. Take, for instance, individual or relative power of resistance to the action of toxins produced by tubercle bacilli. Some patients, presenting physical signs of extensive tissue destruction in both lungs, will live on for a long time without becoming markedly worse. The turning point on the downward arc is passed, and then, slowly but surely, progress towards recovery is made. In those of this class who do not recover the necropsies frequently reveal the fact that death was more the result of gradual suppression of functional activity than of intoxication. On the other hand, some patients, having a comparatively small amount of tissue involved, will show a marked susceptibility to the toxic action resulting, rapidly growing worse in every way and shortly succumbing to the disease. The necropsies usually confirm the physical findings in life, showing that only a small portion of pulmonary tissue was functionally inactive, and consequently that death was the result of intoxication and not loss of function. Of course, in such cases, mixed infection probably plays a more important role than generally given credit for.

The relation of mixed infection to the variable staining properties of tubercle bacilli and to the clinical phases of the disease is, we have reason to believe, a subject worth much time and study, though somewhat neglected since the first rush of cultivation experiments following Koch's memorable discovery. We have recently given some attention to it in a superficial way. But the whole subject ought to be gone over again thoroughly. Streptococci are usually spoken of as being of most importance in mixed infection, though in our experience staphylococci are much more in evidence. However that may be, the fact remains that in the matter of vitality streptococci have the advantage, our cultivation tests having demonstrated their ability to survive exposure to carbolic acid 5 per cent., and bichlorid of mercury 1 : 1000, about as long as tubercle bacilli. The idea may be reasonably entertained that the chemical product of other organisms, present in large numbers in tubercle sputum, may be, in part, at least, the cause of the staining variations shown by tubercle bacilli. Ina-

bility to stain readily, or erratic manifestations in that direction, probably indicate lowered vitality of the bacilli. There are a number of facts which show that some microorganisms (the products of their vital action) are inimical to the growth and life of others. It will be interesting to note the effects produced on tubercle bacilli—from the staining point of view—when other germs are grown along with them; also the action of blood serum of appropriate animals immunized to tuberculin and the far more powerful toxins recently extracted from tubercle bacilli.

In this connection the clinical relation of other diseases to tuberculosis, when coincident with it, should receive brief mention. There is evidence showing that in several tubercle cases attacks of smallpox apparently eliminated the former disease. The clinical observations of Portucalis on the relation of syphilis to tuberculosis are interesting, and his conclusions will be quoted verbatim:

"(1) Syphilis, when it is contracted by a phthisical patient, arrests the course of the earlier disease. (2) When contracted by a patient already suffering from phthisis, syphilis runs a mild course. (3) The antagonism between the microbes of these two diseases produces a neutralization of their toxins. (4) When the microbe of syphilis has been discovered, and its cultivation made possible, we shall be able to prepare a serum with which consumptives may be inoculated and their disease arrested. (5) Inoculation with the blood serum of syphilitics in the third stage would be of great advantage to consumptives."—*Med. Rec.*, Sept. 8, 1900.

From the results as noted in the foregoing it seems logical to advance the following

CONCLUSIONS.

1. Tubercle bacilli are not always so easy to demonstrate as is commonly believed, even though present in large numbers.
2. The fuchsin solutions, like those of other dyes, can not at all times be absolutely depended upon.
3. Tubercle bacilli from different patients, and from the same patient at different times, will not invariably stain by one method.
4. The bacilli exhibiting these varying staining properties are genuine tubercle bacilli, and not other species of acid-resisting germs.
5. The staining variations probably depend on physical and chemical changes in the bacterial substance, instituted either by antitoxic action or by the products of associated organisms, or by a combination of both.
6. In the absence of demonstrable tubercle bacilli, where physical signs of tuberculosis exist, a prompt diagnosis of that disease should be confidently made in the interest of the patient, and no valuable time be lost in waiting for typical bacilli to appear.

MEDICAL COLLEGES AND PROFESSIONAL STANDARDS.

INEZ C. PHILBRICK, A.M., M.D.
LINCOLN, NEB.

According to the report of the United States Commissioner of Education, in 1899, there were in that year 23,778 medical students and 4911 medical graduates. Between 1875 and 1899 the increase in the number of medical students was 177 per cent. But not alone upon statistics do we depend for confirmation of the crowded state of the profession. The fact is so patent and alive that much of the editorial space of leading medical journals is devoted to a discussion of the condition, its cause and its cure.

That a majority of the profession is incompetent and

unworthy, is not subject to statistical proof. To the unprejudiced medical observer of the profession of almost any locality, the truth is patent that very many of its members are persons of inferior ability, questionable character and coarse and common fiber. The little esteem in which the profession is held by laity and government attests its unworthiness. Patients whose number is legion throw themselves from its arms into the embrace of quackery, and we must admit that the support is often as effective in the one case as in the other. "Christian Science," mental healing, magnetic healing, and osteopathy reap a rich harvest from the incompetency of regular practitioners. Granted that the wisest and most conscientious often stumble, to any one possessed of medical skill witnessing the mistaken diagnoses, inefficient and oftentimes barbarous, treatment, and the unconscionable fleecing of a credulous public by members of the profession, is borne in the conviction that, like the traveler on the Jericho road, he has fallen among thieves. The public can not discriminate. In its view there is no comparison of a degree which, qualitatively considered, varies as between mud and mind. The influence of the profession is not felt in the conduct of government. Bills championed by its foremost members are pigeon-holed in the committee room. Just bills for compensation for medical services rendered to the public are not allowed; while those licensing quackery make triumphant passage from the first reading to the governor's signature. The opinion upon matters medical of the ignorant member from X. outweighs that of the highest in the profession. Why? Because the profession does not conform to that short rule of Dr. Holmes' for acquiring the confidence and esteem of the public—to deserve it. Unquestionably the cause of professional degeneracy lies in the educational requirements made for entrance to the profession; and hence the question resolves itself into one of medical colleges, their number, their location and their standards. The educational aspect of medicine is seldom discussed in our societies. Are we dwellers in houses of glass and hence wary of stone-throwing? In defense of the highest, it is well if all our houses of glass be shattered that we must build more enduring.

Medical colleges exist far in excess of any public need. Like the country store which doles out its inferior wares at every cross-roads, a so-called medical college is found in almost every town of generous size; and to obtain a medical degree is within the possibility, intellectual and financial, of any youth, however lacking in mental and moral fitness. In inverse ratio to the frequency of medical colleges do we find the extent of their equipment. In the majority of cases they possess few facilities for demonstration; are located in towns where there is not a sufficient number of dependents to furnish requisite clinical material; and generally have as instructors men of mediocre or less ability. The same law that holds in trade, to-wit, that the best interests of the consumer are served by bringing him as near as possible to the center of distribution, obtains as regards medical instruction. The report of the United States Commissioner of Education for 1899 notes 151 medical colleges. The recent estimate of the Secretary of the AMERICAN MEDICAL ASSOCIATION is 173. No doubt the latter figure is more nearly correct. As an institution of local ill-fame and more than average depravity is not noted in the list it is probable that other choice institutions throughout the land do not appear in this report. The total number of medical colleges in Austria and Germany, with a population greater than in the United

States, was in 1898, twenty-nine. In the same year, Great Britain with a population more than half ours, had seventeen. The editor of the *Medical Record*, commenting upon the discrepancy, while admitting the greater need of America by virtue of its less dense population, adds: "But we do contend that when a city the size of St. Louis has as many medical schools as Russia, the craze for multiplying these schools is being carried to absurd and harmful lengths." As regards the establishment of medical schools there seems to be but one governing idea, that they may have life, considered in a purely quantitative sense, and have it more abundantly. Instead of bending its energies to the eradication of the large number of medical schools which are a blot upon its escutcheon, the profession establishes ever more, perhaps reasoning homeopathically that one poison will antidote another. A motto which might appropriately adorn the portals of many of our medical colleges, were fitly expressed in the lines of the old doggerel: "Will you walk into my parlor, said the spider to the fly?" Being generally a very inexperienced fly, fresh from sylvan groves, he often accepts the invitation, and can never thereafter extricate his feet from the mesh of inadequate instruction and indifferent example found therein. Professional welfare is not a desideratum in the founding of most medical colleges, they being merely reflectors of personal ambition. To most men the good of the moment is paramount. Few there are who, tempted upon the mountain of personal ambition, offered a professor's title or an enlarged fame and clientele, can, following the Nazarene, exorcise Satan.

Excessive multiplication of medical colleges entails inferior instruction and example. Prophets are not as thick as roses in June, and to be divinely called to the instruction of youth is a distinction to which few attain. Too often men who have not sufficient interest in their profession to attend the meetings of a medical society, who, if they possessed the energy, have not the ability to write a correct medical paper, much less appreciate one, and whose morals are for the most part in that nebulous stage where the distinctions of *my* case and *thy* case, are but dimly revealed, are, forsooth, set apart as instructors and inspirers of youth.

Commensurate with the vast strides that medicine is making along the lines of bacteriology and physiologic chemistry, laboratories are demanded, requiring for their equipment large sums of money, generally not available to the small institution. However, given the endowment the latter can build and equip the laboratory and call men of ability to professors' chairs. You can make a bacteriologist in a laboratory; you can not make a physician. To make a physician demands a large clinical experience, legitimately obtainable only where there is a large dependent population, and hence only in metropolitan centers. To acquire a knowledge of pathology demands a rich autopsical service, possible only in connection with large charity hospitals. While to maintain clinics sufficient for the instruction of medical classes were in Chicago feasible and defensible, in the town of 50,000 it would well-nigh pauperize the entire population. So irrationally have medical schools been established in our large cities that it is recognized by sociologists and charity workers as one of the most potent causes at work to undermine the sense of economic independence and self-respect in the community. The clinics must be filled; hence, the ability to pay of those seeking relief can not be questioned. The official of the railroad and the banker's wife seek unquestioned

the free medical services offered therein. Not alone are the laity pauperized; the young practitioner walks long and wearily in the borderland between inanition and starvation. My statements are fact, not fancy.

It is granted that there are men in the small towns and the country—that brooder of self-reliant strength—possessed of sufficient ability and character to honor a professor's chair; but this does not justify the founding of the medical college in their midst. Let him who deems his light hid under a bushel remove to the medical center, where, if he possess transcendent ability, that recognition it merits will be vouchsafed.

While we Americans are proud of our state universities, which bring within the possibility of well nigh every young person the higher education, we must admit that they are liable to severe criticism. A chief indictment is their incorporation of the medical department. In no case does a state school take first rank among medical colleges; and with little exception to eliminate the medical department from the state university should be our constant aim. Besides the objections already named, applying to state schools because of their usual location in small towns, their students lack the inspiration arising out of association with a large working profession and access to large medical libraries. Boards of Regents need education along this line. That a majority of our 173 medical colleges require a four years' course is no adequate basis for judgment as to their worth. It has been said: Better fifty years of Europe than a cycle of Cathay." A safe criterion is the old injunction: "By their fruits ye shall know them." Teeth set on edge by sampling the product sent into many a hamlet is sufficient evidence that either the persimmon was prematurely plucked or intrinsically beyond the embrowning and sweetening influence of sun and frost.

But not alone do we find explanation of the excess of medical colleges in the commercial spirit of the time. There is an ultra-democratic tendency abroad—somewhat in disrepute at present in governmental circles—which maintains that nothing is too good for anybody, ignoring the fact that there is an aristocracy of intellect and character not dependent upon birth, to which, if our civilization is to grow and endure, we must entrust guidance. If this be a trust, let us have it.

While recognizing the great ability and disinterestedness of members of faculties, and the worthy equipment of graduates of our two Nebraska medical schools, I affirm that for Nebraska to maintain one medical school, much more two, is in contravention of the fundamental law of professional progress. Until the profession can be brought to this way of thinking, until, in the words of Emerson, "Private men can be brought to act with vast views," we can not look for amelioration of professional conditions.

In closing, let me not be misunderstood. I would not ignore the many noblemen in character and intellectual grasp, who have not behind them the momentum of birth or general culture, or best or even good medical training, but who have by innate ability, untiring devotion and unimpeachable honesty, won highest professional honors. To such no added restrictions to entrance to the profession would oppose ultimate success. Such are not the supporters of the diploma mill.

"Hope springs eternal in the human breast," and that such is the case justifies the belief that there is ever a basis for hope. Along with our commercialism, our intense individualism, there is growing a reactionary collectivism, proclaiming the solidarity of the race,

that the good of one is the good of all, upholding the law of individual sacrifice as the only saving grace. Ultimately, he that exalteth himself shall be abased, is the case of the physician in the abasement of a prostituted profession. The cosmic law of Huxley, tersely if inelegantly state as, "Every man for himself and devil take the hindmost" has yielded, in theory if not in practice, to the ethical, where personal sacrifice rules.

In the service of a regenerated profession, let us conform to this law. Let us not for personal ambition commit the unpardonable sin, medically considered, of further lowering educational standards, by foisting more medical colleges upon an already basely deluded public. Let us labor unceasingly to raise professional standards by upholding the thorough preliminary education (a college course, and that not obtained from the sectarian academy of the cross-roads); medical reciprocity obtained by national regulation of medical schools and rules governing admission to practice, and the best professional training.

Let fewer and better be our motto. Let us discourage the entrance of the unfit into a profession to guard whose honor should be our every thought. What I have said I enter as a protest against evils which are not chimerical, and which can not be met after the manner of that accorded to the prejudice in the rhyme, by assuming an absent-minded air and walking directly through them as if they were not there. They stand a solid and impenetrable hulk athwart the path of professional progress, requiring for removal the lever of an intelligent and disinterested attitude on the part of the members of the medical profession.

PHILIPPINE CUSTOMS AND HABITS.

J. C. MINOR, M.D.

MAJOR AND SURGEON, U. S. VOLS.

MANILA, P. I.

In the next decade there will be as great changes in the Filipino medical world as there will, doubtless, be in the civil government of these possessions. A record of a few of the things that are, may for comparison in some time to come be pleasant to remember, if not interesting now. There are many customs among these people that have a naturalness about them that is refreshing, others that are deplorable, and others yet that so squint both ways that it is a pertinent question to ask: Who knows which is right?

To the eye that sees in nature God's best gift—health, nothing can be more pleasing than the customary dress of the women of the Philippines. From the artists' standpoint beautiful; from that of the sociologist unchangeable; and from the standpoint of the sanitarian healthful and therefore faultless. No modiste of society's chameleon-like world has fashioned for woman a gown more pleasing than the *sarong* of the Moro, or the comfortably draped *harmartin* of the Igarrote or Negrito. It is true, one often feels a disgust for the apparent filthy garb among the lower classes of women while they work; but on a feast-day or a Sunday, one has to wonder at these same creatures as they appear with fan, cigarette and sunshade in their gowns of *jusi* and *pinya* to whisper devotion to the Virgin, or whirl in the waltz at a *baile*. One wonders at the hazardous manner in which the drapery clings to the wearer. But for centuries the style has remained unchanged and these garments have faithfully adhered to each generation, namely, a *pannela* (or neckerchief): large loose sleeves; a loosely draped bodice or *camisa*;

a gingham, calico, hemp, or silk brocade (according to purse) skirt; toe slippers—no corns, no corset and no tight bands—veritable walking advertisements for the late lamented Mrs. Pinkham's shibboleth "yours for health." Childbirth among them is what I believe God intended it, a physiologic process and not a disease, nor a disgrace. The occasion rarely demands the surgeon's aid, a female friend officiating more as a companion for the woman and nurse for the infant than for professional services. The infant receives all atten-



Gathering at the River.

tion. The attention consists of anointing with coconut oil, severing the cord and applying a clean cloth belly-band. The new-comer is then wrapped in a towel, or among the better element attired in a little slip of some dainty fabric and laid aside for inspection by the friends who have gathered to welcome it to its new world, which in the absence of flannel possibly is already growing more or less chilly to the little adventurer.



The National Bath, open at all hours.

Labor rarely consumes more than four hours. Death of a mother in child-birth is infrequent, nor are puerperal sequelæ more frequent. As a rule these hardy women are up and at work in a day or two; often they are not confined to bed at all and are in attendance the third day at the Christening *baile* (ball or dance). Abortion and miscarriage are seldom or never encountered; if either does occur it is from accident and never induced. Still-born babies are common.

The people as a class seem to know little or nothing of what to do for *the helpless*, whether it be to assist an infant in its advent to the world or minister to the wants of an adult sick enough to go to bed. They usually sit around and do nothing until Providence or Death relieves the sufferer.

The corset, until the past year, in many towns has never been worn. Now, many of the upper-ten Filipino

and so "pickaninnies" (as they are commonly called here) are as plentiful as blackberries.

The fact is noticeable that these people are modest; and although they have no hesitancy in going more than half naked about their vocations and even obeying calls of nature by simply stepping a pace or two aside, they deem it shameful and unpardonable to make an indecent exposure of himself or herself to the opposite sex either in public or in private. In my practice among them I have found it difficult to obtain an ocular examination of the genitals of the few men I have encountered with venereal diseases; and so far have been unable to make either a specular or digital examination of a native woman.

Their unceremonious manner of stepping aside to relieve the bladder, any time or anywhere, possibly accounts in a great measure for the infrequency of vesical irritation, cystitis, enlarged prostate and other



The Costume del Pais. The Water Carrier, with Bamboo Bucket.

women imitate the *senorita Americana* by donning on feast days, etc., this agent of the devil and gynecologists. Just how soon the civilizing influence will suggest to the Filipino mother the "inconvenience" of bearing children remains to be seen. Now, to be a mother seems



Smoking at the Baile.

to be their dream of happiness. Matrimony is held in high esteem by all the natives I have lived among. Rape and illicit intercourse are seldom heard of. A woman's highest ambition seems centered in maternity. Her fondness for the first child is only exceeded by her expectations for the future. The facility with which labor is accomplished doubtless encourages the industry,



Smoking at Work.

diseases dependent in origin on prolonged retention of urine and dilation of the bladder.

SANITATION.

Sanitation in the native hamlets of the Philippines is as simple as it is primitive. There is no systematic manner observed in the disposal of sewage and wastes. The well-to-do class have a bath room and closet, usually in the kitchen, always near the kitchen. The bathing facilities in the aggregate for the well-to-do consist of a large, cumbersome and homely tub or stone tank with half a dozen servants to fetch water. The closet is generally a stone flume opening flush with the floor (an armed chair decorated like a throne sitting over the opening) and emptying either into a well for the purpose, or having a side opening at the ground below with a trap door through which the deposited matter is removed or not according to the memory of the *major domo*; the olfactories of the household being so obtunded by tobacco smoking that they rarely sug-

gest to the owner of the house or its functionaries the propriety of an inspection. The poorer classes have probably the more efficient method of disposal of wastes, certainly the most convenient and labor-saving. Every native owns a hog; the native "presses the button." Sometimes an uneducated hog has to be tethered underneath the kitchen corner till he learns his business. The poorer class bathes in public by getting under a spout in the rain or by douching with bucketful after bucketful from the well. They never expose their persons in these ablutions. The pickaninnies bathe without a rag on, anywhere and everywhere.

They are opposed to putting offal in heaps or holes, but whether by reason or instinct or habit (I know not which) they scatter all rubbish to the four winds, or dump it into the most convenient water course. At Zamboango (Mindinao) as also at Romblon and other places a sluggish but large mountain stream is artistically led and decorated with sod, flowers and bridges throughout the corporate space, and supplies the native contingent with baths, water for drinking and laundry purposes; all three acts were formerly played indis-



Smoking at Home.

criminated at every and all points along the narrow space of this overworked stream. Strange to say the population of the two towns mentioned (I am credibly informed) has never been affected with epidemic disorders. It is difficult to account for this immunity unless it is because those who survive the atrocious ignorance displayed by parents in rearing them to the age of 10 years, must be invulnerable thereafter.

Though their method of scattering wastes to be dried and evaporated and carried off by the winds appears to have some virtue, such a method must be an important factor in producing the prevailing diseases in the towns, viz., skin affections, tuberculosis, etc., since they all are afflicted with the habit of drying the newly-washed laundry by spreading it out on the nearest stretch of ground. I have seen in some of the laundrying neighborhoods the streets (there are no pavements) so covered by drying garments that one could walk past only by picking one's way and stepping over and jumping the various articles. They never boil their laundry; wood is too scarce. They are most of the time washing clothes and (it seems) the time not spent in this high calling they put in washing themselves, smoking, dressing and attending fiestas and funerals.

Smoking is just as constant a quantity with a Filipino as "x" is with an algebraic equation. It does not seem to matter a particle whether the proposition be a female symposium of washerwomen "gathering at the river" or a galaxy of beauty and white-duek at a church festival or a ball, one will find "x" = constant quantity = tobacco, either in form of a cigarette or a cigar as big as a marlin-pin. It is smoked by old and young, male and female. Sometimes for a change they chew *buyo*. This is to the native of the orient what "navy" and "climax" is to the American. It is the betel-nut, or the nut of the *bongao* tree wrapped in the leaf of the *buyo* tree. The nut is about the size and formation of the nutmeg and they cut it into four pieces. Each piece with a pinch of lime is daintily wrapped in the green *buyo* leaf and sold to consumers for an eighth of a cent. They keep it in the mouth like a quid of tobacco. The ostensible effect is that of giving to the teeth an indian-red color. The subjective effect is said to be sedative and pleasing after eating. They chew it while at work also, and the beginner expectorates a deal more than is consistent with decency. The constant use of *buyo* seems to have a deleterious effect on the teeth; and both directly and indirectly it impairs the digestive function.

In many towns the natives have come to believe that Americans are strong and large of frame because they do not use tobacco in childhood as do their own pickaninnies. They do not seem to know that a Volunteer has to be strong and large in order to become one, so in many towns the council has forbidden the use of tobacco by children under 16 years.

A statistical report on the mortality of children in this country would be of interest, the mortality under the age of 10 being high everywhere and in some localities as high as 90 per cent.

MEDICAL DEPARTMENTS IN PUBLIC LIBRARIES.

C. D. SPIVAK, M.D.

President Colorado Medical Library Association; Editor Medical Libraries.

DENVER, COLO.

In the world of industry we witness a tendency toward co-operation, unification and centralization. The one line store passes out of existence and its place is taken by the department store. The same tendency is prevailing in the educational world. The medical school proper is slowly disappearing and in its stead comes the medical department of the university. The libraries in large cities like New York, Chicago, Boston and elsewhere are becoming in one way or another merely departments of one great library system. The state libraries of several states have discarded the idea that its books are intended only for the delectation of the state solons—a law library pure and simple. These progressive libraries collect, preserve and make available for the citizens of the state books on agriculture in its various subdivisions, mining, engineering, natural philosophy, etc. Medical departments in public libraries were but few until 1898,¹ when there were only 43 medical departments in the United States, including departments in university libraries that are not supported by the state. Since 1898, however, the movement for the establishment of medical departments in public libraries spread rapidly, thanks to the passage

1. Spivak: Medical Libraries in the United States; Phila. Med. Jour., 1898, vol. ii, p. 851.

of resolutions by two powerful organizations favoring such departments, namely, the AMERICAN MEDICAL ASSOCIATION and American Library Association.

At the meeting of the AMERICAN MEDICAL ASSOCIATION, held at Denver, in 1898, the following resolution was adopted:

RESOLVED: That the AMERICAN MEDICAL ASSOCIATION unanimously approves of any ethical and legitimate methods of encouraging the organization, perfection and support of public medical libraries in all cities, towns and villages of the United States, and urgently urges upon the members of the ASSOCIATION to aid in the formation and organization of such libraries.

This resolution stands unique in the annals of medical history. For the first time has the subject of medical libraries been brought up for discussion before such an august body.

One month after the Denver meeting of the ASSOCIATION, the men who hold the keys to all the libraries of the United States met at Lakewood, N. J., and passed the following resolution:²

Whereas, the public library should be the means of stimulating all neighborhood, intellectual and scientific progress, and of representing the combined helpful forces ethical mental and sanitary, furthering the well-being of the entire community, it is therefore

RESOLVED, That in the opinion of the American Library Association it is both possible and advisable in the interests of the library, the profession and the community that public libraries should have medical departments and that physicians and medical societies be cordially invited to co-operate with the librarians and trustees of public libraries in establishing and maintaining such medical departments.

Three years have passed since these two resolutions were adopted, and now a voice is raised in protest against "spending the money of the people for books benefiting only one class."³ The author, Dr. G. E. Wire, introduces himself to the readers as a graduate in medicine and also of a library school, and therefore is presumed to know whereof he writes. He is not satisfied with theoretic considerations alone, but he hurls an accusation against the physicians in stigmatizing the movement for establishing medical departments in public libraries as having grown out of the "ambition of a comparatively few men to make the people pay for books by which they may enrich themselves." He is especially bitter against the 2000 physicians of Chicago, from whom, in his five years of work in the Newberry Library, he could not "gain one iota of wisdom relative to the selection of books or periodicals." What personal grudge Dr. Wire has against the physicians in general and the Chicago profession in particular I know not, but it sounds incredible that 2000 men who constantly read medical books and periodicals could not impart to Dr. Wire one iota of wisdom concerning the things they are most familiar with. Is not there, perchance, something wrong with the receptive faculties of Dr. Wire? But admitting, for the sake of argument, that the physicians could not help Dr. Wire in selecting books, this argument does in no way militate against medical departments in public libraries. It is not the duty of the physicians to select books; it is the business of the librarian. Dr. Wire says, however, when he left the Newberry Library, the library contained 25,000 volumes, and 400 current medical periodicals were received. Dr. Wire, then, has evidently done his duty, whether with or without the aid of physicians. Since he left (1895), the library

doubled the number of its volumes, and is now considered one of the best medical libraries in the United States. We know, also, that in the medical libraries of Philadelphia, New York, Boston, Brooklyn, Cincinnati, Denver, etc., the books are selected by committees composed entirely of physicians, and Dr. Wire knows that these libraries will stand comparison with any special library in the world.

The only argument of sociologic import which Dr. Wire brings forward is that a public library should spend the money of the people for books benefiting the "public" at large and not a particular class of readers. Now the question is, who is the "public"? What does the public read? If we should take as a criterion the nature of the majority of books read in the public libraries, then 95 per cent. of the reading of the "public" consists of novels, the bane of every librarian of the land. Yet there is no library whose stock consists of 95 per cent. of novels. Ought the public libraries exclude books on agriculture because this would be catering to farmers, books on chemistry because they supply the wants of chemists? Are not the few, the 5 per cent. readers of "solid literature," who read books on psychology, biology, bacteriology, pathology, sanitation, physiologic chemistry, etc., the real "public," for whose sake books are written, published and preserved. Without these few readers, the public libraries might as well shut up shop or limit their activity to dispensing cheap novels. We have quite a different conception of the function of a public library, namely, that it should be the repository of the world's literature, in the widest sense of the word, and that it should endeavor to supply the varied wants of all its patrons.

After Dr. Wire has exhausted all his arguments, he says in conclusion: "Why do they (physicians) not have their own libraries, supported by themselves as do the lawyers in every considerable city? You do not find lawyers clamoring for law departments in public libraries, and why should the physician be so favored at the public expense?" Dr. Wire, who is a frequent contributor to library literature, and is at present a law librarian, ought to know something about the law libraries in the United States. It seems, however, that even lawyers could not add to his wisdom. Now let us be reasonable and look into the statistics of the subject. According to the statistics of libraries in the United States, published in 1897 by the U. S. Bureau of Education,⁴ there are about 100 libraries each devoted exclusively to medicine and law. Out of the medical libraries only about ten are medical departments supported by the state or government, whereas every state or territorial library is *eo ipso* a law library, and therefore the number of supported law libraries amount to more than sixty. That is the reason the lawyers do not clamor for law departments. The lawyers have all they want without asking for it.

We are sure the librarians and physicians of the United States, who have inaugurated the movement for establishing medical departments in public libraries, will continue their good work, and we hope a time will come that whenever the people's money is spent for books, a part of this will go for the purchase of books of that branch of the useful arts which deals with the questions of how to cure, prevent and eventually exterminate disease.

2. Library Journal, vol. xxiii, p. 293.

3. Medical Departments in Rate Supported Public Libraries. Public Libraries, May, 1901, p. 267.

4. Statistics of Libraries and Library Legislation in the United States. Washington, 1897.

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TRICHINOSIS AND TRICHINA INSPECTION

In his recent address before the Philadelphia Pathological Society Charles Wardell Stiles, of the Bureau of Animal Industry at Washington, discussed in a very interesting manner the relations of trichinosis to public hygiene.¹ He calls to mind that about half a century ago the late Joseph Leidy of Philadelphia, in a slice of cold ham which he had cut for the purpose of making a sandwich, made a discovery that was fraught with importance to medicine, to hygiene, to national economics, and to our diplomatic relations. Leidy's scientific curiosity got the better of his appetite, and he demonstrated that the little specks which attracted his attention were due to a small worm, *trichinella spiralis*. Already described by Owens in 1835, Herbst shows by experiments that the worm could be transmitted through food, and Zenker in 1860 established definitely its relations to a form of disease which previously had been confounded with typhoid fever. Eventually the discovery in which the ham sandwich figures so conspicuously gave rise to a special occupation giving employment to 40,000 to 50,000 persons; it resulted in the prohibition of American pork into Germany for a period of nine years, caused a bitter political fight in Germany and the farmers and exporters in this country a financial loss of millions of dollars; it saved hundreds of human beings from disease and death, inaugurated the most elaborate system of public hygiene ever put into practice and gave a mighty impulse to the study of etiology of disease.

Stiles discusses ably the powerful influence which the discovery of trichinosis has exercised upon public hygiene and public policy and then turns to the question of the effect which American pork has actually had upon the health of Germany. He above all others is most competent to speak with authority upon this point, because he has investigated the question thoroughly, having been delegated by the authorities at Washington to go to Germany for that particular purpose. It is pointed out that there are two methods available for preventing trichinosis, a disease which once established is beyond medical treatment, namely, microscopic inspection of the pork before it is sold, and education of the people to avoid eating pork before it is thoroughly cooked or cured, to do away with offal feeding of hogs, and to regulate the country slaughter house. In Germany there is

a widespread custom of eating raw pork, and the German microscopic inspection—for which purpose 27,602 persons were employed in 1896—is certainly calculated to foster the custom of consuming raw pork because it gives rise to a feeling of false security among the people. During the exclusion of American pork from Germany (1883-1891) there was reported from that country an annual average of 454 $\frac{7}{9}$ cases of trichinosis, with 30 $\frac{4}{9}$ deaths. Since the readmission of American pork (1892-1898) the annual average has been 149 cases, 3 $\frac{6}{7}$ deaths, so that it can not possibly be maintained that American pork has caused any increase in trichinosis in Germany. In fact, Stiles shows conclusively by a summary of German statistics based on German evidence that the sanitary quality of American pork exported to Germany is fully vindicated. Indeed, he goes so far as to intimate that the total prohibition of German pork in Germany and the compulsory use of American pork "would probably do more to eradicate trichinosis than does their elaborate and expensive microscopic examination." Not a single case of trichinosis has been traced to the more than 200,000,000 pounds of pork exported from this country to Germany during 1892-1898. No one has claimed a reward of 1000 marks offered since two years by American importers to the first person who can "prove a case of trichinosis in man in Germany due to American cured meats or sausages imported under the American certificate since 1891." The important lesson in public hygiene from the figures and arguments presented by Stiles is that the present curing methods employed in this country are superior to a general compulsory system of trichinia inspection.

That the custom of eating raw pork obtains at least to some extent among Germans in this country is probably indicated by the fact that of 274 American cases collected by Stiles, in which the nationality was ascertained, 76 per cent. were Germans.

THE RELATIONS BETWEEN ALCOHOLIC INDULGENCE AND VENEREAL DISEASE.

Of all the infectious diseases there is none so easily and so surely avoidable on the part of the individual as the venereal diseases. It becomes therefore a most important matter to inquire into the influences that lead up to exposure and favor infection and to aim at their removal as far as possible. Now, alcohol gives rise to certain physiologic effects that may result either in simple functional disturbances or in actual structural or organic disease. While alcohol is primarily a stimulant, it becomes, when taken in large amounts or for long periods, a depressant, lowering inhibitory activity, especially as exhibited in the psychic sphere. It is in this way that it leads to sexual abuse and that it acts as a predisposing cause of the venereal diseases. Of this relation practical experience affords abundant evidence, a statistical presentation of which has been undertaken by the distinguished psychiatrist Dr. Aug.

1. Proceedings Path. Soc. of Philadelphia, 1901, iv, 137-153; THE JOURNAL A. M. A., xxxvi, 1577.

Forel,¹ who dwells upon the frequency with which alcoholic indulgence on the part of young men, and even of young women, leads to illicit sexual intercourse, with its obvious attendant dangers, while he points out upon the other hand that a large proportion of prostitutes are the offspring of alcoholic parents. In both sexes alcohol increases sexual desire, while it blunts the moral sense and lowers the powers of resistance. It further increases indifference to the results of illicit intercourse and carelessness in their prevention.

It was found that among 179 cases of venereal disease the larger number included students (54), soldiers (31), officers (23), officials (13), teachers and physicians (6), while there were also 30 laborers and 10 prostitutes. Of the 169 cases in males, the attack of gonorrhea was acquired by 1 while in a state of chronic alcoholism, by 12 while in a state of acute alcoholic intoxication, by 42 while in a state of mild alcoholic stimulation and by 59 while in a state of sobriety; whereas syphilis was acquired by 64 while in a state of acute alcoholic intoxication, by 13 while in a state of mild alcoholic stimulation and by 36 while in a state of sobriety. Of the 10 prostitutes 6 were affected with syphilis and had been infected while intoxicated. The remaining 4 had attacks of gonorrhea, which were acquired in 3 while in a state of mild alcoholic stimulation and in the remaining 1 while in a state of sobriety. It thus appears that infection was favored by mild indulgence in alcohol in 43.8 per cent. of the males and in 90 per cent. of the females.

Among 219 other cases (190 in men and 29 in women) it was found that venereal infection was far more common in conjunction with occasional than with habitual alcoholic indulgence and that when present in cases of the latter it had generally been acquired before the habituation had been established. Less than one-quarter of the cases were in a state of sobriety and more than three-quarters were under the influence of alcohol when infection occurred, while one-half were in a state of mild alcoholic stimulation. Syphilis appeared to be much more common than gonorrhea in chronic alcoholics.

Infection occurred in 66 cases between 21 and 25 years of age, in 64 cases between 26 and 30 years, in 33 cases between 17 and 20 years and in 25 cases between 31 and 35 years. Of these 214 cases in which infection occurred, primary intercourse was illicit in almost all (192) and marital in but a few (7), the character not being ascertainable in the remaining 15. Of the first of these three classes infection was acquired in 79 while the individual was under the influence of alcohol and 74 while in a state of sobriety, while in 39 information on this point could not be secured.

It is properly not contended that the infecting coitus would not have taken place in all instances in the absence of alcoholic indulgence, but it seems likely that it would not have occurred in most instances, and that

in those instances in which it had taken place precautionary measures would otherwise have been adopted that would greatly have lessened the risk of infection, and it is probable that in a number of cases in which it was stated that the patient was entirely sober there had really been some alcoholic indulgence, so that this fact would compensate for possible error on the other side.

The foregoing data, while perhaps not so extensive as they might be, merely confirm the conclusions arrived at from *a priori* reasoning and it would seem that an important means for the prevention of the venereal diseases, with their disastrous results, consists in the avoidance of alcoholic indulgence.

A NEW METHOD OF TREATMENT FOR INOPERABLE CARCINOMA OF THE BREAST.

The industry with which the study of carcinoma is being pursued raises the hope that we shall before long be made familiar with its causative agent and be thereby provided likewise with the means for its prevention and possibly also for its cure. The attainment of these objects is especially to be desired, inasmuch as carcinoma is one fortunately of a gradually lessening number of diseases in the face of whose treatment the physician stands almost hopeless and helpless. It is true that early and adequate surgical removal will in a gratifying proportion of cases be attended with permanent cure, but only time can then bring assurance that all morbid tissue and cells have been removed and that metastasis has not already occurred and recurrence or even redevelopment will not take place. For these reasons any method of treatment, however startling and unusual that promises amelioration, if not cure, and does not unduly imperil the safety of the patient should receive respectful and considerate attention, especially if it emanate from a reputable source. A suggestion along these lines has recently been made by Mr. Cecil H. Leaf, assistant surgeon to the London Cancer Hospital¹ with regard to treatment of cases of carcinoma of the breast that are unsuited for operation. He points out that with the exception of oöphorectomy, conjoined with the administration of thyroid extract, the measures heretofore employed have had little effect in checking the onward progress of the disease and that even by this means, although the growth may be temporarily arrested, no permanent good is effected, signs of renewed activity again becoming apparent after a time.

The principle proposed by Mr. Leaf consists in an attempt not to destroy the carcinoma cells, but to prevent them or the agent that causes their multiplication from passing along the lymphatics and invading the internal organs. For this purpose he applies over the new-growth or the recurrent nodules a large vulcanite shield adapted accurately to the skin and including as large an area of surface as possible. The shield is fitted at the bottom with a gauze India-rubber inflatable

1. Wiener Med. Wochenschrift, 1901, Nos. 16, 17.

1. Edinburgh Med. Journal, May, 1901, p. 452.

tube exactly similar to that of an ether-inhaler, and at the surface it is provided with a small tap to which can be adjusted any ordinary air-pump, so that the air in the apparatus can be thoroughly exhausted. By this means a force is provided that it is hoped will as long as it is in action constantly restrain the noxious agent from passing to the deeper lymphatics and thus prevent or delay dissemination. A glass window in the top of the shield will permit observation of the degree of suction that is being made. The apparatus should be worn as nearly constantly as possible. In addition, absolute rest for the arm on the affected side is insisted upon, to favor quiescence in the lymph-stream. The existence of ulceration is considered an advantage rather than a contraindication to the treatment, as the cells and juice are then more readily drawn to the surface and gotten rid of entirely. In the absence of ulceration it is encouraged by the constant use of boric-acid fomentations, which soften the fibrous tissue that is present, so that the channels in which the cells and carcinoma-juice travel become less constricted and the suction is then rendered more effective. It might even be advisable to make multiple punctures or incisions.

Three illustrative cases are reported in which the treatment was employed, but in none had sufficient time elapsed to permit of any but a tentative opinion; nor is any statement made as to the histologic characters of the neoplasm. The cases to which the treatment is thought to be adapted comprise those with ulcerating schirrus adherent to the pectoral muscles and enlargement, matting together and adhesions of the axillary glands, and those in which after one or more operations recurrence has taken place in the pectoral muscles or the lymph-glands or both.

THE ST. PAUL MEETING.

The last meeting of the AMERICAN MEDICAL ASSOCIATION was in many ways a remarkable one and successful in every way. The scientific work of the Sections, without exception, was of the highest quality, and the amount of work done in practically all of these scientific branches exceeded the average, although the total number of papers read was less than usual. While the papers in almost every instance were above the average in scientific interest and practical value the discussions were still more so.

The attendance at the Sections was very large, especially in the Sections on Surgery and Anatomy, on Obstetrics and Diseases of Women, and on Practice of Medicine. The number in attendance at each of these ran up as high as seven hundred at one time.

The subject of reorganization of the ASSOCIATION was one that created much interest and was the main topic of conversation outside of the Section work. The report of the Committee, as given in our issue of May 25, was accepted almost unanimously. The adoption of this new order of things will make the future meet-

ings of the ASSOCIATION different in many respects from what they have been in the past. The elimination of the general meeting in the morning, after the first day, will give much more time for Section work, while the general meetings for the orations coming in the evening will interfere but little, if any, with the social functions. The possibility for more deliberate consideration of the important questions that come before the ASSOCIATION can not but result beneficially, but what is of most importance is the fact that it will bring the state societies into more direct touch with the parent association and with each other, the resulting good of which can not be overestimated.

While there was much fear on the part of many members that the city of St. Paul would not be capable of accommodating so large a body, these fears were not realized, for although there may have been a little crowding in some respects, as a rule, general satisfaction was expressed at the accommodations furnished for the members of the ASSOCIATION. The members of the profession of St. Paul and Minneapolis deserve the highest praise for the excellent manner in which they entertained their guests; the visitors will look back to the meeting of 1901 with satisfaction and pleasure. While the attendance was not quite as large as that at Atlantic City last year, which was the largest in the history of the ASSOCIATION, the meeting just closed, considering its geographical location, was well attended. The registration last year was 2019, while this year it was 1806.

THE EXCLUSION OF CONSUMPTIVE IMMIGRANTS.

The exclusion of tuberculous immigrants by the Government officials, at the port of New York, is on the whole a salutary measure, though scarcely for the reason popularly assigned. The inspection for tuberculous immigrants can not well be so thorough as to cull out all infected individuals, and the most that can be expected from it is the exclusion of more or less advanced cases, where the physical and rational signs are sufficiently obvious. Anything more rigid than this would meet with difficulties and probably be very imperfectly carried out. Nothing short of a tuberculin test would absolutely exclude all cases, and we doubt whether the Government will adopt that precaution. If it did, it is we believe safe to say, it would be the most efficient check on immigration possible, and we might perchance find only the minority passing it successfully. The exclusion of consumptives is excusable on the ground that it is not the policy of this country to accept immigrants who, being hopelessly diseased, are practically incapable of becoming useful members of society and liable therefore to be a burden to those among whom they come. This reason therefore applies to advanced and presumably incurable cases. It will undoubtedly work hardship in individual instances and there should be some discretion allowed. Even hopeless consumptives may sometimes bring some good; a rule that would have sent Robert Louis Stevenson back to Scotland is scarcely to be followed without exceptions. It would be well if

we could apply a still more rigid test to exclude the syphilitic, the epileptic, the insane and the criminal immigrant, in fact the degenerate classes generally, from our shores. At present we have more than our share of Europe's output in that line.

CORONER'S JURY VERDICTS.

The beauties of "crowners' quest law" are continually being illustrated. In a trial just closed in one of our cities it appeared that a reported inquiry over a suspicious death was probably never legally made; the verdict was made up with apparently fictitious names, by the deputy coroner, a politician who evaded summons and could not be found. The body had been promptly cremated and any evidence of foul play thus pretty thoroughly destroyed. This illustrates the rascally side of the present system and leads to a strong suspicion that "fake" inquests may be more common than has been supposed. An inquest really amounts to very little in the majority of cases; the jury contributes only an element of ignorance, and it is not surprising that an unprincipled ward-politician, such as many of our city coroners and coroner's deputies are, concludes occasionally to dispense with it and pocket its fees. What a jury can do in the way of irrationality, on the other hand, is shown in a recent verdict in another city where an inquest was held on a severed head of a human being and a verdict rendered of suicide. The paper from which we have the latter account says: "It was not a ghastly joke, such as was perpetrated by a jury in a southern town the other day, where after inquiring into the death of a negro who had been insolent to a white man, the verdict was given out that the man had committed suicide." That was the brutal humor of the participant after the act, the deliberate condonation of homicide. In the other we have the perhaps worse than stupid, the absolutely thoughtless routine acceptance of the first suggestion that offered without regard to facts. All these only indicate the average worthlessness of the coroner's inquiry and the need of reform. Not only justice but common decency call for a change, and the medical profession is the motive force which must inaugurate the much-needed reform. When we begin, as a profession, to recognize and take up our public responsibilities, the removal of this important function from the hands of incompetent and often worse than incompetent politicians will not be one of the least important benefits that we can endeavor to confer upon our fellow-citizens.

THE CAUSE OF DEATH FROM PERFORATIVE PERITONITIS.

While the conditions under which peritoneal infection takes place have been quite clearly established, a like statement can not be made with regard to the cause of collapse and death in the presence of peritonitis. Inflammations of other serous membranes do not, as a rule, terminate fatally, so that there must be some special reason for such an outcome in cases in which the peritoneum is involved. This was at one time thought to reside in reflex influences, but at the present day the opinion prevails that it is due to intoxication resulting

from the absorption of the morbid products of bacterial activity, or to the taking up and dissemination of the bacteria themselves. Either of these events, it is thought, may take place even before the local lesions have become obvious. It has, however, been shown that irritation of the peritoneum may induce reflex reduction in the blood-pressure, with resulting heart-failure, while, on the other hand, bacteria have been found in the blood, often in conjunction with almost negative local conditions. In order to determine so far as possible the exact mechanism by which the evil results of perforative peritonitis are brought about Heineke¹ undertook an experimental investigation, using rabbits for this purpose. Through a small opening in the abdominal wall a loop of small intestine was brought out, a small laceration made, hemorrhage controlled, the bowel returned, and the abdominal wound closed. The animal soon recovered, but in the course of from six to eight hours symptoms of peritonitis made their appearance, shortly terminating fatally. As a result of this study it was found that death under the circumstances detailed was due to paralysis of the centers in the medulla oblongata, involving principally the vasomotor and largely the respiratory. Marked disturbances in circulation were observed earlier than those of respiration, although breathing ceased before the heart's beat. The circulatory disturbances are attributable to the paralysis of the vasomotor center, the heart not being directly affected. They are entirely analogous to those attending the infectious diseases. The paralysis of the nervous centers is due to the absorption of bacterial products from the peritoneum into the blood, the perforation of the bowel as such not inducing any circulatory disturbance.

FOURTH OF JULY TETANUS.

For some years past the increasing use of various explosives in order to celebrate our day of national independence, the Fourth of July, has been followed by a noteworthy number of fatal cases of tetanus, especially among the youth in our large cities. According to Wells,¹ 27 boys, ranging in age from 10 to 17 years, died from Fourth of July tetanus in Chicago last year. In all but one case the atrium was a wound, generally of the hand, produced by blank cartridges, the exception being a wound from a toy cannon. The period of incubation varied from five to nine days, death resulting in from six to eleven days after the accident. The infection seems to have been of a decidedly virulent type. Wells set about to discover the exact etiology of this sad accompaniment of patriotic exuberance. A careful and extensive study of the different materials in blank cartridges on the market in 1899 and again in 1900 failed to reveal tetanus bacilli in a single cartridge. Now, tetanus is endemic in Chicago, and presumably also elsewhere, and in the cases that follow wounds other than those incident to the use of explosives, the bacilli are unquestionably introduced by means of dirt. Wells readily found tetanus bacilli in Chicago street dirt, and so it stands to reason that the lodgment of the wadding of blank cartridges under the skin of the hands and elsewhere is exceedingly liable to carry in

1. Deutsches Archiv für Klin. Med., 69 B., 5, 6, II., p. 429.
1. Medical News, 1901.

bacilli present in the dirt and other foreign substances upon the surface of the skin. The resulting wound is usually long and narrow; blood-clots and infiltrated tissue are present, as well as ordinary aerobic, oxygen-consuming bacteria—all favoring proliferation of the anaerobic bacillus of tetanus. As the matter stands, a Fourth of July wound of this character places a grave responsibility upon the physician who is consulted. From the information gathered in the timely article by Wells it appears that physicians in general are not always as painstaking and thorough as they should be in cleansing cartridge wounds and in removing the last vestige of extraneous substances, especially pieces of wadding. Veterinarians report excellent results from the use of tetanus antitoxin as a prophylactic in horses, but its employment for this purpose in man has been neglected too much so far, probably because of the rather disappointing results of its use as a curative agent after the intoxication has become apparent and lockjaw established. In the future all wounds caused by explosives such as are in vogue on or about July 4th, should be rendered surgically clean as early as possible, and drained freely; for this purpose the wounds should be freely exposed by liberal incisions wherever indicated, so that free access is gained to the innermost recesses of the wound in order that wadding and dirt may not remain and favor the growth of bacilli. As tetanus may occur even when wounds are well cleansed and drained, tetanus antitoxin is indicated, and the prophylactic dose suggested by Wells is 5 c.c. This is certainly an ample quantity. Finally, physicians should use their influence in favor of some less harmful outlet for patriotic enthusiasm than the production of noise.

THE CREMASTERIC REFLEX IN SCIATICA.

A study of the reflexes is often capable of yielding important information in the diagnosis of disease, especially involving the nervous system. The presence of a given reflex will be dependent upon the integrity of the arc constituted by an afferent nerve, the related portion of the cerebrospinal axis and an efferent nerve. Reflex activity is normally somewhat restrained by physiologic inhibition, and it may be reinforced or intensified by influences that lessen the latter through sensori-motor or psychic channels, while it is exaggerated in the presence of irritative conditions and lesions in the course of the sensori-motor arc. The appearance of the reflexes may be prevented by mechanical influences, such as rigidity, by increased inhibitory activity from whatever cause, or by abolition of any portion of the sensori-motor arc. Inasmuch as pain tends to reinforce reflex activity, one is prepared to learn that this manifestation is generally increased in cases of neuralgia and—at an early stage before degenerative changes have taken place—even when this is of inflammatory origin. In this connection we wish to refer to a recent communication by Dr. G. A. Gibson¹, in which attention is called to a remarkable exaggeration of the cremasteric reflex in cases of sciatica, not alone in those of the more serious neuritic type of the disease—attended with muscular wasting and alteration in the electric reactions—but

also in those of the less grave neuralgic variety. The reflex was obtained not only by gently stroking the skin on the inner aspect of the thigh, but also and much more readily by firm pressure over the lower and inner portion of Scarpa's triangle, whose sensory nervous supply is derived from the internal cutaneous branch of the anterior crural nerve. The latter procedure was in some instances followed slightly later by a less distinct contraction on the opposite and unaffected side. The exaggeration of this reflex was found in cases not exhibiting much increase in the knee-jerk, as well as in others with great augmentation of myotonic irritability. In some instances the plantar and gluteal reflexes were exaggerated equally with the cremasteric; in others the last was marked, while the former were scarcely elicitable. In no instance was the increase in the cremasteric reflex associated with dorsal flexion of the toes on irritation of the sole of the foot. In explanation of the phenomena described it is suggested that in the presence of sciatica the segments of the cord above the level of origin of the sciatic nerve from the lumbo-sacral cord—including therefore the second lumbar, in which the cremasteric reflex center and also the knee center are believed to be situated—are in a state of excessive irritability, while the segments below—in which the plantar, the gluteal and the ankle centers are situated—are but little if at all influenced.

Medical News.

ILLINOIS.

The Physicians of Sterling met May 24 at the office of Dr. Frank Anthony, to endeavor to establish a uniform fee-bill.

Dr. Miles D. Baker has been appointed first assistant at the Illinois Southern Hospital for the Insane at Anna, and Dr. David R. Sanders, Jonesboro, superintendent of the annex.

Chicago.

Dr. Gustav Fuetterer, who has been professor of pathology at Northwestern University Medical School for the past two years, has resigned.

Dr. Christian Fenger was made an honorary member of the Association of Military Surgeons of the United States, at its meeting May 31 in St. Paul.

"Dr." Orlando E. Miller, of O. E. Miller Hernia Treatment Company fame, seeks, by due process of law, to be relieved of an indebtedness of \$586,943. He has no available assets.

Dr. E. S. Pettyjohn, who has been abroad for a year studying in Berlin and Vienna and visiting hospitals, sanatoria and mineral springs, sailed for New York, May 23, on the *Potsdam*. He intends to locate in Chicago, making a specialty of nervous diseases.

In the "Bulletin" for the week ended May 25 it was said that "it is not probable that the total deaths for the month will much exceed 2000." The actual number is 2046, giving an annual mortality rate of 13.7 per 1000 of the estimated mid-year population, to-wit, 1,758,025. For the week the total deaths were 472 and the annual rate was 13.99. Only measles, among the more important causes of death, continues to give any concern. Attention has been called in three previous bulletins to the unusual prevalence and severity of this disease and advice given against exposing children to its contagion. During the past week there were 10 deaths reported from this cause, 7 of them being fatally complicated with whooping cough—which disease also continues to prevail to an unusual extent.

IOWA.

Dr. Charles B. Adams, Estherville, has been elected president of the State Board of Medical Examiners.

Dr. John C. Shrader, Iowa City, has been re-elected president, and Dr. Josiah F. Kennedy, Des Moines, secretary of the State Board of Health.

1. Edinburgh Med. Jour., May, 1901, p. 459.

Barnes Graduates Admitted.—The State Board of Medical Examiners has decided to admit to examination the two graduates of Barnes Medical College of St. Louis who were refused examination a short time ago by the secretary on the ground that the college did not live up to the requirements of the state law.

MARYLAND.

Dr. Delmar Smithers was elected president of the Chesapeake City Town Commissioners, June 4.

Dr. Harry S. Jarrett, of Towson, has been elected president of the first board of pension surgeons at Baltimore.

Baltimore.

John L. G. Lee, B.A., LL.B., has been elected president of the faculty of the Woman's Medical College.

Dr. George H. Stewart has succeeded Dr. S. Percy Lataré as medical superintendent of the Maryland University Hospital.

Gone to Europe.—Among those who have left for Europe are Drs. Richard H. Thomas, Joseph Erlanger and Samuel C. Chew.

The Johns Hopkins Register for 1900-1901 just out shows 200 students in the medical departments and 149 graduate students.

Drs. Mary Cook Willis and Jessie M. Thornton have been elected resident physicians of the Good Samaritan Hospital for the ensuing year.

Dr. William Osler will visit Holland this summer and will especially be interested in the University of Leyden, so full of reminiscences of Boerhaave and other medical worthies of the 18th century.

Dr. William Royal Stokes, city bacteriologist, has been elected professor of pathology and bacteriology in the College of Physicians and Surgeons, of Baltimore. Prof. N. G. Keirle retains the chair of medical jurisprudence and the directorship of the Pasteur Institute connected with the college.

The Woman's Medical College Association elected the following officers: President, Dr. Flora Pollack; vice-presidents, Dr. Mary Lois Jones; recording secretary, Dr. Marie Thallwitzer; corresponding secretary, Dr. Jessie M. Thornton; treasurer, Dr. Mary Willis.

The graduating class of the Johns Hopkins Medical School is by far the largest in the history of the university. In it are representatives from all parts of America, India and Hawaii. The class number 56, consisting of 47 men and 9 women. The examinations closed May 31, the commencement, June 7.

The following appointments have been made at the Johns Hopkins University: Fellowship in the Medical School provided by the liberality of the Baltimore Association for the Promotion of the University Education of Women, Florence R. Sabin, M.D., Fellowship in English, Louis Wardlaw Miles, A.B., M.D.; Fellowship in pathology, Dorothy M. Reed, B.L., M.D.

The mayor has appointed the following as a municipal hospital commission to provide for the building of an infectious disease hospital: The mayor, health commissioner, Mr. Henry Williams and Drs. Wm. H. Welch, I. Edmonson Atkinson, John D. Blake and John W. Chambers. The commission will select a suitable site, arranging for its purchase and preparing preliminary plans for erection of building.

Johns Hopkins' New President.—The selection of Professor Ira Remsen, professor of chemistry in Johns Hopkins University, to succeed Dr. Daniel C. Gilman as president of that institution, has been made public. Professor Remsen has held the chair ever since the foundation of the institution in 1876, and his works and researches have given him a world-wide reputation. His executive ability has been manifested not only in the development of his own department, but while acting president on several occasions during the absence of President Gilman he has displayed qualities that have strongly commended him to the Trustees. He is a man of mental breadth as well as common sense and scientific attainments, and it is believed that his administration will mark the beginning of a new era in which the University will emerge from the difficulties that have surrounded it for some time past and enter upon a period of increased strength and usefulness. It is understood that Prof. Remsen will continue to direct the chemical laboratory. Prof. Remsen was born in New York City in 1846. He studied at the College of the City of New York and was graduated in medicine from the College of Physicians and Surgeons in 1867. He then studied abroad in the Universities of Munich and Göttingen for three years, receiving the degree of Doctor of Philosophy at the latter in 1870.

From 1870 to 1872 he was assistant in chemistry to Prof. Fittig in the University of Tübingen. In 1872 he was made professor of chemistry and physics in Williams College, Massachusetts, where he remained until called to the Johns Hopkins in its opening in 1876. Dr. Remsen is one of the best lecturers in the University, and takes the deepest interest in the researches of his pupils. His best known work is on the relations between oxygen, ozone and active oxygen, the influence of magnetism on chemical action and the discovery of saccharin. He founded in 1879, and has since conducted, the *American Chemical Journal*. His works have gone through several editions and have been translated into German, Italian and French. They are used as text-books in many colleges of England, Germany, Australia and America.

MASSACHUSETTS.

Leominster has provided two houses to be used as an isolation hospital.

Carney Hospital, Boston, will receive \$56,500 from the estate of Julius Adams.

Dr. Michael J. O'Meara, Worcester, has been made physician at Holy Cross College, vice Dr. Charles F. Fitzgerald, resigned.

The Newton Hospital and other institutions in Newton benefit to the extent of \$46,000 by the will of the late Mary Shannon, a resident of that place.

The King's Daughters and Sons' Hospital, Springfield, has applied to change its name to "The King's Daughters and Sons' Hospital Company, of New England." It was also voted to so enlarge the hospital that space might be secured for incurable patients.

MISSISSIPPI.

Dr. E. Knox White, formerly of Steen Creek, has been appointed health officer of Simpson County.

Smallpox caused 456 deaths in Mississippi out of 2066 cases reported in the first six weeks of the year, a death-rate of about 20 per cent.

Dr. William W. Payne, Meridian, was reappointed division surgeon of the Mississippi Division United Confederate Veterans, May 20.

Dr. James W. Lipscomb, Columbus, has been appointed health officer of Lowndes County, succeeding Dr. John Brownrigg, who declined reappointment.

NEW YORK.

Dedication of Loomis Buildings.—On May 28, Bishop Potter consecrated the Church of St. Luke, the Beloved Physician, and dedicated the buildings of the Loomis Sanatorium at Liberty.

Buffalo.

Dr. Lorenzo Burrows, Jr., of Buffalo, has been appointed a member of the Buffalo Board of Pension Examining Surgeons, vice Dr. F. W. Abbott, deceased.

Measles Among the Eskimos.—There is a small epidemic of measles existing among the Eskimos located at the Pan-American Exposition. There have already occurred a number of deaths from this disease.

Dr. Irving M. Snow, of Buffalo, invited the members of the American Pediatric Society from Niagara Falls to visit the Pan-American Exposition, and to dine at "Alt Nuernberg." A number of Buffalo physicians were asked to meet the visiting guests and a very enjoyable evening was passed on the Exposition grounds.

New York City.

Another Surgeon's Mistake.—On May 21, a wealthy real-estate dealer, of New York, who had suffered for two years from epilepsy, was taken in a patrol wagon to the Bedford avenue police station and locked up in a cell while in a semi-conscious condition. Two surgeons of the Williamsburg Hospital considered him intoxicated and he was held under a charge of intoxication.

New Water Supply Needed.—Persistence of typhoid fever in New York City proves that the health of the community requires a new source of supply. The watershed of the upper Hudson seems far away, but there is no nearer route by which pure drinking water can be obtained. An aqueduct from Lake George would cost \$100,000,000, but this is a sum not considerable as the price of the health of millions.

Rockefeller Institute for Medical Research.—The United States is to have an institution for medical research similar to the famous Pasteur Institute of Paris and the Koch Institute

of Berlin. John D. Rockefeller has provided \$200,000 for preliminary work on the project, and is expected to endow it when plans are finally agreed upon. It will be located in this city, with branches in every large city in the country. It is to be called "The Rockefeller Institute for Medical Research," and has been incorporated. The purpose of the foundation is to furnish facilities for original investigation, particularly in medicine and hygiene as have a practical bearing upon the prevention and treatment of disease. The board of directors as at present constituted is as follows: Dr. William H. Welch, Baltimore, president; Dr. T. Mitchell Prudden, New York, vice-president; Dr. I. Emmett Holt, New York, secretary; Dr. C. A. Herter, New York, treasurer; and Drs. Theobald Smith, Boston, Simon Flexner, Philadelphia, and M. H. Biggs, New York.

NORTH CAROLINA.

Dr. William H. Cobb, Jr., has been elected city physician of Goldsboro.

North Carolina Medical College, Davidson, held its eighth annual commencement exercises, May 13, graduating a class of eight.

Dr. William D. McMillan, Wilmington, on May 6, was unanimously re-elected superintendent of health of New Hanover County.

State Board of Health.—The governor has appointed the following members of the board: Dr. Richard H. Lewis, Raleigh; Dr. Francis Duffy, Newbern; Dr. George G. Thomas, Wilmington, and Dr. William P. Ivey, Lenoir.

OHIO.

Cincinnati.

Cincinnati Academy of Medicine.—The regular meeting was held in the amphitheater of the Cincinnati Hospital, May 27, at the invitation of the Board of Trustees. The occasion was the official opening of the new laboratories. Speeches were made by Dr. P. S. Connor, on behalf of the Board; Dr. N. P. Dandridge, president of the Academy; G. A. Fackler, president of the hospital staff; J. E. Greiwe, director of laboratory.

The medical staff of the Cincinnati Hospital held its annual election of officers on May 30. The result was as follows: Dr. G. A. Fackler, president; Dr. B. K. Rachford, vice-president; Dr. Arch I. Carson, secretary; Dr. P. S. Connor, librarian.

The Society of Ex-Internes of the Cincinnati Hospital held their fifth annual meeting and banquet on June 1. About sixty were present. Dr. D. I. Wolfstein acted as toastmaster, and toasts were responded to by Drs. John H. Landis, Joseph Ransohoff, W. E. Craue, William Muehlberg, and S. E. Allen. Dr. A. B. Thrasher was elected president for the ensuing year.

Presbyterian Hospital Staff.—At the annual meeting, June 3, Dr. W. H. Taylor was elected president for the coming year; Dr. E. Campbell, vice-president, and Dr. Estella Riley, secretary. Dr. D. I. Wolfstein, formerly professor of pathology in the Ohio Medical College, has resigned to accept the chair of neurology at the Cincinnati College of Medicine and Surgery.

PENNSYLVANIA.

An isolation hospital has been prepared for the reception of smallpox patients on the county almshouse farm, east of Lebanon.

Two New Hospitals.—By an agreement of legislators, Western Pennsylvania is to have two new hospitals. The West Penn Hospital, Pittsburg, toward which the state will give \$200,000 provided the hospital secures a like amount, and the Allegheny General Hospital, which has already raised \$200,000, to which the state will add \$100,000.

Philadelphia.

St. Joseph's Hospital Internes.—The following are the successful applicants for internships at St. Joseph's Hospital: Drs. Foulkrod, Rigel, Homer Rhode, Mervin R. Taylor and Lamott.

Reunion of Class of 1891.—Dr. Matthew M. Smith, Austin, Texas, president of the class of 1891, Jefferson Medical College, has called a meeting of the class to be held in Philadelphia, June 28 and 29.

Dr. A. Donaldson Smith, at a recent meeting of the Royal Geographical Society, received the Patrons' medal for his journey to Lake Rudolf, south of Abyssinia.

Unclaimed Dead.—The distribution of unclaimed corpses to the various medical colleges for dissecting purposes has pro-

duced friction between the State Anatomical Board and the pathological section of the Medical Board of the Philadelphia Hospital, which claims that mutilated bodies have been given to the colleges.

VIRGINIA.

Dr. B. Lawrence Taliferro, Richmond, sailed for Europe, May 8, to pursue special studies abroad.

Dr. Jefferson R. Kean, U.S.A., of Richmond, Va., has received his promotion and is now a major of the medical department in the regular establishment.

Dr. Buckner M. Randolph, Jr., Richmond, who has recently been made dean and director of the laboratory of the Polyclinic Hospital, Philadelphia, has sailed for Europe for a study-trip of three months.

University College of Medicine, Richmond, Va., held its commencement exercises May 2 and graduated a class of 72. Prof. Charles D. McIvers, president of the State Normal and Industrial College, Greensboro, delivered the address on "The Best Field for Investment in the South."

The Medical College of Virginia, Richmond, held its sixty-third annual commencement exercises, May 9. The graduating class numbered 55. Dr. Willis G. MacDonald, Albany, N. Y., delivered the doctorate address.

Dr. James B. McCaw, one of the oldest physicians in Richmond, on the occasion of his retirement from active practice, issued the following announcement: "Dr. J. B. McCaw having arrived at years of discretion, and remembering that he has been a doctor of medicine for fifty-seven years, announces to the public that he goes on the retired list on and after this date. He would be ungrateful if he did not take this opportunity to return thanks to the good people of this community who have shown their confidence in him and his forefathers for four generations—from 1786 to 1901."

WASHINGTON.

Everett Physicians have formed an association to guard against quackery and to establish a uniform schedule of fees.

The Sisters' Hospital, built on the line between Fairhaven and Whatecom, was recently opened. It contains 48 rooms and 4 wards, and will accommodate about 40 patients. It is fitted up with the most modern equipments and is a model of its kind. The building as it stands cost about \$27,000.

Walla Walla Hospital will receive \$10,000 under the terms of the will of the late Joseph Conatser, of Colfax, and may receive the entire estate, valued at \$60,000 to \$75,000, in case heirs should not appear. The bequest is conditional on the change of name of the hospital to "The Joseph Conatser Walla Walla Hospital."

WISCONSIN.

Milwaukee Medical College graduated a class of 39, May 1, at its seventh annual commencement.

Dr. Bruno L. Schuster, Milwaukee, has returned from Europe, where he has been studying for some time in Berlin and Budapest.

St. Elizabeth's Hospital, Appleton, dedicated its new building May 9. The building cost about \$75,000, and has a capacity of 75 to 80 beds.

Wisconsin College of Physicians and Surgeons.—The eighth annual commencement of this college was held at Milwaukee, May 11. A class of 18 received diplomas. The doctorate address was delivered by Dr. Walter Kempster.

Medical College not Exempt.—The application of the Milwaukee Medical College to permanently enjoin the City of Milwaukee from collecting taxes, has been denied and the city is taking steps to collect the taxes for 1901, which amount to \$1857.36.

Compulsory Vaccination Bill Vetoed.—Governor La Follette has vetoed the Collins compulsory vaccination bill, as he does not believe an emergency exists which demands a law repugnant to so many good citizens!

WYOMING.

Licensed Physicians.—The records of the State Board of Health show that Wyoming has 136 licensed physicians.

The Quaker Doctor's Suit.—A case of more than usual interest to the medical profession was tried at the April term of the district court of Uinta County at Evanston. In November, 1899, a traveling representative of the Quaker Medicine Co. of Portland, Ore., styling himself "Quaker doctor" was tried before a justice of the peace charged with selling medicines and nostrums. While the evidence was conclusive as to

his guilt the justice, for reasons best known to himself, discharged the defendant. Several days later he was charged with practicing medicine illegally. This second charge was dismissed as the attorney for the defendant convinced the justice that his client was being tried the second time for the same offense. As a result of these unsuccessful prosecutions, the so-called "Quaker doctor" brought a suit for \$20,650 damages against Dr. E. E. Levers, of Spring Valley, Wyo., and Drs. T. L. Wicks, C. H. Solier and F. H. Harrison, of Evanston, Wyo., charging malicious prosecution. The trial developed the fact that these gentlemen were acting only in compliance with the written request of the State Board of Medical Examiners and no motive was shown to have existed. It was also clearly demonstrated that the plaintiff was actually practicing medicine. The jury promptly brought in a verdict for the defendants.

CANADA.

Smallpox at Hamilton.—The disease has appeared at Hamilton, Ont., where five cases have been located. A general vaccination has been ordered.

Smallpox at Toronto.—Three new cases of smallpox were discovered in Toronto last week. Dr. Sheard has requested that \$5000 be immediately placed at his disposal for meeting emergencies promptly.

Doctors' Assessments.—The Ontario government has responded to the request of several physicians for a test case being submitted to the courts with regard to the validity of the assessment tax of the Medical Council. This will stay the hands of the Council until such time as a decision can be arrived at.

Montreal General Hospital Elections.—President, Mr. James Cathern; vice-president, Mr. Harry Stikeman; treasurer, Mr. S. H. Ewing; secretary, Dr. F. G. Finley; physicians: Drs. W. A. Molson, A. D. Blackader, F. G. Finley and H. A. Lafleur; surgeons: Drs. F. J. Shepherd, G. E. Armstrong, J. Alexander Hutchinson and J. M. Elder.

Convocation at Trinity.—Convocation exercises were held at Trinity University, Toronto, on the afternoon of May 31, when 52 graduates received their degrees in medicine. On the following afternoon similar exercises were held at Trinity Medical College, when a like number received the diploma of the College and subscribed to the fellowship oath.

Smallpox in Winnipeg.—On May 24, all the smallpox cases in Winnipeg were recovering and quarantine was raised on that date. The patients were removed from the pest-house and quarantined in a tent some distance from that place. They will be kept there for a fortnight before being permitted to re-enter the city. On the following day two new cases were discovered in the city, two brothers who had just arrived from Edmonton, N. W. T.

Convocation at the Manitoba Medical College.—The medical graduates of the Manitoba Medical College received their diplomas on Thursday afternoon, May 23. Dr. H. H. Chown, in presenting the graduates, hoped to see the time when a B.A. would be the requirements for matriculation; and that the five-year course would soon be established in Winnipeg as in eastern Canada. Ten were graduated M.D.'s; four, degrees of C.M. There was a considerable number of unsuccessful candidates.

Halifax Board of Health.—The Halifax Board of Health held a meeting on the afternoon of May 23, when it was reported that the city was free from contagious diseases and that there were no patients at the Infectious Disease Hospital. Dr. Venables wrote the Board in reference to his campaign of vaccination. He had recently covered a large territory and had met with great opposition in many quarters. In fact, in one section of the city he had received a personal attack in the discharge of his duties.

Montreal Foundling Hospital.—The annual meeting of this institution was held last week. The treasurer's report showed that the receipts for the past year amounted to \$6951 and the disbursements to \$6762, leaving a balance on hand of \$189. The medical report stated that there were in the hospital on the 15th of May last 36 babies, and there had been admitted since 137, making a total of 173, or an increase over the previous year of 22. Very nearly one half of the babies admitted were under one week old, and of these 31 were under twenty-four hours.

Western Hospital, Montreal.—The annual meeting of this institution was held on May 28 and the reports show that this hospital has just passed through the most successful year in its history. The annual report stated that the debt had been

reduced in the year from \$10,000 to \$8000, and this while great improvements had been made in the building, including new operating instruments and anesthetic rooms fitted up with electricity and all other modern appliances. As soon as the debt has been completely wiped out it is the intention to enlarge the buildings.

The Physicians of Three Rivers, Quebec.—On May 30, some 43 physicians responded to an invitation to meet in the city of Three Rivers, to organize a district medical association for the advancement of the profession, the study of Dr. Roddick's bill and other like measures. The meetings will be held monthly, the next being held on June 24. The following officers were elected: Honorary president, Dr. Desaulniers, of Nicolet; honorary vice-president, Dr. Grenier, of St. Maurice; president, Dr. L. P. Normand; first vice-president, Dr. Marchand; second vice-president, Dr. H. Trudel; treasurer, Dr. J. H. Ledue; secretary, Dr. C. E. Darche.

Sickness in Ottawa.—Mr. Chancellor Boyd has just issued judgment, given in Toronto, restraining the city of Ottawa from building the new contagious disease hospital on the property of the parks commissioners. This may have a serious affect upon the city of Ottawa, as at the present time there are said to be numerous cases of infectious diseases in the city and no hospital to which to take them. The provincial board of health had condemned the old site at Porter's Island, besides which the buildings there are not fit for use. It would look from this judgment as though Ottawa could not establish a permanent hospital for contagious diseases. The rules regarding the proximity of other buildings are also very strict in that city and the suburban places object to the presence of a contagious disease hospital in their midst.

FOREIGN.

At Moscow two new medical scholarships have recently been founded by the widows of two prominent physicians.

Plague at Capetown.—The total number of cases up to June 9 were 700, with 326 deaths. Of these, 119 were white, almost equally divided between colonists and Europeans.

Plague at Hong Kong.—According to a cable dispatch, the epidemic is increasing. The Asiatic cases average 40 daily, and the Europeans 12. The medical staff of the board of health is numerically inefficient.

A Moscow physician, according to the *St. Petersburg Med. Woch.*, charged with inoculating three of his patients with syphilis, has been condemned by the courts to six months of imprisonment and loss of all his professional privileges for a certain length of time.

Plague in India.—For the week ending April 27 there were 4093 deaths against 6304 for the week ending April 20. In Bombay the number of deaths was 403, fewer by 56 than in the previous week. In the Bombay Presidency the deaths have fallen from 570 to 468; in Calcutta from 389 to 215, and in the Bengal presidency from 3258 to 1707. In the Punjab and Kashmir there has been a slight increase, the figures having risen from 518 to 547 and from 25 to 33 respectively.

Hospitals of Vienna.—The City Council has given its approval of the improvement of the city hospitals, and contemplates, it is said, the expenditure of a large sum of money therefor. This will be in connection with the Wiener Allgemeines Krankenhaus. The late Professors Billroth and Albert protested against the limited space and the disturbance due to street traffic.

French Population Slowly Increases.—It is expected that complete official figures of the recent census of France will be published in a few days. Paris has a population now of 2,660,000, showing an increase of 149,000 since 1896. The entire country will show only about 500,000 increase in five years. This, from a military standpoint, shows unfavorably with Germany's increase of 800,000, Austria's 450,000, England's 450,000, and Italy's 400,000, each within a period of twelve months.

Beri-beri in Japan.—In 1883, the last year of the old system of diet, there were 1236 cases out of a force of 5346 men in the navy, or a ratio of 231 per 1000 of force; the deaths were 49. In 1898 the number of cases was 16 out of a total of 18,426; the mortality was one. Now, by a judicious system of diet, beri-beri may be regarded as driven out of the navy.

altogether. The daily food of a man in the Japanese navy is now approximately one-half pound of bread, two-thirds of a pound of meat, two-thirds of a pound of rice, five-sixteenths of a pound of vegetables, plus small quantities of fish, tea, sugar, roasted barley, etc. The average weight has increased from 121 pounds, approximately, in 1884, to 130 pounds in 1888.

Recrudescence of Diphtheria in Paris.—The number of cases amounted to 1262, with 225 deaths, during the first four months of 1901, while there were only 563 cases, with 121 deaths, during the same period last year. The Minister of the Interior has issued an order that physicians should not wait to obtain fresh antidiphtheria serum, but inject at once some of the obtainable supply. When the injection is made the day the false membranes first appear, the mortality of diphtheria, he states, is less than 2 per cent. It is 6 per cent. when the injection is made the second day, and rises to 30 per cent. when the injection is delayed till the third day, and to 50 and 60 per cent. the fourth day and thereafter. Some of our Paris exchanges comment on this "Compulsory Serum Treatment" as a measure more autocratic than a despot would dare to promulgate, but the *Progrès Médical* approves of the motive inspiring it.

PARIS LETTER.

Cocain in Maternity Cases.

Cocain in maternity cases has been tried by several accoucheurs in Paris. Doleris, who is well known to gynecologists in America, has been employing it in his service at the Boucicaut Hospital. The number of cases reported in the thesis of his assistant, Dr. Malartie, is 62. The usual dose was one centigram, sometimes two. The results were good in 52 cases, and bad in 10. Dr. Malartie established the following conclusions: Analgesia lasts about two hours, the uterine contraction is excited, especially immediately after the injection, retractility is also induced; there is a certain hemostatic action, and lastly a slight degree of action on the contractions even outside parturition. As a result of this, intramedullary cocaineization is the best anesthetic in all obstetric operations, with the exception of version. It is contraindicated in cases of pregnancy, on account of its abortive influence. It may be used in cases of parturition where there is much pain, as a hemostatic, as a means of inducing labor, for instance in eclampsia. Dr. Doleris used this method in a case necessitating Cesarean section, and the action on the uterus was so pronounced that it was not necessary to check the bleeding after extraction of the child, as is usually done, by compression at the neck of the uterus.

Mortality Among Parisian Physicians.

The statistics concerning the number of deaths of the medical body in Paris are published every three months, and they tend to show that a large proportion of them are due to diseases contracted in the profession. Out of 71 deaths 38 are due to consumption and kindred affections. Out of 14 physicians 3 died of diabetes and two committed suicide; one died from morphinomania.

Novel Will Tending to Improve Race.

The recent laws concerning marriage which have been proposed in Indiana and Minnesota have been outdone by the terms of a will made a few months ago by Count Saint Ouen de Pierrecourt, an inhabitant of Rouen, who has left his estate to the town under the following conditions: Every year \$20,000 will be given to a married couple who will be chosen for their size and strength. The man and his wife will have to be examined by the physicians of the town, and the latter will report as to their condition.

Remarkable Case of Deception.

There has been a good deal written recently in the French newspapers about a young woman at St. Germain who had needles coming out from different parts of her body. She said that she had swallowed a package of needles some five years ago, and they were only just beginning to come. The physician and the druggist had already removed 50 needles, when some one told her that the pricking of the skin would be the cause of serious inflammation. The phenomenon stopped very soon after, and as the needles were always found on the left side and always came out by the blunt end, it was shown that she had been practicing deception.

Invention of the Stethoscope by Laennec.

In the last number of the *Chronique Médicale* the manner in which the stethoscope was discovered is described by Dr.

Gorgon. Laennec, who was always very punctilious about examining young women, was taking care of a girl 18 years old who had some lung affection. One day he was going to see his patient and was crossing the court of the Louvre, where some children were playing about some long timbers and striking them so that others at the other end might hear the knock. Laennec was holding in his hand a roll of papers. The idea came to him to use it in like manner while examining his patient. He later found it more advantageous to use a solid piece of wood, which was ultimately transformed and became the modern stethoscope. Most French physicians auscult directly without any instrument, but they use the stethoscope for certain heart lesions. The double stethoscope, which is employed in England and America is rarely seen in France.

Sanatoria for Consumptives.

Sanatoria for tuberculous patients are not common as yet in France. There are a few established in the southern part of France, but they are more for wealthy patients, and we do not see in France what has been established in Germany during the last four years, sanatoria for workmen where the expenses are only three marks a day. There are already 43 sanatoria of this type in Germany, and 19 more will be finished in 1902. This number will be ultimately increased. A fact worthy of notice is that these sanatoria are built by the state, as an outcome of the insurance made by law in the case of certain laborers. It is useless counting upon private charity to find the necessary funds to build the sanatoria that will be found necessary. Another point is that whereas in Germany the cost of construction and the money needed to run such establishments seem to be comparatively small, in France the amounts indicated are very large. A recent estimate would place the cost of construction of sanatoria for 300,000 consumptives at 1,800,000,000 francs, and the annual expense would be 328,000,000 francs. According to the German estimate it would be respectively 200,000,000 and 70,000,000. There is a new law under discussion in the Chamber of Deputies concerning the establishment of a pension for workmen, arrived at a certain age, and the passing of this law might lead to establishing sanatoria as a means of prolonging the time during which a workman can accomplish his work.

Laveran Elected Member of the Institute.

One of the highest honors that a physician can obtain in France is to be made a member of the Academy of Sciences; one may say that the life of a physician is made up of the following positions, which he is destined to occupy in succession: Medical student, externe, then interne of the hospitals, physician of the hospitals, professor agrégé of the Faculty of Medicine, member of the Academy of Medicine, and lastly member of the Institute. A place was vacant on account of the death of Professor Potain and on May 20 an election took place. Dr. Laveran, who is so well known for his works on malaria, got 40 votes and Professor Richet 13.

LONDON LETTER.

The Polyclinic Dinner.

The annual festival dinner of the Medical Graduates' College and Polyclinic has been a most successful function, and by far the most important medico-social event of the year. Mr. A. J. Balfour, M.P., first lord of the treasury, presided, and was supported by many distinguished persons, including the Duke of Marlborough, Lord Kelvin, Sir William Broadbent (president of the Polyclinic), Mr. Jonathan Hutchinson, Sir William Gowers, Sir Lauder Brunton, the Lord Mayor, and the Bishop of London. About 400 physicians were present. Mr. Balfour proposed the toast of the Polyclinic in an excellent speech. In describing the need for such an institution and the position of medical science in this country he showed a command of the subject which might be envied by any medical speaker. He pointed out that there were three sides to the activity and utility of the Polyclinic. First it supplies medical advice of the highest kind to persons who could not otherwise obtain it. Vast sections of the population availed themselves of the services of the general practitioner. In cases of difficulty in which he would recommend them to go to some consultant they were not able to do so because they had not the resources. This was a want which was not supplied by the hospitals, but was supplied by the Polyclinic. But this was not the form of its activity which he thought would produce the most far-reaching benefits to mankind. It enabled the hard-worked general practitioner to make himself familiar with the latest researches in medical science—a matter hitherto impossible. It gave these men on the easiest and cheapest terms an opportunity of keeping abreast with the times and coming into personal contact

with the leaders of medical thought. There was yet a third branch of the activity of the Polyclinic—furthering the growth of medical knowledge. Although this country could claim the credit of the discovery of anesthesia and of the antiseptic system it could not be said that, compared with Germany, France, or Italy, it had done all that it might have done as a pioneer of medical discovery. For that the unprofessional and unscientific public were partly to blame. The richest country in the world lagged behind Germany, France and Italy. Mr. Balfour concluded his eloquent speech with a plea for the support of the Polyclinic. The toast was drank with enthusiasm. Sir William Broadbent said, in responding, that the Polyclinic was only the embryo of what it hoped to become in the advancement of medical science and investigation. Mr. Jonathan Hutchinson also responded and referred to the unique collection of photographs and illustrations of disease which were being accumulated at the Polyclinic and would in part supply the place of an hospital in the instruction of its members. The immediate result of the banquet was a subscription list of \$8000 in aid of the support of the institution.

The Annual Report of the Local Government Board.

The supplement to the annual report of the Local Government Board has just been issued. It opens with a fitting tribute to the great public services of the late Sir Richard Thorne by whose untimely death the board have lost an administrator of the highest order, and with a like reference to the late Dr. Robert Cory, for many years director of the board's animal vaccine establishment. Mr. Power, whose skill and acumen were conspicuously displayed some years ago by his discovery of the agency of milk in the conveyance of scarlatina and diphtheria, has succeeded Sir Richard Thorne as chief medical officer. From the summary of the departmental work which is given, it is evident that the increase in vaccination which is believed to have followed recent legislation did not commence too soon for the safety of the country. The statistics now given apply only to 1897, in which the amount of default is greater than has ever been recorded. Of 927,518 children born in the year only 62.4 per cent. were returned as successfully vaccinated, 11.2 per cent. as having died unvaccinated, 0.3 per cent. as insusceptible, and 3.4 per cent. as exempted under certificates of "conscientious objection," according to the act of 1898. The demand for glycerinated calf lymph is now continuously increasing.

Intestinal Intoxication from Appendicitis.

At the Royal Medical and Chirurgical Society Dr. Sidney Martin described the case of a man aged 50 whose motions were offensive and never solid. After eight weeks there were pallor, cachexia, emaciation and flabby muscles. There were daily from one to three extremely offensive, liquid motions. No cause could be discovered for the intestinal decomposition. The colon was flushed with boric solution, but the patient continued to lose flesh (11 pounds in 15 days), and his condition became desperate. The right deep inguinal glands were enlarged. At one examination a mass was felt in the right loin, and it was decided to explore the abdomen. The mass was found to be the kidney which the emaciation had made readily palpable. The cecum was thickened and the appendix enlarged and there were calcereous glands between the ileum and cecum. The appendix and glands were removed. The appendix was enormously thickened and its mucous membrane showed two small erosions. The contents were extremely fetid. The appendix was considered the origin of the patient's condition. Gradual recovery followed. Seven months after operation the bowels were loose only occasionally and there was no fetor. The glandular enlargement disappeared rapidly after the operation and might be considered part of the intoxication process. As far as could be discovered there was no bacterial infection. Mr. R. J. Godlee, in commenting on the surgical aspect of the case, said that enlargement of the inguinal glands in association with appendicitis was a new fact in his experience.

The Pathological Society.

Certain alterations in the mode of work of the society have been adopted. In future the work will be carried on in four sections with sectional chairmen and secretaries. Section A (pathological anatomy and histology) will have as chairman Dr. J. F. Payne; Section B (bacteriology), Dr. Klein, F.R.S.; Section C (experimental pathology), Dr. F. W. Pavy, F.R.S.; Section D (chemical pathology), Prof. Halliburton, F.R.S. The members of the council have been arranged in a corresponding manner in committees for the several sections. This alteration in the mode of conducting the business of the society has been necessitated by the great extension of the field of pathology

since the society was founded in 1846. It will no doubt greatly conduce to the utility of the society, which has done such excellent work in the past, by keeping together all who are working at the different branches of pathology.

Correspondence.

"A New Operative Method for Exposing the Seminal Vesicles and Prostate for Extirpation."

TOLEDO, OHIO, June 4, 1901.

To the Editor:—In the May 4 issue of THE JOURNAL my attention has been called to an article by Dr. Eugene Fuller, of New York, on the subject of "A New Operative Method for Exposing the Seminal Vesicles and Prostate for Extirpation." Inasmuch as Dr. Fuller's assumptions are based upon work which originated, so far as I have any definite information, with myself more than nine years ago, and was published in the *New York Medical Record*, Aug. 6, 1892, I feel that he has done me an injustice to publish a report of "a new method" wherein he describes an operation exactly like my own, with the unimportant change of the patient from the dorsal to the ventral decubitus. Does changing a patient from the dorsal to the ventral position give an operator the right to lay claim to all the work that has preceded him in that direction? It appears that Dr. Fuller has taken this position. In Dr. Fuller's "new method" his paper is illustrated showing the ventral position of the patient and the line of incision which covers the field external to the anal sphincters and internal to the pelvic rami, the two lines along the rami being connected by a transverse incision immediately in front of the anal sphincters and behind the transversus perinei. Dr. Fuller says of this space, that it gives easy access to the prostate and seminal vesicles and is devoid of necessary hemorrhage, there being no vessels to ligate. In my article in the *New York Medical Record* of Aug. 6, 1892, I use the following words in the description of my operation: "The space immediately in front of the rectum and behind the bulb of the urethra was chosen as the route to reach the base of the bladder and the prostate. The transverse diameter of the outlet of the pelvis at this point is too short to work in, and, consequently, it behooved me to increase the operating space without doing injury to important structures. I accomplished this by making a semicircular incision, as is shown in the illustration, from a point midway between the tuber ischii around the anus and entirely within the connective tissue between the bulb of the urethra and the rectum. The advantage of this is that it gives the widest possible diameter of the pelvic outlet with no hemorrhage to speak of, and an easy access to the field of operation. No spurting vessels need be divided, inasmuch as they lie to the outside and in front of the incision." In the *Philadelphia Medical Journal*, April 1, 1899, I further elaborated the anatomical surroundings, and it would seem impossible for Dr. Fuller not to see that he was pursuing the same description and making the same claims that I had already made. The photographic illustrations which accompanied my articles to the *New York Medical Record* and the *Philadelphia Medical Journal*, with the descriptions therein given, evidences the similarity of Dr. Fuller's operation with that of my own.

Respectfully,

JOHN S. PYLE, M.D.

Decinormal, not Normal, Salt Solution in General Use.

PALMER, NEB., June 4, 1901.

To the Editor:—In a recent issue of THE JOURNAL the writer noticed the question as to how much salt to put in a quart of water to make the normal solution extemporaneously. The answer given was to take a small teaspoonful to the pint. This answer is, of course, correct for the purpose intended. However, it makes the decinormal, and not the normal, solution. A normal solution is almost exactly two ounces (avoir-dupois) of common salt (NaCl) in a quart of water.

A normal solution contains as many grams of the drug per liter of menstruum as there are units in the molecular weight of the drug taken for univalent substances or substances combining with one atom of hydrogen. For instance: 23 (the combining weight of Na) added to 35.4 (the combining weight of Cl) equals 58.4, the number of grams for a liter of water. This makes 899 grains salt to be put into 33 ounces and 6.5 drams water (liquid measure). This, of course, is too strong even for analytic chemistry, so that only one-tenth of the amount of salt is taken per liter of water.

From this it appears that 90 grains (89.9) is nearly correct for a quart of water, to make even the decinormal solution. It is the decinormal salt solution that is used for intravenous injection or subcutaneous transfusion, and not the normal solution at all.

C. S. MINNICH, M.D.

Surgery in Exophthalmic Goiter.

COLUMBUS, OHIO, May 27, 1901.

In response to the suggestion in the Editorial on the above subject in the issue of THE JOURNAL of May 25, 1901, I report briefly the following case:

Mrs. P., Dennison, Ohio, aged 34, mother of two children, youngest of which is aged 6, was suffering with a retroverted and adherent uterus, with prolapse of the right ovary. She had a well-marked goiter, with a pulse of 132. Exophthalmos was noticeable, but not pronounced. She had been having this condition of the goiter and heart for a year or more, but the symptoms seemed stationary. Operation was made Nov. 20, 1898, in the presence of Drs. S. L. McCurdy of Pittsburg and C. U. Patterson of Uhrichsville, Ohio. The operation consisted in separating the adhesions and making an ordinary ventral suspension. The patient stood the operation well and suffered no ill effects afterward. Her pulse on the second day reached 140, but soon dropped to its usual frequency, and so continued until she left the hospital. I understand that her symptoms of exophthalmic goiter still remain about as they were at the time of her operation. This is my only experience in operating in this disease. In the case referred to in your editorial the connection between the exophthalmic goiter and the fatal issue is, to my mind, by no means clear.

J. F. BALDWIN, M.D.

The Monument to Dr. Ollier.

PHILADELPHIA, June 3, 1901.

To the Editor:—Some time since you kindly published an appeal of a committee soliciting subscriptions for a monument to the late Professor Ollier in Lyons. As treasurer of the committee, I beg to inform the profession that I have received the sum of \$649 from 103 subscribers. I have forwarded the same, less \$4.60 for postage, printing, etc., to Dr. G. Mondan, 27 rue Jarente, Lyons, France.

Yours very truly,

W. W. KEEN, Chairman.

Professor Freund.—Professor W. A. Freund, of Strassburg, recently resigned his chair to retire from active professional duties. He facetiously observed in his farewell address to the students that the physician nowadays is like the camel in the fable whose back was broken by the proverbial last straw. The profession is the cruel master whose back was broken by the proverbial last straw. The profession is the cruel master that loads him down with a constantly increasing burden of new anatomic, microscopic, chemical and photographic techniques, new methods of diagnosis, new bacteria and toxins, new anti-toxins and new methods of sterilizing the hands. The last straw is the wearing of hoods and masks to operate in. "Instead of staggering under this daily growing load until my back breaks," he remarked, "I prefer to be like the horses of the watering earts, who start out with heavy loads, but find their task constantly growing lighter."

Association News.

AMERICAN MEDICAL ASSOCIATION.

Fifty-Second Annual Meeting, held at St. Paul, Minnesota, June 4-7, 1901.

OFFICIAL REPORT OF THE GENERAL SESSIONS.

JUNE 6—THIRD GENERAL SESSION.

The Association met at 11 a. m., and was called to order by the President.

The minutes of the previous General Session were read by the Secretary and approved.

Before proceeding with the regular order of business, the President stated that he had arranged with the Committee of Arrangements to allow 10 minutes for the presentation of a memorial, with remarks by the representatives of the National American Woman's Suffrage Association relative to certain questions of sanitation in the Army.

President Reed then introduced Miss Susan B. Anthony, who spoke briefly on the subject of regulating vice in Manila, Hawaii, and Porto Rico, the new possessions of the United States.

Miss Anthony was followed by the Rev. Anna Shaw, who spoke of the memorial that had been passed at the thirty-third annual convention of the National American Woman's Suffrage Association, held May 30 to June 5, 1901. She outlined the principal features of the memorial, and expressed the hope that some action might be taken by the Association in regard to the regulation of vice in our new possessions.

Dr. Seaman, New York, asked for two minutes of the time of the Association in which to point out the actual condition of affairs in regard to the prevalence and control of vice in China and elsewhere. This time was granted, and Dr. Seaman read extracts from a paper which he had presented before the recent meeting of the military surgeons of the United States.

Dr. McCormack, Kentucky, offered the following resolution as supplementary to the work of the Committee on Reorganization relating to state and county societies:

Resolved, That this Association cordially endorses the plan proposed by the Committee on Reorganization for a uniform system of organization of state and county societies in affiliation with this body; and the Secretary is hereby instructed to correspond with the officers of each state society and urge the adoption of such plan in so far as it may be applicable to their conditions, and that he shall report to the next annual meeting the result of such correspondence.

On motion, the resolution was adopted.

Dr. Gould, Pennsylvania, offered the following resolution:

WHEREAS, at the last meeting of this Association an appropriation of \$150 was made to pay the expenses of the Committee on Reorganization, and

WHEREAS, the actual expenses incurred by the members of this Committee in the performance of its duties amounts in the aggregate to nearly \$400; therefore, be it

Resolved, That the Board of Trustees be authorized to pay such properly attested bills of expenses, not to exceed the sum of \$400 above named.

On motion, the resolution was adopted.

The President announced as the Committee on National Legislation: Drs. H. L. E. Johnson, of Washington, D.C., William L. Rodman, of Philadelphia, and William H. Weleh, of Baltimore.

The President said that in the new Constitution and By-Laws the words "Session" and "Meeting" were used in such a manner as to create confusion. After quoting from Robert's Rules of Order the correct use of these terms, he stated that unless the Association ordered otherwise, he would direct the Committee on Engrossing the Constitution and By-Laws to rectify the matter.

There being no objection, it was so ordered.

Dr. Bulkley read the report of the General Executive Committee of June 5, which, on motion, was adopted.

Report of General Executive Committee.

The General Executive Committee begs to report as follows:

The Committee met yesterday afternoon at 3 o'clock, thirty members being present, in conjunction with the Committee on Reorganization. The Committee remained in session till 6:30 p. m.

As there were many matters in the President's Address requiring careful consideration, no action was taken upon it except to refer it to a sub-committee, who will report to-day and the General Executive Committee will report upon same, after full discussion, to-morrow.

The report of the secretary, which was referred to the Executive Committee, was considered and the recommendations contained therein were adopted for recommendation to the Association.

The representatives of the Section on Physiology and Dietetics and that on Pathology and Bacteriology reported that their Sections had each requested by vote that the two Sections should be combined into one section under the title of Section on Physiology and Pathology, in order that the scientific work relating to these branches might be considered together; they reporting also that the attendance on each Section was so small that it was desirable to consolidate the two. After discussion and inquiring from members of the executive committee of each Section, who were present, the General Executive Committee finally resolved to request the Association that the proposed change or merging of the two Sections into one section be adopted by the Association.

L. DUNCAN BULKLEY, M.D., Secretary.

Dr. Bulkley read the report of the General Executive Committee of June 6 on matters that had been referred to it.

Report of General Executive Committee.

The General Executive Committee begs to report as follows:

1. The President's Address has been carefully considered and the Committee respectfully submits for your consideration the following recommendations made by him with their endorsement:

REPORT OF COMMITTEE ON PRESIDENT'S ADDRESS.

The Committee on the President's address respectfully submit for your consideration the following recommendations:

1. That the admirable address of our President, Charles A. L. Reed, be published in full in an early issue of THE JOURNAL of the Association.

2. That the Association appoint a Committee to draft appropriate resolutions commemorative of the lives and distinguished services of Alfred Stillé, Lewis A. Sayre and Hunter McGuire, recently deceased Presidents of the Association, and that resolutions adopted be published in THE JOURNAL, and engrossed copies of the same be tendered to the nearest living relative, respectively, of these distinguished men.

3. That action be taken to secure suitable portraits of deceased ex-Presidents of the Association.

4. That the incorporation of the Association be confirmed.

5. That a Committee of three be appointed to revise the Code of Ethics with instructions to report at the next annual session of the Association, and that a printed report of their revision be published in THE JOURNAL of the Association not later than April 1, 1902.

6. That the Association pass resolutions of disapproval of the action of Congress in failing to pass the bill which provided for the proper and adequate recognition of the medical corps of the United States army. * * *

2. In regard to the request from the Committee on Scientific Research, signed by Dr. William H. Welch, chairman, the Executive Committee recommends to the Association that the sum of \$500 appropriated for this Committee last year and not expended, be used by that Committee this year in place of further appropriation of \$500.

3. A communication from Dr. Arthur MacDonald in regard to the establishment of a Psycho-Physical Laboratory in the Department of the Interior at Washington, was received by the Committee and fully discussed. They would recommend that the following resolution be adopted with reference to the same:

Resolved, That we are in favor of the establishment of a Psycho-Physical Laboratory in the Department of the Interior at Washington for the practical application of Physiological Psychology to Sociological and Abnormal Pathological data, especially as found in institutions for the criminal, pauper and defective classes and in hospitals and also as may be observed in schools and other institutions.

4. The report of Committee on Legislation was considered and the following recommendations contained therein are endorsed by your Committee for adoption. (See report.)

5. The Section on Pathology and Physiology having requested the Committee to consider their work, your Committee begs to recommend to the Association that the appropriation of \$500 for the Pathologic exhibit be continued for the following year, as your Committee believes this to be an extremely valuable portion of the educational work carried on by this Association.

6. Your Committee begs leave to call attention of the Sections to the necessity of each electing two delegates for the House of Delegates for the coming annual session.

It was moved that the report be adopted as read. Seconded.

Dr. H. Bert Ellis, California, suggested that the name of Dr. R. Beverly Cole, California, be added to the list of deceased presidents, and it was so ordered.

Dr. Happel, Tennessee, said he understood that there was a provision in the report of the Committee on President's Address which involved the appointment of a Committee to revise the Code of Ethics. He did not wish to make a motion to table that part of the report, for the reason it might carry with it the possibility of tabling the entire report. He therefore asked that this section of the report be considered and acted upon separately. Accordingly, he made the following motion:

"I move as an amendment to the motion that the report be adopted as a whole, save and excepting the appointment of a Committee to revise the Code of Ethics, and that this section be left for action until all the other sections are disposed of." Seconded.

Dr. Allen, of New Jersey, moved as an amendment to the amendment, that each section of the report be read and acted upon separately. Seconded.

The original motion as amended was carried.

Dr. Bulkley then re-read the report of the General Executive Committee section by section, all of which were adopted, with the exception of Section 5, which relates to the revision of the Code of Ethics.

After the reading of Section 5, namely, "That a Committee of three be appointed to revise the Code of Ethics, with instructions to report at the next annual session of the Association, and that a printed report of their revision be published in THE JOURNAL of the Association not later than April 1, 1902."

Dr. Reynolds, of Kentucky, moved that this section be laid on the table. Seconded.

Dr. Happel, Tennessee, rose to a point of order, and stated that no one had a right to vote on the Sections of this report who was not a delegate. He therefore demanded the call of the roll of delegates.

After some discussion, Dr. Bishop, Pennsylvania, moved that the roll-call be postponed until the next annual session.

The President put this motion, and it was carried amid laughter.

Dr. N. S. Davis, Jr., of Chicago, was then introduced, and delivered the Oration in Medicine. (See p. 1606.)

On motion of Dr. Ellis, California, a vote of thanks was extended to Dr. Davis for his interesting address.

The Secretary read the report of the Nominating Committee. (See THE JOURNAL, p. 1649.)

Dr. Harris, of New York, moved that the report of the Nominating Committee be adopted. Carried.

Dr. Tuckerman, of Ohio, offered an amendment to the By-Laws:

"Section 3. Committee on Legislation. The Committee on Legislation shall consist of three members appointed by the President of the Association for a term of three years. One member shall be a resident of Washington, D.C., one of Baltimore, and one of Philadelphia. It shall be the duty of the Committee to represent before Congress the wishes of this Association regarding any proposed legislation that in any re-

spect bears upon the promotion and preservation of the public health or upon the material or moral welfare of the medical profession. This Committee shall also invite to a conference once a year or oftener if need be, one delegate each from the medical service of the United States army, the United States navy, and the Marine-Hospital Service, one from the Bureau of Animal Industry, and one from each affiliated state or territorial medical society: such conference to meet in Washington to consider questions of medical and sanitary legislation, and to report back to this Association and to the several state and territorial societies." (Referred to the House of Delegates.)

Dr. W. K. Sheddan, Tennessee, offered the following resolution, which was referred to the Board of Trustees.

Resolved, That in view of the long and faithful services of Dr. W. B. Atkinson, as Secretary of the American Medical Association, the Trustees be directed to defray the railroad expenses of Dr. Atkinson, individually, to and from each future meeting of the Association, and that he be released from duty on the Registration Committee."

Proposed emendment to By-Laws, Chapter IX, Section 7, as follows: Strike out the following words of Section 7, Chapter IX, "reprints and transactions of Sections, including its lists of members, its rules of order, its lists of officers, as now published, shall be paid for out of the funds of the Association, and furnished free to members of the Association."

JUNE 7.—FOURTH GENERAL SESSION.

The Association met at 11 a. m., and was called to order by the President.

Before beginning the regular order, the President made the following statement: "Some confusion exists relative to the exact status of the Association under the reorganization. That there may be no misunderstanding upon this important subject, the Chair begs to explain and now rules that:

"1. The reorganization is, in fact, the original organization under and in pursuance of the articles of incorporation which were ratified by the Association for the first time by and in the adoption of the new Constitution.

"2. The new Constitution goes into effect during the present session only so far as applies to the election of delegates by the respective Sections as defined by the new Constitution. All other business is conducted in accordance with the old Constitution.

"3. All standing committees, and all special committees created by the General Meetings of the present session shall report, next year, to the House of Delegates.

"If there are no objections, these rulings of the Chair shall stand as the sense of the Association. As there are no objections, the foregoing rulings are directed to be recorded as the sense of the Association."

The Secretary read the minutes of the previous General Session, which were approved.

Dr. George M. Kober, of Washington, D. C., was introduced and delivered the Oration in State Medicine. (See p. 1617.)

At the close of the Oration, the President extended a vote of thanks to Dr. Kober in behalf of the Association for his splendid address.

The next order was the appointment of delegates to other societies. The President stated that only one name had been handed in, that of Dr. Judson Daland, whom he appointed as a delegate to represent the American Medical Association at the World's Tuberculosis Congress, to be held in London, England, July 22 of this year. He said other names would be added to the list by the Secretary as they were handed in.

Dr. L. Duncan Bulkley then read the report of the General Executive Committee.

Report of General Executive Committee.

The General Executive Committee begs to report that no business was referred to it by the Association, and but one matter was acted upon, namely, the following resolutions presented by the Section on Pathology and Bacteriology, which are recommended to the General Session with the endorsement of the General Executive Committee.

The Section on Pathology and Bacteriology of the American Medical Association presents the following resolutions:

WHEREAS, Mr. John D. Rockefeller, of New York, appreciating the great importance and humanitarian utility of pure scientific medical research, has recently donated the sum of \$200,000 for the promotion of original investigation, and has placed the control of this sum in the hands of a committee composed of representative medical scientists under the able chairmanship of Professor William H. Welch, of Baltimore; be it

Resolved, That the medical profession, represented by the American Medical Association, desires to express its profound appreciation of this generous gift and of the gratifying fact that the importance and needs of scientific research in medicine are so clearly realized by the donor; also its appreciation of the wise selection of the chairman of the committee having charge of the same. Be it further

Resolved, That the Secretary of the American Medical Association be instructed to transmit a copy of these resolutions to Mr. Rockefeller.

It was moved that the report be adopted. Carried.

The next in order was the report of the Judicial Council, which was read by Dr. F. H. Wiggin, New York, as follows:

Report of Judicial Council.

The Judicial Council met at 5 p. m., in Parlor 4, at the Hotel Ryan, Dr. H. D. Didama, and F. H. Wiggin, both of New York, being present. Dr. Wiggin was appointed acting secretary by the Chairman, Dr. Didama, and the meeting was adjourned till 5 p. m., June 6.

FREDERICK HOLME WIGGIN, Acting Secretary.

The adjourned meeting of the Judicial Council was called to order by the Chairman, and on motion Dr. C. S. Rodman, of Connecticut, was elected Chairman and Dr. F. H. Wiggin, of New York, Secretary for the ensuing year.

The request of the New York State Medical Association that the name of a member, of New York City, be dropped from the roll of members of this Association and the protest of the member against such action were considered, and as it appeared that his name had been dropped from the roll of members of the New York State Medical Association for non-payment of his dues for the years 1898, 1899 and 1900, his name was ordered to be dropped from the roll of members of the Association in accordance with the By-Laws, until all such arrears of membership have been paid up and he has been reinstated to membership by his local society and the Secretary so notified.

The request of the Jackson County Missouri Medical Society that the name of a member, of Kansas City, Missouri, be dropped from the roll of members of the American Medical Association because he is not a member of a local society in affiliation was granted, and his name was ordered stricken from the roll of members.

The secretary was also ordered to drop from the roll of members the name of a member of Elkhart, Ind., as he has ceased to be a member of his local affiliated society. The Council having decided that a member of this Association forfeits his membership when he ceases to be a member of a local affiliated society either county or state where one exists.

The Secretary of the Association, having called the attention of the Council to the fact that there are at the present time on the roll of members of the Association, the names of men who, having obtained their membership from an affiliated association, have removed their residence to another county or state and have not joined the local affiliated society in the place of their new residence. The Secretary was ordered to inform such gentlemen that they were acting in violation of the By-Laws of this Association relating to membership, and that he request them to at once obtain membership in an affiliated society in the place of their legal residence and in default of this within a reasonable time, to drop their names from the roll of members.

The Secretary having asked for an interpretation by the Council of the following sentence in the By-Laws relating to membership, to-wit: "Nor shall any person not a member of a local medical society." It was decided that this clause be con-

sidered to mean a local affiliated society in the county or state in which the applicant resides.

The Council, while wishing the full details of this report entered in the minute book, suggests that in publishing it in THE JOURNAL that the names of the individuals mentioned in it be omitted.

FREDERICK HOLME WIGGIN, Secretary.

Report of Committee on National Legislation.

Your Committee on National Legislation, to whom was referred the following resolutions from the National Association of Military Surgeons, presented to your honorable body by Major Louis L. Seaman, U. S. V.:

"Resolved, That this body deplores the action of Congress in abolishing the Army Post Exchange or Canteen, and, in the interests of discipline, morality and sanitation, recommends its re-establishment at the earliest possible date."

We have carefully considered the resolution proposed and declare it to be wise and proper, and of importance to every citizen of this republic.

The resolution is the outgrowth of careful study and observation by the medical department of the United States Army, is concurred in by the commanding officers at the several posts, and is intended to correct serious abuses under the present law, which result in drunkenness, desertion, insubordination, dishonorable discharge, crime, poverty, appalling increase in venereal disease and invalidism among the soldiers of the United States Army.

We find that the experience of foreign governments coincides with that of the National Association of Military Surgeons in the necessity for the Army Post Exchange or Canteen.

We recommend that the American Medical Association adopt the resolution proposed and that you petition the Congress of the United States to repeal, at the earliest moment, the objectionable law which prohibits the Army Post Exchange.

Respectfully submitted.

H. L. E. JOHNSON,

Chairman Committee on National Legislation.

WM. L. RODMAN.

On motion of Dr. Lewis, Chicago, the report was adopted.

The President appointed Drs. McGruder and Marey to escort the President-elect to the platform.

Dr. Wyeth, the newly elected President, was then introduced, and made a brief speech in which he thanked the Association for the distinguished honor conferred upon him.

Dr. Seaman, New York, moved that a vote of thanks be extended to the retiring officers for the admirable, excellent and satisfactory Meeting; also to the Chairman and members of the Committee on Arrangements and the citizens of St. Paul who had done so much to entertain the Association.

Dr. Marey, Boston, put the motion, and it was carried unanimously by a rising vote.

There being no further business to come before the General Session, Dr. Reed declared the Association adjourned *sine die*.

OFFICIAL MINUTES OF THE SECTIONS.

Section on Practice of Medicine.

TUESDAY, JUNE 4—AFTERNOON SESSION.

The regular work of the Section on Practice of Medicine commenced with the Address of the Chairman, Dr. J. M. Anders, of Philadelphia. Dr. John B. Deaver, of Philadelphia, read a paper on "Appendicitis: Pathological Anatomy, Diagnosis and Treatment." It was discussed by Drs. De Lancey Rochester, of Buffalo; J. B. Kelly, of Philadelphia; Frank D. Smythe, of Memphis; J. A. Witherspoon, of Nashville; Boardman Reed, of Philadelphia; I. N. Love, of New York City; William Bailey, of Louisville; C. W. Lilly, of East St. Louis, Ill.; H. S. McConnell, of Mechanicsburg, Pa.; Frank Warner, of Columbus; A. F. House, of Cleveland; C. A. Kelsey, of Indianapolis; W. Finlay, of Altoona, Pa.; George F. Jenkins, of Keokuk, Iowa; J. M. Spellman, of Anaconda, Mont.; W. H. Christie, of Omaha; Jno. A. Boager, of Philadelphia; and E. L. Herriot, of Jacksonville, Ill.

A paper on "Some Phases of Malaria" was read by J. B. McElroy, of Stovall, Miss. It was discussed by Drs. E. H. Martin, of Clarksdale, Miss.; Wm. Britt Burns and D. M. Hall, of Memphis; De Lancey Rochester, of Buffalo; W. G. Harrison, of Talladega, Ala.; Victor C. Vaughan, of Ann Arbor; G. W. Young, of Breckenridge, Mo.; Louis Schwab, of Cincinnati; Joseph Brayshaw, of Illinois; T. B. Fitcher, of Baltimore, and A. D. Hains, of Cincinnati.

WEDNESDAY, JUNE 5—MORNING SESSION.

"The Chemical and Microscopic Value of Blood Examinations" was read by W. D. Kelly, of St. Paul; "Pernicious Anemia: Report of a Series of Cases," by Thomas McCrae, of Baltimore; and

"The Leucocyte Count in Hemorrhage," by George Douglas Head, of Minneapolis. These three papers were discussed by Drs. De Lancey Rochester, of Buffalo; W. B. La Force, of Ottumwa, Iowa; Thomas McCrae, of Baltimore; George Douglas Head, of Minneapolis; W. T. Higgins, of Courtland, N. Y.; A. J. Coy, of Chicago; W. D. Kelly (closing discussion); Thomas McCrae (closing discussion); and George Douglas Head (closing).

"Osmotic Pressure and its Relation to Eremic Manifestations" was read by Heinrich Stern, of New York City.

WEDNESDAY, JUNE 5—AFTERNOON SESSION.

The Chairman announced the Nominating Committee as follows: J. B. Herrick, of Chicago, chairman; C. H. Hunter, of Mississippi; and James J. Walsh, of New York City. This committee reported for chairman, Frank A. Jones, of Memphis; for secretary, Robert B. Preble, of Chicago.

A paper on "Cirrhosis with Pigmentation" was read by T. B. Fitcher, of Baltimore; on "Circulatory Disturbances Accompanying Cirrhosis with Inosculation of the Portal Branches with Systemic Veins," by Charles G. Stockton, of Buffalo; on "Cirrhoses of the Liver, Due to Metallic Poisons," by Victor C. Vaughan, of Ann Arbor; on "Treatment of Cirrhoses of the Liver," by J. H. Musser, of Philadelphia. These papers were discussed by Drs. Frank Billings, of Chicago; J. B. Herrick, of Chicago; W. E. Quine, of Chicago; William Bailey, of Louisville, Ky.; O. T. Osborne, of New Haven, Conn.; Robert B. Preble, of Chicago; G. W. McCaskey, of Fort Wayne, Ind.; Clarke Gopen, of Madison, Wis.; G. W. Webster, of Chicago; W. H. Neilsen, of Milwaukee; C. G. Stockton (closing); T. B. Fitcher (closing); and V. C. Vaughan (closing).

A paper on "Rheumatic Stimulants" was read by James J. Walsh, of New York City, and discussed by Charles G. Stockton, of Buffalo; G. W. Webster, of Chicago; C. H. Hunter, of Minneapolis.

Charles Lyman Greene, of St. Paul, read "Akromegaly: Presenting Features of Interest."

THURSDAY, JUNE 6—MORNING SESSION.

The morning work was opened by a paper on "Modified Treatment of Typhoid Fever," by T. B. Greenley, of Meadow Lawn, Ky.; and on "Medical Shock," by O. T. Osborne, of New Haven, Conn. Discussed by Drs. W. C. Lillie, of East St. Louis, Ill.; James J. Walsh, of New York City; C. A. Kelsey, of Minneapolis; Geo. W. Webster, of Chicago; R. C. Newton, of Monclair, N. J.; and O. T. Osborne (closing).

"The Spread of Tuberculosis by Coughing," was read by E. Napoleon Boston, of Philadelphia; "Practical Value of Cultures from the Throat," by H. M. Fussell, of Philadelphia (Read by Dr. G. W. Webster). These papers were discussed by Drs. De Lancey Rochester, of Buffalo; R. C. Newton, of Monclair, N. J.; C. W. Lillie, of East St. Louis, Ill.

"Genito-Urinary Examinations by the General Practitioner: With Demonstrations on Patient," Ferd C. Valentine, of New York City.

THURSDAY, JUNE 6—AFTERNOON SESSION.

The afternoon's work opened with an interesting Symposium on Pericarditis, consisting of papers on "Clinical Observations in Pericarditis," by Frank Billings, of Chicago; "Pathology and Pathogenesis of Pericarditis," by Joseph McFarland, of Philadelphia; "The General Etiology of Pericarditis," by Robert B. Preble, of Chicago; "Relation of Pericarditis to Endocarditis and Myocarditis," by Alfred Stengel, of Philadelphia; "Adherent Pericardium," by Robert H. Babcock, of Chicago; "Tuberculous Pericarditis," by C. F. McGahan, of Aiken, S. C.; "Cardiac Lesions as Observed in the Negro: With Special Reference to Pericarditis," by Frank A. Jones, Memphis; "Some Points in the Treatment of Pericarditis," by Frank Parsons Norbury, of Jacksonville, Ill. They were discussed by Drs. De Lancey Rochester, of Buffalo; James J. Walsh, of New York City; H. B. Sears, of Beaver Dam, Wis.; J. B. Herrick, of Chicago; Carl Beck, of New York City; J. D. Smythe, of Greenville, Miss.; and R. B. Preble, of Chicago.

A paper on "Some Points in Raynaud's Disease," by Carl Beck, of New York City, was discussed by Dr. Charles G. Stockton, of Buffalo.

As delegates to the House of Delegates, the Chairman appointed J. M. Anders, of Philadelphia, and Norman Bridges, of Los Angeles, Cal.

The following resolution was handed the Chairman of the Section for action, by J. A. McKenna:

Resolved, That Section 1, Chapter IX (By-Laws) be changed to read, instead of "Section on Practice of Medicine," to the "Section on Practice of Medicine, Dietetics and Therapeutics," for the reason that therapeutics and dietetics are so closely allied to the practice of medicine that their consideration should be taken up in this Section, and

Resolved, That the Sections from which the subjects of dietetics and therapeutics are subtracted be rearranged by the House of Delegates.

Referred to the Executive Committee for action.

FRIDAY, JUNE 7.

This session was a joint session with Section on Hygiene and Sanitary Sciences.

The Symposium on Smallpox consisted of papers on "A Further Report on Pseudo or Modified Smallpox," by T. J. Happel, of Trenton, Tenn.; "Smallpox: The Old and New," by W. L. Beebe, of St. Cloud, Minn.; "Remarks Covering the Sanitary Features of Smallpox," by Louis LeRoy, of Nashville, Tenn.; "The Diagnosis of Mild Smallpox as in the Present Outbreak of the Smallpox in This Country," by Heman Spalding, of Chicago; "The Distinguishing Characteristics Between Mild Discrete Smallpox and Chickenpox," by Frederick Leavitt, of St. Paul; and "Smallpox," by H. M. Bracken, of St. Paul. They were discussed by Drs. William Bailey, of Louisville, Ky.; James J. Walsh, of New York City; Louis LeRoy, of Nashville, Tenn.; Thos. Wm. Corlett, of Cleveland; F. S. Raymond, of Memphis; J. F. Marchand, of Canton, Ohio; D. B. Pritchard, of Winona, Minn.; J. M. Barr, of McKees Rock, Pa.; E. H. Martin, of Clarksville, Tenn.; G. W. Goin, of Breckenridge, Mo.; C. F. Dwight, of Minneapolis; T. J. Happel (closing); H. Spalding (closing); F. Leavitt (closing); and H. M. Bracken (closing).

The following resolution was presented by Dr. Henry D. Holton, of Brattleboro, Vermont:

Resolved, By the Joint Sections on Practice of Medicine, and Hygiene and Sanitary Science, That the disease now prevailing extensively in the United States and called in some instances, "Pseudo-smallpox" is genuine smallpox and should be so treated with vaccination and quarantine by all health authorities. Carried. The Section then adjourned.

Section on Surgery and Anatomy.

TUESDAY, JUNE 4—AFTERNOON SESSION.

The meeting was called to order by Dr. A. J. Ochsner, the chairman.

The following papers were read: "Remarks on the Surgery of the Spinal Cord, with Illustrative Cases," by Dr. Andrew J. McCosh, New York City; "Spina Bifida, with Report of an Interesting Case," by Dr. Paul F. Eve, Nashville; "The Methodical Exploration of the Brain for Fluid," by Dr. Christian Fenger, Chicago; "The Immediate and Remote Effects of Brain Injury," by Dr. D. S. Fairchild, Clinton, Iowa. This Symposium of papers was discussed by Drs. W. W. Keen, Philadelphia; Angus McLean, Detroit; Frazier's remarks (contribution) on tri-facial neuralgia; Weir, Frauk, Chicago; Earles, Milwaukee; Moore, Minneapolis; Dawbarn, New York City; Bernays, Maxwell, Keokuk; Means, Columbus; Crile, Cleveland; Taggart, Chicago; McKnight, Connecticut; Baldwin, Salt Lake; and Vaughan, St. Louis.

WEDNESDAY, JUNE 5—MORNING SESSION.

The meeting was called to order and the following papers read: "The Mortality of Appendicitis," by Dr. John B. Deaver, Philadelphia; "Some Unusual Features of Appendicitis and their Treatment," by Dr. Ernest Laplace, Philadelphia; "The Knot within the Lumen in Intestinal Surgery," by Dr. F. Gregory Connell, Chicago; "Surgery of the Colon," by Dr. H. O. Walker, Detroit. Discussion was by Drs. Steele, Chicago; Murphy, Chicago; Knight, Connecticut; Maxwell, Iowa; Andrews, Chicago; Harris, Chicago; Moore, Minneapolis; Morris, New York City; Smythe, Memphis.

Dr. Jackson concluded the morning session by giving a paper on "The Teaching of Relational Anatomy," with presentation of specimens.

WEDNESDAY, JUNE 5—AFTERNOON SESSION.

The meeting opened with the reading of "The Nature of the Cancerous Process," by Dr. Roswell Park, Buffalo; "The Present Status of the Carcinoma Question," by Dr. Nicholas Senu, Chicago; "Early Diagnosis of Carcinoma—Methods," by Dr. Charles A. Powers, Denver; "The Pathology of Breast Cancer and its Relation to Early Diagnosis and Treatment," by Dr. William S. Halsted and Dr. J. C. Bloodgood; "Carcinoma of the Cecum," by Dr. William J. Mayo, Rochester, Minn.; "Improved Method of Resecting High Rectal Carcinoma," by Dr. Robert F. Weir, New York City; "Method of Operating on Carcinoma of Tongue," by Dr. J. Collins Warren, Boston; "Treatment of Malignant Disease," by Dr. Frederic S. Deunis, New York. This symposium was discussed by Drs. Bernays, St. Louis; Crile, Cleveland; Rodman, Philadelphia; Fuetterer, Chicago; Massey, Philadelphia; Dawbarn, New York City; Levings, Milwaukee; and McKenzie, Oregon.

The Executive Committee reported, through Dr. Rodman, the names of Dr. De Forest Willard, of Philadelphia, for chairman, and Dr. James B. Bullitt, of Louisville, for secretary. Upon vote the nominations were carried.

Dr. Ferguson moved that the same committee consider names of members for election to the House of Delegates, and report tomorrow at 2 o'clock p. m.

THURSDAY, JUNE 6—MORNING SESSION.

The meeting was called to order and the following papers read: "Hemostasis in Amputation at the Hip-Joint, a Résumé of 262 Cases by the Author's Method," by Dr. John A. Wyeth, New York City; "Autoplastic Suture in Herula and other Ventral Wounds," by Dr. L. L. McArthur, Chicago; "A New Method of Skiagraphic Diagnosis for Renal and Ureteral Surgery," by Dr. L. E. Schmidt and G. Kolischer, Chicago; "Prostatotomy versus Prostatectomy for Prostatic Hypertrophy," by Dr. Ramon Guiteras, New York City; "Prostatectomy, the Method of Choice in the Management of Prostatic Obstruction," by Dr. Eugene Fuller, New York City; "A Further Report on Permanent Catheterization," by Dr. J. R. Eastman, Indianapolis; "Fallacies in the Treatment of Urethral Diseases," by Dr. Robert Holmes Greene, New York City; "Perineal Prostatectomy," by Dr. Parker Syms.

THURSDAY, JUNE 6—AFTERNOON SESSION.

This meeting consisted in the reading of papers in a symposium on the Surgery of the Chest: "Pneumectomy and Pneumotomy," by Dr. J. B. Murphy, Chicago; "Insufflation of the Lungs and its Application to Pulmonary Surgery," by Dr. Rudolph Matas, New Orleans; "Removal of Foreign Bodies from the Trachea and Bronchi," by Dr. De Forest Willard, Philadelphia; "Treatment of Empyema," by Dr. James H. Dunn, Minneapolis. These papers were discussed by Drs. Means, Columbus; Henry, Omaha; Walker, Detroit; Sylvester, Wallston, Ohio; Wright, Bridgeport, Conn.; Powers, Denver; Eisendrath, Chicago; Eastman, Indianapolis; G. F. Shimonek, Milwaukee; McArthur, Chicago; Dawbarn, New York City; Rocky, Warner, Columbus; Andrews, Chicago; McGowan, Los Angeles; Allaben, Rockford, Ill.; Guiteras, New York City; Syms, New York City; Greene, Litchfield, Ky.; Bernays, St. Louis; Barber, San Francisco; Jepsou, Sioux City, Iowa; Frank, Chicago; Wills, Los Angeles; Norred, Minnesota; Means, Columbus; Willard, Philadelphia; Dunn, Minneapolis.

FRIDAY, JUNE 7—MORNING AND FINAL SESSION.

The meeting was called to order and proceeded to the reading of the following papers: "Acute Infective Cholangitis and Cholecystitis as a Complication of Gall-stones," by Dr. Daniel N. Eisendrath, Chicago; "Dissecting Abscesses of Abdominal Wall Producing Symptoms Simulating Pott's Disease of the Spine," by Dr. James Bullitt, Louisville.

These papers were discussed by Drs. Smythe, Memphis; McGowan, Thomas, Pittsburg; Crane, Vermont; Means, Columbus;

Davis, Omaha; Rodman, Philadelphia; Lemon, Milwaukee; Bloodgood, Baltimore; Porter, Fort Wayne; Phillips, Rocky Ford; Mitchell, Missouri; Maxwell, Iowa; Bernays, St. Louis; Leonard, Philadelphia; Eisendrath, Chicago; Bullitt, Louisville; Grant, Denver.

"Fractures of Femoral Neck" was read by Dr. Ruth, of Iowa, with exhibition of patient; discussed by Drs. Thompson, of Scranton, and Liston Montgomery, of Chicago.

Dr. Pennington gave a blackboard demonstration and paper entitled, "A Simple Operation for the Treatment of Hemorrhoids."

Section on Obstetrics and Diseases of Women.

TUESDAY, JUNE 4—AFTERNOON SESSION.

The Section was called to order at 2 p. m. by the Chairman, Dr. H. P. Newmau, at the Masonic Hall. Dr. Edwin Ricketts read the report of the Committee on Reorganization, which on motion of Dr. Henry, of Omaha, was adopted and the Committee continued to carry out the details suggested.

Here Dr. Ricketts took the chair, while the Chairman, Dr. H. P. Newman, delivered his Address. On motion, this address was referred to the Committee on Publication.

Dr. A. H. Cordier, Kansas City, read a paper entitled "Post Operative Intra-Peritoneal Hemorrhage." This was discussed by Drs. L. S. McMurtry, Howard Kelly, Seth Gordon, H. O. Marcy, F. H. Wiggin, C. C. Frederick, M. L. Harris, G. B. Massey and, in closing, by Dr. Cordier.

Dr. J. G. Clark, Philadelphia, read a paper entitled "Contributing Factors in the Production of Peritonitis." It was discussed by Drs. Wiggin, Humiston, Kelly, Baldy, Carstens, Wathen, Deaver, Bovée, Henry, Kolischer, Watkins, Dudley, Andr. Smith, Ries, and, in closing, by Dr. Clark.

The next paper was read, by invitation, by Dr. M. D. Mann, Buffalo, on "A New Operation for Extirpation of Cancer of the Rectum." It was discussed by Drs. Marcy, Bovée, and, in closing, by Dr. Mann.

Dr. John Deaver read a paper entitled "The Accidents and Complications of Pelvic Surgery and Their Treatment." It was discussed by Drs. Carey, Harris, Frank Warner, Ricketts, Henry, Smith, Steele, Watkins, Rosenthal and, in closing, by Dr. Deaver.

The Chair appointed the following Nominating Committee: A. H. Cordier, W. E. B. Davis, L. S. McMurtry, S. Gordon, C. C. Frederick. Committee on Reorganization: Bovée, Ricketts and Henry.

WEDNESDAY, JUNE 5—MORNING SESSION.

Meeting was called to order at 9 a. m. by the President.

Dr. O. Theinhaus, Milwaukee, read a paper entitled "Atresia Hymenalis," and exhibited pathologic specimen. Discussed by Drs. McDiarmid and Goldspohn.

"Results, Immediate and Remote, of Conservative Surgery" was the title of a paper read by Dr. A. Goldspohn, Chicago. It was discussed by Drs. Bovée, Jos. Eastman, Cohn, Specht, Henry, and, in closing, by Dr. Goldspohn.

Dr. A. J. Downes, Philadelphia, read a paper entitled "Electrothermic Hemostasis in Abdominal and Pelvic Surgery." It was discussed by Drs. F. H. Martin, Massey, Ries, Eastman, Newman, Bovée, and, in closing, by Dr. Downes.

WEDNESDAY, JUNE 5—AFTERNOON SESSION.

The meeting was called to order at 2 p. m.

First paper was read by Dr. E. E. Montgomery, Philadelphia, "How Shall We Deal with Uterine Myomata?" It was discussed by Drs. Eastman, Gordon, Wathen, Palmer Dudley, Massey, and, in closing, by Dr. Montgomery.

"Carcinoma of the Uterine Neck" was read by Dr. J. M. Baldy, and discussed by Drs. Carstens, Clark, Zinke, Ries, Montgomery, Kolischer, Massey, Bovée, Wiggin, Duff, and Baldy in closing.

"The Relative Merits of the Different Methods of Uretero-ureteral Anastomosis" was read by Dr. J. Wesley Bovée, Washington. "Some Results of Ovarian Surgery with Further Report upon Intra-uterine Implantation of Ovarian Tissue" was read by Dr. A. Palmer Dudley, New York City. Discussed by Drs. Goldspohn, Goffe, Humiston, and Dudley in closing.

"The Various Incisions Appropriate to Different Real Operations" was read by Dr. H. A. Kelly.

THURSDAY, JUNE 6—MORNING SESSION.

The meeting was called to order at 9 a. m.

Dr. E. Ries read a paper entitled "A New Operation for Retro-displacement of Uterus."

Dr. F. H. Martin, Chicago: "Surgical Treatment of Retroversion of Uterus." Discussed by Drs. Goffe, Gordon, Goldspohn, Kelly, McDiarmid, Ries and Martin.

Nominating Committee reported: Chairman, J. H. Carstens, Detroit; secretary, C. L. Bonfield, Cincinnati.

THURSDAY, JUNE 6—AFTERNOON SESSION.

The meeting was called to order at 2 p. m. by Dr. H. O. Marcy.

The Committee on Reorganization reported, which, on motion of Dr. Humiston, was unanimously adopted.

It was moved that the secretaryship of the Section be made permanent. Carried.

The number of papers in this Section hereafter will be limited to thirty-six, fifteen minutes being allotted for the reading of each paper. The Chairman called attention to the importance of members furnishing abstracts of their papers, to be published in the official program. At future meetings of this Section the Chairman will arrange for two men to open the discussion on papers.

The following papers were read: "The Practice of Obstetrics as It Is and as It Should Be," by Dr. E. G. Zinke, Cincinnati; "Position of Patient During Delivery," by Dr. W. D. Porter, Cincinnati; "Puerperal Sepsis," by Dr. J. F. Moran, Washington; "Indications and Contra-indications for the Use of Curette in Obstetric Practice," by Dr. H. D. Fry, Washington; "A Case of Streptococcus Infection Following Labor, Operation, Recovery," by Dr. W. H. Humiston, Cleveland. Discussed by Drs. Harris, M. F. Porter, Case, Henry, Ricketts, Dannaker, Bovée, Specht, and, in closing, by W. D. Porter and J. F. Moran.

"The Increasing Sterility of American Women" was read by Dr. G. J. Engelmann, and discussed by Drs. Duff, Wathen, MacDiarmid, Ferguson of New York, M. F. Porter, Jack, H. W. Graham, Coy of Duluth, and, in closing, by Dr. Engelmann.

Dr. C. Dannaker moved that the American Medical Association communicate with the proper United States authorities that it is the desire of this society that in the future compilation of the United States census that the fecundity of the American family be taken into consideration, the nativity of father and mother being made a matter of record and the number of children born. Carried unanimously.

On motion, a committee was appointed to bring the matter before the proper authority: Drs. G. J. Engelmann, Ferguson of New York, and C. L. Bonifield.

"Ectopic Gestation" was read by Dr. W. H. Wathen; and discussed by Drs. Goldspohn and Wathen.

Dr. L. S. McMurtry, Louisville, and Dr. W. H. Humiston, Cleveland, were elected members of the House of Delegates.

FRIDAY, JUNE 7—MORNING SESSION.

The meeting was called to order at 9 a. m. by the Chairman.

Dr. T. J. Beattie, of Kansas City, Mo., read a paper entitled "Puerperal Eclampsia; its Etiology and Treatment." It was discussed by Drs. Bonifield, Cates, Plummer, Rosenthal, Hall, and Beattie in closing.

"Cesarean Section as a Method of Treatment of Placenta Previa" was read by Dr. W. J. Gillette, of Toledo, and discussed by Drs. Eastman, Bernays, Henry, Engelmann, Dngan, Oyler, Bonifield, Reese, Newman and the essayist.

"Intra-uterine Amputations" was read by Dr. J. Maher; "Gynecology; its Contributions to Surgery," by Dr. H. O. Marcy.

Adjourned *sine die*.

New Members.

The following is a list of new members for May:

ARKANSAS.

Yonng, J. M., Little Rock.
Stover, Arthur Reece, Little Rock.
Cann, Dewell, Benton.

CALIFORNIA.

Purdon, J. E., Turlock.
Fenyas, Adalbert, Pasadena.
Jones, W. Harriman, St. Helena.
Stephens, Wm. Bradley, San Francisco.
Werner, A. F., San Francisco.
Newkirk, Garrett, Los Angeles.
Magee, Thos. L., San Diego.
Baird, J. Gordon, Riverside.
Visscher, L. G., Los Angeles.
Outwater, Sam'l, Riverside.
Ball, Chas. A., Santa Ana.

COLORADO.

Clark, Jas. L., Denver.

CONNECTICUT.

Flint, Eli P., Rockville.
Parmele, Geo. L., Hartford.
McKnight, Everett J., Hartford.

DELAWARE.

Winner, William G., Wilmington.

ILLINOIS.

Rose, Frank L., Chicago.
Bntzoe, Arthur M., Chicago.
Lieberthal, David, Chicago.
Anthony, Henry G., Chicago.
May, S. R., Mt. Zion.
Kerr, Norman, Chicago.
Carr, Edgar D., Argenta.
Parrish, M. P., Decatur.
Curry, Thos. Walter, Streator.
Sullivan, E. A., Amboy.
O'Malley, Thos. Jas., Joliet.
Suker, Geo. F., Chicago.
Wesener, Jno. Alfonso, Chicago.
Harrison, Wallace K., Chicago.
St. John, Leonard, Chicago.
Dodson, John Milton, Chicago.
Earle, C. A., Desplaines.
Patton, Jos. M., Chicago.
Kolischer, G., Chicago.
Goodkind, Maurice L., Chicago.
Livingston, W. R., Maywood.
Brode, Willard D., Chicago.
Montgomery, A. B., Reynolds.
Allport, H. W., Chicago.
Adams, Nathaniel H., Chicago.
Huston, Irwin E., Roanoke.
Wilcox, J. M., Clinton.
Kurtz, Russell L., Neoga.
Vick, John W., Carterville.

INDIANA.

Cunningham, Wm. Ralph, Bourbon.
Long, C. R., Plerceton.

IOWA.

Richardson, Leon F., Terril.
Michel, Bernard, Dubuque.
Miller, Frank W., Red Oak.
Brown, Luther, Rockford.
Schultz, Chas. S., Lake Park.
Grimes, Eli, Des Moines.
Brooks, J. M., Newell.

Slattery, Wm. P., Dubuque.
Reynolds, Jno. W., Creston.
Niernack, Julius, Charles City.
Birney, Varilles C., Greene.
Fraser, Jefferson E., Garner.
Brackett, A. R., Charles City.
Berner, W. F., Merrill.
Christy, Wm. D., Shannon City.
O'Keefe, J. E., Waterloo.
Schilling, N., New Hampton.
Dorr, E. E., Des Moines.
Sanders, Chas. Willard, Manley.
Vesterborg, Peder H., Forest City.
Merrill, N., Marshalltown.
Flynn, Chas. H., Postville.
Keogh, John V., Dubuque.
Powers, F. W., Reinbeck.
De Armand, J. A., Davenport.
Bay, Edgar L., Eddyville.
Young, J., Bonaparte.
Brownson, J. J., Dubuque.
Christensen, F. A., Lake Mills.

KANSAS.

Sheridan, Allen V., Paola.
Gardner, M. N., Greenleaf.
Tracy, Frank M., Kansas City.
Clarke, H. L., Lacygne.
Carpenter, Chas. R., Leavenworth.
Saunders, Nathan J., Cawker City.
Bogle, Herman H., Pittsburg.
Stryker, Isaac E., Baxter Springs.
Hutton, Alfred, Lincoln.

KENTUCKY.

Pieck, Chas. G., Covington.

LOUISIANA.

Reeves, Marcus Clifford, Vidalia.

MAINE.

Ward, Parker M., Houlton.
Marshall, N. M., Portland.

MARYLAND.

Medders, Chas. H., Baltimore.
Henry, Wm. T., Fishing Creek.

MASSACHUSETTS.

Beals, Arthur L., Brockton.
Beckley, Chester Chas., Lancaster.
Foskett, Geo. M., Worcester.
Hartung, Harry Hall, Boston.
Harmon, Melvin A., Lynn.
Cabot, Arthur Tracy, Boston.

MICHIGAN.

McGugan, Arthur, Kalamazoo.
Broisacher, Leo., Detroit.
Morse, H. Beach, Elk Rapids.
Lewis, C. H., Jackson.
Greenmayer, John D., Niles.
White, Jas. G., Mt. Clemens.
Rowe, Wm. E., Allegan.
Jones, John R., Detroit.
Gardiner, S. E., Mt. Pleasant.

MINNESOTA.

Brimhall, John B., St. Paul.
Schwyzor, Gustav, St. Cloud.
Hvoslef, Jacob, Minneapolis.

Geer, Ethelbert F., St. Paul.
Murray, Wm. R., Minneapolis.
Wells, Ernest Eldred, Barnum.
Soper, John Elford, Norwood.
Daniel, Orianna M., Minneapolis.
Tibbetts, J. I., Wayzata.
Whitney, A. W., St. Paul.
Crafts, Leo M., Minneapolis.
Taylor, Wm. J., Pipestone.
Leavitt, Frederick, St. Paul.
Xanlen, Frank A., St. Paul.
O'Brien, H. J., St. Paul.
Christison, J. T., St. Paul.
Keyes, Chas. R., Duluth.
Bayley, Emery H., Lake City.
Bohland-Fuchs, T. J., Belle Plain.
Day, Lester W., Minneapolis.
Christie, G. R., Long Prairie.
Estabrook, Edw. L., Minneapolis.
Portmann, Wm. C., Jackson.
Daniels, Jared W., St. Peter.
Chapman, W. E., Litchfield.
Cavanaugh, J. O., St. Paul.
Benpe, Louis M., St. Paul.
Senkler, Geo. E., St. Paul.
Kilvington, S. S., Minneapolis.
Kohler, Christian H., Minneapolis.

Graham, Benj. F., Minneapolis.
Lee, Thos. G., Minneapolis.
Davis, Jas. P., Kellogg.
Scoboria, C. Q., Elm River.
McDonald, Hugh N., Minneapolis.
Kenyon, Paul, Wadena.
Von Berg, J. P., Albert Lea.
Stevenson, Geo. A., Albert Lea.
Friedlander, Sam'l, Minneapolis.
Newhart, Horace, Minneapolis.
Andrist, J. Walter, Ellendale.
Kistler, Arthur S., St. Paul.
Aborn, W. H., Hawley.
Knndsen, Becker Chr., Tyler.
Macdonald, A., St. Paul.
Richardson, Walter J., Fairmont.
Fischer, Otto Ferdinand, Hons-ton.
Stratheen, Fred P., St. Peter.
Lynn, Jas. F., Waseca.
Dredge, Homer Percy, Belview.
Williams, A. Elton, Minneapolis.
Schlueter, Robt. E., St. Paul.
Wilson, Louis Blanchard, Minneapolis.

Robertson, Jas. W., Litchfield.
Denny, Chas. F., St. Paul.
Simon, B. F., St. Paul.
Baker, J. F., St. Paul.
Erdmann, Chas. A., Minneapolis.
Cates, A. B., Minneapolis.
Knight, Fred'k A., Minneapolis.
McLaren, Jennette M., St. Paul.
Blnder, Geo. A., St. Paul.
Austin, Mabel H., St. Paul.
Brown, LeRoy, St. Paul.
Henderson, Andrew, St. Paul.
Ritchie, Harvey P., St. Paul.
Lando, David H., St. Paul.
Shelby, E. C., St. Paul.
Stein, Gottlieb, St. Paul.
Kilbourne, Arthur Foot, Rochester.
Colvin, Alexander R., St. Paul.
Stamm, Gottfried, St. Paul.

MISSOURI.

Mills, O. P. M., Grant City.
Brook, Hyman, St. Louis.
Fry, Frank R., St. Louis.
Bernays, Augustus C., St. Louis.
Wolfe, Benj. F., Carthage.
Peak, Oscar L., Springfield.

MISSISSIPPI.

Elmore, R. C., Black Hawk.
Mitchell, A. T., Vicksburg.
Kiger, W. G., Brunswick.
Trotter, Clifford H., Winona.

NEBRASKA.

Kearns, A. J., Loup City.
Berry, Wm., South Omaha.
Stevens, Jas. Franklin, Lincoln.
Yance, Jno. H., Omaha.
Ziegler, Chas. H., Vesta.
Meredith, G. A., Crawford.
Foote, J. S., Omaha.

NEW YORK.

Nagel, Jos. D., New York City.
Congdon, W. O., Cuba.
Mewborn, Ala Duke, New York City.
Bentz, Henry G., Buffalo.
Moore, B. S., Syracuse.
Bluestone, Jos. I., New York City.
Walker, Leloy P., New York City.
Traub, Jno. Emil, New York City.
Smith, Jos. James, New York City.
Kerrigan, Jos. A., New York City.

Musgrave, Christopher J., New York City.
Barber, Annetta E., Glen Falls.

NEW JERSEY.

Wallace, Dana L., Newark.

NORTH DAKOTA.

Clark Sidney, B., Buffalo.
Grassick, Jas., Buxton.
Darrow, Edw. M., Fargo.
Wadel, K. A., Portland.
Porter, Henry R., Bismarck.
Chnrch, R. Jerome, Conway.

NORTH CAROLINA.

Coggeshall, George Albert, Henderson.

OHIO.

Schilling, C. E., Canton.
Ehret, G. A., Cleveland.
Knauss, W. H., Newark.
Purviance, J. F., Steubenville.

OREGON.

Hemenway, Stacy, Klamath Agency.

PENNSYLVANIA.

Sturgeon, Jno. D., Uniontown.
Nagle, Thos. S., Allentown.
Todd, D. O., Cochran Mills.
Wolfe, Sam'l N., Wilkes Barre.
Morris, Jos. P., St. Clair.
McGreevy, W. H., Scranton.
Bateson, John C., Scranton.
Bush, A. A., Mamont.
Leatherman, D. I., Williamsburg.
Vinton, Chas. Harrod, Wernersville.
Walker, W. K., Dixmont.

SOUTH DAKOTA.

Keeling, Chas. Monroe, Springfield.
Raberge, Frances L., Milbank.
Stillwell, Hiram R., Tyndall.
Gyllenhammar, F. N. H., Gayville.

TEXAS.

Fly, David Richard, Amattillo.
Halley, J. T., Galveston.
Gough, Roy H., Hereford.
Hughes, Chas. T., Gainesville.

TENNESSEE.

Buist, W. Edw., Nashville.
Smyth, Frank D., Memphis.
Preas, Jas. H., Johnson City.
Porter, A. R., Memphis.
LeRoy, Louis, Nashville.
Todd, J. D., Trezevant.

WEST VIRGINIA.

Moore, Thos. Waterman, Morgantown.
Magill, Wm. Seagrove, Morgantown.

VIRGINIA.

McCoy, Wm. Kenneth, Richmond.

WISCONSIN.

James, Q. W., Solon Springs.
Martin, M. T., Merrimack.
Bolkoon, Geo. W., Clear Lake.
Read, H. M., Menomonie.
Riddle, Julia, Oshkosh.
Job, de Besche, Milwaukee.
French, Viola M., Neillsville.
Cheever, Wm. R., Kenosha.
Hopkins, Wm. B., Cumberland.
Saunders, Geo., West Superior.
Ross, A., Oshkosh.
Madden, John, Milwaukee.
Breakey, Jas. R., Alma Center.
Houck, Mary Piper, La Crosse.
Houck, Oscar, La Crosse.
Hannum, Henry, Bayfield.
Rhodes, Edson, Galesville.
Mulford, Edwin Rossiter, La Crosse.
Boyce, Sam'l R., Madison.

WYOMING.

Young, J. Henry, Cumberland.

MEXICO.

Yearwood, Kelly James, San Luis Potosi.

UTAH.

Woodring, Wm. W., Mt. Pleasant.

ASSOCIATION OF MILITARY SURGEONS OF THE UNITED STATES.

16th Annual Meeting, held at St. Paul, May 30, 31, and June 1.

President Brig.-Gen. Alexander J. Stone in the chair.

Rations and the Canteen in the Army in the Tropics.

DR. LOUIS L. SEAMAN, U. S. V., New York City, showed no mercy to those who brought about the abolition of that institution. It was a telling indictment. The facts cited cut the ground from under those responsible for this disastrous "reform." He pointed out that only 5 per cent. of the enlisted men are total abstainers, that the rest are men who became accustomed to drinking before they entered the army and who will get liquor in some way whatever the obstacles. They are not prisoners, but are well-paid men who have their "pass days" or days off, as they ought to have. If liquor is denied them at the exchange they will take the first occasion to get it somewhere else. In this country the stopping of the sale of beer at the post exchange has caused the soldier to satisfy his taste for alcohol with "vile doctored whisky." In Porto Rico he turns to "rum loaded with fusel-oil," in the Philippines to the deadly "vino, a sort of wood alcohol," and in China to "shamsu," a product of rice—all "rank poisons." These maddening liquors lead to insubordination and to desertion, to debauchery and to diseases of the worst description. At the close of the discussion the following resolution was adopted:

"Whereas, The Association of Military Surgeons of the United States, now in session at St. Paul, recognizes that the abolition of the army post exchange or canteen has resulted, and must inevitably result, in an increase of intemperance, insubordination, discontent, desertion and disease in the army; therefore, be it

"Resolved, That this body deplores the action of Congress in abolishing the said post exchange or canteen, and in the interests of sanitation, morality and discipline, recommends its re-establishment at the earliest possible date."

Secondary Hemorrhage.

DR. CHRISTIAN FENGER, of Chicago, was made an honorary member, and presented an interesting paper on this subject.

The papers read were few but they elicited an animated discussion.

Clinics were given by Drs. Archibald MacLaren, Charles A. Wheaton and John F. Fulton. A reception was tendered the Association at the Aberdeen, a theater party was given at the Metropolitan Opera House, and the members were driven to Fort Snelling and there entertained by Captain and Mrs. Bradley and the officers and ladies of the post.

Election of Officers.

The following officers were elected: Major John Van R. Hoff, surgeon, U. S. Army, Washington, D. C., president; Brig.-Gen. Robert A. Blood, surgeon-general of Massachusetts, Boston, and Surgeon-General Walter H. Wyman, U. S. Marine-Hospital Service, vice-presidents; Captain James E. Pilcher, assistant surgeon, U. S. Army (ret.), secretary, and Lieut. Herbert A. Arnold, assistant surgeon, N. G. Pa., Ardmore, treasurer.

Married.

HERBERT N. RAFFERTY, M.D., to Miss Bess Alexander, both of Robinson, Ill., May 28.

V. F. LASSAGNE, M.D., Chicago, to Miss Carrie Hawley, of Eureka Springs, Ark., May 25.

ALLEN ELLIS COX, M.D., Milan, Tenn., to Miss Lucile Folk, of Brownsville, Tenn., May 30.

ABRAHAM D. MILLER, M.D., Indian Springs, Tenn., to Miss Maud Roller, of Kingsport, Tenn.

ROBERT T. SHAW, M.D., Georgetown, Colo., to Mrs. M. E. Kutus, of Lincoln, Neb., at Denver, May 22.

ANNE HOLT, M.D., Colorado Springs, Colo., to Carl E. Trulock, of Chicago, at Tullahoma, Tenn., May 6.

LOUIS GROSS, M.D., San Francisco, to Miss Ida Solomon, of Chicago, May 14. Dr. and Mrs. Gross sailed for Europe, where the doctor will study for a year.

Deaths and Obituaries.

Wm. H. Daly, M.D., University of Michigan, 1866, prominent as a physician in Pittsburg, a member of the AMERICAN MEDICAL ASSOCIATION, died from the effect of a gunshot wound of the head, self-inflicted, at his home, June 9, aged 59. Dr. Daly was a Virginian and served in the Confederate army. After his graduation, he paid especial attention to laryngology, and in 1894 was made president of the American Laryngological Association, and three years later served as president of the American Laryngological, Rhinological and Otological Society. He was a member and for ten years secretary of the Allegheny County Medical Society, a member of the Medical Society of Pennsylvania; Association of Military Surgeons of the United States; British Medical Association and other societies, and served several times as delegate to foreign medical societies and congresses. He was also for a long time a member of the Medical Department of the National Guard of Pennsylvania. At the outbreak of the Spanish-American War he was appointed major and chief surgeon of volunteers and was assigned to duty on the staff of General Miles. After the war he had the misfortune to lose his wife and he became melancholy, lost all interest in his practice and all pleasure in his life, and this, together with the notoriety and implied censure regarding the "embalmed" beef scandal, undoubtedly drove him to suicide.

William S. Caldwell, M.D., Jefferson Medical College, Philadelphia, 1864, a member of the AMERICAN MEDICAL ASSOCIATION, and well known to the readers of THE JOURNAL as the writer of "Rambling Notes of a Roving Doctor," died at his home in Freeport, Ill., June 7, from paralysis, aged 68. Dr. Caldwell was a prominent feature in the medical world, he was at the head of the profession of northwestern Illinois; a man of broad learning, widely traveled and a close student of human nature. He was a native of South Carolina and lived until the age of 14 in Arkansas and the Indian Territory. After his graduation in medicine he settled down to practice in Elizabeth, after 15 years moved to Warren and eight years later to Freeport, in the meantime spending three years in study in Europe. In addition to his membership in the National Association, he was a member of the British Gynecological, Mississippi Valley, International Railway Surgeons' Associations and the Illinois State Medical Society.

John L. Feeny, M.D., New York University, 1866, died at his home in Stapleton, Staten Island, N. Y., May 31, aged 56. For years he was a police surgeon, subsequently health officer of the village of Edgewater and then a supervisor of the county until 1893, when it was consolidated with New York City. Afterwards he became assistant sanitary superintendent of the borough.

Lewis S. Tesson, M.D., major and surgeon, U. S. Army, a native of Missouri, who became a member of the Medical Department of the Army in 1875, and had served at many important army posts, died at Vancouver Barracks, Wash., where he was stationed as Medical Director of the Department of the Columbia, June 8, from apoplexy, after an illness of one month, aged 59.

E. Paul Sale, M.D., Tulane University, New Orleans, 1869, a member of the AMERICAN MEDICAL ASSOCIATION, of the State, Tri-State, Mississippi Valley and Memphis Medical Associations, and professor of materia medica and therapeutics in Memphis Medical College, died June 7 from injuries received by being thrown from his horse against a stone curb.

Hugh Stockdell, M.D., Jefferson Medical College, Philadelphia, 1859, who had practiced in Petersburg, Va., for more than forty years, with the exception of the period of the Civil War, when he served with distinction as surgeon and later as chief medical purveyor in the Confederate Army, died May 23, at his home, after a lingering illness, aged 65.

Dwight Mereness, M.D., Long Island College Hospital, Brooklyn, N. Y., 1886, a well-known and esteemed physician of Milwaukee, died at Trinity Hospital in that city, May 29, after an operation, aged 41. He was a member of the local

and state societies and of the AMERICAN MEDICAL ASSOCIATION.

John E. Comfort, M.D., Albany (N. Y.) Medical College, 1864, died at his home in the Borough of the Bronx, New York City, May 29, aged 63 years. For more than thirty years he was in active practice in the upper wards of New York and served twelve years as Health Board inspector.

Allen T. Barnes, M.D., Kentucky School of Medicine, Louisville, 1857, for many years postmaster of Bloomington, and previously superintendent of the Illinois Southern Hospital for the Insane, Anna, died at his home in Bloomington, May 30, from pneumonia, aged 67.

John Spare, M.D., Howard University Medical School, Boston, 1842, who had resided in New Bedford, Mass., for more than half a century and who served as a surgeon in the navy during the Civil War, died at his home in New Bedford, May 22, aged 84.

George Sterne Osborne, M.D., Harvard Medical School, Boston, 1862, who served during the Civil War as surgeon in the Union Army, and then, after two years of study abroad, settled in Peabody, Mass., died at his home in Salem, Mass., May 25.

Francis W. Coleman, M.D., Tulane University, New Orleans, La., 1866, one of the most widely-known physicians of Mississippi who had practiced at Rodney for thirty-five years, died suddenly in a hotel in New Orleans, May 28, aged 55.

James R. Bayley, M.D., University of Cincinnati, Ohio, 1851, an active practitioner of Oregon, formerly a member of its Territorial Council, and of its State Senate, died at his home in Newport, Ore., May 24, aged 81.

Allen M. Sumner, M.D., Harvard University Medical School, 1868, for many years visiting and consulting physician at the Boston City Hospital, died at his home in Boston, May 25, from acute nephritis, aged 57.

Charles F. Close, M.D., University of Iowa, Iowa City, 1896, a member of the AMERICAN MEDICAL ASSOCIATION, and a resident of Chicago, died from consumption at Los Angeles, Cal., May 29, aged 27.

La Baume Elliott, M.D., University of Nashville, Tenn., 1854, the oldest practitioner of Dallas, Texas, died at his home in that city, May 23, aged 78. He served as surgeon in the Confederate army.

Lillian E. Abbott, M.D., Woman's Medical College, New York, 1892, a member of the New Hampshire State Medical Society, died as a result of poison self-administered, May 28, aged 33.

Demetrius P. Sybert, M.D., University of Nashville, Tenn., 1866, a prominent physician of Montgomery County, died at his home in Clarksville, Tenn., from apoplexy, May 21, aged 60.

Henry Tyler Phillips, M.D., Albany Medical College, 1860, who had practiced in Cheshire, Mass., for forty years, died there after a short illness, from diabetes, May 24, aged 67.

Abram J. Miller, M.D., Rush Medical College, Chicago, 1858, the Nestor of the local profession, died at his home in Paris, Ill., after a prolonged illness, May 22, aged 78.

Jesse W. Allen, M.D., Vanderbilt University, Nashville, Tenn., 1880, a prominent physician of Guthrie, Ky., died suddenly at his residence in that place, May 28, aged 45.

Wright L. Witham, M.D., Ohio Medical College, Cincinnati, 1900, was instantly killed by lightning at his home, South Lebanon, Ohio, May 24.

Elmer C. Goldthorpe, M.D., College of Physicians and Surgeons, Chicago, 1893, died at his home in Englewood, Chicago, May 18, aged 35.

Thomas E. Fitzgerald, M.D., New York University, 1895, died at his home in Jersey City, N. J., May 21, after a long illness, aged 26.

J. H. Miller, M.D., University of Pennsylvania, Philadelphia, 1891, died at his home in Sheridan, Mont., May 21, aged 35 years.

Edwin H. Austin, M.D., Detroit Medical College, 1880, died at his home in Gaines, Mich., May 22, from pneumonia, aged 45.

Demetrius P. Sybert, M.D., University of Nashville, 1866, died from apoplexy at his home at Clarksville, Tenn., May 21.

Frank J. Webb, M.D., Howard University, Washington, D.C., 1895, died at his home in Washington, D.C., May 18.

George J. Heitzmann, M.D., Paris, France, 1849, died suddenly at his home in Marinette, Wis., May 22, aged 62.

George J. Heitzmann, M.D., Paris, France, 1849, died suddenly at his home in Marinette, Wis., May 21.

A. N. Brackett, M.D., Vermont Medical College, Woodstock, 1851, died at Negro, Va., May 14.

Book Notices.

DISEASES OF THE HEART. A Clinical Text-Book for the Use of Students and Practitioners of Medicine. By Edmund Henry Colbeck, B.A., M.D., Cantab.; M.R.C.P., London; D.P.H., Cantab., Physician to the Out-Patients at the City of London Hospital for Diseases of the Chest. With 43 Illustrations. Cloth. Pp. 341. Price, 12 shillings. London: Methuen & Co. 1901.

This volume is attractive and neat in appearance. The material is well arranged and classified and the various subdivisions are marked in full-faced type, rendering it easy to find what one is seeking. The index is well arranged and comprehensive, which is a most important feature of a text-book. Probably the most instructive chapter for the student is that on "Method of Diagnosis." Each method of physical diagnosis is gone into thoroughly and cause and effect are dealt with in detail. The chapters on the various endocardial lesions are concisely written, but that on mitral incompetence is amplified so that its study will give one a working basis of knowledge for the other endocardial affections. Altogether the book is well written and is worthy of a place on the table of both the student and practitioner.

AN INTRODUCTION TO PHYSIOLOGY. By William T. Porter, M.D., Associate Professor of Physiology in the Harvard Medical School. Cloth. Pp. 314. Price, \$2.50. Cambridge, Mass.: The University Press. 1901.

The leading principle in the system of teaching contemplated by this "Introduction" is that the student shall perform for himself the fundamental experiments of the science. As all experiments in physiology can not be performed in the time now ordinarily devoted to its teaching in medical schools, a careful selection must be made. In order to master at least one field necessary for the scientific training requisite for further independent study, the nerve and muscle has been selected as the part best adapted for exact observation and clear reasoning. Hence the experimental physiology of the nerve-muscle preparation is thoroughly set forth from various points of view. Then the mechanics of the circulation and the innervation of the heart and blood vessels are discussed. The apparatus described is trustworthy and quite simple. The subjects are presented from the chemico-physical standpoint, and the book is recommended as an excellent guide for the purposes indicated. It is illustrated with 57 figures.

A TREATISE ON DISEASES OF THE NOSE AND THROAT. By Ernest L. Shurly, M.D., Vice-President and Professor of Laryngology and Clinical Medicine, Detroit College of Medicine. Illustrated. Cloth. Pp. 744. Price, \$5.00. New York: Appleton & Co. 1900.

This volume has been prepared specially as a practical guide to the general practitioner and medical student. The etiology, symptomatology, pathology and treatment of the various affections of the nose and throat are thoroughly discussed, yet with a conciseness that eliminates useless speculation on unimportant theories. The book opens with a chapter on the anatomy of the parts and closes with a list of prescriptions for convenience and ready reference. The Latin is occasionally wrong, as for instance, *meati* for *meatus* or the Anglicised form "meat-

uses," on p. 512. The illustrations are numerous, while the colored plates appear to have been inserted with a view to being exact and instructive, rather than brilliantly beautiful as often is the case in representations of the mucous membrane. We unhesitatingly recommend the book.

Miscellany.

The Slow Growth of Fees.—To Astley Cooper as to most men who rise to eminence, says an authentic biography, "remunerative practice came but slowly." "My receipts," says he, "for the first year was £5 5s; the second, £26; the third, £54; the fourth, £96; the fifth, £100; the sixth, £200; the seventh, £400; the eighth, £610; the ninth (the year in which he was appointed surgeon to the hospital), £1100.

Determination of the Acidity of the Urine.—O. Naegeli observes that the acidity of the urine is only that excess of acid above the point where it is neutralized by the alkalinity. The urine may contain large amounts of acid and also large amounts of alkalies, and the point of neutralization be proportionately high. Titration of the bases, therefore, is the only means to determine the actual acidity, and phenol phthalein is the best test for the excess above the point of neutralization. He describes his method in the *Zft. f. Physic. Chemie*, xxx, 1900, p. 313.

The International Congress of Insurance Examiners.—The second international congress of physicians connected with life and accident insurance companies is to be held at Amsterdam in September, as already announced. Professor Brouardel, officially connected with the Equitable, of New York, is one of the secretaries, 28 rue de Chateaudun, Paris. A committee is to report on the universal medical formula for insurance examiners. Stokvis will deliver the address on albuminuria and Siredey on glycosuria in their relation to life insurance. Other subjects to be discussed from the same standpoint are otitis media, hereditary taints, syphilis and cutaneous diseases, tremors, appendicitis and eye affections. Crocq will speak on the importance of the reflexes in examining for life insurance, and others on the acceptance of persons who have resided in tropical countries.

Responsibility for Count of Sponges in Surgical Operations.—Many will recall the suit for malpractice brought some time ago against a surgeon of Columbus, Ohio, for the death of a patient from a gauze sponge which had been left in the abdomen after a gall-stone operation. The operation had been made in a public hospital and the head nurse of the hospital had been personally in charge of the sponges. In response to the surgeon's inquiry, three repeated, she had assured him that all her sponges were accounted for, and the abdomen was therefore closed. Recovery was prompt, but some two months later obstruction of the bowels supervened and an operation, made when the patient was practically moribund, revealed the presence of a sponge as the cause of the obstruction. The attorneys who instituted the suit, while admitting that the surgeon himself had adopted the usual precautions and that the death was the result of the act of the nurse, claimed that the nurse was technically the agent of the surgeon and that the latter was therefore responsible for her blunder. A similar suit, and on similar grounds, was instituted about the same time against an Atlanta, Ga., surgeon. The Atlanta case was tried some months ago and the surgeon promptly acquitted; the individual responsibility of the nurse having apparently been proven to the satisfaction of the jury. The decision in the Atlanta case is supposed to have been the actuating cause which recently led the attorneys at Columbus to withdraw their suit, at their own costs, and institute proceedings against the hospital where the operation was made. This suit has only just been filed and the outcome will be watched with much interest, since the suit presents some novel features. The decision in the Atlanta case and the withdrawal of the suit in the Columbus case will go far to establish the principle that when the surgeon is operating with a graduate nurse in charge of the sponges he can not be held responsible for her carelessness, unless from previous experience he knows her to be untrustworthy.

Societies.

COMING MEETINGS.

Colorado State Medical Society, Denver, June 18.
Medical Society of New Jersey, Deal Beach, June 25-27.
Wisconsin State Medical Society, Waukesha, June 26.
Medical Association of Nevada, Reno, July 1.
American Ophthalmological Society, New London, Conn., July 17.

Chicago Academy of Medicine.—At the annual meeting of this organization, May 24, Drs. W. L. Baum, J. G. Kiernan and H. N. Moyer were chosen directors for the coming year.

Physicians' Club (Chicago).—At the annual meeting of this club, May 27, Drs. W. S. Christopher, Joseph Zeisler and G. Frank Lydston were elected directors, and Dr. L. Harrison Mettler was re-elected secretary and treasurer.

Ophthalmological and Otological Society of Washington, D.C.—At the thirty-seventh annual meeting of this Society, Dr. Stephen O. Richey was elected president; Dr. William H. Wihner, vice-president, and Dr. Anton Coe, secretary and treasurer.

First District Branch of the New York State Medical Association.—The annual meeting of this body was held at Utica, May 21. Dr. C. B. Tefft, Utica, was elected president; Dr. J. W. Douglas, Boonville, vice-president, and Dr. E. H. Douglas, Little Falls, secretary and treasurer.

American Dermatological Association.—This Association held its twenty-fifth annual convention in Chicago, May 29, 30 and 31. Dr. George Jackson, New York City, was elected president; Dr. Joseph Zeisler, Chicago, vice-president, and Dr. Frank H. Montgomery, Chicago, secretary and treasurer.

American Association of Life Insurance Examining Surgeons.—The second annual convention of this body was held in St. Paul, June 3. The following officers were elected: Dr. James H. Stowell, Chicago, president; Drs. James H. Reed, Battle Creek, Mich., and Talbot Jones, St. Paul, Minn., vice-presidents, and Dr. Thomas A. Stevens, Caney, Kan., was re-elected secretary-treasurer.

Health Officers' Association of Indiana.—At the eleventh annual conference of the Indiana state health officers, a new association was organized, known as the Health Officers' Association of Indiana, with the following officers: Dr. Brose S. Horne, Bluffton, president; Dr. Nathaniel D. Cox, Spencer, vice-president; Dr. Albert E. Powell, Marion, secretary, and Dr. Hugh A. Cowing, Muncie, treasurer.

North Dakota State Medical Society.—The fourteenth annual meeting of this Society was held at Fargo, May 22 and 23. The following officers were elected: Dr. Harry D. Quarry, Grand Forks, president; Drs. Tonnes Thams, Fargo, and Sidney B. Clark, Buffalo, vice-presidents; Dr. E. C. Branch, Wheatland, secretary, and Dr. William L. Grant, St. Thomas, treasurer. The 1902 meeting will be held in Grand Forks.

Connecticut Medical Society.—The one hundred and ninth annual meeting of this Society was held at Hartford, May 22 and 23. Dr. John H. Grannis, Saybrook, was elected president; Dr. J. A. Shelton, Shelton, vice-president; Dr. W. W. Knight, Hartford, treasurer, and Dr. J. H. Townsend, New Haven, assistant secretary. Dr. Charles S. Rodman, Waterbury, was chosen as delegate to THE AMERICAN MEDICAL ASSOCIATION.

Medical Association of Montana.—At the annual meeting of this body, held at Great Falls, the following officers were elected: Dr. Thomas J. Murray, Butte, president; Dr. T. J. McKenzie, Anaconda, and Louis Bernheim, Butte, vice-presidents; Dr. Benjamin C. Brooke, Helena, secretary; Dr. James F. Spelman, Anaconda, corresponding secretary and historian, and Dr. George H. Barbour, Helena, treasurer. Butte was selected as the place for the next meeting.

Medical Society of the State of West Virginia.—At the annual meeting of this Society held in Grafton, May 22, 23 and 24, the following officers were elected: Dr. G. A. Aschmann, Wheeling, president; Drs. C. F. Amos, Lumberport, Olin H. Hoffman, Thomas, Archibald Staunton, Charleston, and Rolla Camden, Parkersburg, vice-presidents; Dr. William W. Golden, Elkins, secretary, and Alonzo Andrews, Martinsburg, treasurer. The 1902 meeting will be held in Martinsburg.

Kentucky State Medical Society.—The forty-sixth annual meeting of this Society was held at Louisville, May 22, 23 and 24. The election of officers resulted as follows: Dr. T. B. Greenley, Meadow Lawn, president; Drs. George M. Reddish,

Somerset, and B. L. Coleman, Lexington, vice-presidents; Dr. Steele Bailey, Stanford, secretary; Dr. Charles W. Aitkin, Flemingsburg, treasurer, and Dr. Frank L. Lapsley, Paris, librarian. The society will meet next year in Paducah.

Medical Society of the State of North Carolina.—This Society held its forty-eighth annual meeting at Durham, May 21, 22 and 23. The following officers were elected: Dr. Robert S. Young, Concord, president; Drs. Albert G. Carr, Durham, Isaac G. Taylor, Morganton, E. Dixon Carroll, Raleigh, and James M. Parrot, Kinston, vice-presidents. Drs. George W. Pressly, Charlotte, and Ginnada T. Sikes, Grisson, were re-elected secretary and treasurer respectively. Wilmington was selected for the 1902 meeting.

The Alumni Association of the John A. Creighton Medical College held its annual meeting at Omaha, May 7, and elected Dr. E. C. Henry, Omaha, president; Dr. Rudolph Rix, Omaha, secretary, and Dr. A. G. Wiley, South Omaha, treasurer. The meeting concluded with a banquet at which 50 alumni, including the class of 1901, 27 in number, were present. Dr. E. C. Henry was the toastmaster. Dr. B. M. Riley delivered the address of welcome to the new class, which was responded to by Dr. H. L. Akin.

Missouri Medical Association.—The forty-third annual meeting of this Association was held at Jefferson City, May 21 and 22. The following officers were elected: Dr. Jefferson D. Griffith, Kansas City, president; Drs. Robert E. Young, Jefferson City, John C. Whaley, Osceola, Robert M. Funkhouser, St. Louis, John F. Campbell, Callao, and George W. Vineyard, Jackson, vice-presidents; Dr. B. Clark Hyde, Kansas City, recording secretary; Dr. F. W. Burke, Laclede, assistant recording secretary; Dr. Charles W. Fassett, St. Joseph, corresponding secretary, and Dr. J. Franklin Welch, Salisbury, treasurer. St. Joseph was chosen as the next place of meeting.

American Pediatric Society.—This society held its annual meeting at the Hotel International, Niagara Falls, N.Y., May 27, 28 and 29. Papers were presented by Drs. Osler, Abram Jacobi, T. M. Rotch, Frederick A. Packard, Henry Koplik, F. Forchheimer, J. Crozer Griffith and other prominent pediatricists. The following officers were elected: Dr. William D. Booker, Baltimore, president; Drs. Frederick A. Packard, Philadelphia, and J. Lovett Morse, Boston, vice-presidents; Dr. Samuel S. Adams, Washington, D. C., secretary; Dr. J. Park West, Belaire, Ohio, treasurer, and Dr. Walter Lister Carr, New York City, recorder and editor.

The American Medical Library Association met at the hall of the Medical and Chirurgical Faculty, Baltimore, May 25. Receipts for year \$644, expenses, \$358. Six new libraries were admitted, including the Bristol University Library, England. The following officers were elected: Dr. William Osler, president; Mr. John S. Brown, New York Academy of Medicine, vice-president; Miss M. R. Charlton, McGill University, Montreal, secretary; Dr. George D. Hersey, Rhode Island Medical Society, treasurer; Drs. Osler and Jas. C. Merrill, Mr. Charles Perry Fisher, executive committee. It was decided that in order to join the Association a library must have at least 1000 volumes, and be open at regular hours to the medical profession. A gift of 1000 volumes was received from the Philadelphia College of Physicians. It was decided to issue a bulletin as often as material should accumulate and the interests of the association required it.

KENTUCKY STATE MEDICAL SOCIETY.

Forty-sixth Annual Meeting, held at Louisville, May 22-24, 1901.

The president, Dr. James H. Letcher, of Henderson, in the Chair.

President's Address.

This address was extremely interesting. Among other things, the President suggested a complete revision of the Constitution and By-Laws of the Society so as to have them more in keeping with present conditions. The revision should conform as nearly as possible to the work of the AMERICAN MEDICAL ASSOCIATION. The popular address was delivered by Hon. Young E. Allison, of Louisville.

Medical Organization.

DR. J. N. McCORMACK, Bowling Green, read a paper on the necessity of medical education, which was the report of the Committee on Public Policy. He advocated the formation of

medical societies in every county and state in the Union. Every physician in this country should at least be a member of his county society in order to strengthen his profession and give it a standing in the community. From each local society delegates are to be selected to attend the county society; from the county society, delegates should be selected to attend the state society, and from this delegates to the meeting of the AMERICAN MEDICAL ASSOCIATION. He urged the adoption of the plan of organization outlined by the AMERICAN MEDICAL ASSOCIATION.

The Society endorsed the report of Dr. McCormack and moved the appointment of a committee on organization.

Conduct of the Second Stage of Labor in Private Practice.

DR. EDWARD SPEIDEL, Louisville, read a paper with this title. He dwelt on the necessity of exercising the strictest aseptic precautions in this work and described his method of preparing the patient, bed, nurse and himself. In place of the usual absorbent pad he uses a bag containing one-half bushel of bran, which possesses great absorptive power. The use of chloroform during pains lessens the liability of perineal tears. Immediately after birth he places the child across the abdomen of the mother. In this position it is not only out of the way, but by its weight also exerts some influence on uterine contractions. He exhibited a small obstetric case devised by him, which contains all the necessary material for conducting labor on an aseptic basis.

Some Interesting Experiences in Obstetrics.

DR. W. E. SLEEP, Midway, reported three unusual cases. After the birth of a still-born baby the placenta was found to contain another child, the development of which had ceased at about the third month. The second case was complicated by an hourglass-shaped tumor just beneath the pubic arch. The patient was successfully delivered and recovered without complication. Six months afterward the growth had entirely disappeared without practically any treatment. In the third case four children had died successively from icterus neonatorum. An autopsy on the last child revealed a complete abscess of the common bile duct.

Miscarriage and its Treatment.

DR. W. D. GOSSETT, Louisville, urged that the term abortion be limited to those cases in which there was criminal interference and that the term miscarriage be used to designate emptying of the uterus before the viability of the child. The entire subject of miscarriage was very carefully reviewed and special attention was called to ascertaining positively that the uterus has been entirely emptied of its contents. The curette should be used when necessary, but only under the strictest antiseptic precautions. The essayist believes that curetment is usually looked upon as a simple procedure. In his opinion it is an extremely grave one and should be performed by men who have had some experience in the use of the curette.

The Puerperium.

DR. JOHN G. CECIL, Louisville, considered the management of this state. Strict asepsis, complete rest and diet are essential. All meddling interference should be abstained from. The routine administration of ergot and practice of postpartum douching are designated as most "pernicious." They should be used only when there is a positive indication for them, and then by a competent person. The same applies to the use of the curette. The abdominal binder should always be applied as a support to the relaxed abdominal wall and a stimulus to uterine contractions.

Instrumental and Operative Obstetrics.

DR. A. P. McCORMACK, Bowling Green, dwelt upon the necessity and importance of making frequent examinations of the urine and taking pelvic measurements. Podalic version should invariably receive the preference over mechanical interference. Forceps should rarely be applied before the head is engaged, except when rapid delivery is necessary. Symphyseotomy should never be done as an emergency operation. It is unsafe, unscientific and frequently followed by disastrous results. When indicated, Cesarean section should be promptly performed. The various obstetric operations are considered in

detail. The indications and manner of performing them are fully described. The vaginal tampon is condemned. He especially advises the careful inspection of the genital tract after labor and the immediate repair of any cervical or perineal laceration. Both the eye and finger should be used in looking for these tears.

The Clinical Examination of the Blood in Diagnosis.

DR. L. B. COOK, Stanford, dwelt on the importance of blood examinations. The pathology of the blood was described in the following diseases: anemia, pernicious anemia, chlorosis and leukemia. The Widal reaction was described and its significance given. The various animal organisms found in the blood, especially malarial protozoön, are fully described.

Substance of Cell Life and the Germs Considered from the Standpoint of Natural Phenomena.

DR. URBAN V. WILLIAMS, Frankfort, presented this paper. It was largely metaphysical, dealing with the origin of all matter and the forces and conditions necessary to convert the original matter into the different kinds now found. Its relation to disease is also considered.

Typhoid Fever in Infancy.

DR. JAMES B. KINNARD, Lancaster, called attention to the great difficulty in making a diagnosis of this disease in children. He advocates the unrestricted use of water, internal and external, but restricts the diet to milk, either the mother's milk or peptonized milk. Antipyretics should only be used when the baths fail to reduce the temperature. Complications are treated symptomatically as they arise.

A Few Rambling Thoughts on Infant Feeding.

DR. HENRY E. TULEY, Louisville, said that there is no substitute for healthy mother's milk. The nearest approach to it is cow's milk. It is cheap, always obtainable, and capable of modification. The successful use of cow's milk is dependent on the clear understanding of its modification by the percentage method. Raw milk is superior to sterilized or pasteurized. Every precaution should be taken during the milking process and the delivery of the milk so as to keep it pure and sweet. Carefully watching the stools, sleep and wake of the infant is essential to the proper appreciation of its progress. Regular feeding is important. The mother should avoid everything tending to affect the flow or quality of the milk. Barley water, rice water or flour-ball water, dextrinized, are the best diluents. The percentage of fats, proteids and carbohydrates must be governed entirely by the progress of the child.

Cure for Enuresis.

DR. PHILLIP F. BARBOUR, Louisville, reviewed at some length the etiology, symptoms and treatment of this affection.

Hip-Joint Amputation—Report of Case.

DR. W. O. ROBERTS, Louisville, gave a brief résumé of the various operations devised and also the methods for controlling hemorrhage, which is the chief element of danger in this operation. He advises the unlimited injection of normal salt solution, as it stimulates the heart and respiratory centers. Amputation should not be deferred, as that lessens the chance of recovery. A case was presented in which hip-joint amputation was performed according to Wyeth's method.

Sterilization of Suture Material.

DR. AUGUST SCHACHNER, Louisville, spoke on the frequent occurrence of infection from suture material and ligatures. Therefore, the utmost vigilance should be used in having the sutures and ligatures, especially the catgut, absolutely sterile. The Cumol method of sterilization is probably the best. The author presented a metal cup devised by him for the sterilization and carrying of suture material. It is absolutely non-breakable and completely air-tight, effectually obviating the danger of infection. It can be easily carried about, and is therefore especially serviceable in country practice and in military surgery.

Ventral Hernia; Its Prevention and Cure.

DR. LOUIS FRANK, Louisville, said that perfect technique

and strict asepsis should make the occurrence of ventral hernia an impossibility, except in those cases where it is impossible to procure absolute asepsis. All ventral hernias, even the congenital variety, are curable either by the application of a suitable bandage or by operation. The writer believes that excessive omental development is a factor in the production and maintenance of congenital hernia; therefore, he invariably removes quite a bit of omental tissue. He reports a number of cases operated on, describing his method in full, none of which have had a recurrence of the hernia.

The Management of Abscesses of the Antrum of Highmore.

DR. M. F. COONES, Louisville, said that the most important thing in treating these diseases is to maintain thorough drainage, as the secretions rapidly decompose. The opening should be made sufficiently large for this purpose and the application of such antiseptics as will rapidly bring the disease under control. Gauze drains are preferable to drainage tubes, which are really worthless. The canine fossa to the place of election for opening the antrum.

The Ophthalmoscopic Diagnosis of Bright's Disease.

DR. DUDLEY S. REYNOLDS, Louisville, said this is sometimes of great importance, but requires expert judgment and can never be made until the renal disease has reached a dangerous stage. Failing vision is the first symptom, and leads the patient to seek relief. Few persons with retinitis albuminurica live beyond twelve months from the beginning of the affection. Fatty deposits in the retina, presenting a series of radiatory striations around the macula, with some deposits in other parts of the retina and occasional disseminated hemorrhagic effusions with tortuous retinal arteries are never seen without co-existing renal disease.

The Pathology of Bright's Disease.

DR. GEO. E. DAVIS, Lawrenceburg, after a review of the histology and physiology of the kidney, considered the pathologic changes in structure and function which produced the symptoms of albuminuria, dropsy and uremia.

DR. ANDREW SARGENT, Hopkinsville, briefly mentioned the most important diagnostic features of acute and chronic Bright's disease.

DR. A. G. BLINCOE, Bardstown, dwelt on the importance of rest and a strict milk diet. The symptoms should be treated as they arise.

DR. L. L. SOLOMON, Louisville, described in full the dietetic, hygienic and medicinal treatment. A special stress was laid on the indications and contraindications of drugs in this affection.

Analgesia by the Spinal Subaracnoid Injection of Cocain.

DR. J. GARLAND SHERRILL, Louisville, gave a full history of the origin of this method and also the manner of carrying it out. The principal points to which the author called attention were, first, the dangers: shock due to the injection of the cocain; danger to the cord and centers in the medulla; action of cocain on the heart; the immediate danger of meningitis and myelitis from infection occurring through improper aseptic precautions. The arguments for the method are: 1, the condition of the patient is much better after its use than after the use of a general anesthetic; 2, it can be used in many cases in which a general anesthetic is contraindicated, in fact dangerous; 3, it simplifies the operation considerably; 4, it lessens the patient's fear and therefore keeps him in much better condition, lessening the danger from shock. The following are the objections to the method: 1, an individual idiosyncrasy to cocain; 2, the method is claimed to be a dangerous one by those who have either never used it or used it improperly, so that complications have resulted.

DR. J. G. CARPENTER, Stanford, read a paper on "Appendicitis—Early Operation from a Pathologic Standpoint."

Stricture of the Male Urethra.

DR. HENRY H. KOEHLER, Louisville, gave a very full and careful résumé of all the present methods of treatment of this condition. He believes that the method of extensive dilatation is followed by no evil consequences and is the only one

by means of which we can clear the canal of its latent foci of gonococci. The steel sound should be used, and the method is applicable to strictures in any portion of the urethra. Strictures not responding to dilatation can be cured by an internal or external urethrotomy or a combination of both, or by forcible dilatation according to the method of Holland and Pereve, or by progressive dilatation according to Le Fort's method. The strictest antiseptic precautions must be observed, no matter which method is used. A careful urinalysis should be made in all stricture cases. Metallic dilators are to be preferred, as they are more easily kept clean. Urotropin, in 5 to 10 grain doses, is the best internal antiseptic.

Urethroscopy.

DR. WM. R. BLUE, Louisville, gave a detailed description of the indication and uses for the urethroscope. This instrument has simplified the diagnosis as well as the treatment of urethral and bladder diseases most decidedly. We can now easily treat mucous patches, urethral chancre, hypertrophied follicles, abscesses, strictures, etc. The most satisfactory instrument is that of Scholl, which allows the urethra to be studied as a cylinder and not as a collapsed tube. He advised that plenty of time should be taken in making an examination with the urethroscope, as many failures are due to hurried examinations.

The Necessity of Medical Organization.

DR. J. N. McCORMACK, Bowling Green, dwelt upon the urgent necessity for the medical profession of the various states in this country to perfect their organization. He advocated the formation of medical societies in every city and county in the state. That each local society send delegates to the county society, and that each county society send delegates to the state society, which is to elect the delegates to the AMERICAN MEDICAL ASSOCIATION. He believes that it will do away with much of the petty jealousy now existing among physicians everywhere, not only in the city, but in the country as well. In union there is strength, and every step should be taken to effect that union, by making every physician in this country a member of some medical society. This paper was fully discussed by Dr. J. M. Mathews, who handed in the resolutions referred to in THE JOURNAL of June 1, p. 1573. Drs. Richmond, Reynolds, Weidner, Vance and Godshaw also took part in the discussion, which was closed by Dr. McCormack.

The Practical Management of Smallpox.

DR. N. K. ALLEN, Louisville, referred to the legislation passed in this state as to vaccination, and described the proper method for performing it. He also called attention to the immediate isolation of all cases, the proper disinfection of the habitation and the vaccination of all persons exposed to the disease.

DR. ANCIL D. PRICE, Louisville, read a paper on "The Imperative Necessity of General Vaccination."

Gunshot Wound of the Right Lung with Complications.

DR. A. M. MORRISON, Goshen, cited a case of a gunshot wound of the right lung which was followed by an empyema and finally to recovery. This was complete except for occasional prolonged paroxysms of coughing, which sometimes threatened suffocation. About a year later the boy was taken with an exceptionally violent fit of coughing, during which he coughed up a strip of gauze which had originally been packed into the wound made in treating the empyema. After this gauze had been extruded complete recovery followed.

Report of two Cases of Aneurysm.

DR. J. L. ATKINSON, Campbellsville, reported an aneurysm of the ulnar artery and one of the femoral artery, just below Hunter's canal. In both cases the vessels were ligated, the cavities opened and emptied of clots. The patients recovered without any untoward symptoms.

DR. BASIL M. TAYLOR, Greensburg: The author protested against the use of stimulants and milk in "typhoid fever," and pleaded for the treatment of the patient and not of the disease. Several cases are recorded in which his treatment is outlined in detail, and all of which made an uneventful recovery.

Tubercular Peritonitis.

DR. BEN CARLOS FRAZIER, Louisville, gave a complete review of all the literature of "Tubercular Peritonitis" and described in full the nature of the affection. The various methods of treatment are dwelt upon and the necessity of prompt surgical interference is urged.

DR. J. LIVELY JOHNSON, Louisville, read a paper on "Ununited Fractures and their Treatment."

Surgical Emergencies from a Medico-Legal Standpoint.

DR. C. C. GODSHAW, Louisville, narrated a case of surgical emergency which he was called to attend by the foreman in the factory where the injury was inflicted. The payment of his bill was refused by the company on the grounds that he was not called by them. All attempts to collect the bill proved unsuccessful and the author finally resorted to legal means to force collection. The opinions of the various courts before which the case was tried are given in full. It was finally lost on the ground that the foreman of a factory has no right whatever to obligate his employers to the payment of any bill.

Surgical Treatment of Inguinal Hernia.

DR. J. T. DUNN, Louisville, advises the selection of a method which in the individual case is the most applicable and the least complicated. Personally, he favors the Bassini method, which has materially reduced the occurrence of relapses and the mortality rate from this disease. This, as well as all the other surgical methods devised, is described in detail by the writer.

DR. T. B. GREENLEY, Meadow Lawn, read a paper on "The Longevity of the People of 70 Years and over Living in the Valley below the City of Louisville, called Pond's Settlement, within the last half century." It is a paper dwelling especially on the fact that, in spite of the frequent and constant occurrence of malaria in the districts referred to, the majority of people over 70 years of age in the State of Kentucky have lived in this district. He does not attempt to explain the reasons for this fact.

Election of Officers.

The following officers were elected for the ensuing year: Dr. T. B. Greenley, of Meadow Lawn, president; Drs. Geo. M. Reddish, of Somerset, and B. L. Coleman, of Lexington, vice-presidents; Dr. Steele Bailey, of Stanford, secretary; Dr. Charles W. Aitkin, of Flemingsburg, treasurer; Dr. Frank L. Lapsley, of Paris, librarian; Dr. Frank Boyd, of Paducah, chairman of the committee on arrangements. Paducah was selected as the next place of meeting the fourth week in May.

NATIONAL CONFEDERATION OF STATE MEDICAL EXAMINING AND LICENSING BOARDS.

Eleventh Annual Meeting, held in the House of Representatives, St. Paul, Minn., June 3, 1901.

President Dr. J. N. McCormack, of Bowling Green, Ky., in the Chair.

Report of the Committee on Interstate Reciprocity and Uniform Medical Legislation.

DR. EMIL AMBERG read this report and said that the first step toward interstate reciprocity and uniform medical legislation must be established in the various political divisions by forming the medical law so that interstate reciprocity is allowed. The second step consists in establishing the standard for physicians who are permitted to practice. The third step consists in an arrangement by which the findings of one board may be accepted by another board.

The committee reported with satisfaction that the progress along all lines mentioned had been satisfactory during the last year. In regard to the first point the committee reported that the law permitted reciprocity in the following political divisions: District of Columbia, Delaware, Illinois, Indiana, Kansas, Maryland, Michigan, New Hampshire, New Jersey, New York, Ohio, Pennsylvania, Virginia, Washington, and Wisconsin. Concerning the second point the Committee noted with satisfaction progress in Indiana and Washington.

With reference to the third point, the New England states showed that the division into groups is practicable and desirable.

The demand for uniformity of medical education is apparent. The establishment of uniformity is possible. It can be established through the examining boards, aided by the profession and by the public.

The committee came to the following conclusions:

1. The acceptance by the weaker divisions without examination of applicants from states having higher requirements without demanding reciprocal recognition, and the discrimination of medical boards against inferior schools in their own states reveals a commendable spirit.

2. As a step towards interstate reciprocity the committee commended the action already begun of reciprocal arrangements and agreements between the boards of the several states having laws which provide for reciprocity and whose requirements are similar. This will result in the formation of groups of states with established reciprocity.

It is recommended that the members of the confederation from states in which the standard of requirements is not yet sufficiently high, use faithfully the argument that interstate reciprocity can be obtained for the practitioners of that state only upon the basis of such legislation as will bring the standard up to that required in the states with which they intend to establish reciprocity. The three principal points considered were: 1. That the law in any political division should require or authorize the examination of all applicants for license by a competent examining board. 2. That to be eligible to examination the applicant should be required to furnish to the examining board evidence of having graduated from a reputable medical college in good standing with the board in the state in which said college is located and with the board to which application is made. 3. Examinations should be uniform throughout the states as to subjects or branches upon which examination is required.

The committee believes that it would be well for the confederation to agree upon the branches upon which applicants should be examined to the end that uniformity of requirements by the various boards may be attained, and that the percentage required in each subject and the manner of conducting the examinations, together with the rules to be enforced in each examination, should all be uniform.

The committee urgently recommended that reciprocity between the examining boards of the country on all questions pertaining to the welfare of the public and the elevation of the profession be maintained. To this end there should be the fullest and freest communication between the boards which should not be limited to their official reports.

Some Vulnerable Points in Medical Legislation.

DR. HARVEY B. DALE, of Oshkosh, Wis., followed with this paper and stated that the ultimate intent of medical legislation is unquestionably good. Its motive is a laudable one. It aims to directly benefit suffering humanity, not to establish a doctors' trust, nor to stifle competition, nor to strangle any practical new idea or system of treatment in its infancy. Enforced unification of standards on the part of medical colleges would simplify matters. It would result in a diploma being generally recognized for what it purports to be—a certificate of actual fitness to practice medicine. It would enable the recognized graduate in one state to move into another at his own will. It would remove all injustice and hardship now endured, not always patiently, by qualified physicians. It would strike the Upas-tree at its root instead of lopping off its branches. It would do away with the manifest injustice to really qualified and honest college faculties, now inflicted by post-mortem dissections of their deliberate decisions. In a word, it would reduce the present complicated legislative machinery to a very simple and effective mechanism. Given a concise, yet comprehensive definition of what constitutes the practice of medicine, a uniform requirement that all who engage in such practice should have a medical diploma, and a legislative guarantee based upon actual information that such diploma says what it means, and means what it says, quackery

would find life a burden in this country. The qualified physician of one state would be a qualified physician everywhere. The pretender might travel from Maine to California, and from California to Maine again, looking in vain for a chance to plunder the people.

How Should the Practice of Medicine be Legally Defined?

DR. HENRY BEATES, JR., of Philadelphia, read a paper presenting the following definitions for consideration:

To Practice Medicine: For anyone, except those carrying out the directions of the attending physician, to engage, directly or indirectly, habitually or occasionally, gratuitously, or for pecuniary or other compensation, in the care, management or treatment, by any means whatsoever, either material or immaterial, for the prevention, relief or cure of any or all diseases, accidents or disability to which human or animal life is exposed, threatened or afflicted.

Practitioner of Medicine: Anyone, except those carrying out the directions of the attending physician who engages, directly or indirectly, habitually or occasionally, gratuitously, etc., as above.

The Practice of Medicine: The engaging by anyone, except those carrying out the directions of the attending physician, directly or indirectly, habitually or occasionally, gratuitously, etc., as above.

The above definitions were only offered in the nature of suggestions. During a lengthy discussion the definitions were criticized, several modifications suggested, but no action taken by the confederation committing it to any particular definition.

Officers.

The following officers were elected for the ensuing year: President, Dr. N. R. Coleman, Columbus, Ohio; first vice-president, Dr. Henry Beates, Jr., Philadelphia; second vice-president, Dr. James A. Egan, Springfield, Ill.; secretary, treasurer, Dr. A. Walter Suiter, Herkimer, N. Y.; executive council, Dr. William S. Foster, Pittsburg; Dr. Joseph M. Mathews, Louisville; Dr. William A. Spurgeon, Muncie, Ind.; Dr. William Warren Potter, Buffalo, and Dr. Augustus Korndoerfer, Philadelphia.

PHILADELPHIA NEUROLOGICAL SOCIETY.

Regular Meeting.

Dr. Charles S. Potts in the chair.

Tea Intoxication with Spinal Symptoms.

DR. ALFRED GORDON presented the patient, a woman aged 31 years, who 7 years previously had had an operation performed for some condition of the uterus. Since that time she has been accustomed to taking enormous amounts of tea, sometimes 15 glasses a day. Her present illness seems to date back to three months ago, at which time she began to complain of fatigue and unsteadiness in walking. Increased knee-jerk and biceps tendon reflex were present. When the latter region was struck a distinct tremor could be produced in the hand. The sphincters had also been involved. Sensation was altered, and hyperesthesia was present over the lower extremities. The pupils of the eyes were unequal, with hypermetropia and nystagmus. There had been slight congestion of the optic disc. On standing with the eyes closed, there was unsteadiness with a swaying backwards and forwards, or from side to side. Some time ago she began to suffer from spells of unconsciousness lasting for a few moments. She now complains of heaviness of the legs. Nearly all the symptoms of unilateral sclerosis or hysteria are present. In this case it is believed that the spinal symptoms are due to tea intoxication. Cases of this kind do not seem to have received much attention during the past five years. It should be remembered also, that to color tea sometimes lead is used. It may be possible that some of the spinal symptoms existed previous to the time she began taking so much tea.

DR. D. J. M. MCCARTHY had seen a case treated by Dr. Charles W. Burr, in which as much as 10 glasses of tea a day had been taken. In this case the symptoms presented pointed towards sclerosis.

DR. H. A. HARE called attention to several cases of lead poisoning which had occurred at a certain institution,

and believed to have been caused by biting off and chewing the ends of black sewing thread. In these instances the thread had probably contained large quantities of lead. He also called attention to the fact that at the present time there was little if any caffeine upon the market. That which is generally sold as caffeine is really thein. Thein might produce different symptoms to that of caffeine.

Trichiniasis.

DR. J. CHALMERS DACOSTA exhibited an interesting case of trichiniasis occurring in his service at the St. Joseph's Hospital. The history of this case was read by Dr. Dorsett as follows: The patient was a man of 20 years who, when admitted to the hospital, was complaining of pain in calf of the right leg. The patient stated that last summer while on a bicycle trip he had sustained an injury to the right leg, which caused bleeding. A short time later the right leg began to swell, and it became painful, worse generally at night. An operation had been performed by Dr. DaCosta and a small piece of a muscle of leg removed. The microscopic findings in this case were given by Dr. Randle C. Rosenberger as follows: The specimen had been fixed in osmic acid and showed in specimens trichiniasis present. In one microscopic field as many as 18 specimens had been found, in some of which obliteration of the fibrous capsule was found. The blood count showed hemoglobin 48 per cent., red corpuscles 4,800,000, and the leukocytes 12,000, eosinophiles 4 per cent. Eight days later the hemoglobin was 80 per cent., red cells 4,275,000, leukocytes 17,600, eosinophiles 3 per cent. Dr. DaCosta then detailed the symptoms existing, and noted especially that the disease was confined to the right lower extremity and seemed to only extend up as far as the thigh, the rest of the body appearing to be free of disease. The right leg was enlarged and each muscle stood out. On palpation over the enlarged portions the consistency was like that of rubber. He was free to confess that the diagnosis could not be made from the clinical symptoms. Trichiniasis had been considered, but had been excluded by himself and other colleagues.

Severe Anemia with Changes in the Spinal Cord.

DRS WM. E. HUGHES and WM. G. SPILLER reported a case of this kind. Dr. Hughes in detailing the cases stated that the patient had been 63 years of age with previous negative history. Five years ago he had suffered from a mild case of sunstroke, from which he recovered. When seen there was some puffiness of the eyelid, slow, full pulse, and systolic cardiac murmur transmitted into the axilla. Some crackling râles were also present. The eyesight was almost totally destroyed. Urine was normal. The red corpuscles had numbered 780,000, and the hemoglobin was 26 per cent. Normoblasts and megaloblasts were present. The temperature had remained practically normal. Dr. Spiller stated that sclerosis was never pronounced in the upper portions of the lateral columns in these cases. In this instance the anterior and posterior roots were not degenerated. Taylor, in 5 cases examined, had found alterations of the blood vessels in two instances, but no general arteriosclerosis. Drawings were then passed around showing the changes found in the cord.

DR. J. HENDRIE LLOYD was much interested in these changes found in the cord. It might be that they were produced by toxins circulating in the blood. As to ascending degeneration, he had seen the condition occur in a case of syringomyelia.

DR. CHARLES W. BURR had studied 7 cases of pernicious anemia with spinal cord symptoms. In these instances alterations had been found mostly in the posterior regions of the cord. He was confident that without visual changes in the cord, symptoms referable to the cord might exist, and it was his opinion that the condition which gives rise to the changes in the blood also produced the changes in the cord.

DR. CHARLES K. MILLS believed that it would be best to designate these cases "acute toxemia" rather than pernicious anemia.

Secondary Suture of Posterior Interosseous Nerve.

DR. W. W. KEEN read a paper entitled "Report of a case of secondary suture of the posterior interosseous nerve, with com-

plete restoration of function. The speaker believed that this case was the first one of its kind on record, since a thorough search in the surgeon-general's office and elsewhere had not revealed a similar case. The history was as follows: The man, while cutting down a tree, accidentally dislodged the axe, which struck him in the forearm and completely separated the interosseous nerve. The wound was bandaged without uniting the ends of the nerve, and healed promptly. It appeared that the ulnar and radial nerves were not injured. Dr. Wharton Sinkler had made an examination and noted the condition. Three months after the accident Dr. Keen made an incision over the seat of injury and had found the two ends of the nerve. The tip ends of the two were cut away, after which they were united, and within eight days sensation returned, and two months later complete recovery occurred. The speaker also detailed a case in which he had united the cut ends of the radial and ulnar nerves with recovery of function.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, May 20, 1901.

The president, Dr. Parker Syms, in the chair.

Prostate Removed by Perineal Prostatectomy.

DR. PARKER SYMS presented this specimen, removed by operation on Jan. 24, 1901, from a man of 62 years. His method consists in doing away with the suprapubic incision, and by the use of a rubber inflatable bulb and drainage tube so controlling the prostate that it can be readily enucleated. He had operated on nine cases in this way without any mortality, and with complete restoration of the function of the bladder, save in one instance. He commended this operation because of its freedom from danger.

DR. J. W. S. GOULEY said that he had always been opposed to the use of a suprapubic incision in these cases, believing it to be a needless complication.

The Vaginal Compared with the Abdominal Route in Surgical Treatment of Pelvic Diseases.

DR. J. RIDDLE GOFFE presented a paper on this subject. He advised the vaginal route in all cases in which it could be used with equal safety and success as abdominal section, because it insured a more rapid convalescence and freedom from hernia. He considered vaginal hysterectomy to be the only operation for cancer of the body of the uterus. The vaginal operation was appropriate for all simple ovarian cysts, no matter what their size, because after being tapped and allowed to collapse they could be easily removed. Retroversion of the uterus, being a condition which would not justify a dangerous operation, should be treated by operation through the vagina. Alexander's operation was very liable to be attended by infection, or followed by hernia, and was absolutely contraindicated when the retroversion was complicated by disease of the appendages or by the presence of adhesions. While ventral fixation would certainly cure retroversion, it necessitated an abdominal section, with the attendant weakening of the abdominal wall and tendency to hernia. Through the vaginal incision the malposition of the uterus could be rectified and the round ligaments shortened. Most of his vaginal work was done through the anterior fornix, and in order to secure the necessary space he makes a longitudinal incision as well as a transverse one. Myomectomy for tumors which do not reach above the true pelvis was perfectly feasible through the vagina; larger ones were best treated by abdominal section.

DR. WILLIAM R. PRYOR thought vaginal hysterectomy for cancer of the uterine body was an absolute failure, but he had found it possible to relieve a very large percentage of the women coming to him with fibroids by operating through the vagina. He preferred to make the incision in the posterior cul-de-sac, not only because it inflicted less traumatism but because better drainage was thereby secured. As he believed fibroids were connected with a diathesis, and that if operated upon at all they should all be removed most thoroughly; he did not favor myomectomy. The most important advantage of the vaginal route was the opportunity it offered for making exploratory incisions without detriment to the patient.

DR. A. BROTHERS said that he had done about one hundred by each of the routes under discussion, and as a result of this experience was inclined to think that operations done through the vagina were rather difficult, and should not be undertaken by other than experts. They must necessarily be done in a narrow space and in a field more or less obscured by blood. He did not consider the vaginal route the one of election in most cases of suppurative disease in the pelvis.

DR. EDEN V. DELPHEY remarked that the mere opening of the abdomen was attended by far more shock than an incision through the vagina.

Penetrating Gunshot Wound of the Abdomen without Injury to the Abdominal Contents.

DR. HENRY ROTH in this paper briefly reviewed the literature, and reported a case of this kind coming under his observation in the hospital service of Dr. Parker Syms. His patient was a boy of 10 years, who had accidentally shot himself in the abdomen near the umbilicus with a revolver. On admission to hospital the next day he had had a temperature of 100.6 F., a pulse of 100, and 22 respirations per minute. An exploration of the abdominal wound had been made under ether, and a perforation discovered in the peritoneum, but the most diligent search had failed to show any wound of the abdominal contents. The boy did well and was about to be discharged, when a small swelling under the skin of the abdomen, about six inches to the left of the bullet wound, had attracted attention, and had proved to be the bullet. This was readily extracted. The speaker went on to say, that in civil surgery it was the rule that a bullet wound of the abdomen should be carefully explored as soon as possible, and after all preparations had been made for a laparotomy. The experience gained in the late Spanish-American war demonstrated that a large number of persons with gunshot wounds of the abdomen had recovered without operation, but it must not be forgotten that the large proportion of those so injured died on the field.

DR. J. W. S. GOULEY said that he had seen in a dissecting-room subject a bullet incysted in the mesentery without any evidence of injury to the coils of intestine.

DR. A. ERNEST GALLANT said that it had been his experience that the gunshot wounds that do badly are, as a rule, those which have been subjected to a good deal of previous probing. Abstaining from such interference, and the prompt application of antiseptic dressing would best promote quick and satisfactory healing.

OHIO STATE MEDICAL SOCIETY.

The Fifty-sixth Annual Meeting, held in Cincinnati, May 8-10, 1901.

The president, Dr. Frank W. Bain, of Kenton, in the chair.

DR. E. GUSTAVE ZINKE, chairman of the Committee of Arrangements, made the address of welcome; Dr. Bain responding. After the nominating committee had been named, the society proceeded with the reading of the papers.

At the conclusion of the afternoon session a letter was read from the Dayton Academy of Medicine asking that that society be made an auxiliary of the State Society; another letter was read from the Ohio State Pediatric Society asking that their organization be absorbed by the state society.

Limitations of Medical Therapeutics.

DR. FRANK BILLINGS delivered the address in medicine entitled as above, during the evening session. He stated that therapeutics had not shown the rapid advances of late years that had been made by her sisters, pathology and medical diagnosis. The practitioners of to-day, as far as the treatment of disease is concerned, could be divided into three classes: The therapeutic nihilist, who sees no virtue in any drug; the theorist, who treats diseases and not individuals; the rationalist, who bases his practice of therapy upon scientific knowledge with an ability to diagnose disease. In his closing remarks, the essayist spoke strongly against the use of drugs with copyrighted names, and inferred that the major portion of the sick could be more quickly benefited by a close adherence to sanitary laws in food, clothing and general surroundings than by drenching with medicines.

DR. C. A. L. REED, president of the AMERICAN MEDICAL ASSOCIATION, held a gynecological clinic at the Cincinnati Hospital on the second day.

The following officers were elected for the ensuing year: President, Dr. E. C. Brush, of Zanesville; first vice-president, Dr. E. Gustave Zinke, of Cincinnati; second vice-president, Dr. S. S. Halderman, of Portsmouth; third vice-president, Dr. J. C. M. Floyd, of Steubenville; fourth vice-president, Dr. W. S. Philips, of Belle Center; treasurer, Dr. J. A. Duncan, of Toledo; secretary, Dr. P. Max Foshay, of Cleveland. Dr. Foshay was also appointed editor of medical literature. The following committees were appointed: Finance, Dr. J. C. Oliver, of Cincinnati; ethics, Dr. F. W. Blake, of Columbus; publication, Dr. J. Snodgrass, of Kenton; legislation, L. B. Tuckerman, of Cleveland, and T. C. Martin, of Cleveland; admissions and medical societies, Dr. T. M. Wright, of Troy.

DR. JOHN A. WYETH, of New York, delivered, during the afternoon session, the address in surgery: "A Surgical Operation."

The annual banquet of the society was held at the Phoenix Club, about three hundred physicians attending. Dr. Dan Millikin, of Hamilton, acted as toastmaster and addresses were given by the following: "Influence of the Physician in Public Affairs," by Dr. E. C. Brush; "Medical Legislation," by Dr. L. B. Tuckerman; "The Lawyer and the Doctor," by Judge Moses F. Wilson; "American Medicine," by Dr. C. A. L. Reed; "Social Amenities of Medical Societies," by Dr. W. C. Chapman; "Meditations on a Well Spent Life," by Dr. Thad A. Reamy.

The meeting was a success in every way, one of the unusual features being that with but three or four exceptions the papers were read as advertised. The next meeting of the society will be held in Toledo next May.

The following resolutions were adopted:

Whereas, The enormous increase in the Membership of the AMERICAN MEDICAL ASSOCIATION renders it increasingly difficult to transact the necessary legislative work of the Association in the General Sessions,

Resolved, That we recommend that the delegates of the Ohio State Medical Society use their best endeavor to secure such an amendment to the Constitution of the AMERICAN MEDICAL ASSOCIATION as shall transfer the business of the ASSOCIATION to a special section so constituted as to fairly represent the several State Societies, and the scientific Sections, and small enough to properly transact the business.

AMERICAN ACADEMY OF MEDICINE.

Twenty-sixth Annual Meeting, held at St. Paul, Minn., June 1-3, 1901.

(Continued from page 1654.)

SECOND DAY.

Abuses of Institutionalism.

DR. EUGENE G. CARPENTER, of Columbus, stated in regard to institutionalism that it is an outgrowth of organization and is the result of routinism. Routinism, it was declared, develops perfunctoryism, which in turn leads to automatism, differing little from that which is mechanical. That which is mechanical moves in fixed lines, and is consequently opposed to progress. Too often the institutionalist is dominated by the institution. The true institutionalist, however, remains the master of the institution. The executive of the institution sets the pace for the other participants of the organization. The policy, therefore, should be broad and liberal.

Advantage of Civil Service Principles in the Conduct of State Hospitals for the Insane.

DR. GERSHOM H. HILL, superintendent of the Iowa State Hospital for the Insane, in this paper treated of the benefits resulting from the system and underlying principles in having a board of three in control of the state institutions of Iowa, in practice two and a half years. It was shown that the system was free from political influence. A careful supervision is had over the expenses of supplies. In the hospital under Dr. Hill's supervision, the personal element in the

treatment of patients is preserved, and there is no interference with individually approved ways of treating patients. A medical society is held in connection with the hospital, scientific papers are read and discussed and a quarterly bulletin published. Contributions are solicited from other institution men in Iowa and other states. Solicitation on the part of the board for the selection of an employe is counted a misdemeanor. It is the distinction of the board of control law to do the business of the state institutions on the same principles and methods used by the United States Government in buying supplies or by the up-to-date business man. The tendency is for the legislature to trust the board of control, to adopt their recommendations and to appropriate all the money asked for as the resources of the state will permit. Merit is the criterion in selecting help. The result under these civil service rules is to secure perfection as nearly as possible.

Need of National Co-operation in the Establishment of Sanatoria for Tuberculosis.

DR. A. MANSFIELD HOLMES, of Denver, detailed the advantages of sanatoria in that they increase the chances of recovery, afford an opportunity for rigid sanitary regulations among patients, and furnish a means of educating those infected, and the public, against sources of infection. He divided the varieties of sanatoria into three classifications: for patients of limited means; for those of moderate means, and for the well-to-do. The methods of conducting sanatoria were outlined under the purely charitable institutions; coöperative institutions, and those conducted for profit. In considering the location of the sanatoria, there should be for the incurable cases sanatoria located near large centers of population regardless of climatic conditions; for the incipient cases the most favorable climatic conditions should be chosen for the location of the sanatoria. Coöperative sanatoria established on the proper plan would, in the author's opinion, overcome many of the present difficulties.

Evils in Institutions.

DR. ALBERT GOLDSPOHN, of Chicago, spoke on "Evils in some Asylums, Hospitals, Infirmaries and Training Schools for Nurses that might be avoided by placing them under Civil Service Rules, and by Proper Requirements, Regulations and Inspections on the part of a properly constituted and authorized Board of Health in each State," contending that many of these institutions did not yield their intended degree of usefulness because of too exclusively lay management and lay selection and appointment of medical men, which very frequently resulted in the appointment of inferior men. A still greater evil frequently occurred in the public hospitals and asylums that were under political influence. Many governors, county commissioners, etc., regarded medical appointments, like all others, as something with which they had a right to reward their political henchmen, who among physicians were generally of an inferior grade professionally. He advocated giving the state boards of health the additional duties, powers and emoluments of a medical civil service board; that this board should select and submit all the candidates for political medical appointments; that it should oblige laymen trustees of private or denominational hospitals, etc., to have their candidates for medical positions selected by some creditable local medical society; that it should determine the fitness of all superintendents and matrons of hospitals and license them for such positions, and that a representation of such a board should examine or inspect every such institution at least once a year.

Hospitals and Sanatoria Founded, Owned and Controlled by the Medical Profession.

DR. H. BERT ELLIS, of Los Angeles, stated that hospitals may be divided into three broad classifications: charitable, private, and hybrid class where private wards and free beds are mingled for the pecuniary gain of the hospital. The description of a hospital owned and controlled by physicians is given. It is the outgrowth of a corporation known as the California Hospital Company. The first building erected for the hospital was soon found to be inadequate, and was added

to. At present the hospital owns a corner property 323 by 185½ feet. Patients select any reputable physician and pay him for services. Every physician prescribes for and operates upon his patients as if in the patient's own home, and prescriptions are filled at the drug store. Connected with the hospital is a training school for nurses. The absolute management of the hospital is vested in a board of nine directors, elected annually from among the stockholders. The plan of the management is recommended to Eastern confrères because the construction of the building and the hospital service are entirely in accord with the desires of the physicians; patients realize that they are in a hospital controlled and partially owned by their own physician, which insures confidence; and whatever profits accrue from the hospital revert to the physician, thus giving safe investments. In the opinion of Dr. Ellis it is as essential that the profession own and control the hospitals and sanatoria as that they should own and control their medical journals in order to keep them as free as possible from commercialism.

A Suppressed Educational Problem.

DR. JAMES L. TAYLOR, of Wheelersburg, Ohio, urged in this contribution an enlightened "natural selection" in lieu of the ignorant, haphazard methods of selection among people, which result so generally in physical as well as intellectual deterioration.

The Relation of the Clinical Laboratory to Its Hospital.

DR. HENRY W. CATTELL, of Philadelphia, presented a paper under this title, in which he takes for granted that the time has gone by when it is necessary to argue for the existence of a clinical laboratory in connection with a hospital. The questions to be considered in the internal administration of a hospital are the relations of the clinical laboratory to the board of managers, the medical and surgical staff, the chief resident physician, the resident physicians, the superintendent, the nurses, the out-patient department, etc. Questions such as these should be asked, discussed and answered. How shall the laboratory be built, equipped and conducted? Shall there be a laboratory attached to each ward, a general laboratory, or a combination of both? Shall the director and his assistants be paid for their work? What relations shall exist between the laboratory worker and the clinician. What are the usual causes of friction arising from the new state of affairs? Should the members of the staff be expected to bring urine, sputum, blood, etc., of their pay patients both in and out of the hospital and make the laboratory make these examinations free of charge? Shall original investigations be carried on in such laboratories? Shall the workers in the laboratory be permitted to perform and to charge for work received from their own patients or from those desiring such services for money?

From a personal experience extending over a period of twelve years, and from an intimate connection with a number of hospitals in various capacities, Dr. Cattell gives his personal views in regard to the answers to some of these questions.

DR. W. W. KEEN, of Philadelphia, said he was glad indeed to have heard the paper of Dr. Cattell. He was less interested, perhaps, in the clinical laboratory from the administrative point of view than from the scientific and surgical. He emphasized the statement that it was granted that at the present time every hospital, small and large, should have a clinical laboratory, and more than that, such a laboratory finds a large field of usefulness, which in ten or twenty years would be doubled or even tripled.

Necessity for Revising Medical Fees.

DR. P. MAXWELL FOSHAY, of Cleveland, stated that the custom of charging a fixed sum for each visit was a relic of antiquity and illogical. Other callings are differently regulated, as is also the special practice in the profession. The author thinks there is every reason in the world for the general practitioner to proportion his charge in all cases to the value of the service rendered and to the ability of his patient to pay. The need of a "fee-bill" is stated to establish a standard agreed upon by physicians in their societies to which the profession can appeal when dealing with patients. This also is

of definite service in court when suing to recover the amount of a bill.

A greater object urged for this new method is its means of checking to some extent the pernicious custom of giving "commissions." No present retrogressive tendency in the evolution of the medical profession is at present so strong as this of the physician dividing fees behind the patient's back.

Refraction.

DR. JAMES A. SPALDING, of Portland, Me., gave a personal experience of an ophthalmologist suffering from a sudden loss of vision and consulting first the optician and then the oculist for aid, showing the inefficiency of the former and the great help which the latter gave to him. In view of this Dr. Spalding asks, would it not be preferable for the profession to address the public through the public press regarding all sorts of ailments, thereby preventing them accepting the beguilements of charlatans. Physicians, too, ought to be careful in referring their patients only to those who have a proper knowledge of disease. An increase in the solidarity of the profession is needed.

DR. TUCKERMAN, of Cleveland, and DR. RISLEY, of Philadelphia, referred to cases in which grievous damage had been done through failure of the patients to be referred to an oculist rather than to the advertising optician.

Election of Officers.

The following new officers were elected: President, Prof. V. C. Vaughan; first vice-president, Dr. James L. Taylor, of Wheelersburg, Ohio; second vice-president, Dr. W. A. N. Dorland, of Philadelphia; third vice-president, Dr. H. P. Ritchie, of St. Paul; 4th vice-president, Dr. H. Bert Ellis, of Los Angeles, Cal.; secretary and treasurer, Dr. Charles McIntire, of Easton; and assistant secretary, Dr. A. R. Craig, of Columbia, Pa.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment will be answered in these columns.]

Bromidrosis (Offensive Sweating).

Bromidrosis is usually confined to the axillæ or to the soles of the feet. This form of sweating generally occurs in patients who demand tonic treatment. When there is much sweating the following formula is recommended:

R. Aëdi sulphuriei arom.....3vi 24
Aquæ q. s. ad.....3iv 128

M. Sig.: One teaspoonful in wineglassful of water three times a day.

The following is advised by Crocker:

R. Pulv. eretæ comp.....3vi 24
Pulv. einnamomi comp.....3ii 8
Sulphuris præcip.3i 32

M. Sig.: One teaspoonful to be taken twice a day.

Treatment of Favus.

Dr. E. H. Moore states that when the patches are scattered it is advantageous to practice thorough epilation. The patches should be kept saturated for one or two days with oil of ergot, and then thoroughly sponged with a 25 per cent. solution of boroglycerid. In one or two hours the crusts will peel off, leaving a clean surface. If a discharge is present after removal of the crusts, the scalp should be cleansed with hot borax water, dried with a towel, and then rubbed with the following ointment:

R. Cupri oleatis3ss 2
Vaselini3i 32

M. Sig.: To be well rubbed into the patches.

A diluted tincture of iodine may also be used. The surface must be kept clear of crusts, and the treatment is to be repeated until all the parasites have been destroyed. When

favus affects the body or limbs, it can be easily removed by a few applications of the following:

R. Tinet. iodi
Alcoholis, āā3i 32
M. Apply locally to the affected parts.

Hyperidrosis.

The treatment of hyperidrosis must vary with the cause. Local treatment in the milder forms of hyperidrosis is of great use, and in many cases is all that may be required. While insisting upon the treatment of the general condition, the following prescriptions may be found useful, as recommended by Van Harlingen in "Twentieth Cent. Practice":

R. Pulv. acidi salicylici
Pulv. zinci carb. præcip.
Pulv. magnesiæ ustæ3iv 16
Pulv. amyli3xv 60
Pulv. eretæ3xx 80

M. Sig.: For local application.

AS A LOTION.

R. Aëdi tannici3i 32
Alcoholis3viii 256
M. Sig.: Use as a lotion.

In hyperidrosis of the palms and soles he recommends washing them in carbolyzed solution, after which the following should be applied:

R. Unguenti picis (U. S. P.)
Unguenti sulphuris (U. S. P.), āā.....3ss 16

M. Sig.: Spread upon cloths and keep in place with a bandage.

The following is recommended by Hebra in obstinate sweating of the soles of the feet:

R. Emplast. diaehyli
Olei olivæ, āā.....3ii 64

M. Sig.: Apply as an ointment after cleansing.

A formula similar to the following is recommended by Ishoppe in bromidrosis of the axilla:

R. Zinc sulphatis
Ferri sulphatis, āā.....3ii 64
Cupri sulphatis3vi 24
Beta naphtholgr. iv 25
Essentiæ thymim. x 66
Aëdi hypophosphorieigr. v 30
Aq. destilO i 512

M. Sig.: Apply locally as a lotion.

The following has been recommended as one of the most efficient powders in hyperidrosis of the feet:

R. Aëdi salicylicigr. lxxv 5
Aëdi boracici3iiss 10
Aëdi tartarici3iiss 10
Zinci oxidi3vi 24
Tale. præp.3iiss 48

M. Sig.: Wash the feet with medicinal soap, and dust the powder into the stockings in the morning before drawing them on.

The *Medical Press* recommends the following in hyperidrosis of the feet:

R. Mentholgr. v 30
Aëdi salicylicigr. xv 1
Aëdi thymigr. xv 1
Spts. lavandulæ3vi 192

M. Sig.: Wash the parts well, dry, and bathe well with the lotion.

AS AN ANTISEPTIC ASTRINGENT.

R. Aëdi salicylicigr. xv 1
Sodii biboratisgr. lxxv 5
Zinci oxidi
Tale. præparatæ, āā.....3iiss 48

M. Ft. pulvis. Sig.: Sponge the parts well and apply the powder.

Or:
R. Salolgr. lxxv 5
Aluminisgr. lxxv 5
Zinci oxidi3i 32
Tale. præparatæ3ii 64

M. Sig.: Apply locally.

To Prevent Insect Bites.

Meuse, in *Pharm. Jour.*, states that a solution of quinin sulphate in glycerin is the best preventive against insect bites. Whether this is due to the bitter taste of the quinin or to its toxic action on the insects has not been established.

Nitrites in Brain Syphilis.

Dr. W. Browning, in *Med. News*, states that the nitrites, being the most powerful vasodilators, are of great benefit in overcoming the tendency to the narrowing of the lumen of arteries, especially in disease of the arteries supplying the brain. After the vessels are dilated, specific medication has a much better opportunity to gain access to the diseased parts. He also finds the nitrites of value in diabetes of old syphilitics in conjunction with specific treatment. He prefers to administer them by the mouth rather than hypodermically.

Treatment of Asthma.

Jackson, in *Merck's Archives*, recommends the following, to be inhaled, to check the attacks of paroxysmal dyspnea:

R. Pulv. pot. nitratis.....	3v	20
Pulv. stramonii	gr. lxxv	5
Pulv. lobeliae	3iss	6
Pulv. belladonnae	gr. xlv	3
Pulv. grindeliae	3iss	6
Pulv. hydrastis canad.....	gr. xv	1

M. Sig.: Burn one teaspoonful in a small closed room, and inhale the smoke.

Sodium Salicylate in Gonorrheal Epididymitis.

The internal administration of sodium salicylate is recommended by Pigot, in the *Ann. de Derm. et de Syph.*, in those cases in which there is much pain, without extensive involvement of the spermatic cord and tunica vaginalis. When the cord is involved, belladonna and mercurial ointment is more effective.

Urticaria.

The following combinations are recommended by *Ther. Gaz.* in the itching of urticaria:

R. Liq. hamamelidis	3ii	64
Salis maris	3ss	16
Aq. destil	O i	512

M. Apply locally.

Or:

R. Adipis benzoinatis	3iv	128
Cerae albæ	3ss	16
Cetacci	3i	4
Acidi borici	3ss	2
Glycerini	3i	4
Aq. Coloniensis	3iiss	80

M. Sig. For local application.

In rheumatic subjects the following is of value taken internally:

R. Sodii saliçyl.		
Potass. bicarb., āā.....	3iv	16
Aq. menth. pip. q. s. ad.....	3iii	96

M. Sig.: One teaspoonful after meals in water.

The following is recommended by *Merck's Archives* as a local application:

R. Acidi carbol.	gr. xv	1
Spts. menthæ pip.....	m. xv	1
Zinci oxidi	3iii	12
Lani	3iss	48
Vaselini	3i	32

M. Sig.: Apply locally.

Or:

R. Menthol	3ii	8
Spts. etheris		
Spts. chloroformi		
Spts. camphoræ, āā.....	3vi	24

M. Sig.: Spray the affected part and dust with zinc oxid powder.

Saline Baths in Disturbances of the Menopause.

Gottsechalk, as noted in *Brit. Gyn. Journal*, advocates the employment of hot saline baths at a temperature of 40 C.,

lasting for about twenty minutes, to be taken every evening at bedtime, as an excellent means of combating the night attacks of heat and sweating from which many women are troubled at time of change of life.

Medicolegal.

Seven Thousand Dollars for Death of Woman.—The fourth appellate division of the Supreme Court of New York holds, in the case of Smith vs. the Lehigh Valley Railroad Company, where a woman 49 years old was killed by a train, and she left a husband 48 years old, and two sons, 21 and 18 years of age, respectively, who were entitled to share the verdict, that a verdict for \$10,000 damages was excessive, and should be reduced to \$7000, or a new trial would be granted.

Sufficient to Support Verdict Against Firm.—In the case of Till vs. Redus, where it appeared that near the place a firm conducted a store one member of the firm operated a gin in which an employe of his got caught and was so badly injured as to require the amputation of an arm, and the man who telephoned for a surgeon testified that both members of the firm directed him to say that the firm wanted him to attend the wounded man, the Supreme Court of Mississippi holds that this testimony offered a sufficient foundation for placing the surgeon's claim against the firm for services before the jury, and of supporting a verdict in his behalf.

Attending Physician on Mental Condition of Testator.—The Supreme Court of California says that under section 1881 of the Code of Civil Procedure of that state a physician is precluded from being examined as a witness only as to the information acquired in attending the patient which was necessary to enable him to prescribe or act for the patient. Consequently, it holds, In re Black's Estate, where it clearly appeared that the testimony of the physicians as to the mental condition of the maker of the will which was being contested was not founded upon any such information, that their testimony was not improperly admitted although they had attended the testatrix professionally.

Rebuilding and Enlargement of Hospital Permitted.—In construing the act of 1899 prohibiting the establishment or maintenance of additional hospitals in the built-up portions of cities, the Supreme Court of Pennsylvania held, in a decision reported on page 685 of THE JOURNAL of March 9, 1901, that the word "additional" referred to new buildings not already established, and did not mean in addition to the total number then maintained in the whole of the city. But, in another decision, in the case of Commonwealth vs. the Charity Hospital of the City of Pittsburg, the court now holds that, under that act, not only may an existing hospital building be torn down and a new one constructed upon the same site, but that there may also be erected a larger building, so long as that is done in the location in which the hospital was maintained prior to the passage of the act.

Competent to Testify as an Expert on Insanity.—A physician called as a witness in the murder case of the State of Washington vs. Boyce said that he did not like the word "expert"; did not like to call himself an expert. On the other hand, he said that he considered himself enough of an expert on insanity to examine people, had even deprived them of their liberty in an asylum by his knowledge of insanity, and that he had done it a great many times, but that he was not a specialist on insanity. And his whole testimony showed that he drew a distinction between an expert and a specialist. In other words, while in the first part of his testimony he would not say that he was an expert, saying that he did not like the word "expert," he did say that he was competent to testify as an expert. The testimony, as a whole, the Supreme Court of Washington holds, did not show that he was not competent to testify as an expert.

Sufficiency of Proofs of Cause of Physician's Death.—A policy of accident insurance issued to a physician contained the following clause: "This policy covers septic poisoning resulting

from accidental incision or abrasion of the cuticle, and the simultaneous infection thereof, while the insured is performing a surgical operation or autopsy." It was conceded that the testimony produced at the trial was sufficient to sustain a finding by the jury that the insured died of septic poisoning, which resulted from an accidental abrasion of the cuticle while performing a surgical operation, and that the facts proved established a claim within the meaning of the policy. But it was contended that the proofs of death furnished the company were not in substantial compliance with the requirements of the policy. The Supreme Court of Pennsylvania says, however, case of *Braymer vs. the Commercial Mutual Accident Company*, that the only defect in the proofs which the most critical examination developed was that they did not show that the abrasion of the skin which made infection possible occurred during the operation, which objection was not raised, the only objection stated being that it did not appear that infection occurred during the performance of the operation, which objection was not well founded. Under these circumstances, the court holds the proofs sufficient, as it thinks it might well be inferred from but the one objection last mentioned being raised that in all other respects the proofs were accepted as sufficient.

Five Thousand Dollars for Injuries to Foot and Leg.—

In the personal injury case of *Perrette vs. the City of Kansas City*, the former caught his foot in a hole in a sidewalk, was thrown upon the walk, his leg broken, the ligaments of his foot and ankle sprained and lacerated, and the bones of his foot and ankle dislocated. Bandages and splints were first applied, the swelling being so great that a plaster of Paris cast could not be put on. The inflammation around the injured parts became so great that gangrene set in, and he was compelled to keep his foot in ice water four or five days, during which time he suffered intense pain and was unable to sleep, except under the influence of opiates. A plaster of Paris cast was afterwards applied, which remained on about 40 days, and he was altogether confined to his bed 90 days, suffering constant pain and inability to sleep, while up to the time of the trial, which occurred nearly 14 months after the accident, he had not been able to stand. The reason of this result the physicians considered largely due to the tearing loose of the ligaments and to the displacing of the heel bone where it united with the bones of the foot, which had caused the axis of the foot and ankle to become perverted, the ankle to give way or turn out, and the arch of the foot to be destroyed, making a "flat foot," which condition they pronounced permanent. Under these circumstances, the man being 49 years of age, and earning about \$21 a week, at a trade which required him to stand, when he met with the accident, the Supreme Court of Missouri, Division No. 2, does not think a verdict in his favor for \$5000 excessive.

Malpractice Liability—Expert and X-Ray Evidence.—

The physician sued in the malpractice case of *Miller vs. Dumon*, in which the Supreme Court of Washington has affirmed a judgment against him, was called in to examine an injury which the other party had sustained in an accident ten or twelve days before, which had been pronounced a fracture of the tibia of the left leg, by another physician, who had been attending him. As to what occurred during this visit, further than that he told the party that there was no fracture of the bones of the leg, but that he was suffering from a severe sprain, there was a square contradiction in the evidence. On the one hand, it was contended that he undertook the treatment of the injury, while he, on the other hand, denied it. At any rate, however, as a result of this visit, the physician first called was dismissed, the man got out of bed, procured crutches, undertook to use the injured limb, and, while so doing, the leg gave way in some manner, causing him much pain and suffering, and compelling him to retake to his bed, when he sent for the defendant, who, for some reason, did not answer the call, and the physician previously employed was recalled, and the final result of the whole matter was a permanent injury to the leg. Now, the court says that it may be that the weight of the professional testimony was to the effect that there had been no fracture of the bones of the injured limb, but the

evidence was contradictory, and there was substantial testimony the other way, sufficient of itself to support the verdict of the jury for the party suing, in which case the verdict must stand. Then, the jury was instructed that, in order for him to recover damages, it must be satisfied by a preponderance of the evidence that his leg was in fact broken, and that the defendant, acting as a physician and surgeon, unskillfully and negligently treated the broken leg. Besides, it was instructed that the fact that a physician responds to a call for his professional services does not necessarily constitute an employment, unless some act is done or advice given by the physician which indicates an intention on his part to enter upon the employment. He may absolutely refuse this employment, if he sees fit. But when any act is done, or advice given, that may reasonably be construed into indicating an active entering upon the employment, then the liability of the physician attaches, and he may be held responsible for his negligence or lack of skill. These instructions, the court thinks, sufficiently covered the point that the physician sued contended that he had never undertaken to treat the injured limb, by way of directing the jury's attention thereto. The court further holds that a witness who has qualified as a physician and surgeon not only familiar with fractures, but with the x-ray process of determining whether a fracture has ever existed, is an expert as much qualified to express his opinion from an examination made by means of an x-ray negative taken by himself as are experts who make their examinations by means more commonly used by the medical profession. The method of examination does not affect the competency of his testimony. How much it affects its weight is entirely a question for the jury. Nor does the court think the introduction in evidence of the negative itself objectionable, it being shown to have been taken by an approved process and an approved apparatus, and the witness having testified to its being a correct representation of the bones of the leg. An x-ray photograph, it holds, is admissible as evidence when verified by proof that it is a true representation of an object which is the subject of inquiry.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Medical Record (N.Y.), June 1.

- 1 *The Diagnosis and Surgical Treatment of Prolapsed Kidney; with Demonstration of a Simple Method of Examination for its Detection. Augustin H. Goelet.
- 2 The Climate of Long Island. Le Grand N. Denslow.
- 3 Superheated Air in the Therapeutics of Chronic Catarrhal Otitis Media. George W. Hopkins.
- 4 Three Cesarean Sections—Recovery. J. F. Baldwin.
- 5 *Ether as an Anesthetic. Edward Judson Wynkoop.
- 6 A Few Observations from the Lorenz Orthopedic Clinic. Leonard W. Ely.
- 7 A Case of Membranous Angina, Due to Streptococci, Followed by Paralysis of the Soft Palate. Moses Keschner.

Boston Medical and Surgical Journal, May 30.

- 8 *The Diagnosis and Surgical Treatment of Renal Tuberculosis. F. Tilden Brown.
- 9 Asthma. F. P. Emerson.
- 10 A Case of Trichinosis. George G. Sears.

New York Medical Journal, June 1.

- 11 *On Theories of Inheritance with Special Reference to the Inheritance of Acquired Conditions in Man. J. George Adami.
- 12 Appendicitis Perforativa in Irreducible Right Scrotal Hernia, with a Report of a Case. O. Thienhaus.
- 13 *Muscular Action of the Arteries. Andrew H. Smith.
- 14 Hyperacidity (Superacidity, Hyperchlorhydria, Superaciditas, Chlorhidrica); A Clinical Study. (Continued.) H. Illoway.
- 15 A Case of Sarcoma in the Muscles of the Right Shoulder, with Perforation into the Spinal Canal and Paraplegia. Leonard Weber.

Philadelphia Medical Journal, June 1.

- 16 Two Successful Cases of Secondary Suture, One of the Posterior Interosseous Nerve and One of the Median and Ulnar Nerves. W. W. Keen.
- 17 *Pancreatitis. A. W. Mayo Robson.
- 18 *The Examination of the Blood in Relation to Surgery of Scientific but often of no Practical Value, and may Misguide the Surgeon. John B. Deaver.

- 19 *Complicated Fractures, Their Diagnosis and Treatment. Thomas H. Manley.
 20 *Pityriasis Versicolor, with Special Reference to Allen's Iodin Test. Jacob Sobel.
 21 *Biceps Tendon-Jerk in Locomotor Ataxia. Moses Behrend.

Medical News (N. Y.), June 1.

- 22 *Some Factors Relating to the Etiology of Prostatic Enlargement. J. Bentley Squier.
 23 Gastric Ulcer and Muco-Membranous Colitis at the Paris Congress. James J. Walsh.
 24 *Streptococcus Bronchitis in Influenza. F. Forchheimer.
 25 *Fourth-of-July Tetanus. H. Gideon Wells.
 26 *The Use of Methylene Blue Injections in Pleurisy with Effusion. Charles H. Lewis.
 27 *The Appearance of the Soft Palate a Pathognomonic Symptom of Epidemic Influenza. Louis Kolipinski.

American Medicine (Philadelphia), June 1.

- 28 *A Case of Antrum Infection and Sigmoid Sinus Thrombosis without present Middle-Ear Disease, Presenting the Symptoms of Facial Neuralgia and None of the Ordinary Symptoms of Disease in the Petrosa; Retropharyngeal Gravity Abscess, General Sinus Thrombosis without Much Impairment of Cerebration; Death after Three Months, Partial Autopsy, Presentation of Specimens. Bayard Holmes.
 29 *Typhoid Fever and Pharyngeal Diphtheria. Morris Manges.
 30 *Practical Thoughts on Pulmonary Tuberculosis. Howard S. Anders.
 31 *The Recognition of Tabes Dorsalis. Theodore Diller.
 32 Simplicity in Therapeutics. Edwin W. Pyle.
 33 *The Radical Cure of Internal and External Piles by Excision. John A. Hawkins.
 34 Rigidity of the Spine. (Spondylose Rhizomelique.) Max H. Bochrach.
 35 Some Notes on a Case of Cerebral Embolism. Anna M. Littlefield.
 36 Report of the General Hospital for the Treatment of Pulmonary Tuberculosis at Fort Bayard, N. M., for the Period Ended December 31, 1900. D. M. Appel.

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- 37 Valedictory Address, Miami Medical College. E. W. Mitchell.
 38 House-to-House Operating. Edmund C. Brush.
 39 Phlyctenular Conjunctivitis. S. C. Ayres.
 40 *Fistula and Consumption. George J. Monroe.

Pediatrics (N. Y.), May 15.

- 41 Scarlet Fever. F. D. Millard.
 42 Two Cases of Congenital Dilatation of the Colon. Theodore Fisher.
 43 The Intra- and Extrauterine Periods of Stress as Pathologic Factors in Pediatrics. James G. Kiernan.

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- 44 Endocardiopathies. Thomas E. Satterthwaite.
 45 State Medicine. James Evans.
 46 Intravenous Infusion of the Normal Salt Solution. Valentine Tallafiero.
 47 The Significance of Running Ears. D. A. Kuyk.
 48 Faradic Anesthesia, or Sedation and Galvanization Used Simultaneously. Alexander Irvine.

Merck's Archives (N. Y.), May.

- 49 Glonoin: Its Pharmacology, Physiologic Action, Toxicology, and Therapeutic Uses. H. Edwin Lewis.
 50 Chats on Every-day Therapeutics. Solomon Solis-Cohen.
 51 *The Use of Suprarenal Gland in Peritonsillar Abscess. Lewis S. Somers.
 52 Three Well-known Drugs (Quinin, Iodin, Sodium Sulphate). Harvey J. Chadwick.
 53 Sodium Bromid in the Vomiting of Pregnancy. J. J. Tribble

American Practitioner and News (Louisville, Ky.), April 15.

- 54 True Greatness. J. Frank Crawford.
 55 Four Stab Wounds of the Abdomen. H. Horace Grant.
 56 Cystitis. John R. Wathen.
 57 Varicocele and its Radical Cure. Harry C. Weber.
 58 A Singular Case of Insect Bite. T. B. Greenley.

Northwestern Lancet (Minneapolis), May 15.

- 59 The Present Status of the X-ray in Medicine and Surgery. J. E. Cross.
 60 Some Cases of Lithemia. Mary Towers.
 61 Leucocythemia and Pernicious Anemia in North Dakota. J. E. Engstad.

Maryland Medical Journal (Baltimore), May.

- 62 Pregnancy in a Double Uterus. L. M. Allen.
 63 *Rabies and the Pasteur Preventive Treatment in Germany. John Ruhrah.
 64 A Case of Tetanus Treated with Antitoxin. J. W. Humrichouse.
 65 A Review of Some of the Recent Work on the Physiology and Pathology of the Blood. Thomas R. Brown.

Interstate Medical Journal (St. Louis, Mo.), May.

- 66 Clinical Lecture on Surgery. William L. Rodman.
 67 Nephrectomy. C. E. Ruth.
 68 The Eyes of Our School Children. Ellet O. Sisson.
 69 The Practical Application of the X-ray in Fractures and Dislocations. J. Rudis-Ielnsky.

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- 70 The Savings to Life Insurance Companies from Medical Discrimination at the Home Office. Frank Sargent Grant.
 71 *The Urine in its Bearing on Life Assurance. O. J. Kauffman.
 72 *Marriage in Relation to Life Insurance. J. M. French.
 73 *Death-Rate of the United States. J. E. Cowgill.
 74 Latest Investigations on Uric Diathesis. Otto S. Binswanger.
 75 Benefit to Brain and Body from Bicycling in Moderation. Frank S. Grant.

Indiana Medical Journal (Indianapolis), June.

- 76 The Radical Cure for Chronic Suppurative Otitis Media. L. C. Cline.
 77 Report and Histological Study of a Case of So-called Pleurogenous Pneumonia. W. C. White.
 78 Twins as Related to Obstetric Procedures. Hugh A. Cowing.
 79 Nerve Resection as Applied to the Supra-orbital and Nasolachrymal Branches of the Fifth Pair. J. O. Stillson.
 80 Pemphigus Vulgaris. George R. Green.
 81 Formaldehyde Poisoning. James Wellborn.

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- 82 A Study of the Causes and Nature of Dipsomania. P. C. Remondino.
 83 Management of the Victims of Drug Habits. David Paulson.
 84 *The Actions of Morphin Upon Metabolism, with Especial Reference to Internal Secretion and its Bearing upon Toxicology. Edward T. Reichert.
 85 Report on Heredity. T. D. Crothers.

Clinical Review (Chicago), June.

- 86 Operation for Post-menopausal Complete Prolapse of the Uterus; Operation for Extensive Vesico-vaginal Fistula. J. Clarence Webster.
 87 Abdominal Colopexy for Prolapse of the Rectum; Fibroma of the Mesentery; Excision of Twenty-four Inches of the Intestine; Use of the Button; Paraplegia from Pott's Disease of the Spine. John B. Murphy.
 88 Goiter Complicated by Stenosis of the Trachea. William E. Morgan.
 89 Gastrostomy; Umbilical Hernia; Strangulated Scrotal Hernia; Tendon Suturing; Nephrectomy for Malignant Disease; Renal Calculi; Tetanus; Cerebellar Tumor; Laparotomy for Intestinal Perforation. E. Wyllys Andrews.
 90 Two Cases of Weak Heart. George W. Webster.

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- 91 A Case of Chronic Cystitis with Surgical Kidney, also Cystic and Prostatic Calculi. Israel Cleaver.
 92 Hammonton, N. J., as a Health Resort. Charles Cunningham.
 93 Appendicitis and Diseases of the Uterine Adnexa. Wilmer Krusen.
 94 Incontinence of Feces. Samuel G. Gant.
 95 The Management of Delayed Labor Due to Inertia Uteri. John C. Hirst.
 96 The Treatment of Abscesses. Charles L. Leonard.

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- 97 *Fangothrapy. W. C. Hollopeter.
 98 *Clay Dressing in Skin Diseases. J. Frank Wallis.
 99 The Scope of the General Practitioner. Jay G. Roberts.
 100* Aristol in Gynec Hyperaesthesia. Ephraim Cutter.
 101 The Treatment of Epilepsy. Charles W. McIntyre.

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- 102 The Indications for and Limitations of Spinal Cocainization in Surgery. George Ryerson Fowler.

Cleveland Medical Gazette, May.

- 103 Bacteriology and Pathology of Diphtheria. Roger G. Perkins.
 104 The Differential Diagnosis of Diphtheria. Edward P. Carter.
 105 *Antitoxin in Diphtheria. P. H. Sawyer.
 106 *Laryngeal Intubation in Diphtheria. Joseph V. Kofron.
 107 The Pulse, Temperature and Respiration after Operation: from an Analysis of 114 Consecutive Abdominal Sections without a Death. Hunter Robb.
 108 Animate Bodies in the Auditory Canal. J. M. Ingersoll.

The Woman's Medical Journal (Toledo, Ohio), April.

- 109 Blood and Nerve Supply of the Uterus and Their Relation to Hemorrhage. Rosannah Russell.

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- 110 The Science and Art of Surgery; its Progress During the Nineteenth Century and its Prospects for the Twentieth. R. W. Garrett.
 111 Prevention of the Spread of Infectious Disease by Isolation. A. Haig.

- 112 Dr. Horsey's Address at Medical Convocation.
 113 Valedictory Address—Medical Convocation. M. R. Young.
 Iowa Medical Journal (Des Moines), May 15.
- 114 Palpation of the Uterine Appendages. George Gray Ward, Jr.
 115 Reception Hospital for Cases of Acute Insanity. Henry M. Hurd.
 116 Relations of the Private to State Hospitals. J. H. Kulp.
 Oklahoma Medical Journal (Guthrie), April.
- 117 Theories and Facts Concerning the Perception of Renal Impressions. John Ransom Hamill.
 118 Brief Notes from Medical Practice. C. Hill.
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- 119 *The Diagnosis of Cancer of the Stomach. Andrew MacFarlane.
 120 *Surgical Intervention in Carcinoma of the Stomach. Willis G. MacDonald.
 121 *Report on the Gastric Secretion in Twelve Cases of Pulmonary Tuberculosis, Five of which Gave No Evidences of Tuberculosis when First Seen. Leo H. Neuman.
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- 122 Malignant Disease Affecting the Fundus of the Uterus. James F. W. Ross.
 123 Examinations for Life Assurance. W. H. Pepler.
 124 Suggestive Therapeutics. J. M. Jory.
 125 Cases in Skin Diseases. Graham Chambers.
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- 126 Bimanual Palpation of the Pelvic Organs. W. Oakley Herman.
 127 Creosote in Pneumonia—A Résumé. I. L. Van Zandt.
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- 128 *Cancer Distribution and Statistics in Buffalo for the Period 1880-1899, with Special Reference to the Parasitic Theory. Irving Phillips Lyon.
 129 Chronic Myocarditis and Fatty Degeneration of the Heart. Beverley Robinson.
 130 *Osseous Cyst of the Tibia. Carl Beck.
 131 A Clinical and Histological Study of a Case of Circumcorneal Hypertrophy of the Conjunctiva. Charles A. Oliver.
 132 *Nitrous Oxid and Oxygen as a Surgical Anesthetic. S. Ormond Goldan.
 133 *Croupous Pneumonia. George Wm. Norris.
 134 *Heart and Circulation in the Feeble-minded. John Madison Taylor and F. Savary Pearce.
 Pacific Medical Journal (San Francisco), May.
- 135 Upon the Treatment of Prostatic Hypertrophy. M. Krotoszyner.
 136 Diseases of the Stomach and Their Dietetic Treatment. Alfred W. Perry.
 137 Vaccinal Eruptions. Francis B. Williams.
 138 Chloroform Anesthesia. A. F. Werner.
 Atlanta Journal-Record of Medicine, May.
- 139 A Contribution to the Study of Deafness. Ross P. Cox.
 140 The Treatment of External Cancer with Caustic Potash. M. B. Hutchins.
 141 Infant-feeding. Samuel A. Visanska.
 142 Subphrenic Abscess in its Relations to Some Complications. J. McF. Gaston, Jr.

AMERICAN.

1. **Prolapsed Kidney.**—Goelet holds that this condition is more frequent than usually supposed, not always giving rise to symptoms directly referable to the kidney. It is often not discovered because by the usual methods of examination only an expert can detect it, unless the kidney is much enlarged or the subject is thin. Palliative measures are of no avail, and therefore useless and unwise. Lumbar fixation is the correct method of treatment, if there is no contra-indication; the operating being simple and free from risk, and successful when properly executed, with due attention to the patient's condition prior to operation, and during convalescence for a period of several months. The object of his present paper is to call attention to certain special symptoms and the method of examination which he has adopted. Pain referable to the kidney region is very infrequent. The symptoms are usually what may be termed reflex. The method of examination which he has found best is as follows: The clothing is loosened about the waist, the corsets are removed, and the undergarments that are suspended from the shoulders are rolled up under the breast, exposing the ribs below the level

of the ensiform cartilage, while the skirts are drawn down below the level of the crest of the ilium. The patient is directed to hold up the upper garments with the right hand and to support the skirts with the left to keep them from dropping off. This gets her hands out of the way. She is then placed with her back to the edge of a table for a brace, or against the wall or a door, but she must not be permitted to lean back against it. The legs must be perpendicular to the surface upon which she stands. She is now directed to incline her body slightly forward by flexing it upon the pelvis. If the abdomen is unduly rigid and is not sufficiently relaxed by this position, additional relaxation may sometimes be secured by directing the patient to bend the right knee and rest the toe of that foot only on the floor, throwing the weight mainly upon the left foot. The examiner sits in front of her a little to the right. He grasps the right loin with his left hand, with the four fingers behind the right lumbar region and the thumb in front just below the border of the ribs, and when this is done the patient is directed to take several deep inspirations and to expire to the extreme limit. When expiration is complete, he presses the thumb well into the abdominal wall under the ribs, depressing it as much as possible so as to reduce the space between it and the fingers posteriorly. If the kidney is out of position, it must be below his thumb, and he can feel the kidney slip under his thumb if it is pushed up into position. With the left hand flat against the abdomen, the examining physician then draws the relaxed abdominal wall downward and depresses it by pushing with the fingers inward, then upward. If he succeeds in getting the fingers under the kidney, it will be pushed up against and then under the thumb by this manipulation. It will require some little practice to maintain the necessary depression by the thumb while attention is diverted to the manipulation of the other hand. Sometimes it will be possible to engage the kidney between the tips of the fingers below and the thumb above, before it is pushed up into place, and by manipulation outline it distinctly. This is possible, however, only when the abdominal wall is thin or relaxed. When the abdominal wall is thick or cannot be made to relax in the standing position, the patient is made to recline on the back, with right leg flexed, and the examination made in the same manner in this posture. The patient is ordered to take several deep inspirations and to expire to the limit, and at this moment the thumb is pressed well up under the border of the ribs. If this does not dislodge the kidney, she is directed to cough several times. The article concludes with the technique of the operation for floating kidney.

5. **Ether.**—Wynkoop concludes that ether is the safest of anesthetics, but that more care is necessary in the primary examination and in regard to position and condition of patient during narcosis. A good inhaler, the simpler the better, is needed, with fresh ether, made by a reliable firm; small, quarter-pound cans are better than larger ones. The ether should be added in small quantities, beginning the narcosis with the inhaler a short distance from the patient's face and gradually bringing it down. A more detailed study of this subject should be given in our medical schools, and in all operations a trained anesthetist is required. •

8. **Renal Tuberculosis.**—The recognition of renal tuberculosis is apt to be tardy, though the trouble is not uncommon. Brown insists on the importance of a routine search for tubercle bacilli in the urine and calls attention to possible errors in diagnosis from smegma bacilli. To avoid this, if the urine is collected from the bladder by a catheter, the then demonstrating the absence of these bacilli will correct the mistake. The subjective symptoms are sometimes pronounced and often absent. A dull, aching pain in the lumbar region is significant, as also is the more acute kind of pain referable to the kidney or ureter. In many cases symptoms resembling mild malaria occur, and he looks upon them as not infrequent precursors of the later localized ones. The frequency of urination does not usually appear until the lower segment of the ureter has been involved, with an irritable state about its mouth. The principal objective symptoms are large and tender kidney as well as all grades of pyuria and hematuria, besides a just

appreciable or very marked diurnal temperature variation, loss of color or weight, tuberculin reaction, and finally the presence of tubercle bacilli. He attributes much importance to tuberculin reaction, and advises the employment of tube cultures in all cases of ureteral catheterization to demonstrate the presence of other pathogenic micro-organisms. Nephrectomy for tuberculosis has been comparatively successful, but few deaths having been reported. In his experience persistent and exhausting vomiting has caused more deaths than any threatening anuria. If the disease is seen to extend down the ureter to a point below the first sacral vertebra he is not yet ready to advise total extirpation, since a considerable amount of tubercular ureter left in a functionless state may recover under subsequent treatment. If it were certain that the ureter was diseased from kidney to bladder it might improve the patient's chances to have a primary ureterectomy of the lower half, while the proximal end of the tube was given a cutaneous implantation to drain the kidney until an early favorable time for nephrectomy. Often in cases presenting tubercular vesical lesions where only one kidney is involved, nephrectomy, he thinks, is indicated as offering the best chances for extension of life and comfort. A number of histories of cases are reported illustrating the different points made in this paper. He concludes with the remarks that too great pains can not be taken by the physician and surgeon to demonstrate the location and extent of the disease before administering the treatment. The integrity of the other kidney, of course, has a great bearing on the surgical aspect of any case. In the ward hospital cases immediate operation appears to be the only alternative, but for those who can afford climatic changes and rest, a careful preliminary observation of the existing condition of the urinary tracts should precede their travels and be repeated in order to keep posted regarding the advancement of the disease.

11. Inheritance.—Adami's article is lengthy and too detailed to be abstracted in full. He suggests a sort of side-chain theory of heredity similar in some respects to the Ehrlich theory of immunity, and applies this to inheritance and atavism and the inheritance of acquired characters. He takes issue with Weissmann, maintaining that in certain ways acquired characters are inherited. The article must be carefully read to be properly appreciated.

13. Muscular Action of the Arteries.—Smith remarks on the muscular action of the arterial coats and its importance to the circulation in general; also the effects of calcification or sclerosis. He notices Dr. Daland's recent paper on arterial spasm, which he says throws a powerful light on the action of certain poisonous, or at least irritant, substances retained in the blood under conditions of renal insufficiency. What capsi-cum did in a high degree and for a brief period in Dr. Daland's case is done in a minor degree by excrementitious substances constantly remaining in the circulation.

17.—See abstract in *THE JOURNAL* of May 25, p. 1490.

18.—*Ibid.*

19. Complicated Fractures.—The methods of examination of fractures are first given by Manley, who insists on completeness of detail, inspection, posture, manipulation, narcotic relaxation of muscles, and lastly consultation with more skilled practitioners in this particular line. He summarizes the principles of treatment in: 1. Placing the limb in a comfortable position. 2. Securing an unhampered circulation. 3. Reduction of fragments and support. He criticises the time-honored rule of immediately reducing fragments and immobilizing them, and shows how this is impracticable in many fractures, and needless in some. It has been his practice to dispense with splints where marked displacements do not exist, and with the best results. With multiple fractures and general crushing injuries he would bolster up the fractured limb, relax the flexor muscles, leach, bathe and swathe the parts, await the subsidence of inflammation, of plastic union of fragments, and then splint, not so much to splice the fragments as to hold the joint and support the enfeebled parts. The open incision recommended by some he thinks is full of peril on account of the enfeebled circulation, though it would seem an ideal

means in certain fractures of the femur with overriding of the fragments for example. The ambulant treatment of which we hear so much is not practicable in the great majority of lower-limb fractures, where pressure and rest in bed are indispensable after shock. With the patient under close observation, with the aid of antiseptics, anesthetics and aseptic precautions, we first endeavor to preserve the limb in the best shape we can. He advises practitioners to treat fractures at home, not send them to hospitals, and if they feel incompetent, to take a post-graduate course, or several of them, where there are ample facilities for instructions in this particular line.

20. Pityriasis Versicolor.—From his experience Sobel concludes that: 1. The old theory that only hidden parts are affected is no longer tenable. 2. Allen's iodine test is of marked value not only for class-room demonstration and for bringing into relief pale and hidden lesions of pityriasis versicolor, but also for differentiating parasitic or presumably parasitic skin affections from those of a non-parasitic nature. 3. Recurrences are in the main due to the overlooking and non-treatment of the supra-pubic region and to the use of desquamative agents to the exclusion of penetrating ones. Both must be combined if a cure is desired. 4. Phthisical subjects, while affected in great measure on account of the hypersecretion of sweat, do not form the greater part of these patients. It occurs in all degrees of health and disease, a marked hyperidrosis, however, predisposing towards it. 5. Children and the very old are occasionally, though rarely, attacked. 6. It may occur in all shades from a very light pink to almost coal black (pityriasis nigra), the color being influenced by the condition of cleanliness, the circulation of the skin, the occupation of the patient, and the color of the underclothing.

21. Biceps Jerk in Tabes.—From a number of observations, some of which are reported, Behrend concludes that ataxia in the arms is, as a rule, more marked when biceps tendon jerk is absent and usually co-incident with that of the legs. In the presence of biceps tendon jerk with slight ataxia of the arms, ataxia of the legs is invariably well marked. Sensation is usually normal in cases with normal biceps tendon jerk, and defective when it is absent. That arthropathies are present only in the marked ataxic. The loss of sense of position is almost constant in advanced tabes and the loss of weight sense is infrequent. The shooting pains in the arms do not bear any relation to the degree of ataxia. The intensity of the symptoms is not dependent upon the duration of the case, but rather upon the extent of the sclerotic process. Where biceps tendon jerk is absent, the sclerosis probably extended to the cervical region, but we must remember that this reflex may be absent in normal individuals.

22. Prostatic Hypertrophy.—Squier calls attention to the causes of prostatic hypertrophy, which he thinks are largely comprised in abnormal sexual practices partly due to deficient information on the subject.

24. Streptococcus Bronchitis.—This name is given by Forchheimer to a form of bronchitis following influenza in which the streptococcus seemed to be the prominent and often the only microbe attendant. It usually follows the respiratory type of influenza, though any form may precede it, and symptoms of influenza disappear when the bronchial trouble appears. It usually begins rather suddenly, with spasmodic cough, often simulating whooping-cough, occurring at night and in the day time, with sputum varying from merely serous to mucous and purulent. The larynx is seldom implicated, but it involves the medium-sized bronchi. The temperature is abnormal, ranging from 96 F. in the morning to 99 to 100 or more in the evening, thus having an abnormally great diurnal range. The pulse may be often slow, though it sometimes is rapid. In the rudimentary type of the disease is the shortest course, and the temperature is not typical for any length of time. The cough is not thoroughly developed and expectoration is limited. The excessive form takes the type of septicemia with intermittent fever, sweats, and occasional slight chilliness. Two cases are reported of septic pyemia originating in this condition. In patients where the cardiac condition

was such that heart weakness could be easily produced, it developed unless special care was taken. In the protracted cases the chief difficulty in differentiation will be from tuberculosis, and he thinks the rule has been given too rashly that sub-normal temperature with evening increase is characteristic of tuberculosis. In the majority of cases there will be little difficulty. If there are general bronchial symptoms and no tuberculosis bacilli, but some other form of the streptococcal type, this condition can be diagnosed. He thinks for this condition the benzoate of soda in large doses, 1 dram every two to four hours, always every two hours in the beginning, is advisable. For the annoying cough, sedatives, and for excessive expectoration, atropin or belladonna are of advantage. In the severer forms unguentum Credé has been very serviceable, and, combined with antistreptococcic serum injections in special cases, has given him good results. In all cases we must bear in mind that we are dealing first with a local infection; secondly, with a general one; the concept of a septicemia, acute or chronic, must guide us in the therapy employed.

25. Fourth-of-July Tetanus.—Wells' article is summarized as follows: Tetanus is endemic in Chicago, the specific organism being present in the dirt of the streets. Every Fourth of July an epidemic occurs, because these bacilli are carried deeply into wounds before wads from blank cartridges, and are then under favorable conditions for multiplication. Epidemics which always occur in other portions of the country at the same time are presumably due to the same causes. Most of the cases occur in wounds that have been improperly cared for, the wads not having been removed or suitable drainage instituted. Therefore the first indication is to secure thorough surgical cleansing and drainage of the wound, preferably and almost necessarily under an anesthetic. As, however, tetanus sometimes occurs even in well-drained wounds, and considering the frequency with which it follows blank cartridge wounds, it seems to the writer that such cases should receive a prophylactic dose of, say, 5 c.c. of tetanus antitoxin as soon as possible after the wound is first seen. It seems certain that if antitoxin prophylaxis were adopted there would be no further Fourth of July epidemics, and this end justifies the means.

26. Methylene-Blue Injections in Pleurisy with Effusion.—Lewis has used methylene-blue, employing the serum itself as a solvent, after making a solution of it with the blue returning it into the cavity. The technique of his operation is described. His process is by using the aseptic syringe and introducing the drug after examination of the serum without withdrawing it. It does away with sterilizing the syringe and otherwise preserves it, for the action of the blue is rather destructive to valves. He has employed this method in twenty-four cases of pleural effusion, including suppurative case. The average duration of treatment of the twenty-three sero-fibrinous cases were a little under fourteen days. The quantity of methylene-blue employed was from 5 to 15 grains.

27. Influenza.—The new symptom described by Kolipinski consists in the appearance on the mucous membrane of the soft palate of small convex projections of a pearly whiteness or transparency. Their size is that of a grain of sand. They may be few or numerous, and are best displayed on the base of the uvula, median raphe, the lateral borders of the same, the anterior surface of the palato-glossal fold, about the outer border of the tonsil. A spatula rubbed over them gives a hard, rough sensation. Full illumination is necessary and direct or diffused sunlight is best. There are no subjective sensations connected with them.

28.—See abstract in THE JOURNAL of April 20, p. 1136.

29. Diphtheria and Typhoid.—Five cases are reported by Manges, showing that the Klebs-Loeffler diphtheria bacillus occurs sometimes in typhoid fever, and he maintains that this is not at all rare or absent as has been asserted by Curschmann. He also calls attention to certain peculiar ulcerations of the pharynx in typhoid that were first noticed by Bouveret and have been recently studied by Schaefer. They are situated in the anterior pillars of the fauces, are oval in shape, averaging from 6 to 12 mm. in length and 4 to 12 in width,

the long axis parallel to the long axis of the tonsil, often surrounded by a small hyperemic halo. Their base is grayish-yellow or grayish-red, usually smooth, but sometimes granular. There is no false membrane or marked glandular enlargement. As a rule they are single, but several small ones may coalesce into one large one. The average duration of these, according to Schaefer, is about twelve days. In the case he reports here, there was an atypical whitish patch and Klebs-Loeffler bacillus was present on one day; the ulcers lasted over three weeks. He considers it a Bouveret ulcer with diphtheria infection.

30. Pulmonary Tuberculosis.—The points specially urged by Anders are the home treatment of tuberculosis, fresh air and sunlight, and he advises patients, when possible, to lie quite nude exposed to the sun's rays for one-half to two hours at a time. The prejudice against night air should be done away with, and respiratory exercises are recommended. He suggests as a relief to cough when it is aggravated by the recumbent position that the patient should assume this for short periods during the day, practicing the deep breathing exercises. This trains the lungs to be less irritable at night. Two drugs are mentioned as having been of special use to him, though seldom referred to. They are aromatic oils, the oils of sandalwood and erigeron. The first in 10-drop doses on sugar every three or four hours seems to very much relieve the cough. The latter in 5-minim capsules every two, three or four hours has been of decided benefit in the hemoptysis of tuberculosis. Chest strapping has been useful in several cases where the coughing has excited dry pleuritis, and he has found olive oil useful as a substitute for cod-liver oil. He concludes with a plea for the registration of tuberculosis.

31. Tabes Dorsalis.—The symptoms of tabes are discussed and the following ones named as cardinal by Diller: 1. Failure of knee-jerks. 2. Romberg symptom. 3. Argyll-Robertson pupil. 4. Lightning-pains. 5. Depression of the function of the bladder and genitals. With any three of these symptoms he believes the diagnosis may be made with certainty, and probably with any two of them, when evidence pointing to multiple neuritis, paralytic dementia or cerebrospinal syphilis is absent. The more important secondary symptoms or signs are: 1, parasthesia, anesthesia or analgesia of the legs; 2, locomotor ataxia; 3, transient ocular palsies; 4, ulnar paresthesia; 5, optic atrophy. Two of the cardinal signs and one of the secondary are sufficient for absolute diagnosis, and two of the secondary and one of the primary make tabes most probable.

33. Hemorrhoids.—The method recommended by Hawkins is the use of the clamp or hemostatic forceps, tightened and the entire mass cut off close. He then follows up with suture and sews up the stump, when the clamp is released. He says this operation is less objectionable than the ligature or clamp and cautery methods. He has done this in his office and allowed the patient to return immediately home. There is no danger from hemorrhage, very little pain, quick recovery and an absolute cure. The ordinary preparatory and after-treatment is employed.

40. Tuberculous Fistula.—Monroe describes the different symptoms of tubercular from other fistulas. They are a general run-down condition in the tubercular variety, with a cough, and he finds as a rule the anus surrounded with long, silky hair, which always leads him to suspect tuberculosis. The anus also appears to be depressed and drawn inward. In tubercular fistula the external opening is large and ragged, differing in this from the ordinary type. The pain is slight as compared with the ordinary fistula. The discharge as a rule is profuse, but much thinner and watery. He advises operation in tubercular fistula; it is easy on account of the lack of pain, but if an anesthetic is used, chloroform is advisable as not irritating the air passages. There is usually little hemorrhage. In place of curetting he is in the habit of using carbolic acid 1 to 4 of water, swabbed over the ulcer and rent surfaces, and then he packs lightly with borated gauze. The usual treatment of fresh air, sunlight, etc., is

advisable in the after-management of these cases, and outdoor life is to be recommended to patients of this class.

51. Suprarenal Gland and Peritonsillar Abscess.—Somers recommends the use of suprarenal gland in 5-grain tablets, fairly chewed and held as far back in the pharynx as possible as a remedy for embarrassment of respiration, etc., in peritonsillar abscess. He prefers this method to a spray, and reports cases. When the pus is superficial it may discharge itself under this treatment, but when it is deep, operation, of course, will be required. In this case, however, the use of the drug is good, as it reduces the excessive swelling and enables the surgeon to get at the spot more safely and easily.

63. Rabies in Germany.—The results of the Pasteur preventive treatment in German are reviewed by Ruhrah, and he finds that in Prussia, while there is a definite increase in the disease in animals, with consequent increase in the number of people bitten, the mortality percentage has been distinctly lowered by the Pasteur method. In the untreated cases during 1899 the deaths amounted to 6.9 per cent., while in the treated cases, even including two doubtful ones, it was only 0.52 of 1 per cent.

71. Urine in Life Assurance.—Kauffman sums up as regards albuminuria, that Bright's disease nearly always is accompanied with albuminuria, but that we should not always hold that albuminuria means Bright's disease. The examination for renal casts is most important, and should never be omitted unless other evidences of Bright's disease are absent. The so-called physiologic albuminurias are not to be lightly recommended for acceptance. As regards the finding of sugar in the urine, no case of glycosuria can be unhesitatingly recommended. Only in instances where it is due to known and temporary causes, such as when from laughing gas or some exceptional dietary error, should it be passed over.

72. Marriage and Life Insurance.—While marriage in both sexes tends to longevity, insurance companies are inclined not to take female risks, largely on account of the special perils of child-birth and also the moral risk. They claim that it is not the proper order of things for a married woman to provide benefits and insurance for others. She should be the recipient. French suggests these points and gives the practice of several insurance companies in regard to this question. The line is not drawn at marriage per se, but at some of the conditions which accompany it. Only one of the distinctions has any reference to longevity, and that relates to the child-bearing period. All the others deal mainly with the moral hazard, and are applicable only to women.

73. Death-Rate of the United States.—Cowgill's statistics show that the actuary records show the death-rate per 1000 of the population is lowest in the Northwestern states, including all of those states north of California and Colorado and east of Iowa and Minnesota. In the Northeastern division, which includes the New England states, New York and New Jersey, the death-rate is highest, being 20 per 1000 as compared with 8.26 for the former division. The next lowest to the Northwestern division is the North Central, which includes Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, Pennsylvania and Wisconsin, being 12.58 per 1000. In the Southeastern division, including the South Atlantic states, it is next highest, being 13.20, while the South Central, which includes the Gulf states, with Kentucky and Arkansas, it is 13.17; in the Southwestern division, including Colorado and Utah, as well as California, Nevada and New Mexico, it is 12.70. These differences indicate to him the impracticability of having one standard mortality table for the whole country where the localities and conditions so widely differ.

84. Morphin.—Our knowledge of the physiologic properties of morphin is fragmentary and unsatisfactory, and the importance of the subject has led Reichert to experiment on a number of dogs to study not only the general metabolism but the bearings upon toxicology. The calorimetric method was chosen. It is based on the fact that heat produced in any structure is proportionate to the degree of metabolic activity of that structure; therefore, the heat produced by the entire

organism during any given period is an index of the mean degree of the activity of metabolism in all the tissues. However, as each structure is largely independent in its chemical processes, this index can be applied as a standard to any organ only in conjunction with what special evidences exist regarding metabolism in that organ. Twelve experiments were performed. In each the heat processes were studied before giving the morphin and after. The results were decided and quite uniform, and heat production was decreased in every experiment, but its effects were decidedly more marked, as a rule, during the first two hours after morphin. The average decrease in the ten experiments in which the dose was .01 gram per kilo was 59.2 per cent. Heat dissipation was also decreased in every experiment and the average for the same experiments was 41.7 per cent. The amount of depression of heat production was about 20 per cent. greater than that of heat dissipation. The cause of the decrease of heat dissipation is chiefly due to compensating action of the thermolytic mechanism to conserve the body heat and to a direct depression of the circulation. The cause of the decrease of heat produced is theoretical, and the author concludes that the profound depression produced in the metabolism is not thoroughly shared by the metabolic processes concerned in internal secretion. The most important indication in morphin poisoning is not merely to administer specific excitants to the respiratory center, but to reach the cause of the depression and direct some measure to the processes concerned in internal secretion and repair. It is probable that most agents proven of value are so because of their action on these processes, though this has been hitherto unrecognized. Atropin, he claims, can not be held a reliable respiratory stimulant in morphin poisoning. There is very little evidence that it is to any marked degree a metabolic excitant. It is probable that it is almost a universal depressant, and its reputed value in opium poisoning is due largely to circulatory and cerebral excitation, coupled at times with a more or less important increase of the rate or depth, or both, of the respiratory movement. Caffein, besides its value as a direct respiratory, cardiac and psychic stimulant, is probably of indirect value by affecting internal secretion through the nervous, muscular and secretory structures. It increases body temperature by increasing heat production, and in some obscure way affects general nutrition, lessening the quantity of urea formed, facilitating assimilation, furthering chemical processes in the muscles. Strychnin did not particularly seem a valuable antidote, but aside from its direct action on the respiratory center it may be of value because of its tonic powers on trophic and allied centers. That it affects internal secretion is shown by stimulation of the salivary glands and increase of heat production and effect on the nutritive processes generally. Cocain is one of the most powerful respiratory stimulants and very general and potent metabolic stimulant. The other agencies mentioned are faradization, cold douches, prolonged hot baths, etc.

97.—See abstract in THE JOURNAL of April 13, p. 1062.

98. Clay Dressings.—Wallis has for six years employed wet clay as a dressing in skin diseases. It has the mechanical property of holding water, thereby assisting osmosis, and he attributes to it also certain therapeutic effects from the mineral salts contained. It is preferable to sterilize it by baking in the oven for several hours before using. He applies it in the form of paste under several layers of gauze, which must be kept constantly wet by covering with a wet towel several times a day. Clay dressing should be removed every forty-eight hours. The most forms of inflammatory skin diseases do well under this treatment; he notices especially the rapidity of healing in ulceration. It admits of many forms of modification and medication, and he suggests the use of bichlorid of mercury, phenol, boric acid, the soluble alkalies, and glycerin.

105. Diphtheria Antitoxin.—Sawyer has had within two years eight cases of laryngeal diphtheria all treated with antitoxin; three were *in extremis* and were intubated, and he thinks that if the one which died had been intubated he, too, would have lived. The nose and pharynx were also seriously involved. Five recovered without sequelæ; two, in whom the

administration was delayed, had some streptococcal poisoning; one had a certain amount of paralysis, and the other suffered with bronchitis and extreme cardiac weakness. He believes the value of antitoxin lies in the immediate arrest of formation of membrane, the healthy condition in which it leaves the mucosa, rapid convalescence and the absence of sequelæ. The largest dose he used was 5000 minims in a little girl 4 years old. In the other cases from 1000 to 3000 units were used.

106. Intubation in Diphtheria.—Kofron believes that one is justified in intubating when there is dyspnea with dry, stridulous, embarrassing, suffocating cough, or when the cough becomes suppressed; also when dyspnea is not relieved by previously administered antitoxin and whenever it is increasing in intensity; when the dyspnea is accompanied by an irregular, rapid, easily compressible pulse, or when the pulse becomes imperceptible; when restlessness is increasing, even if dyspnea is not alarming; if spasmodic attacks of dyspnea occur, and if cyanosis occurs. If we have a combination of these symptoms, the operation becomes imperative and no delay should be tolerated. He notices some of the opinions in regard to the comparative value of tracheotomy, and maintains that intubation has a great advantage over the latter in that there are usually few objections on the part of the parents to intubation, while there would be many to tracheotomy.

119. Gastric Cancer.—The methods of diagnosis of gastric cancer are noticed by MacFarlane. The general constitutional symptoms are not at all pathognomonic of malignant disease of the stomach, but are characteristic of cancerous growths anywhere. The local vary with the extent of the disease and the mechanical depend upon the position of the disease in the stomach. The loss of appetite and the absence of hydrochloric acid indicate catarrhal conditions of the stomach due to the growth and its toxins, but where the cancer is developed on the basis of an ulcer and is limited, hydrochloric acid is not usually absent. Lactic acid exists in the absence of free HCl and characteristic coffee-ground hemorrhage is diagnostic. The mechanical signs are the result of obstruction at the pylorus or cardia. The tumor, when it exists, of course, is important and its motility is diagnostic. Pain is rarely absent. Three symptoms are of special significance: the absence of hydrochloric acid, presence of lactic acid, and the occurrence of motor disturbances. The question arises, how can the general practitioner who sees the case at its very inception make a probable diagnosis of malignancy? He could easily determine disturbance of nutrition by finding food two hours after an Ewald test breakfast or six hours after a Riegel test meal. If the patient states that he has vomited food taken the day before, the passage of the stomach tube is not even necessary. This does not prove, of course, that the patient has cancer, but it does prove that one has to do with no simple indigestion or dyspepsia and that the case should be given a thorough examination.

120. Gastric Cancer.—The surgery of gastric cancer is considered by MacDonald, who thinks there is little justification for total extirpation and that the old rule of cutting one centimeter beyond all evidence of infiltration is not enough; that three centimeters should be the limit, and in the duodenum at least two centimeters from the most dependent portion of the growth. He uses and illustrates here the more recently devised clamps of Kocher, and points out their advantages. For two years he has employed the von Hacker method of attaching the jejunum to the posterior gastric wall with re-anastomosis between the duodenum and the jejunum; the results have been satisfactory. During the past year he employed it 8 times with 7 recoveries. He used the suture mostly for the gastric jejunal anastomosis, and for the secondary one the Murphy button. While the technique of the method is rather complicated, he thinks the whole operation can be done in forty minutes, including the closure of the abdomen. Its advantages are, freedom from contamination of the wound by the stomach contents, accessibility of the neighboring lymphatic nodes, no subsequent danger from suture

perforation, freedom from hemorrhage and saving of time. There is no embarrassment from the amount of tissue removed, as no effort is made to bring the duodenum and the remainder of the stomach in apposition.

121. Gastric Secretion and Tuberculosis.—Twelve cases are reported by Neuman, pointing out the gastric disturbance which precedes the onset of tuberculosis. In five of the cases there were neither physical nor subjective symptoms of tuberculosis when first seen.

128. Cancer Distribution and Statistics.—Lyon's article is an analysis of the statistics of cancer from the original board of health data of the City of Buffalo for a period of twenty years, 1880 to 1899 inclusive. The results are tabulated and discussed at length and the principal facts and results summarized in substance as follows: 1. The mass distribution of cancer on the map shows a particular concentration in the German wards. No other relation than that of race can be demonstrated to exist between this area of concentration and local conditions. 2. That there is a real relation between this local concentration and race is further indicated by the race table, which shows that cancer is many times more frequent among the foreign born, and particularly the Germans, than the native born. This latter fact is also in accord with the census statistics for twenty-eight large cities. The cancer rate of foreigners in general in Buffalo was 4.59 times the rate of the native born, and the corresponding rate of Germans and Poles was still higher, 4.81. 3. The Germans and Poles are further distinguished by the high rate, 43.8 per cent., of involvement of the stomach, or 2.8 times the rate shown by the native born. Cancer of the stomach, therefore, was ten times more frequent in Germans and Poles than in the native born in Buffalo for equal numbers of each. These figures seem hard to explain on the embryonic theory, and tend to support the parasitic theory by assuming that the peculiar diet of the Germans is more liable to be contaminated with cancer parasites than the ordinary diet of other classes. Cancer of the uterus and breast in Germans and Poles is correspondingly low, being hardly one-half as frequent as in the native born. This seems to be a further argument for the parasitic as opposed to the embryonic theory, since the birth-rate and habit of nursing their children is greater amongst the Germans than Americans. 4. The ratio of males to females, the latter taken as 100, was 93 for the Germans and Poles and from 51 to 61 for all foreigners except Germans and Poles. The high German male rate is probably directly dependent on the frequency of gastric cancer and the infrequency of mammary and uterine cancer in the Germans. For all classes the ratio of males to females was found to have increased during the twenty years covered by the investigation. This rise was very slight for the native born. 5. An increase in general cancer rate from 32 to 53 per 100,000 of the population (65 per cent.) took place from 1880 to 1899. A similar increase has been shown in other countries, and is partly real, not entirely apparent. The rate of increase is shown to depend on changes in the proportion of foreign born, because the cancer rate is so much higher than in the native born.

130. Tibial Cysts.—The importance of diagnosis between benign cysts of the long bones and sarcoma is emphasized by Beck, but it is not very difficult to confuse the two diseases. Both are alike in their slow and painless onset, often following trauma, and gradual bulging of the area and their preference for youthful age. The fact that the contents of cysts are different from sarcoma would show that an exploratory incision would clear the question, but he has found the Roentgen rays decidedly useful in this diagnosis. In osteosarcoma the outline of the bones appears more or less abnormal or indifferent, some areas seeming translucent, while in osseous cysts the cortex appears thin and narrow, but well marked and regular. The fluid center of the bone is entirely translucent, adjacent epiphyses are normal. This regularity of the texture of the walls of the cavity in skiagraphs, seems to be the characteristic skiagraphic feature of the osseous cyst in contradistinction to the irregular texture of the osseous sarcoma. The vicinity

of the epiphyses is also in favor of cysts for histologic reasons. He reports two cases.

132. Nitrous Oxid and Oxygen Anesthesia.—The advantage of combined nitrous oxid and oxygen anesthesia are described by Goldan, who illustrates the apparatus and calls attention to points which he has noticed in administration: "1. The apparatus must be in perfect working order and always tested by the administrator himself. 2. A sufficient supply of both gases at hand. 3. Atmospheric air must be rigidly excluded. In patients with beards the nostrils may be closed; the mouth tube may be used instead of the face-piece or the beard thoroughly moistened with water. 4. The patient should be prepared as for any surgical anesthetic. 5. The gas-bags should never be fully inflated, but between one-half and two-thirds full. In this way the pressure of the gases is kept more nearly equal. 6. Oxygen should not be turned on immediately the administration begins, but sufficient nitrous oxid inhaled to replace the oxygen existing in the blood; three to six breaths will be sufficient. Oxygen should be admitted gradually and in quantity determined entirely by the patient's condition, remembering cyanosis calls for more oxygen; evidences of excitement and returning consciousness meaning that less oxygen is required. In using the gases in long narcosis the taps of especially the nitrous oxid cylinders are apt to freeze, owing to the transition of the gas from the liquid to the gaseous state, the cylinders becoming covered with frost; to avoid this a towel wrung out of boiling water should be placed about the tap, but not about the cylinder itself. The patient should always be placed upon the operating-table in the position in which the operation is to be performed; any position may be employed, providing it will not interfere with the anesthesia. The preferable postures, in my experience, have been the dorsal and Sims." The sensations from this kind of anesthesia are much the same as with gas alone, but the oppressive ones are usually absent. There is more or less sensory anesthesia while consciousness still lasts. Insensitive conjunctivæ and snoring respiration are signs of anesthesia in dental cases. The snoring should be permitted from three to five minutes before removing the mask, which gives a longer period for operation. The cyanosed condition seen in using gas alone is never observed with this. Consciousness returns immediately. The shock from this method is less than from ether and chloroform and after-symptoms are not especially troublesome. Headache may occur, and also nausea and vomiting, but rarely persistent. The method is more expensive than the others, which may be to some a disadvantage.

133. Croupous Pneumonia.—This article is a clinical study of 500 cases from the recent records of the Pennsylvania Hospital. Norris' analysis indicates a large increase in the admission of cases of pneumonia in the last two years, over two-thirds of the cases occurring in the last one-half of the period. Out of 500 cases, 125, or 25 per cent., died; 7 became phthisical. The mortality was highest among the Germans and lowest among the Russians, though the numbers are comparatively small. He attributes the lessened mortality among the Russian Jews to temperate habits in regard to alcohol. Of the cases known to have occurred in drunkards the mortality was 67 per cent. The greatest number of cases occurred in the earlier decades of life and among teamsters and others employed in outdoor occupation. The lower lobes were the most frequent seat of the lesion and the highest mortality was when both lower lobes were alike affected. The apical pneumonia occurred most frequently in the young. In the complicated cases the mortality was about 40 per cent.; in uncomplicated cases only about 10 per cent. The study illustrates the fact that the highly febrile cases are less dangerous than the slightly febrile ones, the former being an index of vital force. The greatest frequency of the disease was in the spring months, which agrees with other statistics. A chill occurred at the beginning in just one-half of the cases; 301 cases ended by crisis; 74 by lysis. Pseudoerisis was observed in 54 cases at varying periods from the 7th to 21st days. Previous attacks were known to have occurred in 57 cases. Both albumin and casts were present in nearly one-half of the cases. In fatal cases they were absent in a very small proportion. The complica-

tions were various, jaundice, typhoid fever, delirium tremens, and pleural effusion being the most important. The mortality was highest with jaundice and delirium tremens. Inequality of the pupils was found in only a very small proportion of cases and would seem to be rare. It is not infrequent in healthy persons. Norris does not seem to consider Sighicelli's observation as regards this point as being very much confirmed. Relapses occurred in only three cases. The treatment was expectant and symptomatic; a specific treatment has not yet been discovered.

134. Heart and Circulation in the Feeble-Minded.—In the study of the circulation of 72 cases of feeble-minded in the Pennsylvania school at Elwyn, Taylor and Pearce found a great number of varied cardio-vascular signs altogether out of proportion to mental defect, so much so as to warrant assuming vascular heart disease to be an important etiologic factor in continuing the downward course of imbeciles. They urge careful anthropometric studies and observations of somatic diseases other than those of the nervous system in these cases, and are impressed by the fact that many high-grade cases would be bettered by more attention being paid to the heart and circulation. A careful study of the blood and excretions will be a valuable aid. The action of certain alkaloids needs study and experimentation. The use of specially directed regulated movements will greatly help these unfortunates. They urge also that over-exercise should be carefully avoided in their training.

FOREIGN.

The Lancet, May 25.

The Pathology and Diseases of the Thyroid Gland. WALTER EDMUNDS.—Edmunds' third lecture discusses chiefly the pathology of goiter and Graves' disease. As regards myxedema and cretinism he passes them with briefly saying that the working out of the nature and treatment of these diseases is one of the most brilliant advances in medicine. In cases where goiter is the only trouble, he thinks it well established that the administration of thyroid is the best treatment and mentions two cases cured by this method. Complete excision of the goiter formerly practiced is now abandoned, though partial excision is still practiced and sometimes causes a satisfactory diminution of the remaining portion. Under Graves' disease he includes all cases of goiter with symptoms not explained by pressure. The question whether the primary lesions is in the nervous system or in the thyroid is discussed and the theory of hypersecretion of the glands as the cause of the trouble is mentioned as supported by the marked contrast between this condition and myxedema. He, however, holds that it does not follow that the secretion is the same as in health. There is proportionately less colloid and in some cases no colloid at all in Graves' disease. The changes that are found are practically identical with those of compensatory hypertrophy as seen in animals after partial removal experiments. In fact, the resemblance leads to the conclusion that these changes are also compensatory in character; that they are secondary to some defect elsewhere in the system, possibly in the parathyroid, but there is no evidence either way. The treatment of exophthalmic goiter is briefly noticed, and the effects of thyroid administration, in some cases attended with benefit, often has made patients worse. Pregnancy is said to benefit it, but the disease sometimes originates in pregnancy. Operative methods have been employed. They are mainly three: operation on the cervical sympathetics; operation for diminishing the blood supply by ligating some of the supplying arteries, and operation for the removal of portions of the goiter. The first of these is based on the idea that these nerves are the starting point of the disease, but Edmunds thinks the probability is that if the nervous system is the starting point the fault lies rather with the cerebrospinal system and not with the sympathetic. Still the latter may be involved in some of the symptoms, the exophthalmus for example. Tremors and mental excitement would be connected with cerebrospinal symptoms. The results of operation on the sympathetic are rather dubious; as Boissou says, they have no constancy, and are as much confused therapeutically as physiologically. The ligation of the arteries to the thyroid has been done with some success, but

the operation is one of some difficulty. The removal of portions of the gland has been combined in some cases with sudden death accountable for by no other cause and the chief theories in regard to this point are noticed. He thinks, however, notwithstanding this danger it need not turn us wholly from the operative treatment of the disease, and reports cases where decided benefit has followed. In two cases in his own experience there was great improvement. The lesson possibly to be learned from the fatal cases is not that operation should not be performed, but that they should be performed earlier.

Journal of Hygiene, January.

Pathogenic Microbes in Milk. E. KLEIN.—In an examination of 100 samples of milk collected and analyzed at the instance of the medical office of the London County Council, Klein obtained the following results: 1. Seven per cent. of the samples of "country" milk produced typical true tubercle in the guinea-pig. 2. Eight per cent. of the samples of "country" milk produced typical pseudo-tuberculosis (non-acid fast bacillus of pseudo-tuberculosis A. Pfeiffer). 3. One per cent. of milk samples produced diphtheria in the guinea-pig, yielding the typical true *B. diphtheriae*. 4. One per cent. of milk samples caused a chronic disease (in most cases with fatal results) due to a pathogenic torula apparently differing in cultural and physiologic characteristics from the torula (pathogenic blastomycetes) obtained by Sanfelice, Plimmer and others from human cancer. 5. Out of the secretions of the cow's udder two pyogenic microbes were obtained: *B. diphtherioides* and *streptococcus radiatus* (pyogenes).

Artificial Modifications of Toxins with Special Reference to Immunity. JAMES RITCHIE.—The general conclusions of Ritchie's article in regard to this subject are as follows: 1. Tetanus toxin under the influence of hydrochloric acid loses with comparative readiness its virulently poisonous properties. It does not, however, so readily lose its capacities of producing immunity, and when all trace of toxicity has disappeared the capacity of producing immunity still remains. The less poisonous substances produced in the modified toxin are probably of the nature of toxoids. 2. Tetanus toxin is also susceptible to the action of alkalies such as sodium hydrate and sodium carbonate, under which it again loses its toxicity. 3. Ricin is very resistant to the action of hydrochloric acid. There is evidence here also that when the toxicity is destroyed the capacity of producing immunity also remains. 4. Abrin is also resistant to the action of hydrochloric acid, but it is relatively susceptible to that of sodium hydrate. 5. Diphtheria toxin is very resistant to the action of hydrochloric acid, but it is relatively susceptible to the action of sodium hydrate. In the case of toxin which through the latter agent has had its toxicity destroyed there still remains evidence of the capacity of producing immunity.

Annales de Dermatologie (Paris), April.

Potassium Permanganate in Lupus. HALLOPEAU.—Four patients were treated with potassium permanganate applied as a dry powder or in a 2 per cent. solution. The lupus was rapidly improved and the lesions healed. Hallopeau believes that besides the caustic action, the permanganate has also something of a specific effect on lupus. He suggests that it might be advisable as a preliminary measure to phototherapy, but Finsen has stated that phototherapy has much better chances of success when the lupus has not been treated before with other measures. Leredde believes that the better the results from the treatments which merely "improve" without effecting a radical cure, the more dangerous for the patient, as in the case of carcinoma.

New Chemico-Electric Treatment of Lupus. DANLOS.—For three years Danlos has been experimenting to derive electricity for the treatment of lupus directly from chemical action. He finally succeeded in producing what he sought by a combination of a saturated solution of copper sulphate and pulverized zinc. The zinc is stirred into the copper fluid until the color changes. The result is a limpid fluid—a solution of zinc sulphate—and a black sediment consisting of zinc and copper. This sediment is washed clean and is the substance applied to

the lupus in the form of a salve, with a compressing bandage above, until the lupus is destroyed. The sound skin is not affected by the electro-chemical action of the metals and after the lupus is eaten out, cicatrization proceeds normally under the salve. Usually the application does not cause pain, but if there is much ulceration there may be severe pain and tumefaction. He has applied this method of treatment to twenty patients with most satisfactory results in every case of tubercular lupus. He considers it almost the equal of Finsen's phototherapy and a good substitute therefor when circumstances render the latter impossible. When the lupus affects the natural orifices phototherapy is the only resource, but on extensive, flat surfaces Danlos' method will be found much more rapid and fully as effective, and it is within the reach of every practitioner. The curette and a concentrated solution of zinc chlorid are preferable, perhaps, for very extensive, deep lesions, unless the patients shrink from the curette, as often happens.

Simplified Finsen Apparatus for Phototherapy. GASTOU. Two professors at Lyons, Lortet and Genoud, have devised an apparatus to take the place of Finsen's complicated electric light arrangement for the treatment of lupus. They first spent weeks at Copenhagen studying Finsen's plant, and by approaching the source of the electric light to within two or three centimeters of the radiator and suppressing other mechanism, they have succeeded in producing an apparatus which generates the active rays as effectively as Finsen's while it requires no more than the ordinary electric light power and has a much larger photochemical zone of action. Leredde reports after six months of constant experience with this new apparatus, that it is a revolution in the treatment of cutaneous affections by the chemical rays, as it brings phototherapy within the reach of every physician who has access to an electric light service. Ten to 12 amperes are ample, while Finsen uses 60 to 80. The time of exposure is fifteen minutes instead of the hour required by Finsen, and four patients can be treated at the same time. As the surface exposed can be much larger, the number of applications can be correspondingly reduced. The apparatus consists of an arc lamp of 10 to 12 amperes, a compressor of rock crystal and an interposed vessel, in both of which there is a double circulation of water. A sheet of tin is placed between the two latter, in which an aperture is cut exactly the size and shape of the lesion to be treated.

Annales d. Mal. d. Org. Gen.-Urin. (Paris), April.

Preservation of Genital Function After Resection of the Epididymis. SCADUTO.—After resection of the epididymis is it possible to restore the function of generation by establishing a new route for the spermatozooids? Scaduto replies in the affirmative to this question as the result of successful experimentation on dogs. He found that an anatomic and functional anastomosis between the vas deferens and the mediastinum of the testis could be readily accomplished, thus re-establishing the route destroyed by resection of the epididymis. His experiments on large dogs were more successful as the size and shape of the testicles resembled more the human organ. The result in one dog was a complete success, spermatogenesis continued normal and the new canal allowed the passage of the spermatozooids. Some of the other dogs escaped and in others the new canal was not entirely permeable. The conditions are much more favorable for the operation in man, he observes in conclusion.

Calculi in the Prostate. C. PASTEAU.—Urinary calculi are frequently found in the prostate and may develop in the prostatic portion of the urethra or its diverticula, or find their way from the upper urinary passages. There is another variety of calculi which develop in the prostate itself, true prostatic calculi, which owe their existence to some attenuated infection of the gland. Ten specimens are illustrated.

Oxycyanid of Mercury in the Urethra and Bladder. F. L. GENOUVILLE.—With the sole exception of the abortive treatment of gonorrhea, the oxycyanid of mercury is at least fully as effective as potassium permanganate in treating gonorrheal affections, and is decidedly superior to it in the tolerance displayed by patients. It is not a specific for gonorrhea, but is

more effective than other drugs and deserves more general appreciation. A 1 per 1000 solution is the average strength, but 1 per 500 is useful in certain cases.

Bulletin de l'Acad. de Med. de Paris, May 14.

Musical Sensations in Surgical Anesthesia. J. V. LABORDE.—A Paris dentist, Drossner, called Laborde's attention to the fact that as his patients succumbed to the influence of an anesthetic he had noticed that the hallucinations were invariably connected with the sounds from the street below. The auditory sensations seem intimately connected with the anesthetic sleep, and the idea occurred to him to substitute for the discordant, terrifying sounds of the street, harmonious, musical sounds. He arranged a musical phonograph with a receiver for each ear. As the patient took his seat the receivers were placed in his ears and the nitrogen gas administered while he could hear nothing but the music from the phonograph. The operation terminated, the patient rouses himself with none of the hallucinations from the street noises, but calm and cheerful as before, and says that he has heard and felt nothing except the music. Patients return for a second operation, if necessary, with none of their previous apprehensions, declaring that they have nothing but an agreeable musical memory of the previous operation.

Bulletin Medical, Paris, April 13.

Renal Insufficiency in the Aged Revealed by the Respiration. MEYER.—When an elderly person is being palpated and examined generally, the respiration is more or less voluntary and normally regular. But when he is at rest, if the sphygmograph is applied and the respiration becomes automatic, the tracings frequently reveal an unsuspected tendency to an attenuated Cheyne-Stokes character. Incipient renal insufficiency can thus be determined and impending symptoms averted.

Bulletin de la Soc. Med. des Hop. de Paris, May 16.

Epidural Analgesia in Treatment of Visceral and Intercostal Pain. WIDAL.—Sicard's announcement in regard to the value of epidural cocaineization as a means of curing the pain of sciatica, lumbago, etc., has been fully confirmed by Widal's experience. The pain is arrested at once and usually permanently. In a few cases the pains recurred after a few hours, but always much less severe. The intense pain in the stomach accompanying an ulcer, with violent exacerbations following the ingestion of even one swallow of milk, was completely cured in one case in ten minutes. The patient could rise, eat and attend to her duties, free from pain. This analgesia has persisted six days to date. A single injection of 2 cg. of cocaine in another case in which the patient had been a victim of severe sciatica without respite from the pains for six months, resulted in the immediate banishing of the pain. The cocaine is injected into the epidural space, external to the meninges, inserting the needle through the sacrococcygeal ligament, between the two small knobs of the apex of the sacrum. The injection is simple and harmless. The analgesia induced is not sufficient for surgical intervention but proves ample for therapeutic purposes.

Progres Medical (Paris), May 11.

Hydrosulphuric Acid in Smallpox. NOKOWSKI.—Several cases are described to demonstrate the benefits of rectal injection of an aqueous solution of hydrosulphuric acid in smallpox. The dose varies from 10 mg. to 10 cg., according to age. In forty to fifty cases the complete development of the pustules and suppuration occurred the third or fourth day and the scabs dropped off the eighth to the tenth. Some of the patients were cured on an average of five days, with large doses. The most serious case was treated with four injections a day for five days and was cured in eight. The acid transforms aerobic into anaerobic micro-organisms, which alters them in various ways and apparently renders them harmless. It is interesting, Nokowski adds, to see how the eruption spares the abdomen and neighboring regions after these injections are made, as if a local protection were thrown around this zone.

Revue Mens. des Mal. de l'Enfance (Paris), May.

Diagnostic Value of Leucocytosis in Measles. RENAUD.

—A hyperleucocytosis commences with the infection, and attains its maximum eight to nine days before the exanthem appears, that is, four to five days before the contagious period. If the leucocytosis is found normal a supposed contagion is a mistake. The diagnosis is correct if the number of leucocytes is found increased with no other plausible reason for the increase. In one observation, for example, the leucocytes were 16,200 more than the normal number, and of these 13268 were polynuclears.

Pathogenesis of Night Terrors. J. G. REY.—The cause of the so-called night terrors is always some obstacle to respiration and hematosiis, either direct or reflex. Both are due to slow, protracted intoxication with carbon dioxide.

Berliner Klinische Wochenschrift, March 25.

Treatment of Varicose Phlebitis. KAREWSKI.—A small incision at the fossa ovalis exposes the saphena vein, which is divided between two ligatures. The vein is then isolated downward and detached from its bed in the subcutaneous fat. Another incision is then made 20 cm. lower down and the vein is again divided between two ligatures, when the entire trunk between these incisions can be pulled out. The side branches bleed as this is done, but this bleeding is always easily checked by brief compression. A third incision at the knee allows more of the vein trunk to be resected if necessary. After this, the varices are extirpated in turn. By this technique a long wound is avoided and scar formation is reduced to the minimum. It is peculiarly adapted to fresh varicose phlebitis. Six patients thus treated were restored to their occupations in a surprisingly brief time.

April 1.

Prognosis of Brain Disease in Childhood. H. OPPENHEIM.—Six years ago Oppenheim described a cerebral affection in children—acute hemorrhagic encephalitis—which usually terminates in complete recovery. He now describes another affection, the symptoms of which simulate a tumor in the motor zone, and yet it can be considered curable, the patient rapidly recovers under iodine, bromide or other measures. The same symptoms in an adult would suggest a syphilitic neoplasm or syphilitic meningo-encephalitis: the Jacksonian epilepsy, monoplegia, motor aphasia, headache, vomiting, slightly retarded pulse and disturbances in sensibility, with the protracted course and the absence of fever. There were no syphilitic antecedents in any of the six cases he describes, and all recovered with no recurrence during the five to six years since. A tendency to local spasms persisted in one patient for a time, but this, too, finally disappeared. He is inclined to consider the affection a tubercular meningo-encephalitis—the “meningite en plaque tuberculeuse” studied by Chantemesse on adults who had died from general tuberculosis or other diseases, that is, only in its severer, fatal and complicated forms, never in children. He found it always limited to the vicinity of the fissure of Rolando. Oppenheim's six little patients, therefore, must have had and recovered from either a hitherto undescribed, chronic, non-suppurative encephalitis, or some yet unknown brain affection, exhibiting the symptoms of a cerebral tumor in the motor zone, or else this “meningite en plaque tuberculeuse.”

April 22.

The Freezing Point of the Blood in Diagnosis. A. VON KORANYI.—When the kidneys are working normally the freezing-point of the blood varies between 0.56 and 0.58 C. If the freezing-point is at 0.59 it is evidence of renal insufficiency, that is, of a disturbance in the functions of both kidneys, in the absence of acetoneuria and of interference with the respiration. The disturbances in the renal function may be of reflex origin, caused by pain in one kidney, while the other may be sound. There is also a mechanical renal insufficiency, due to compression of a kidney by a tumor anywhere in the abdominal cavity. Both the reflex and the mechanical forms of renal insufficiency must be excluded, of course, before assuming the existence of a bilateral kidney affection from the variation in the freezing-point of the blood. Other writers claim that the normal range of the freezing-point is from 0.56 to 0.60, but Koranyi shows that their results are erroneous, owing to their

failure to eliminate all the carbon dioxide in the blood, which is an indispensable preliminary to determining the freezing-point for diagnostic purposes. It is easily accomplished by shaking it up with oxygen or even with ordinary air. The oxygen is more effectual. The freezing-point of the blood is normal or subnormal in typhoid fever in the absence of renal complications, and when the increased amounts of carbon dioxide in case of severe bronchitis are removed. It is impossible to determine the freezing-point with accuracy with less than 10 to 15 c.c. of blood. It is unnecessary to separate the serum, as the freezing-point of the blood and the serum is the same. Beckmann's apparatus is the only one to use and the directions accompanying it should be scrupulously followed. Fifteen minutes are ample for the test and even with an error of .01 it is sufficiently accurate for all practical purposes. (See THE JOURNAL, p. 475.)

May 6.

Alkaline Treatment of Pernicious Anemia. T. RUMPF.—Comparative investigation of the blood in a number of cases of pernicious anemia, other affections and in health, demonstrated that in pernicious anemia the blood contains an exceptional amount of water and chlorine, while it is very deficient in potassium and iron. If pernicious anemia is due to an excessive destruction of blood corpuscles and a relative insufficiency of the blood-forming organs, as some maintain, it is possible that the resulting toxic substances in the blood may have an affinity for the potassium found normally in the corpuscles. As the potassium is attracted out of the corpuscles by this affinity, destruction of the corpuscles may be the direct result. The same affinity may also draw out the potassium from other portions of the body and prevent its assimilation, and certain clinical facts sustain this hypothesis. The inference follows that the administration of potassium might arrest or favorably influence the course of this disease. Rumpf, reasoning from these premises, applied this treatment in four cases of progressive pernicious anemia, and reports that each patient was improved to the point of actual recovery in consequence. His formula was: potassium bicarbonate and ferratin, each .5 gm. a day, or a combination of quinin hydrochlorate .2, ferratin .5 and potassium tartrate and potassium citrate, each .75. In four other more advanced cases the anemia progressed to a fatal termination unchecked. It is therefore not a specific, but the results attained certainly justify further attempts in the treatment of pernicious anemia with easily assimilated potassium.

Dermatologisches Centralblatt (Berlin), May.

Success of Refrigeration in Treatment of Ulcus Molle. F. V. POOR.—Spraying the ulcer with methyl ethyl or ethyl chlorid—kelene—proved the most effective means of curing ulcus molle in Poor's experience. He states that twenty-five cases thus treated healed like an aseptic wound in ten to twelve days with an entire absence of complications of any kind. He applies the spray for one to one-and-a-half minutes a day until the suppuration ceases and then heals the lesion with the usual antiseptics, iodoform, dermatol or airol. He concludes that the brief, repeated refrigeration of the tissues has a destructive action on certain bacilli, especially Ducrey's, or at least checks their development by the hyperemia produced. The cure is much more rapid and complications are prevented by this method of treatment.

Zeitschrift f. Hygiene u. Infect. (Leipzig), April.

Diphtheria Bacilli in Convalescents. H. PRIP.—Careful search was made for the bacilli in 100 convalescents from diphtheria who returned every week for months after their dismissal. In 25 per cent. the bacilli vanished before the false membranes. The bacilli were found in 60 of the convalescents: in 3 after twenty-two, eleven and eight months; in 2 after five months; in 5 after four; in 6 after three and in 11 after two months. A large number failed to return after the second month. In 18 convalescents the bacilli reappeared after an absence of one to three weeks and then vanished again. In 5 the bacilli suddenly made their appearance in the nose and persisted one to four weeks before they finally vanished. The nose had not been involved in the diphtheritic process in any of

these cases. In one case complicated by otitis media, virulent bacilli were found seventy-three days after the membranes had disappeared. None of the patient's numerous children contracted the disease. In three instances infection of other members of the family followed the return of the convalescent. The dismissal occurred after two culture tests had resulted negatively on two consecutive days. Prip asserts that no patient should be declared free from bacilli until after months of examination of all the cavities communicating with the throat.

Zeitschrift f. Heilkunde (Vienna), March.

Auto-Enteroplastic Surgery.—TRNKA.—The skin is the best substitute for the mucous coat and walls of the intestines, as has been long established. The only flap that ensures absolute solidity to the resistance of the abdominal pressure is a bridge flap containing muscle. Trnka operated on a young man, according to these principles, closing a large ragged defect near the iliac fossa, resulting from a typhlitic perforation. He first cut a slightly curved bridge flap above it, including a portion of the rectus muscle. The inner edge was sutured to the edges of the intestine and the flap isolated in silk for two weeks. A semicircular flap was then cut below the primary defect, with which its base was parallel. This flap was then turned over and drawn through beneath the bridge flap. The defect was thus closed with a skin flap, held in place and reinforced by a strong bridge flap, and the results have demonstrated the great solidity and permanence of the plastic operation.

Zeitschrift f. Klinische Med. (Berlin), xxiii, 5 and 6.

Laceration of Cardiac Valve by External Violence. F. STRASSMANN.—The aorta is involved in two-thirds of the rare cases of traumatic laceration of a valve. Symptoms may appear at once, or months or years may intervene. The physical signs are the same as for a spontaneous valvular affection but the murmur is frequently longer, stronger and has a peculiar tone. There is no compensation in these cases and death usually follows in one to three years, but 2 instances have been known of survival for ten, 1 for eleven and 1 for fifteen years, and there are a few cases of complete recovery on record. In Strassmann's case a robust man was kicked in the ribs by a horse. Two were fractured; the aorta and one of its valves were torn and a chronic pericarditis developed.

Bactericidal Action of Bile. S. TALMA.—This article asserts as the conclusion of much research, that the bile contains a substance which checks the development of most of the colon, typhoid and diphtheria bacilli. The susceptibility of different bacteria varies and their virulence is not synonymous with the power of producing infection in the biliary passages. The bactericidal power of the bile varies at different times and with different animals. The epithelium of the biliary passages and the liver cells offer a powerful resistance to the invasion of micro-organisms, especially to diphtheria bacilli.

Acute Articular Rheumatism and Trauma. R. BERNSTEIN.—The connection is evident between a traumatism and the development of acute articular rheumatism in the seven cases described. An infected wound in a joint may cause pyemia, but articular rheumatism was never known to result from such an injury. Pyemia may likewise follow a skin wound, and exceptionally, articular rheumatism may result. Subcutaneous injuries are very rarely followed by pyemia while they have frequently been noted in the immediate antecedents of acute articular rheumatism. The incubation is comparatively brief and the trauma can not be incriminated if more than two weeks elapse before the appearance of the articular rheumatism.

Grece Medica (Syra), April.

Pathogenesis and Treatment of Albuminuria. KELADITIS.—Two factors co-operate in the production of every albuminuria: 1, the antitoxic insufficiency of the liver, and 2, the irritating action on the kidneys of the exogenous organic and microbial poisons eliminated without having undergone any preliminary transformation in the liver. Whenever from any cause the antitoxic function of the liver is diminished or the amount of toxins is too large for it to manage, then there is hepatic insufficiency, and the untransformed toxins, as they

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Addresses.

THE CAUSE OF DIFFUSE PERITONITIS COMPLICATING APPENDICITIS AND ITS PREVENTION.

CHAIRMAN'S ADDRESS, DELIVERED BEFORE THE SECTION ON
SURGERY AND ANATOMY, AT THE FIFTY-SECOND ANNUAL
MEETING OF THE A. M. A., AT ST. PAUL,
MINN., JUNE 4-7, 1901.

A. J. OCHSNER, M. D.
CHICAGO.

Every surgeon who treats patients suffering from acute appendicitis must be impressed with the fact that an unfavorable outcome in any given case means that the infection which was originally confined to the small space occupied by the vermiform appendix itself has first invaded the tissues immediately surrounding this organ and has then been distributed over the entire peritoneal cavity. In other words, in fatal cases the patient practically always dies as the result of a diffuse peritonitis.

Other conditions may arise which may result in a fatal issue. There may be a septic thrombosis of the vessels in the vicinity of the appendix or an empyema, or even pyemia, but by far the greatest number of deaths occurs from diffuse peritonitis, and if it is possible to prevent this, the mortality from appendicitis must at once fall enormously. In order to plan a means for the prevention of this condition, it is well to study the progress of the disease from its onset.

There is danger of the occurrence of diffuse peritonitis in the following classes of cases: 1, in gangrenous appendicitis; 2, in perforative appendicitis; 3, in cases in which the cecal end of the lumen of the appendix is closed and the distal portion so thoroughly distended with septic material as to make its walls permeable to micro-organisms; 4, in the very rare cases in which there are small abscesses in the walls of the appendix not directly connected with its lumen, and 5, in cases in which there is a septic thrombosis of some of the vessels, but not sufficient to cause gangrene.

The first, second and third conditions are so common that every surgeon who operates frequently during the acute attack has seen them many times.

Were it possible to keep the septic material in these cases within the circumscribed area in which it occurs primarily, it is plain that the condition would remain comparatively harmless.

ANATOMICAL CONDITIONS INVOLVED.

The appendix is virtually surrounded on all sides excepting in the direction of the median line by relatively fixed tissues. Above we find the lower end of the cecum and the cecal end of the ileum; to the right and in front is the parietal peritoneum; behind the peritoneum

covering the iliacus muscle, and toward the median line it is surrounded by loops of small intestines. Moreover, the omentum extends far beyond its lower end.

It is true that the appendix may be displaced downward, but in this case it will again be surrounded by fixed tissues which seem especially adapted to dispose of septic material. Again in this case there is an enteroposis affecting the cecum, and always with this a marked lowering of the transverse colon and stomach and with these the omentum.

Thus we see that the natural anatomical arrangement for the protection of the general peritoneal cavity is extremely efficient. There is but one weak point in the anatomical provision for this protection, namely, in the direction of the median line, because the great mobility of the small intestines naturally favors the distribution of septic material to all parts of the peritoneal cavity.

If we can prevent the small intestines from doing harm in this direction, we will have accomplished our end, theoretically at least.

At this point I wish to direct your attention to another important anatomical condition. The blood supply of the omentum is so enormous that it will readily dispose of a very severe infection by walling off the surrounding structures if it is permitted to give its physiological attention to a single area.

It is a well-known fact which every one who frequently operates during the acute attack of appendicitis has had many opportunities to observe, that the omentum crowds itself about any inflammatory or traumatic lesion within the peritoneal cavity the moment the latter occurs, and if left undisturbed, a few hours will suffice to cause efficient protective adhesions.

These adhesions become stronger every hour and the blood supply in the omentum becomes greater, so that if no disturbance arises one can reasonably expect efficient protection to the general peritoneal cavity from the omentum.

Another important fact must not be lost sight of in this connection. The fact that the surrounding structures are relatively fixed in position favors the condition of rest of the inflamed part and permits the omentum to act after the manner of a splint applied to an inflamed joint. The value of rest as a preventive to the extension of an infection in any part of the body can not be overestimated. Consequently if it is possible for us to secure this condition of rest we have gained another important point in the right direction.

In case the appendix is displaced upwards its position is even more favorable, because the available amount of omentum is thus increased. Again, if the appendix is retrocecal in its position, which is very frequently the case, the infection of the general peritoneal cavity is more easily prevented than when in its normal location. If anteriorly misplaced, it is likely to be fastened to the anterior abdominal wall by the adherent omentum.

PERISTALTIC MOTION OF THE SMALL INTESTINES.

It is plain, then, that the infection of the general peritoneal cavity must occur from a disturbance on the part of the small intestines, and must be due to their peristaltic motion.

It is significant that in almost all cases of severe acute appendicitis the obstruction to the passage of gas and intestinal contents through the ileo-cecal valve is one of the early symptoms. Nature is trying to prevent this very dangerous disturbance by closure of the ileo-cecal valve. We have a condition corresponding to the contraction of the muscles surrounding an inflamed joint, to the closure of the eyelids in conjunctivitis, etc. Moreover, the muscles overlying the appendix become tense. Everything tends toward the establishment of conditions of rest in the vicinity of the inflamed organ.

THE EFFECT OF THE INTRODUCTION OF ANY KIND OF FOOD OR CATHARTIC INTO THE STOMACH.

It is a fact which has been demonstrated a great number of times that peristalsis does not occur unless food or cathartics are introduced into the stomach. If the attack occurs shortly after a meal and before all of the food has passed through the ileo-cecal valve, its presence may cause peristaltic motion in the small intestines. Upon reaching the ileo-cecal valve the latter may prevent its passage into the cecum, causing return peristalsis, and the intestinal contents are forced back into the stomach, whence it may be expelled by vomiting or be again forced into the small intestine, giving rise to further peristaltic motion. Moreover, it will give rise to the formation of gas, which must cause disturbance and pain in its attempt to pass the ileo-cecal valve.

This motion, it is plain, will be harmful primarily from the fact that it gives rise to pain by disturbing the sensitive inflamed tissues; and secondarily from its likelihood of carrying infectious material with which it has come in contact in the vicinity of the inflamed appendix to other parts of the peritoneal cavity.

Besides this the physiological attention of the omentum can now no longer be directed to the single area of infection, because other parts of the peritoneal cavity require its protection, and such portions of the omentum as are not yet thoroughly adherent about the inflamed appendix are likely to be diverted from this point.

Theoretically, then, the disturbance which is to be feared to so great an extent is caused by the presence of food or cathartics in the stomach, and its logical remedy would be to absolutely prevent the introduction of any form of food or cathartics into the stomach and the removal by gastric lavage of any portion of food which may be retained in the stomach at the beginning of the attack. It may be necessary to perform gastric lavage twice or at most three times in order to entirely remove remnants of food which may have regurgitated into the stomach from the small intestines by reason of return peristalsis.

That this is not only true theoretically, but also in practice, I have demonstrated in a large number of cases; and many other surgeons who have followed the same plan of treatment have informed me of the fact that their experience has agreed with mine.

It is true that a few surgeons have reported failures with this method, but an investigation of their treatment in each instance has shown that they disregarded one of the three cardinal points in the treatment. They either gave just a little liquid food by mouth, or they gave some form of cathartics, or disturbed the rest of

the intestines by giving large enemata, or they neglected removing the stomach contents by gastric lavage.

Of course, the slightest amount of food is sufficient to start peristaltic motion of the small intestines, and the same is true of cathartics, and consequently if either of these features in the treatment is omitted one can not hope for the same results.

It does not matter what form of appendicitis may be present in any given case it seems clear that this form of treatment must be useful, because in the milder cases it will result in rest of the affected part, and consequent rapid resolution; while in the severe cases it will guard against mechanical distribution of infectious material, and in all cases it reduces the tendency to meteorism and stops the pain.

There is, however, one class of patients in which I have found this treatment of the greatest value. I refer to the class in which the appendix is gangrenous or perforated and in which there is already a beginning general peritonitis. These patients give the impression of being extremely ill. There is complete obstruction to the passage of gas or feces. There is nausea or vomiting and marked meteorism; the pulse is small and quick; usually there is high fever, but the temperature may be subnormal; respiration is rapid, and the abdominal muscles overlying the appendix are tense. The patient is in a condition in which I formerly operated at once, day or night, as a last resort, only to find that it was too late in more than one-third of the number of cases, the mortality increasing with the time that had elapsed since the beginning of the attack. In this class of cases there is still a recovery of over 90 per cent. if the principles laid down above will be thoroughly applied.

If peristalsis is absolutely inhibited, as it can be, the infection will still become circumscribed and the pus can be evacuated with safety. Moreover, the condition I have just described is in itself the result of the administration of food and cathartics. Had these patients received neither food nor cathartics from the beginning of their attack, the condition would never have advanced to this dangerous point. This refers particularly to a class of cases which Richardson has so well described as being "too late for an early and too early for a late operation."

If the plan I have outlined above is carried out, the following changes are likely to occur: The nausea and vomiting will cease after one or two, or at most three, gastric irrigations. The meteorism and the pain will decrease greatly during the first twelve hours and will almost completely disappear in twenty-four hours. The pulse becomes slower and firmer and more regular, the breathing deeper and the patient's general appearance improves to an astonishing extent. If the temperature was high, it will go below 100 F. the first twenty-four hours, and in three days it will be practically normal. The abdominal muscles will become soft as soon as the stomach contents have been removed by gastric lavage.

Usually the improvement is so rapid that one is tempted to spoil everything by giving nourishment by mouth, because the patient's condition does not seem serious enough to warrant such severe measures.

That this form of treatment, which I have employed since 1892, at first only in selected cases, and later more and more generally, is really of great value is shown by clinical results. My mortality in cases of perforative or gangrenous appendicitis with beginning diffuse peritonitis is less than one-fourth as high as it was in the cases operated at once upon making the diagnosis, and even in advanced cases of diffuse peritonitis there has

been a marked decrease in the mortality in my experience.

It might be said that these cases were not due to perforative or gangrenous appendicitis, but that they were simply severe catarrhal cases, which are known to result favorably under any form of treatment. To this I would respond, that I have later removed the appendices in many of these cases and have almost invariably demonstrated the correctness of the diagnosis.

In my statistics I utilize only the cases which I have operated in the Augustana Hospital, because of these I have full and accurate records, while of those operated in other hospitals and in private homes my records are not accurate, because there the patients and assistants are not so completely under my control.

From Jan. 1, 1898, to May 1, 1901, I have operated in this hospital upon 565 appendicitis cases, which I have divided into three groups: 1, those who entered the hospital suffering from diffuse peritonitis; 2, those who entered the hospital suffering from gangrenous or perforative appendicitis, and 3, those who entered the hospital suffering from recurrent appendicitis in the interval between attacks or at the beginning of a recurrent attack when the infectious material was still confined to the appendix. Of the first class I treated 18 cases, with 10 deaths, 55.5 per cent. mortality; of the second class I operated 179 cases, with 9 deaths, 5 per cent. mortality; of the third class I operated 368 cases, with one death, 1/3 per cent. mortality. Total, 565 cases, with 20 deaths, 3.5 per cent. mortality.

These statistics contain all patients who entered the hospital suffering from appendicitis; even those who died few hours after admission. from general peritonitis, a

Of classes 2 and 3, all were operated, so there can be no doubt concerning the diagnosis. Of class 1 all but 4 were operated, and these were in an absolutely hopeless condition when they entered the hospital. I will state also that during this time no patient suffering from appendicitis was refused admission into the hospital.

Judging from the authorities upon this subject, our mortality of 55.5 per cent. in diffuse peritonitis is as low as that recorded by any of the authors whose statistics contain a considerable number of these cases, while some authors with less than half this number report as low as 20 per cent. mortality. Krogus has compiled the statistics of 58 authors whose combined mortality is a little over 70 per cent.

As compared with my own experience in former years, when all of these cases were treated surgically at once, my experience in this series of cases of diffuse peritonitis following appendicitis is quite encouraging.

It is in the second class, however, in which the greatest benefit from the treatment is found. In this class, according to most modern authorities, Murphy, Mynter, Porter, Lennander, Bull, and many others, there is a mortality of at least 20 per cent. This in my cases has been reduced to 5 per cent.; and had the treatment been instituted at the beginning of the attack, I am certain that the mortality could easily have been reduced to one-half of this. In class 3 there should have been no death. Many of these cases had been treated through their acute attack by the method I have described, before being sent to the hospital. But as not all of the cases I treated outside of the hospital came later to operation, it is not fair to utilize these in demonstrating the value of the method.

Again, I have treated a large number of cases through the acute attack of appendicitis with this method which have never been operated and which I have not included

in my statistics, because the correctness of the diagnosis could not be established by actually demonstrating the condition present in the appendix.

However, the fact that there was a mortality of less than one-third per cent. in so large a number of cases is significant. It shows the value of a method by which cases of acute appendicitis in whom an operation is bound to give a high mortality at best, can be changed to chronic appendicitis in which the mortality following operation is almost nothing.

It would require too much space to tabulate all the cases treated by this method, but in order to give a clear idea of the character of these cases I have appended the histories of the cases suffering from perforative or gangrenous appendicitis which were treated through the acute attack during the past four months in the Augustana Hospital by means of the method I have described, and in which the correctness of the diagnosis was subsequently demonstrated by removing the diseased appendix during the operation.

In the same time I have treated many cases of acute perforative or gangrenous appendicitis in consultation with other physicians in private houses, but as these diagnoses have not been proven by the removal of the diseased organs they cannot be included in this list, although they corresponded with those who were operated both as regards the outcome and the conditions present during the attack, and there can be no reasonable doubt regarding the diagnosis.

It is, of course, not possible to come to any definite conclusions from a collection of statistics, because there are so many differences which can not be balanced.

One hospital may be largely filled with patients from the lowest and least intelligent classes, which would indicate that the patients enter only after they are in an exceedingly serious condition. Another hospital may have a more intelligent class, and hence the cases are in a more favorable condition at the time of admission. Again, as an institution becomes known for the treatment of these cases, a larger number of relatively hopeless cases will be sent there, hence I believe it is practically impossible to draw fair conclusions from statistics, and one must depend largely upon personal experience.

Among these cases, No. 8896 is especially instructive, because it illustrates the danger of operating too early. The patient entered the hospital five days after the beginning of the attack. His condition was exceedingly grave, as indicated in the history. With an immediate operation I should have expected his death within thirty-six hours.

The diagnosis was made of gangreneous appendicitis. He was placed on exclusive rectal feeding. Within twenty-four hours his pain had entirely disappeared, his general appearance improved greatly, the meteorism subsided, his temperature fell 3 degrees, his pulse came down forty beats per minute, his abdominal wall became soft, and twenty-four hours later I began to doubt my diagnosis. At the end of the fourth day his condition had improved so much that, upon his request, I concluded to operate, because he was normal in every respect with the exception of a slight induration in the region of the appendix and pain upon deep pressure. It seemed to me as though the process must have stopped just short of a perforation. Had he been left without an operation there could be no doubt but what he would recover temporarily from his attack. It seemed perfectly safe to operate.

Upon opening the abdomen I found a perforated gan-

grenous appendix surrounded by a small abscess completely walled off by the omentum. I removed the appendix and the surrounding pus with great care and drained the cavity, expecting the patient to recover, but a diffuse peritonitis developed, from which he died five days later. This case impresses the lesson, that it is not wise to operate until the patient has fully recovered from the acute attack. Of course, he should be cautioned as regards his diet in order to prevent a recurrence, but I am confident that the mortality in my practice will be still smaller in the future, especially because I shall wait longer after the acute attack before removing the appendix.

The danger of rupture of a circumscribed abscess into the general peritoneal cavity has been the cause of great anxiety. My experience has led me to conclude that this practically never happens unless food or cathartics are given by mouth. In my entire experience it has happened but once, in a child 7 years old, which was brought to the hospital on the fifth day after the beginning of an attack of gangrenous appendicitis with beginning diffuse peritonitis. It had received food and cathartics constantly since the beginning of the attack, and although its condition seemed hopeless either with or without an operation, it improved slightly from day to day under exclusive rectal feeding, but never became well enough to make drainage of rather an extensive infection of the entire area between the umbilicus and pubis and right anterior superior spine of the ilium safe, and still, had I anticipated the likelihood of a rupture into the remaining portion of the peritoneal cavity, I should certainly have made the attempt with the hope of bringing about a recovery.

On the fifth day the abscess suddenly ruptured. I anesthetized the boy within half an hour, made a free incision, washed out the peritoneal cavity, drained freely, but the child died in six hours.

In this case gastric lavage had not been employed because the child was very nervous and we feared the effects of the fright.

I have frequently seen cases in which food and cathartics were given in whom this accident occurred.

Aside from the benefit to the patient of increased safety there are other advantages to be derived from this plan of treatment, which are well worth considering. Being able to operate during the quiescent state, drainage is not indicated, and consequently there is no likelihood of the occurrence of post-operative ventral hernia. With the reduction of the area of infection, the amount of peritoneal adhesions must necessarily be reduced. As a matter of experience, I can say that fecal fistulae almost never occur in cases treated by this method.

Of course, all these advantages, as well as the prevention of diffuse peritonitis, can be accomplished if the appendix is removed during the very beginning of the attack, before the infectious material has passed beyond the walls of the appendix, but unfortunately it is but very seldom that a patient enters the hands of a surgeon at so early a stage.

The following consecutive histories illustrate the class of cases in which the form of treatment is indicated and also the progress of these cases under this form of treatment. The number at the beginning of each history is for the purpose of identification in the Augustana Hospital records.

No. 8573.—Master Harold B., school boy, 7 years of age, operated on Jan. 9, 1901, gave the following history: He had whooping cough at 3 weeks of age, otherwise he had been well. Fifteen months ago patient was taken with headache,

vomiting, pyrexia 100 F., and pain in abdomen only on pressure in right inguinal region. Then perfectly well until six weeks ago, when patient was again taken with headache, vomiting, pyrexia and tenderness in right inguinal region. The abdomen was severely distended with gas. The attack was much more severe than the first one. Patient placed upon exclusive rectal alimentation for two weeks. Headache and vomiting left him in a day, but tenderness has persisted, and he has usually had slight evening rise of temperature of about 100 F.

Present Condition: Well developed, fairly well nourished, slightly anemic, temperature 99.4, pulse 90, regular and strong. Appetite good. bowels constipated, heart and lungs normal. Abdomen slightly distended, quite tympanitic, except lower portion of left inguinal region. At times tenderness at right inguinal region.

Treatment: McBurney's incision 6 cm. long. Appendix 7 inches long, curved on itself back behind to cecum, is adherent to posterior surface of cecum. Appendix is ulcerated to an extent approaching perforation, contains several concretions. The lymphatics in the mesentery are enlarged to size of army bean. Appendix crushed with strong forceps at cecal end. Stump inverted with silk purse-string suture. No drainage. Wound closed. Dry dressings. Straps. Patient recovered normally, leaving hospital Feb. 5, 1901.

No. 8582.—Master Jerome R., 8 years of age, operated on Jan. 28, 1901, gave the following history: Patient experienced the ordinary diseases of childhood. At the age of 1½ years he had peritonitis and was very ill for three weeks. On Jan. 1, 1901, he felt indisposed, having eaten an unusual amount of nuts the night before, and on the following morning he suffered from severe pain in the abdomen, accompanied with vomiting and diarrhea. The pain was paroxysmal in character, became located in the right inguinal region on the second day. The bowels became distended with gas, and after the first day there was complete obstruction to the passage of gas and feces. Vomiting persisted for five days, until patient absolutely refused to take food, when the vomiting ceased. Entered hospital Jan. 9, extremely ill with diffuse peritonitis. The abdomen was greatly distended with gas and extremely tender. Temperature 102 F., pulse 120. He was placed on exclusive rectal alimentation, whereupon he improved rapidly. On January 17 his pulse and temperature were normal, his abdomen was but very slightly distended, his complexion and facial expression were good. There was slight tenderness in the hypogastric and right inguinal region. His heart, lungs and kidneys were normal. He was now given beef-tea by mouth, but the rectal alimentation was continued. There was an area of induration in the vicinity of McBurney's point which persisted. Exclusive rectal feeding was continued for three weeks.

On Jan. 28, 1901, four weeks after the beginning of the attack, an abdominal section was made through the right rectus abdominis muscle 6 cm. long, opposite McBurney's point. The peritoneum was found congested, the intestines empty. In front of the right iliacus muscle was found a mass, consisting of the cecum, the omentum and the cecal end of the ileum, surrounding a circumscribed abscess containing the perforated appendix and a number of fecal concretions. The appendix was removed, the stump inverted, the wound drained with gauze and glass drains. The appendix contained a perforation 3 cm. from its end. The peritoneal cavity contained a considerable quantity of sero-sanguinous fluid. The patient left the hospital well April 2, 1901.

No. 8589.—Mr. Anton N., a fireman, 23 years of age, entered the hospital Jan. 10, 1901. He gave the following history: Aside from having experienced the diseases of childhood, he had always been well. In May, 1900, he experienced a mild attack of acute appendicitis continuing for five days. Felt well after this until 18 days ago when patient again experienced severe pain, first in the epigastric region, which became localized in the vicinity of the appendix. He suffered from diarrhea and vomiting for one day.

Under treatment with exclusive rectal diet the pain, which was at first very severe, decreased rapidly and disappeared in

five days, leaving only soreness for ten days longer. The rectal feeding was continued for two weeks.

Present Condition: The patient is well nourished, the tongue is clean, appetite good, bowels constipated, heart, lungs and kidneys normal, temperature 98.6, pulse 80, regular and strong. There is some tenderness and resistance a little below McBurney's point.

Operation: January 11. McBurney's incision 5 cm. long. Appendix coiled upon itself and adherent throughout between cecum and iliacus muscle, perforated 2 cm. from end into cecum. The wound in the latter had healed. The appendix was exceedingly brittle, edematous and congested and its lumen was almost completely obliterated at the cecal end. The appendix was removed and its stump inverted into the cecum and the space closed by purse-string suture. The abdominal wound was closed. The patient recovered normally, leaving the hospital on Feb. 12, 1901.

No. 8630.—Mrs. David B., 46 years of age, was operated on Jan. 23, 1901. The patient is so deaf that it was difficult to obtain a history. She has been married for 22 years, has had seven pregnancies, the last one 10 years ago. Has had two miscarriages. For several months she has suffered from incomplete intestinal obstruction, accompanied with nausea and eructation of gas and indefinite pain in the abdomen. A diagnosis of chronic appendicitis had been made, but during the past two weeks her condition has been more serious, her deafness, however, makes it impossible to obtain a definite history except that she is and has been very ill. Her facial expression is bad, her abdominal walls tense. She complains of pressure over the entire abdomen, but especially over the region of McBurney's point and in the region of the sigmoid flexure of the colon. She had traveled a distance of 400 miles by rail and was extremely exhausted. She was placed in bed and given exclusive rectal alimentation for four days. Her heart, lungs and kidneys were normal and her general condition improved under this treatment, under which she had been for a week before entering the hospital. An exploratory incision 5 inches in length was made in the median line and the appendix was found surrounded by omentum. The former was perforated a short distance from its distal extremity and at this point was found a small abscess containing a dram of pus and an enterolith. The appendix was removed, together with the portion of the omentum containing the abscess. The patient developed a pneumonia four days after the operation from which she recovered as well as from her operation. She left the hospital March 9, 1901.

No. 8699.—Miss Freda W., 20 years of age, operated on Feb. 3, 1901, gave the following history: Patient has experienced all of the children's diseases. At the age of 9 she injured her knee-joint by falling upon broken glass. The wound became infected and patient was extremely ill for several months, recovering with an ankylosed joint. Menstruated at 13, regular and painless for two years, since then has suffered considerable pain, more especially in the right side, lasting from two hours to two days at each period. For the past four years, patient has been anemic, nervous and not very strong. Seven months ago she began to have occasional pains in the region of McBurney's point at intervals of about two weeks, most severe, however, during menstrual period. Her appetite was bad, her digestion impaired, her nervousness increased. About Nov. 1, 1900, the pain became persistent and was accompanied with nausea and eructation of gas.

On December 16 patient suffered from an exceedingly violent, acute attack of appendicitis, characterized by extreme pain, nausea, vomiting and a distinct chill, pulse increased to 130 per minute, temperature 100 F. No food of any kind was given after the beginning of the attack. She was kept on exclusive rectal alimentation for ten days. One hypodermic injection of one-fourth grain morphia was given the first day. The pain subsided within twenty-four hours, but the patient's general condition was bad on account of the severeness of the attack. There was tenderness in the vicinity of McBurney's point for two weeks, which continued upon pressure until the time of the operation. Ten days after the beginning of the attack she was given beef-tea by mouth for four days, then

liquid diet for two weeks, then light diet until the time of the operation.

Present Condition: Fairly well nourished, but anemic, appetite fair, bowels regular. Eructations of gas after eating. Heart, lungs and kidneys normal. Slight pain in the region of McBurney's point upon deep pressure. Ankylosis of right knee at angle of 165 degrees.

Treatment: McBurney's incision 6 cm. long. Appendix found severely congested, its lumen reduced to one-fourth its normal size at the cecal end. The distal end somewhat club-shaped, contained four fecal concretions. The mucous membrane of the appendix was ulcerated. The appendix was universally adherent, the adhesions being soft and due to the recent attack. Appendix removed, stump buried with purse-string suture. Abdominal wound closed. The patient recovered normally, leaving the hospital three weeks after the date of operation.

No. 8757.—Master Herman M., 5 years of age, operated on March 1, 1901, gave the following history: At 3 years of age he had measles and scarlet fever. In August, 1900, he was sick for several weeks with pyrexia and pain in the region of the umbilicus. Fairly well after this until two weeks ago patient had a slight attack of diphtheria; antitoxin was immediately administered and child became well in a few days. One day before admission, patient was dull, sleepy and feverish. That night he vomited some. Magnesia was given, this was followed by colicky pain in abdomen. Pain in region of umbilicus persisted.

Feb. 19, 1901. Since admission temperature has ranged from 100 to 104 F. Patient has had the appearance of being extremely ill.

Present Condition: Considerably emaciated. Sordes of teeth. Teeth badly decayed. Tongue slightly coated. Quite hungry. Temperature 102, pulse 130, regular and strong. Heart and lungs and kidneys normal. Complaints of pain in region of umbilicus. Some tenderness there and in right inguinal region. Spleen not enlarged.

Treatment: Exclusive rectal alimentation for three weeks. McBurney's incision 5 cm. long. Appendix found bent by two bands of adhesions. Appendix congested and filled with dark, bloody fluid. Appendix removed in usual manner and stump buried with purse-string suture. Wound closed. Patient recovered normally, leaving the hospital March 29, 1901.

No. 8767.—Mr. Andrew B., a laborer, 36 years of age, admitted Feb. 19, 1901, gave the following history: At 13 he suffered from an attack of diphtheria, otherwise he has been well, with the exception of having occasional slight stomach disturbances. In December, 1900, he had pain in lumbar region, which patient thought was rheumatism. He stopped work for a few days. On Jan. 23, 1901, he began to feel ill, an hour later had a chill followed by vomiting and abdominal distention. Diffuse abdominal pains. January 28 pain became localized in right inguinal region and on the 29th he had marked pyrexia. Confined to bed about two weeks, since then quite well, except some soreness in right inguinal region.

Present Condition: Fairly well nourished, 30 pounds under weight, tongue slightly coated, appetite good, but if he takes nourishment there is an increase in the pain and gaseous distention and patient experiences nausea. Patient has the appearance of being very ill, although he has been out of bed and able to walk about a little. Heart and lungs normal. Abdominal wall thick. Considerable resistance and marked tenderness in right inguinal region. Considerable gaseous distention.

Treatment: Patient placed on rectal alimentation for three days, mainly for the purpose of overcoming the gaseous distention, previous to performing the operation. Operation February 22. McBurney's incision, which was lengthened by extending incision along outer border of rectus abdominis. Appendix found adherent in a mass, and perforated 3 cm. from cecum. Appendix loosened from adhesions and removed. Stump buried with purse-string suture. Primary incision closed. Counteropening made opposite anterior superior spine and glass tube and gauze drainage inserted. Wet dressings. Patient recovered normally and left the hospital April 8, 1901.

No. 8836.—Mr. Chas. A., an engineer, 33 years of age, ad-

mitted March 5, 1901, gave the following history: He had experienced the diseases of childhood, otherwise he had been quite well. Twelve days ago was taken with a diffuse pain in abdomen, not very severe, able to be about, no vomiting or constipation, but nausea. Ten days ago was taken with severe pain, colicky, all over abdomen, severe nausea, but no vomiting. About one day later, pain localized in right inguinal region. Improved slowly under treatment with exclusive rectal alimentation and four days ago was able to be up. Two days ago pain recurred after eating a little, whereupon nourishment by mouth was again prohibited for five days.

Present Condition: Fairly well nourished, tongue thickly coated. Temperature 98.3, pulse regular and strong. Heart and lungs normal. Considerable resistance and tenderness in right inguinal region.

Operation: March 8, 1901: McBurney's incision. The appendix was found adherent to the lower end of the cecum and the anterior surface of the iliacus muscle and surrounded by the omentum. It was bent upon itself in the form of an interrogation point, club shaped at its distal end and perforated near its end and surrounded by a slight amount of pus. Appendix removed, wound drained. Patient recovered normally, leaving the hospital April 12, 1901.

No. 8872.—Maurice R., 13 years of age, school-boy, entered hospital March 13, 1901, giving the following history: The family history is good with the exception that father has suffered from an attack of appendicitis, one sister was operated for recurrent, non-perforative appendicitis and one brother for acute perforative appendicitis complicated with diffuse peritonitis. The patient has always been well with the exception of having an attack of typhoid fever two years ago, and one year ago had a severe pain in right inguinal region with slight pyrexia. Pain severe for about two days, since then has not felt very well, having a constant grumbling pain in right side. About twenty-four hours ago was seized with a sudden pain in right side. Pain very severe up to present time. Being under the direct care of his sister, who had experienced severe attacks of recurrent appendicitis, feeding by mouth was at once prohibited.

Present Condition: Fairly well nourished, general condition good. Considerable rigidity and tenderness in right inguinal region.

Treatment: McBurney's incision. Proximal end of appendix constricted, distal end enlarged, curved on itself in the shape of a question mark. Surface covered with lymph. Removed; stump buried; wound closed. The end of the appendix contained a hard fecal concretion and pus. The mucous membrane was ulcerated and the end of the appendix appeared as though it were about to perforate. The appendix was surrounded by the omentum, which had already become attached by a fine layer of plastic lymph, completely separating the infected organ from the remaining portions of the peritoneal cavity. The patient recovered normally and was discharged from the hospital April 2, 1901.

This case is interesting especially because it shows how early after the beginning of an attack the general peritoneal cavity will be protected against infection.

No. 8879.—Miss Hanna J., a housemaid, 26 years of age, came under my care March 14, 1901, giving the following history: Two brothers and father had stomach trouble, otherwise family history was good. She had had the ordinary children's diseases, otherwise well. Began to menstruate at 14, regular and painless. For several years patient has complained of bilious attacks, coming one to four times a year. During these attacks she was taken with fever, vomiting and some pain in epigastrium, lasting from one to three days, leaving a soreness in epigastrium. About one year ago, patient had a more severe attack than usual. Patient was taken with vomiting, pain, pyrexia and pain in epigastrium, which radiated to right inguinal region, leaving a soreness there. The attack lasted three days. October, 1900, had a similar attack, but not so severe. Eight weeks ago, patient was taken with pain in stomach, about five hours later began to vomit the pain becoming more severe. A few hours later radiated to right inguinal

region. No pyrexia. This lasted about three days, then patient got up and was around for four days when she began to feel badly again but was not compelled to go to bed for three days after this, when she was confined to bed for two weeks with pyrexia. Was given no food by mouth for ten days. Pain and soreness in right inguinal region. She said she could feel a mass in right inguinal region the size of a goose egg.

Present Condition: Well nourished, slight coat on tongue, appetite good, bowels regular, temperature 99, pulse 62, regular and strong. Heart and lungs normal, abdomen not distended, no abdominal dullness on palpation, slight tenderness and resistance in right inguinal region.

Operation: March 15; incision through right rectus abdominis muscle 19 cm. long. Appendix perforated and universally adherent. Appendix removed and wound closed. Recovery normal, patient discharged from hospital April 9.

No. 8896.—Mr. Oscar L., a factory worker, 21 years of age, came under my care March 18, and gave the following history: He had had measles as a child, and at 12 had some trouble with left hip which confined patient to bed for thirteen weeks. March 21, 1901, nine days ago, had slight diffuse pain in abdomen for two hours, after that felt perfectly well until five days ago when supper did not taste very well and at 10 p. m. that night began to have slight pain in abdomen, then severe vomiting, then pain became very severe, more pronounced in right inguinal region. Vomited all first night and following morning after taking coffee. Since then has had nothing by mouth. Vomited only once, but is still nauseated. Temperature 103 F., pulse 110 per minute.

Present Condition: Well nourished, but has appearance of being extremely sick. Tongue thickly coated, face flushed, quite thirsty. Heart and lungs normal. Abdomen considerably distended, considerable tenderness, more pronounced in left inguinal region. No dullness, quite tympanitic.

Exclusive rectal alimentation for four days. After the second day the temperature and pulse were nearly normal and at the end of the fourth day his general condition was so much improved that it seemed likely that he was suffering from a catarrhal instead of a perforative appendicitis, hence I consented to operate instead of continuing the treatment.

Operation: March 22; McBurney's incision. Peritoneum and intestines inflamed. General peritoneal cavity packed away with a large pad. Cecum and appendix loosened and a large abscess opened into. This sponged out, and perforated appendix containing a large fecal stone removed subperitoneally, clamped, ligated, removed, not covered in by purse-string suture, as cecum could not be brought up. Glass and iodoform gauze drainage. Wet dressings.

The patient died on the fifth day after the operation from diffuse peritonitis.

There is no doubt in my mind but what this patient would have recovered fully had his operation been postponed for a few weeks. When he entered the hospital his condition was so serious that it seemed certain that he would die were he operated upon at once. His general appearance was exceedingly bad. His abdomen was greatly distended with gas and exceedingly tense. His condition improved so rapidly after applying gastric lavage and prohibiting all oral feeding, that it seemed likely that our first diagnosis of perforative appendicitis must be wrong. Hence too early operation with disastrous result.

No. 8963.—Mr. Alex. S., a boy 16 years old, admitted April 1, 1901, gave the following history: He had had children's diseases, otherwise he had been well until four years ago when he had typhoid fever. Shortly after convalescence he took a severe cold, followed by pneumonia, then by empyema on right side. He has had two operations for empyema. Has been perfectly well except slight discharge from sinus on right side of chest, until two weeks ago. At this time patient's stomach troubled him a little. Six days ago in the evening after eating heartily he was taken with pain and vomiting (pain in epigastrium). Pain continued during night and then felt fairly well for next two days. Two days ago ate a hearty dinner, four hours later was taken with severe pain over lower portion of abdomen, then followed a few hours later by vomiting, which was extremely violent. The abdomen became greatly distended

with gas and patient was in a condition of severe shock. The pain at this time was diffuse and it was not possible to determine the cause of the intestinal obstruction positively. Gastric lavage and exclusive rectal alimentation were employed. These symptoms persisted about thirty-six hours, for past twelve hours has had no pain.

Present Condition: Fairly well nourished; hungry, bowels constipated, tongue coated. Pulse 104, regular and strong, temperature 99. Nothing abnormal on percussion of abdomen. Slight tenderness in median line about two inches below umbilicus.

Treatment: Exclusive rectal alimentation was employed for two weeks. Operation April 17, 1901. Incision through right rectus abdominis muscle 8 cm. long. Peritoneum found studded with tubercles and intestines adherent. The appendix and cecum are in a mass of tubercular tissue to such an extent that it was not possible to remove the appendix without leaving large raw surfaces. Consequently none of the tissues were disturbed. The free peritoneal fluid was sponged away and the abdominal cavity closed. In these cases our results have been very satisfactory whenever we have simply closed the abdominal cavity, while they have been the reverse whenever we have removed portions in cases in which it was not possible to cover the raw surfaces thus produced. The patient made a normal recovery, leaving the hospital May 17.

No. 8984.—Mr. Andrew G., 36 years old, laborer, came under my care April 7, 1901, giving the following history: Family history good. Was healthy during childhood; had diphtheria at age of 18, inflammatory rheumatism at 28 for a period of three months; had a recurrence at 31 for one month. Eighteen months ago had a varicocele operation. Nine days ago he noticed a diffuse abdominal pain, which came on slowly and continued for six days, being less severe at night, especially if the patient lay on his right side. It became localized in the region of McBurney's point. Two days ago, after taking a cathartic, the pain increased greatly and nausea and vomiting occurred and the patient became seriously ill, indicating the diagnosis of perforative appendicitis. Feeding by mouth was at once prohibited and the patient began to improve at once. The nausea and vomiting disappeared, the abdominal walls became less tense, gaseous distention decreased and his general appearance improved.

Present Condition: Well nourished; patient feels hungry; tongue is coated; flatus is expelled; temperature and pulse are normal; heart and lungs and kidneys are normal. The abdomen is asymmetrical. In the right inguinal region there is a mass the size of a hen's egg which is firm and tender upon pressure. Result of varicocele operation perfect. The improvement in the condition is attributed to the fact that no food has been given for two days. The patient was placed on exclusive rectal alimentation for eleven days. In the meantime the induration has decreased, so that now it is only the size of a walnut and not tender. In every way the patient's condition is good.

Operation: April 18, incision five inches in length through outer border of right rectus abdominis muscle. Cecum and ileum adherent to omentum. Appendix adherent behind cecum, perforated in a small abscess cavity, containing a dram of pus. Appendix very brittle, breaking several times during manipulations. Abscess cavity sponged out and drained. Wound closed. Patient recovered normally. Left hospital May 19.

No. 9000.—Mr. L. C. H., teamster, 19 years of age, came to the hospital April 9, 1901. He gave the following history: He had always been well. On April 7 he was taken with frontal headache, slept fairly well that night, but awoke feeling worse, and began to have a diffuse abdominal pain. After taking some medicine began to vomit and could not get bowels to move. Vomiting persisted, until all mouth feeding was stopped the following day. Pain persisted and became localized in right inguinal region on second day. Bowels moved with simple enema on the 10th.

Present Condition: Patient appears and feels very ill, face anxious but flushed. Well nourished, tongue coated, hungry, and especially thirsty. Heart and lungs normal. Abdominal mus-

cles held rather tense, a little more so in right lower quadrant. Tenderness at McBurney's point, abdomen distended with gas. Temperature 101 F., pulse 90. Patient was placed on exclusive rectal alimentation for six days. His condition improved from day to day, all the serious symptoms disappearing by the end of the third day.

Operation: May 15, incision through right rectus muscle 10 cm. long. Appendix severely congested, shortly bent and constricted at its cecal end, tied down in a bed of adhesions its entire length to posterior surface of cecum. Mesenteric glands enlarged, the largest the size of a bean. Appendix removed by separating base first and then dissecting towards apex of appendix. Apex of appendix extended up behind the gall-bladder. Wound closed. Appendix contained ulcerated areas of the mucous membrane, a fibrous constriction near the cecal end, and its lumen contained pus and fecal material. Patient recovered normally, leaving hospital on May 13, 1901.

No. 9002.—Mr. Simon Q., an iron-worker, 40 years of age, came under my care April 10, 1901. He gave the following history: One brother died of carcinoma of the stomach and mother of asthma. He has twelve brothers and sisters and father, living and well. From four to six he was troubled with some infection of neck. Between 14 and 19 he was troubled with dyspepsia. Four weeks ago was taken with severe pain in region of umbilicus, vomiting and chill. Ingestion of food or water aggravated vomiting, pain became more diffuse, but patient continued to work until two weeks ago, when he became too weak to work. About this time pain became localized in right inguinal region, pain and vomiting persisted.

Present Condition: Somewhat emaciated, tongue thickly coated, dentine on every tooth exposed. Appetite poor, bowels constipated, heart and lungs normal. Abdomen considerably distended, but soft. No abdominal tenderness, temperature 99 F., pulse 62, regular and strong. No history of jaundice or vomiting before this attack. Has been constipated for years. Patient placed on exclusive alimentation for five days. Gastric lavage employed. Nausea and vomiting subsided and gaseous distention disappeared. April 14, patient's general appearance has improved greatly. Abdomen scaphoid. Tympany has subsided almost completely. Some tenderness under left costal arch, where there is a slight swelling, which moves downward on inspiration. Has had bleeding from hemorrhoids for several years. A few hemorrhoids, otherwise rectal examination negative.

Operation: April 15, incision through right rectus muscle. Appendix severely congested, as the result of acute inflammation, club-shaped and adherent; constricted at cecal end, contains gas, fecal material and mucus. Its mucous lining is obliterated. An apparent old tear in serous covering of cecum sutured. Appendix removed in usual manner. A carcinoma, size of goose egg, involving transverse colon, just to right of splenic flexure. The lymphatic glands in the mesentery are secondarily involved. Adherent small intestines loosened and tear sutured by silk Lembert sutures. An anastomosis with needle and thread made between sigmoid flexure and transverse colon 7 cm. long. Wound closed. Patient recovered normally. Left hospital May 15.

These histories comprise all of the cases of acute perforative appendicitis I have operated in the Augustana Hospital during the past four months. There is but one death among them, and that must be credited to a lack of judgment. The histories, although necessarily much abbreviated, give a clear idea of the progress of the disease in such cases whenever this form of treatment is employed. I am positive that the mortality would have been at least four times as great had all these patients been operated at once, upon admission. There are three cases which do not properly belong in this group, because perforation had not actually taken place, but I am confident that this was only prevented by the treatment. Moreover, each one of these cases had quite advanced peritonitis at the time of admission, which would undoubtedly have progressed rapidly had not peristalsis

been inhibited. In each of these cases the attack was exceedingly violent until this form of treatment was instituted, but subsided very promptly after commencement of this treatment.

CONCLUSIONS.

As a result of my clinical observations I am prepared to formulate the following conclusions:

1. Peristaltic motion of the small intestines is the chief means of carrying the infection from the perforated or gangrenous appendix to the other portions of the peritoneum, changing a circumscribed into a general peritonitis.

2. This can be prevented by prohibiting the use of every kind of food and cathartics by mouth, and by employing gastric lavage in every case in which there are remnants of food in the stomach or in the intestines above the ileo-cecal valve, as indicated by the presence of nausea or vomiting or meteorism.

3. The patient can be supported by the use of concentrated predigested food administered as enemata not oftener than once in four hours and not in larger quantities than four ounces at a time.

4. This form of treatment, when instituted early, will change the most violent and dangerous form of acute perforative or gangrenous appendicitis into a comparatively mild and harmless form.

5. Cases of perforative or gangrenous appendicitis, with beginning general peritonitis, can usually be carried through the acute attack safely with this method.

6. In all cases of this class gastric lavage should be practiced in order to prevent the absorption of decomposing material from the alimentary canal.

7. In cases of doubtful diagnosis this form of treatment should always be employed.

8. This treatment will prevent a large proportion of the most troublesome complications and sequelæ of appendicitis, such as ventral hernia, fecal fistulæ, extensive adhesions, etc.

9. The patient should be permitted to recover fully from his acute attack before an operation is performed, except in cases encountered within the first thirty-six hours after the beginning of an attack or in case of the formation of a superficial circumscribed abscess.

10. It often requires but a small amount of any kind of food to change a harmless circumscribed into a dangerous diffuse peritonitis.

11. The treatment does not protect the patient against a subsequent attack.

12. It does not contraindicate the removal of a diseased appendix before the septic material has extended beyond this organ.

13. It is indicated in all intra-abdominal conditions in which it is desirable to prevent the distribution of septic material by means of peristaltic motion.

14. The laity should be taught to stop feeding and giving cathartics to patients suffering from intra-abdominal diseases.

710 Sedgwick Street, Chicago.

Rhus Toxicodendron Poisoning.—This is the season of the year when all physicians resident in a large area of the United States are interested in a remedy of utility in case of rhus toxicodendron poisoning, when a patient presents himself with the usual symptoms of ivy or oak poisoning which are nearly all visible to the naked eye. Dr. R. S. Patterson, of Oakdale, Pa., uses glyco-phenique and aqua, equal parts; apply on lint without stint. If the case is a little chronic or two or three days old use glyco-plenique and olive oil, equal parts, locally. Neither of the above combinations of glyco-phenique will remove the stain of rhus tox. from the patient's clothing, but the tumefaction will fade out under its influence in a few hours.

SECTION ON OBSTETRICS AND DISEASES OF WOMEN.

ADDRESS OF CHAIRMAN DELIVERED AT THE FIFTY-SECOND ANNUAL MEETING OF THE A. M. A., HELD AT ST. PAUL, MINN., JUNE 4-7, 1901.

HENRY P. NEWMAN, A.M., M.D.
CHICAGO.

Members of the Section and Guests: I am deeply sensible of the honor of the responsibility you have conferred upon me in selecting me to preside over the session of a body such as this, and in thanking you most sincerely, I wish also to thank you for having selected an aid so proficient as our secretary, Dr. Bonifield. Largely to his efforts is due a program which would do credit to any association of specialists in the world of medicine, and in spite of the fact that the work of your secretary is particularly difficult. Since we have no organization as a Section, and no connected existence beyond these annual meetings, there is lacking the stimulus of historical association. Beyond the papers and other scientific contributions which are read in session and then published only in part and scatteringly in *THE JOURNAL*, the record of our proceedings is lost from year to year, and there is no continuous and organic relation such as there should be between the periods of our work. This, it seems to your chairman, is where lies greatest need for improvement, and my suggestion to this meeting would be that permanent organization be effected, that a permanent secretary be appointed who shall keep the minutes of meetings and attend to the publishing in a suitable volume of the entire proceedings, including papers.

With the growth of the Association it has become necessary, or at least expedient, to propose a reorganization of the work of the general body, thus saving to the members the valuable time now consumed in the general meeting.

The establishment of the proposed House of Delegates will give opportunity for a closer and more permanent organization of the different Sections, and will result. I am convinced, in more efficient work. As the list of papers and participants shows, this gathering of gynecologists and obstetricians has assumed proportions and an importance second to none in existence and worthy of more thorough and reliable organization than the haphazard annual method now in vogue.

SCIENTIFIC PROGRESS.

In calling your attention to the year's progress in gynecology and obstetrics, as required by the By-Laws of the Association, it is only necessary to mention briefly such events as seem to have the most direct relation to the growth and development of this branch of science, leaving it to time and your good judgment to determine their value.

ANESTHESIA BY LUMBAR PUNCTURE.

Among the most noteworthy and widely dissemned of such events is the clinical adoption by some of our leading authorities of the method known as cocaineization by lumbar puncture.

Testimony as to its usefulness is of the most conflicting nature. The procedure originated with Dr. Leonard Corning, of New York, who proposed it as long ago as 1885, but did not practice it except in laboratory experiment. Bier, of Germany, made the first injection into the cephalo-rachidian liquid. Tuffier next became a supporter of the method and, after one or two former papers, has just brought out a most favorable report

covering 400 cases. He reviews carefully the literature of the subject, and subjects the reported mortality, 6 in 2000, to severe analytical criticism. He claims that in no case could death be properly attributed to the injection. He is just as positive that there is no danger of permanent nervous affections following the operation. Reclus, of France, however, is a vigorous and logical opponent, and makes statistics put a discouraging aspect upon the experiments so far conducted.

Our own writers seem to agree in preferring general anesthesia by chloroform or ether, except where, for any reason, these are positively contraindicated and a substitute must be found. The limits of this operation are, therefore, somewhat restricted, and it will probably never be as popular on this side of the Atlantic as with our foreign colleagues.

Tuffier claims that with a perfect technique and practical operator there would be no failures and no danger, but it is being recognized more clearly every day that in such a proceeding the patient plays a very important part. Already it has been conceded quite generally that it is not applicable to children or to extremely sensitive adults, particularly women, or where major pelvic or abdominal operations are required.

It would appear that perfect consciousness, even with freedom from pain, is not an advantage to the patient, and it is easy to understand the unpleasant impression described by Morris Richardson on seeing women, in a foreign clinic, pallid, ghastly, and with every evidence of profound mental and physical shock, consciously undergoing major operations upon their own viscera and witnessing all the details of the occurrence. In obstetrical operations the method has been found unreliable on account of the difficulty of timing the anesthesia to correspond with the moment of greatest necessity, several injections being sometimes required. There is no relaxation of muscular tissue as in chloroform and ether narcosis, and its use seems rather to retard than hasten the delivery. For the latter reason the method is contraindicated in operations which demand such relaxation and in difficult laparotomies.

It is probable that before you listen to another report from this chair the position and limitations of lumbar anesthesia will be definitely fixed.

PROTOZOON OF CANCER.

If the experiments of Gaylord, of Buffalo, prove that the organism which he has successfully isolated and reproduced by culture inoculation is the protozoic parasite of cancer, our conception of the dread disease and our established therapy will need to be reconstructed. If these parasites invade the general circulation quite early in the disease, a proposition now occupying the attention of Dr. Gaylord and his associates, it would, on hasty observation, seem futile to attempt to cure by the knife. There remains, however, so much laboratory and clinical work yet to be done before the exact relation between the parasite recognized in the circulation and the local manifestation of the disease, that it is yet too early to acknowledge discouragement with methods so far the best at our command, and to which many a sufferer apparently owes health or positive amelioration. These findings, if indisputably established, should only stimulate us to greater zeal in palliative efforts and in the endeavor to recognize and eliminate the local nidus before the period of circulatory contamination. And until a specific shall be discovered, to destroy the parasite itself, the new theory of the disease will not prevent surgical interference up to the eleventh hour of the

patient's need. It should, however, substitute enthusiasm in early diagnosis for that of late radical surgery, and would militate against the employment of two extreme methods. In the early recognition of suggestive symptoms by the patient, and of the first pathological changes by the physician, are we to find our most certain relief. The rapid increase of uterine cancer as certified to the best authorities, can, according to our present knowledge, only be curtailed by early correction of all lesions of epithelial surfaces about cervical, urethral, vaginal and rectal orifices. In the cervical area we have most simple and effectual means of eradicating such danger points. When the indications exist, "tracheloplasty" contemplates and accomplishes the entire removal of the cancer-bearing tissue, if we may speak as we do of "pile-bearing areas."

The presence of submucous or cervical fibroids subject to continual irritation is, directly or indirectly, a menace, and calls for ablation.

REMOVAL OF LYMPHATICS.

In reference to the attempted removal of the whole lymphatic system of the pelvis as advised by Ries, Clark, Prior, Werder and Bovée in our own country, and by Rumpf, Chalot, Wertheim and Freund abroad, Jordan, of Heidelberg, at the Thirtieth Congress of the German Surgical Society, stated his belief that the glands become affected only at a late stage and in rare cases, that it is impossible to remove them all, and that partial removal has no object. He recommends the vaginal route in removal of the cancerous uterus, and the employment of Schuchardt's para-vaginal incision. Olshausen, of Berlin, agrees with Jordan, and considers only such cases operable in which the cancer has not gone beyond the boundaries of the uterus. He does not think Schuchardt's incision called for in more than three quarters per cent. of all cases, and considers the abdominal route admissible only in cases where the vaginal is technically impossible. Martin, of Greifswald, holds the same opinion as Jordan, while Wertheim, of Vienna, takes the opposite view. He prefers always the abdominal route, and removes the connective tissue surrounding the uterus and the lymphatic glands, having found them affected in 36 per cent. of early cases.

OVARIAN TRANSPLANTATION.

The past year has done much to establish the operation of ovarian grafting or transplantation as a logical procedure and one worthy of careful and conscientious experiment. The honor of the original idea is given abroad to Knauer, of Germany, whose first publication was dated in May, 1896. As R. T. Morris, of New York, had already published in October, 1895, the results of his first experiments, we may be pardoned for laying claim to a division of priority for our American confrère. As the work of Knauer had continued for a year before his results were given out, it would be profitable to take cognizance of his early experiments. To recall briefly the end in view, the technique followed and the results obtained, we have the following: The object of Knauer was to ascertain if, in animals, ovaries extirpated and then transplanted in any other portion of the peritoneal cavity were still capable of living and functioning normally, that is, to form and expel regularly fructifiable ova. His experiments consisted in removing, under strict asepsis, the two ovaries of certain rabbits and then grafting them in some other part of the peritoneal cavity. Most often the organ was placed in a sort of pocket created in the serous membrane in the neighborhood of the tubes, and where the organ,

only partly buried, kept a portion of its surface free in the peritoneal cavity. The results were such as to warrant the author in affirming that in the rabbit ovaries can be transplanted into any region whatever of the peritoneal cavity and that they will continue not only to live, but to functionate, that is, to produce ova and carry them to maturity. These conclusions were confirmed and extended by Gregorieff, who, out of twelve rabbits submitted to ovarian grafting, succeeded in fecundating four. Morris has gone still further; having extirpated the diseased ovaries of a patient, he took a healthy portion of one of the glands and grafted it in the vicinity of one of the tubes. One month after leaving the hospital the woman became pregnant, but aborted, unfortunately, at three months. The possibility of pregnancy after transplantation of the ovary was thus demonstrated. It remained only to prove that gestation could proceed normally and result in accouchement at term. This proof has been furnished by Knauer. On Sept. 8, 1896, he practiced transplantation of ovary in a rabbit in the manner before described. He opened the animal thirteen months afterwards to observe the state of the glands. One was completely atrophied, but the other had preserved its normal volume and aspect and contained three follicles almost at maturity. The abdomen was closed, and two months afterward the animal was put to the male. On Jan. 3, 1898, she gave birth to young, a male and a female, perfectly developed.

A. Palmer Dudley reported at the Amsterdam meeting of the International Congress of Obstetricians and Gynecologists a striking case of transplantation of the ovary into the cavity of the uterus, and the Italian Marchese bases the following conclusions upon eight experiments upon dogs followed by autopsies and microscopic examinations: 1. Transplantation of the ovary is possible in animals. 2. It is always preferable to abandon the ovary in a free cavity or near lax tissue rather than where the tissues are muscular or robust. 3. One should prefer the grafting of an entire ovary to that of simple fragments. 4. The ovary should be furnished with a small pedicle from the neighboring tissues, which will serve to fix it in its new position. 5. If all the conditions are realized, one can be sure that, even in an abnormal situation, the ovary will continue to functionate.

Mauclair concludes that the experiments so far conducted prove that auto- and hetero-grafting will be successful if properly performed and the ovary is aseptic. Such grafts should result in modifying menstrual troubles and those consecutive to ovariectomy. In his opinion, it is advisable to make such grafts even after the menopause, with the object of conserving the internal secretion of the ovaries, which, according to the physiologists, is not lost with the external secretion.

TUBAL EPITHELIUM.

Mention should be made of the exhaustive work of M. Voinot, of the faculty of Nancy, who has studied the modifications of the tubal epithelium during the entire life of the woman. Studying the tube first before and after the period of genital activity, he has seen that during these two phases of life, contrary to that which has generally been accepted, there are ciliated cellules on the epithelium constant before puberty, quite eventual after the menopause. Before puberty these ciliated cellules are encountered for the most part at the pavilion, less often in the ampulla and in the isthmus very exceptionally in the interstitial portion. After the menopause it is only in the ampulla that they can be found.

At a very advanced age they disappear even in situations where the epithelium remains freely cylindrical. Both before and after the menopause, the tubal epithelium presents great irregularities, but the irregularity is not the same in both cases. Before puberty it affects principally the constitution of the cellular protoplasm and nucleus. After the menopause the irregularity is observable principally in the form and elevation of the cellules. The characteristics of tubal epithelium during genital life is the presence of curiously repeated groups of ciliated and non-ciliated cellules. At the pavilion and the interstitial portion the cellules are almost all ciliated. In the ampulla and isthmus they are ciliated.

LeCount, in his study of the genesis of carcinoma of the Fallopian tube in hyperplastic salpingitis, has shown that gynecologists have taken but little cognizance of an inflammation of the lining of the tube associated with polyp-like or villous growths such as occur on other mucous membranes. He cites nine cases of hyperplastic salpingitis that have been variously reported as examples of carcinoma or papilloma of the tube. Five of the twenty-two cases of carcinoma gathered from the literature were removed during the transition that occurs between this form of salpingitis and carcinoma. His study of the subject resulted from the examination of a tubal carcinoma removed by Newman, of Chicago, which is the third so far reported in this country.

The value to the gynecologist of researches of this kind can not be overestimated in connection with his study of the important lesions to which these organs are subject.

PERMEABILITY OF THE AMNION.

The permeability of the amnion has been demonstrated by the experiments of Moisseney upon female guinea-pigs.

His conclusions coincide with those of Bar, that the amnion is "not a closed sac which receives always and gives out nothing," that the internal membrane of the amnion is permeable and under certain conditions permits the passage to the mother of soluble substances contained in or injected into the amniotic fluid. The degree of permeability varies with the different periods of gestation, the rapidity of passage depending principally upon the epoch of fetal development, being slower as gestation advances, appearing very difficult near term.

A weak solution of eazluenoe red, 1 in 3 to 2 in 3 cubic centimeters, was employed in the experiments.

PARAFFIN INJECTIONS.

In further experimental research, we have the report of Gersung on his work with injections of paraffin for incontinence of urine due to traumatism. He succeeded in accomplishing the desired result by forming a valve whose rigid walls consisted of tissue impregnated with paraffin. A second injection was necessary, but three months later the patient treated was able to hold her urine five to six hours when active, ten hours when recumbent. Meyer, acting upon Gersung's claim that paraffin could be injected subcutaneously, would remain permanently, cause no reaction nor be absorbed, injected animals with various quantities, and found that a considerable portion was removed by absorption and could be found in the lymph glands. In one animal 20 per cent. of injected mass was lost after four weeks, and in another 50 per cent. after eight weeks. Halban has recently used the same medium in four cases of eystocele with satisfactory results. He injected the paraffin between the walls of the vagina and the bladder, then in-

sented a pessary for twenty-four hours so as to allow the mass to harden in the proper position.

CESAREAN SECTION.

Cesarean section for placenta previa is advocated by A. P. Dudley on the ground that it offers a method of saving two lives in place of risking one or both, and is practically free from danger if certain conditions are fulfilled. These are that an antepartum diagnosis shall have been made, and the operation done under aseptic conditions before the patient has become exhausted. The conservative Cesarean operation becomes more popular as perfection of technique and asepsis daily lessens the dangers of the procedure in comparison with other elective operations which endanger the child. Its limitations are broadening until we see its employment in placenta previa and in eclampsia as well as for the older indications. Hillman gives a favorable review of the history of Cesarean section for eclampsia. He adds one case in his own practice to 40 others already reported, and finds that 19 mothers and 17 children have been saved by this method. Knapp, of Prague, tabulates 19 cases of his own, 4 fatal treated by other than section.

The frequency of eclampsia is about 5 to 1000; 41 cases with 6 deaths gives a maternal mortality of 14.6 per cent. Child mortality is 31.8 per cent. Knapp agrees with Dührssen that Cesarean section is contra-indicated in eclampsia, the mortality from this operation being too high.

According to Cestan and Peyran, to operate quickly, simply and cleanly is the most certain method of preventing hemorrhage, shock and infection, the three dangers possible in Cesarean section.

In this connection, Alain, of the faculty of Bordeaux, predicts the disappearance of feticide as a therapeutic measure.

ENTEROPTOSIS.

Glenard, of Lyons, who, in May, 1886, published his interesting observations upon neurasthenia and enteroptosis, attributing to prolapse of the intestinal mass a large percentage of the gastric symptoms which are always to be found, marked or veiled, in cases of neurasthenia, gave his name to a disease which is of late attracting much attention. Glenard stated his belief that neurasthenia is most often the syndrome of enteroptosis, and that there should be opened in nosology a special chapter on the subject in which shall enter as varieties of the disease the different splanchnoptoses such as floating kidney, movable liver and spleen, dilatation and descent of the stomach. This chapter is now being written by the work of Dock, of Ann Arbor, Illoway, A. K. Stone, J. J. Putnam and others.

Formerly what was known as the "vital theory" attributed the cause of this condition to a relaxing of the ligamental supports of the viscera. More lately it has been considered due to a lax state of the abdominal walls with decrease of the intra-abdominal pressure.

The recent work of Harris calls attention to such physical defects as narrowing of the mid-zone of the body which tend to displace the viscera downward for want of room. This may be considered the physical theory. In cases where appreciable separation of the recti muscles occurs, Webster's operation would seem to promise correction of the anatomical fault. Treatment by exercising the abdominal muscles by gymnastics or by means of a specially designed apparatus, as recommended by Turck, seems not only of value in correcting the anatomical defect, but in restoring physiologic conditions.

UTERINE FIBROIDS.

The subject of uterine fibroids and retro-displacements will be so well presented during the progress of this session, according to the promise of our program, that it would be encroaching upon valuable time to add more than that the advancement in the treatment of these common and always interesting affections has been gratifying, and that the experience of many years in many methods of treatment for the latter affection have brought the profession to a realization of the value under definite indications of the shortening of round ligaments as proposed by Alquié, Adams and Alexander.

It is especially gratifying to your chairman to note this rehabilitation of a proceeding so well adapted to its purpose but so slowly acknowledged, for the reason that he was one of its earliest advocates and in face of its early unpopularity.

Our foreign colleagues are growing more enthusiastic as time goes on, and are placing themselves on record with us as supporting it in suitable cases over all other elective operations.

Of special value in the treatment of bleeding fibroids, as well as in shock incident to the radical operations for their removal, is the popular employment of saline solutions by endemic or colonic injections. The necessity for improved methods of hemostasis and the value of conservative surgical interference grow upon us as we recognize the danger of the exsanguinated condition due to hemorrhages at or near the menopause. We have outgrown the mischievous theory that because fibroids may atrophy and disappear after the menopause it is safe to leave them to nature even where there is a possibility of such disappearance, the waiting is too hazardous, the hemorrhages themselves often producing such anemic conditions as to imperil the after-health of the patient.

Among the improved agents for surgical hemostasis should be mentioned the angiotribe, whose claims for recognition rest upon certain advantages: facility of use, greater certainty of hemostasis, more rapid and smooth convalescence, and the avoidance of such objectionable after results as hematoma, granulating and sloughing stumps, adhesions and cicatricial tissues. The progress of obstetrical technique and modern asepsis has been so great as practically to eliminate the problem of puerperal infections from consideration except as it is related to adventitious circumstances or to that sociological error, the ignorant midwife. Further advancement in this direction must be by way of educating others rather than laboratory research.

FUTURE OF GYNECOLOGY.

And it is in this aspect of gynecology that its greatest hope for the future lies, its place as guardian and educator of the patient rather than simply surgical referee in diseased conditions.

Nothing could be more disastrous to the worth and dignity of this specialty, which has occupied for so long so honorable a place in medicine, than to allow itself to be considered and spoken of as one of the surgical specialties.

We are but just arriving at the threshold of the greatest era in our history, in which the full value of prophylaxis is being recognized, and gynecological knowledge and experience are to be the re-creator and conservator of health in women. It is quite true that the skill of the competent general surgeon may guide him successfully into the pelvic cavity and out again without any recognition on his part or the part of his patient of lack

or incompetence, but surgery is not all of gynecology. It is a very brilliant department of the branch, but relatively unimportant when compared with the wider possibilities of gynecic science.

In this day, when the complexity of civilized social life makes such demands upon the physical constitution of the race, the public has come to recognize that the very existence of the species depends upon an improvement of its physical standards. Boards of health, public interest and encouragement are helping us on in our national and municipal efforts, but to whom shall be left the intimate and personal problems that pertain to the life of the girl and woman?

Only gynecology can rightly determine the importance of the developmental period and the relation between education, social habits and environment and the diseases from which so many women suffer; can estimate the individual need for functional development and teach women the relative advantages of prevention and cure in pelvic disease.

Whatever he may call himself, surgeon or general practitioner, he is a true gynecologist who takes this view of his work and becomes the prophet and propagator of prophylaxis. It is itself too broad a specialty to be merged into any other, and along this line it must grow, on the one hand perfecting its knowledge of pathology and etiology and its curative methods and on the other working to eliminate from modern life causes of disease in women.

THE OBSTETRICIAN.

In this the obstetrician has his part, and it is due to the importance of his work that he be given more time and consideration upon the programs of deliberative bodies such as this. An effort has been made by your chairman to give the obstetrical division of this session its due prominence by soliciting papers on practical topics from some of our leaders in the specialty. There has been too much neglect of obstetrical science as a specialty, a condition that worked harm both ways, upon the innocent patient and upon the physician. The belief among the laity that anyone who is graduated from a medical college is competent to conduct a case of obstetrics is still too prevalent. The results are often disastrous in the extreme to mother and child, and to practitioner because depreciation discourages professional growth. Growth there has been in spite of discouragement, as witness, for instance, the advancement of Cesarean section to its rational place in modern obstetrics. Its application to placenta previa might seem to the ultra conservative in the light of former practice as a most radical and uncalled-for innovation. We must, however, consider that the improved technique in abdominal and pelvic surgery renders what might seem bold and heroic methods safer than the delay and expectant treatment in so dangerous a condition as placenta previa with its estimated mortality of 50 per cent. At all events, in view of our modern aseptic and technical advancement, the classical indications for capital obstetrical operations need recasting, bearing always in mind that it is the conservation of life and health in both mother and offspring that is to be sought for in each individual case, remembering also that grave obstetrical operations demand the same environment as other surgical cases. In all cases the trained obstetrical nurse should supplant the monthly nurse; in all complicated cases the appointments of the modern hospital should be preferred to the makeshifts of home treatment. We should also remember that as we ascend in the scale

of civilization we have a more highly organized individual to deal with, usually with greater departure from physiological standards and requiring greater skill and delicacy in management.

The connection should be as firmly established between obstetrics and gynecology in fact as in theory, and the benefit will be mutual. With progress in the right direction the former will outlive the latter specialty. There will always be need for intelligent obstetrics, while intelligent gynecology should eliminate itself at last by eliminating those conditions which are the cause of disease in women and its only excuse for being. Nothing but gynecology can eliminate gynecology.

Original Articles.

ORAL MANIFESTATIONS AND ALLIED STATES.

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Scurvy is a disease characterized by simple inflammation of the gums which gradually becomes chronic and deep-seated, and extends throughout the alveolar process causing its absorption and exfoliation of the teeth. This disease has passed under various designations: salivation, bromidism, plumbism, iodism, pyorrhea alveolaris, phagadenic pericementitis, ptyalism and interstitial gingivitis. These terms merely define local manifestations in connection with other symptoms. The term interstitial gingivitis defines the precise pathologic change which occurs in the tissues.

Pathologic material for the study of scurvy in man is obtained with such difficulty in the recent state as to necessitate research upon animals. As the first step in investigation, two practitioners of comparative medicine, with an extensive hospital practice, were consulted as to the frequency of this disease in animals. All animals under their care suffered from it more or less, but 80 per cent. of dogs over 8 years of age had the disease. Nearly every dog in the hospital under their care was so affected. These dogs comprised all breeds. I found every phase of interstitial gingivitis in the mouths of these dogs, from its inception to the loss of the teeth. The roots of the teeth of some were covered with deposits and so exposed that the teeth could be removed with the fingers. Such badly diseased mouths are rarely, if ever, present in human beings. The outer plate of bone was absorbed, the roots entirely exposed, pus was oozing from around them and the mucous membrane was badly inflamed.

The mouth of a Scotch terrier is shown in Fig. 1. The molar and premolar had been removed with the fingers. The cuspids and incisors are quite loose. There are large deposits of tartar. The gum and alveolar process have been absorbed nearly one-half the length of the roots of the teeth. In Fig. 2 is seen the mouth of a Boston terrier with the incisors and premolars removed. There is extensive pyorrhea. There are calcic deposits upon the cuspids and molars. There is recession of the gums and alveolar process. In it one premolar in the upper and one in the lower jaw have been extracted. There is extensive inflammation of the gum about the molar, cuspid and incisor with large calcic deposits about the teeth. In Fig. 3 are shown teeth covered with calcic deposit the entire length of the root.

These teeth were removed by the fingers from the mouths of two dogs, one of whom was later obtained for scientific study. This was all the material to be obtained from the hospital, since the dogs were pets and had been placed under treatment by their owners.

Other necessary material was obtained from the dog pound. Ninety-five per cent. were mongrel curs leading a street life, hence neither luxurious diet or care could be charged with any disease in them. They have, at least, plenty of outdoor exercise and fresh air. In a general way, it was found that inflammation of the gums, especially about the canine teeth, was almost always present in dogs over one year. About 25 per cent. of these dogs at 4 years of age had the disease, 80 per cent. from 8 to 10 years, 95 per cent. over 12 years of age. Since I commenced my investigations (four

substitutes, since for pathologic research they can be obtained at any stage of the disease. The work was performed under the supervision of Drs. Ludwig Hektoen, W. A. Evans, Maximilian Herzog, Theo. A. Edwin Klebs, and Dr. Robert F. Zeit, pathologist.

The technique of the examinations of interstitial gingivitis and pyorrhea alveolaris in dogs was as follows: After fixing and hardening in 2 per cent. formalin, alcohol or Müller's fluid, the tissues were decalcified in a 5 per cent. alcoholic solution of nitric acid, imbedded in celloidin and stained in various ways, the principal ones being hematoxylin and eosin. Out of these slides have been selected a series illustrating the progress of the disease from the beginning to the loosening and exfoliation of the tooth.

Fig. 4 shows a longitudinal section of a cuspid tooth



Figure 1.



Figure 2.

years ago), I have examined quite a large number of dogs about homes, but I have never found a dog over 4 years without this disease to a greater or less extent. Many house dogs at one year had inflammation of the gums. Dogs for infection and those for mercurialization were picked up in the streets.

Most of the dogs exhibited at dog shows are young, ranging from 1 to 4 years of age. About 25 per cent. would range from 4 to 8 years. A casual examination of their mouths revealed interstitial gingivitis. Occasionally recession of the gums and pyorrhea alveolaris occurred. On a more careful examination, 25 per cent. of dogs between the ages of 1 and 4 were found to have interstitial gingivitis, and 75 per cent. of dogs from 4 to 8 years were found to have interstitial gingivitis with recession of the gums and pyorrhea alveolaris. In the study of this disease, therefore, dogs are excellent

with the alveolar process *in situ*. The epithelial structure (E) is pulled away slightly from the edge of the enamel (A). In this section the infolding of the epithelium is shown at the neck of the tooth. This structure passes downward, folds outward and upon itself (AA), and returns two-thirds of the distance toward the gingival border, leaving a pocket (RR). The epithelium (E) is very dense and thick. The papillary layer of the submucous tissue (G) is very clearly defined. The capillaries (K) can be distinctly traced from the deeper fibrous tissue through the submucous layer into the papillary layer. The thick and heavy fibrous tissue of the periosteum ("Dental Ligament," Black) may be seen at H, inserted firmly into the cementum and extending outward and downward. Just below (AA) may be seen the interlacing of the coarser fibers of the periosteum with the finer fibers of the submucous tissue.

Chronic round-cell inflammation may be seen extending from the papillary layer through the capillaries into the interstitial tissue of the submucous and the periosteum. Marked inflammation has occurred at V. The openings in the folds of the epithelium are fruitful sources for the accumulation of food, epithelial scales and detritus, in which fermentation and decomposition from micro-organisms result, producing inflammation.

Fig. 5 is a section through the peridental membrane

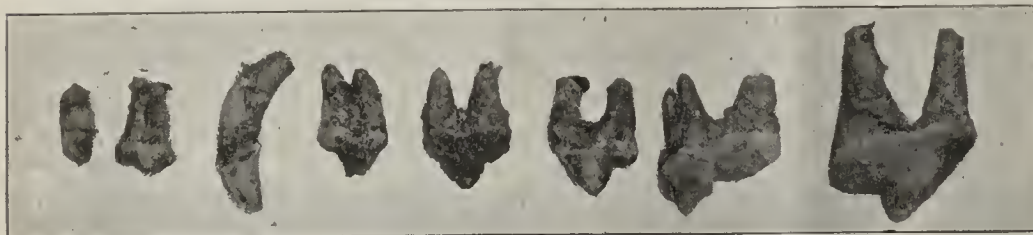
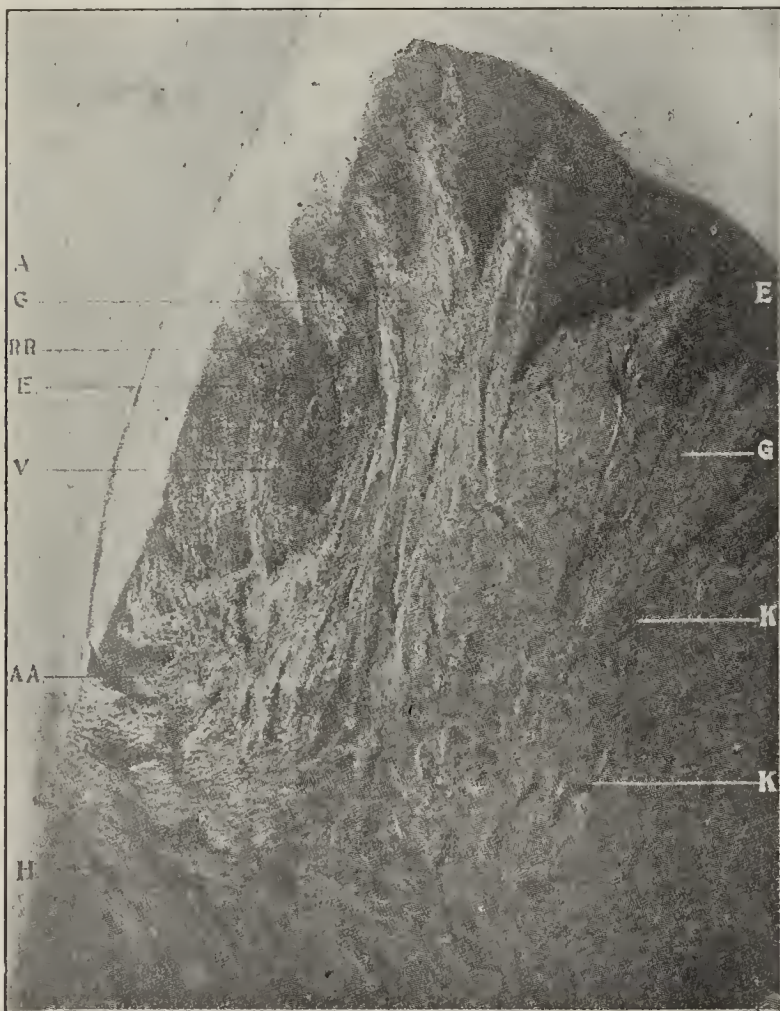


Figure 3.

(I) and alveolar process (J) at the lateral incisor. The inflammation has extended down from the papillary layer through the submucous tissue of the periosteum into the peridental membrane and into the alveolar process. Round-cell inflammation may be seen in the blood-vessels extending through the Haversian canals (L).

Fig. 6 is a section of the peridental membrane and



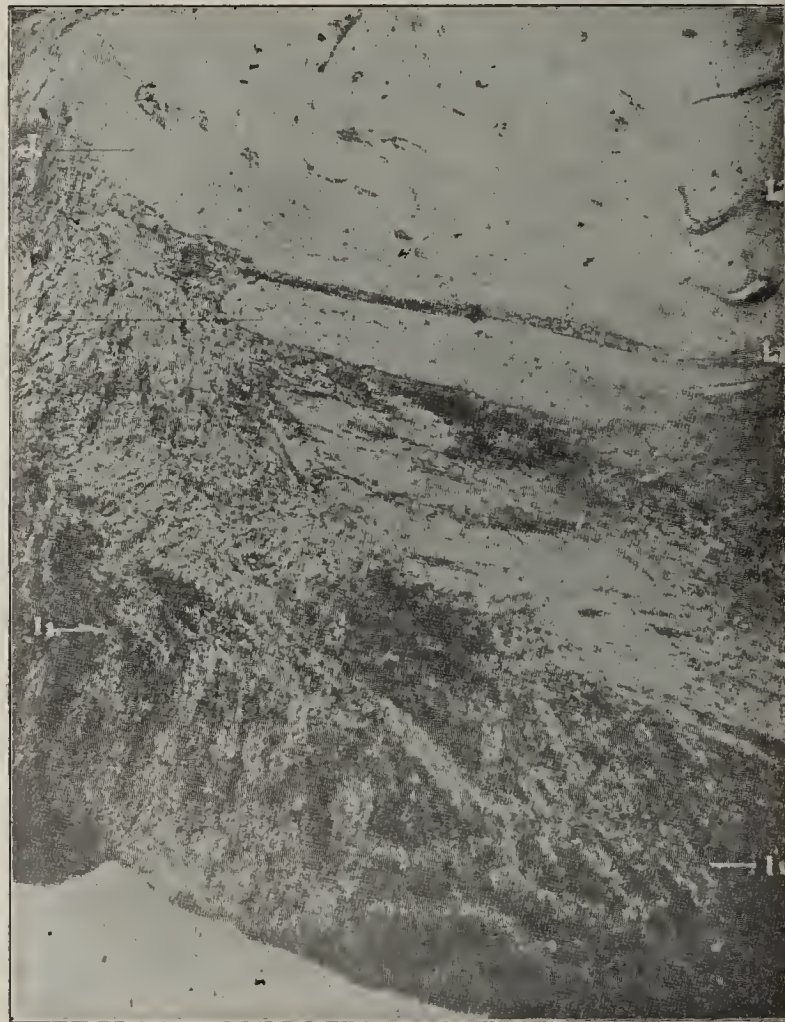
X 75. A. A. obj. Zeiss. Micro-photograph, reduced four-sevenths.

Fig. 4.—Longitudinal Section of Tooth and Gum Tissue. Chronic Interstitial Gingivitis. Dog.—A, Enamel. E, Epithelial tissue. G, Submucous membrane. H, Periosteum. K, Capillaries. V, Violent inflammation. AA, Point of union of epithelial tissue and peridental membrane. RR, Space pocket from want of union of epithelial fold.

alveolar process, illustrating the effect of interstitial inflammation upon the blood-vessels and alveolar process. Chronic inflammation extends throughout the peridental membrane with very decided inflammatory change (V). The cut ends of the blood-vessels which were originally situated in the Haversian canals are seen at BV. They have become involved with the result of a thickening

of the walls and endarteritis obliterans. The bone about these vessels has been entirely absorbed. The inflammation has extended beyond, into and through the Haversian canals, producing the type of absorption of the trabeculae known as halisteresis ossium. Lacunar absorption has also occurred (O). Where decided inflammation (V) has taken place, abscesses are more liable to occur (as will be noticed later), from the large number of blood-vessels at this locality.

Fig. 7 is a section from another location of the alveolar process with a greater amplification, showing the inflammatory process extending through the alveolar process. Endarteritis obliterans may be seen in different localities (EO). Three forms of absorption are evident in this figure. Enlarged areas arising from absorption of the trabeculae (halisteresis ossium) due to the inflammatory process. The vessels of Von Ebner precede perforating canal absorption (BB), distributed over the entire field, also the result of the inflammatory process and lacunar absorption (O) which may result from the inflammation. As long as the fibrous tissue remains in these large areas to retain the osteoblasts, new bone tissue may be produced under favorable conditions. On the other hand, when this tissue and the osteoblasts are destroyed, the alveolar process can not be restored.



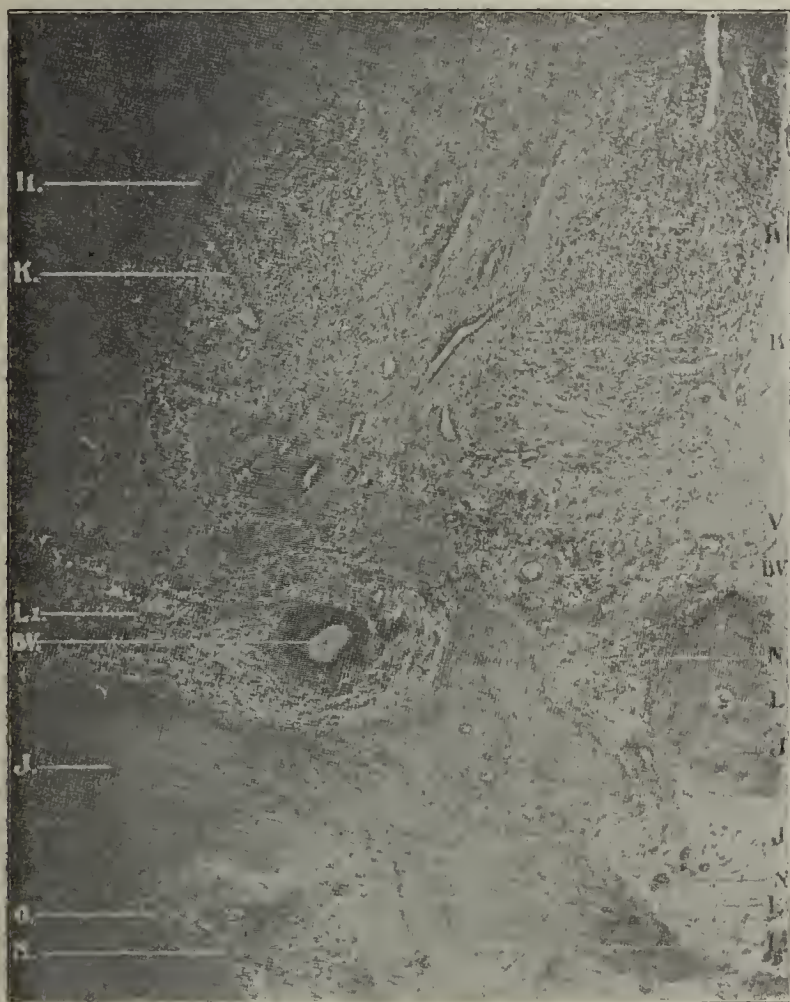
X 75. A. A. obj. Zeiss. Micro-photograph, reduced four-sevenths.

Fig. 5.—Longitudinal Section of Alveolar Process and Peridental Membrane. Slight Interstitial Gingivitis, Extending into Alveolar Process. Dog.—J, Alveolar process. L, Inflammation extending through enlarged Haversian canals. I, Inflamed peridental membrane.

Fig. 8 shows a section of the alveolar process from another dog. Here lacunar and other absorptions (halisteresis ossium) are well shown. Thirty-seven osteoblasts (O) may be counted in the field while destruction of bone by halisteresis (Q) is rapidly going on. Remains of Haversian canals with the blood-vessels may be seen (BV, L). In the discussion of the peridental membrane

extending into the alveolar process, particular attention was called to the fact that large bundles of fibers extended into the process in such a manner as almost to isolate portions of bone. In the lower left-hand corner (X) may be seen two pieces of the alveolar process entirely separated from each other and the main body of the bone. In interstitial gingivitis it is not uncommon to find pieces of the alveolar process separated by halisteresis and lacunar absorption. When loose teeth are extracted as a result of this disease, pieces of the alveolar process come away with the periodontal membrane attached to the tooth. In the upper left hand corner may be seen eight or ten new osteoblasts (O) in an enlarged Haversian canal, at work isolating one piece of the alveolar process from the other.

Fig. 9 shows a slide from still another dog. Halisteresis (Q) and perforating canal (P) absorption are



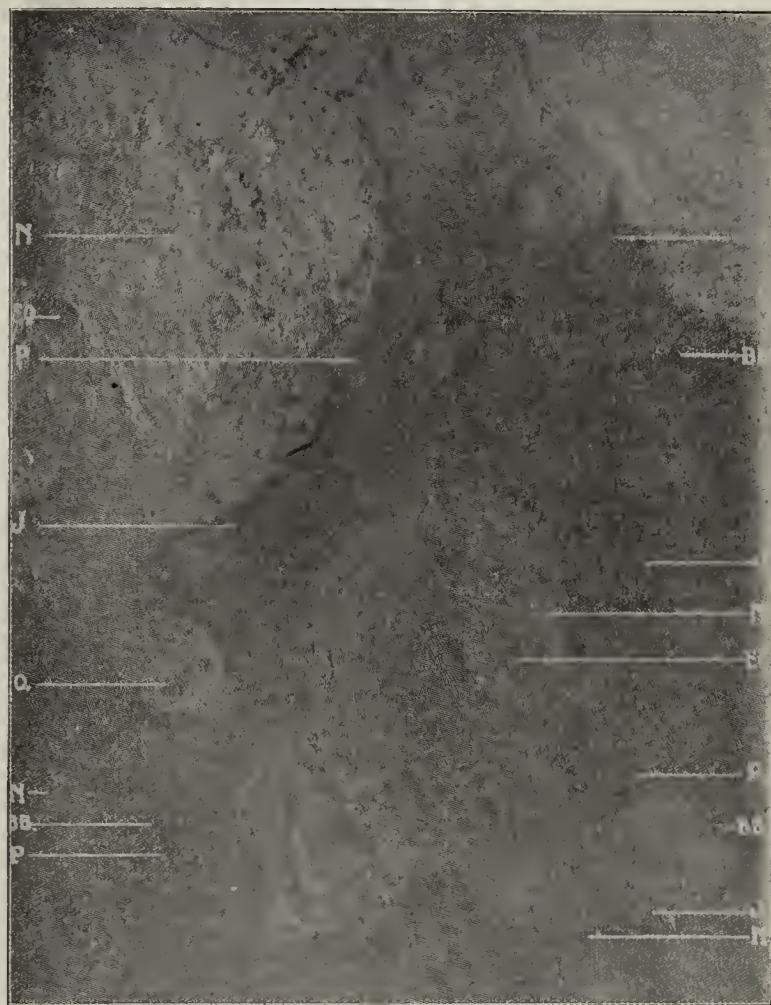
X 75. A. A. obj. Zeiss. Micro-photograph, reduced four-sevenths.

Fig. 6.—Longitudinal Section of Tooth, Alveolar Process and Periodontal Membrane. Violent Round-Cell Inflammation of Periodontal Membrane, Extending through the Haversian Canals into the Alveolar Process.—C, Cementum. J, Alveolar process. K, Capillaries. L, Haversian canals. N, Large spaces arising from absorption of the trabeculae, starting in the Haversian canals (halisteresis). O, Lacunar absorption. V, Violent inflammation. BV, Blood vessels, originally Haversian canals. L, Inflamed periodontal membrane. L, Inflammation extending through enlarged Haversian canals.

here well shown. In the larger space at the lower left-hand corner may be seen two arteries (EO) which were originally the location of Haversian canals, and which have thickened walls and a tendency to obliteration. The light color shows decalcification, the dark normal bone. At P may be seen perforating canal absorption. At FG fat globules may be seen, while in the larger space at the upper right-hand corner is evident destruction of the fibrous tissue.

Fig. 10 is a section through the jaw and incisor tooth, showing the relation of the structures to each other in a severe case of interstitial gingivitis and pyorrhea alveolaris. The tooth is attached at only a very small portion of the apical end of the root. The disease has been of

long standing. Absorption of the alveolar process on one side has progressed on fully one-half of the root, while upon the other about one-third the distance. Inflammation commenced at the gingival border and extended through the periosteum (H), periodontal membrane (I) and alveolar process (J). Marked inflammation (V) has occurred in the mucous membrane fold. An abscess has formed with a fistula extending to the gingival border. The thin border at the left of the fistulous tract is the epithelium layer next to the tooth. It is evident that the pus burrowed to the surface through the structure instead of between the epithelium and the tooth. A similar abscess and fistulous tract are evident upon the gingival border on the opposite side of the tooth. The irritation produced by the movement of the tooth has caused the cementoblasts to deposit large quantities of material upon the sides and the end



X 150. D. D. obj. Zeiss. Micro-photograph, reduced four-sevenths.

Fig. 7.—Longitudinal Section of Alveolar Process. Chronic Inflammation Extending throughout, showing Halisteresis, Perforating Canal and Lacunar Absorption. Dog.—J, Alveolar process. N, Large spaces arising from absorption of the trabeculae, starting in the Haversian canals (halisteresis). O, Lacunar absorption. P, Perforating canal absorption. BB, Blood vessels of V. Ebner preceding perforating canals. EO, Endarteritis obliterans.

of the root. The main nerve trunks (U) may be seen at and below the end of the root.

Fig. 11 illustrates the alveolar border on the right side of Fig. 10 greatly amplified. This shows the process of interstitial gingivitis extending through the alveolar process producing absorption with intense inflammation of the periodontal membrane and abscess with fistulous tract.

Fig. 12 shows a similar process amplified from the left side of Fig. 10. It is interesting to note in this illustration that the fibers of the sub-epithelium pass down and become interwoven with the coarser fibers of the periosteum in just the opposite direction from those in the other side of the tooth, and in other illustrations. The fibers from the mucous membrane along the side of the tooth extend down and into the periodontal membrane

without a break in the structure. The arrangement of the fibers of the submucous layer in producing the fold is well illustrated in the figure. This picture illustrates inflammation starting in the gingival border.

To secure a chain of evidence that interstitial gingivitis (due to the metals, drugs, uric, lactic and other acids) commenced in the papillary layer of the sub-epithelial mucous membrane, I instituted a series of experiments in mercurialization of dogs.

Dogs for the purpose were picked up in the streets. Some of these were operated upon by myself alone, others with the assistance of friends. Care was taken to secure those in health and with healthy gums. Mercury was introduced by the mouth, skin and hypodermic injection. It was no easy matter to get them under the

and placed in either 50 per cent. alcohol, Müller's fluid, or 2 per cent. formalin.

Sections of tissue from the gum margin and sides were made on a number of places. Some were imbedded in paraffin, others in celloidin. The sections were stained according to various methods: Delafield's hematoxylin, eosin (Unna's), alkaline methyl blue, carmin, Gram's stain, etc.

Microscopic examination showed that the epithelial lining of the gums did not present pathologic changes, but appeared normal in every respect. Connective tissue below the gum epithelium (the tissue analogous to the papillary layer of the derma and the derma proper) presented unmistakable evidences of a mild inflammatory process. There occurred in this connective tissue



X 75. A. A. obj. Zeiss. Micro-photograph, reduced four-sevenths.

Fig. 8.—Longitudinal Section of Alveolar Process. Chronic Inflammation Extending throughout. Showing Halisteresis and Lacunar Absorption. Dog.—J, Alveolar process. L, Haversian canals. N, Large spaces arising from absorption of the trabeculae, starting in the Haversian canals. O, Lacunar absorption. Q, Halisteresis ossium or decalcified bone. X, Remains of calcified bone. BV, Blood vessels originally Haversian canals.

influence of the drug, since the power of the glands to eliminate the poison was enormous. In no case was salivation produced. The first symptom noticed was exhilaration, which would last from three days to a week. Then paralysis agitans would continue until death. In about a week the appetite would commence to fail and it was difficult to get the dogs to take food of any kind. The kidneys and bowels eliminated the poison. There was a rise in temperature. Some of the dogs died before gingivitis was observed. This demonstrated that not only does the nervous system become involved, but the organs of the body may be morbidly affected and death ensue before the gums show symptoms of disease. Some dogs were killed after the gums became diseased. The time required to obtain results was from three to eight weeks. The age and physical condition of the dog caused this variation in time. After death the gum tissue was dissected from different parts of the jaws



X 75. A. A. obj. Zeiss. Micro-photograph, reduced four-sevenths.

Fig. 9.—Transverse Section, Alveolar Process. Chronic Inflammation Extending throughout. Dog.—J, Alveolar process. N, Large spaces arising from absorption of the trabeculae, starting in the Haversian canals. P, Perforating canal absorption. Q, Halisteresis ossium or decalcified bone. X, Remains of calcified bones. EO, Endarteritis obliterans. FG, Fat globules.

round-cell infiltration, generally moderate, but in some places quite dense. This cellular infiltration extended from below (where it was densest) upward into the papillary layer (Figs. 13, 14). The densest cellular infiltration usually occurred around the vessels (Fig. 14).

Under high magnification, the cellular infiltration was found to consist of polymorphonuclear leucocytes, plasma cells and plasmamast cells, the latter with coarse basophilic granulations (Figs. 15 and 16).

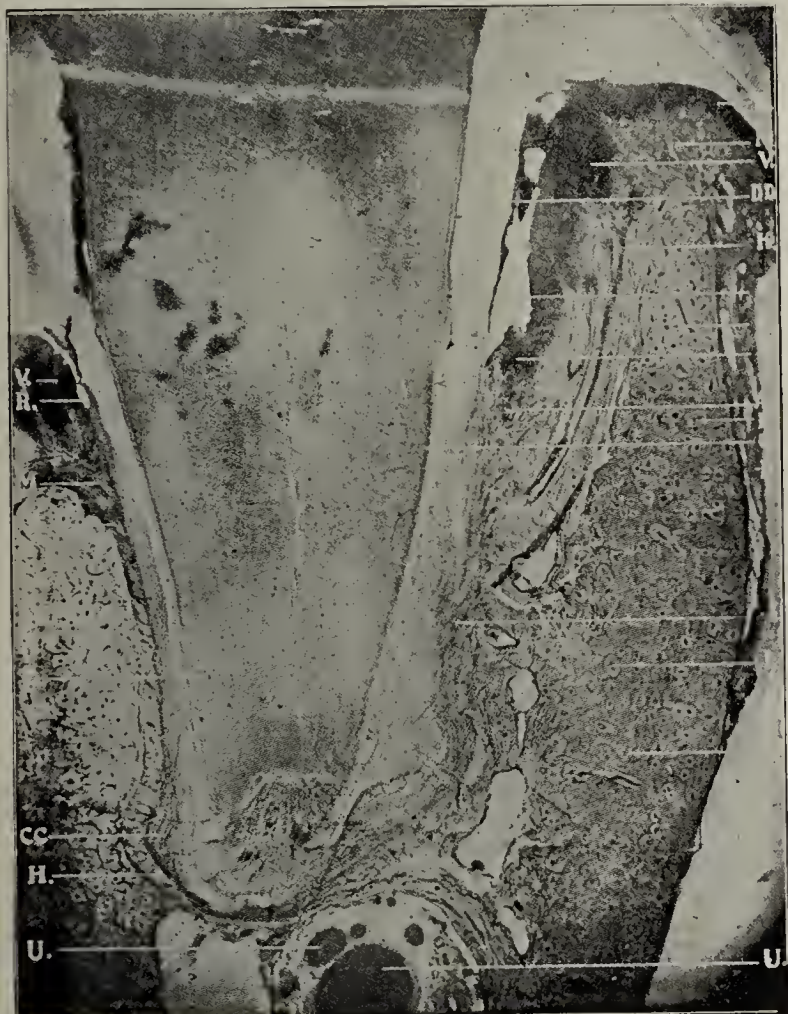
In some places were seen, between the round cells, short, broad fusiform cells, the protoplasm of which took quite well basic methyl blue. These cells resemble very much fibroblasts, and appear to be derivations of the plasma cells. No bacteria were found either in the areas of cellular infiltration (inflammatory areas) or elsewhere. In these cases it is obvious that there had occurred a mild inflammation of the gums (gingivitis).

While this could not be seen with the naked eye, microscopic examination demonstrated histologic features of an inflammatory process. The absence of bacteria justified the belief that this inflammation was not of microbic origin, but due to mercury, which by its well-known chemotactic influence produced the histologic changes of an inflammation.

The bacteric etiology of interstitial gingivitis has been incidentally discussed by many writers.

Galippe¹ was probably among the first to make analytic experimentation in the bacteriology of this disease. He claims that there is found in the pus of pyorrhea a parasite resembling in shape the Greek letter N. Injecting this into the belly of a guinea-pig, abscesses resulted which had a special tendency to affect bone tissue.

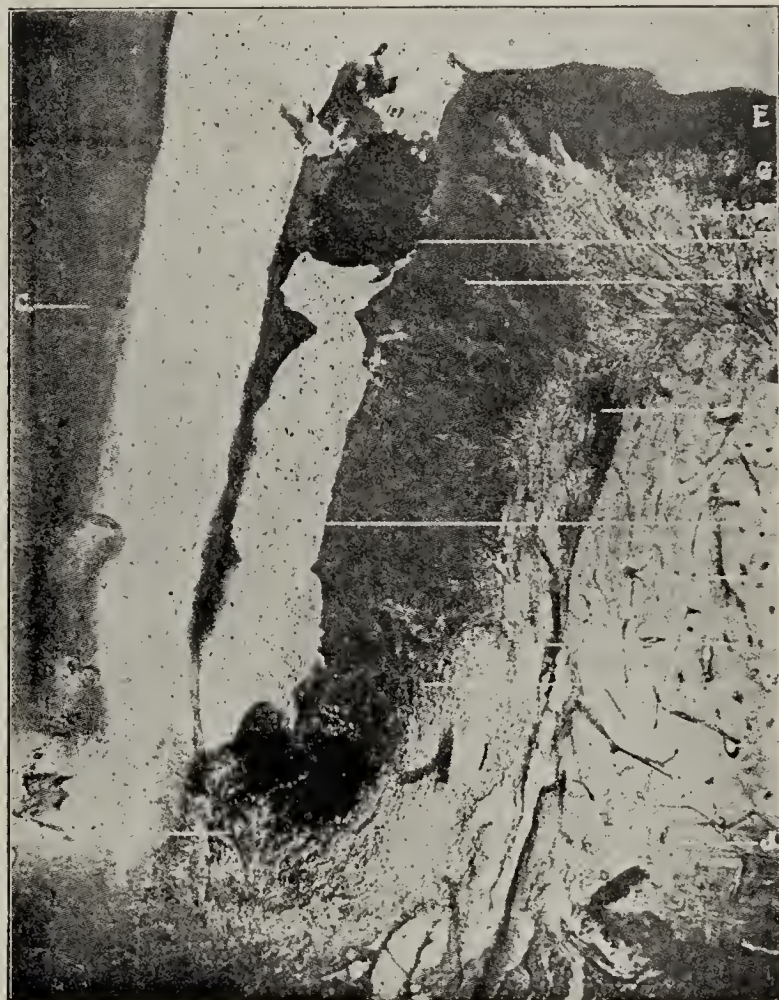
the nine species found in dogs, *staphylococcus pyogenes albus* occurred once. Of the other eight, two subcutaneously injected caused no reaction, and five but slight. One caused very profuse suppuration by which large portions of skin exfoliated. Microscopic examination of stained sections revealed masses of different bacteria, cocci and bacilli. *Leptothrix* occurred infrequently, and then only on the surface of the cement, and where there were microscopical cavities in it. Miller succeeded, consequently, in cultivating a large number of bacteria from pyorrhea alveolaris which possessed pyogenic properties, but was not able to determine the constant occurrence of any one which might be regarded as the specific micro-organism of pyorrhea alveolaris. Miller remarks that it is not evident from Galippe's



X 15. 75 M. M. obj. Spencer. Micro-photograph, reduced four-sevenths.

Fig. 10.—Longitudinal Section of Tooth, Alveolar Process, Peridental Membrane, Showing Interstitial Gingivitis and Pyorrhea Alveolaris, with Tooth About to be Exfoliated. Dog.—C, Cementum. E, Epithelial tissue. H, Periosteum. I, Peridental membrane. J, Alveolar process. K, Capillaries. L, Haversian canals. M, Fibrous tissue. R, Pus pockets. U, Nerve tissue. V, Violent inflammation. AA, Point of union of epithelial tissue and peridental membrane. CC, Cementosis. DD, Calcific deposits destroyed by acids.

Injections into the space between the teeth and gums were negative in result. Galippe regards his experiments as suggestions for further research, but not demonstrative. Miller,² after explaining his own methods, made a series of culture experiments on agar-agar blood temperature. Twelve cases of pyorrhea in human beings, and six in dogs, were examined. He isolated twenty different bacteria from human beings and nine from dogs. Among the twenty kinds, *staphylococcus pyogenes aureus* was found twice; *staphylococcus pyogenes albus* once; *streptococcus pyogenes* once. Of the other sixteen, nine subcutaneously injected produced no particular reaction, four a slight, three a severe suppuration in the subcutaneous connective tissue. Among



X 40. 35 M. M. obj. Zeiss. Micro-photograph, reduced four-sevenths.

Fig. 11.—Longitudinal Section of Tooth, Alveolar Process, Peridental Membrane and Gum Tissue, Showing Active Inflammation, with Pus Pocket. Dog.—C, Cementum. E, Epithelial tissue. G, Submucous membrane. I', Inflamed peridental membrane. J, Alveolar process. L', Inflammation extending through enlarged Haversian canals. M', Inflamed fibrous tissue. R, Pus pocket. V, Violent inflammation. AA, Point of union of epithelial tissue and peridental membrane. FF, Food containing micro-organisms.

communication whether he found the N bacterium in all cases examined or but once.

Sudduth, after repeated examinations, arrived at the same conclusions as Miller.

In order to determine whether a specific bacterium existed in the pyorrheic stage of interstitial gingivitis in man (necessary to constitute this stage a special disease), pus from more than fifty cases was examined. In all, the pus was obtained from the gums by a platinum needle under proper methods of sterilization. The pus from some cases was smeared on a slide. This was stained and such determination made as was possible with this procedure. With the pus from fifteen cases, agar was inoculated and placed in Petrie's dishes. The individual colonies were grown on gelatin, agar, bouillon, potato and blood serum. The results were as follows:

1. Die Infectiöse Arthro-Dentäre Gingivitis, 1888.
2. Micro-organisms of the Human Mouth.

In fifteen cases in which the organisms were plated out, 55 organisms were found. In two there was no growth. Two had 1 species of germs, two had 6, one had 7 and one had 10. The germs found are divisible into three classes: Those usually pathogenic to man, those exceptionally pathogenic to man, and those never pathogenic to man. The first class were found 30 times, the second 12, and the third 13. Class third is, no doubt, seemingly smaller than it should be, since many members of it probably do not grow on ordinary culture media. Of the germs most frequent and important, staphylococcus pyogenes aureus occurred nine times, staphylococcus pyogenes albus six times and staphylococcus pyogenes citreus once. A lanceolate diplococcus, growing like pneumococcus, was found six times. Streptococcus pyogenes was found twice. Bacillus coli communis was found twice. A bacillus growing like the diphtheria bacillus occurred twice. This last bacillus had the appearance of the Klebs-Loeffler bacillus. It lay on the slide like it and stained irregularly. Of the less impor-

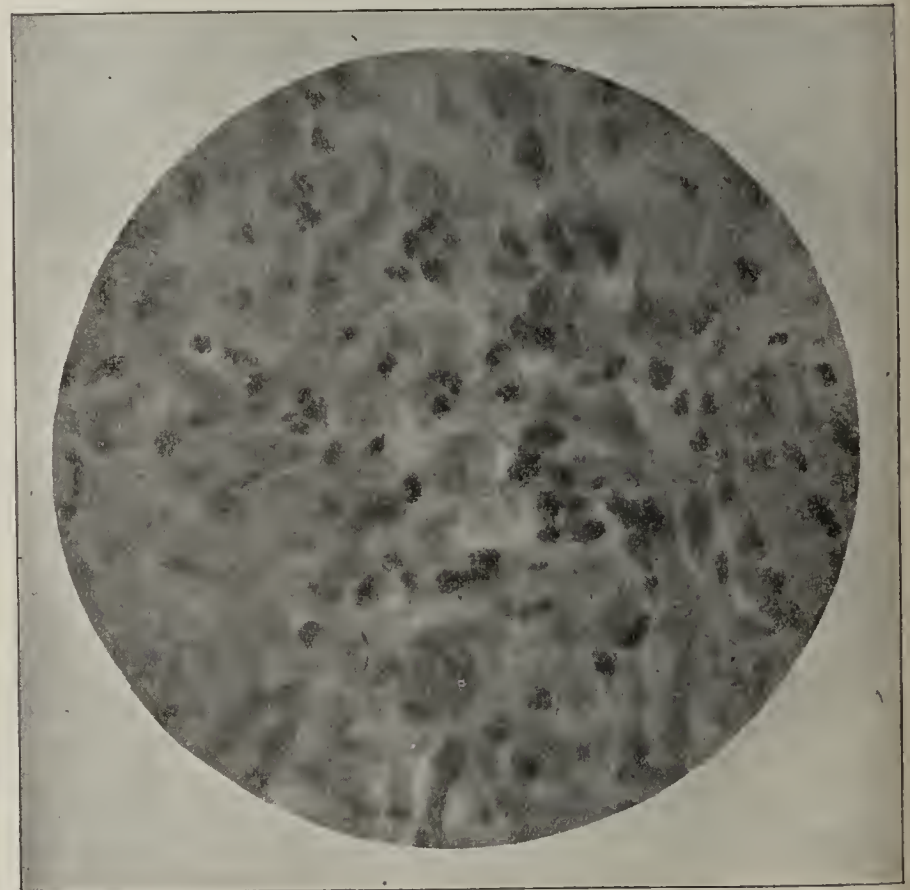
lowing results: Pieces from the gum margin which had been fixed and hardened in a formalin solution were partly imbedded in celloidin, partly in paraffin. The



Proj. $\frac{1}{4}$ inch, ocular $1\frac{1}{2}$ inch. Spencer.

Fig. 13.—Longitudinal Section of Gingival Border, Showing Round-Cell Inflammation Due to Mercurial Poisoning.

sections were stained according to various methods, including Gramm's, eosin (Unna's) and alkaline methyl blue stain. The examination of the tissue shows an



Planachr. oil imm. 1-12 inch, ocular No. 3. Leitz.

Fig. 14.—Longitudinal Section of Gingival Border. Higher Magnification, Showing Connective Tissue Infiltration with Plasma Cells and Polynuclear Leucocytes. Dog.

tant organisms, bacillus pyocyaneus was found three times, micrococcus tetrageus seven times, leptothrix seven times, bacillus mesentericus twice, bacillus subtilis three times. There was also present a peculiar large club-shaped fungus somewhat resembling the degenerative forms of actinomycosis.

Did these examinations stand alone, definite conclusions could not be drawn from them. These, however, are admissible, since all observations on this subject tend in the same direction. While, as already stated, Galippe believed that he had isolated two bacteria capable of causing pyorrhea alveolaris, still he failed to produce the disease. This failure, according to the laws of Koch, is fatal to the position taken.

An examination of cases of interstitial gingivitis which had not reached the pyorrheic stage, had the fol-

lowing results: Pieces from the gum margin which had been fixed and hardened in a formalin solution were partly imbedded in celloidin, partly in paraffin. The



X 75. A. A. obj. Zeiss. Micro-photograph, reduced four-sevenths.

Fig. 12.—Longitudinal Section of Tooth, Alveolar Process, Peridental Membrane and Gum Tissue, Showing Active Inflammation with Pus Pocket. Dog.—C, Cementum. E, Epithelial tissue. J, Alveolar process. M¹, Inflamed fibrous tissue. R, Pus pocket. V, Violent inflammation.

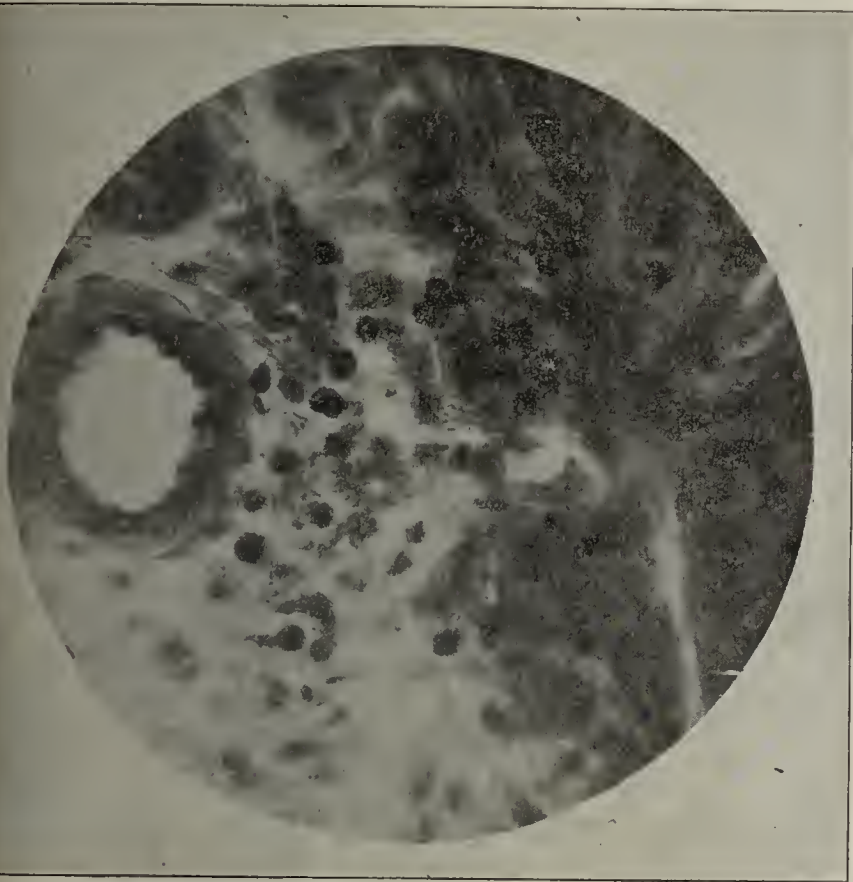
infiltration is best marked in the deeper layers toward the periosteum, while the layers of connective-tissue fibers nearer to the lining epithelium show less evidences of inflammation and are partly entirely free from any round-cell infiltration. The infiltrating round cells are of the type of lymphocytes, plasma cells and plasma mast cells. Very large and typical mast cells are frequently found in the neighborhood of small vessels. Many of the vessels seen are quite tortuous, and the vascular supply of the connective tissue appears to be considerably increased beyond the normal. Bacteria could not be demonstrated in the inflamed areas.

Examination of the interstitial gingivitis, produced by mercury in dogs, failed to reveal any bacteria. The histologic changes of inflammatory type found were due to the chemotatic influence of mercury and not to microbic action.

In a paper read before the Section on Stomatology of the AMERICA MEDICAL ASSOCIATION, at Columbus, Ohio,

These results, in Carpenter's opinion, tend to show that a specific germ, to which pyorrhea alveolaris is attributable, has not yet been found.

The disease being so prevalent among dogs, it occurred to me that they would be of great value for experimental inoculation. The prevalence of the disease in dogs suggests that if it were a specific infection these must be inocuable. Miller³ had made a few inoculations of pus as well as of the deposits around the teeth. Slight inflammation, and, in one case, a little suppuration alone resulted. He afterward isolated twenty different bacteria from the human mouth and nine from dogs. Some of the uncommon varieties were infective, but without marked results. Isolated varieties would probably not produce results that could be attained by inoculating animals with the fresh secretion (pus and other deposits) from dogs already affected with the disease. A dog was procured from the Veterinary Hospital whose gums and outer alveolar process were



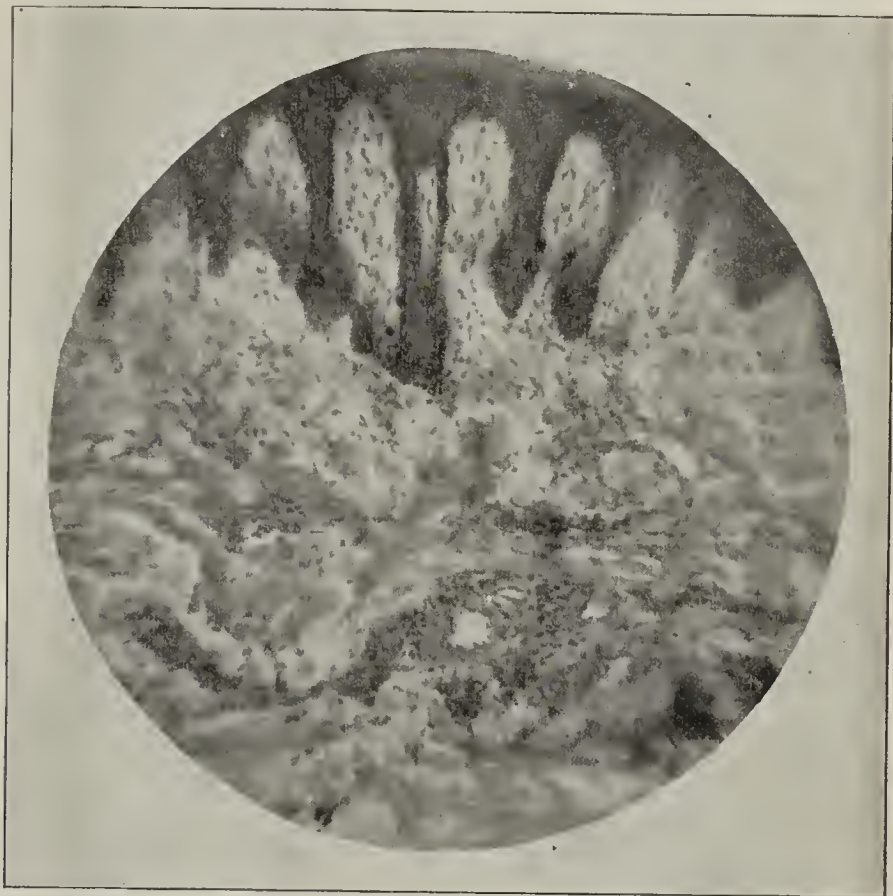
Planachr. oil imm. 1-12 inch, ocular No. 3. Leitz.

Fig. 15.—Longitudinal Section of Gingival Border. Higher Magnification, Showing Round-Cell Inflammation Extending to the Inner Coat of the Blood Vessel and also Plasma-mast Cells.

George T. Carpenter mentioned some very interesting experiments in this connection. By infecting a fresh wound in the gums of rabbits with pyorrhea and other pus he found the parts will remain infected only from two to five days. In other rabbits a rubber band was placed around teeth and pressed under the gums until inflammation resulted, when the parts were infected with pyorrhea and pus from a chronic ulcer; pus infection resulted.

Like experiments were made in the human mouth on gums which had been neglected as well as on healthy gums, and with similar results. His experiments tend to show that, when animals and men are healthy, the tissue resists infection; but when diseased, infection results. All yield to treatment.

On examination of pus taken from pyorrhea pockets, proceeding from acute infection, two competent bacteriologists were unable to find a micro-organism not found in pus from other infected tissues.



Projection ¼ inch, ocular 1½ inch. Spencer.

Fig. 16.—Longitudinal Section of Gingival Border, Showing Round-Cell Infiltration in the Connective Tissue and Extending into the Papillae. Dog.

almost entirely absorbed with pus exudate. Street dogs selected for inoculation were forty-six in number, ranging in age from 1 year to 7. They were of all breeds and conditions. Some were well fed, others very thin. Many had sound, healthy gums; others had slight inflammation at different localities. No dog was used whose gums and alveolar process had become infected or whose tissues were absorbed. Two dogs were operated upon at a time. The gum was separated from the necks of the teeth down to the alveolar process and peridental membrane—one-half at the canine, the other at the second pre-molar, since in a majority of cases the disease began at the canine tooth, probably on account of its prominence and the thinness of the alveolar process. The second pre-molar was selected because it is the least prominent. The secretions about the teeth and gums of the diseased dogs were collected upon a platinum wire (previously sterilized) and conveyed to

3. Ibid., p. 329.

the injured parts. Thirty-nine healed in eight days. In these the gum tissues were healthy. The pus had no effect. The wounds healed as rapidly as any wounds possibly could. In seven the gums were inflamed and infection occurred. Suppuration was slight in four and considerable in three. The pathologic findings in these cases were not unlike inflammation and infection in other tissues. Similar results would, no doubt, have taken place if inoculation had been performed with pus from an abscess. The last three dogs were allowed to depart at the end of four weeks with slight pus infection.

While hundreds of slides could be adduced in support of this chain of evidence, sufficient have been given to permit of the introduction of evidence from other phases of the subject.

(To be continued.)

ANTHRAX, WITH REPORT OF A CASE.*

WILLIAM ROUSH, M.D.

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Anthrax is one of the rare but very interesting maladies afflicting the human race which few physicians have the opportunity of seeing in the active form. It is an acute, parasitic, infectious disease, known also by the synonyms of malignant pustule, splenic fever, rag-pickers, wool-sorters and furriers' disease, also Milzbrand and carbunculus contagiosus and a number of others. As to its history and antiquity we know but little, but that it has existed for centuries there can be no doubt.

Blanc states that he finds our modern anthrax to have been the disease of the Egyptian plagues, but Hamlet on the other hand thinks this is only a matter of speculation.

To the researches of Pollender in 1855 and Davine in 1863 belong the credit of the discovery of the *B. anthracis*, the positive and only direct factor in the production of the disease. It has been said by good authority, that the discovery of, and experiments with, the *B. anthracis* has resulted in contributing more to our knowledge of bacteriology in general than work upon any of the other infectious diseases.

The *B. anthracis* is a non-motile minute rod-shaped body, ranging in length from 2 to 3 up to 40 or 50 microns, and presenting the appearance when stained of a strand of beads.

In persons or animals suffering from this disease, the bacillus may be found in the pustules, blood, urine, feces and tissues, especially the spleen, liver and lungs. When taken from these sources it can be developed in pure culture, which, if some other susceptible animal be inoculated will produce identically the same condition as that found in the animal from which it was taken. When taken direct from the pustules or from any part of the animal suffering from the disease, it is in the form of short rods and square at the ends, the diameter being greater and the length shorter than the pure culture cultivated artificially. If cultivated artificially, as it can be on any of the ordinary culture media in eighteen to twenty-four hours at the temperature of the body which is most favorable for its rapid development, the short rods develop into long threads and remain in this condition until a change in surroundings occur, the most important being a diminution in the nutritive supply which favors the production of spores.

Abbott says that spores will not form in a temperature under 12 C., or above 43 C. Spores do not form within the body of living animals, but spores introduced into living animals produce the disease. These spores are capable of resisting very deleterious influences. Esmarch says, spores from some sources can be killed by exposure to steam one minute, while others resist the same temperature for twelve minutes. These spores have been seen to continue in the living though inactive condition for long intervals and retain their virulent qualities.

Billings says that in 1876 he inoculated a piece of silk ligature with the anthrax spores and placed it in a bottle which was subjected to no other changes than those in the room in which it was kept. At various times during the seventeen years that followed, he cut bits of the ligature and placed it under the skin of a rabbit, and in every instance was the disease anthrax produced in typical form and the animals died, the last being in 1893 with similar results. He also cites another instance, in which he claims a horse became infected from having worn a harness made from the skin of an animal that died with anthrax.

Within the past ten days I examined a culture of anthrax developed from a tube in which I had inoculated direct from a patient Oct. 22, 1897. The tube of agar-agar from which the culture was made had remained in my office all this time, 3½ years, and for the past 18 months had been concealed in an air-tight box. The contents of the tube had so dried up that it was a mere thin shell and a piece of this placed in a fresh tube gave an excellent culture in twenty-four hours.

As to its virulency at the present time I can not say as I did not inoculate any animal, but a culture from the same tube in November, 1897, when tested by Professor Kramer, proved sufficiently virulent to kill a mouse in about twenty-four hours.

As to the formation of toxins there are some differences of opinion. Most bacteriologists claim the bacillus of anthrax generates toxins, while Conradi¹ says we have no evidence to prove the general assumption that the bacillus of anthrax generates a toxin. On the contrary everything tends to indicate that the anthrax bacillus is a typical infectious micro-organism. As to the etiology there is but one direct factor and that is the bacillus of anthrax, which is introduced into the person or animal, either from some other person or animal suffering from it, or who resided in an anthrax center, or from some of the earth, vegetation or water from one of these centers, which simply means localities where the bacillus is found in the earth.

Cattle and horses nearly always contract the disease while grazing over these localities, or in drinking water found in cess pools or near them.

The conditions which seem most favorable for their development in the earth are, 1, presence of the bacillus of anthrax; 2, a rich black loamy soil with sufficient moisture and high temperature; 3, profuse vegetation and rapid decay of same.

The season of the year most favorable for the development of the bacillus in the soil is from about the middle of July to the middle of October. In seasons in which prolonged drouth and high temperature have been preceded by much rain and luxuriant vegetation.

These centers are most frequently found in the torrid zones, less frequently in the temperate zones, and occa-

* Read before the Alumni Association of the Cincinnati College of Medicine and Surgery, May 1, 1901.

1. THE JOURNAL A. M. A., Sept. 23, 1899.

sionally found in the frigid. It has been shown to exist in Siberia and Lapland. In our own country, as far as is known, there are four well-established centers in Canada, namely, Guelph, Aeton, Listowell and Kingston.²

Within the United States it has been found in Massachusetts, Pennsylvania, Virginia, Maryland, Michigan, and most of the states lying in the Mississippi valley; also California had an outbreak some two years ago which resulted in the loss of many cattle. In Ohio no doubt there have been various cases, but I have not been able to find any account in medical literature of any case, except the one which came under my observation and treatment about three and a half years ago.

From all the inquiry and investigation of the same community from which this case came there is nothing to show that there had ever been any disease in any person similar, but there is a history of some form of infection in the horse from which this patient became infected. The symptoms of the horse were extensive edema of head and part of the neck, and a profuse purulent discharge from the nostrils, mouth and eyes, which lasted

A patient is not rendered immune by one attack and is just as liable to a second or third attack as the first.

Invasion.—There are three common avenues for the introduction of the poison: 1, through abrasions of the cutis, or wounds of any kind; 2, digestive tract; 3, respiratory tract.

Incubation.—The period of incubation in animals as in man is from a few hours to several days. This is modified by the amount of bacilli introduced, by the degree of their virulency, and the rank held by the person or animal in regard to susceptibility or immunity.

Clinical History.—Two leading clinical types are distinguished, namely external and internal. A clinical report of the two following cases will fairly illustrate the symptoms and conditions of both varieties, though



Fig. 1.—One hundred and twenty hours after inoculation.

nearly two months and ended in recovery. No examination either by veterinarian or physician had been made of this animal, but from the similarity of the symptoms and the fact that the patient contracted the disease by being switched in the face by the same horse, shows strong suspicions that the affection of the horse was anthrax.

SUSCEPTIBILITY AND IMMUNITY.

The susceptibility of the mammalia to anthrax may be expressed in the following order: herbivora, omnivora, and carnivora. This is largely due to the manner of obtaining food and modified much by the kind of food and locality from which it is obtained. Mice, guinea-pigs, and rabbits are most highly susceptible, and the ones used for experiments.

An injection of virulent anthrax in any of these animals will produce death in twenty-four to forty-eight hours. In man, while not the most susceptible, nor by any means immune, when fatal results do come, it is usually within ten days from time of inoculation. Patients passing beyond this time usually recover, but rather slowly, on account of the loss of tissue from sloughing and gangrene.



Fig. 2.—Eighteenth Day.

both were inoculated externally; one in the right eye, the other in the left, and both cases showing marked external edema in about the same degree.

The case in which but few internal symptoms developed showed more severe external symptoms and recovered, while the case with the most marked internal symptoms resulted fatally on the fifth day after inoculation, which is shown in the report of the following case, also reported elsewhere.³

C. B., aged 59, a native of Germany, and laborer in a hair factory, came to the Johns Hopkins Hospital Dispensary on Saturday, May 11, 1895, complaining of the swelling of the lids of the right eye. His history was as follows:

Family History.—His father and one brother died of some lung trouble, the exact nature of which he does not know; one brother died of cancer of the liver. The family history is otherwise negative.

Present History.—Two days ago, while working with South American hair he scratched his right eye with his hand, as it was itching. The next morning he noticed that the eyelids

2. Dr. W. T. Connell, in THE JOURNAL A. M. A., Dec. 9, 1899.

3. Johns Hopkins Bulletin, Sept.-Oct. No., 1895.

were slightly swollen, and itchy, and by this morning they were so swollen that he came to the dispensary.

At the time of the visit the swelling was confined to the lids of the right eye, and was fairly sharply localized; it was edematous in character, and quite boggy, the overlying skin appearing almost of a natural color. Two small incisions were made, one into each lid, and a small quantity of rather thin, whitish fluid, resembling diluted milk was evacuated. Cultures upon agar-agar were made at this time, and two days later the tube inoculated showed a pure growth of an organism which resembled the bacillus anthracis, and which upon inoculation killed a mouse in twenty-four hours. Further tests proved it to be the anthrax bacillus.

The patient was admitted to the hospital on May 13, four days from the onset of the disease. The physician who attended him at his home, from Saturday until his admission on Monday, stated that his temperature had been subnormal during the entire period. On admission the patient complained of nothing but slight pain beneath the right side of the jaw; otherwise he felt perfectly comfortable. He had no headache or malaise. His mind was perfectly clear. The following note was made at this time:

Patient is in bed on his back. Temperature 102 F. Pulse 132 per minute, regular, volume fair, tension not increased. Respirations 16 per minute, easy. Tongue has a slight white coat. The mucous membranes are of a fair color, not cyanosed.

Both eyes are closed by edema. On the left side the swelling is not so nearly marked as on the right side, the lids being distended by a moderately firm, watery edema. The lids of the right eye are much swollen, hard and tense, and the overlying skin is occupied by several vesicles, varying in size from a pea to a bean, and filled with clear, yellowish serum. The eyes themselves appear uninvolved. Over the whole of the right side of the face and neck, and extending up onto the scalp, is a marked edema of varying consistency; immediately around the right eye it is very hard, and covered by tense, shiny skin; over the forehead, neck and remainder of the face, as well as over the implicated scalp, it is much less firm, and can be easily pitted by pressure. The edema extends across the left side of the forehead, and occupies the neck as low down as the clavicle. On the side of the mouth the right cheek is marked with the imprints of teeth, and has a yellow-gray sloughy appearance.

May 14, 10 a. m. The patient is much worse this morning. He had several involuntary passages of urine and feces during the night. The mind is quite clear, and he answers questions rationally. He complains a good deal of cramp-like pains in the abdomen. The pains are situated in the umbilical region, and are sharp and constant, with occasional acute exacerbations, during which he has a desire to defecate. The abdomen is extremely sensitive to pressure this morning. The spleen can not be palpated. The pulse at the wrist is almost imperceptible and practically uncountable. The heart sounds are extremely distant and feeble. The temperature has been subnormal since 4 a. m. this morning and is now 97 F. The right eye is somewhat more swollen than it was yesterday, and the edema now occupies the whole of the scalp, and has spread down the right side of the chest to the level of the pectoral fold; it also occupies all the tissues overlying the upper part of the sternum.

The patient gradually sank, and died quietly at 4 p. m. on the 14th. Before death the edema had spread further over the left cheek, and had also extended somewhat further down the chest. The patient became very cyanotic before death. There was no respiratory distress at any time. His mind was perfectly clear to within fifteen minutes of his death. On the morning of the 14th he had three loose watery stools of grayish color, and apparently containing no blood. The urine was passed involuntarily, and could not be examined.

Autopsy, May 15, eighteen hours after death, the body in the meanwhile having been preserved on ice. Body 174 cm. long, moderately well nourished, strongly built. Rigor mortis in both extremities. The right eyelids are edematous, closing the eye; they are congested and glazed and the epidermis is peeling off. The whole right side of the face below the eye is edematous, and the edema extends over the head and neck. The left eye and left side of the face are less swollen. The edema is well marked anteriorly over the neck and clavicles,

and can be well followed down the chest. On incising the skin, above the clavicles, much clear, serum-like fluid escapes. The edema extends beyond the median line to the left, and is immediately evident after incision, extending to the sternum. Subcutaneous fat is moderate in amount.

The peritoneal cavity contains turbid fluid; at least 2000 c.c. of such fluid is present in the cavity. The serosa is injected, its reflection lost, the vessels very hyperemic. Smaller and larger ecchymoses are seen beneath the serous membrane. In the smaller omentum, in the region of the pancreas, a large ecchymosis is seen.

In the pyloric region there is in the mucous membrane a large, deeply congested area, measuring 8x6 cm. in extent. It is not clear that there is a false membrane over it, but some grayish-yellow material adheres to the surface.

The duodenum is congested uniformly. Beginning in the jejunum, which is less congested, there occur at intervals small, elevated, deeply congested areas. They average 2 mm. in width and project 1 mm. above the surface of the intestines; they do not seem to correspond with the lymphatic follicles. The serosa over them is often the deeply congested, bulged out portion already described; this is, however, not exclusively the case. These foci are quite numerous in the jejunum, at least fifteen being present in this part of the gut alone. At times two or three were close together, though as a rule they were more separated. In the ileum they were also seen, in this situation perhaps a little more separated, but in all as many were present as in the jejunum. In connection with one of these areas in the ileum, what appeared to be a false membrane occurred. If a membrane, it was thin, and easily scraped away. Several of the nodules showed superficial ulceration. There was no relation detected to the lymphatic apparatus, and the nodes were less numerous near the ileo-cecal valve. The large intestine shows no such localized foci, only a diffuse congestion. Mesenteric glands were swollen, congested, hemorrhagic, and softened.

The second case is the one that came under my observation and treatment three and a half years ago.

Elmer C., aged 20, farmer of good habits, health and family history, came to me on Thursday, 7 a. m., October 21, 1897, with the following history:

On October 18, four days before, while working with a team of horses in the field he was standing directly behind them unloading the wagon. One of the horses switched him in the face, which caused quite a burning and itching sensation, about like the bite of an insect. This occurred about 11 a. m., and he continued to work the remainder of the day with no other symptoms than those of the burning and itching which were present at first.

October 19, edema of lower left eyelid with the appearance of small ecchymotic spot about three-fourths inch below center of eye. Patient worked all day, and by evening the eye was almost closed.

October 20, burning and itching same as first two days. Eye completely closed, pustules formed over lower lid. Edema had spread in all directions and slight discharge from the eye. At 4 p. m. patient applied for treatment to physician, who claimed to have removed a piece of glass from the eye which, if correct, had never produced any pain.

October 21, about 7 a. m., patient came to my office for treatment the first time. The left eye was completely closed, with marked edema of face and head, the left side being much worse than the right. The lids looked watery, and there was a profuse purulent discharge from the left eye resembling gonorrheic ophthalmia, and numerous pustules from one-eighth to one-half inch in diameter covering the lower lid and extending about two inches over the cheek. Some of the pustules had ruptured, and the base showing the slough had extended to the tissue beneath the skin. Temperature 101; pulse 96; respiration 20. No headache nor pain, but patient was restless. Patient grew worse all day, and the following morning, October 22, I saw him at his home. By this time the swelling had spread over the entire face and scalp and as low as the clavicle, and was sufficient to produce difficult and labored breathing. Temperature 102; pulse 102; respirations

25. Tongue heavily coated, breath fetid, no appetite and very restless. Had slept but very little during the night. The discharge from the eye and sloughing areas was very profuse. At this time I prepared two slides, one from the fluid of a pustule and one from the pus discharging from the eye. Upon microscopical examination, both slides showed the short, thick rods of bacillus anthracis. In the evening of the same day I inoculated a tube of agar-agar, and after eighteen hours, examination showed the presence of bacillus of anthrax in large numbers, and upon this I based and made my diagnosis of anthrax.

October 23, edema increasing. Both eyes completely closed; discharge greater; pustules still forming, and could now be seen in all the stages, a very interesting condition to observe. The mucous surface of the left side of the mouth was covered with a grayish-white membrane resembling diphtheria and the surface would bleed freely when this was removed. Temperature 102.5; pulse 120; respirations 28, deep and labored. Very restless, some dyspnea and vertigo on rising. Could speak but little louder than whisper. Could not take any nourishment on account of swelling of mouth and throat. Photograph No. 1 shows condition of this day.

October 24, condition same as preceding day, except breathing was heavier and edema still increasing.

October 25, conditions same as before, except the swelling of the right eye was reduced sufficient to permit it to open slightly, but the edema had spread over the entire chest as low as the apex of the heart, and presented a bright red appearance resembling the rash of "iodism." Slight pain also developed in the bowels, which lasted for thirty-six hours. This was the only pain experienced during the course of the disease.

October 26, edema decreasing, discharge about same. Temperature 100; pulse 100, respirations 22. Voice better. Can take small amount of diet, and getting some natural sleep. Within the next twenty-four hours temperature went to normal, and never rose above 99, and improvement continued until patient was in good health.

On the tenth day a line of demarcation formed as shown in photograph No. 2. Within this line everything was gangrenous, except the eyeball and the deeper portion of the eyelids.

The sight of the eye was at no time affected, although the eyeball was highly congested. The gangrene destroyed all the soft tissue over the cheek, to the periosteum, and all the muscles about the eyes that control the lids.

Dr. Stuber, of Lima, Ohio, directed and treated the eye and has made three plastic operations, hoping to restore better functions of the eyelids, but the results have not been satisfactory.

Treatment.—Having no experience in any way with this affection and finding but little literature on the subject that seemed to meet the symptoms present, a line of symptomatic treatment was adopted, which consisted of quinin, whisky, diuretics and cathartics, internally and externally, local application of bichlorid cloths to all parts that were sloughing, boracic acid salve to the eye, after thoroughly cleansing all the discharge from the eye with hot boracic acid solution.

On the eighth day after inoculation I found an article by Vockresensy,⁴ in which he highly eulogizes the use of large doses of carbolic acid internally, claiming to have cured sixteen consecutive cases of malignant pustule, and in some it was not begun until the seventh day.

In my case it was not used until the eighth day; within twenty-four hours from the time of commencing it improvement was noticeable, and it was continued until all symptoms of sepsis had disappeared. Whether the favorable result was due to use of the carbolic acid, I do not know, but should I get another case I would begin it promptly.

The main points of interest are: 1. Does this one case prove that an anthrax center exists on this farm, the home of the horse and patient? 2. Did the horse really have an anthrax at the time he was suffering from the swelling and discharge from the head? 3. The difference in the symptoms and results of the two cases reported when the points of inoculation were so nearly the same. The virulency in either case proved to be sufficient to produce death in mice in twenty-four hours.

INTERESTING THROAT PARALYSES IN A CASE OF LOCOMOTOR ATAXIA OF AN IRREGULAR FORM.*

JOHN EDWIN RHODES, A.M., M.D.

CHICAGO.

Mr. F. D. R., aged 35, railroad employe, was sent to me Jan. 26, 1901. About four days previous to his visit he began to cough occasionally and had at that time noticed some difficulty in articulation, especially in the liquid sounds, *t* and *d*; the labials *m* and *n* were pronounced easily. At this time there was noticed occasional though slight regurgitation of liquids into the nasal cavity on swallowing. He gave a history of rheumatic pains in the shoulder some four or five years ago, but had had none recently.

He confessed to an attack of gonorrhea, but had never had syphilis, nor were there any general symptoms indicating such an attack. His habits were good; he did not use alcoholics, and used very little tobacco. His sense of hearing was good; the sense of smell was considerably impaired; vision in the right eye was poor.

There were no pains at this time from which he suffered, but he had had sharp lancinating pains in the lower extremities at one time for several years. His normal weight was 150 pounds, but now he weighed only 135 pounds. His strength was fairly good; the temperature and pulse were normal. There was no dyspnea, vertigo, or headache.

He complained of a slight tickling sensation in the larynx, which excited cough occasionally. The tongue was slightly coated, the appetite fair, the digestion good, but he was habitually constipated. Micturition was frequent and could not be controlled very well.

Dr. C. D. Wescott, who sent him to me, reported upon his case as follows: "In regard to the case of F. D. R., I would say that he was referred to us last May, by Dr. Patrick. He came with the diagnosis of locomotor ataxia, and was sent to us because of a drooping of the upper lid of the right eye and a divergence of the same eye. He was also complaining of pains in the eyes and head. He said that the eye first turned out two years before and had not been straight since. Upon examination, it was found that there was complete paralysis of the branches of the third nerve of the right side. The ophthalmoscope showed some opacities in the vitreous in the right eye and the retinal vessels were full and hazy in outline. The optic nerves appeared normal in both eyes. We prescribed glasses which gave him great relief in the use of his eyes for near work; and, about the middle of June, he reported himself decidedly better. There was noticeably less ptosis and slight movement of the right eye in was possible. We then lost sight of him, and he did not return until we sent him to you on January 26 complaining of his throat. On that day there was almost com-

* Read before the Chicago Laryngological and Climatological Society, May 2, 1901. (See Proceedings, p. 1801.)

plete ptosis of the right upper lid, as well as divergence of the eye. His vision was not quite as good as it was at the time of our examination in May; the optic nerve was gray, possibly indicating beginning primary atrophy.

I asked Dr. Patriek as to his condition in May and he reported to me as follows: "I first saw F. D. R. on May 3, 1900, and found him suffering from rather atypical tabes. The right pupil was dilated and had been so for two years. Occasionally the left eye would swing outward, giving him double vision. He had well-marked incoördination, diminished knee jerks, the left more so than the right. I regret to say that my record makes no mention of the pupillary reactions, but I feel quite sure that they were not normal. I could get no history or other evidence of specific infection."

Dr. Gill had seen the patient previously and reported as follows: "F. D. R. called to see me about two years ago; he told me he had been suffering from sharp lancinating pains in the lower extremities for several years. An examination of his condition at that time showed exaggerated patellar tendon reflexes; ptosis of the right lid with sluggishness of both pupils to the light. There was no incoördination, and no ataxia. The last examination, which occurred several weeks ago, showed a change in some of the symptoms, inasmuch as the reflexes had disappeared entirely. The lancinating pains had persisted, but still there was no ataxia or incoördination. He has difficulty in urinating, an inability to completely empty the bladder, also inability to control the sphincter ani at all times. There were some areas of anesthesia about the chest. His trouble is probably an irregular form of locomotor ataxia."

I found the nasal cavities comparatively normal. When the mouth was opened, and the tongue depressed for an examination of the throat the soft palate was in a normal position. On irritating it with a probe, however, the right side of the palate was contracted strongly to the pharyngeal wall, drawing the uvula toward the right, the left side of the palate not responding at all to the irritation, but remaining relaxed and stationary. There was no anesthesia of the parts.

On examination of the larynx the right vocal cord was stationary in the median line, there being a paralysis of the posterior crico-arytenoid on the right side—the abductor of the vocal cord. All other conditions of the throat were normal.

The diagnosis then was, an ascending sclerosis of a locomotor ataxia causing ptosis of the right eyelid, and divergent squint of the right eye, paralysis of the left half of the palate, and abductor paralysis of the right vocal cord.

The motor nerves affected were interesting. The palate derives its motor stimulus from the otic ganglion of the fifth, supplying the tensor palati; the facial supplying the levator palati and azygos uvulae. The recurrent laryngeal supplies the posterior crico-arytenoid; the third supplies the levator palpebrae, and the sixth, the external rectus of the eye.

The diagnosis should not be difficult. The throat conditions might be confounded with those found in the acute form of bulbar paralysis, but the rapidly progressive nature of this disease with its symptoms would enable one to easily exclude it. In this case the history, with the symptoms and signs of ataxia, although not altogether typical, satisfactorily settled the diagnosis as due to a progressive and upward sclerosis, involving finally these nerves at their origin in the bulb.

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THE DIAGNOSIS OF DIAPHRAGMATIC HERNIA.*

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The diagnosis of diaphragmatic hernia presents many difficulties in the living subject; so great indeed are these that the condition is seldom recognized until operation or death has yielded an ocular demonstration. The affection is found in rare cases at autopsies and it is occasionally discovered in the dissecting room in bodies dead of other affections, but all told only a little over 300 cases have been reported. H. I. Bowditch reported a case in 1847 and at that time collected reports of 88 cases. Leichtenstern¹ reported a case in 1874 and at that time collected reports of 250, but only five of these were diagnosticated before death. Thoma² collected 290 cases in 1882 and many more have since been reported, but still the obstacles to diagnosis remain, although as shown by Leichtenstern, and by Abel³ in 1894, there are some cases in which a reasonably positive diagnosis may be made without great difficulty. As I have elsewhere stated⁴: "This affection possesses many symptoms and signs in common with pneumothorax, like which it causes distention of one side, displacement of the heart, diminished motion, tympanitic resonance and feeble or suppressed respiration with metallic tinkling." The history will often be of the greatest aid in reaching an accurate conclusion. In the cases collected by Bowditch, 26 were congenital and the rest traumatic. The principal symptoms noted were dyspnea on exertion and sometimes on lying down; pain in the bowels, especially after a full meal, in those where the opening through the diaphragm was small, and vomiting in several cases where the stomach was wholly or in part within the chest. In most of the cases the pulse was disturbed and in a few it was weak and rapid. In 27 per cent. of these cases the patients were in good health and engaged in active business.

In Abel's case the symptoms, which came on suddenly, were those of obstruction of the bowel, with vomiting, profound collapse, retraction of the abdomen and distention of the left side. He based his diagnosis upon the retraction of the abdomen, distention of the left side with tympanitic resonance and displacement of the heart to the right, with the collapse, and absence of any passages either of gas or feces from the bowels. In his case it was impossible to introduce a stomach tube through the cardiac orifice; therefore this organ could not be irrigated. In Leichtenstern's case he was able to demonstrate the presence of stomach and intestines in the pleural cavity and to note changes in them from the introduction of water and air. This patient complained of dyspnea on exercise, but worse during eating. There was slight cyanosis of lips, increased respiratory frequency and almost an absence of heart dulness. Percussion and auscultation over front of thorax yielded normal signs. Heart sounds muffled and loudest at lower end of sternum. Abdomen flattened. Posterior part of thorax: slight loss of motion and prominence below the left shoulder blade. Percussion and auscultation normal to lower angle of left scapula. Below this a hollow, deep, tympanitic note. In this region absence of vesicular breathing; instead

*Read before the Chicago Laryngological and Climatological Association, May 2, 1901. (See Proceedings, p. 1801.)

1. Leichtenstern: Berliner Klin. Wochenschrift, 1874, p. 497.

2. Thoma: Virchow's Archiv, vol. lxxxviii, p. 515.

3. Abel: Berliner Klin. Wochenschrift, 1894, p. 84.

4. Dis. of Chest, Throat and Nose, 1900, 4th Ed., p. 88.

of this, high-pitched metallic inspiration and expiration, transmitted from the bronchial tubes, the inspiration loudest. Metallic tinkling and succussion sounds part of the time. The exact extent of area of metallic resonance and breath sounds was determined by auscultatory percussion. The borders where the metallic notes ceased abruptly varied considerably at different examinations. At times over the lower part of the chest the metallic breathing and quality of the percussion note would disappear entirely and the resonance would merely appear exaggerated; at other times it would occupy a larger area and invade the axillary region and even send a tongue-like projection to the left border of the sternum. During percussion the pitch would run up and down the scale from deep to high notes, or the reverse. He believed this the result of peristalsis and emptying of the stomach or colon or filling of same with gas. At times percussion produced notes of varying pitch at different parts of the affected area, indicating more than one cavity. At the lower part of the left and back of the thorax, dulness would be noted at times. The border of this would change with changes in position of patient. (Contents of stomach.) He based his diagnosis on the following points: Percussion showed in the lower left side of thorax behind a hollow cavity that applied itself to the chest wall in a changeable area. It changes its position, shape and volume in a very short time. The circumstance that at times metallic resonance was absent in the affected area while there was also absence of fremitus and vesicular breathing at all times over the area, showed that the cavity persisted but the metallic resonance was lost because of filling of the cavity with contents or because of its contraction. When this contraction occurred the lung tissue and vesicular breathing encroached on the area of the cavity, the lung expanding and following it up. The shifting of the upper border of the area of dulness showed that the cavity contained at times movable contents, and the size of this area indicated the presence of the stomach. The different pitch of certain areas of metallic percussion that at times were separated from each other by areas of dulness was explained by the presence of more than one cavity. (Small intestine, colon, stomach.) The breath sounds over the area were either metallic or often absent. The respiratory sounds he thought were changed in quality and acquired a metallic character by transmission through smooth-walled cavities. The pitch of the metallic breathing was decidedly less intense than that heard in the pneumothorax, because the sound was not transmitted through the pleural cavity alone, but also through the gastric and intestinal walls. At times the metallic breathing was heard only with inspiration, whereas, in pneumothorax, on account of greater compression of the lung, the expiratory sound is the loudest. In addition, gurgling, either simple or metallic in quality, was heard, also the metallic tinkling and splashing sounds, with bursting bubbles trickling and pouring sounds, such as are heard in diarrheas, or ecstasis of the stomach. These sounds were at times very frequent, at other times absent. Leichtenstern argued that where similar sounds are heard in the normal thorax in the axillary and infrascapular regions if the stethoscope is applied to the stomach or intestines it can be readily shown that these sounds are far more intense in the normal situation of these organs, whereas in diaphragmatic hernia the dislocation of the intestines or stomach encourages the formation of peristaltic sounds through the place of communication of thorax and abdomen, and these sounds are louder by far in the thorax than

they are when listened for over the abdomen. After old pleurisy with high location of the diaphragm the stomach and intestines can occupy a high situation, but here we have a retracted and not distended thorax, with scoliosis, etc. Succussion sounds in this case showed the variable character belonging to all the other signs. When they were present they were deep, showing a large cavity. (Stomach.)

Almost all reported cases of diaphragmatic hernia show great variability in the signs.

Pneumothorax, the affection with which diaphragmatic hernia is likely to be confounded, results from pulmonary tuberculosis in 90 per cent. of all cases and in probably all of these is speedily followed by effusion of serum or pus into the pleural sac. The affection develops without the history of an injury. In the remaining 10 per cent. nearly all result from traumatism, and in most of these inflammation of the pleura speedily follows with effusion of fluid, though in a very few there may be no infection and the air may be absorbed without causing any effusion. In pneumothorax dyspnea may come on suddenly or gradually and we may often hear amphoric respiration, especially in expiration, which may be either intense or feeble and which disappears when fluid rises high enough to cover the opening into the air passages. When fluid and air are present in the pleural cavity we may often hear metallic tinkling during the respiratory acts and we may obtain distinct splashing sounds by shaking the patient's body while the ear is applied to the chest. The heart is constantly crowded to the opposite side, where it remains without variation. Diaphragmatic hernia is congenital or occurs through congenital defects in about 38 per cent. of the cases that have been recorded and in many of these it does not cause marked symptoms unless the hernia becomes strangulated. In about 60 per cent. of cases the affection is traumatic and therefore the history is quite different from that of pneumothorax. The dyspnea in hernia may come on suddenly and as suddenly subside, whereas, that of pneumothorax is more continuous. I have elsewhere stated that there is no amphoric respiration in diaphragmatic hernia, but the reverse of this is maintained by others. I can not understand how typical amphoric respiration could be produced in diaphragmatic hernia, although I know that similar though more distant sounds, especially on inspiration, are sometimes heard. These, I believe, are caused by the transmission of the bronchial sounds through the intestines or stomach, some parts of which are distended by gas. The most important factors in the differentiation of non-strangulated cases are the following:

1. The metallic tinkling in pneumo-hydrothorax and a similar sound, though different in quality, may be heard at times in diaphragmatic hernia. The quality of the sounds produced in the bowels and in the pleural cavity would often be sufficient to differentiate between them, but this quality can not be accurately described; therefore the principal value of the sign depends upon the fact that in pneumo-hydrothorax it is heard only with respiratory movements or upon shaking the body, while with the hernia it occurs independently of these movements and is associated with rumbling or gurgling of gas in the stomach or bowels which have escaped into the pleura.

2. The displacement of the heart, which in pneumothorax remains practically constant, in diaphragmatic hernia may vary with the varying contents of the stomach or bowels, as when the patient is fasting or soon after eating or drinking freely. The retraction of the

abdomen may prove of some value as a sign, and the symptoms of obstruction will be of the utmost importance if strangulation occurs. In a case saved by operation that was recently reported by E. W. Walker,⁵ there was the history of a severe injury, with symptoms of intestinal obstruction and "diminished expansion of the left side of the chest, tympanitic resonance at the base of the left lung, amphoric breathing, succussion sound on shaking the patient and the apex of the heart was displaced two inches to the right." In this case there had been a fracture of two ribs and the patient had some pain in the left side, which leads one to suspect a rupture of the lung with pneumothorax, in addition to the knuckle of bowel (involving 8 inches of the gut) which was firmly held in the rent in the diaphragm. Walker cites numerous authors and states that among the symptoms named, dyspnea, intense pain, and cough are the most prominent, and that tympanitic resonance over the prolapsed gut, amphoric tinkling and sometimes succussion sounds are present.

The symptoms and signs must necessarily vary greatly according to the cause, the nature of the injury, when traumatic, and the condition of the organs protruding from the abdominal cavity. Larcher found that in about 91 per cent. of 275 cases no hernial sac existed. The signs would doubtless vary considerably in the cases in which the intestines protruded freely into the pleural cavity and in those where they were held down by the overlying pleura.

An interesting case has recently come under my observation that I believe to be a diaphragmatic hernia, but several skilled diagnosticians look upon it as a case of pneumothorax. The question has not yet been settled, but in view of the symptoms and signs I think the members of this society will be interested in each making a diagnosis for himself. The case is as follows:

A gentleman 29 years of age came to me Dec. 31, 1900, with the following history. Ten days previously, while walking on the street in the most vigorous health, he was occasionally taking very deep inspirations as was his habit, for the mere satisfaction of filling the lungs. Suddenly there was a pain and something seemed to give way in the lower outer part of the left inframammary region. He became faint and had to sit down for some minutes, but partially recovering he walked on a couple of blocks to a friend's office, where he sat down again. He became so faint and short of breath that he was obliged to be taken home. He felt better the following day and was on the street soon again, though he had an uncomfortable feeling in the left side and occasionally had mild attacks of dyspnea and faintness. He also noticed frequent splashing sounds or sensations referred to the left inframammary region. About a week after the first attack, as the result of climbing the stairs of an elevated railway station, he had a distressing attack of dyspnea and faintness. He rode on down town but felt so badly that he immediately returned home. He consulted Dr. William M. Harsha, and a day or two later came to see me. He had the appearance of perfect health and complained of nothing excepting slight discomfort in the left side and some shortness of breath. About ten years before he had a bad cough for two or three months while an attendant at a hospital, but he recovered immediately on leaving the institution and he had been in perfect health ever since. There was no hereditary tendency to any disease. There had been no increase of temperature since the accident; indeed, the temperature and pulse had been slightly subnormal most of the time. No cough or expectoration. Appetite good and digestion normal. He had just eaten a hearty supper before calling on me, which apparently modified some of the physical findings. Abdomen somewhat retracted with marked transverse furrow across the upper part of the umbilical region about on level

with end of tenth ribs. Chest normal form, but movements of left side much diminished. Apex beat of heart about 2 inches to right of normal. Spleen and liver could not be detected below the border of the ribs. Percussion and auscultation yielded normal signs over right side. Left side hyperresonant in front, excepting moderate dullness below fourth rib extending about 2 inches to left of mammillary line and downward to near border of ribs. Posteriorly and laterally hyperresonance over upper two-thirds of left side with tympanitic resonance below. Right border of heart extends one inch to right of sternum on line of fourth rib. Respiratory murmur at left apex about four-fifths as intense as on right side extending down to third interspace in front and to seventh or eighth rib behind. Below this, no respiratory sounds, but instead I heard several times, rumbling and gurgling exactly like that commonly heard over the bowels. Occasionally I heard short metallic sounds which might be termed metallic tinkling, such as may often be heard over the bowels when a patient is flatulent. These were not very much like the metallic tinkling I have often heard in pneumo-hydrothorax, probably on account of being produced in small cavities with elastic walls. I heard nothing resembling amphoric respiration and there was no succussion sound. I made a tentative diagnosis of diaphragmatic hernia and planned to see the patient at his home the following day with Drs. Christian Fenger and William M. Harsha. We called about 5 p. m., the patient having eaten nothing since a very light luncheon 4 or 5 hours previously. The signs were the same as on the previous evening excepting that the apex of the heart was crowded only about three-fifths as far to the right. The dullness to the left of the heart was less distinct, the respiratory sounds in front extended about an inch lower and behind two or three inches lower than the preceding evening and the gurgling sounds were heard much less frequently. I understood Dr. Fenger that he heard something like amphoric respiration over the lower part of the lung posteriorly but it did not occur while I was listening. Dr. Harsha was inclined to think the case one of pneumothorax; Dr. Fenger was non-committal. I felt more confidence than before in my diagnosis. We advised the patient to go to the Presbyterian Hospital, hoping to establish the diagnosis and if necessary operate for relief. In the hospital Dr. Fenger explored the lower part of the left chest twice with a long aspirating needle, the first time with negative results. The next time there was some escape of air sufficient to blow out a match. This had no odor and the needle contained no cells or fluid that yielded anything to microscopic examination. The patient was given bismuth and examined by the *x*-ray, but with negative results. His stomach was filled with air and the colon with water and from percussion appeared to be in normal position. While in the hospital he was examined by Drs. Billings, Senn, Rhodes, Corwin, Herrick, Dolamore, Freer, Sippy, Torrison, Stevenson and others (about thirty in all), some of whom favored the diagnosis of pneumothorax and others agreed with me. I examined the patient several times during the next few weeks, hearing the intestinal sounds often and sometimes the long drawn out gurgle from rushing of air or fluid through a constricted portion. On one occasion I heard something resembling a faint but very distant amphoric inspiratory murmur, which I think must have been the same as the metallic breath sound from the bronchial tubes referred to by Leichtenstern. The position of the heart and the lower line of respiratory murmur varied somewhat from time to time, but otherwise there were no changes in the physical signs or in the patient's general condition. The diagnosis of diaphragmatic hernia appeared to me more and more probable with each examination, until finally, on account of the patient's anxiety to be through with the trouble, I felt justified in recommending an exploratory operation below the diaphragm, providing Prof. Fenger should concur. The patient himself, though favoring the operation, has thus far been unable to decide on account of the conflicting views as to the diagnosis. I examined this patient again February 13. He told me that about three days previously, after laughing, he could hear air rushing into some cavity below the left inframammary region. I found the left side more tympanitic than ever before; the impulse of the heart crowded

5. Walker: International Jour. of Surg., Sept., 1900, p. 257.

two inches to the right of the sternum; the respiratory sounds over the left apex extended down to about the fourth rib but were less distinct than previously and on a level with the inferior angle of the scapula on the left side posteriorly and laterally, amphoric sounds were constantly heard on inspiration though they lacked the amphoric echo and the nearness to the ear that are present in ordinary cases of pneumothorax. The gurgling and borborygmi could not be detected at this time. The left side measured $17\frac{1}{4}$ inches and the right 17. The movements of the left side were practically nil; the abdomen was somewhat retracted and the spleen could not be detected below the border of the ribs. A week later there was no material change in the physical signs. I examined the patient carefully Feb. 27, nearly ten weeks after the accident. During the whole time there has been no increase in temperature or pulse rate, excepting the slight change already mentioned which was present a day or two after one of the exploratory aspirations and which was attributed to a sore throat. At the last examination the contour of the chest was normal, with the retraction instead of prominence of the intercostal spaces on the lateral aspect of the left side. The abdomen was considerably retracted; the heart sounds were feeble when the patient lay upon his back, but the organ had returned two and a half inches nearer its normal position than it was two weeks previously. When the patient lay upon the right side the heart sounds and impulse were of normal intensity over the lower portion of the sternum to the left of the median line. The vesicular murmur could be heard over a larger area at the upper part of the left chest than at the last examination and was of about one-third its normal intensity. I was unable to hear anything resembling amphoric respiration, but whisper resonance was distinct though feeble over the lower half of the left side. There was a small area of moderate dulness about two inches in diameter at the upper anterior corner of the infra-axillary region, which appeared to me due to the contents of the hernia, but aside from this the lower part of the left side was moderately tympanitic and the upper part presented nearly normal though slightly exaggerated resonance. I heard no metallic tinkling or borborygmi, but the patient called my attention to an interesting sign which I heard repeatedly as he swallowed a little water. This was the normal though somewhat intensified liquid sound from the esophagus which could be heard only at the lower part of the esophagus below the level of the fourth rib. It could be heard in front and laterally though most distinctly in the latter position. This sound occurred as the bolus of water passed through the lower portion of the esophagus; it was followed by a silence of about ten seconds and then came another considerably louder and more prolonged gurgling sound which could be heard distinctly over the epigastrium and as high as the fourth rib. The first of these sounds I think was produced by the passage of the water through the lower portion of the esophagus into the stomach and the second by passage of a part from the portion of the stomach that remains in the abdominal cavity to that portion that forms a part of the diaphragmatic hernia. This patient has never had any history of stricture of the esophagus, so there is no reason for suspecting that the liquid remains for ten seconds in a pouch at its lower part before it passes into the stomach; indeed, if it were from this cause the second sound would begin immediately after the first and would continue until the liquid had drained into the stomach. It seems quite reasonable to suppose that it might require ten seconds before the movements of the stomach would force the liquid which had been taken in through the constriction into the hernia. These sounds could be produced at will every time the patient took a small swallow of water.

The points in favor of the different diagnoses in this case are shown in the following table:

PNEUMO-HYDROTHORAX. HISTORY.	DIAPHRAGMATIC HERNIA. HISTORY.
1. Ninety per cent. follow tuberculosis, most of the remainder traumatic. <i>Absent in this case.</i>	1. About 27 per cent. congenital or due to congenital defects. The remainder traumatic. Absence of usual causes of pneumothorax.
2. Usually sharp pain in side, followed by depression and	2. Usually but little pain and not very prominent signs in con-

symptoms of hydro-pneumothorax. *Absent.*

3. Usually feeble, rapid pulse and persistent temperature. *Absent.*

4. Abdomen usually distended, but may be normal.

5. Restricted movements and hyperresonance on left side.

6. Commonly succussion sound or flatness, showing fluid in pleural sac. *Absent.*

Very rare cases have little or no fluid.

7. Displacement of heart to right, constant while air remains, but gradually disappears as air is absorbed.

8. Spleen in left-sided pneumothorax crowded downward. *Absent.*

9. Feeble or absent vesicular murmur.

10. Amphoric respiration in many cases depending on whether opening into pleura from lung remains patent.

11. So-called metallic tinkling, but it could not have been produced in the pleural cavity, because it contained no fluid.

12. Dyspnea.

13. Aspiration. Obtained air only. No odor.

genital cases unless they become strangulated.

3. Pulse and temperature never above normal excepting slightly for a few hours after the first aspiration, at which time he had some sore throat.

4. Abdomen retracted.

5. Restricted movements and hyperresonance at upper part of left side. Variable tympanitic resonance over lower part. In pneumothorax tympanitic resonance should be most marked at apex, unless prevented by old pleuritic adhesions. No history of pleurisy at any time in this patient's life.

6. No succussion sound or flatness, though presence of gurgling, and splashing sensations noticed by patient extending four or five inches above diaphragm, showing presence of fluid in smaller cavity than the pleural sac.

7. Displacement of heart to right varying from time to time according to the contents of stomach and bowels from one to five inches to right of normal.

8. Spleen not crowded downward.

9. Feeble vesicular murmur over upper part of chest, but at some examinations the murmur was three-fourths as loud as on the right side over an area varying at different examinations from two-fifths to three-fifths of the left side. The area over which it cannot be heard varies under the same conditions. Absence of vesicular murmur below.

10. Amphoric respiration, though lacking the echo that is usually present in the pleural cavity, present occasionally only, in this case and heard only over the lower part of the chest and that in inspiration only. In pneumothorax it is usually heard best in expiration and appears near the ear instead of distant as in this case. Gurgling and borborygmi as high as the fourth rib, from bowels, and louder than below the diaphragm. Sometimes long drawn out sounds from fluid or air passing through constriction. Although intestinal sounds may sometimes be heard above the normal position, it is doubtful whether they could ever be heard distinctly as high as the fourth rib, unless the diaphragm were crowded far upward, as after an old pleurisy. In pneumothorax the diaphragm would be pushed downward.

11. So-called metallic tinkling, but of quite a different quality from that heard in pleura; quality exactly like sounds often heard over abdomen. Produced independently of respiratory movements or shaking the body. There was no fluid in the pleural sac, therefore metallic tinkling could not have been produced by pneumothorax in this case.

12. Dyspnea should be permanent in pneumothorax; it was intermittent in this case.

13. Aspiration. No fluid either from pleural cavity or intestines. No odor from intestines. This, like the absence of bacilli from sputum, is not a positive sign.

In this case the symptoms and signs noted in 5, 7, 9, 10, 11 and 13, taken without modifying conditions would certainly indicate pneumothorax; but the conditions in some of these seem to make them weigh more for diaphragmatic hernia, and all of the other seven propositions certainly make strongly for the latter diagnosis.

J. B. Murphy states that when deflating the lung by air in the pleural sac the air must be introduced about every third day. It is improbable that confined air could remain in the pleural sac for this length of time. Clinical experience has shown that in nearly all cases en-

trance of air from the air passages to the pleural sac is speedily followed by effusion. It is extremely improbable that a communication of the pleural sac with the air passages could exist for this length of time without causing pleuritis.

The diagnosis in this case seems to me nearly certain; the prognosis very doubtful, and the treatment problematical. The fact that 27 per cent. of the cases reported by Bowditch were in good health strongly favors doing nothing; but the comparative safety of an operation under modern precautions and by such surgeons as we have at hand seems to justify the attempt to prevent possible strangulation.

The patient left the hospital a few days after the last examination and I have not seen him since, though I have heard that he is doing very well.

THE VALUE OF CALCIUM CARBID IN THE TREATMENT OF INOPERABLE CARCINOMA OF THE UTERUS.*

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The treatment of carcinoma by calcium carbide dates from 1896. The late Dr. J. H. Etheridge, of the Chicago Polyclinic, following some German physician, first brought this treatment into notice in America. He published the results of his experiments in *THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION*, in July, 1898, highly recommending the treatment. Dr. W. B. Coley, of New York, took up the subject and published a monograph in Vol. 17 of the *Twentieth Century Practice of Medicine*, commending the treatment and presenting a flattering report of cases. This article has been widely circulated. Dr. A. H. Cordier, of Kansas City, last year read a paper recommending the treatment before the Mississippi Valley Association at Asheville, N. C. Comments are continually appearing in the American medical press as well as brief reports from German and French periodicals. The last editions of several standard text-books on gynecology have recommended the treatment.

The first attempt at a real exposition of the exact action of calcium carbide was made by Dr. Emil Ries before the Chicago Medical Society, and published in *THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION* in November, 1896. This paper deserved more general attention than it received.

The growing widespread conviction of the value of calcium carbide seems to me a sufficient excuse to attempt to review carefully the theoretical and practical status of this treatment.

The procedure usually advised in applying the carbide is, 1, the removal of all necrotic tissue by the curette; 2, hot irrigation, cleansing and drying the wound; 3, the insertion of one or two pieces of calcium carbide the size of the terminal phalanx of the thumb; 4, fixing the carbide in place by iodoform gauze packing; 5, the removal of the gauze between the second and fifth day, cleansing, drying and repeating the process.

The various claims made by the advocates of this treatment are the following:

1. Acetylene gas has a specific escharotic action on the carcinomatous tissue.

2. Acetylene has an antiseptic action, inhibiting the bacteria of putrefaction and thus reducing odor.

3. It transforms the necrotic area into a clean, contracting, granulating wound.

4. Hemorrhage ceases or is greatly diminished.

5. Wider experience shows its positive value.

6. It gives the patient more comfort and postpones death.

7. It is without danger.

8. It is sometimes capable of producing a complete cure.

Calcium carbide is a hard, grayish, stag-like mass, formed by the union of quicklime and coke at the high temperature of the electric furnace. It emits a garlic-like odor when in contact with the moisture of the atmosphere and crumbles to a grayish-white powder. In contact with water it is violently disintegrated, liberating acetylene gas according to the formula: $\text{Ca C}_2 + \text{H}_2\text{O} = \text{Ca O} + \text{C}_2\text{H}_2$.

The commercial product varies and contains the impurities of the original materials. Water liberates hydrogen sulphide and hydrogen phosphide in small quantities, to which the odor is due.

Pure acetylene gas is a hydrocarbon having a faint ethereal odor. When impure it has been considered highly poisonous. The pure gas is but slightly toxic. Cushney, in his admirable work on therapeutics, classifies it as one of the medicinal anesthetics of inferior value, dangerous because of its depressing action upon the heart.

Water dissolves 1.1 times its volume of gas. From my determinations, defibrinated blood dissolves but .3 of its own volume, which would be about the limit absorbed by the serum. Rosemann has shown that acetylene forms no combination with hemoglobin, as has been frequently reported.

A saturated solution, as well as the pure gas itself, has no apparent physiological effect when 5 c.c. are injected in the dorsal lymph space of the frog. This I have proven repeatedly by experiment.

The impure gas arising from the carbide in water has no effect upon the open eye long held exposed to its influence, as was pointed out by Ries. I have been unable to notice any effect from a saturated aqueous solution of acetylene instilled into the eye.

I have observed the movements of leucocytes in a warm solution of normal salt saturated with acetylene. They do not seem to differ from normal. I can not find that the motions of motile bacteria or vorticella in acetylene solutions seem to be impeded. Rosemann exposed animals to streams of pure acetylene for several hours without fatal effects.

It would seem from such considerations that Dr. Etheridge was mistaken when he suggested that acetylene gas destroys cancer cells by annihilative action or by chemical change. The similar article by Dr. Coley in the *Twentieth Century Practice of Medicine* is likewise misleading. I believe we are safe in assuming that for all practical purposes acetylene has no physiological action on protoplasm sufficient to give it therapeutic value in the treatment of carcinoma.

Concerning the suggested bactericidal action of acetylene I find allusions to experiments by Professor Hektoen, of Rush Medical College, who is said to have grown several pathogenic bacteria with calcium carbide and acetylene gas with negative results. I have carefully reviewed the work by a series of experiments, growing the micro-organisms in an atmosphere of commercial acetylene gas after the manner of the culture of the tetanus bacillus in nitrogen, using nutrient gelatin. The

* Read before the Texas State Medical Association, Galveston, Texas, April 24, 1901.

streptococcus, staphylococcus, bacillus pyocyaneus, various diplococci, proteus vulgaris and other bacilli of putrefaction, all grow luxuriantly in an atmosphere of acetylene; meat and bouillon likewise decompose rapidly. Fresh urine decomposes as promptly as in the air.

I conclude that acetylene gas has no antiseptic or bactericidal power sufficient to retard the decomposition of necrotic tissue or the infection of healthy tissue, and can play no part in the removal of the offensive odor of the uterine discharge.

The second product resulting from the decomposition of calcium carbide is calcium oxide or quicklime. This almost instantly becomes slaked by the moisture present. The treatment of carcinoma by lime and other caustics is very old, and there are on record reports of the application to the cervix of nearly every known caustic. Beyond question the place of escharotics in the treatment of carcinoma uteri is a very limited one. In case a caustic is desired it is pertinent to inquire whether calcium carbide is a rational selection.

The action of all true alkalies is identical, depending upon their common hydroxyl ion. The degree depends upon their solubility. The alkaline hydrates, like caustic potash, are very soluble; they penetrate to considerable depth into the tissues; they neutralize all acidity; dissolve tissues by the formation of soluble alkali protoids; saponify fats; and withdraw fluid from the tissues for their dilution. They are slowly neutralized and removed by the body of fluids and cause a deep necrotic area, whose base bleeds easily, due to the solvent action of the alkali upon the fibrin of the blood clots. These agents have been given up in the treatment of the uterus because of the deep and dangerous sloughs and the tendency to hemorrhage.

Calcium hydroxide has an identical action, save, as it is but slightly soluble, it penetrates only the superficial layers and has less affinity for the tissues. So superficial is its action that the "cancer doctor," who uses it at all, mixes it with caustic potash in the form of "Vienna paste" to increase its penetration. It has the same tendency to dissolve fibrin and promoting rather than checking hemorrhage.

Metallic salts depend for their chief action on their acid ion. The action is the same as the action of their acid. The degree of the action depends upon the avidity of the acid and the solubility of the salt. They range in power from mild styptics to violent corrosives. The acid ion forms acid albumins. The limit of this action is more clearly marked than with the alkalies because of the neutralization of the acids at a definite level by the alkaline body fluids. The metallic ion forms in most instances insoluble metallic albuminates, which assist likewise in limiting the action. The base of the ulcer is hard and definite. They do not so readily dissolve fibrin and have a styptic action in checking hemorrhage. They can be selected in all degrees of strength to suit the extent of escharotic action desired, as in the series beginning with the mild alum, iron chloride and lead acetate through mercuric nitrate, zinc chloride to antimony chloride, the last being rarely used.

The only argument for a caustic over a curette is its ability to penetrate the tissues and destroy the deep carcinomatous cells of lessened vitality and poor blood supply. The microscopic investigations of Ehler seem to demonstrate the contrary, that carcinomatous tissue is only superficially affected while necrosis of healthy tissue extends to a considerable depth.

I draw from these considerations that a caustic is seldom indicated and then a rational selection would be a soluble metallic salt and not the carbide of calcium.

The antiseptic action exerted by calcium carbide is due to the quicklime and to some extent by the heat liberated.

The decomposition of calcium carbide is attended with the evolution of a large amount of heat. A piece taken between moist fingers becomes too hot to hold. An erythematous redness is frequently seen about the area where carbide is applied. This is due partly to the inflammatory action of the caustic and partly to heat. Patients sometimes complain of a burning sensation. A piece of carbide the size of the terminal phalanx of the thumb weighs about 10 grams. This will liberate 8.7 grams of quicklime and 200 cubic inches of acetylene gas. The whole piece requires 5.6 c.c. or 1.5 drams of exuded serum for its entire decomposition. This disintegration, as near as my experience can determine, usually requires from three to twenty-four hours, varying widely with the vascularity of the necrotic area. I have measured the heat liberated in a calorimeter and find that from 10 grams about 4500 calories are set free, varying somewhat with the sample. This is sufficient to raise 71 c.c. of water from body temperature to boiling, or enough to similarly melt 459 grams of lead. There is no question but the heat liberated is quite sufficient to somewhat cauterize the tissues, especially when serous exudation and consequent decomposition is very rapid. To this heat is undoubtedly due the marked contraction of the wound, and the lessened tendency of the caustic to produce hemorrhage. It is very possible by the application of a large amount of calcium carbide in a thin vascular shell of a uterus to cause a slough producing perforation and fistula, hastening a fatal peritonitis or occluding the ureters, as other caustic agents are reported to have done. Other dangers have been suggested, but are more theoretical than practical.

The heat produced can never compare with the actual cautery which after thorough curettage probably to-day insures the best results in inoperable cases. This fact has recently been emphasized at the last meeting of the AMERICAN MEDICAL ASSOCIATION by Dr. Byrne, who reported the cicatricial scars of the actual cautery almost immune from carcinomatous invasion, and the roasting of the underlying tissues gives the largest immunity from extension. The gratifying contraction of the ulcerated area is more prompt and marked with the cautery than with the heat of the carbide.

The cases treated with calcium carbide that I have had under observation have run their usual typical courses. The cleansing, curettage and calcium carbide have together prolonged the patients' lives and rendered their last days more endurable. The results I can not see are in any respect superior to curettage, antiseptic treatment, the use of the cautery and mild styptic and escharotic applications.

I believe that both theoretical considerations and experience coincide in showing calcium carbide to be much overrated, of some danger, and doubtful utility; not so valuable as a better selected line of treatment suited to each individual case.

It is to be greatly regretted that so many inaccurate statements concerning this agent are creeping into literature. It is recommended in the last editions of several standard texts. In Dr. Garrigues' last edition of his "Gynecology," p. 544, he says, speaking of uterine carcinoma: "Calcium carbide is an important addition

to our palliative resources, which in cases that have not progressed too far may even effect a permanent cure." Cases that should receive "palliative" treatment are certainly inoperable. How the application of calcium carbide can affect the deeply infiltrated extra-uterine carcinomatous masses in such cases is beyond the ken of human reason, and I believe has no ground in experience. It is probable that in a case of incipient carcinoma of the cervix the neoplasm might be totally destroyed by a local caustic, but here calcium would be a poor selection and any palliative treatment would be unsafe to rely upon.

Few statements could be more serious than those of Levet and Guinard in "Nouvelles Rémèdes," of 1898, reported in the medical press, in which they state that they have kept inoperable cases of uterine carcinoma in a "happy statu quo" by the application of calcium carbide every four to five days. Such statements encourage tinkering and losing time on operable cases.

In closing I will draw the following résumé of important conclusions:

1. The mass of the literature on this subject is misleading.
2. The originators of the treatment were ignorant of the real action of calcium carbide, and had insufficient clinical experience to pass judgment on its value.
3. Acetylene has no effect on protoplasm sufficient to support a theory of any specific annihilative action on carcinomatous cells.
4. Acetylene has no escharotic effect.
5. Acetylene has no bactericidal action upon pathogenic bacteria or the bacteria of putrefaction.
6. The principal action of calcium carbide results from liberated quicklime.
7. Lime is not a rational caustic to select, if one is desired, because of its superficial action, the character of the necrosis and tendency to promote hemorrhage. The metallic salts are more styptic, and their action may be better graduated by proper selection.
8. The amount of heat evolved may be sufficient to slightly cauterize the tissues. In most cases it has slight therapeutic effect save counteracting the tendency to hemorrhage and promoting contraction.
9. The heat of the actual cautery promises better results because of the firmer cicatrices, resisting carcinomatous invasion and more complete contraction of the wound.
10. Calcium carbide is open to the same dangers as other caustics when improperly or too zealously applied: those of producing its corrosive action in the wrong place, fistulæ, perforation and fatal peritonitis or occlusion of the ureters.
11. The treatment does not reduce odor or hemorrhage nor give more comfort to the patients than other rational lines of treatment.
12. The claims of advocates have not been realized in experience. There is no evidence in theory or practice warranting the conclusion that calcium carbide could ever cure a case of really inoperable cancer of the uterus.
13. The facts regarding the subject should be more widely disseminated to expurgate medical literature and to avoid false expectations and fatal delays in operable cases.

The Children's Exposition now open at Paris has a medical department, and one of the show-cases contains the photographs taken in early childhood of various prominent physicians. The historical exhibits of children in relation to the physician are artistic and interesting.

MORPHINISM: AN UNUSUAL CASE.

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Some forty years ago, when Dr. George B. Wood's famous work on therapeutics appeared, he wrote concerning morphinism as follows: "It will not answer to break off suddenly. No fortitude is sufficient to support the consequent misery, and life might be sacrificed in the effort. Of the particular phenomena which might result I have no experience; for I have met with no case in which the attempt has been made, or at any rate more than momentarily persevered in." This doubtless was the consensus of professional opinion at that time, and probably it remains substantially the same to-day. From past instruction reinforced by a limited observation, it had seemed to me doubtful whether such a habit was ever thrown off by a patient, unaided, under any circumstances. How rarely a confirmed "morphine fiend" is cured by the most careful treatment, even in retreats, is well known to every practitioner. *A priori* it would seem well-nigh impossible, therefore, that a cure, without aid, should be effected in one who has become a slave to the drug.

Such a case would seem to savor of the sensational, yet such a one recently came under my observation. It is interesting largely on account of the unusual circumstances surrounding the inception and progress of the cure. That the patient has abstained from opium since first putting it away, which was about nine months ago, there is now no doubt. The case seemed so unusual that more than ordinary proof was required before accepting his statements. It is only after an investigation of such thoroughness that deception seems to be beyond question or doubt that a report is offered.

The patient in question was a laborer 45 years old, 5 feet 10 inches in height, weighing 166 pounds, and in better health than for thirty years past. He inherited a taste for alcohol and from boyhood used whisky to excess. Since childhood he has suffered acutely at times with pain due to disease of the left shoulder-joint. In 1884 he began to take a small amount of powdered opium daily to allay these pains. Soon this was mixed with pulv. glycyrrh. comp. in order to increase the bulk and thereby lessen the likelihood of mistake in dosage, as well as with the idea that it would diminish the tendency to constipation. So persistent was his constipation that for years previous to the discontinuance of opium his bowels did not once move without an injection. He avoided cathartics because of the quantity necessary for the desired effect. He found powdered opium and licorice an inconvenient form for daily use, so he added enough glycerin to mould it into pills. This answered all purposes of convenience thereafter. Gradually the amount of the drug was increased until after a couple of years he was using 30 grains of powdered opium daily. Becoming uneasy at this rate of increase he now made an effort to limit the amount. He found, however, that he must continue to have between 20 and 30 grains a day. This he took in three doses—one before each meal.

All this time and for years before, he had been using whisky to great excess. The amount taken daily was seldom less than from one to two quarts. For five years he bought a gallon jug full on an average of every two or three days. While the opium was taken in regular doses, the whisky was used at intervals throughout the day. According to his statements the opium would counteract the effects of the alcohol. Thus, he could

use more whisky than before and still carry on his business as usual.

The difference in the action of the two drugs was this: Alcohol excited him more or less and caused unsteadiness of muscular action. It failed to relieve pain or to lessen his mental troubles and worries in the least, but served rather to magnify them. Opium, on the other hand relieved his pains and lessened his nervousness. It minimized his troubles and furnished ready excuses for them. It gave him rest and a happy, untroubled feeling generally. No matter what happened it always seemed as if everything would come out right in the end. His worst time was immediately after rising in the morning, when he felt weak and powerless. After taking his customary pill this feeling rapidly vanished. Gradually such excesses began to tell on him. He lost weight, appetite became poor and stomach acted badly.

In 1888 he decided to quit using alcohol in any form, and did quit, though he had an attack of delirium tremens which nearly proved fatal. He clung to opium, but kept the amount down to 30 grains or less a day. In the summer of 1900 he had a severe attack of "gall-stone colic," which his opium, augmented by liberal amounts of morphin hypodermically by his physician, failed to relieve. His sufferings here were so intense that, following his recovery, he came to a firm resolve to abandon the drug. How great a task he had laid out for himself he afterward declared was beyond conception. The idea he had of it before the trial was that at most it would only be the quenching of a fire which would rapidly burn out as it failed of fuel. He went to a physician and asked for some remedy which would cure him of the habit. The physician not only said he could not furnish such a panacea, but gave him no encouragement and told him plainly that he could not rid himself of a habit so long established. This discouragement only strengthened his resolve, and that night he did not take his accustomed pill. That was about August 1, 1900, and since then he has not taken a single grain of any form of the drug. His weight at that time and previously had been about 145 pounds, his appetite was poor—almost nothing—his bowels moved only with an injection, and in condition he was generally run down. That night he did not find much trouble, though he slept but little and was nervous and fretful. The next day he felt weak and irritable and suffered from nervous symptoms. Then pains set in and it would seem as if some one was pulling and pinching his nerves with forceps. So intense were the twinges that he would jump and writhe with the pains. As soon as he could get at a part to rub it, the pain would fly to another quarter, and by thus shifting would by spells almost drive him frantic. At night such sensations were intolerable. He could not get rest in any posture, to say nothing of securing sleep. He would lie down tired and weak, and finding the bed uncomfortable get up in a few minutes and try the sofa. This being no better he would then throw himself on the floor. Worse than ever, he would take a rocking-chair hoping that perhaps he could snatch a few moments sleep sitting up. Then in the vain hope of so tiring himself that he would fall asleep from sheer exhaustion, he would pace the floor by the hour. Becoming wearied of the room and still unable to sleep he would walk the streets only to find himself as wakeful as ever. If by chance he fell asleep for a moment it would be to awaken directly, often with a scream, to find himself wet with perspiration. He had no visions nor delusions

of any kind during this early period, save frequent attacks of night-mare, when he would awaken, covered with cold sweat, and filled with horror from dreaming that he had broken his vows and taken again of the drug.

In spite of all this he took nothing in the way of drugs or medicine for his restlessness. He had broken away of his own accord and not at the solicitation of friends or on the advice of any physician. He did not quit gradually but stopped suddenly, and that, too, with his can on the table at the head of his bed, where it continued to remain untouched for more than six months afterward, half full of opium.

The only thing he found which would procure him any rest was to have his feet bathed in water as hot as it could be borne. While this was continued he could get comfortable sleep. For two weeks the best sleep obtained was while his feet were being bathed in this way. And for the next four weeks he did not sleep to exceed two hours out of the twenty-four. The one symptom most vividly remembered was the inability to obtain rest by all the means at his command; and this, coupled with extreme weakness and depression, seemed more than all else to unfit him for resistance. The twitchings and nervous symptoms, the pain and even the longings for opium, he said could be more easily endured than the feeling of extreme prostration attended with inability to obtain physical rest. Sometimes he would go out in his garden with a hoe in order to occupy his thoughts, but nervousness so disqualified him from applying his mind to the work that he would be obliged to stop. And this led to the fear, which haunted him day and night, that he would lose his mind.

At the end of the first six weeks he began to feel stronger and to observe that he was able to get some rest. He could now begin to secure some natural sleep, and at this point felt that the battle was won. The period just after rising, before breakfast, still continued to be met with dread. At that time a feeling of dejection would almost overcome him, but would in a great measure disappear after breakfast. His appetite had begun to increase almost from the time he weaned himself from opium, and was now remarkably good. His weight likewise was on the increase. The bowels were moving normally, and had come around of their own accord, without physic, from a condition where they had not moved for years without injections to one of daily regularity. The complexion also, from a sallow, muddy color, changed to a healthy and almost ruddy hue, and his lusterless and apathetic eye took on a more natural appearance, so that his friends remarked on his improved condition. After the lapse of three months he felt perfectly cured and weighed 166 pounds, which is his weight to-day, and the only symptom then remaining was a feeling of languor on arising and lasting until breakfast. This symptom has not even yet entirely disappeared. Since his abrupt breaking off last August he has not taken opium in any form and does not now crave it. His half-filled opium can sits before me now—a silent testimonial of what can be accomplished by mere will-power alone.

Samples of his urine have been repeatedly tested for the opium reaction by Hausemann's and other tests with negative results. This was done to insure against fraud, and should in itself be a proof of abstinence. In view of all this, as well as the man's straight-forward story, his generally improved condition, and the time which has elapsed since his discontinuance of it, it

would seem that one is justified in considering this to be an accomplished cure.

The amount of opium taken daily in this case was not phenomenal—most physicians can point at once to cases where larger quantities are consumed. The patient, however, had been a slave to it for such a long period—sixteen years—that the habit had become fixed, and quantity then becomes a minor consideration. The habit was certainly as well established and as deeply rooted as if he had used much larger amounts for a shorter period of time.

If a man can accomplish such a cure *alone*, beginning suddenly, with no encouragement and without great stimulus, why should not others desirous of ridding themselves of the habit be cured more easily, in the majority of cases, by an immediate discontinuance of the drug, especially if they have the moral support and the aid of sedatives at the command of a competent physician? This is not meant to advocate a sudden withdrawal of the drug in all cases. Many patients might not be physically strong enough, though having sufficient mental fortitude to undergo the ordeal. What is meant is that it might be advisable to break away from the rule, inflexibly clung to by many physicians, of a gradual diminution of dose. If a patient is not taking doses of unusual size, if there are not great demands—as extreme pain—for the drug, and lastly if the physical condition and powers of resistance are not too much enfeebled, why not stop the narcotic at once and use all energy to resist it instead of drawing out the agony over months instead of weeks? In other words, why not put some of the burden on the physical instead of all on the mental resistance? Would not the chances of success be better in many cases to have a strong temptation to meet for a short time than a lesser temptation for a long period?

SPASM OF THE GLOTTIS AND ESOPHAGUS IN ADULT LIFE.

A REPORT OF TWO CASES.

L. D. BROSE, M.D., PH.D.

OCULIST AND AURIST, ST. MARY'S HOSPITAL.
EVANSVILLE, IND.

Disturbance of function in the motor nerves supplying the upper air-passages and the upper alimentary tract is manifested not infrequently by the sudden onset of symptoms that produce great alarm and distress to the patient.

The first case is that of H. C., aged 54 years and married, who consulted me May 13, 1900, because of an attack of dyspnea that came on about 3 a.m. and just as he awakened from a sound sleep. This difficulty in breathing was attended by spasmodic crowing inspirations, with great mental distress and anxiety, and after the attack passed off, which was in several minutes, he felt weak and so miserable that the following day he lacked ambition enough to go to his work, that of cashier in a bank. An examination of his throat by direct inspection and with the laryngoscope disclosed nothing abnormal, notwithstanding his referring all of his trouble to the larynx. His pulse was 105, breathing a little labored, tongue covered with a heavy, yellowish-white coating, breath markedly offensive, bowels constipated, skin relaxed and moistened with a cold perspiration, and of a sallow color. The urine was free from albumin and sugar. The heart and lungs were sound, nor did I detect a lesion in the other viscera. He denied venereal infection and stated that his family

doctor had been treating him more than two months for these spells, without success. He attributed his affliction to having slept with his son while he had the whooping-cough. However, this act was not followed by cough nor did his dyspnea come on with any regularity.

Most of the attacks occurred between midnight and 4 o'clock in the morning, arousing him from sound sleep, still he had attacks after rising in the morning and as late as 8 o'clock. Sometimes he would go two weeks without a spell, and again he might have several in one week. Their duration as a rule was from a few seconds to one or two minutes.

He was a fleshy man with flabby muscles, a temperate drinker and smoker, but a good hearty eater, with little inclination for exercise, using the electric-car much of the time to and from business. He had buried one wife, then met business reverses, but later happily married and again prosperous. He was given a laxative pill at bed time containing blue mass and colocynth and heroin and salicylate of soda three times daily. In the next ten days he had two more attacks, quite mild in comparison to the one at the time he first consulted me. Upon my recommendation he gave up business and took a prolonged vacation. The attacks of dyspnea, however, continued to recur, steadily grew more severe, and finally symptoms of dysphagia set in with unmistakable evidence of carcinoma involving the lower end of the esophagus and stomach. Death occurred on the night of November 2, and Dr. E. Linthicum, who conducted the autopsy, reports that the lower end of the esophagus and stomach were the seat of a primary carcinoma, with extensive secondary deposits in the left lobe of the liver.

The second patient, M. S., 31 years old and married, was referred to me by Dr. E. Linthicum, Feb. 6, 1900, because of an acute attack of dysphagia. He came to my office during the noon hour, in great distress, and said that while at dinner he suddenly found himself unable to swallow. Upon offering him some water and requesting that he swallow it, the liquid was retained a moment and then forcibly expelled through the nose and mouth with a gurgling throat sound. Direct inspection of the mouth and throat as well as careful examination with the laryngoscope did not reveal a cause for the trouble, relief for which was obtained after five minutes' inhalation of a compound cocain mixture in the globe nebulizer.

The patient stated that he had his first attack of inability to swallow some thirty days before, but it lasted only a few moments and did not alarm him much. After that he had a number of such spells, usually when eating in a hurry, a bolus of food lodging momentarily in the throat, after which it was swallowed with difficulty.

He was a spare, nervous individual, an overseer in a large cigar factory. His person had a very strong odor of tobacco, but he assured me that he only smoked two or three cigars a day. The attack for which he consulted me was by far the most severe of any he had had, and lasted over half an hour. He was given bromid of potash with tincture of cannabis indica, three times daily, and a little local treatment for an existing simple naso-pharyngeal catarrh. During the two weeks he remained under observation he had two or three more comparatively mild attacks of momentary duration, when he ceased visiting me because satisfied with his condition. A few months later Dr. Linthicum detected positive evidence of tubercular involvement of the upper lobe of the left lung, for which he sent him to Colorado.

While the great majority of cases of spasm of the

larynx and esophagus bear a close relation to hysteria or neurasthenia, yet the possibility of the symptoms being due to pressure on the recurrent laryngeal and esophageal nerves should always be borne in mind, and a diagnosis not arrived at until such pressure has been most carefully excluded.

MAGNETIC FOREIGN BODIES IN THE EYE.

E. VILLIERS APPELBY, M.D.

Clinical Instructor of Ophthalmology, University of Minnesota;
Member of the Berlin Ophthalmological Society.

ST. PAUL, MINN.

The class of patients with whom we have to deal in our subject may be said to belong for the most part to laborers or mechanics, whose daily occupation requires that they strike steel upon steel or steel upon iron as the case may be.

We may speak of steel or iron interchangeably. Either causes deflection of the magnetic needle; each can be located by means of the Röntgen rays; both are attracted by the magnet, and the one is as destructive as the other.

Small particles of iron or steel are occasionally found loose in the conjunctival sac. When seen there they have usually first struck and probably loosely imbedded themselves in the cornea or bulbar conjunctiva and afterward become dislodged. They are then principally found just under and a little above the margin of the upper lid and are naturally easily removed.



Fig. 1 Shows the Hirschberg Sideroscope.

Small chips of iron or steel are frequently found imbedded in the cornea—they then cause considerable pain, lacrimation and photophobia. If located in the horizontal meridian or a little below it the degree of pain may be lessened by the patient's constant effort to limit the act of nictation, thus keeping the eye open as much as possible, thereby diminishing the amount of irritation caused when the lids are in contact with the foreign substance. Such particles of iron may be overlooked by the patient or his friends. If left alone they rust and cause more or less infiltration and frequently are the seat of infection. We are enabled to detect them in good daylight or by means of focal illumination—still more definitely by the use of a corneal magnifier. If loosely imbedded, we may use a probe around which is wrapped a piece of absorbent cotton, moistening it and wiping the foreign body off. If firmly imbedded, the cornea should be anesthetized either with cocaine or holocain, the eye steadied with the fingers and under

good illumination the foreign body removed with a spud or gouge made for that purpose. Or we may loosen the particle and apply a strong magnet. If rust is present it is well to remove as much of it as possible.

If the foreign body is deeply located in the tissues of the cornea, we should, if necessary, cut the overlying portion with a small cataract knife and then apply a strong electromagnet. In this way we lessen the possibility of further injury to the cornea or of having a sharp piece of iron penetrate into the anterior chamber during the process of removal.

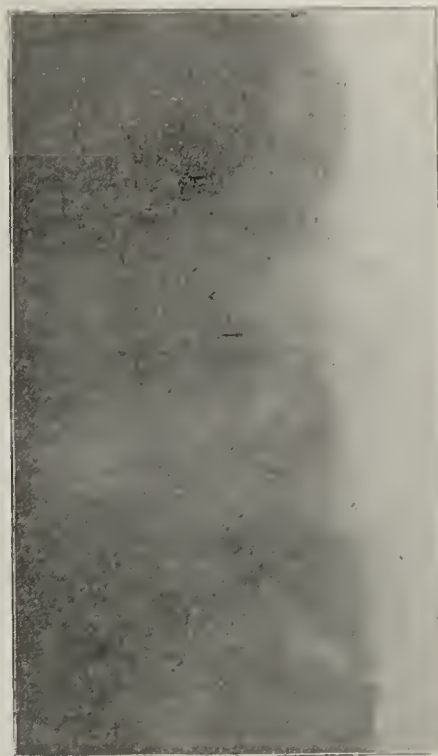


Fig. 2.—(Reduced)—Skiagraph showing foreign body located between the two pieces of fuse wire.



Fig. 3.—(Reduced)—Skiagraph showing foreign body between the four fuse wire landmarks. When held at a distance of half a meter the contrast is best.

The importance of strict asepsis in all cases can not be over-estimated. If infection is already present, we should use an antiseptic and then irrigate with an aseptic or mildly antiseptic solution. If much irritation is present, instill atropin and apply a pressure bandage.

Small sharp pieces of iron are occasionally found imbedded in the sclera. Owing to its elasticity and density, it, in many cases, resists the impelling force of the foreign body sufficiently to prevent penetration, or, on the contrary, it is entirely penetrated by it. It is

as a rule easy to locate and remove these pieces of iron from the sclera.

Before considering the more complicated subject of injuries due to penetration by, and retention of, the magnetic body, we will speak of the history and diagnosis of such cases. The patient, perchance, tells us that he has been working with hammer and chisel, and that upon striking a blow something hit him in the eye. Occasionally bystanders are the recipients of small pieces of steel in the eye. Many times patients try to assure us that nothing has penetrated the globe. They complain often of having only comparatively slight pain; of photophobia, lachrimation, together with more or less diminution of vision. We may find only a linear scar, the edges of which are already in apposition.

After examining the eye well in good daylight, we

by himself. Its mechanism is simple and it gives excellent results. In structure it consists of wood, brass and glass. There are two substantial wooden brackets which should be firmly attached to a solid wall running north and south, or nearly so. Upon the upper bracket is an adjustable upright standard, the upper part of which consists of a glass tube. In the middle of the standard is an oblong chamber of brass on each end of which is fastened a small glass capsule. In the upright tube is a fine brass thread attached above to a revolving screw. On the end of the thread hangs a magnetic needle, upon the middle of which is fixed a small mirror. Upon the lower bracket swings a standard, bearing a lamp, rays from which pass through a strong lens on to the mirror of the swinging needle. A graduated scale is placed in position and the lamp so

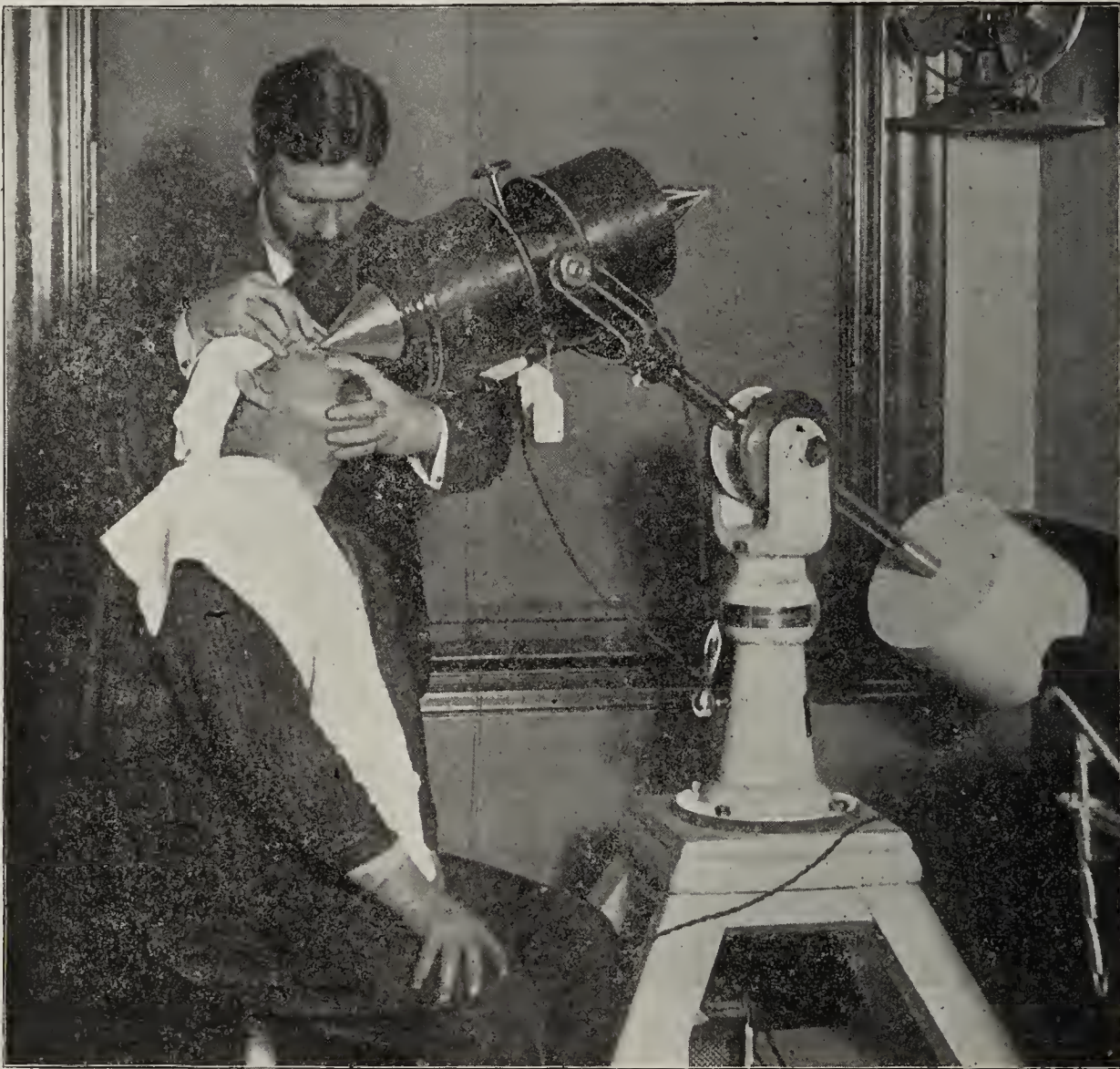


Fig. 4.—Shows the Haab Magnet, as used when the patient is in the sitting posture.

determine approximately the amount of visual acuity—field of vision—then examine under focal illumination and with the ophthalmoscope. Next in order is the sideroscopic examination. The value of the sideroscope in determining the presence of iron in the eye, and too, its approximate location, is much underrated. Dr. Thomas Pooley of New York was the first to use the compass needle in determining the presence of iron in the eye. All sideroscopes have been modifications of his. In 1894 Asmus devised one which has been successfully used up to the present time, but as it is somewhat complicated in construction, it requires the services of a good assistant for its successful employment. I have seen Professor Hirschberg get brilliant results with this instrument of Asmus's, and two years ago it was my pleasure to see him demonstrate, before the Berlin Ophthalmological Society, a sideroscope designed

adjusted that the reflected rays fall upon a graduated screen.

For convenience of expression we may divide the eye vertically and horizontally, thus giving us four quadrants, an upper and lower nasal and an upper and lower temporal quadrant. Cut No. 1 shows the glass rod—within which is balanced a magnetic needle—as being almost in contact with the eye at about the junction of the lower and middle third of its lower nasal quadrant, 7 mm. from the sclerocorneal junction. Here we find the needle gives the greatest reaction which, as the indicator shows upon the screen, measures 4 degrees. If we get little or no reaction of the needle when applied to an eye in which we have good reason to believe iron is present, we should bring the patient's eye into the field of a strong electromagnet. This magnetizes the retained iron and consequently results in

its giving a better reaction when the eye is again brought into the field of the needle.

In no case should we undertake an extraction nor should we even cause dislodgment of a chip of iron until we have if possible determined its location and relative size. In order to do so it will frequently be necessary to utilize the Röntgen rays. The first foreign body removed successfully after location with Röntgen rays was reported by Williams.¹ De Schweinitz, Hansell, Sweet, Oliver, Percy, Friedenbergl and others have since reported favorable cases.

In order to obtain good results in *x*-ray work,² the head and eye of the patient must be kept motionless during exposure. This is best accomplished by having

responding to the lateral area of the eye. These pieces of fuse wire show distinctly on the plate after development.

If there be upon the plate more than the four regular outlines of the wire, we know we have a foreign body, and, moreover, we know its approximate size, location and shape as seen from this direction. We may still better locate it by placing a piece of paper cut exactly the size of the normal eye upon the plate between the four artificial landmarks, and mark upon it the location of the foreign body. Then, in turn, we place the paper over the area between the landmarks upon the patient, then designate the location of the foreign body by means of an anilin pencil.

In the anteroposterior exposure two pieces of wire

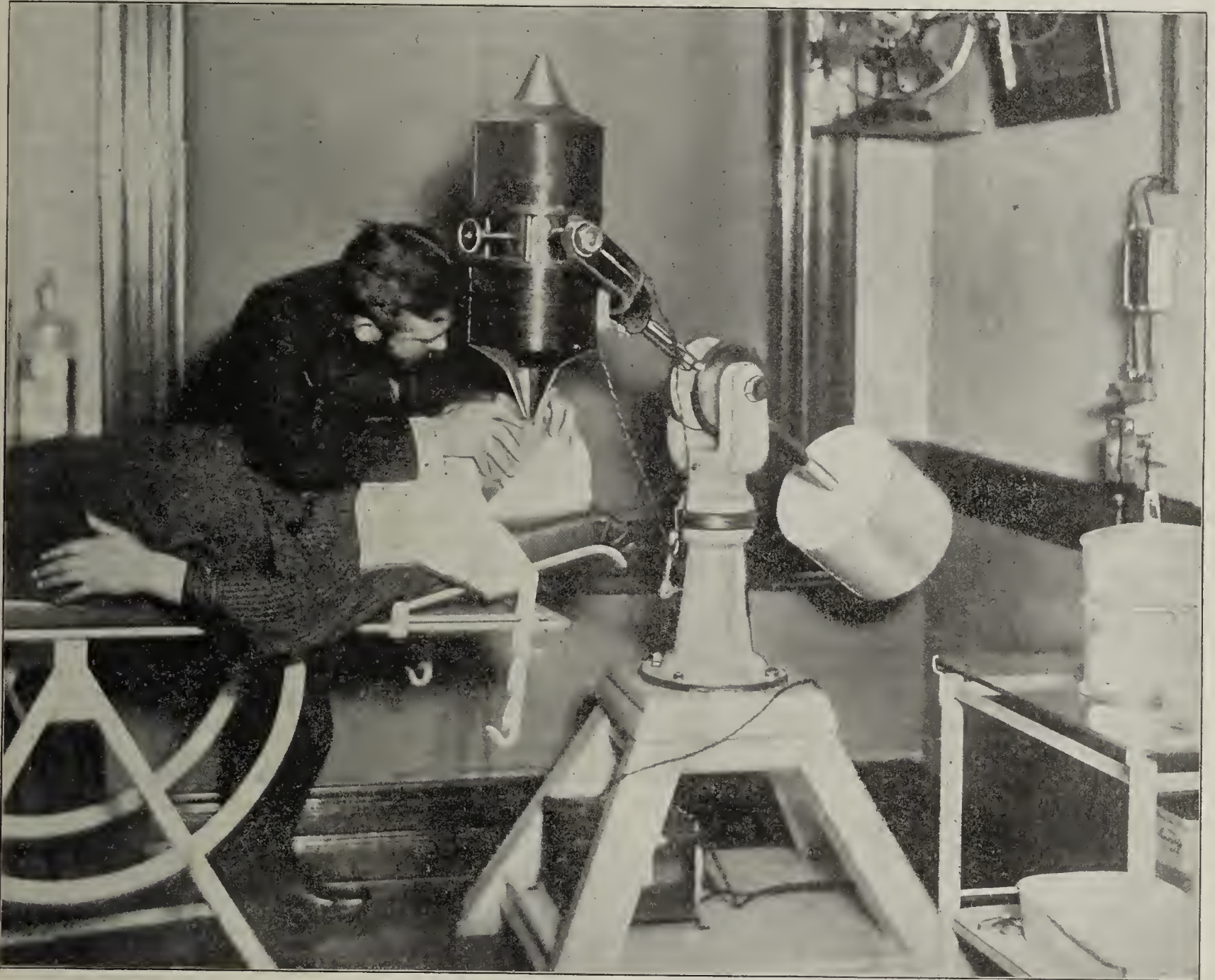


Fig. 5.—Haab Magnet as used when the patient is in the recumbent position.

the patient lie upon a table designed for that purpose. The eye should be kept closed. Knowing that the rays travel in straight lines, we endeavor to place the tube and plate in such a position that we get a bitemporal skiagraph and also one taken in a fronto-occipital direction.

Before making an exposure in the bitemporal direction, four pieces of fuse wire, each 6 mm. in length, are placed—and held in position by means of ordinary court-plaster—over the temporal region of the eye so that the enclosure represented between their inner ends corresponds to an area a little larger than that cor-

may be used. They are placed, one upon the upper, the other upon the lower lid in such a manner as to represent the diameter of the eye from above downward. Comparisons are in like manner made here as before.

We now come to the subject of the extraction of the magnetic body. The use of the magnet in surgery of the eye was first recorded about 250 years ago, when Wm. Fabry, a German, removed a small piece of iron from the cornea by means of a lodestone (1656). It is a little over half a century (1842) since Meyer, also a German, removed, through the wound of the sclera, a piece of iron from the vitreous, using a thirty-pound magnet. About a quarter of a century later, McKeown, of Belfast, made the first recorded equatorial incision

1. Trans. of Am. Ophthal. Soc., vol. li, p. 708.

2. I am much indebted to Dr. Harold Sneve for aiding me in my efforts to obtain good radlographs.

(1874) for the removal of a piece of iron from the vitreous, which he accomplished by means of a magnetized rod of iron—the so-called permanent magnet. In 1877 Hirschberg perfected his electromagnet, and two years later operated successfully with it on a difficult case, making the first recorded meridional incision.

In 1894 Haab, of Zurich, constructed a giant magnet on the principles of the one used by Meyer in 1842. So many good descriptions of the magnet have been published that I shall here say but little regarding its structure. It consists of a cylinder of soft iron, around which is wound many layers of insulated copper wire. There is a cut-off switch fastened to the wall, also a resistance box at its base, with a number of steps which allow the gradual admission of the current, thus enabling an assistant to regulate the amount of force required by the operator. Meyrowitz has mounted the Haab magnet so that it may easily be moved in practically any direction.

I find that when in the recumbent position, the patient is often under much better control. This applies particularly to those cases in which the amount of traumatism is great.

The Hirschberg magnet consists of a soft bar of iron around which is wound a coil of fine insulated wire. It is a hand magnet provided with a number of variously shaped points of different sizes. It can be connected to a series of dry cells or to a zinc carbon element, and will support as high as 500 grams. It should be used in conjunction with the Haab. What the one will not accomplish, the other, in a large majority of cases, will.

Knowing the position of a foreign body lodged in the interior of the eye, we elect as to whether we shall remove it through the tract of entrance; draw it by means of a large magnet into the anterior chamber and afterward through a corneal section, remove it with the small point of the Hirschberg magnet; or we may decide that a meridional or an equatorial incision is preferable. In each instance it is our aim to remove the iron by such a method that it will result in the least injury to the eye.

The Haab magnet is and has been much used as an important factor in diagnosis. When used for that purpose the head of the patient is brought gradually toward the pole of the magnet. If pain be then present or increased we know that the foreign body has impinged upon the tissues; finally, if after we have turned on the full force of the current, we get no pain nor increase of pain, we reverse the current and apply the magnet to the eye so that its power-lines shall have had effect from all directions, and then if the patient complains of no pain, we infer either that there is no magnetic body present or else that it is too firmly imbedded to be affected by the magnet.

The magnet as a diagnostic instrument should be applied only after all other means have failed to show the presence of iron or steel in the eye. It is of the greatest importance that the patient be seen as soon after the injury as possible.

British vs. Boer Eyesight.—In an address before the Society of Arts, in London, Mr. B. Carter, according to *The Lancet*, referred to the statement often made in the daily press, that the average vision of the Boers is superior to that of the British soldiery. He said that the Englishman, being accustomed to town life, does not allow for the purity and transparency of the air of South Africa and accordingly misjudges distances.

THE IMPORTANCE OF INSTRUCTION IN MEDICAL SCHOOLS UPON THE MODIFICATION OF MILK FOR PRESCRIPTION FEEDING.

ANDREW H. WHITRIDGE, M.D.

BALTIMORE, MD.

During the last fifteen years we have noticed a great change pass over the question of infant feeding, both in the minds of the laity and of the members of our profession. We have seen a few aspects of this question change from hazy uncertainty into a phase of enlightenment. This change has been as remarkable as it is encouraging to the profession. For example, it is conceded that the feeding of infants should be wholly under the control of the physician. Just as the midwife has been superseded by the obstetrician, the ignorant nurse or untrained mother must be superseded by the trained and qualified physician. This position is held by the intelligent layman quite as firmly as it ought to be held by the educated physician. That it is very frequently more firmly maintained by the patient than by his physician is largely due to those medical schools which have neglected to prepare physicians for this important and remunerative work. A large part of the mortality of infancy is traceable to the lack of importance given to the subject of scientific feeding in the schools.

It is also conceded that in the absence of the proper breast milk some modification of animal milk should be employed as a substitute, and that cows' milk should form the basis of all scientific infant feeding. From this position there is now no deviation. Specialists differ as to the forms of modification, as to percentages and proportions, as to diluents and other matters of detail, but none differ from the general proposition stated above. However, scientific substitute feeding requires an intimate knowledge of milk, of breast milk as the primary example, and of modified cows' milk as the practical copy. It is not the fault of the average physician that this subject is to him often a *terra incognita*. It is mostly the failure of the medical school to lay the suitable foundation for this experimental knowledge. It is conceded that the modification of milk for infant feeding is a very simple thing of itself. Yet it is often regarded as a mystery and a snare in medical practice. The schools might make its complete study one of the simplest as well as one of the surest means of practical medical education. In our medical schools of the South there are no means by which the students or the post-graduate physician can obtain the training necessary to enable him to conduct thoroughly scientific infant or invalid feeding. Students in some of our Northern schools of medicine have opportunities to become more or less familiar with this branch of medicine, but in the South they have no such opportunities. These should be supplied and I here make an earnest appeal that medical schools throughout this country obtain qualified men who will devote their time and energy to the teaching of this great subject. Since summer diarrhea is such a factor in our mortality, I suggest that at least during the summer months such of our schools as maintain a high standard of education should appoint qualified men who shall lecture by regular weekly lectures to students and post-graduate physicians, in the practical knowledge needed to understand this branch of our work. It would be an inestimable gain to earnest men to have such knowledge of the cow, her milk, its care, and the bacteriologic relation of such matters to the employment of milk for infant

feeding imparted by a competent instructor. If such a chair were founded in our schools, for example, and a proper man found to fill it, we should realize that advance had been made in pediatrics.

The milk laboratories that have been established in many cities of the United States have done much to further the scientific feeding of infants. Those physicians who employ these laboratories most largely speak most strongly of the results obtained. My own experience in the use of milk modified according to my prescriptions, at the laboratories, has been so satisfactory that I can not praise this method too highly, and I should like to see a milk laboratory within the reach of all physicians who have infants to feed artificially. This, however, is impossible, and at best only a percentage of physicians can reach the laboratories with their prescriptions. But all physicians intending to devote themselves either to general medicine or to the special work of pediatrics should be permitted and encouraged to lay a solid foundation for this work while they are in the medical school. Therefore, I hope my appeal for special instruction in feeding of infants will not be made in vain.

A NEW PROCTOSCOPE AND SIGMOIDOSCOPE.

WILLIAM M. BEACH, A.M., M.D.

Secretary of the American Proctologic Society.

PITTSBURG, PA.

This new instrument differs from the ordinary rectal tube in that it contains an illuminating attachment.

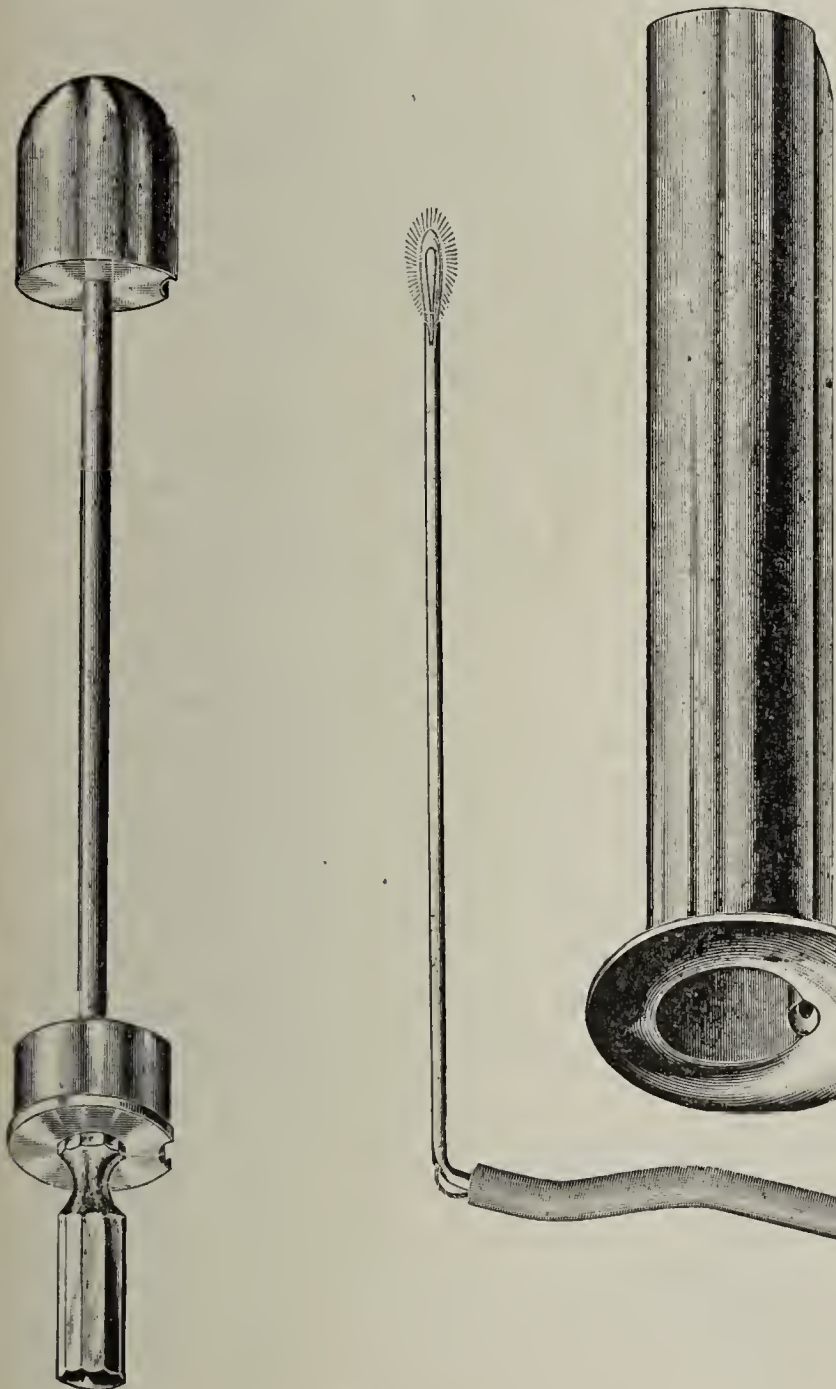


Figure 1.

The apparatus complete consists of the metallic tube, a metallic light-carrier, and a metal obturator.

1. The tube (Fig. 1) varies in length from an inch and a half (the anoscope) to eight inches. Though any length can be made, the set usually contains three sizes: 1, the anoscope, one and a half inches long; 2, the proctoscope, four inches long; and 3, the sigmoidoscope, eight inches long. For diagnostic purposes, the caliber is seven-eighths of an inch; for operative purposes, as valvotomy, or removal of high-up polypus, the caliber is one and one-fifth inches, the same as in Martin's set. The handle is round and corrugated, and placed at the usual angle with the axis of the tube. In the wall of the tube on the side of the handle is an auxiliary tube projecting both within and without the speculum to receive the light-carrier (Fig. 2); it is so constructed that the diameter of the speculum is not appreciably enlarged or the caliber lessened. The auxiliary tube is lined with cement, holding in place a specially prepared glass which serves as a window at the distal end of the speculum. This glass can be subject to high temperature, so that the instrument can be sterilized with impunity. The glass window protects the incandescent light from any mucus, blood or other material that may be present in the ballooned rectum.

2. The light-carrier consists of a very light tube with a four-candle power incandescent lamp on the distal extremity, properly wired, and made to conform with the shape of the speculum, when placed in the auxiliary tube. The proximal extremity receives the wires from a dry-cell battery, the source of light. The handle is covered by rubber tubing to protect the wires, and is clamped to the upper border of the handle of the speculum.

3. The obturator (Fig. 3) consists of a metallic rod with enlarged distal and proximal portions to fit the speculum. The handle is an inch and a half long, which is held by the thumb during introduction of the instrument into the rectum. The two enlarged portions are fluted on one side to pass over the auxiliary tube containing the light-carrier.

On being called to the country to examine rectums, I have been hindered by reason of inadequate light, and in this instrument I have secured a direct light and one more satisfactory than the reflected light heretofore used in my office and in hospital work.

The Electro-Surgical Instrument Co., of Rochester, New York, have been patient and careful in constructing the outfit to my satisfaction. The complete outfit, including battery, is put up in a neat 8x10 inch case, ready to carry as a satchel.

The advantages of this proctoscope are:

1. It is simple in construction.
2. There is no reflector to obstruct the view of the operator.
3. The light is direct and perfect.
4. The patient need not come to the office or hospital for examination.
5. It is practical and useful to the general practitioner.
6. It can be sterilized.
7. With ordinary care it will be serviceable for years.
8. With the patient in the Martin posture it can be introduced without pain.

Home Office Building.

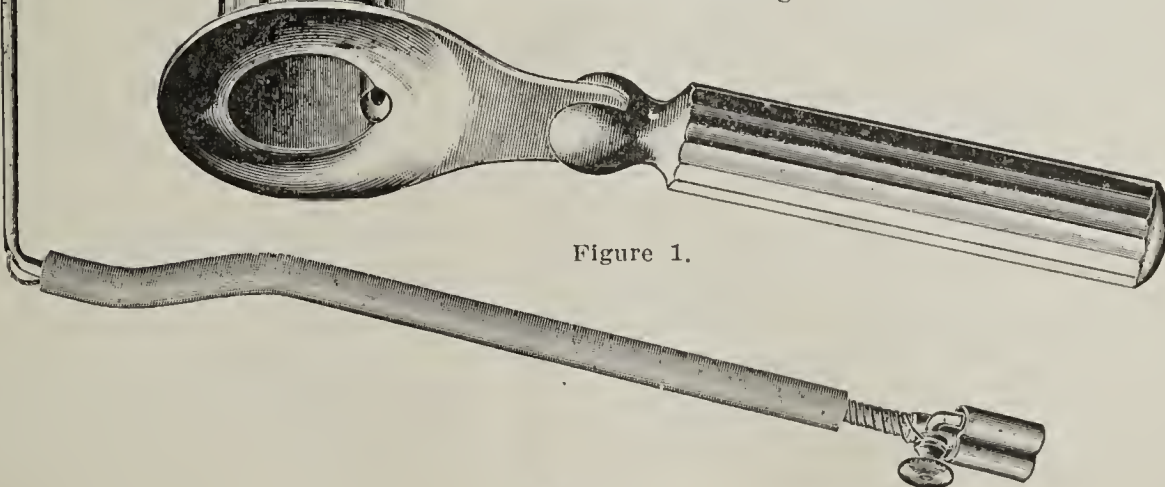


Figure 2.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

61 Market Street : : Chicago, Ill.

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SATURDAY, JUNE 22, 1901.

THE PARASITES OF CANCER AGAIN DISCOVERED.

Last year Max Schueller, of Berlin, in a preliminary report,¹ described certain organisms, probably of animal nature, which he by original methods had succeeded in cultivating from human carcinoma and sarcoma. The complete report is now at hand² in the form of a monograph of 128 pages with numerous illustrations. One might fear that these numerous discoveries of the cause of cancer—Sjöbring, Eisen, Gaylord, Max Schueller all describe animal parasites as the cause—would lead to complicated questions as to priority. Fortunately, or rather unfortunately, the differences in the descriptions of the various authors are so great that there is little likelihood of any troubles on this score. Schueller makes an earnest effort to avoid the subjectiveness that unfortunately has characterized some of the publications of enthusiastic investigators into the hidden problems of the cause of malignant tumors, and practically the whole of the book is taken up with a detailed statement of the results of his studies. Recognizing at the outset the futility of attempting to solve the question by purely histologic methods, he set about to discover some way in which the organisms, which he felt sure are present in these tumors, could be grown in pure culture. Successful pure cultures are described as being quite easily obtainable by keeping absolutely uncontaminated pieces of malignant tumors in small, air-tight glass vessels, protected from light and at the temperature of the body. A prerequisite for successful growths is continuous maintenance of the pieces at bodily temperature from the very moment they are removed from the body of the patient. The tissue of the tumor itself thus constitutes the nutrient substratum, and as the parasites already present in the medium begin to grow the cells of the substratum are destroyed or consumed and replaced by multiplying organisms. Small, fine granules, clumps or drops soon appear in the vicinity of the piece and tissue, consisting of rounded or oval bodies of golden-yellow or brownish color, three times or more the size of a red blood-cell. They have a thin, doubly contoured wall or capsule, which seems to be provided with numberless pores through which mobile protoplasmic processes may pass out, especially in young, vigorous forms. The presence of a nucleus is mentioned.

Sometimes three to four and more globular formations are seen within the capsules, and these are regarded as stages in the development of young organisms. "Cultures" such as those here referred to are free from saprophytic and other bacteria, there is no putrefactive odor emitted, the odor present being described as characteristic and as different for carcinoma and sarcoma, the organisms from which also present some differences in their appearances. The pores and the mobile, thread-like protoplasmic processes, which emerge from them, are described as subservient to nutrition. The organism as a whole has a minimal degree of motion and is exceedingly sensitive to all kinds of disturbing influences. Satisfactory methods for subculture have not yet been devised, and the complete biology of the parasites consequently has not been worked out. The color appears to be due to an iron-containing pigment.

Schueller claims to have obtained similar, yet not fully identical, organisms from the lesions of syphilis.³

In tumors, organisms are found in flesh tissues if examined immediately after removal. Having studied the parasites in cultures, and consequently knowing what to look for in histologic preparations of dead tissue, Schueller found that they are best demonstrable by teasing pieces in alcohol and cleaning with oil of bergamot or some similar ethereal oil. Celloidin sections may also be used. Momentary staining with alum hematoxylin may be helpful in bringing out details in the tissue, the parasites remaining unstained and easily recognized by their yellow or brownish color. Good results have been secured by means of Mallory's thionin and oxalic stain for ameba coli, the small forms of the parasites staining red. In the tissues Schueller finds large empty capsules and young forms in great numbers, and in such relations to the cells that he draws the inference that the parasites certainly exercise a "formative stimulus" upon the cells. Often parasites are found in masses in the tissues situated either in a finely meshed network or in canals or tunnels. In glandular metastases of carcinoma he finds numerous parasites, especially at the margins of the carcinomatous nodules, so that it may be assumed either that cells and parasites are transported to the glands, the cells continuing to proliferate under the influence of the parasites, or that carcinoma cells originate *de novo* from the pre-existing cells of the glands, according to the theory of Virchow, now long since abandoned. Schueller, however, finds not a little in support of Virchow's theory, but he does not assume a definite standpoint. In many tumors Schueller finds appearances that indicate the entrance of the parasites into the tissues from without, and upon this basis he discusses, somewhat in detail, the prophylaxis of tumors. This assumption presupposes a form or forms of the parasites less sensitive to differences in temperature and other influences than those he finds in the tissues of tumors, but no facts

1. Centralbl. f. Bakt., Abth. I, 1900, xxvii, 129-140.

2. Die Parasiten im Krebs und Sarkom des Menschen. Von Prof. Dr. Max Schueller, Berlin. Jena, 1901

3. Centralbl. f. Bakt., Abth. I, 1900, xxvii, 516.

are given to throw any light upon this phase of the matter.

The animal experiments are given somewhat briefly, and without definite details as to the manner of inoculation, symptoms, duration of life, etc. Lesions, such as necrosis, inflammatory changes, and carcinomatous and sarcomatous proliferations are described as resulting from inoculations with the cultures mentioned in the foregoing. Mixed carcinomatous-like and sarcomatoid growth was observed in the spleen after inoculation with organisms from human carcinoma. Epithelial pearls may form in proliferations of the tubular epithelium of the kidney and of the intestines following inoculations—certainly an anomalous finding because, as far as we know, pearls occur only in squamous-celled carcinoma. Typical squamous-celled or cylindrical carcinomas do not appear to have been produced experimentally. The proliferations described may well have been altogether of a granulomatous character, and we are not told whether the rabbits experimented upon, as a rule, died spontaneously or not. Perhaps if they had been allowed to live longer the new proliferations would have subsided and faded away. When we are compelled to say that Schueller has not proved that his organisms produce carcinoma or sarcoma when injected into animals, it means that as a matter of fact the cause of malignant tumors is still unknown.

The biologic nature of the peculiar structures described by Schueller, and designated by him as parasites, is not at all clear. He states that the best zoologic and botanic authorities of the University of Berlin have declared themselves ignorant upon this point. Schneller believes that they are lowly forms of animal life, but not protozoa. Without personal observations and further studies by others it would be useless to speculate as to the nature of the yellow or brown iron-containing bodies that he has worked with. The suggestion will surely be made that they are, in part at least, altered red corpuscles and derivatives therefrom.

Nowhere in the monograph is it stated that the so-called cancer parasites occur freely in the blood of carcinomatous or sarcomatous patients. In Gaylord's overflowing announcement in regard to the protozoa of cancer the parasites are said to occur freely in the blood. It is clearly the duty of physicians and surgeons to not allow long established doctrines, such as the purely local nature of carcinoma in its early stages and its possible permanent curability at that time, to be overthrown or modified in the slightest by premature and unsupported statements of sincere but overzealous investigators into the etiology of cancer. Great harm would result were the impression to grow that cancer is a blood disease sure to break out somewhere else if removed.

Surgeon-General J. Jameson, director-general of the British Army Medical Service, has relinquished his duties and retired to private life.

THE ETIOLOGY OF VALVULAR DISEASE OF THE HEART.

Acute articular rheumatism is in reality so common a cause of endocarditis and consecutive valvular disease, and so much importance has been attached to it as an etiological factor in this connection, that there has been a tendency to overlook or ignore or minimize the part played by other morbid influences. Whether the inflammation of the endocardium be due to the lodgment of the, as yet undemonstrated, bacteria of rheumatism or to the irritative activity of the toxins to which they give rise, it would seem likely from *a priori* reasoning that a similar disturbance might arise in connection with any of the infectious diseases; and that this is really a condition and not a theory there is not wanting evidence to show. Besides, it is well known that valvular lesions at least may develop as a result of purely toxic processes, such as lead-poisoning, alcoholism and gout, and as a part of general arterio-sclerosis from any cause.

It is by no means an easy matter to trace the relations between an existing endocarditis or valvular lesion and pre-existing or coincident disease. Different observers have stated variously the frequency with which rheumatism is complicated by endocarditis and valvular disease. For purposes both of independent analysis and of comparison Worobjew¹ undertook a study of 180 cases of valvular disease of the heart observed in the therapeutic hospital clinic at Moscow from 1892 to 1897 in which a full and reliable history could be obtained, omitting from consideration cases of aneurysm and disease of the aorta without complicating valvular disease and of acute ulcerative endocarditis, as well as purely functional inorganic disease of the heart. A history of acute rheumatism was obtained in 54 of these cases (30 per cent.) although an undoubted connection between the commencement of the symptoms of the cardiac disease and the acute rheumatism was made out in but 20 (11 per cent.) Even in some of the latter it is thought that there may have been antecedent valvular disease, the attack of rheumatism serving merely as a cause for the functional disturbance. In the remaining 34 cases (19 per cent.) the symptoms of derangement of cardiac function made their appearance a longer or shorter period after the subsidence of the attack of rheumatism, so that there may be some doubt as to the relation between the two conditions. In 6 cases (3.3 per cent.) a history of chronic rheumatism was obtained, but it is thought that these cases may fairly be included with the remaining 120, in which there was no relation to acute rheumatism. Of this number 29 were complicated by aortic aneurysm—16 per cent.

It might be supposed that age would be an important factor in the development of valvular disease of the heart through sclerotic processes, but an analysis of these cases from that standpoint showed that those of non-rheumatic origin constituted the larger number at every period. It was found that the acute exan-

1. Deutsches Archiv für Klin. Medicin, 69, B., 5, 6 H., p. 466.

themata and also other acute infections without exanthem played an exceedingly small part in the etiology of acute endocarditis. The question arises whether acute endocarditis may occur as an independent disorder, but the consensus of opinion is that it is merely a clinical manifestation of some form of infection. The number of cases of such obscure or indefinite origin can not be considered as large. There is, however, reason for believing that endocarditis not of rheumatic origin may often be of chronic development, inasmuch as it appears related largely to influences that favor the occurrence of chronic processes, such as cardiovascular sclerosis. It is possible that antecedent acute infections may contribute to this end by lowering the resistance of the organism to such influences; they may at least favor the progress of the disease. In a number of cases further there is no history of infectious diseases whatever. In some also there is evidence of a congenital predisposition to chronic disease of the vascular system. In the cases complicated by aneurysm a history of syphilis, gonorrhea, and malaria was particularly common.

The results of this study may be summarized as follows: Acute articular rheumatism plays a more important rôle in the etiology of chronic valvular disease of the heart than any other infectious disease alone, but it is of less significance in this connection than all other causative factors together. Endocarditis is less commonly of rheumatic origin at all periods of life than it is due to all other causes. It is highly probable that non-rheumatic endocarditis is in the majority of instances not acute in onset, but is a chronic disorder from the beginning.

THE ETIOLOGY OF ACUTE HEMORRHAGIC PANCREATITIS.

Halsted¹ describes the clinical and surgical features of a case of acute hemorrhagic pancreatitis, the post-mortem findings in which seem to have led to a valuable demonstration in regard to the etiology of this affection. The patient was a strong man, 48 years old, subject to attacks of "indigestion." Following an attack of this sort there developed great abdominal pain, cyanosis, especially of the abdominal wall, the pulse running from 87 to 92; there was no abdominal distention and but little vomiting. The pain was intense. At the operation blood-stained fluid escaped, areas of fat necrosis were seen in the omental and peritoneal fat, and there was found some blood-stained serum in the tissues about the pancreas. The common bile-duct was distended, but no calculus was found. Death took place soon after the operation.

At the autopsy, by Dr. Eugene L. Opie,² there was found the fat necrosis, acute hemorrhagic pancreatitis, and a small firm concretion, snugly filling the diverticulum of Vater, and too large to escape through the

duodenal orifice. For a distance the pancreatic duct was stained bright green with bile.

In a number of instances acute pancreatic disease has been associated with cholelithiasis. Opie recently collected 31 instances of this character,³ and similar cases have been described since then by Lund, Bryant, Stockton and Williams, and others. The etiologic relationship of the two affections are strongly suggested by this association, and the present case seems to furnish the clue to the mechanism whereby the pancreatic lesion is produced, namely, retroinjection (Halsted) of the bile into the pancreas, due to the lodgment in the diverticulum of Vater of a calculus, thereby converting the pancreatic duct into a channel continuous with the bile-duct, from which neither bile nor pancreatic juice could escape. Hemorrhagic pancreatitis has been produced experimentally by injection into the pancreas of a number of irritating substances, such as chlorid of zinc, gastric juice, bacteria, sulphuric acid, hydrochloric acid, etc., but it is clear that these results could not be applied directly to the explanation of the genesis of human cases. Bile had not been injected until the case here mentioned suggested to Opie the possible rôle of bile in acute pancreatitis. He found that injection of bile into the pancreatic duct of dogs caused a necrotizing hemorrhagic inflammation of the pancreas, like that seen in the human cases and accompanied with fat necrosis. The primary action of bile is necrosis of the parenchymatous cells and hemorrhage, rapidly succeeded by reactive inflammation. Hence he concludes that cholelithiasis is associated so frequently with hemorrhagic and gangrenous pancreatitis because gall-stones impacted in Vater's diverticulum force bile into the pancreas. Perhaps the admixture of pancreatic juice with bile in this case intensifies the destructive action. We know from various experiments and observations that steapsin, one of the pancreatic ferments, may cause fat necrosis when it is set free in the abdominal cavity. It is seen that a flood of light has been thrown upon these peculiar lesions, and as is so often the case, the explanations are delightfully simple and adequate. Now that acute pancreatitis is beginning to be understood it will probably not be long before many more cases will come to be recognized than heretofore. As pointed out by Halsted, we must learn to distinguish gall-stone attacks *per se* from those complicated by pancreatic lesions. When such cases are recognized early enough the stone in the diverticulum may be removed. The facts here touched upon will lead also to renewed study of the anatomical relations of the bile and pancreatic ducts and their common meeting-place, Vater's diverticulum.

ALLEGED DRUG HABITS IN VERMONT.

It is charged every little while by certain alarmists that, in some sections of the country, drug habits prevail to a dangerous extent and are increasing among the population. Very often this is alleged to be the

1. Bull. of Johns Hopkins Hospital, 1901, xii, 179.

2. Ibid., 182.

3. Am. Jour. of Med. Sci., 1901, cxxi, 27.

case in prohibition districts with the inference that it is due to the suppression of alcoholic drinks. A sample of this kind of sensational charge is afforded in a recent issue of an Eastern paper, which takes up some alleged statistics of an article said to have been read before the State Medical Society of Vermont, and indulges in the usual generalizations. According to the quoted physician's estimate, there are sold in that state over 3,300,000 doses of opium every month, aside from that prescribed by physicians or contained in patent medicines. This is figured to allow one dose and a half daily to every person in the state over 21 years old, and the journal quoted thinks that this means "that the people of the hills are wooing oblivion with greater assiduity than those of the wicked cities devote to the pursuit of ruin." It reasons out a cause for this in the loneliness of rural life and the social ban on liquor, dragging in incidentally the degenerative factors existing in a state that has been losing its best blood by emigration, leaving an apathetic and discouraged remainder seeking solace for their hard condition in drugs.

Not having the original statistics before us, but assuming that they are quoted correctly, it is worth while to see whether they justify the deductions. Assuming only one-half of Vermont's 343,000 inhabitants to be over 21, it would be hard to figure out an allowance of even seven-tenths of a dose daily for each. Of course the size of the dose figures in the result, but it is presumed that it is not over the ordinary one of, say 1/6 gr. of morphin, or a corresponding amount of opium. It is estimated by Oppenheim that the average morphinomanic using hypodermics consumes at least 15 grains of morphin daily. The average opium-consumer per os takes no less, and probably much more. It would seem, therefore, that even over three million doses sold each month would scarcely more than satisfy a few hundred confirmed morphin fiends, and would be an average supply for less than 2000 at the most. If there are 2000 or even 1000 in Vermont the condition is bad enough, but it would not by any means imply such a devotion to narcotic indulgences as was alleged by the editorial quoted.

It is an example of the readiness with which a certain class of minds take up and generalize upon imperfect data when they appear to support the individual preconceptions. It is also a fair sample of much of the modern alarmist literature upon medical questions that have a certain popular interest. There may be, though we seriously doubt it, a very large number of habitual "moderate" users of narcotics in Vermont, but it certainly would not take a very large number of real confirmed opium fiends to use up the amount alleged to be consumed in that state.

EXTENDING AN OPERATION WITHOUT CONSENT.

About two years ago THE JOURNAL noticed editorially the decision of a German court in regard to the liability of a surgeon for changing the operation while the patient was under anesthesia, and could not, there-

fore, be a consenting party. A similar case has just occurred in Chicago,¹ where a woman sued a medical institution to which she had gone to be operated on for hernia. After the incision was made a state of affairs was revealed that required a more extensive operation to save life, and it was done accordingly. Suit was brought on the ground that the surgeon had exceeded his instructions and damages to the amount of \$25,000 claimed. The court promptly decided that the surgeon was justified, and ordered a verdict for the defendant, but the case, it is said, will be appealed to the higher courts, which have so far never given out a decision on this point. To the average medical intellect there would seem to be plenty of precedents for saving life without asking the beneficiary's permission, and to decide contrary to this would practically put a premium on murder. There were such in the old laws, but they have been eliminated for the most part in this country and in modern times. It would be a pity if any remained to apply in such a case as this. Of course, the vital point is the danger to life; any consideration short of this should be very carefully estimated by the surgeon before proceeding under such circumstances. In any case it will always be a valuable precaution to have an understanding with the patient before anesthetization that the surgeon is to have his or her full consent to the performance of whatever operation is deemed absolutely necessary. Without this there is risk of unpleasant accusations, and likewise a risk of damages should the higher courts follow the German precedent. Believing, however, as we do, in American common sense, we have faith that the decision of the lower court will be upheld.

THE CANTEN.

The resolutions passed in regard to the army canteen at the late meeting of the AMERICAN MEDICAL ASSOCIATION are being widely noticed by the lay press, and in a few instances the inferences deduced seem to call for comment. It was certainly not the intention of the members of the ASSOCIATION who voted for the resolution to cast any slur on the honesty or intelligence of those who differ from them on this point, and there are undoubtedly many members of the ASSOCIATION who do not favor the canteen or believe it to be a good thing. The opinion of the great majority of those who voted for the resolution was, we believe, that from the evidence offered it is at best a necessary evil. They simply endorsed it as better than the conditions existing without it. It would be unfortunate if the impression should become generally accepted that the representative body of the medical profession favored habitual liquor-drinking *per se*, even when limited to beer and light wines. It appeared, however, to those who voted for the resolution, to be the fact that a considerable portion of the regular army is recruited from a class that has very little control over its appetites, either as regards liquor or other temptations, and that it is not possible otherwise than by the canteen to create at once conditions that will prevent their gratification in ways that are not desirable. The resolution simply was an expression of opinion of those who voted for it that the canteen

1. See "General News," p. 1791.

is under present conditions a necessity as an adjunct to discipline. It would be well, in case it is reinstated, that it should be under such regulations as will forestall temptation to make its beer-selling function a source of profit or to encourage the acquisition of drinking habits in those not already thus addicted. We can not but recognize the fact that its existence is opposed by the consciences of a very numerous and respectable body of our fellow-citizens, and while many of us may honestly differ with them, it is not, as some of the lay press would apparently have it, without a sincere respect for their worthy aims.

ECHINOCOCCUS ALVEOLARIS SIVE MULTILOCULARIS.

Cases of this interesting form of echinococcus disease occasionally occur in the United States, especially in immigrants from Southern Germany and certain parts of Austria, Switzerland, and Russia, where the disease is not so very infrequent. Recently, Melnikow-Raswedenkow published an extensive monograph based on the study of the parasitology, general pathology, and pathologic anatomy of about one hundred cases from various museums and laboratories of Europe. In Russia the disease is more frequent than commonly thought, and it appears to be of rather wide distribution. Among some of the principal results obtained by Melnikow-Raswedenkow may be mentioned that the disease may be primary not only in the liver, but also in other organs such as the brain, the spleen and the adrenals. The peculiar changes produced in the tissues depend on the growth of the parasite itself, rather than on the nature of the reactions of the cells, so that it is safe to conclude that it concerns a special form of parasite. In most cases the embryo is carried from the intestine into the liver, where it forms a multilocular chitinous mass corresponding to the mature proglottid of the tapeworm. Ovoid embryos and scolices are produced and may penetrate into the surrounding tissues by ameboid movement. Some embryos which reach lymph-vessels or blood-vessels again produce chitinous tufts from which new embryo develop. The essential difference between ordinary echinococcus cysts and the multilocular form is that in the former daughter cysts develop only from the inner layer, whereas in the latter embryos form upon the external as well as the internal surface.

The parasites of alveolar echinococcus disease induce proliferation of cells, accompanied with more or less necrosis, thus leading to a form of infectious granulomatous process, the products of which consist of epithelioid, lymphoid, and giant-cells, and white areas of a form of cheesy disintegration. Metastases may form by way of lymphatics and blood-vessels. The source and mode of infection are as yet unknown. Up to the present time successful feeding experiments have not been made. The disease in man is a dangerous one and so far the only successful treatment is surgical. The most pronounced symptoms in the majority of cases are those of tumor or cirrhosis of the liver, and it will be recalled that for a long time the disease was confounded with colloid carcinoma, Virchow showing that the lining of the irregular cavities with colloidal or gelatinous con-

tents consists of the lamellated cuticle. Jaundice and hemorrhages are frequent, especially in the latter stages.

THE RELATION OF PHYSICIAN AND SURGEON.

The fact that mutual benefit is derived from consultations between physician and surgeon, in the case of many affections that were formerly considered purely medical, has been recently emphasized. In all medical affections in which surgical intervention may become imperative to save life, as typhoid fever, gastric ulcer, cholelithiasis, exophthalmic goiter, and numerous others, the physician must either associate with himself a progressive surgeon or thoroughly acquaint himself with the pathologic manifestations that furnish an indication for operative procedure and promptly invoke the aid of the surgeon when occasion demands. Conversely, practical knowledge of the symptomatic indications of this class of diseases, as well as the more refined laboratory methods of investigating them, is of incalculable value to the surgeon. He must at all events be able to interpret the results of laboratory research for the purpose of arriving at an accurate diagnosis. In his Oration on surgery, before the recent meeting of the AMERICAN MEDICAL ASSOCIATION, Dr. John A. Wyeth¹ directed forcible attention to the common error of relying exclusively on the subjective and objective signs, on the one hand, and the importance of calling into requisition those invaluable aids to diagnosis that are furnished by bacteriology, the demonstrations of hematology and a careful microscopic and chemical examination of the sputum, gastric juice, and urine on the other. The address of Dr. J. M. Anders, Chairman of the Section on Practice of Medicine, at the same meeting, also contains practical and timely suggestions along the same lines. He emphasized the importance of a closer, truer union between the physician and surgeon, in the operating theater, the clinical amphitheater and at the bedside, as well as the advantages of joint sessions between the medical and surgical sections for the discussion of that growing class of diseases that may present both medical and surgical aspects. Neither so-called medical nor surgical affections are distinct entities, and hence a more liberal joint cultivation of the ever-growing field that is of mutual interest and concern to physicians and surgeons would be an important step in the advancement of the welfare of mankind. Moreover, a more intimate association would tend to lessen the aggressiveness of the surgeon and, what is perhaps even more important and desirable, lessen to an equal extent the conservatism of the physician. Especially when viewed from the standpoint of treatment many affections demand at the present day surgical, coupled with physical, physiologic and therapeutic measures. In short, they require the combined services of the physician and surgeon for their successful management. This new condition of things has sprung from the invasion of the various viscera of the body by the surgeon as the result of improved methods and advancements in his art, and the ultimate benefits as compared with the pure medical treatment of former days are obvious.

1. JOUR. A. M. A., June 8, 1904.

Medical News.

CALIFORNIA.

Dr. Charles L. Ellinwood, San Francisco, has been appointed to the Board of Regents of the State University.

A new emergency hospital is to be erected in Los Angeles. It will be a modern structure in every way and will accommodate about 350 patients.

Elizabeth Bard Memorial Hospital, Ventura, is rapidly approaching completion. The superintendent thinks that it will be ready to receive patients within three months.

Dr. Stanley P. Black, professor of bacteriology in the medical department of the University of Southern California, at Los Angeles, left, May 17, for Europe, where he expects to spend a few months in Koch's laboratory.

Fire at Presidio Hospital.—A fire at the Army General Hospital at the Presidio of San Francisco, June 10, destroyed three wards, the medical supply room, kitchen and dining room, causing a loss estimated at \$25,000. Thanks to the heroism and discipline of the hospital corps men, all patients were safely removed.

State Board of Health.—The governor has appointed the following members of the State Board of Health: Drs. Rudolph W. Hill, Los Angeles; Walter B. Coffey, San Francisco; W. P. Mathews, Sacramento; Charles A. Ruggles, Stockton, and Calvin L. Gregory, Yreka. The new board met at Sacramento, elected Dr. Hill president, and re-elected Dr. Mathews secretary.

CONNECTICUT.

The **Hartford Board of Health** has organized with Dr. Thomas F. Kane as president, and Dr. Joseph B. Hall as secretary, and has appointed Dr. Arthur J. Wolff, bacteriologist.

Dr. Richard S. Griswold, Lyme, who has served as acting assistant-surgeon in the Army, and assistant-surgeon of Volunteers, in Cuba, the Philippines and China, has been appointed by the President as major and surgeon of Volunteers and ordered to the Philippines.

Experimental Hospital for Tuberculosis.—The Senate reported favorably the following bill: The sum of \$25,000 is hereby appropriated to the Hartford Hospital for the erection of an experimental hospital for the treatment of pulmonary tuberculosis in accordance with plans to be filed in the office of the comptroller. State patients shall be admitted to and receive treatment in said hospital, when erected, for the sum of \$4 per week.

Sanitation in Connecticut.—In its annual report the Connecticut State Board of Health calls attention to the great difference in the results of private and hospital treatment of typhoid fever. In six hospitals there were 693 cases, and the mortality was only 6.8 per cent., while 1163 cases in private practice showed a mortality of 20 per cent. The sanitary conditions of Connecticut have been greatly improved in the past ten years owing to the increased authority conferred upon health officers. By isolating cases of smallpox and other contagious diseases, disinfecting the premises where such diseases have been found, improving the sewage systems in several places, etc., these officials have reduced the death-rate from 19.2 to 17.9 per 1000 of population.

DISTRICT OF COLUMBIA.

Dr. Michael J. McIntee has succeeded Dr. Osmyn Baker as resident physician at the Washington Asylum Hospital.

Columbian Medical School.—The eightieth annual commencement of Columbian University Medical Department was held May 27. Dr. E. A. de Schweinitz delivered the doctorate address and a class of thirty-five was graduated.

Emergency Hospital Changes.—As a result of competitive examination, Drs. Bragonie and T. D. Stewart, of the University of Virginia, and Dr. Kuhn, of Georgetown University, on June 1, assumed their positions as internes in the Emergency Hospital.

Anti-Spitting Resolution.—The Medical Society of the District of Columbia has passed a resolution which declares that spitting upon paved sidewalks creates a nuisance dangerous to health, and should be forbidden by law, and the possibility of difficulty being encountered by the police department in enforcing a regulation forbidding spitting upon paved sidewalks constitutes no valid reason why such a regulation should not be promulgated.

ILLINOIS.

Dr. John F. Sloan has been appointed health commissioner of Peoria.

Dr. Mary M. Mars, Evanston, for two years assistant head physician at the Cook County Insane Hospital, has resigned.

Dr. Joseph Robbins, Quincy, has been appointed superintendent of the Illinois Central Hospital for the Insane, Jacksonville.

Dr. Arthur M. Lee, Carbondale, has been appointed superintendent of the Illinois Asylum for the Criminal Insane, Chester.

Dr. Thomas Foster, who has remained assistant at the Illinois Eastern Hospital for the Insane, under three administrations, has resigned.

Dr. Thomas R. Mullen, Bloomington, has sailed for Ireland on a visit to his old home. Before his return he will make a short tour of England.

Dr. Percy J. Ashburn, lieutenant and assistant-surgeon, U. S. Army, now on duty in the Philippines, has been ordered to Fort Sheridan to relieve Captain and Assistant-Surgeon Francis A. Winter, U. S. Army, transferred to Jefferson Barracks.

Chicago.

The baccalaureate sermon at Rush Medical College was preached June 16, by Prof. Nicholas Senn.

Dr. Warren H. Hunter has been appointed county physician by the Board of Commissioners of Cook County.

Daniel D. Healy, superintendent of public service, has been appointed warden of Cook County Hospital.

Dr. George Dohrmann will leave next week for Europe; he intends taking a course of one year at Vienna.

The **German Hospital** is to be enlarged by a building to cover an additional frontage of 75 feet, and to cost \$40,000.

Provident Hospital benefits at least to the extent of \$50,000 by the munificence of the late Dr. W. S. Caldwell, of Freeport.

Rush Medical College held its class-day exercises in the college amphitheater June 20. Prof. James Nevins Hyde delivered the address.

State Board of Health Examinations were held, June 6, at the Great Northern Hotel. About 125 candidates for license to practice medicine in the state appeared.

The cornerstone of the new clinical building for Rush Medical College was laid June 19, the address being delivered by Prof. J. M. Coulter, of the University of Chicago.

Dr. Allen T. Haight and wife sailed for Europe on the *Deutschland*, June 13. He will read a paper on "Tuberculosis of the Eye" before the Congress of Tuberculosis, which assembles in London, July 22.

Dr. Mergler's Bequests.—By the will of the late Dr. Marie J. Mergler, \$3000 is devised for the foundation of a scholarship in physiology for women, in the University of Chicago and \$3000 for the Woman's Hospital of Chicago.

Rush Medical College held its annual commencement exercises at Studebaker Hall, June 21, graduating a class of 191. The doctorate address on "The Modern Need for Literature" was delivered by Prof. Richard Burton, of the University of Minnesota.

Health of Chicago.—There were 441 deaths reported to the Health Department during the week ended June 15, this being 28 more than during the preceding week and 67 in excess of the corresponding week of 1900. The increase in the week's mortality was chiefly among children under 5 years of age, there being 33 more at this age-division than during the preceding week. Two deaths were caused by sunstroke. Measles claimed 14 victims during the week, this being 10 more than the preceding week.

Northwestern University Commencement.—The forty-third annual commencement exercises of Northwestern University were held this week. The annual alumni meeting and banquet was held at the Great Northern Hotel, June 19; and the commencement exercises of the medical schools at the Auditorium, June 20. The doctorate address was delivered by Rev. James Roscoe Day, Chancellor of Syracuse University, N. Y. The Northwestern University Medical School graduated a class of 74, and 19 were graduated from the Woman's Medical College.

IOWA.

The **State Board of Medical Examiners** at its last session issued certificates entitling 108 applicants to practice medicine in the state.

Dr. Lee W. Dean, Iowa City, has been elected professor of otology, rhinology and laryngology in the College of Medicine of the University of Iowa, vice Dr. Charles M. Robertson, resigned.

Dr. Charles F. Applegate, first assistant at the Iowa Hospital for the Insane at Clarinda, has been elected superintendent of the state hospital at Mount Pleasant, to succeed Dr. F. C. Hoyt, deceased.

MARYLAND.

The West Nottingham Academy elected Dr. R. E. Bromwell, of Port Deposit, Cecil County, president.

Dr. Carroll's Monument.—The monument to the memory of the late Dr. Thomas King Carroll was dedicated June 12 in the cemetery of Old Trinity Church on the banks of the Little Choptank River, Dorchester County. The people came from all over the county and from distant cities and counties of the state, but were principally those among whom the revered physician lived and labored during his professional career of fifty years. It was a spontaneous tribute to the memory of a noble physician and valued friend. The monument of Italian marble was erected by the contributions of 200 or more of the doctor's patients. It rises from a base of 2 ft. 8 in. broad to a height of 10 ft. 8 in. It stands at the head of the grave in the Carroll lot with an appropriate footstone on which a cross is carved.

Baltimore.

Dr. William Osler, wife and son sailed for Europe June 19.

Dr. Samuel Kohn will spend the summer in South Germany.

Dr. and Mrs. John Turner have gone to Halifax, Nova Scotia.

Dr. T. C. Gilchrist sailed June 20 and will spend the summer abroad.

Dr. Charles E. Simon and family are summering at Chester, Nova Scotia.

Dr. Thomas J. Ward and wife will leave for a trip to the Pacific coast July 8.

The National Temperance Hospital, attached to the Maryland Medical College, has changed its corporate name to Franklin Square Hospital, of Baltimore.

Smallpox.—At the monthly meeting of the State Board of Health, June 12, it was announced that there were but three cases of smallpox in the state, one here, one in Allegheny County and one in Montgomery County.

President Ira Remsen, M.D., of the Johns Hopkins University, will attend the annual banquet of the alumni of the College of Charleston, S.C., and will respond to the toast "The Colleges of the United States."

The University of Maryland Hospital will build a four-story and roof garden on the present nurses' home of the institution, providing 15 sleeping rooms for day nurses and quiet sleeping apartments during the day for those on night duty. There will also be a free infirmary for nurses and a diet kitchen course of three months on the scientific principles followed in the Drexel Institute.

Health of Baltimore.—The annual report of the City Health Department for 1900 contains a valuable series of maps showing the location of every case of diphtheria, scarlet fever, consumption, typhoid fever and pneumonia during the year. There were 1861 cases of diphtheria and 281 deaths; 402 cases of scarlet fever and 20 deaths. The maps show the remarkable fact that only a few cases of scarlet fever and diphtheria develop among the very poor living in the alleys, showing, it is said, the influence of schools in the dissemination of these two diseases since the children of the class just named do not attend school. The annual death-rate was 19.77 per 1000. For whites the rate was 17.48, for the colored 33.42 per 1000. There were 8,653 births and 10,700 deaths reported. Consumption caused 1056 deaths; pneumonia, 1303; Bright's disease, 618; heart troubles, 660, and typhoid fever, 189. An earnest plea is made for a general sewerage system, improved street paving and an infectious disease hospital.

Johns Hopkins Commencement.—The commencement of Johns Hopkins University was memorable for terminating the first quarter century of its existence. There was a marked increase in the number of medical graduates, the class numbering 54. Of these 6 were women, 7 less than last year. The principal address was delivered by Dr. Henry M. Hurd, professor of psychiatry in the medical school and superintendent of the

hospital. The following appointments in the Medical School were announced: Charles R. Bardeen, M.D., associate professor of anatomy; Thomas B. Fitcher, M.B., associate professor of medicine; Walter Jones, Ph.D., associate professor of physiological chemistry; Robert L. Randolph, M.D., associate professor of ophthalmology and otology; Stewart Paton, M.D., associate in psychiatry; Percy M. Dawson, M.D., associate in physiology; Eugene L. Opie, M.D., associate in pathology; and Henry Barton Jacobs, M.D., and Thomas McCrae, M.D., associates in medicine.

MICHIGAN.

Grand Rapids Medical College held its fourth annual commencement exercises June 3. The address to the graduating class was delivered by Dr. Clarence H. White, president of the college. Degrees were conferred on a class of fifteen.

Saginaw Valley Medical College, Saginaw, held its fifth annual commencement, May 22, and graduated a class of twenty-six. Dr. Victor C. Vaughan, dean of the Medical Department of the University of Michigan, delivered the doctorate address.

Health in Michigan.—In the Monthly Bulletin of Vital Statistics, the report of the secretary of the State Board of Health, based on the sickness statistics, shows that in the month of May, 1901, compared with the average in the ten years preceding, scarlet fever, smallpox and typhoid fever were more than usually prevalent; and consumption, remittent fever, inflammation of bowels, measles and cerebrospinal meningitis were less than usually prevalent in the May just passed.

Smallpox in Michigan.—Since the first of January outbreaks of smallpox in 199 localities in Michigan have been caused to cease, and in 132, or 66 per cent., of these outbreaks the disease was restricted to the one household where the first case occurred. Notwithstanding this splendid record of effective work by the health services, state and local, the disease continued to spread because in the other outbreaks where the disease was not restricted to the first household, it was first called Cuban itch, "cedar itch," chicken-pox, or acne, and not reported to the health officer so that restrictive measures could be taken. It is now present in 75 places in Michigan, 5 places more than in the preceding week.

Spreading Life-Saving Knowledge Among the People.—One of the most important but less conspicuous phases of the work being done by the State Board of Health, is shown in the report for April, of a village health officer in Southern Michigan. He reports: "By a letter from the secretary of the State Board of Health, I was induced to report the want of sanitary care and precautions in the last few weeks' life of a patient who died of tuberculosis of the lungs in this village last spring. The poor unfortunate was moved about from family to family of her relatives, and cared for as well as their means could afford, but in utter neglect of all the means of preventing its communication to others. Most of this neglect came from lack of knowledge as to what could be done by poor folks to lessen the chances for taking the disease." By attracting attention to such instances, and by taking advantage of them for the instruction of the people, much can be done and is being done for lessening the spread of tuberculosis.

NEW YORK.

Quarantine against Cleveland is threatened by the Health Commissioners of Buffalo unless the authorities of the former city make strenuous efforts to stamp out smallpox. There are now said to be 100 cases of the disease in Cleveland.

Smallpox.—A serious condition exists in Suffern, Rockland County, owing to the alleged error of the local health officer in diagnosing smallpox as "Cuban itch." The state authorities, at the instance of complaints from New Jersey, investigated and found many cases of smallpox.

The Syracuse College of Medicine has changed its administrative plan so that hereafter there will be no separate administration at the medical college. The finances will be in the charge of the treasurer the same as at the other colleges, except as may be necessary to accommodate any special case.

New York City.

Cornell University Medical College held its third annual commencement June 5, when degrees in medicine were conferred on a class of twenty-six, fourteen of whom were women.

Tuberculosis is hereafter to be classified as a contagious disease by the immigration officials and consumptives from other lands will be denied admittance to this country.

Gift to the Academy of Medicine.—A large portrait of Dr. William H. Thomson was presented to the New York Academy of Medicine, June 6, by Dr. William M. Polk, dean of Cornell University Medical College.

Harsen Prizes.—The trustees of the College of Physicians and Surgeons have established three Harsen prizes for proficiency at the final examinations in practical anatomy, clinical medicine, clinical surgery and several other subjects. The prizes are \$500, \$300, and \$200, respectively, for the three highest men. It has been the custom at the College of Physicians and Surgeons to award a diploma of "examination honors" to each of the ten men of the graduating class who pass the best examinations in trying for their doctor's degree. The ten men thus honored are entitled to take part in special competitive examinations, and the three most meritorious competitors receive the first, second and third prizes, respectively.

WISCONSIN.

The New La Crosse Hospital, which has been erected at a cost of about \$50,000, was formally opened to the public May 14. The hospital has accommodation for 50 patients.

St. Mary's Springs Sanatorium, near Fond du Lac, is to be erected at a cost of \$25,000, donated by John T. Boyle. The institution will be under the charge of the Sisterhood of St. Agnes.

GENERAL.

Extending an Operation Without Consent.—A woman was operated upon at the Post-Graduate Medical School of Chicago, by Dr. Franklin H. Martin, for the reduction of a large ventral hernia. It was discovered that the patient had tuberculosis of the appendages, which condition had not been indicated by any of the symptoms and was wholly unsuspected. The tubercular condition was quite extensive, and Dr. Martin, being of the opinion that the ovaries had lost their function and that the disease was so developed that there would be no hope for the patient's recovery therefrom, unless the ovaries and tubes were removed, proceeded to remove them. The patient, upon being informed of this operation, instituted an action for assault and battery against Dr. Martin, the Post-Graduate Medical School, Dr. Clarissa Bigelow, and Dr. Eliza R. Morse, for the recovery of \$25,000 damages. The defendants, through their attorney, Frank Crozier, pleaded in justification, that although the actual consent of the patient had not been obtained for the removal of the ovaries, yet inasmuch as that was the proper thing to do surgically and inasmuch as the patient's life would have been lost had it not been done, the law would presume that the patient had given her consent that all things necessary be done. The defense thus squarely raised the question as to what is a surgeon's authority when he comes across unexpected conditions while performing an abdominal operation. The point has never been passed upon by any court of review, and the question is still an open one legally. The case against Dr. Martin has been twice tried in the Superior Court of Cook County, once before Judge Brentano, and again before Judge Kavanagh. Judge Brentano directed the jury to find the defendants not guilty, on the motion of the attorney for the defendants, who urged that the plaintiffs had not proven that the operation had been performed. After directing the verdict, Judge Brentano, the point being technical, at once granted the motion for a new trial, and the case was immediately called by Judge Kavanagh, who at the close of the evidence introduced by the plaintiff, on motion of defendant's attorney, instructed the jury to find the defendants not guilty. While he did not expressly base his decision on the theory that plaintiff had impliedly authorized the defendants to do whatever in their opinion was for her best interests, yet he clearly indicated that he would so hold the law to be, should the point be properly raised. The plaintiff prayed an appeal to the Appellate Court, the decision of which will be awaited with considerable interest. Attorneys are somewhat divided in their views as to what the courts will hold the law to be, but the best opinion is that there is absolutely no doubt that when the question is properly presented to an upper court the law will be laid down to be that a surgeon is authorized to do what in his judgment the physical well-being of the patient requires. But until the law is thus established the attorneys agree that it would be best to have the express consent of a patient. It may be added that the patient was a charity case.

CANADA.

Dr. Howard Barnes, Montreal, paid a visit to Cornell University last week, where he installed in the physical chemistry department an exceedingly delicate pyrometer of his own invention, which is capable of measuring accurately a temperature of 3000 degrees Fahrenheit.

McGill Convocation.—Medical degrees were conferred at McGill on the afternoon of May 14 to the number of 91. The four prize men were all graduates in arts, two of them hailing from Toronto University. Dr. William Gardner delivered the address to the students, while Dr. Harold Ker replied with the valedictory.

McGill University has been chosen as one of the institutions which will carry on original research work under the supervision of the newly incorporated Rockefeller Institute of Medical Research. When this work is commenced at McGill it is understood that Professor Adami, of the pathological department, will be in charge.

Ban on Consumptives.—Sir James Grant, Ottawa, president of the Canadian Tuberculosis Association, is authority for the statement that recommendations have been made to the Canadian Government to deal with immigrants affected with consumption along similar lines as inaugurated by the United States Immigration Department.

Toronto University Items.—Convocation of all departments took place on the afternoon of June 7. Dr. R. A. Reeve, dean of the medical faculty and president of the Alumni Association, presided. The honorary degree of LL.D. was conferred on his excellency, the Governor General, Lord Minto, and also on Dr. Louis Frechette, the French-Canadian poet.

Montreal General Hospital.—The report for the month of May of the Montreal General Hospital shows that there were 19 cases of typhoid fever in the hospital for the month, which is unusually large for that month of the year. Two hundred and sixty-eight patients were admitted to the wards and 251 were discharged. There were 20 deaths, and the daily average of patients was 160.

The progress of the medical department of the provincial university has been so great that it has become necessary that a much larger building shall be provided for its accommodation. It is expected that arrangements will soon be entered into by means of which, when the School of Practical Science addition is built, the medical department will have a handsome new building, which will be well equipped in the most modern manner.

Hospital Appointments.—Dr. F. Fleury has been appointed medical superintendent of the Notre Dame Hospital, Montreal, to replace Dr. A. Ethier, who has resigned to pursue post-graduate work in Europe. He will have associated with him as house surgeons, Drs. A. Brosseau, V. Chapdelaine, A. St. Pierre and J. Edouard Grenier. Dr. Ethier, who leaves the hospital, occupied the position for five years.

Women Doctors Recognized.—Two Toronto hospitals have this year recognized the claims of the lady medicos when making the annual appointments on their resident staffs; and it is likely that hereafter the Toronto General and the Victoria Hospital for Sick Children will have a lady physician constantly on their staffs. The question has been raised whether they are to occupy the usual quarters provided for the house surgeons.

Medical Students in South Africa.—Those medical students who were serving in South Africa were all granted relief from their examinations by the Ontario Medical Council. Two received their matriculation, two their primary examination, and six were registered as practitioners. Some discussion arose on this point, when Dean Geikie, of Trinity Medical College, declared emphatically that if this simple measure of justice was not done to these men who had taken their lives in their hands out of patriotism, he would no longer occupy a seat in that Council.

New Canadian Society.—The graduates of Queen's University (Kingston, Ontario) in New York have organized a new Canadian society to be known as the New York Society of Graduates and Alumni of Queen's University of Kingston. President, Dr. James Douglas; first vice-president, Dr. Farquhar Ferguson; second vice-president, Dr. John R. Shannon; executive committee, Drs. L. H. Gardiner, W. G. Fraleck, and Mr. D. C. Portecus and R. S. O'Loughlin. The society will act conjointly with the New York Society of McGill University and the Canadian Society of that city in sending a representative to present an address to the Duke of Cornwall and York on the occasion of his visit to this country.

Finances and Officers of Ontario Medical Council.—The report of the finance committee recommended that the salary of Dr. H. W. Aikins be \$500 for treasurer for the ensuing year. The treasurer estimated his revenue for the coming year at \$25,136, comprising cash in bank, \$3,936; assessment dues, \$4,400; registration fees, \$1,800; rents, \$4,000; fees from professional examinations, \$11,000. The estimated expenditures is \$17,885, leaving an estimated balance of \$2,751. Officers elected: President, Dr. L. Brock, Guelph; vice-president, Dr. Emory, Toronto; registrar, Dr. R. A. Pyne, Toronto; treasurer, Dr. Wilberforce Aikins, Toronto; auditor, Dr. Patton, Toronto.

Sir William Hingston has been distinctly honored by the Pope for charitable work and zeal for the church. "The Papal Cross" has been bestowed "for the Church and Pontiff." His Grace, Archbishop Bruchesi, conveyed to Sir William the gift of the head of the church, which was accompanied by the following letter from Cardinal Rampolla, the Papal Secretary of State: "His Holiness has deigned to accord the Cross from the Church and Pontiff to Sir William Hingston as a recognition of his devotion and fidelity to the church and its supreme head. The Cardinal Secretary of State has the pleasure to transmit him the diploma and the said cross, in order that he may wear it on his breast, as it is customary to do with other decorations."

FOREIGN.

London's Bedlam to Move.—For nearly a hundred years Bethlehem Hospital for the Insane, colloquially corrupted into "Bedlam," as early as the 13th century, has occupied its present site in Southwark, which it has now outgrown, and will be converted into a park. This will be its third move in the many centuries of its existence.

Royal Condition Wrongly Diagnosed.—To clear himself of a charge of having made a wrong diagnosis when called to see Queen Draga of Servia, Dr. Caulet, of Paris, has published in *La Semaine Médicale* the full correspondence which passed between him and the Servian court, and gave in detail the queen's symptoms, which simulated pregnancy.

Thomas Bond, F.R.C.S. England, 1866, eminent as a surgeon and analyst, committed suicide in London, June 6, by throwing himself from a third-story window of his residence. He had been suffering from melancholia for about two years. For many years Dr. Bond was analyst to the Home Department and lecturer on forensic medicine in Westminster Hospital.

LONDON LETTER.

A Snub to the Profession.

Some time ago a number of gentlemen, including Mr. Arthur Chamberlain, brother of the Colonial Secretary, founded the "Birmingham Consultative Institution," the object of which was stated to be to secure for the working classes of the city the advantages of consultation with eminent practitioners, which could at present be obtained only by fees beyond their means. A fee for consultation of \$2.50 was fixed, and a certain Dr. Irvine was appointed. The medical profession of Birmingham immediately took up arms against the Institution, which they regarded as simply a means of advertising the physician in question and obtaining for him very comfortable fees. They pointed out that the Birmingham consultants were perfectly satisfied already to see patients at this reduced fee if their position was such that they could not pay more. Dr. Irvine was brought before the General Medical Council and convicted of unprofessional conduct in allowing himself to be advertised by the Institution. The Council decided not to immediately remove his name from the medical registrar, but to give him six months to think over his position. As a result he resigned his position in connection with the Institution. No sooner had he done so than he was appointed one of His Majesty's Inspectors of Schools. In the House of Commons a member called attention to the matter, and insisted that he should not have received the appointment with such a charge hanging over his head. No doubt this appointment must have been brought about by the influence of the Colonial Secretary's brother. In defending it, the Colonial Secretary said that Dr. Irvine had only infringed the "trades-union rule" of the profession against advertising, and that as there was no accusation against his private character the appointment was not improper. Sir Walter Foster, a medical member of Parliament, submitted that on public grounds no person in such a position as this doctor awaiting the judgment of the General Medical Council on a charge of which he had been found guilty should have been appointed to a high public office. This stigmatizing as a "trades-union

rule" the injunction against medical advertising, an injunction which really is in the interest of the public more than the profession, and this cynical contempt by the Government for their own court, the decision of which on purely professional matters the brightest judges have declared to be unalterable, may seem extraordinary. It is to be accounted for by two facts: The profession is unorganized and commands no vote of which governments are afraid, and therefore is a political cypher; secondly, as has been before explained in *THE JOURNAL*, science commands no general respect in this country.

Sweets Sparkling with Glass.

A physician in Bedford has forwarded to the *Lancet* for analysis some sweets which he thought were the cause of severe abdominal pain in children under his care. The *Lancet* analysis disclosed the fact that the sweets were coated with small particles of glass, which were no doubt the cause of the symptoms. Powdered glass is a strong irritant poison. Hence this is a very serious form of contamination. The makers of the sweets have not been traced. This is a duty which the local authorities should perform.

A Ladies' Public Health Society.

The Ladies' Public Health Society of Manchester and Salford, which has been in existence some years, represents a form of activity as unusual as it is useful. Its object is to bring sanitary knowledge into the houses of the poorest. Its scope has been greatly enlarged by connection with the sanitary committees of Manchester and Salford. The working-class neighborhoods are divided into districts containing 1000 to 2000 cottages. Each has a lady superintendent and a "health visitor." The latter is a working woman who lives in the district and knows the life of the poor from experience. She visits all the cottages, makes friends with the people, and gives them hints and advice on all sorts of subjects, and has her eyes open for defects of drainage, overcrowding, sickness, etc., all of which she reports on a form that is posted daily to the medical officer. She pays special attention to infants, and always carries a leaflet on infant-feeding, which she does not simply hand over to an ignorant young mother to be probably thrown into the fire, but reads and explains it. Such advice is much required, for there is no limit to the ignorance of these young women, who have, perhaps, spent all their unmarried life in a factory. She is often the means of persuading families to exchange a small and unsanitary cottage for something better as the children grow up. She can recommend a house, a caretaker, a charwoman, or whatever else may be needed to meet the wants of each case. She can show how to make a bed, wash a baby, apply a poultice, or cut out a garment. The health visitors have no special training, but are women of strong character and sound practical experience. The lady superintendent is a sort of power behind the health visitor. She can supply the theory on which the practice is founded. She is consulted when difficulty arises and takes the whole financial responsibility. She also holds weekly meetings in the district, and by dint of constant repetition makes a large body of women acquainted with the laws of health. These in their turn influence their neighbors. For nearly two years the Manchester health visitors have been systematically visiting and reporting on cases of consumption to the medical officer of health and spreading the knowledge of the nature of consumption and the means of preventing it.

Acute Suppuration of the Thyroid Gland.

At the Clinical Society, Mr. R. J. Godlee read a paper on a case of this disease. A woman, aged 20, was attacked with typhoid fever, at the end of October. On November 20th a swelling formed at the lower part of the neck and was followed by a patchy, irritable rash all over the body, which disappeared on the 26th. The swelling rapidly enlarged and the temperature rose, reaching 104.4 on the 28th, and 105.4 on the 29th. When the patient was first seen the swelling occupied the middle line and extended somewhat to the right, but much further to the left. There was dysphagia and the surrounding structures did not move freely over the swelling. The mass did not move on deglutition. An incision was made in the middle line and a large cavity was reached at a depth of half an inch in the gland. It contained a reddish-brown sticky fluid mixed with pus and much friable material. A drainage tube was inserted and recovery was uneventful. Mr. Godlee discussed the different varieties of thyroid inflammation: 1, idiopathic with spontaneous subsidence; 2, epidemic, as described by French military surgeons, which is of the nature of an acute specific fever; 3, the septic form, of which his case was an example. Acute suppurative thyroiditis has

been recorded in connection with many infectious states, such as rheumatic fever (8 cases), malaria (3 cases), typhoid fever (2 cases), diphtheria (2 cases), erysipelas, pneumonia, ozena, compound fracture, and erythema nodosum. Of 28 recorded cases, suppuration occurred in 15, and in 6 others the point is not mentioned. In the rheumatic cases suppuration did not occur. Suppurative thyroiditis appears to be especially common in connection with typhoid fever. The proper treatment is immediate opening and drainage. It is not described among the complications in the text-books, as it should be.

Correspondence.

Sulphuric Ether in Asphyxia Neonatorum.

CHINOOK, MONT., June 11, 1901.

To the Editor:—In a recent case of asphyxia neonatorum, caused by delay in delivery and the use of forceps, I worked faithfully for one hour, using artificial respiration and external stimulants such as rubbing, slapping, hot and cold water, but with poor success, as the heart became more feeble, cyanosis increased, and it seemed altogether a hopeless case. I injected 5 minims sulphuric ether into the thigh. In two or three minutes circulation was fully restored, child was breathing naturally, and it has since done well. Having never seen any note of ether being used in these cases, I send you this, thinking it might possibly be of some value.

Respectfully, C. F. HOPKINS, M.D.

Inherited Tendency to Appendicitis.

CINCINNATI, OHIO, June 15, 1901.

To the Editor:—I am trying to establish the fact, which I believe from my own personal observation to be true—see *Lancet-Clinic*, June 8—of an inherited tendency or predisposition to appendicitis. If the readers of THE JOURNAL will kindly look into the family history of their cases and report to me, I will be under very many obligations.

Respectfully, W. H. DEWITT, M.D.
61 Auburndale Place.

Association News.

THE ST. PAUL MEETING AS VIEWED BY OUR CONFREERES.

From the New York Medical Journal.

The fifty-second annual meeting of the AMERICAN MEDICAL ASSOCIATION, held in St. Paul last week, was memorable from more than one point of view. Those of our readers who were not present will have deduced this from the President's address and from the action taken on the plan of reorganization. The reorganization, tantamount to a new constitution, will, as we have before remarked, make the general sessions far more amenable than before to parliamentary rules of procedure and better able to arrive speedily at a correct understanding of the merits of such questions as may come before the Association. Many of the men who most thoroughly recognized all this before the meeting were fearful that, nevertheless, the scheme would fail of adoption this year, although sure to be sanctioned eventually. The result shows once more that we should never despair of a good cause.

The choice of a New York man as President for the ensuing year and of a place in the State of New York for holding the next meeting may doubtless be taken to foreshadow the re-establishment of the most cordial relations between the National body and the profession of the state. Now that the presidency has been conferred upon one of their number, the physicians of the State of New York should make no distinction in their own minds as to whether he represents the old or the new state organization, for it is certain that no thought of discrimination on that score governed the nominating committee. It is to be hoped, indeed, that there will

soon be no factions, and that the two state organizations will be blended into one.

The next meeting will be comfortably bestowed, for the capacity of Saratoga hotels is very great. But the entertainment of the members is to be thought of as well as their lodging. This the profession of the whole state must take upon itself. It would be wrong to leave the burden to be borne by Saratoga alone after the superb hospitality of the twin cities of St. Paul and Minneapolis. We think we can promise our colleagues in all parts of the country such an effort as the State of New York can make to approach the standard of that hospitality.

From the Medical News.

The recent well-attended meeting of the AMERICAN MEDICAL ASSOCIATION at St. Paul shows better, perhaps, than did meetings held at points more convenient for larger numbers of medical men how deep is the profession's interest in the work of the National organization. The Association has in these latter years risen out of a phase of quasi-provincialism to be thoroughly representative of the best elements of scientific and professional progress in American medicine. This state of affairs is most encouraging. At the beginning of the new century the clearest truth in practical life is that assured success is the outcome only of thorough organization. Many problems await solution in the social and legal relations of the medical practitioner to his clients and to public health. These can not be definitely and properly solved unless the weight of a united medical profession can be brought to bear upon legislation and public opinion.

The most noteworthy feature of the last meeting was the liberal attitude of the President and members of the Association toward that portion of the New York medical body whose defection ten years ago did so much to delay the unification of the profession in this country. The recently adopted opinions are, however, only a result of a just survey of the motives and conditions that prompted the attitude assumed by the New York Society before its enforced withdrawal. The President's acknowledgment of the right-mindedness of the motives that formed the basis for the action of the representatives of the New York medical profession must go far to repair the breach that still exists.

The selection of a New Yorker as President of the AMERICAN MEDICAL ASSOCIATION and the acceptance of the invitation to hold the next annual meeting at Saratoga must be taken as indices of a successful movement that is to give back to the Empire State her long-lost influence in the councils of the National body of physicians. The New York State Medical Association, thanks to the unsparing efforts of certain members, has been growing handsomely in numbers and influence in recent years. The auspicious circumstance of having the annual meeting of the National Association to inspire to renewed efforts should add greatly to its membership and prestige. With the recently adopted scheme of reorganization of the State and National associations, to cement the union of all the societies composing them and to make their influence available for professional purposes, there seems no reason to doubt that the day of a really united medical profession is at hand.

The new plan of government adopted by the National Association promises by its thoroughly representative character to do away with the petty sectional politics that have sometimes proved a jarring element at annual meetings. The proposed reformation of the code, already under way, encourages the hope that a stumbling-block in the way of certain serious minds as regards membership in the Association will be soon removed. For many years past some of the rules of conduct embodied in the old code have, if taken in their strictly literal signification, been a dead letter. Since they have proved a source of disunion, it must be a cause of congratulation on all sides that they are to be modified to meet the change of circumstances and evolution of conditions which make them a relic of the past.

The recent St. Paul meeting was especially noteworthy for the social relaxation it afforded attending members of the Association. Every year the social gatherings take on a more

friendly character and the good effected is quite as much due to the familiar fellowship that reveals the character of co-workers in the same field as to the scientific discussions that mirror recent practical advances in the various specialties. The promise may confidently be held out that visitors to the meeting at Saratoga next year will meet with as pleasant a welcome and will be greeted with social features as attractive and gratifying as any ever provided. That the AMERICAN MEDICAL ASSOCIATION is about to enter into the fullness of its heritage as a thorough representative of the whole medical profession of the country now seems assured.

From the Boston Medical and Surgical Journal.

At the meeting of the AMERICAN MEDICAL ASSOCIATION in 1900 a Committee on Organization was appointed. This committee presented its report at the recent meeting of the Association at St. Paul, and the report, including the revised Constitution and By-Laws, on motion of Dr. Harris, of New York, was adopted by a large majority. The report itself is a lengthy document, for the full text of which and for the report on revision of the Constitution and By-Laws our readers are referred to THE JOURNAL of the Association, the issues of May 11 and June 8. The necessity for these changes has long been apparent. Under the old conditions the transaction of business was either difficult or impossible, or so easy that it was undesirable. The Association itself had not the weight in professional and public affairs to which its members and wide representation should entitle it. The Association has now provided itself with a more suitable machinery with which to work, but the results attained must depend in large measure upon the cordial co-operation of the State and county societies, a co-operation which we hope may in due time be forthcoming.

From American Medicine.

The St. Paul meeting of the AMERICAN MEDICAL ASSOCIATION was the best that has ever been held. We know that the elation following each annual meeting makes such praise habitual, but there is a unanimity and emphasis this year that we have never seen equaled. This feeling is undoubtedly due to the acceptance of the new Constitution and By-Laws prepared by the Committee on Reorganization, and to the limitation of the number of papers on the programs, whereby there was gained more time for the consideration of each, with a resultant improvement of the entire scientific work. There was a thorough leveling-up of the standards most gratifying, and this is better than the straining after brilliant discovery or incomplete research. Those who attended the section-meetings came away with a consciousness that much indefiniteness had been cleared up and many perplexing questions, if not settled, at least put in the way of decision. There was everywhere manifest the desire to limit the social features, and the politics and discussions of the general sessions, and to regret that the section-work had to be interfered with. Under the new order of proceedings next year this will be done, as after the first day the general sessions will not interrupt section-work. The profession of St. Paul and Minneapolis greeted the Association members with a hospitality and perfection of arrangements which insured the gratitude of every visitor.

The reorganization of the AMERICAN MEDICAL ASSOCIATION, according to the recommendations of the committee, is a cause for profound gratification. The long labors of the committee, motivated by the sincerest desire to put the Association upon a basis that would insure reform and progress, ended in a wise general plan and a perfection of detail that disarmed criticism and reduced opposition to a minimum. Before the session had convened that so quickly adopted the new Constitution and By-Laws, hardly anyone supposed the body would have so soon found its mind and heart at once, but when the strongest opponents, feeling that the inevitable was upon them, seconded the motion for adoption, there were few negative votes left. The chief advantage of the new business arrangements is that the real legislative work of the Association will hereafter be confined to a compact body of about 150 delegates, elected for that purpose by the local state organizations. The Association will thus get its work done, the legislation and business

by men selected directly as representatives and sitting uninterruptedly for those ends, while the scientific programs will be carried out by those who come to the meetings with such objects in mind. Dr. Reed has been an exceptionally able and effective President, and under him has been instituted a reform which will, we prophesy, vastly increase the power and growth of the Association.

From St. Louis Medical Review.

The delegates to the National meeting, who have returned, bring back good tidings. Of their impressions the strongest is a sense of the importance to which the Association has attained and its certain prospect of becoming an enormous power for good to the medical profession. The bickerings of by-gone years have been laid aside in the desire to build up and organize an authoritative congress, which shall wield its influence for the glory of no man, but for the welfare of all. The scientific program was extraordinarily interesting and valuable. A noteworthy feature was the accuracy with which matters medical were reported—rhetoric and flights of fancy gave way to facts. Eighteen hundred members were there for business and it was a business session in every particular. The chief innovation in reorganizing the Association was the establishment of the House of Delegates, which shall be the legislative and fiscal body. Each state and territorial society shall be permitted to send one delegate for every 500 or fraction of resident regular members, but the total membership of the House shall not exceed 150. Members of the House will be elected every two years and to be eligible shall have been members of the Association for at least two years. The House of Delegates will elect the president, trustees and other officers of the Association, but no member of the House shall be eligible for such office. The General Sessions will include all registered members of the Association, who shall have equal rights in discussion and voting upon pending questions. As heretofore, it will be the scientific body. These changes, which were recommended by the Committee on Reorganization, were unanimously adopted and the committee given a vote of thanks. The Journal of the A. M. A. is in a very prosperous condition, and its editor, Dr. George H. Simmons, received a vote of thanks. It is expected that a general reorganization of the state and county societies will now follow to the end that a homogenous, coherent, united and authoritative organization may be effected. This great work should meet with hearty support; the revival is here and the most should be made of it.

From Philadelphia Medical Journal.

The annual meeting of the American Medical Association should always be of such importance as to be an object of interest and obstruction to every medical man in the United States. The session just held at St. Paul was of special interest and of historical importance because the Association succeeded in reorganizing itself. This was a most significant feat, for it is one which has failed of accomplishment several times heretofore largely for lack of time. This reorganization was absolutely essential as a preliminary to a successful career for the Association as a real representative national gathering. Before this was accomplished it could scarcely be said that the Association did or could properly represent anything but itself. In fact, it was simply a huge medical society. It is now constituted with a House of Delegates, which represents the State Societies and by them the general profession, and which has a definite, determinative and effective organization. This Chamber can represent a policy, pursue a course, transact a measure, and attend to business in a way that was formerly impossible in the loosely organized association at large. If there is any virtue or force in representative government (and who doubts that there is?) the Association will now reap the benefits. It is in a position as never before to influence public opinion and to act upon legislation, but its best friends should not forget that only that form of government "which is best administered is best." The new House of Delegates can soon sink to the level of some of the State Legislatures if it is run in the same way.

It is rather too early to judge of the literary and scientific quality of the meeting. It will be time enough to do that when the original papers are put into cold type. These papers, however, were evidently of very uneven merit, as is apt to be the case in a large and miscellaneous gathering. Perhaps one of the functions of the new House of Delegates will be to keep a jealous eye open for a high standard of scientific work.

The Association put itself squarely on record in favor of some common-sense legislation, and declined to make a declaration on the subject of military morality in the Philippines when importuned to do so by some elderly parties who probably were not very well informed on this delicate subject.

The revision of the code of ethics was not favored by the majority present and was voted down. This will please the conservative members of the profession everywhere, but will probably not discourage the revisionists, who seem to be in an eternal mood of hopefulness and determination.

From the social and personal standpoint, the meeting seems to have been fairly successful. We have heard some complaints about lack of accommodations and about the great distances that separated the meeting places of the various sections. Such things, we suppose, are inevitable when the meetings are largely attended and are held in smaller cities and towns. The city of St. Paul distinguished itself for courtesy to the strangers within its gates.

General Committee on Organization.

The name of Dr. G. R. Dean, of Spartanburg, N. C., should have appeared among the signatures to the report of the General Committee on Organization, on page 1643 of THE JOURNAL of June 8.

Section on Ophthalmology.

TUESDAY, JUNE 4—AFTERNOON SESSION.

The Section was called to order Tuesday, June 4, at 2 p. m., by the Chairman, Dr. J. A. Lippincott, of Pittsburg.

Dr. H. Gifford, of the Executive Committee, being absent, Dr. Leartus Connor was appointed in his stead.

Address of Chairman was read by Dr. J. A. Lippincott, of Pittsburg.

Dr. A. E. Davis, of New York, was invited to participate in the proceedings of the Section.

A paper on "Treatment of Strabismus; Measures Other than Operative," was read by Dr. Edward Jackson, of Denver.

A paper on "Treatment of Strabismus; Operative Measures," was read by Dr. C. F. Clark, of Columbus.

A paper on "Strabismus; Its Treatment," was read by Dr. A. E. Davis, of New York.

A paper on "The Cosmetic and Visual Results in Squint" was read by Dr. J. M. Ray, of Louisville.

These papers were discussed by Drs. C. M. Culver, of Albany; Frank Allport, of Chicago; F. C. Todd, of Minneapolis; G. C. Savage, of Nashville; A. R. Baker, of Cleveland; J. L. Thompson, of Indianapolis; F. C. Hotz, of Chicago; Don Campbell, of Detroit; A. B. Hale, of Chicago; W. H. Wilder, of Chicago; G. M. Black, of Denver; A. E. Prince, of Springfield; A. A. Hubbell, of Buffalo; C. A. Veasey, of Philadelphia, and H. Woods, Jr., of Baltimore.

A paper on "Concerning the Check Ligament" was read by Dr. J. E. Colburn, of Chicago.

The Section then adjourned.

WEDNESDAY, JUNE 5—MORNING SESSION.

Fiftieth anniversary of the invention of the ophthalmoscope. Exhibit of ophthalmoscopes and ophthalmoscopic literature.

"An Address on the Origin and Development of the Instrument, Together with a Description of the Historic Exhibit of Ophthalmoscopes and Publications on Ophthalmoscopy, Prepared for this Meeting," was read by Dr. H. Friedenwald, of Baltimore.

An "Address on the Life of Helmholtz" was read by Dr. Casey Wood, of Chicago.

A vote of thanks was extended by the Section to Drs. Friedenwald and Wood for their work in preparing the exhibit of ophthalmoscopes.

Dr. W. H. Wilder moved that a committee of three be appointed to try to arrange to have a permanent exhibit of ophthalmoscopes in the office of the Surgeon-General at Washington. Carried. The Chairman appointed Drs. Friedenwald, Wood and Wilder.

A paper on "Tarsadenitis Meibomica" was read by Dr. M. F. Weymann, of St. Joseph, Mo.

A paper on "A Case of Retroflexion of the Iris" was read by Dr. A. A. Hubbell, of Buffalo.

The Section then adjourned.

WEDNESDAY, JUNE 5—AFTERNOON SESSION.

The Executive Committee, acting as the Nominating Committee, reported the following: For Chairman, Dr. Frank Allport, of Chicago; for Secretary, Dr. C. A. Veasey, of Philadelphia.

Dr. Edward Jackson moved that the Executive Committee nominate six members of the Section from whom two should be chosen to represent the Section in the House of Delegates. Carried.

A paper on the "Treatment of Heterophoria; Non-Surgical Measures," was read by Dr. George M. Gould, of Philadelphia.

A paper on the "Treatment of Heterophoria; Surgical Treatment," was read by Dr. G. C. Savage, of Nashville.

These papers were discussed by Drs. S. D. Risley, of Philadelphia; M. F. Weymann, of St. Joseph; J. E. Colburn, of Chicago; Frank Allport, of Chicago; J. L. Thompson, of Indianapolis; C. H. Williams, of Boston; C. F. Clark, of Columbus; H. Woods, Jr., of Baltimore; Leartus Connor, of Detroit; D. B. Wylie, of Milwaukee; M. J. Sherman, of Cleveland; D. Campbell, of Detroit; A. E. Davis, of New York; H. Harlan, of Baltimore; W. B. Pineo, of Minneapolis; and J. S. Barnes, of Milwaukee.

A paper on a "Table of Paralysis of Ocular Muscles" was read by Dr. H. M. Starkey, of Chicago. This paper was discussed by Drs. F. C. Hotz, of Chicago; W. H. Wilder, of Chicago; M. F. Weymann, of St. Joseph, and Edward Jackson, of Denver.

A paper on "The Extraction of Hard Cataract Without Iridectomy" was read by Dr. S. D. Risley, of Philadelphia.

A paper on "The Spontaneous Clearing of a Cataractous Lens" was read by Dr. Hiram Woods, Jr., of Baltimore.

These papers were discussed by Drs. F. C. Hotz, of Chicago; C. F. Clark, of Columbus; A. E. Prince, of Springfield; Edward Jackson, of Denver; J. L. Thompson, of Indianapolis.

The Section then adjourned.

THURSDAY, JUNE 6—MORNING SESSION.

The Executive Committee placed in nomination the following six names from which to choose two delegates to the House of Delegates: J. A. Lippincott, H. V. Würdemann, C. A. Wood, G. E. de Schweinitz, Edward Jackson and S. D. Risley.

The ballot resulted in the election of Drs. J. A. Lippincott, of Pittsburg, and H. V. Würdemann, of Milwaukee.

A paper on the "Economic Limitations of the Visual Acuity in the Various Trades and Professions" was read by Dr. H. V. Würdemann, of Milwaukee.

A paper on the "Further Report on the Visual and Aural Qualifications of Transportation Employees" was read by Dr. Frank Allport, of Chicago.

Dr. Allport also submitted the following as a Report of the Railroad Committee of the Ophthalmological Section on Examination of Railway Employees:

REPORT OF THE RAILROAD COMMITTEE.

Mr. Chairman and Members of the Ophthalmological Section of the American Medical Association:

Your Committee, appointed three years ago, with a view of framing resolutions for the regulation of the eye and ear requirements of transportation employees, was unable, two years ago, to bring in a unanimous report. The Committee was, therefore, requested to retain its membership and endeavor to report at the following meeting. Meanwhile the Committee was lead to believe that action upon this subject would be taken one year ago by the International Medical Congress meeting in Paris. It was, therefore, deemed wise to wait until the Committee of the International Congress submitted its report, feeling that valuable ideas might be therein contained, which would enable us to improve the character of our own work. The Committee, therefore, did not report at the City of Columbus, and since then, although the Chairman of this Committee has endeavored with all possible assiduity to ascertain something concerning the nature of the work accomplished along these lines by the International Congress, he has been absolutely unable, up to the present time, although inquiry has been made along every possible avenue, to ascertain whether any work of this nature was accomplished or not. It, therefore, seemed useless to wait for the action of our European confrères, believing that it is not necessary for a country which leads all other countries in its transportation facilities to await the action of other nations. Your Committee, therefore, begs leave to submit to the Section the following resolutions, which have been unanimously adopted, and which, it is hoped, will also be adopted by the American Medical Association, and then correctly placed before the proper railroad authorities of North America.

This work should be superintended by this Section.

SECTION 1. The essential principle to be advocated is that railroad corporations shall require a scientific and correct examination of the eyes and ears of those employees at all to be concerned with the active operating of trains, or in giving or receiving signals.

SECTION 2. Such *primary* examinations should, whenever possible, be made by regularly appointed eye and ear surgeons, and this point is emphatically urged, especially as the expense of a first examination may always be borne by the applicant; but if such a course is not deemed expedient, the company's surgeon, aided by his medical assistants, might conduct them, with the understanding that all doubtful cases shall be sent to a regularly appointed eye and ear surgeon.

SECTION 3. There shall be two general standards of visual and aural requirements, viz., those for new men hoping to enter the service, and to be actively engaged in the operation of trains, and in giving and receiving signals; and, secondly, those men engaged in similar work, who have been uninterruptedly in a company's service for five years, and who have, therefore, a right to be called old employees.

SECTION 4. New men shall be required to possess perfect color sense. They shall also have a vision of 20/20 in each eye, without glasses, and have healthy eyes, and not over one diopter of hypermetropia. They shall also hear the whispered voice at 20 feet in a quiet room, and have healthy ears.

SECTION 5. For the purposes of graduated requirements old employees shall be divided into two classes as follows:

Class A—Engineers, firemen, conductors, brakemen, switchmen, signalmen, switch tenders, and engine dispatchers.

Class B—Track foremen, bridge foremen, crossing flagmen, bridge tenders, gatemen, train baggagemen, telegraph operators, station agents and station baggagemen.

Employees enumerated in Class A shall not be retained in such positions if vision sinks below 20/30 in one eye and 20/40 in the other, or if the whispered voice can not be heard in a quiet room at 15 feet by one ear and 10 feet by the other. Employees enumerated in Class B shall not be retained in such positions if vision sinks below 20/40 in one eye and 20/50 in the other, or if the whispered voice can not be heard in a quiet room at 10 feet by both ears. Employees, and especially engineers and firemen enumerated in Class A, must reach the visual standard without glasses, and will not be allowed to wear distance glasses when on duty. Employees

enumerated in Class B may reach the visual standard with glasses, and will be allowed to wear glasses when on duty, and will be required to do so if the wearing of glasses is necessary to bring vision up to the proper standard, and shall always be required to carry an extra pair of glasses, when on duty in case of accident to one pair. All employees shall have perfect color sense.

SECTION 6. Re-examinations shall be made of all men every three years, and after a severe illness, or accident, or any occurrence which seems to cast doubt on the visual and aural capacity of an individual. Re-examinations shall also be made more frequently on men known to be excessive users of tobacco, or to be suffering from syphilis, albuminuria, diabetes, or acute or chronic eye and ear diseases. Men shall always be re-examined before promotion.

SECTION 7. Men known to be excessive users of liquor shall not receive employment. Respectfully submitted,

FRANK ALLPORT, M.D., Chairman of Committee.

These papers were discussed by Drs. L. H. Taylor, of Wilkesbarre; C. F. Clark, of Columbus; H. B. Young, of Burlington; C. H. Williams, of Boston; A. B. Hale, of Chicago; M. F. Weymann, of St. Joseph; F. C. Hotz, of Chicago, and L. Connor, of Detroit.

Dr. Edward Jackson moved the adoption of the Report. Carried.

Dr. Edward Jackson moved that the incoming Chairman appoint a committee to bring the report before the Association in 1902 for its adoption. Carried.

The Section then adjourned.

THURSDAY, JUNE 6—AFTERNOON SESSION.

A paper on "Mules' Operation, with Cases," was read by Dr. F. C. Todd, of Minneapolis. This paper was discussed by Drs. Frank Allport, of Chicago; G. M. Black, of Denver; H. Friedenwald, of Boston; and H. Moulton, of Fort Smith.

A paper on "Mirror Writing and Inverted Vision" was read by Dr. A. B. Hale, of Chicago. This paper was discussed by Drs. G. C. Savage, of Nashville, and M. F. Weymann, of St. Joseph.

A paper on the "Report of Two Cases of Orbital Surgery" was read by Dr. Adeline Portman, of Washington. This paper was discussed by Dr. M. F. Weymann, of St. Joseph.

A paper on "Enucleation in Two Minutes, with Demonstration," was read by Dr. A. T. Mitchell, of Vicksburg. This paper was discussed by Dr. H. Woods, Jr., of Baltimore.

A paper on the "Newer Pathology of the Retina, with Special Reference to the Changes Produced in the Ganglion Cells by Certain Toxic Agents" was read by Dr. H. Friedenwald, of Baltimore.

A paper on "Atrophy of the Retina" was read by Dr. D. S. Reynolds, of Louisville.

A paper on a "Case of Blindness Due to Drinking Bay Rum Compared with Reported Cases Due to Methyl Alcohol and Jamaica Ginger" was read by Dr. H. Moulton, of Fort Smith.

These papers were discussed by Drs. J. M. Ray, of Louisville; H. Woods, Jr., of Baltimore; A. B. Hale, of Chicago; C. A. Wood, of Chicago; H. Harlan, of Baltimore, and R. W. Miller, of Los Angeles.

A paper on "Complete Recovery from Double Neuroretinitis, Clinically Resembling Albuminuric Retinitis, in a Case of Prolonged Hematuria, with Symptoms of Bright's Disease," was read by Dr. C. A. Veasey, of Philadelphia. This paper was discussed by Drs. W. H. Wilder, of Chicago; J. M. Ray, of Louisville; H. Woods, Jr., of Baltimore; and E. C. Ellett, of Memphis.

A paper on the "Value of Excision of the Superior Cervical Ganglion of the Sympathetic in Certain Eye Diseases" was read by Dr. G. F. Suker, of Toledo. This paper was discussed by Drs. C. A. Wood, of Chicago; G. M. Black, of Denver; W. H. Wilder, of Chicago, and C. F. Clark, of Columbus.

The Section then adjourned.

FRIDAY, JUNE 7—MORNING SESSION.

A paper on "Herpes Zoster Ophthalmicus, with Brief Report of Five Cases," was read by Dr. W. C. Bane, of Denver. This paper was discussed by Drs. Edward Jackson, of Denver; H. M. Starkey, of Chicago; S. D. Risley, of Philadelphia, and Dr. Freeman.

A paper on the "Corneal Lesions of Acquired Syphilis" was read by Dr. Wm. H. Wilder, of Chicago. This paper was discussed by Drs. S. D. Risley, of Philadelphia; Edward Jackson, of Denver, and J. A. Lippincott, of Pittsburg.

A paper on "Lachrymal Stenosis in Infants, and Its Treatment," was read by Dr. Dunbar Roy, of Atlanta. This paper was discussed by Drs. G. C. Savage, of Nashville; S. D. Risley, of Philadelphia; L. H. Taylor, of Wilkesbarre; R. W. Miller, of Los Angeles, and G. M. Black, of Denver.

Dr. G. C. Savage moved that it be recommended to the General Secretary of the Association that the expenses of the Committee on the Ophthalmoscope Exhibit, amounting to \$25.24, and the legitimate expenses of the Secretary of the Section, be paid by the Association.

A paper on the "Metamorphopsia Varians, with a Report of Three Cases," was read by Dr. Wm. H. Dudley, of Easton, Pa. This paper was discussed by Drs. S. D. Risley, of Philadelphia; G. C. Savage, of Nashville, and J. A. Lippincott.

A paper on the "Injuries of the Choroid" was read by Dr. E. O. Sisson, of Keokuk. This paper was discussed by Dr. Edward Jackson, of Denver.

The Section then adjourned *sine die*.

Section on Diseases of Children.

TUESDAY, JUNE 4—AFTERNOON SESSION.

The meeting was called to order by the Chairman, Dr. Samuel W. Kelley, of Cleveland, in the Ryan Annex, at 2:30 p. m.

The Chairman delivered his address, which, on motion of Dr. Edwin Rosenthal, of Philadelphia, was referred to the Executive Committee.

The Chairman appointed Drs. Wahrer and A. C. Cotton as substitutes for Drs. Griffith and Tuley, on the Executive Committee.

Dr. J. B. Garber, of Dunkirk, Indiana, read a paper on "Measles." It was discussed by Drs. C. G. Slegle, of Minneapolis; Clifton Scott, of Des Moines; Brownell, of Oneonta, N. Y.; J. M. Postle, of Hinckley, Ill.; Charles Douglas, of Detroit; Dr. Barber, of Minneapolis; Dr. Townsend, of New Lisbon, Wis., and closed by Dr. Barber.

Dr. J. M. Postle, of Hinckley, Indiana, read a paper on "The Pathology of Pertussis." It was discussed by Drs. Douglas, of Detroit; Slegle, of Minneapolis, and J. M. Postle, of Hinckley, Wis.

A paper by Dr. J. W. Ballantyne, of Edinburgh, Scotland, entitled "The Ante-Natal Treatment of Hemophilia," in the absence of the author, was read by the Secretary. It was discussed by Drs. Slegle, and Clifton Scott.

On motion of Dr. F. X. Walls, of Chicago, the Secretary was requested to convey to Dr. Ballantyne the thanks of the Section for his interesting and instructive paper.

Dr. Brownell, of Oneonta, N. Y., obtained permission to report an interesting case in which a child had exhibited an extraordinary craving for chewing and eating paint and painted woodwork and plaster. The case was discussed by Drs. Isaac A. Abt, of Chicago; Charles Douglas, of Detroit; Townsend, of New Lisbon, Wis.; and the discussion was closed by Dr. Brownell.

The Chairman appointed on the Nominating Committee the Executive Committee as at present constituted, viz.: with Drs. Cotton and Wahrer acting as substitutes.

WEDNESDAY, JUNE 5—MORNING SESSION.

The meeting was called to order by the Chairman at 9:30 a. m.

The special order on the scientific program was a Symposium on Typhoid Fever in Children. Dr. J. P. Crozer Griffith, of Philadelphia, was the author of the opening paper, which was entitled "Symptoms and Course of Typhoid Fever." The paper was read by the Chairman in the absence of the author.

Dr. John Lovett Morse, of Boston, was the author of the second paper on "The Diagnosis of Typhoid Fever in the Laboratory." In his absence this paper was read for him.

Dr. Edwin Rosenthal, of Philadelphia, presented a paper on "The Treatment of Temperature by Drugs."

Dr. Isaac A. Abt, of Chicago, reported "A Case of Multiple Gangrene associated with Cholangitis and Adenoma of the Liver, complicating Typhoid Fever."

Dr. Victor C. Vaughan, of Ann Arbor, Mich., opened the general discussion, which was continued by Drs. Clifton Scott, of Des Moines; Charles D. Douglas, of Detroit; T. F. Wood, of Angola, Ind.; Barber, of Minneapolis; Johnston, of Grand Rapids, Mich.; George D. Head, of Minneapolis, and Dr. Ewing, of Salt Lake City. The discussion was closed by Dr. Rosenthal.

The Chairman then read a communication from Dr. Robert H. Harvey, of Chicago, in which he accuses Dr. Edwin Rosenthal, of Philadelphia, of having published a certain paper for the purpose of advertising.

Dr. R. H. Harvey, of Chicago: I would be glad to present this paper to the Section.

Dr. A. C. Cotton: The time for the general session has arrived, and I do not think this is the place for personal disputes. I move that this matter be referred to a committee for investigation, the committee to report at any time the Chair sees fit. Seconded and carried unanimously. The Chair appointed on this committee Drs. Victor C. Vaughan, John C. Cook, C. D. Douglas.

WEDNESDAY, JUNE 5—AFTERNOON SESSION.

The Section reconvened, at the call of the Chairman, at 2:30 p. m.

Dr. A. C. Cotton, of Chicago, presented the report of the Nominating Committee, which was that the committee had selected Dr. H. M. McClanahan, of Omaha, for Chairman, and Dr. Frank X. Walls, of Chicago, for Secretary. On motion, the report was accepted, and the Secretary was instructed to cast an affirmative ballot for these nominees. This ballot having been cast, these gentlemen were declared elected.

Dr. Edwin Rosenthal, of Philadelphia, then read a paper on "Prolonged Intubations." It was discussed by Drs. B. R. Shurly, of Detroit; Golden, of Chicago; I. A. Abt, of Chicago; Louis Burckhardt, of Indianapolis, and discussion closed by Dr. Rosenthal.

Dr. John A. Robison, of Chicago, read a paper entitled, "Prevention of Pulmonary Tuberculosis in Predisposed Children." It was discussed by Drs. T. F. Wood, of Angola, Ind.; Warren, of Detroit; Work, of Elkhart, Ind.; Clifton Scott, of Des Moines; Slegle, of Minneapolis; Kelsey, of Minneapolis; and Golden, of Chicago, and the discussion was closed by Dr. Robison.

Dr. F. X. Walls read a paper on "Protracted Influenza Pneumonia in Children." It was discussed by Drs. I. A. Abt, of Chicago; B. R. Shurly, of Detroit; Campbell, of Kansas; and the discussion was closed by Dr. Walls.

Dr. Carl Beck, of New York City, read a paper entitled "Congenital Malformations with Roentgen-Ray Demonstrations." No discussion.

Dr. Charles Douglas, of Detroit, read a paper on "Membranous Colitis in Infants."

Dr. W. W. Keen, of Philadelphia, reported "A Case of Ureteral Calculus in a Boy of Ten." It was discussed by Drs. Edwin Rosenthal, of Philadelphia; Leonard, of Philadelphia; S. W. Kelley, of Cleveland, Ohio; Clifton Scott, of Des Moines; and the discussion was closed by Dr. Keen.

THURSDAY, JUNE 6—MORNING SESSION.

The meeting was called to order by the Chairman at 9:40 a. m.

Dr. A. C. Cotton, Chicago, read a paper on "Diabetes Mellitus in Children." It was discussed by Dr. C. F. Wahrer, Fort Madison, Iowa, and the discussion was closed by Dr. Cotton.

Dr. Victor C. Vaughan, of Ann Arbor, Mich., presented the report of the Special Committee on Charges against Dr. Edwin Rosenthal, of Philadelphia:

Mr. Chairman and Members of the Section:

Gentlemen:—Your Committee, appointed for the purpose of deciding whether or not Dr. Edwin Rosenthal, Chairman of this Section in 1900, used his official position for the purpose of advertising the product of a certain drug firm, begs leave to submit the following brief statement of the facts presented in the case, and the finding determined upon:

Dr. Rosenthal's address as Chairman of this Section in 1900 contained a statement of the results obtained by the antitoxic treatment of diphtheria. In this statement he reported 6325 cases treated with the antitoxin of one manufacturer, and less than 900 cases treated with the products of all other manufacturers, and the results seemed to show the superiority of the product of the firm that furnished the largest number of cases. This firm has used

Dr. Rosenthal's address widely for advertising purposes.

Dr. Rosenthal assures us that this use of his paper was not only without his consent, but that the firm has continued this use of the address after receiving a protest from him.

Your Committee offers the following findings, which are respectfully submitted to the Section:

1. That the conclusions stated in Dr. Rosenthal's paper, being founded upon cases so unequal in number, are wholly without value in showing the relative merits of the products of the different manufacturers.

2. That Dr. Rosenthal, as Chairman of this Section, did use his official position to advertise a certain firm of manufacturers of antitoxin. Whether this improper use of his official position was intentional or unintentional, we can not decide from the evidence before us.

3. That this Section will look with disfavor upon any firm of manufacturing chemists which uses for advertising purposes any papers, parts of papers, or statements written or made verbally by any member of this Section in its proceedings.

Respectfully submitted,

VICTOR C. VAUGHAN,
CHARLES DOUGLAS,
JOHN C. COOK.

Dr. C. F. Wahrer, Fort Madison, Iowa, moved that this report be received and adopted. Seconded by Dr. Dodson, and carried unanimously.

Dr. Rosenthal asked that this report be printed in THE JOURNAL.

Dr. John R. Rathmell, Chattanooga, Tenn., sent a paper entitled "Albuminuria in Disease of the Kidneys in Infancy and Childhood," which was read by Dr. Walls in the absence of the author.

Dr. William Jepson, Sioux City, Iowa, presented a paper on "Congenital Cystic Kidney," together with the specimen.

Dr. A. L. Wolbarst, New York City, sent a paper on "Gonorrhea in Boys." The discussion was participated in by Drs. Edwin Rosenthal, Philadelphia; Clifton Scott, Des Moines; C. F. Wahrer, Fort Madison, Iowa; and A. C. Cotton, and Cook, Chicago.

THURSDAY, JUNE 6—AFTERNOON SESSION.

The Section reconvened at 2:15 p. m.

Dr. Clifton Scott, Des Moines, presented a paper entitled "The Prevention of Infection in Babies Born of Tuberculous Parents." It was discussed by Drs. Rosenthal, Philadelphia; Johnston, Grand Rapids; P. X. Walls, Chicago; I. A. Abt, Chicago; J. Noer, Stoughton, Wis.; John C. Cook, Chicago; C. F. Wahrer, Fort Madison, Iowa; E. F. Brush, Mount Vernon, N. Y., and Clifton Scott, Des Moines.

The next order was the Symposium on School Hygiene.

Dr. Leigh K. Baker, of Cleveland, sent a paper entitled "The Introduction and Management of School Hygiene," which was read, in his absence, by Dr. Warren.

Dr. John Madison Taylor, Philadelphia, sent a paper on "Physical Culture in Children, and the Objects to be Attained."

Dr. William E. Darnall, Atlantic City, N. J., read a paper on "The Pubescent School Girl."

Dr. A. W. Wilmarth, Chippewa Falls, Wis., read a paper on the "Diagnosis of the Backward Child."

Dr. G. Hudson Makuen, Philadelphia, read a paper entitled "Speech as a Factor in the Diagnosis of the Backward Child."

Dr. C. F. Wahrer, Fort Madison, Iowa, read a paper entitled "A Plea for the Backward Child."

Dr. J. Noer, Stoughton, Wis., presented "Some Considerations Regarding the Medical Criticisms of the Hygiene of Early Life."

The general discussion was participated in by Drs. Wahrer, Shelly, Kansas; Clifton Scott, Des Moines; Edwin Rosenthal, Philadelphia; Work, Elkhart, Ind.; Wilmarth, Chippewa Falls, Wis.; B. R. Shurly, Detroit; Learned, Massachusetts, and Noer, Stoughton, Wis.

On motion, the Section then proceeded to elect two representatives to the House of Delegates.

Dr. A. C. Cotton, Chicago, nominated Dr. Samuel W. Kelley, of Cleveland, the retiring chairman, and Dr. Cook, Chicago, nominated Dr. A. C. Cotton, Chicago.

The Chairman appointed Drs. Wahrer and McClanahan tellers. The tellers reported that twelve ballots had been cast for each candidate, whereupon the vice-chairman declared Dr. Samuel W. Kelley and Dr. McClanahan to have been unanimously elected the representatives of the Section to the House of Delegates for the ensuing year.

Dr. McClanahan was then introduced as the newly elected Chairman of the Section, and after some appropriate remarks from him, the Section, on motion, adjourned, at 5:40 p. m., *sine die*.

Married.

GEORGE W. ROBERTSON, M.D., to Miss Kate Martin, both of Macon, Ga., June 7.

HENRY J. WAY, M.D., to Miss Florence Loretta Turley, both of Chicago, June 19.

J. E. PAYTE, M.D., to Miss Anna Florence, both of Weaverton, Ind. Ter., June 5.

WILLIAM FULLER, M.D., Chicago, to Miss Jaell Gentry, of Sedalia, Mo., June 5.

HERBERT R. SUGG, M.D., to Miss Florence Olney, both of Clinton, Iowa, June 1.

ALFRED L. ZOBEL, M.D., to Miss Maybelle Getz, both of San Francisco, Cal., June 2.

JOHN T. STEWART, M.D., to Miss Minnie M. Wood, both of Los Angeles, Cal., June 1.

FRANK EVANS, M.D., Hastings, Pa., to Miss Jessie Frantz, of Harrisburg, Pa., June 12.

EDWIN M. HUSTON, M.D., Dayton, Ohio, to Miss Lulu Hyde, of Chillicothe, Ohio, June 12.

WINSTON THOMAS MICHE, M.D., to Miss Eva Pauline Sale, both of Memphis, Tenn., June 5.

AMOS J. THORNER, M.D., Powellton, Ill., to Miss Anna G. Schenck, of Nauvoo, Ill., June 5.

H. W. KIRBY, M.D., Cripple Creek, Colo., to Miss Eleanor E. Bryan, at Denver, Colo., June 12.

E. WILLIAMS, M.D., Kansas City, Kan., to Miss Lilian St. John, of Manhattan, Kan., June 6.

M. P. McELHANNON, M.D., Belton, Texas, to Miss Sue J. Wallace, of Holland, Texas, April 7.

DELAMERE FOREST HARRIDGE, M.D., to Miss Cora Frances Brown, both of Philadelphia, June 12.

L. MARTIN TRULSON, M.D., Janesville, Wis., to Miss Fredrika Falk, of Stoughton, Wis., June 1.

GEORGE WRAGG LAMAR, M.D., Quincy, Fla., to Miss Sarah Attaway Duval, of Madison, Fla., June 5.

EDMUND WILLIAM STEVENS, M.D., Denver, Colo., to Miss Florence Ballance, of Peoria, Ill., June 4.

WALTER SELLMAN, M.D., Mt. Airy, Carroll County, Md., to Miss Georgia Clary, of Baltimore, June 5.

FRANK L. COOLEY, M.D., Oswego, N. Y., to Miss Fannie Rogers, of Hannibal Centre, N. Y., June 3.

CLARENCE F. SCHLITZ, M.D., Bowling Green, Ohio, to Miss Isabelle Williams, of Marengo, Ohio, June 1.

T. CLYDE ROUTSON, M.D., to Miss Margaret Millard, at Buckeystown, Frederick County, Md., June 6.

WILLIAM WILCOX DUNN, M.D., Richmond, Va., to Miss Ann Read McIlwaine, at Hampden Sidney, Va., June 3.

LEVIN I. SOTHORON, M.D., Washington, D. C., to Miss Marguerite Taylor, at King George Court House, Va., June 4.

PHILIP DOGGETT BOMLAND, M.D., Calumet, Mich., to Miss Jessica MacIntyre, of Knoxville, Tenn., at Lake Forest, Ill.

JOHN SAPPINGTON, M.D., Darlington County, Md., to Miss Rosa Seldon Jacobs, at Belair, Hartford County, Md., June 4.

GEORGE HOWITT WEAVER, M.D., to Miss Carrie Earle, daughter of the late Dr. Charles Warrington Earle, both of Chicago, June 12.

HUGH HAMPTON YOUNG, M.D., formerly of San Antonio, Texas, now of Baltimore, to Miss Bessie Mason Colston, of Baltimore, June 4.

Deaths and Obituaries.

William L. Worcester, M.D., pathologist of the Danvers (Mass.) Insane Asylum, and a well-known alienist and writer on the subjects of mental pathology, died at Danvers, June 10, aged 56. His death was due, it is said, to blood poisoning, from which he had been suffering for some time. He should be put down as one of the martyrs of science, it having probably been caused from an accident in his scientific work, although we do not know the particulars. Dr. Worcester graduated from the National Medical College, Washington, in 1873, and was for a time assistant physician to the State Asylum, Kalamazoo, Mich., afterwards at the Arkansas State Asylum, Little Rock. He has held his position at Danvers for about eight years, and was one of the best-known alienists of the country. His loss is a serious one, as there are not too many scientific workers in asylums at present. He was a brother of Professor Dean C. Worcester, formerly of the Michigan University, but now one of the members of the Philippine Commission, and well known by his researches in the natural history of the Philippine Islands, and other similar work.

D. W. Marston, M.D., Bellevue Hospital Medical College, New York, 1898, died at Niagara Falls, June 9, from pneumonia. He was on his way to attend the St. Paul meeting of the AMERICAN MEDICAL ASSOCIATION, but was taken ill and left the party at Niagara Falls, where he died four days later. He was 26 years of age, a man of great ambition, of marked in-

telligence, and of wonderful energy, which secured for him a reputation rarely won by men in the profession at so early an age. He served as interne at the City Hospital, Blackwell's Island, also at the Hospital for the Ruptured and Crippled, and the Hospital of the Post-Graduate Medical School of New York. At the end of his term of service in the latter institution, he was appointed lecturer on orthopedic surgery, and also assistant visiting surgeon, to the Post-Graduate Hospital. He was also visiting surgeon to Daisy Fields Hospital, Englewood, N. J.

Thomas Sidney Scales, M.D., College of Physicians and Surgeons, New York, 1867, for many years health officer, and late quarantine executive officer of Mobile, Ala., a member of the Mobile County Medical Association, and twice its president; a member of the Alabama State Medical Society, and professor of surgery and clinical surgery at the Medical College of Alabama, died at his home in Mobile, after a long illness, June 5, aged 59.

Calvin Terriberry, M.D., Bellevue Hospital Medical College, New York, 1873, one of the best-known members of the profession in New Jersey, died at his home in Paterson, N. J., June 9, from uremia, consequent on Bright's disease, aged 51. He was active in the organization of St. Joseph's Hospital and had been a member of its surgical staff for twenty-three years.

Albert J. Bloch, M.D., Tulane University, New Orleans, 1892, formerly on the staff of the University, a member of the Louisiana State Medical and Orleans Parish Medical associations, died at Denver, Colo., June 8, from the effects of cyanid of potassium taken with suicidal intent, aged 34.

Eugene R. Lewis, M.D., Jefferson Medical College, Philadelphia, 1874, president of the Woman's Medical College, Kansas City; treasurer of the International Association of Railway Surgeons, and a member of the AMERICAN MEDICAL ASSOCIATION, died at his home in Kansas City, Mo., June 8.

Howard A. Alexander, M.D., Kentucky School of Medicine, Louisville, 1875, a prominent member of the Jefferson County Medical Association, died at St. Vincent's Hospital, Birmingham, Ala., May 28, after a short illness from disease of the stomach.

James Murray Stone, M.D., University of Maryland, Baltimore, 1843, died suddenly at Govanstown, Baltimore County, Md., June 5, aged 80. He was born near Salisbury, Md., and practiced until 1898 at Princess Anne, in same county.

J. Henry McCarty, M.D., Atlanta (Ga.) Medical College, 1880, one of the founders of Birmingham Medical College and a member of its faculty for several years, died at his home in Birmingham, Ala., from paralysis, June 12, aged 50.

Robert H. Timpany, M.D., Toledo Medical College, 1894, died from pneumonia, in Toledo, Ohio, June 7, aged 36. Dr. Timpany was formerly editor of the *American Medical Compend*, and surgeon in the Ohio National Guards.

Joseph C. Pomeroy, M.D., Castleton (Vt.) Medical College, 1860, who had practiced in Waverly, Iowa, for forty years, and was a member of the county and state medical societies, died suddenly at his home, June 3, aged 62.

George B. Noyes, M.D., Rush Medical College, Chicago, surgeon of the Waupaca Veterans' Home, and formerly a practitioner in Winneconne and West Superior, Wis., died suddenly at the Home, May 25, aged 55.

William G. Thirkell, M.D., Royal College of Physicians and Surgeons, Kingston, Ontario, 1861, for more than thirty years a practitioner in Sodus, N. Y., died at his home in that place, May 29, aged 63.

John Payne, M.D., Jefferson Medical College, Philadelphia, 1886, a practitioner of Hillman, Ala., and a member of the Jefferson County Medical Society, was shot and killed at that place, May 30, aged 35.

E. A. Gansel, M.D., University of Illinois, 1900, and thereafter an interne at the Emergency Hospital, Milwaukee, died at the home of his parents, in that city, from consumption, June 2, aged 27.

Paul Hubert Larose, M.D., Laval University, Quebec, 1893, a practitioner of Indian Orchard, Mass., died suddenly at his home in that village, from heart disease, May 28, aged 31.

E. H. Iden, M.D., Rush Medical College, 1900, and thereafter interne in a hospital at Joliet, Ill., died at the home of his parents, in Leroy, from consumption, June 3, aged 26.

Rufus Gillaspay, M.D., Missouri Medical College, St. Louis, 1884, assistant physician at the State Hospital for the Insane, Nevada, Mo., died suddenly in St. Louis, June 6, aged 50.

Maurice Lauren Healey, M.D., New York University, 1887, of New York City, died at the home of his mother, in Plattsburg, N. Y., June 7, from pneumonia, aged 37.

Edward Watson, M.D., University of Michigan, 1873, for some time health officer at Grand Rapids, Mich., died at his home in that city, June 17, after a lingering illness.

J. Edward Wright, M.D., Jefferson Medical College, Philadelphia, 1879, a practitioner of Southwark, Philadelphia, died at his home, June 9, from consumption, aged 43.

Seth D. Bowker, M.D., Kansas City (Mo.) Medical College, 1871, a pioneer physician of Kansas City, died from apoplexy at his home in that city, June 8, aged 71.

James L. Ringo, M.D., Louisville Medical College, 1891, a practitioner at Elwood, Ind., and a member of the city council, died at Benton Harbor, Mich., May 28.

Seth B. Sprague, M.D., Bowdoin College, Brunswick, Me., 1867, died at his home in Jersey City, N. J., where he had practiced for ten years, June 5, aged 61.

Lemuel H. Rogers, M.D., Rush Medical College, 1863, of Mackinaw, Ill., died from appendicitis at St. Joseph's Hospital, Bloomington, Ill., June 3, aged 65.

Robert H. Chilton, M.D., Miami Medical College, Cincinnati, 1870, died after a short illness, from paralysis, at his home in Dallas, Texas, aged 55.

George B. Quigley, M.D., University of Tennessee, Nashville, 1894, a practitioner of Rocky Hill Station, Ky., aged 24, was shot and killed, May 28.

Richard Lingle, M.D., University of Louisville, 1861, an army surgeon in the Civil War, died at his home in Orleans, Ind., June 10, aged 63.

R. B. Archibald, M.D., Missouri Medical College, St. Louis, 1886, died at his home in Purdy, Mo., May 31, after a lingering illness, aged 55.

John C. McKee, M.D., Barnes Medical College, St. Louis, Mo., 1896, died suddenly at his home in Hartford, S. D., June 2, aged 35.

Edmond Beale, M.D., University of Pennsylvania, Philadelphia, 1855, died at his residence in Philadelphia, June 1, aged 81.

Societies.

COMING MEETINGS.

Medical Society of New Jersey, Allenhurst, June 25-27.

Wisconsin State Medical Society, Waukesha, June 26.

Medical Association of Nevada, Reno, July 1.

American Ophthalmological Society, New London, Conn., July 17.

Golden Belt Medical Society.—This society will meet in Topeka, July 3.

Upper Cumberland Medical Society.—The annual meeting of this Society was held in Cookeville, Tenn., May 27 to 30. Dr. R. E. Lee Smith, Doyle Station, was elected president.

Roentgen Society of the United States.—The second regular meeting of this Society will be held at Buffalo, N. Y., September 10 and 11, under the presidency of Dr. Heber Roberts, St. Louis, Mo.

Decatur (Ill.) Medical Society.—At the annual meeting of this Society, held May 30, Dr. Wilbur C. Wood was elected president; Dr. W. K. Hoover, vice-president, and Dr. C. Martin Wood, secretary-treasurer.

Association of the Medical Officers of the Army and Navy of the Confederacy.—This Association met, under the presidency of Dr. James M. Kellar, Hot Springs, Ark., at

Memphis, Tenn., May 28 and 29, about 200 members being present.

Buffalo Academy of Medicine.—At the recent election of officers for the Medical Section of the Academy Dr. Julius Ullman was elected chairman, and Dr. Albert E. Woehnert, secretary.

Union County (Ohio) Medical Association.—A number of physicians of Union county met at Marysville, May 28, and organized temporarily with Dr. David W. Henderson, Marysville, as president, and Dr. Stanley J. Bown, Claiborne, as secretary.

The women physicians of Cleveland have organized a medical society, which held its first meeting May 28. The officers of the Society are Dr. Cora Stalling Sechrist, president; Dr. Minnabel Snow, vice-president; and Dr. Fannie C. Hutchins, secretary and treasurer.

New Mexico Medical Society.—At the annual meeting of this Society held May 8, 9 and 10, Dr. George W. Harrison, Albuquerque, was elected president and Dr. J. Frank McConnell, Las Cruces, secretary.

De Kalb County (Ill.) Medical Society.—The physicians of De Kalb county met at De Kalb, May 30, and organized this Society, with Dr. Charles B. Brown, Sycamore, president; Dr. Guy J. Wormley, Sandwich, vice-president, and Dr. James M. Everett, De Kalb, secretary and treasurer.

American Medical Editors' Association.—At the annual meeting of this Association, held in St. Paul, Dr. Alexander J. Stone, of that city, was re-elected president, and Dr. Otho F. Ball, St. Louis, Mo., secretary. Dr. Burnside Foster, St. Paul, was elected vice-president.

Upper Des Moines (Iowa) District Medical Association. The fourth annual meeting of this Association will be held at Spirit Lake, August 15, under the presidency of Dr. Charles B. Fountain, Valley Junction.

Saline County (Ill.) Medical Association.—A preliminary meeting of this Society was held in Harrisburg, May 22, at which Dr. S. L. Cheany, Harrisburg, was elected president, Dr. M. D. Empson, Hartford, vice-president, and Dr. Joseph B. Baker, Harrisburg, secretary and treasurer.

Barnstable District (Mass.) Medical Society.—This Society held its annual meeting at Hyannis, May 9, and elected Dr. Louis Edmonds, Harwich, president; Dr. Edwin M. Parker, South Yarmouth, vice-president; Dr. George N. Munsell, Harwich, treasurer and librarian, and Dr. James H. Higgins, Marston's Mills, secretary.

Clinton County (Ill.) Medical Society.—The annual meeting of this Society was held in Carlyle, May 28. Dr. William P. Gordon, Carlyle, was elected president; Dr. Theophilus Gaffner, Trenton, vice-president; Dr. M. Broening, Carlyle, secretary, and Dr. Philip H. Leibrock, New Memphis, treasurer.

Minnesota State Medical Society.—This Society held a business meeting at St. Paul, June 3, at which Dr. William A. Hall, Minneapolis, was elected president; Dr. John P. Humes, Winnebago City, vice-president; Dr. Thomas McDavitt, St. Paul, secretary, and Dr. Richard J. Hill, Minneapolis, treasurer.

White River Medical Association.—At the annual business meeting of this Association, held at White River Junction, Vt., Dr. Alanson C. Bailey, Randolph, Vt., was elected president; Dr. Howard N. Kingsford, Hanover, N. H., and Dr. Mark P. Stanley, White River Junction, Vt., secretary and treasurer.

Bedford County (Tenn.) Medical Society.—This Society met for reorganization at Shelbyville, June 1. Dr. Frank B. Reager, Shelbyville, was elected president; Dr. George L. Landis, Unionville, vice-president; Dr. William G. Frierson, Nashville, secretary, and Dr. J. Isaac Campbell, Shelbyville, treasurer.

Richland County (Wis.) Medical Association.—Representatives of the medical profession of Richland County met May 18 at Richland Center and organized this Society with the following officers: Dr. H. Jackson Wall, president, Dr. Robert H. DeLap, vice-president, and Dr. Frank W. McKee, recording secretary and treasurer, all of Richland Center.

Indian Territory Medical Association.—At the annual meeting of this Association, held in Vinita, Dr. George W. West, Eufaula, was elected president; Dr. Bagby, Vinita, first vice-president; Dr. William A. Haley, Durant, second vice-president, and Dr. Fred S. Clinton, Tulsa, secretary and treasurer. The next meeting will be held at Muskogee in December.

Massachusetts Medical Society, Essex South District.—The annual meeting of this branch of the Society was held in Salem, May 28. Dr. Herbert W. Newhall, Lynn, was elected president; Dr. Herbert J. Hall, Marblehead, vice-president; Dr. Charles H. Bangs, Lynn, secretary; Dr. George Z. Goodell, Salem, treasurer, and Dr. George C. Littlefield, Salem, librarian.

Mason County (Ky.) Medical Society.—At the meeting of this Society at Maysville, May 29, the following officers were re-elected for the ensuing year: Dr. James Shackelford, Maysville, president; Dr. Alexander Hunter, Washington, vice-president; Dr. Amos G. Browning, Maysville, secretary; Dr. A. N. Elles, Maysville, corresponding secretary, and Dr. Samuel R. Harover, Maysville, treasurer.

Fourth District Branch of the New York State Medical Association.—This branch met for its seventeenth annual session, at Buffalo, May 31. The following officers were elected: Dr. Charles A. Wall, Buffalo, president; Dr. J. William Morris, Jamestown, vice-president; Dr. Bernard Cohen, Buffalo, secretary, and Dr. William Irving Thornton, Buffalo, treasurer. The 1902 meeting will be held at Chautauqua.

Detroit (Mich.) Medical Society.—After an existence of only a little more than a year, this Society, at its first annual meeting, May 29, showed an enrollment of 355 against the charter membership of 43 with which it was organized in April, 1900.

Alumni Association of the College of Medicine and Surgery of the University of Minnesota.—The annual meeting and luncheon of this organization was held in St. Paul, June 6. The following officers were elected: Dr. Louis B. Wilson, Minneapolis, president; Drs. George B. Head, Minneapolis, and Frank W. Dean, Council Bluffs, Iowa, vice-presidents, and Dr. Warren A. Dennis, St. Paul, secretary and treasurer.

Doniphan Brown (Kan.) Medical Society.—At the annual meeting of this Society, composed of physicians from Doniphan and Brown Counties, held at Highland, May 30, the following officers were elected: Dr. William E. Lewis, Highland, president; Drs. Aaron Herring, Highland Station, and J. H. McGauhey, White Cloud, vice-presidents, and Dr. William Boone, Highland, secretary and treasurer.

Connecticut River Valley Medical Association.—The secretary of this association calls our attention to a mistake in the list of newly-elected officers which appeared in THE JOURNAL of June 1, page 1576. The list should have been as follows: Dr. James A. Craig, Westmoreland, N. H., president; Dr. Frederick L. Osgood, Townshend, Vt., vice-president; Dr. J. Sutcliffe Hill, Bellows Falls, Vt., secretary, and Dr. Edward R. Campbell, Bellows Falls, Vt., treasurer.

Delaware State Medical Society.—The annual meeting of this Society was held at Lewes, June 11. It was decided to hold the next meeting at Newark. The following officers were elected: Dr. Edward D. Dwight, Smyrna, president; Drs. Robert Ellegood, Delmar, and Harry G. M. Kollock, Newark, vice-presidents; Dr. John Palmer, Jr., Wilmington, secretary, and Dr. William C. Pierce, Wilmington, treasurer. The next meeting will be held at Newark.

American Pediatric Society.—The list of officers elected by this Society which appeared in THE JOURNAL last week is incorrect. The correct list is as follows: Dr. Walter S. Christopher, Chicago, president; Drs. Charles W. Townsend, Boston, and John Dorning, New York City, vice-presidents; Dr. Samuel S. Adams, Washington, D. C., secretary; Dr. J. Park West, Bellaire, Ohio, treasurer, and Dr. Walter Lester Carr, New York City, recorder and editor.

Alumni of Albany Medical College, Central New York Association.—This branch of the Alumni Association was organized at Utica, N. Y., May 29, with the following officers: Dr. Charles J. Bacon, Fulton, president; Drs. Earl D. Fuller, of Utica, Eben A. Wood, of Syracuse, Irving S. Edsall, of Middleville, William C. Fawdrey, of Lorraine, Charles Bernstein, of Rome, and Arthur C. Hagedorn, of Gloversville, vice-presidents; Dr. Frederic H. Brewer, Utica, secretary, and Dr. Erwin J. Cusack, Fulton, treasurer.

American Medico-Psychological Association.—The fifty-seventh annual meeting of this Association was held in Milwaukee, June 11 to 14. The council recommended the establishment of a laboratory for medico-psychologic research, in Washington. Dr. Robert J. Preston, Marion, Va., was elected president. Dr. George A. Blumer, Providence, R. I., vice-presi-

dent, and Dr. C. B. Burr, Flint, Mich., secretary-treasurer. Montreal was decided on as the next place of meeting.

International Association of Railway Surgeons.—The fourteenth annual meeting of this Association was held in Milwaukee, June 10 to 12. The following officers were elected: Dr. Rhett Goode, Mobile, Ala., president; Drs. John A. Barr, of McKeesport, Pa., Walter M. English, of London, Ont., Lester Keeler, of Ironton, Ohio, Bacon Saunders, of Ft. Worth, Texas, Samuel R. Miller, of Knoxville, Tenn., Benj. Thompson, of Tama, Iowa, and Albert L. Peterman, of Parker, S. Dak., vice-presidents; Dr. Louis J. Mitchell, Chicago, secretary, and Dr. James A. Duncan, Toledo, Ohio, treasurer. The Association will meet at St. Louis next year.

Association of American Medical Colleges.—After ten years, harmony has been secured in this Association, at its annual meeting, in St. Paul, June 3, by the admission to membership of twelve southern medical colleges, making a total membership of seventy-seven. Dr. Victor C. Vaughan, Ann Arbor, Mich., was elected president; Dr. William L. Rodman, Philadelphia, first vice-president; Dr. H. Bert Ellis, Los Angeles, Cal., second vice-president, and Dr. Bayard Holmes, Chicago, secretary. Kansas College of Medicine, Topeka, and University Medical College, Kansas City, Mo., which had been suspended for infractions of rules, were reinstated and the charges preferred against the Hospital College of Medicine, Louisville, Ky., were not sustained.

Maryland Public Health Association.—The fifth annual meeting of this Association was held at Baltimore, May 23. A bronze mural tablet bearing a portrait of the late George H. Rohe, was presented to the Medical and Chirurgical Faculty by Dr. J. S. Fulton on behalf of the Association, and Dr. Harry Friedenwald received the gift on behalf of the Faculty. The tablet will be affixed to the wall in the Faculty's rooms on North Entaw street. The following officers were elected: Mr. Henry Brauns, Baltimore, president; Drs. James Bosley, Baltimore, Thomas B. Owings, Ellicott City, Clotworthy Birnie, Taneytown, Edward R. Trippe, Easton, and Augustus Stabler, Brighton, vice-presidents; Dr. John S. Fulton, Baltimore, secretary, and Dr. L. Gibbons Smart, Baltimore, treasurer.

Rhode Island Medical Society.—The ninetieth annual meeting of this Society was held at Providence, June 6. The annual address was delivered by Dr. G. Alden Blumer, Boston, on "The Yesterday and To-day of Mental Medicine." The following officers were elected: Dr. George F. Keene, Howard, president; Drs. William R. White, Providence, and Christopher F. Barker, Newport, vice-presidents; Dr. Frank L. Day, Providence, recording secretary; Dr. Herbert Terry, Providence, corresponding secretary; Dr. Frederick T. Rogers, Providence, treasurer, and Edmund D. Chesbro, James H. Davenport, John C. Pegram, Jr., George S. Mathews and Frank E. Peckham, all of Providence, board of examiners.

Greene County (Ohio) Medical Society.—The annual meeting of this Society was held in Xenia, June 6. The following officers were re-elected: Dr. Asa C. Messenger, Xenia, president; Dr. T. Marion Kent, Spring Valley, vice-president; Dr. Miron I. Marsh, Cedarville, secretary; Dr. David E. Spahr, Clifton, treasurer. Dr. John C. Oliver, Cincinnati, was the guest of the Society, and read a paper on "Strangulated Hernia."

Tri-County Texas Medical Society.—The physicians of Covington, Blanton, Blum, Heron and Kimball met at Blum, May 18, with Dr. Joseph M. Hanks, temporary chairman; and organized a society for the purpose of making a closer study of the science of medicine, and up-building of the profession in general. The following officers were elected: Dr. James S. Terrell, Blanton, president; Dr. Joseph M. Hanks, Blum, vice-president; Dr. C. Gallaway, Blum, secretary, and Dr. W. H. Maner, Blum, treasurer.

CALIFORNIA ACADEMY OF MEDICINE.

Regular Meeting held May 28, 1901.

Dr. Philip King Brown in the chair.

Pott's Fracture.

DR. HARRY M. SHERMAN exhibited a patient on whom he had operated for the correction of the deformity which follows Pott's fracture. The man had sustained a fracture in 1900, the usual deformity supervening after the splints were left off, the foot going into valgus and equinus so that when it was put on the ground it touched only along the border of the big toe.

He corrected this deformity, and osteotomy was done on the inner malleolus, removing all the excessive callus which had been thrown out; and an open osteotomy was done on the fibula just below the point of the original fracture. An achillectomy corrected the equinus. The severed malleolus was now fastened to the shaft by a long nail, all wounds were closed, and the leg and foot put up in plaster. Healing was uneventful. When the splints were left off about eight weeks after the operation a little motion was found to exist in the ankle, and this has since slowly increased.

Gangrene of Leg Following Confinement.

DR. C. A. VON HOFFMANN reported a case of a woman 28 years of age, with gangrene of the right foot and leg, which came on after an apparently normal confinement. On the morning of the sixth day after her confinement she suddenly turned her head to the right and got a convulsion which lasted ten minutes, followed by three more, each one increasing in duration, the last persisting about an hour. A catheterized specimen of urine showed albumin. Two days later the patient turned suddenly to the right, but had no convulsion. After about thirty minutes she opened her eyes, but could not speak. Pencil and paper were given her and she tried to write. She was able to write "I w" and continued to write w's, looked at it and shook her head, but could not speak. She understood questions asked her perfectly. After 15 minutes she motioned for pencil and paper again and wrote "I want you to tel." then put pencil down, and, commencing to write again, made only l's, looked at it, shook her head, and put the pencil down. An hour later she pronounced the words "I want you to tell me how my baby is," hesitating between the words. After that she continued to speak. During this day the husband noticed dark purplish spots on her face. The following morning she complained of intense numbness in the left leg, and swelling in the right leg could be detected. The left leg became very dark below the knee and further down the right one showing the same changes, but not quite so intense, and later there was found to be loss of sensation in the toes which spread over the foot as far as the ankle. During the first week after confinement the patient had suffered from asthma, but was free from it after the first convulsion. The right leg continued to get worse until the patient entered the Children's Hospital. At the time of entrance her pulse was 140, temperature 39.2 C, respiration 32, very much exhausted, breathing in a very labored manner, with burning pain in the right leg. The whole right foot was gangrenous, but there was no line of demarcation. The left foot had a dark spot over the instep, and on the heel. The pulse in the left wrist could not be felt, sensation was normal in the left foot, entirely gone in the right. She coughed a good deal, and this condition remained practically unchanged until Dr. Sherman saw her five days later.

DR. H. M. SHERMAN reported that he saw this patient at Dr. von Hoffmann's request on December 18, and found the right foot and leg gangrenous up to the junction of the upper and second quarters of the leg, where a line of demarcation had formed. The gangrene was dry, the toes being already desiccated. About the left ankle were several areas of necrosis in the skin. The tip of the fourth toe on the left foot was gangrenous. Pulsation could be felt in each femoral, but not very well, chiefly because of the weak heart, but also because of the adipose tissue. Pulsation could not be obtained in the left radial at the wrist. The heart was weak, rapid, and irregular, but there were no murmurs. An acute nephritis was present, the urine containing albumin, hyaline, granular and blood casts, and red and white blood corpuscles. Wishing to wait for some possible improvement in the heart and kidney condition, operation was temporarily deferred, but was undertaken on the 28th. The leg was amputated through the knee-joint by a Stoke's modification of Gritti's amputation. When the stump was dressed a week later the flap was a little dark colored but had adhered in its place; no pus, no hyperemia, no tension or accumulation in the stump. At the present time, five weeks after the operation, the stump is fairly healed. Examination of the leg showed post-mortem clots in the arteries and veins; by post-mortem he meant clots that had formed after the death of the tissues by gangrene. At the

point where the popliteal artery divides into the anterior and posterior tibials, was a larger, harder and firmer clot which he thought was an embolus, which plugged the arterial circulation at that point, but as it had to be acknowledged that no cardiac lesion could be found to explain the formation of a hard clot, it may be that it was an arterial thrombus and not an embolus. The occurrence of superficial gangrene in the skin of the left ankle must have been due to a similar cause—embolic fragments plugging small arterioles, or thrombi forming in arterial branches.

Amputation for Gangrene Due to Periarthritis.

DR. WALLACE I. TERRY reported a case "Amputation for Gangrene Due to Periarthritis" in a man aged 31, by occupation a leather stamper, who came to the City and County Hospital February 8, complaining of pain in the right foot and leg, and gangrene of the big toe of the same extremity. The following history was obtained: He used alcohol moderately; cigarettes to excess. Father died of cancer; mother of cholera. He had had urethritis twice, epididymitis once. Lues denied. In 1887 both feet became swollen, red and painful. This attack lasted for six months. A second similar attack came on a year later. A third attack in 1894 with swelling of both legs, and a fourth in 1897, but only affecting the left leg. He had some pain in both legs at times since then. About six or seven weeks before admission, the right big toe became red and painful, apparently from an ingrowing toe-nail. Swelling soon extended up the foot and a couple of incisions were made by a physician on the dorsum of the foot. On the day before admission the first phalanx became black. Examination showed a rather thin neurotic individual. Gangrene of the right big toe; swelling of the foot; great pain and tenderness in leg and foot. Heart and lungs normal. Urine normal, although patient stated that it had been very dark colored at times. On the day after admission he disarticulated the big toe at the metatarsophalangeal joint, leaving the wound open. The metatarsal bone was apparently sound. Two days later the second and third toes grew dark in color and were soon gangrenous. No further operative measures were deemed advisable until a more definite line of demarcation was established. The foot was dressed antiseptically and kept warm. By the beginning of March, the lower third of the foot was gangrenous, the process having gradually extended, so an amputation of the leg at the lower third was done by Dr. Huntington. The stump healed well except for a small patch of gangrene on the posterior flap. On May 27, 1901, the patient had gained in weight and was looking well, but had had some pain in left leg within the past few days.

DR. H. M. SHERMAN also reported a case of "Amputation for Gangrene Due to Periarthritis." A man of 40 years of age, who had for several years suffered pain on the top of the left instep, which had been treated for rheumatism. Apart from the pain his health had been good. In October, 1896, he was suffering greatly, and thought he had an ingrowing big toe-nail. He was treated by a chiropodist, the result being a septic wound, which finally necessitated the amputation of the toe. The stump, however, did not heal and the local condition progressing he finally lost all the other toes, except the little one. In April, 1897, an ulcer came spontaneously on instep, which not healing, it was decided to curette it when the bone, being found very fragile and friable, an impromptu operation was done 5 inches above the ankle. This stump also did badly, and another amputation removed 4 more inches of the leg. This stump followed the course of the others; an ulcer persisted which would not heal under any treatment until the hot-air baths were tried, and under them it nearly closed, so that an artificial leg could be worn. Sometime after, his stump became worse, and then his right foot began to pain him. He then began the hot-air baths for his stump, and the ulcer fully healed, but the right foot was worse, pain being complained of in the sole and instep. An ulcer formed on the little toe for which the distal phalanx was removed, but this made matters worse. Pus burrowed into the sole, red, swollen areas developed in the dorsum, and there was danger that the local sepsis would become more and more extensive, so, after incisions being made on the sole and dorsum without any relief, ampu-

tation of the leg was done at the junction of the upper and middle thirds. At this operation it was noticeable that there was no hemorrhage from the anterior tibial artery in general, the tissues of the stump looked darker than they should, and the blood from them was also darker than normal. From then on healing proceeded uneventfully but slowly.

DR. A. E. TAYLOR presented pathological reports on the last two cases. Dissections of the anterior and posterior vessels were done, and it was noted, particularly for the anterior vessels, that they were surrounded by an abnormal amount of connective tissue, which was very dense and unlike the normal areolar tissue usually found about the vessels. The vessels were then measured and fixed. Thrombosis was noted in both anterior tibial vessels, in both anterior veins and their subdivisions, and in the posterior veins in the case of Dr. Terry. As compared to the normal these arteries displayed a great reduction in the total diameter, and a normal thickness of the wall with a great reduction of the diameter of the lumen. Normal arteries of the same total diameter as these would have much thicker walls so that these walls, though apparently normal, were really increased in thickness. In no case was the area of the diseased vessels as much as 1/10 of the normal area, while in the anterior tibial vessels in Dr. Terry's case it was but 1/100. Microscopic sections of the vessels showed the elastic tissue and the muscular coat to be qualitatively normal. The intima was not notably thickened in either case, except in the areas of thrombosis, where it was involved in the process of obliterative fibrosis. No signs of lime salts could be found. The endothelial cells lining the vessels were normal in the patulous portions. The adventitia was thickened; it was usually well outlined from the surrounding excessive fibrous tissue. In the areas of thrombosis the process was an obliterative arteritis. The portions of the vessels not submitted to microscopic section were dissected. The process of thrombosis did not extend along the entire length of the vessels involved, except in the case of the anterior artery in Dr. Terry's case. There were small portions in which the lumen was patulous. These portions were carefully examined with a hand glass, for areas of atheroma. None were found. The vessels were not at all tortuous, but perfectly smooth and straight. The veins presented no other lesions than the thrombosis.

THE CHICAGO LARYNGOLOGICAL AND CLIMATOLOGICAL SOCIETY.

Regular Meeting, held May 2, 1901.

Dr. William E. Casselberry, in the chair.

DR. JOHN EDWIN RHODES read a paper on "Some Interesting Throat Paralysis in a Case of Locomotor Ataxia of an Irregular Form." (See "Original Articles," p. 1769.)

DR. OTTO T. FREER—The paralysis of the crico-arytenoideus posticus muscle, or abductor of the vocal cord, mentioned in the case reported by Dr. Rhodes, is one that is characteristic of tabes dorsalis. Felix Semon made this the subject of especial research; he finds that though there are some cases of total paralysis of the recurrent laryngeal nerve and also of the superior laryngeal as the result of tabes; these are rare exceptions compared with the great frequency of paralysis or paresis limited to the most vulnerable fibers of the recurrens, those that supply the crico-arytenoideus posticus. The paralysis may be uni- or bi-lateral. If unilateral there are no symptoms and the difficulty is only discovered during laryngeal inspection. The affected cord can be seen fixed in the median position while the other one is abducted and leaves plenty of room for respiration. Where the paralysis is bilateral, both cords are adducted, but generally not so forcibly but that respiration can be carried on without marked dyspnea unless the patient exerts himself or catarrhal swelling closes the small chink of the glottis. In some cases, however, dyspnea is urgent and dangerous. The voice is unimpaired.

A second characteristic form of tabetic nervous disturbance of the larynx is the so-called laryngeal crisis. This presents varying grades of severity. In the mildest form there are simply violent paroxysms of coughing which recur with great

obstinaey and for which no local reason can be found in the respiratory tract. In the degree of next greater severity the coughing spells are accompanied by spasm of the glottis with severe dyspnea and tickling, and scratching sensations with other laryngeal paresthesiæ. The attack lasts from a few seconds to a few minutes and is intensely distressing. In the severest cases the suffocation is sufficient to cause loss of consciousness, involuntary defecation and urination with epileptic seizures. Even these grave attacks are seldom fatal.

A patient in my care presents the mildest form of these three grades of laryngeal crises. He has a paralysis of the third nerve, with the characteristic paralysis of the ocular muscles in addition to the usual signs of tabes. He complains constantly of paroxysmal cough, for which no local cause can be discovered in the respiratory tract.

Dr. Rhodes' paper is interesting in that it emphasizes what may in some cases be the earliest sign of tabes dorsalis, paralysis of the crico-arytenoideus posticus muscle. Paralysis of the abductors of the cords may be the first evidence of beginning locomotor ataxia. If the laryngoscope were more generally used, and especially if more pains were taken to become reasonably skilful in its employment, this obscure and valuable sign would doubtless be discovered far more often than it is now; but as abductor paralysis does not alter the voice and as it does not always create noticeable obstruction to respiration, even if bilateral, it is sure to be overlooked if the larynx is not inspected. The examination for suspected tabes should always include the use of the laryngoscope.

DR. E. FLETCHER INGALS read a paper entitled "Diagnosis of Diaphragmatic Hernia." (See page 1770.)

DR. OTTO T. FREER—Dr. Ingals has mentioned me as one of those to whom he kindly awarded the privilege of seeing the remarkable case he has described. Though there were times when the diagnosis pneumothorax seemed possibly correct to me, observation of the long course of the ailment and summing up of the signs observed makes me think that the case can only have been one of diaphragmatic hernia.

Those who contended for pneumothorax have furnished no reasonable pathological basis for their opinion. Tuberculosis was advanced as an etiologic factor. The patient presented no evidence of tuberculosis. He had no fever, no wasting and no general signs of tuberculosis. He was a robust man in every respect and perfectly healthy with the exception of the affection under consideration.

Another theory advanced explaining the occurring of pneumothorax was that the lung was adherent at some point to the chest wall and that deep inspiration had violently pulled on this place, causing a tear in the lung tissue. This seems very unlikely when we consider the enormous frequency of pleuritic adhesions and the rarity of pneumothorax. If a tear in the lung parenchyma of this kind had occurred it certainly could not have penetrated very deeply from so slight a traumatism and the little wound would have soon closed after the lung had collapsed in the region of the tear. We know how soon similar openings in the lung tissue complicating rib fractures close when the chest wall has not been perforated. Another argument against this theory is that at no time were we able to demonstrate the presence of fluid in the chest cavity, yet a rent of the lung tissue sufficient to cause a prolonged pneumothorax would surely have led to a pronounced hemothorax when we consider the very vascular pulmonary tissue. A hemothorax would certainly have been followed by a pleuritic effusion as we know from clinical experience. There is no history of hemothorax or pleuritic effusion in this case. The rapidity with which bleeding into the pleural sac is followed by serous effusion I can illustrate by a case of my own in which the patient had stabbed himself with a penknife. Within two days after the injury he had a marked collection of fluid in the pleural cavity that had been penetrated. This subsided after about two weeks.

The gurgling sounds I heard only on my first examination and I was surprised at their loudness and metallic character. They were certainly as loud as I have ever heard them over the abdomen. They were not frequent and I chanced to hear them while I was listening in the region just below the angle

of the scapula. The metallic tinkling or falling drop sound was loud and unmistakable, and when I was listening was rhythmical, occurring at intervals of a few seconds. This sound could not have been produced in a pleural cavity that did not contain enough fluid for the drop to splash into, yet we never could demonstrate the presence of fluid in the pleural sac at any time. The inference is that the drops were falling into fluid within some hollow organ in the chest cavity.

The loud gurgling sounds were heard much higher in the thorax than it is usual to hear transmitted abdominal sounds and they were of surprising intensity. It was contended that a pneumothorax would favor transmission of these noises. Air in the pleural cavity certainly does not favor conduction of respiratory sounds to our ear, therefore I can not understand why it should favor transmission of abdominal ones. Respiratory sounds are far better carried by the parenchyma of the expanded lung. Fluid is even a better conductor than air and yet we know how a pleuritic effusion will dampen and suppress sounds from the lung.

To explain the rather sudden appearance of the symptoms of diaphragmatic hernia in this case we must assume that a small hernia had existed for a long time and that it had gradually enlarged to a point which made its sudden increase from a slight cause easy.

DR. JOHN EDWIN RHODES—I wish only to say that I appreciate very fully the care with which Dr. Ingals has investigated this case, and the strong argument that he has advanced in favor of diaphragmatic hernia. I could not fully decide that it was a case of diaphragmatic hernia, although my findings were much in favor of it rather than that of pneumothorax. The reasons for believing that it is a case of diaphragmatic hernia have been clearly stated by Dr. Ingals, from the examinations I made and the points that have been brought out by him. I am inclined to accept his diagnosis.

DR. WILLIAM E. CASSELBERRY—The essayist has made an excellent argument in favor of a diagnosis of diaphragmatic hernia. I must confess to being, as yet, unconvinced. Of course, conviction in such a case is difficult from a mere report without seeing the case itself, no matter how carefully the details are given.

What impressed me as faulty in the diagnosis of diaphragmatic hernia is the disappearance of the intestinal gurgling sounds late in the case; and that while they were present early and were heard by both Drs. Ingals and Freer in their first few examinations, in later examinations they failed to hear these sounds. If there was a loop of intestine, colon, or stomach that passed through the diaphragm, I do not see why there should not be nearly all the time, when digestion was in progress, some gurgling or bubbling sound. I would suggest in this connection that, if opportunity offers, the patient be given a cathartic, and that an examination be made at the proper time during its action, under which circumstances the gurgling sounds one would expect to be increased very markedly in frequency and intensity, and with unmistakable identity to the well-known gurgling sounds which are heard over the intestine. Again Dr. Freer has referred to these or other sounds as "metallic tinkling." "Just like a drop falling into a bottle of fluid." Now, there is really no similarity between the sounds of intestinal gurgling or stomach splashing and real metallic tinkling in pneumo-hydrothorax. Is it not possible that both were present and that the gurgling sound was simply transmitted from the colon in its normal situation?

In favor of diaphragmatic hernia would be the total absence of fluid from the pleural cavity, for, as remarked by the essayist, communication of the bronchial tract with the pleural cavity almost certainly leads to infection and effusion. Without fluid in the pleural cavity the sound could not have been real metallic tinkling. I must say, however, that I believe it would be possible for a small amount of fluid to be in the pleural cavity without causing distinct physical signs and without being caught by an aspirating needle. I am quite certain that I have aspirated unsuccessfully at times in cases of pleurisy with slight effusion. In other words, I have failed to get the fluid which I believed to be there. I know it is difficult to do these things, but if aspiration had been made

more than once, not depending upon a single aspiration. I would have more confidence in this test.

DR. INGALS—Aspiration was made twice.

DR. CASSELBERRY—I accept that statement as being a further verification of Dr. Ingals' diagnosis of diaphragmatic hernia except that the fluid might have escaped even a double aspiration.

A point in favor of diaphragmatic hernia is the variation in the position of the heart, not that the heart was merely at first pushed far to the right, and late in the case to the left, which might have been caused by a continuous absorption of air from a possible pneumothorax, but that it was one time far to the right and the next time to the left, arguing, as Dr. Ingals has said, in favor of a variation in the amount of distention by the loop of intestine or stomach that happened to be through the diaphragm. Yet even with this sign one can conceive of a small bronchial perforation having forced through it into the pleural cavity at different times a varying quantity of air dependent perhaps upon the degree of respiratory activity.

DR. MORLEY D. BATES—The patient told me that at one time he felt as if something gave way in his chest on the left side, in the region of the third interspace, and that he felt a sensation of air blowing through the opening thus produced. It was a whistling, blowing sensation on deep inspiration, and at times it would subside, after which he thought the heart was pushed farther to the right. I do not know whether that point was mentioned or not.

DR. INGALS—I think I mentioned that the patient often felt a splashing sensation, and at one time, shortly before the last examinations were made, he spoke of having felt something give way, pushing his heart to the right side.

DR. BATES—When I examined him I heard a gurgling sound in the lower portion of the thorax, on the left side, but I think these sounds were transmitted in a measure from the distended intestine, or from the stomach. I heard them low down, not up any farther than the sixth rib.

DR. INGALS (closing the discussion)—The patient never had any evidences of pleurisy; there was no collapse of the upper portion of the lung at any time. The area of vesicular sounds present varied from one to two inches at the lower part of the acting portion of the lung, which could not have been the case with air in the pleural cavity. In answer to Dr. Casselberry I may say that it was suggested that the patient take a cathartic but he did not care to do so. I heard the gurgling sounds on several occasions, but at many of the examinations I did not hear them.

PHILADELPHIA ACADEMY OF SURGERY.

Meeting May 6, 1901.

President Dr. DeForrest Willard in the chair.

Empyema.

DR. R. H. HARTE reported five cases and exhibited three of the patients. Two patients had suffered from pleurisy with effusion, the fluid subsequently becoming purulent. In these two cases the temperature ran a zigzag course, one being regular, the other more sharply defined. As to the measures to be adopted in these cases, he believed in the resection of portions of two or three ribs, and subsequently inserting an extra-sized drainage tube. A very large tube is always necessary, since smaller ones become easily occluded by flakes of lymph. Frequently these flakes of lymph may wall off a collection of fluid within the pleural cavity and produce a rise of temperature. To break up these pockets so produced a metal sound had been of advantage. As to the incision, he preferred one made in the mid-axillary region. This incision might be vertical or curved. In one of the cases he had made a longitudinal incision. In old cases of empyema the incision of Godley frequently gives good results. In empyema it is astonishing how quickly the patients improve after the operation.

DR. R. G. LECONTE had seen two of these cases previous to operation, and agreed that they had been desperate ones. He also believed in resection of the ribs to permit drainage. In

those cases where there was a very extensive collection of fluid, a preliminary puncture might be resorted to previous to the resection of a rib.

DR. W. J. TAYLOR stated that several years ago he had been called out of the city to see a case of empyema in which there had been a very large collection of fluid present. In this instance he had made an incision under the breast, thus allowing drainage to occur. Later he had resected a rib, thus effecting a cure. In this case considerable purulent material had drained off.

DR. H. R. WHARTON believed in resection of a rib in empyema, and also thought that a very large drainage tube was advisable. In the case of children he did not believe that immediate resection of a rib was advisable, simple drainage usually being effective. In cases of empyema of long standing or in those cases where a sinus exists he resects a rib at the primary operation.

DR. G. G. DAVIS does not believe in irrigation of the pleural cavity at the primary operation. In some instances in which the cavity communicates with a bronchus, this might be a dangerous process.

DR. J. H. JOPSON had treated five cases of empyema of children recently. In these instances, simple drainage had given relief.

DR. DEFORREST WILLARD believed in the resection of a rib in children, since in these instances the ribs were so closely placed together that drainage was not always effectual. As to irrigation, he never resorted to this procedure unless the purulent material had an odor.

DR. HARTE, in closing, stated that as a rule he generally resected a rib in empyema of children, the same as in adults. As to irrigation, he disapproves of it. He prefers ether as an anesthetic.

Ligatures of External Carotid; one for Hemorrhage after Tonsillotomy, the Other for Hemorrhage after Intranasal Operation.

DR. W. W. KEEN believed that as a rule ligation of the external carotid artery presented no serious difficulty. In Case 1 the patient, aged 22 years, had suffered from hypertrophy of the tonsil, which had subsequently been removed with a tonsillotome. At the time of operation no special hemorrhage had occurred, but three hours later hemorrhage had been profuse, requiring ligation of the external carotid. In Case 2, Mr. M. B., several years previously had had a polyp removed, and at the present time was suffering from a hypertrophic process affecting the septum. This growth was cured by a physician, and sharp hemorrhage occurred, about 20 ounces of blood being lost. The nares were firmly packed, but more or less oozing still continued. Nearly all known remedies were tried to stop the hemorrhage without relief. These remedies included: the actual cautery, trichloroacetic acid, gauze packing, ham fat, adrenalin, but hemorrhage continued for several weeks, the patient losing in all probably 10 pints of blood. At last ligation of the external carotid was done, and hemorrhage at once ceased. Recovery in both instances was prompt.

Cases of Facial Anthrax Treated by Injections of Carbolic Acid.

DR. L. H. MUTSCHLER referred to certain cases of anthrax which had been reported before the Philadelphia Pathological Society by Dr. J. H. Jopson in December, 1899. In the first one of the speaker's cases the man had been 21 years of age, and had been handling goat skins imported from China. After some time a pimple had developed over the eyebrow, and in the center of this pimple a dark spot had occurred. Surrounding this was considerable edema, though little pain was present. The temperature remained about 99.2 F. In this case a solution of carbolic acid of 95 per cent. had been injected in eight localities surrounding the initial pimple, and later a bichlorid dressing was applied, and on the third day the slough separated and recovery occurred.

In Case 2, the patient had been a man 44 years of age, and had been employed in a factory in which he had to handle goat skins. These products had been imported from Russia. In this instance a spot developed on the face, causing edema

of the neck, scalp and jaw. In this instance the edema had been confined to one side of the neck, but there was no glandular enlargement. A black slough occurred in the center of the region affected. There was no pain accompanying the part involved. Pure carbolic acid when injected around the site of disease effected a cure. In both cases pure cultures of the anthrax bacillus were found, which, when injected into mice, caused death within 13 hours. The speaker had wondered why the Government had taken no action to prevent the importation of infected hides.

DR. J. H. JOPSON referred to the cases of anthrax he had reported. Up to this time there had been ten cases of anthrax reported in Philadelphia, and doubtless there had been many cases throughout the country which had never been recognized.

DR. J. CHALMERS DAcOSTA had seen two cases of anthrax, one of which he had mistaken for malignant edema.

DR. W. J. TAYLOR had seen the first case reported by Dr. Mutschler, and stated that after the injections of carbolic acid recovery had been prompt.

DR. R. H. HARTE wondered why it was the habit of hospitals not to admit these cases. He desired to go on record as believing that they should be admitted to hospitals.

Ultimate Result in a Case of Interscapulo-thoracic Amputation.

DR. R. G. LECONTE reported the case which had been reported before the society at a former meeting. It was one of sarcoma affecting the left shoulder, and of a recurrent type. During a part of 1899 patient's health had been good, but in January, 1901, another operation had to be performed, at which time a portion of a rib was removed. Some time later asthmatic attacks developed, with bloody expectoration, small pulse, dyspnea, and finally death occurred Feb. 25, 1901. At the post-mortem examination pleural adhesions were found. The apex of the right lung showed fibroid degeneration. In the right lung a growth the size of an orange was found. The liver showed fibroid change, and the spleen showed whitish growths. The tumor of lung when examined microscopically was found to be made up of spindle cells, with spindle-shaped nuclei and with nucleoli. Dense hyaline degeneration products were found over the spleen. Some giant cells were also found. It is somewhat remarkable that this tumor had affected the left shoulder in the beginning of the attack, and afterwards had given metastasis in the right lung.

TRANSACTIONS OF THE WOMAN'S HOSPITAL SOCIETY OF NEW YORK.

May Meeting, 1901.

Dr. Joseph E. Janvrin in the chair.

A New Method of Nephrorrhaphy.

DR. P. F. CHAMBERS read a paper with this title, and said that although he had not been able to learn of any practical objections to the method in vogue of fixing the kidney by needle and suture passed through the cortex, theoretically he had always been opposed to it, and he felt assured that, sooner or later, cases would appear showing that an injury had been done to the kidney. Only a few years ago it was thought perfectly safe to leave a permanent suture, such as silkworm gut or silver, buried, fastening the kidney to the back muscles. That was soon proven to be a fallacy. He could not see the advisability of leaving the wound open for granulations, for, after all, it is simply the surface of the kidney which adheres, and it is held no more firmly whether the surface to which it is adherent be granulation tissue 2 inches thick or merely the adhesion which would take place between two raw surfaces.

His cases were of two unmarried women who were admitted to his service in the Woman's Hospital with markedly displaced or floating right kidneys, and with all of the symptoms attending such trouble. An operation for fixation was unquestionably advised in both cases and performed according to the following method:

The patient being placed in the usual position on her side and abdomen, the vertical incision was made and the kidney

caught with the fingers and pulled through the opening. Then with the forefinger and thumb of the left hand as a guide, a bunch of median-sized catgut was carried around the kidney by a Cleveland ligature carrier. This was carried around the kidney just below the pelvis, between the kidney and the ureter. Then, with the same carrier, the sutures were carried through the muscular fibers, or aponeurosis, in the upper edge of the wound. The sutures were then temporarily left until the capsule of the kidney could be cut and pushed back about half an inch on each side of the incision. With fine catgut the capsule was drawn back and fixed to the under surface of the muscle. The bunch of catgut sutures was then tied, holding the kidney firmly up against the under surface of the muscle to which it was wished to have it adhere. The muscular fibers which had been torn and the muscular fascia were brought together with a running suture of catgut. The wound was then thoroughly washed out with a normal salt solution and closed with catgut. The patient was put to bed on her back and the foot of the bed slightly raised, and she was kept in that position for at least two weeks. By that time the catgut had been absorbed and the wound healed. She was gradually allowed to assume the sitting posture and, at the expiration of three weeks, she was allowed to leave her bed. But before allowing her to assume the upright position a snug-fitting abdominal supporter was adjusted, and she was directed to adjust it before leaving the bed for at least a year. No injury had been done the kidney. The operation was attended with no danger and with but little inconvenience to the patient. Median-sized catgut was used, just large enough to prevent cutting into the kidney tissue and sufficiently large to suspend. With the finger in the incision, passing it around the kidney, feeling that the ureters and blood vessels were out of the way, all outside of the proposed line of suturing, the sutures were then passed around the kidney, hugging it closely, outside its capsule, between it and the ureter. The sutures penetrated into the fatty and cellular tissue. When the sutures were tied they were tied higher up than the level of the plane of the kidney so as to keep the kidney pushed up underneath the ribs. Dr. Senn's method was similar to this, but he used gauze, which was passed around the kidney. The wound was left open and the gauze removed at the expiration of three or five days; of course, in such an instance, the wound had to heal by granulations. When the capsule was pulled back it was sewn to the under surface of the muscle and so attached by its raw surface, and that was the only part of the kidney that becomes adherent. Even when you penetrate the kidney with a needle armed with silkworm gut, with catgut, or other material, the object simply was to hold it there until adhesions took place, when the sutures are withdrawn. His sutures, which suspend the kidney in position, last fully as long as those sutures which penetrate the kidney tissue itself. He had never seen any injury, nor did he know of any case, where any injury had been done the kidney by the old method, but theoretically he had always been opposed to it. He did not think we could pass a ligature through the kidney without injuring it. He thought the method described of holding it in place did equally as well, and was a better procedure than when the kidney tissue was penetrated.

DR. GEORGE H. MALLETT said that the question of floating, or movable, kidney interested him very much. He had not settled in his mind the value of the operation as a means of relief. A good many men have stated that 20 per cent. of all the patients who apply for gynecologic treatment are cases of floating kidney.

A Case of Utero-Intestinal Fistula.

DR. L. GRANT BALDWIN read a paper with this title. He wished to report the case on account of its rarity and the results obtained. This occurred in a woman, about 37 years old, who was confined in April, 1900. About the third day after her confinement she became septic, and was then curetted by her family physician, who was a most competent obstetrician. Nothing untoward happened and the symptoms of sepsis disappeared. At the end of the tenth day after the curetting, fecal matter was noticed coming through her vagina.

At the end of two weeks after the euretting he was asked to see her. At that time she had a temperature of 101, pulse 120, foul tongue, and she looked rather wretched. The physician had told him that fecal matter appeared through her uterus, but he was inclined to be rather skeptical, thinking that the fistula was in the vagina. By placing the patient in the Sims position and thoroughly exposing the parts, fecal matter could be seen oozing out of the cervix. Her bowels had not moved by way of the rectum for several days. Intestinal gas passed through the uterus. There was a mass one-half the size of a fetal head in the left iliac fossa immediately connected with the cul-de-sac. There being no inflammatory material present, and the patient being in fairly good condition, it was thought advisable to wait and keep the uterus and vagina as clean as possible. The fever and pulse began to get less, her appetite improved and, at the end of two weeks after that, some little gas passed by way of the rectum. She gradually improved, and in the early part of June went to the country. About the middle of July he was told that fecal matter had not passed by way of the vagina for several days. She gained in flesh and her condition became most satisfactory. When she returned from the country, about the middle of September, she had gained 20 pounds in flesh, and she was the picture of health. Except for a little thickening back of the uterus on the right side she is a perfectly well woman and has menstruated for two months normally, a normal amount, and without pain.

The question as to how this condition occurred and how it healed up was an interesting one to him, and his only opinion was one of speculation. Probably the uterine wall was injured at the time she was euretted and a localized peritonitis occurred, with adhesions of the bowel to the sigmoid flexure, because by rectal examination nothing could be felt. It must have occurred low down, because the fecal matter was not the contents of the small intestine; the food was thoroughly digested and resembled the products of digestion. As the uterus contracted, as involution went on, the sigmoid remaining stationary, the opening was stretched out into a canal, and, as the uterus went down further and further in the pelvis, it still more stretched and finally became obliterated in that way. That is the most probable way in which healing occurred that he could imagine.

DR. J. DOUGAL BISSELL asked Dr. Baldwin if she had ever had a laceration and if it was an instrumental delivery.

DR. BALDWIN replied that there was an old laceration of the perineum and cervix, but it was not marked. There were no symptoms of rupture of the uterus present whatever. The labor was a normal one. The curettage was done for the sepsis.

DR. P. F. CHAMBERS asked if a sharp or a dull curette was used, because he thought the sharp curette was a most dangerous instrument. After parturition he had made it a rule never to use it. He had seen a number of cases where he had been satisfied that injury had been done by the sharp curette. The sharp curette cuts in soft tissue and leaves a number of raw surfaces for the absorption of septic material. The dull curette will do everything that the sharp one does, and does no harm.

DR. JOSEPH E. JANVRIN did not think one should ever use the sharp curette after confinement, on account of its danger. Personally he never used it, but always the dull curette, using a good big one which is large enough to catch hold of anything contained within the uterine cavity and pull it down. The instrument that he liked was called Mundé's, which was very light, but larger than the Thomas curette. Any case where the uterus is subinvolved and with the cavity quite large required a good-sized blunt instrument to get hold of and pull down any material within that organ.

DR. S. SHAILER suggested as a cause of the fistula that perhaps it was due to the gut passing into the cavity of the uterus through an opening made by the curette, the pressure externally pushing the bowel in. The adhesion formed between the bowel and uterus was so firm that the feces did not get outside the uterus into the peritoneal cavity, so accounting for the non-appearance of peritonitis.

NEW YORK ACADEMY OF MEDICINE.

—SECTION ON PEDIATRICS.

Stated Meeting May 9, 1901.

Dr. W. L. Stowell in the chair.

An Investigation of Adenoids, Especially with Reference to Bacterial Infection.

DRS. M. NICOLL, JR., and A. J. LARTIGAU had made a careful bacteriologic investigation of 11 adenoids, with the result that 5 of the specimens gave sterile tube and plate cultures, while the remainder showed a few micro-organisms, chiefly streptococci. Where tests had been made for virulence, these organisms had been found to be non-virulent. They had also examined 75 adenoids for tuberculosis, using half of each specimen for inoculation experiments and half for microscopic study. Of the cases, 10 per cent contained both tubercle bacilli and the histological lesions of tuberculosis, while 5.3 per cent contained tubercle bacilli without any definite lesions of tuberculosis. At least 10 sections had been examined from each adenoid. This investigation also comprised a study of 46 specimens with regard to the thickness of the epithelium. From this it was learned that of the 46 specimens studied, 13 showed a normal thickness of epithelium, and the others great variations from the normal. In the specimens containing tubercle bacilli these organisms were in all situated rather near the surface, and it appeared that the adenoid had become infected from the surface without any break in the epithelium.

Dr. Nicoll commented on the significance of the fact that 10 per cent. of these cases had shown tubercular foci in the respiratory tract. He was inclined to think that in the near future tubercular adenoids would assume a more important rôle than previously.

A Dozen Cases of Spinal Analgesia in Operations on Children Under Six Years and a Half.

DR. W. S. BAINBRIDGE had used this method of inducing anesthesia in various operations upon children, including osteotomy, circumcision, cauterization of the rectum for prolapse, and the radical cure of hernia. The youngest of these patients was four months. He had carefully compared the action of cocaine and beta-eucain, and had demonstrated that the latter was unreliable and very unsatisfactory. The speaker said that he had reported the only two cases in literature in which subarachnoid injections of cocaine had produced a complete analgesia of the entire body.

DR. J. LEONARD CORNING said that he had carefully refrained from saying much in the recent discussions of this method, yet he felt that it was not likely to be discarded by surgeons. For that very reason it should be thoroughly studied, and it was quite probable that it would be considerably modified. He had endeavored himself to do this, as, for example, by varying the specific gravity of the fluid injected, and by substituting cataphoresis for puncture of the membranes.

DR. CHARLES M. FORD, who had witnessed most of Dr. Bainbridge's operations under cocaine analgesia, emphasized the value of the method in children, and commented upon the remarkable calmative action of the cocaine injection even in very nervous and apprehensive children.

DR. W. E. YOUNG said that as house surgeon of the hospital in which these operations had been done he had had an excellent opportunity of watching these patients for a number of months. Bad effects had not been observed, and rarely any great variation in the body temperature. Ethyl chlorid had been used in connection with the injections of cocaine, and although the injections had been given at varying levels, it had not greatly affected the result. Anesthesia had been induced in periods varying from half a minute to fifteen minutes after the completion of the injection. All of the patients had retained tactile sensibility and the ability to distinguish between heat and cold, but none had experienced pain from the application of the actual cautery. The only unpleasant sequela had been headache, and this could be quickly relieved

by the hypodermic injection of 1/100 of a grain of nitroglycerin, and could sometimes be altogether prevented by the previous administration of bromid of sodium. Most of the patients had been able to retain food within a few hours and had slept well the first night. In no case had there been infection.

DR. J. H. LARKIN said that he had been called upon to make an autopsy upon an apparently healthy woman who had suddenly died six hours after the removal of her tubes and ovaries under analgesia induced by intraspinal cocainization. The respiratory apparatus and all of the viscera had been practically normal, and the same was true of the brain. Corresponding to the site of injection was a punctate mass involving the periphery of the cord.

DR. BAINBRIDGE said that he had carefully studied the 1080 reported cases and had been unable to find a death wholly attributable to this method. If the injection were made very low down, the cord could not be injured.

CHICAGO PATHOLOGICAL SOCIETY.

Meeting held May 13, 1901.

The president, Dr. L. Hektoen, in the chair.

The Cellular Changes in Tubercular Meningitis.

DR. I. B. DIAMOND stated that plasma, lymphoid and phagocytic cells form the greater portion of the cell-infiltrations in the vascular and extravascular areas of the leptomeninx in acute tubercular meningitis. The plasma and lymphoid cells emigrate largely from the lymph spaces of the arterial adventitia and from the finer capillaries. They proliferate largely by indirect division; a certain number, however, are derived from lymphoid cells. There are two kinds of phagocytes, 1, those which proliferate from the endothelial lining of the capillaries and lymph spaces, and 2, those from the subendothelial intimal connective tissue.

The most important of the vascular changes—the tubercular endarteritis—develops in the following manner: Plasma and lymphoid cells accumulate underneath the endothelium of the intima; later the subendothelial intimal connective-tissue cells are found mixed with the former. They proliferate next to the elastic coat, are to a certain degree phagocytic and resemble epithelial cells. They also run together and form giant cells, and in this manner characteristic intimal tubercles develop. Changes of the endothelial lining of the arteries occur later, especially when there is caseation or hyaline degeneration of the collection underneath.

Of interest is the great production of plasma cells which is analogous to the cell changes described by Councilman in acute interstitial nephritis, while on the other hand, the production of phagocytic cells is analogous to the cell changes described by Mallory as occurring in typhoid fever.

Bubonic Plague Specimens.

DR. LEWELLYS F. BARKER presented gross and microscopic specimens of the buboes and internal organs removed from Chinese, dead of plague, in San Francisco. The demonstration was accompanied by a brief description of the pathology and pathogenesis of bubonic plague. In the bubonic form of the disease the lesions in the lymph glands and surrounding tissues—edema, hemorrhage and necrosis—are very characteristic. The changes in the spleen are more marked in the septicemic form than in the bubonic form. The specimen of spleen under the microscope showed extensive necrosis of the splenic framework and pulp, with wandering in of polymorphonuclear leucocytes.

Primary plague pneumonia is distinguished from aspiration pneumonia and from embolic pneumonia occurring as complications of plague. The enormous number of bacilli present, the abundance of blood in the exudate, and the small part played by fibrin are interesting features.

The question of portal of entry was discussed in connection with the various clinical types, and an effort was made to explain the fact that local lesions in the skin and mucous membranes and lymphangitis are rarely present, the first out-

spoken lesions occurring in the nearest packet of lymph glands.

Ovarian Follicles.

DR. LEO LOEB demonstrated microscopic sections showing the difference between the atresia of follicles in different stages of maturity; also microscopic sections of two ovaries of a guinea-pig in which all follicles presented the picture of hypertrophy of the epithelium and in which the atresia without exception started by the ingrowth of connective tissue and capillaries into the follicular epithelium. Two slides were demonstrated showing follicles in the process of atresia, each one of which contained two ova. In one of these two follicles both eggs showed progressive changes, in the other follicle one ovum was unchanged and well preserved, the other ovum was segmented. In a third atretic follicle, of which a slide was shown, in which three ova were present, two of these were unchanged, the third ovum had undergone certain changes, the exact nature of which could not with certainty be determined. Another specimen showed a structure resembling very much a small corpus luteum, in the center of which, however, two successive sections demonstrated the presence of an ovum. At present it must be left undecided, if in this case the ovum of a ruptured follicle was retained and a corpus luteum had formed around it, or if under certain conditions a follicle which had not ruptured previously might in the stage of atresia give rise through hypertrophy to a structure similar to a small corpus luteum.

Gastrolith.

DR. MAXIMILIAN HERZOG presented a gastrolith composed of persimmon seeds which had caused perforation of the stomach and death in a 3-year-old boy in the practice of Dr. Cargile, of Bentonville, Ark.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment will be answered in these columns.]

Treatment of Neurasthenia with Anemia.

DR. J. P. MILLER recommends the following in the neurasthenic state accompanying disturbances of the gastro-intestinal tract:

R.	Ext. Sumbul	gr. i	06
	Asafetida	gr. ii	12
	Mist. Bland.	gr. iii	18
	Acidi arsenosi	gr. 1/30	002
	Strychninae sulphatis	gr. 1/60	001
	Phosphori	gr. 1/100	0006

M. Sig.: One such pill three or four times a day on an empty stomach.

For Tympanites in Infants.

R.	Sodii sulphocarbollatis	gr. v	30
	Syr. aurantii amari	3iss	6
	Aq. menthae pip.	3vi	24

M. Sig.: One small teaspoonful three times a day.

Treatment of Psoriasis.

E. J. Angle, of Lincoln, Neb., states, in *Western Med. Rev.*, that arsenic should never be given during the acute stage of psoriasis, but when once determined upon it should be continued for several months or even years. The initial dose should be small and taken after meals, well diluted. He prescribes arsenic in the following form:

R.	Liq. potass. arsenitis	3ii	8
	Aq. menth. pip., q. s. ad	3iv	128

M. Sig.: One-half to two teaspoonfuls after each meal in water; or:

R.	Acidi arsenosi	gr. ii	12
	Pulv. piperis nigrae		
	Pulv. glycyrrhizae rad. aa	gr. xl	266

M. Ft. pilulae No. xl. Sig.: One pill after meals.

Treatment of Tuberculosis.

The following is recommended by Fliesburg, to be given hypodermically:

R. Iodi puri cryst. ....gr. xxiiss	1	50
Phosphori puri ....gr. iv		25
Thymol		
Menthol, āā ....gr. xl	2	66
Guaiacol ....gr. xx	1	30
Ol. Morrhuæ steril .....℥iiss		50

M. Sig.: Inject one to three syringefuls once daily every four to eight days.

Treatment of Infantile Eczema.

Kistler, in *L. Mod. Med.*, recommends the following as an ointment, in infantile eczema, to relieve the itching:

R. Acidi salicylicæ .....gr. xv	1	
Bismuthi subnit. ....℥iv		16
Pulv. amyli .....℥iiss		48
Ung. aq. rosæ .....℥ii		64

M. Sig.: To be applied locally.

He also recommends the mild chlorid of mercury to be given twice a week to increase elimination from the bowels and kidneys.

Treatment of Chronic Purulent Otitis Media.

In the treatment of a case of chronic purulent otitis media, Dr. J. F. McKirnon, in *Med. News*, states that we should keep three objects in view: 1, the cure of the otorrhea; 2, the improvement of the hearing; 3, the relief of the distressing subjective sounds, if present. After thoroughly cleansing the ear he advises the following as a non-irritating germicide, which has been of benefit in his hands:

R. Acidi boracici .....gr. xx	1	33
Sol. hydrarg. bichlor. (1-1000) .....℥ii		8
Spts. vini rectificati, q. s. ad.....℥i		32

M. Sig.: Cleanse the ear thoroughly.

In cases where there is a large amount of granulation tissue present he recommends a solution of adrenal tissue as an application, especially when it is properly applied to the base of the growths.

The Preventive Treatment of Hepatic Colic.

According to Chauffard, in the *St. Louis Med. Rev.*, among the best medicaments for preventing attacks of hepatic colic are the salicylate and benzoate of sodium. He administers the following, varying the dose according to the severity of the case:

R. Sodii salicylatis		
Sodii benzoatis, āā .....gr. ii		13

M. Ft. capsula No. i. Sig.: One such capsule at meal time.

He is in the habit of adding to the above combination, one or two grains of Carlsbad salts. This treatment he continues for ten or twenty days in the month, for a year or longer. He states that if this line of treatment is persisted in, a cessation of the crises will be obtained.

Acne.

Dr. Allen, in *Post-Grad.*, states that disturbances in uterine function is often a cause of acne in women. Especially is this the cause in the variety limited to the region of the mouth and chin. He recommends, in such cases, the following:

R. Ext. ergotæ flu. ....℥iiss	10	
Tinct. ferri chloridi .....℥iiss		6
Glycerini .....℥ss		16
Ext. casearæ fluidi .....℥i		4
Syr. simplicis .....℥ii		64

M. Sig.: One teaspoonful three times a day in water.

In cases where the superficial epidermis has been rubbed off, leaving the follicles exposed to local infection, he recommends the following:

R. Icthyol .....gr. x		66
Resorein .....gr. x		66
Pulv. ealaminae .....gr. xx	1	33
Ung. zinci oxidi .....℥i		32

M. Sig.: Apply locally three times a day.

Erythematous Eczema.

In cases of erythematous eczema Dr. Allen advises the following:

R. Pulv. ealaminae præp. ....gr. xx	1	33
Zinci oxidi .....℥ss		2
Glycerini .....℥iii		12
Aq. camphoræ .....℥iv		128

M. Sig.: Shake, apply locally and allow to dry.

Dermatitis Following Trichophytosis.

In dermatitis following ringworm of the scalp in children he uses the following:

R. Acidi carbolici .....gr. x		66
Ung. pieis liq. ....℥ii		8
Ung. acidi borici .....℥vi		24

M. Sig.: Spread upon a piece of gauze and apply to the bald areas. After the dermatitis has subsided an application of chrysarobin or ointment of ammoniated mercury may be substituted.

Local Application of Guaiacol.

The *New Eng. Med. Month.* recommends guaiacol applied locally as a safe and reliable remedy in relieving pain of arthritis deformans, acute or muscular rheumatism, sciatica, orchitis, and epididymitis. One part of guaiacol to ten or fifteen parts of vaselin or lanolin should constitute the application.

For Insect Stings.

The following applications are recommended by Bernbeck, in the *Jour. des Practiciens*, as acting promptly in allaying the pain and inflammation of insect stings:

R. Collodion (flexible) .....℥x	40	
Acidi salicylicæ .....℥i		4

M. Sig.: Apply locally; or:

R. Collodion .....℥iii	12	
Hydrarg. chloridi corros. ....gr. iss		09

M. Sig.: For local application.

For the Removal of Corns.

R. Acidi salicylicæ .....℥i	4	
Acidi lactici .....℥i		4
Cerati simplicis .....℥viii		32

M. Sig.: Apply locally night and morning.

Or:

R. Acidi salicylicæ .....℥i	4	
Resinæ .....℥ii		8
Adipis .....℥iv		16
Olei amygdalæ dulcis .....℥ii		8

M. Sig.: Apply locally.

Seasickness.

The following is recommended by the "Encyclopedia of Med." in treatment of seasickness:

R. Acidi citricæ .....℥ii	8	
Aq. destil. ....℥iv		16

Misce, and mix with:

Potassii bromidi .....℥i	4	
Potass. bicarb. ....℥i		4
Aq. destil. ....℥iv		128

M. Sig.: Combine a tablespoonful of each and drink while effervescing.

Three days before sailing and for three days after, the following:

R. Ext. taraxaci		
Ext. colocynthidi co. āā .....gr. xx	1	33
Ext. hyoseyami .....gr. iii		18
Ext. meis vom. ....gr. v		30
Massæ hydrarg. ....gr. xv		1

M. fiant pil. No. xx. Sig.: One or two pills to be taken at night.

FOR THE NAUSEA AND VOMITING.

R. Spts. chloroformi		
Tinct. nucis vom., āā .....gtt. x		66
Tinct. lavendulæ comp. ....℥i		4
Aq. destil. ....℥x		40

M. Sig.: Shake and take a teaspoonful every hour until vomiting has ceased.

Medicolegal.

Bars Opinion from Appearance at Time of Treatment.—The Supreme Court of Michigan holds, in the case of *Rose vs. the Supreme Court, Order of Patrieians*, that the statute will not allow a physician to give an opinion based upon the appearance of a patient at the time of treatment. The case, it points out, is very different from where the physician was not asked for any information or knowledge of the patient's appearance while he treated him, but, having seen him many times after his employment had ceased, was asked for an opinion based on patient's appearance, expressly limited to the latter period.

Compensation to be Fixed by Board of Health.—The Supreme Court of Michigan, in explaining the case of *Pease vs. the Common Council of the City of Saginaw*, says that the party bringing it, a physician, under the direction of the board of health of the city, had performed professional services for the city in certain contagious disease cases. He presented his bill for \$480 to the board of health, and that body allowed it at that sum. The bill was then certified to the controller and the committee of the council on finance and auditing, who, after taking testimony as to the value of the services, reached the conclusion that the usual charge was \$3 per visit, instead of \$5, as charged in this bill, and thereupon reported to the common council recommending that the claim be allowed at \$292, and that the latter sum be tendered in full settlement of the claim. This recommendation was adopted by the common council, the bill was allowed at that sum; and the order drawn therefor was accepted. Subsequently a petition for mandamus was filed, and it is in that case which the Supreme Court of Michigan here holds that an order should be entered directing the council to pay the amount found due by the health board. It holds that inasmuch as the ordinance creating the city board of health provided that the latter should possess all the powers and perform all the duties imposed upon boards of health of townships, that the value of the services of a health officer must be determined by the city board of health, the board of health in townships being empowered to fix the compensation of health officers and to audit all fees and charges of persons employed by them in the execution of the health laws and their own regulations. Nor does it consider that this was rendered otherwise by a provision in the city ordinance mentioned that any and all expenses incurred by the health officer or assistant health officers in the removal or abatement of any nuisance or in the putting of any premises in a sanitary condition should be certified to the city controller, and should be audited and paid in like manner as other claims against the city, etc. And the acceptance of a part of the amount fixed by the board of health, the court holds, will not preclude the health officer from receiving the whole.

Prohibiting Burials Within City Limits.—The Supreme Court of Oregon says, in the case of *Wygant vs. McLauchlan*, that a cemetery is not a nuisance, except conditions be present which corrupt or foul the atmosphere by unwholesome or noxious stenches, or impregnate the water of wells or springs in the vicinity by percolation through the soil, thereby endangering the public health; hence the authorities agree that it is not nor can it be regarded a nuisance per se, or in and of itself. And whether the act of depositing a dead body in its place of sepulture is the commission of a nuisance depends entirely upon its proximity to the habitations of the living and the manner in which it is accomplished. Moreover, under the doctrine that a city authorized by its charter to declare what shall constitute a nuisance cannot declare that to be a nuisance which is neither such in itself nor under the common law nor made so by statutory enactment, the court holds that the city council of such a city is not authorized to declare generally that to deposit a dead body in any portion of the inhabited district shall constitute a nuisance, when it is conceded that such an interment may be made in the usual way in some sections thereof, without giving offense to the senses of any human inhabitant, or endangering in the least measure the health of the community. Power "to provide for the health, cleanliness, ornament, peace, and good order of the city," the court pro-

nounces no doubt ample to authorize the city to adopt reasonable measures prescribing rules and regulations, as it respects the place and manner of burials within the limits; but it declares that the city can not arbitrarily prohibit them, unless such prohibition be a reasonable exercise of the power. There being within the city limits considerable tracts of land which were sparsely inhabited, so that, for example, interments could be made on some of them so that they would be distant a half mile or more from any human inhabitant or public thoroughfare, it was assuredly not a reasonable regulation, as a police provision, or for the conservation of the health or good order of the community, the court holds, to exclude burials from the whole territory save certain districts enumerated by the ordinance. On the other hand, if the legislature had granted special and express power to exclude burials from within the city limits, the adoption of such an ordinance would be a legitimate exercise thereof, and no one could question its validity.

Doctrine of Ordering Physical Examinations Reviewed.—The Supreme Court of Indiana says, in *City of South Bend vs. Turner*, an action instituted by the latter party, that, while the question of ordering the physical examination of the plaintiff in a personal injury case has but recently engaged the attention of the courts of last resort, the fundamental principle is an ancient doctrine of the common law. As such, it was limited, it is true, to a few classes of cases, among them mayhem and divorce cases wherein impotency was charged. But as the sources of evidence have been extended, to parties and in many other ways, its application has been expanded to meet new conditions. The doctrine rests upon the principle that justice is the object of judicial investigation, and that courts charged with its administration, as a necessary means of attaining that end, have inherent power to require the production of the most infallible evidence. That its application to personal injury cases is a modern practice does not disprove its common-law origin. Beginning with a Missouri case, in 1873, there have followed many adjudications upon the power of the trial court to order a physical examination of the plaintiff in suits for personal injuries upon the request of the defendant. In this first case, the power, upon slight consideration, was denied. In 1877, in a well-considered Iowa case, the power was affirmed. Following this lead, the states of Alabama, Arkansas, Georgia, Kansas, Kentucky, Michigan, Missouri, Minnesota, Nebraska, Pennsylvania, Ohio, Texas and Wisconsin have reasserted the rule as announced in the Iowa case. The cases wherein they have done it establish the following propositions: 1. That trial courts have the power to order the medical examination by experts of the injured parts of a plaintiff who is seeking to recover damages therefor; 2, that a defendant has no absolute right to demand the enforcement of such an order, but the motion therefor is addressed to the sound discretion of the trial court; 3, that the exercise of such discretion is reviewable on appeal, and correctible in cases of abuse; 4, that the examination should be applied for and made before entering upon the trial, and should be conducted under the direction of the court, whenever it fairly appears that the ends of justice require a more certain ascertainment of important facts which can only be disclosed or fully elucidated by such an examination, and such, an examination may be made without danger to the plaintiff's life or health or the infliction of serious pain; 5, that the refusal of the motion when the circumstances appearing in the record present a reasonably clear case for examination, under the rules stated, is such an abuse of discretion in the trial court as will operate to reverse a judgment for the plaintiff; 6, that such order may be enforced, not by punishment as for a contempt, but by delaying or dismissing the proceeding. The discretion lodged in the trial court, as fairly deducible from the decisions, is a sound discretion, based solely upon legal considerations. When serious and permanent injuries are claimed by the plaintiff, and he or she has submitted to examination by a chosen physician or surgeon, who appears as a witness in the plaintiff's behalf, and the nature, extent, and effect of the injury are to be deduced from objective conditions, and so fully from no other source, no degree of sentiment will justify a denial of the motion. When it becomes a question of

probable violence to the refined and delicate feelings of the plaintiff, on the one hand, and probable injustice to the defendant, on the other, the law will not hesitate; the court, in making such orders, with respect to time, place, and persons, in every case, having such due regard for the feelings of the plaintiff and proprieties of the case as the ends of justice will permit. So far as the court's researches have revealed, the federal supreme court now stands alone in denial of the power. The decisions of New York were confused, and the rule both affirmed and denied in inferior courts, until established by legislative enactment in 1893. In Illinois, the supreme court, in 1882, disposed of the question in a single line, as follows, "The court had no power to make or enforce such an order," but, in subsequent decisions, while not expressly overruling that one, has recognized the existence of the power when properly and timely invoked. Indiana, also, now falls into line, and upholds the power.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Philadelphia Medical Journal, June 8.

- 1 *What I Have Learned from One Hundred and Sixty-one Operations for the Relief of Senile Hypertrophy of the Prostate Gland. (To be continued.) Orville Horwitz.
- 2 Progress of Medicine in the United States During the Nineteenth Century. Charles W. Dulles.
- 3 *A New Clinometer for Measuring Torsional Deviations of the Eye, Determining Paracentral Scotomata and Metamorphosis and Detecting Simulation of Blindness. Alexander Duane.
- 4 Membranous Enteritis Erroneously Treated for Phthisis—Presentation of Patient. J. Preston Miller.
- 5 *The Knee-Jerks in Chorea. Augustus A. Eshner.
- 6 Heredity as a Factor in Mental Deficiency. T. Alexander MacNicholl.

Medical News (N. Y.), June 8.

- 7 *The President's Address, American Medical Association. Charles A. L. Reed.
- 8 *Internal Medicine in the Nineteenth Century. N. S. Davis, Jr.
- 9 *The Value of Clinical Microscopy, Bacteriology and Chemistry in Surgical Practice. John A. Wyeth.
- 10 *The Progress and Tendency of Hygiene and Sanitary Science in the Nineteenth Century. George M. Kober.

American Medicine (Philadelphia), June 8.

- 11 *The President's Address, American Medical Association. Charles A. L. Reed.
- 12 *The Value of Clinical Microscopy, Bacteriology and Chemistry in Surgical Practice. John A. Wyeth.
- 13 *The Progress and Tendency of Hygiene and Sanitary Science in the Nineteenth Century. George M. Kober.
- 14 *Internal Medicine in the Nineteenth Century. N. S. Davis, Jr.

Medical Record (N. Y.), June 8.

- 15 *The President's Address, American Medical Association. Charles A. L. Reed.
- 16 *Internal Medicine in the Nineteenth Century. N. S. Davis, Jr.
- 17 *The Value of Clinical Microscopy, Bacteriology and Chemistry in Surgical Practice. John A. Wyeth.
- 18 *The Progress and Tendency of Hygiene and Sanitary Science in the Nineteenth Century. George M. Kober.

Boston Medical and Surgical Journal, June 6.

- 19 *The Value of Clinical Microscopy, Bacteriology, and Chemistry in Surgical Practice. John A. Wyeth.
- 20 *The Surgical Treatment of Gastric Ulcer, with Report of Cases. F. B. Lund.
- 21 *Idiopathic Abscess of the Kidney. A. T. Cabot.
- 22 *The Effects of Training; Second Paper. Eugene A. Darling.

St. Louis Medical Review, June 1.

- 23 *The Use and Abuse of Anesthetics. Alfred Roulet.
- 24 Application of Bacteriologic Examinations to Clinical Surgery. Hermann B. Gessner.
- 25 Acute Active Cerebral Hyperemia, with Report of Two Cases. A. C. Brown.

June 8.

- 26 *The Value of Clinical Microscopy, Bacteriology and Chemistry in Surgical Practice. John A. Wyeth.

New York Medical Journal, June 8.

- 27 *The Address of the President of the American Medical Association. Charles A. L. Reed.
- 28 *Internal Medicine in the Nineteenth Century. N. S. Davis, Jr.
- 29 *The Value of Clinical Microscopy, Bacteriology and Chemistry in Surgical Practice. John A. Wyeth.

- 30 *The Progress and Tendency of Hygiene and Sanitary Science in the Nineteenth Century. George M. Kober.

Cincinnati Lancet-Clinic, June 8.

- 31 *Diseases of the Gum Borders and Sockets of the Teeth. C. M. Wright.
- 32 The Oppositions to Sanitary Science. Brose S. Horne.
- 33 Atmospheric Causes of Disease. Davis R. Emmons.
- 34 An Outlook. H. H. Spiers.
- 35 Nearly Bloodless Cesarean Section. P. D. Covington.
- 36 Appendicitis. Jacob M. Hall.
- 37 Nasal Surgery. B. Merrill Ricketts.
- 38 Membranous Enteritis. Mark A. Brown.
- 39 Is There an Inherited Tendency to Appendicitis? Wm. H. DeWitt.

Virginia Medical Semi-Monthly (Richmond), May 10.

- 40 Insects as Disseminators of Disease. Ch. Wardell Stiles.
- 41 Scarlet Fever in the District of Columbia. J. E. Walsh.
- 42 Report of Cases: 1. Eczema Squamosum; 2. Ambulatory Typhoid Fever; 3. Lacerated Cervix Uteri, Cervical Endometritis; Prolapsed and Subinvolved Uterus—Operation under Cocain Hypodermically—Remarks on Bright's Disease and Oxaluria; 4. Hemorrhoids Removed with Angiotribe; 5. Recurrent Appendicitis Treated without Knife. Bittle C. Keister.

May 24.

- 43 Empyema of the Frontal and Ethmoidal Sinuses, Complicated with Orbital Abscess. D. Kerfoot Schute.
- 44 Devirgination. N. E. Aronstam.
- 45 Medical Aspects of Cancer of the Breast. William Osler.
- 46 Problem Involved in the Treatment of Eclampsia, with Illustrative Cases. J. Whitridge Williams.
- 47 Sweet Chalybeate Springs, Va. T. M. Baird.

Medical Age (Detroit, Mich.), May 25.

- 48 *The Legal and Medical Aspect of Food Adulteration. H. W. Wiley.
- 49 Importance of Clinical Teaching—Pulmonary Tuberculosis. Louis F. Bishop.

Pennsylvania Medical Journal (Pittsburg), May.

- 50 Medicine: Past and Present. H. D. Hockenberry.
- 51 The Electro-magnet in Eye-Surgery, with Presentation of One, with Demonstrations, and Report of a Number of Cases. Edward B. Heckel.
- 52 Typhoid Fever and Its Treatment by the Woodbridge Method. John M. Bertolet.
- 53 Leukemia. Adelaide M. Underwood.
- 54 Chloroform and Ether—Their Administration. W. A. Marsh.
- 55 A Series of One Hundred Appendicitis Operations Performed During the Last Thirty-one Months. Evan O'Niell Kane.
- 56 The Closing of the Century. R. H. Milnor.
- 57 New Remedies and New Uses of Old Remedies. T. C. Rich.

Medicine (Chicago), June.

- 58 *Some Points of Practical Importance in the Symptoms and Treatment of Acute Pneumonia. Robert H. Babcock.
- 59 *A Description of the Appearances in Five Cases of Diaphragmatic Hernia. C. A. Parker.
- 60 *Neurasthenia. Sanger Brown.
- 61 *The Diagnosis and Variations of Epilepsy as Ordinarily Recognized. Harold N. Moyer.
- 62 Prostitution: Its Suppression or Control. F. R. Sturgis.

Maryland Medical Journal (Baltimore), June.

- 63 A Notice of the Life and Writings of Valescus De Tarenta. Frederick P. Henry.
- 64 An Unusually Large Polypus Presenting in the Pharynx. A. V. Milholland.

Canada Lancet (Toronto), May.

- 65 Filariæ and Filariasis. J. H. Elliot.
- 66 Dysmenorrhea. D. Gilbert Gordon.
- 67 A Case of Multiple Neuritis Succeeding Typhoid Fever with Permanent Paralysis. R. Parsons and Chas. P. Lusk.
- 68 The Prevention of Tuberculosis. J. E. Elliott.
- 69 A Case of Ainhum. H. B. Anderson.

Albany Medical Annals, June.

- 70 *Relation of the Sympathetic Nervous System to Functional Amblyopia. Harry S. Pearce.

Medical Sentinel (Portland, Ore.), May.

- 71 Some Points on the Diagnosis of the More Common Forms of Nasal Obstruction, and Their Radical Relief. E. DeWitt Connell.
- 72 Gunshot Wound of the Lung, Operation, Recovery. H. H. Hanson.

Toledo Medical and Surgical Reporter, June.

- 73 The Relation of the Medical Profession to Education. Wm. D. Stewart.
- 74 The Best Means of Using Opportunities. Campbell Coyne.
- 75 Cathartics. Harrison Hathaway.
- 76 Rupture of the Eye-ball. Charles Lukens.

Annals of Surgery (Philadelphia), June.

- 77 *A Loop Around the Hyoid Bone as an Aid in Narcosis During Certain Operations on the Lower Jaw and in the Mouth, and in After-Treatment. Christian Fenger.
- 78 *Excision of the Intact Gasserian Ganglion. Willard Bartlett.
- 79 *The Pathology of Trigeminal Neuralgia, Illustrated by the Microscopic Examination of Two Gasserian Ganglia. Sidney I. Schwab.
- 80 Osteoplastic Amputation of the Arm: With the Description of a Useful Saw for Osteoplastic Amputations. Willy Meyer.
- 81 Cases of Laceration of the Spleen and of the Kidney Followed by Recovery After the Removal of the Injured Organ. Samuel J. Mixer.
- 82 *The Operative Treatment of Cirrhosis of the Liver. Charles H. Frazier.
- 83 Angina Ludovici. George G. Ross.
- 84 Complications in Fractures Involving the Hip-joint. John E. Owens.
- 85 Fracture of the Pelvis. Thomas M. Paul.
- 86 A New Knot-tightener. Hugo Ehrenfest.
- 87 The Value of the X-ray in Surgery. J. Rudis-Jicinsky.

Therapeutic Gazette (Detroit), May 15.

- 88 Hemorrhagic Malarial Fever—Its Treatment. W. E. Sparkman.
- 89 The Treatment of Malarial Hematuria. T. H. Watkins.
- 90 The Treatment of Malarial Hemoglobinuria. James M. Parrott.
- 91 A Case Illustrating Extraordinary Idiosyncrasy to Quinin. H. A. Hare.
- 92 General Considerations of Treatment of Placenta Previa. Charles P. Noble.
- 93 Gastric Ulcer: Its Etiology, Symptomatology, and Diagnosis, with Special Reference to Treatment. (Concluded.) D. D. Stewart.

Ophthalmic Record (Chicago), May.

- 94 Rupture of the Sphincter of the Iris and V-Shaped Rupture of the Choroid on the Nasal Side from Contusion of the Eyeball. G. E. de Schweinitz.
- 95 *Pterygium Operation, Method by Subconjunctival Anterior-inferior Fixation. John O. McReynolds.
- 96 *The Closed Artificial Eye. J. L. Borsch.
- 97 Successful Removal of Steel from Vitreous. Clark W. Hawley.

Oklahoma Medical Journal (Guthrie), May.

- 98 Chorea. D. W. Griffin.
- 99 Early Diagnosis and Treatment of Cancer of the Cervix. Dr. Thompson.
- 100 Katatonia—Its Symptoms and Characteristics. John W. Dnke.

Canadian Journal of Medicine and Surgery (Toronto), June.

- 101 Vaccination. P. H. Bryce.
- 102 Diphtheria of the Conjunctiva. James MacCallum.

Louisville Monthly Journal of Medicine and Surgery, June.

- 103 The Importance of Studying the Condition of the Heart Muscle in Disease. Hobart Amory Hare.
- 104 Tuberculosis of Bone. J. Garland Sherrill.
- 105 Chronic Empyema of the Maxillary Sinus: Operation and Treatment. J. A. Stucky.
- 106 The Operative Clinic in Abdominal Surgery and Gynecology at the Kentucky University, Medical Department. Louis Frank.

St. Paul Medical Journal, June.

- 107 *The Role of the Infections in Diseases of Women. Charles A. L. Reed.
- 108 A Surgical Clinic. Carcinoma of the Pylorus; Salivary Calculus; Right Oblique Inguinal Hernia; Mastoiditis Following Primary Tubercular Otitis Media. N. Senn.
- 109 Cancer of the Common Bile Duct. Report of a Case of Carcinoma of the Duodenal End of the Common Duct with Successful Excision. William J. Mayo.
- 110 *Some Further Notes on the Extension of the Principle of Bisection in Abdominal Surgery. Howard A. Kelly.
- 111 *A Few Observations upon the Microscopical Pathology of Appendicitis. D. H. Lando.
- 112 Etiology and Treatment of Pyorrhea Alveolaris—Stomatitis Ulcerosa Chronica. F. Forchheimer.
- 113 *A Clinical Study of the Surgery of the Kidney. Archibald MacLaren.
- 114 Cases of Epididymitis Treated with Unguentum Crede. Geo. M. Coon.

Medical Dial (Minneapolis), June 1.

- 115 Rest in Health and Disease. C. K. Bartlett.
- 116 Treatment of Acute Diarrheal Affections. A. J. Black.

Journal of Medicine and Science (Portland, Me.), May.

- 117 The Live Animal in Its Relation to Medicine and Pharmacy. Frank E. Taft.
- 118 The Metric System—Its Advantages and Disadvantages. O. W. Jones.
- 119 *Discussion of Dr. Foster's Nine Questions on Syphilis. G. Frank Lydston.

Colorado Medical Journal (Denver), April.

- 120 Chronic Gonorrhea. Donald Kennedy.
- 121 Papillomata of the Soft Palate, Turning into Sarcomata. Melville Black.
- 122 Neglect of a Great Opportunity for the Advancement of Medicine and Surgery in Denver. Henry Sewall.

Southern California Practitioner (Los Angeles), May.

- 123 Battle Royal Between Science and Superstition—An Historical Study. Fred Baker.
- 124 Nervous Diseases of Children. Elizabeth F. Kearney.

Medical and Surgical Monitor (Indianapolis), May 15.

- 125 Ephraim McDowell. Wm. Lane Lowder.
- 126 *Some Points in Operating for Mastoiditis. George F. Kelper.
- 127 Cerebrospinal Meningitis—Report of Case. A. T. Stewart.
- 128 Drug Helps in Diagnosis. John T. Scott.
- 129 The Old Preparations. N. E. Aronstam.

Medical Mirror (St. Louis), May.

- 130 Scope and Usefulness of the Physician in the Educational World. James Lee.
- 131 Notes from the Other Side. Henry Patch.
- 132 A Front-rank Man of Medicine—A Sturdy Surgeon—A Lovable Man—Professor Chas. A. L. Reed—A Sketch. I. N. Love.

American Medical Compend (Toledo), June.

- 133 Obstipation, Blood, Pus and Mucus in the Rectum. Thomas Charles Martin.
- 134 Treatment of Tubercular Joints. B. Becker.
- 135 Tincture of Iodin in Morning Sickness of Pregnancy. P. H. Stranz.
- 136 An Efficient Local Treatment for Inflammation and Allied Conditions. D. E. Bowman.
- 137 Complicated Fractures. Their Diagnosis and Treatment. Thomas H. Manley.
- 138 The Relation of the Medical Profession to Education. W. D. Stewart.

Laryngoscope (St. Louis), May.

- 139 *A New Technique for the Reduction of Turbinal Hypertrophies. M. A. Goldstein.
- 140 *The Effects of Epidemic Influenza on the Mucous Membranes of the Upper Respiratory Tract. D. Braden Kyle.
- 141 Abscess of the Sphenoidal Sinus Occurring with Acute Mastoiditis. Oscar Dodd.
- 142 Sensory Neurosis of the Nose. H. L. Myers.
- 143 Cornu Cntanem Auris. John C. Lester.
- 144 Therapeutics of Iodoform Emulsion. Victor Urbantschitsch.
- 145 Accidents Attending Adenoid Operations. Christian R. Holmes and H. Stowe Garlick.
- 146 Foreign Body (Tooth) in Larynx of a Man 51 Years Old. Gottlieb Kiaer.
- 147 Tubercular Laryngitis in Child of Three Years. Gottlieb Kiaer.
- 148 A Few Cases of Suppurative Middle Ear Disease, the Complications and Operations. Albert B. McKee.
- 149 Animate Bodies in the Auditory Canal. J. M. Ingersoll.
- 150 Syphilis of the Nose and Throat. Edward D. Capps.

Richmond Journal of Practice, May.

- 151 The Treatment of Tuberculosis. Geo. E. Barksdale.

Kansas City Medical Index-Lancet, June.

- 152 *The Tender Point in Pressure—Paralysis of Peripheral Nerves. Wm. Browning.
- 153 Auto-inocular Cystitis. Samuel C. James.
- 154 The Place of Sentiment in a Professional Life. John R. Brown.
- 155 Locomotor Ataxia in Its Modern Aspect. John Panton.
- 156 Report of a Case of Phlegmon of the Orbit. W. H. Schulz.

New Orleans Medical and Surgical Journal, June.

- 157 Strychnin—Its Clinical Uses. J. M. Barrier.
- 158 The Annual Report of 1901, with an Historical Summary of Educational Progress, to the President of the Tulane University of Louisiana, at the Annual Commencement of the Medical Department, May 1, 1901. Stanford E. Chaille.
- 159 Ptomain Poisoning; Duration of Cases in Children. L. G. LeBenf.
- 160 Dandruff—Its Treatment. J. N. Roussel.
- 161 Scarlatina and Diphtheria—A Case with Bacteriologic Examination—Remarks on Antitoxin. E. M. Dupaquier.

Carolina Medical Journal (Charlotte, N. C.), May.

- 162 *Albuminuria without Manifest Organic Renal Lesions. W. A. Deas.
- 163 Extrauterine Pregnancy, with Report of a Case of Simultaneous Pregnancy in Both Tubes. C. R. Robins.

Columbus Medical Journal, May.

- 164 The Professional Man and Twentieth Century Citizenship. William O. Thompson.
- 165 Pelvic Injuries. R. Harvey Reed.
- 166 The Treatment of Influenza Otitis. John Edwin Brown.
- 167 Wounds of the Eye—Their Sequelæ. C. S. Means.

Southern Practitioner (Nashville, Tenn.), June.

168 *The "X" Fever of the South from a Biologic Standpoint. Hayden A. West.

Peoria Medical Journal, May.

169 The Treatment of Acute Appendicitis. C. U. Collins.

170 Introductory Discussion of Rectal Dilatation in the Practice of Medicine. A. B. Middleton.

171 What of Electricity? O. B. Will.

AMERICAN.

1. **Prostatic Hypertrophy.**—The different methods of treatment of prostatic hypertrophy are noticed by Horwitz in detail. The operations performed are classified and number 11, including vasectomy, castration and the combinations of suprapubic and perineal prostatectomy and Bottini's operation. He thinks that the latter proves in a large majority of cases perfectly satisfactory. Local anesthesia may be used. The operation is comparatively safe if performed early and the patient is confined to his bed but for a few days. It is also applicable to a large number of advanced cases, removing the obstruction; while a double vasectomy will avoid the danger of recurrent attacks of orchitis, dependent upon frequent catheterization. As regards vasectomy as a curative measure he offers the following conclusions: 1. As a curative measure vasectomy is of little value, and is not to be recommended. 2. The operation appears to be most effective when performed on patients between 50 and 60 years of age, in whom the prostatic enlargement is of the soft glandular variety. The genital organs of patients of this age are usually in a healthy condition, and the individuals usually object to any operation that is liable to interfere with their sexual functions. 3. The operation is serviceable in those cases where the physical condition of the individual renders him unfit to undergo surgical procedure, who will not submit to a more serious proceeding, who has to depend upon the frequent use of the catheter, or who suffers from periodical attacks of orchitis. 4. Sexual vigor is not diminished by the division of the vasa deferentia. 5. Atrophy of the testicle does not result from the operation. Suprapubic cystotomy is indicated when retention exists and the usual methods of evacuation are impracticable; also as a palliative means in the "break-down period attending catheter life," where resisting powers have disappeared and secondary involvement of the bladder and kidneys has occurred. More serious operations are precluded by the patient's condition, but immediate relief is demanded by the obstructing prostatic gland. It is also indicated in feeble old persons, where there is a fibrous growth, rendering catheterization difficult and the passage of the Bottini bougie impossible. Where there is long-standing chronic cystitis and probably diseased kidneys, which preclude prostatectomy, suprapubic cystotomy may be selected as the least dangerous and most satisfactory operation.

3. **New Clinometer.**—Duane describes at length a new clinometer for measuring torsional deviations of the eye, delimiting paracentral scotomata and detecting simulation of blindness, together with the method of its employment in these various conditions.

5. **Chorea.**—Eshner notices Gordon's recent article, editorially noticed in THE JOURNAL, p. 1258, and confirms the latter's statement to a certain extent. The phenomena are not elicited in every case. When present they seem to represent an intensification or reinforcement, or in some instances to act as an excitant of the choreic movement.

7.—See THE JOURNAL of June 8, p. 1599.

8.—Ibid., p. 1606.

9.—Ibid., p. 1611.

10.—Ibid., p. 1617.

11.—Ibid., p. 1599.

12.—Ibid., p. 1611.

13.—Ibid., p. 1617.

14.—Ibid., p. 1606.

15.—Ibid., p. 1599.

16.—Ibid., p. 1606.

17.—Ibid., p. 1611.

18.—Ibid., p. 1617.

19.—Ibid., p. 1611.

20. **Gastric Ulcer.**—The following is the summary given by Lund of the indications for the surgical treatment of gastric ulcer, and the conclusions of his paper. He reports a case of perforative ulcer and chronic intractable ulcer and discusses the literature and treatment: 1. That in perforation immediate operation is absolutely indicated. 2. That in cases in which the symptoms fail to yield after medical treatment for a reasonable period, operation, consisting either of excision of the ulcer or gastro-enterostomy, should be performed, and this before the patient has become so exhausted as to render surgical intervention dangerous. 3. In hemorrhage, where slight, frequently repeated bleeding promises to produce grave anemia or exhaustion, similar early operation should be done. 4. Where a patient has suffered more than one copious hemorrhage, operation should be performed, and the extent and nature of the procedure should be decided upon according to the power of the patient to withstand operative manipulations, and the conditions found during the progress of the operation. Only active ulcer and its complications are considered in this paper, and the after-effects such as pyloric contractions, adhesions, etc., are purposely left unconsidered.

21. **Kidney Abscess.**—Abscesses of the kidney, according to Cabot, may be due to injury, to extension or inflammation of contiguous parts, and to an inflammation extending through the pelvis. The parasites producing the disease are streptococcus and staphylococcus, the colon bacillus, pneumococcus and typhoid bacilli. All these undoubtedly circulate in the blood and are eliminated in the kidneys, the latter especially in large quantities. The greater number of cases of this character occurs in the course of general infection, the toxins in the blood depress the circulation, enfeeble nutrition, favor fine clogging of the vessels and infection of local tissues. When the heart is involved the kidneys are still more easily infected. A case is reported in which the disease was due to invasion by the colon bacillus, though the recovery of the patient prevented the discovery of the primary lesion. As regards the diagnosis of pelvic abscess, he says in the presence of chills, high and variable temperature, and delirium, together with local renal symptoms, swollen and sensitive kidney, the diagnosis is not difficult, especially with confirmatory evidence by urinary examination, as is possible in most cases. The only conditions that may be confounded are acute exacerbation of inflammation in a tubercular kidney, acutely inflamed calculous kidney, and highly congested and hydronephrotic kidney due to mobility. In either of the first two conditions there is usually a history of long-standing trouble, though this can not be always relied on. In every case of doubt he thinks it advisable to explore the kidney by incision. If abscess is not found, incision of the capsule will render the intense congestion of the kidney less severe. If there is any question of calculus, opportunity for a thorough search is afforded and for removal, and if the kidney is movable and suffering from congestion or intermittent hydronephrosis, from twisting of the vessels and ureters, it can be fixed. Operation, therefore, is advisable in every case.

22. **Effects of Training.**—Darling has continued the investigation of the effects of training instigated by the Harvard Athletic Committee during the season of 1899 and 1900, and has obtained the assistance of Prof. Atwater and Dr. Benedict of Middletown in studying the dietary. They found the effects of foot-ball similar to those of rowing, but deviations from the normal were not so great, the exertions being more intermittent and intervals of rest occupying a large portion of the time of play. Both sports appear to accustom the heart, kidneys and other organs to the extraordinary demands, so as the season progresses they do their work more easily. An investigation of rowing was made and is of some interest on account of an accident occurring at the time to one of the members of the crew requiring a substitute in his place, and the effects of increased exertion and practice on the crew and on the substitute are given. In the case of the substitute the sudden re-

sponsibility and work affected him more seriously than the others and he was much prostrated with the symptoms of collapse due to overexertion when not in perfect condition. The after-effects of training are also studied upon the rowing squad of 1899, and the author says no ill effects which may be reasonably attributed to training are to be discovered nine months after stopping.

23. **Anesthetics.**—Roulet describes the technique of the precautions to be employed in the use of anesthetics. He is rather an advocate of chloroform, considering that its dangers have been exaggerated, while those of ether have been correspondingly minimized, but he insists on the necessity of the perfectly pure article in either case. As regards subarachnoid cocainization, he considers it much more dangerous than chloroform, its dangers being partially due to the treacherous nature of cocain, the dangers of sepsis and of hemorrhage into the cord from the divided blood vessels. He gives a tabulated statement of some 900 cases, calling attention particularly to some of the embarrassments of the method.

26.—See THE JOURNAL of June 8, p. 1161.

27.—Ibid., p. 1599.

28.—Ibid., 1606.

29.—Ibid., 1611.

30.—Ibid., 1617.

31. **Riggs' Disease.**—The conditions producing Riggs' disease are noticed at length, and the anatomical conditions. Wright holds that it has a relation with morbid conditions in almost every portion of the body and its cause is often a neurosis, but any kind of disordered condition may have to do with its production. Its effects also are multiple and he says he can not point out even the partial and obvious diseases, which may result from neglected pyorrhea alveolaris, but the interdependence of the health of the organs upon one another is too well known to let us permit the whole organism to become undermined by this progressive, chronic, and curable disease. He maintains that the treatment of this disease should be raised to the same plane as the treatment of diseases of the eye, ear, nose and throat and it be considered no longer as a purely dental condition. If this can not be done, we had better fall back on the old method and recommend extraction and plates.

48. **Food Adulteration.**—Wiley first notices the action of arsenic in the recent beer-poisoning epidemic in England. The ostensible purpose of all the pure-food laws is restrictive, and he classifies them as follows: 1. General laws, which do not mention any food by name, but consist of general principles. 2. The discriminating laws, including those which specify certain articles of food. He objects to this as a rule, as not being favorable to fair trade, and believes that the general laws, of which he gives an example, would meet the proper indications best. 3. The prohibitive laws, and of these there are two kinds: Those which prohibit the manufacture and sale of food products which are wholesome and nutritious; and laws which prohibit the manufacture and sale of added deleterious substances. Examples of the first kind are found in a few states, and relate mostly to the manufacture and sale of oleomargarin. Their injustice needs no comment. The second class, aside from the fact that they are discriminating, are advisable, providing the deleterious effect of the contained substance is beyond question. The fact is that there have been very few attempts to determine impartially the character of many of the prohibited articles. The fourth class of legislation is what he calls fiscal, because it lays a tax on food products for the purpose of raising revenue, and is also discriminating. Having thus classified the legislation he passes to the question of adulterants which may be divided into two categories. 1. Innocuous adulterants, including those which are neutral or even nutritious, and 2, noxious or directly or indirectly injurious to health. According to the circumstances many kinds of adulterants may be in one class and another at different times and from the point of view of medical jurisprudence the classification is not important. The principal processes of food adulteration may be classified as follows: 1.

Adulteration secured by the elimination of some valuable constituent. The most common form is the abstracting of cream from milk. 2. The addition of some harmful diluent. Dairy products furnish another example of this practice, illustrated in the joke of the well and the milk-pail. 3. Adulteration by the substitution of a cheaper for a dearer product, as in the case of cotton-seed oil for olive oil, oleomargarin for butter. 4. Adulteration by coloring an inferior product to resemble a superior, which is a very common practice. 5. Food adulteration by the addition of antiseptics, which is the most common of all and found in all perishable articles of food. He mentions the substitution of infant foods for milk, and calls attention to the importance of age as regards the effects of these substitutes. Adults can stand impurities, which may injure infants and he lays down the rule that any form of adulteration which by any final action upon a healthy organism or by any immediate action on a weakened organism produces harmful effects should be prohibited. On the other hand, those adulterants which are indicated on the label and work no deception may be permitted provided they do not, under the above circumstances, produce any injurious effects. Of the adulterants that are not injurious to health he mentions glucose, which if properly prepared is thoroughly wholesome; but if it is manufactured with sulphuric acid containing a trace of arsenic, as in the English poisoning cases, it may be very dangerous. Another harmless adulteration is oleomargarin, and many vegetable oils of this class, such as cotton-seed oil, sunflower oil, and olive oil; this is reprehensible, but not on hygienic grounds. As regards the coloring materials he mentions particularly coal-tar products, which in minimum quantities probably are harmless, but there is a presumption of guilt on those who employ them. These colorings are absolutely indigestible, and by far the most dangerous, however, of the deleterious substances are those added to prevent decay. In all, 67 different samples of antiseptics which are advertised in the market have lately been examined in the Department of Agriculture. Of these 33 contained borax or boric acid; 8 sulphites of sodium, potassium or calcium; 5 contained salicylic acid or its sodium salts; 4 benzoic acid or its sodium salts; 1 was a mixture of boric and salicylic acid; 1 boric acid and ammonium fluorid; 3 formaldehyde; 2 pyroligneous acid; 1 ammonium fluorid; 1 beta-naphthol. One-half of these consist of borax or boric acid, which is the least objectionable of the common preservatives. Indeed, while he goes so far as to say that he does not so much object to boric acid food products, if it is plainly described on the label, the most objectionable of the antiseptics is salicylic acid, the use of which, even in small quantities, should be condemned. There are many others not on the list of those examined; they include notably saccharin and nitrate of potassium. Of these saccharin is objectionable, while nitrate of potash may be permitted in condimental doses. Formaldehyde even in minute doses may be injurious to infants and weakened adults. The use of fluorin should be prohibited, at least until it is demonstrated harmless. These preservatives are sold under trade names, which give no clear idea of their composition and the sale of injurious substances under fanciful names is a crime which should be adequately punished.

58. **Pneumonia.**—The points brought out in this paper by Babcock are: 1. That a pneumococcus pneumonia is not necessarily a lobar pneumonia. 2. That the gravity of the symptoms in many cases does not depend upon or bear any relation to the extent of the pneumonic process, but is the result of the infection. He reports a case which illustrates both of these points. The pneumonia was limited to scattered and small exudates and the patient suffered from paralysis of the vasomotors with consequent capillary paresis and cardiac asthenia. Death occurred in less than three days from the invasion, the temperature being subnormal in the axilla. This last he accounts for by capillary dilatation, causing rapid radiation and cooling of the skin, thus making a deceptive reading of the thermometer. The practical point is the effect of invasion on these nerve centers. He thinks it is advisable in such cases to give diffusible stimulants, frequently administered. Aside from the pure heart stimulants in these cases, he knows of

nothing so efficient as full hypodermic doses of strychnia as a cardiac tonic, in 1/30 or 1/20 of a grain every two hours and even hourly in very urgent cases. He recommends also the administration, both by rectum and subcutaneously, of physiologic salt solution to aid in the elimination of toxins; in cases of cyanosis blood letting is undoubtedly of service at times and will promote the action of the salt infusion. Finally the inhalation of oxygen is also to be recommended and it should be given freely and if need be continuously.

59. Diaphragmatic Hernia.—Five cases of this condition are described by Parker, who concludes that diaphragmatic hernia is of fairly frequent occurrence, the diagnosis being rarely made—in no more than 2 per cent. of the cases. The absence of the sac is the rule, it being present in about 10 per cent. of all cases, and only 1 per cent. of traumatic ones. Although the so-called weakened places predispose to hernia in some traumatic cases, in shot and stab wounds no such causal relation exists. Stab wounds are usually on the left side, being the side naturally opposed to the stroke from the opponent's right hand. The contents are most frequently omental, but may include almost any contents of the abdomen. Complicating intercostal hernia is not infrequent. Although many of the acquired lesions of the diaphragm are incompatible with life, yet gross defects in its structure may occur with little or no disturbance of health. The diagnosis is aided by the presence of local scars or lesions. Skiagraphy may also be of value. The immediate danger is due to the injury of the adjacent viscera; the remote danger is from contraction of the opening and constriction, and is greatest in small wounds. Spontaneous cure may result from contraction of the orifice and atrophy of the contents composed of unimportant structures. Treatment is necessarily surgical and limited, on account of the infrequency of the diagnosis, severity of gross lesions, and the inaccessibility of the parts. In all wounds in the range of the diaphragm the possibility of injury to that muscle should be remembered and all wounds and its structures be closed at once to prevent hernia.

60. Neurasthenia.—Brown coins a new word "neurengen," which he defines as an ultimate form of organic matter contained in the neuron, through whose agency it is convertible into waste products, and the various manifestations of nervous energy. According to this conception, there is in health a current of neurengen constantly flowing into the neurons and being transformed by them. It is at its minimum in repose and its maximum during activity and while there may be wide differences there must be an available neurengen reserve which may be drawn upon as occasion demands. The exciting cause of neurasthenia then may be looked for in those influences which demand an exhaustive expenditure of nervous energy and the lack of balance from demands of this kind. He reviews the symptoms, causes, etc., and points out the distinctive types, the motor as shown in the "stale" athlete, the sensory and the mental neurasthenic, the symptoms as regards the special senses and the vegetative functions. The rest treatment he thinks is adapted to neurasthenia in females, and he gives its advantages and disadvantages. The neurasthenic man should shorten his hours; he should take out-door exercise and diversion, with suitable food; absence of anxiety is necessary. This forms an ideal treatment for many cases, though it is often carried on for too short a time. He says that the physician who thoroughly studies his patient, estimates his capacity and limitations, and by patient persuasion induces him to adhere to a mode of life consistent with the fullest measure of success, comfort and happiness possible to him, earns and sometimes enjoys the grateful appreciation of his patient, but never receives compensation at all commensurate with the value of his services. He concludes that the changes observed in the body of the neuron after administration of arsenic suggest its employment in neurasthenia.

61.—See abstract in THE JOURNAL of May 11, p. 1340.

70. Amblyopia.—Pearse argues for the action of the sympathetic in producing amblyopic conditions, especially hysteric ones, holding that the effect on the circulation of the fundus is mechanical in hysteric blindness. He says our knowl-

edge of the manifold manifestations of hysteria does not permit us to say positively that the retinal elements or the conducting channels of the visual centers themselves are free from the influence of this disease. The effect on the visual apparatus of fright, shock, emotion, mental exhaustion, overexertion, etc., is essentially the same as in hysteria, and whether the sympathetic is involved in these results is as yet a question. In view, however, of the known action of the sympathetic, and many cases observed, which present the same conditions in the vessels of the fundus that are produced by the sympathetic elsewhere in the body, he asks if the sympathetic does not influence the fundus, what does. Until a more plausible source of influence is positively demonstrated, we can not do better than accept this explanation, which is far removed from being a theory.

77. Loop Around the Hyoid Bone.—Having lost a patient after extirpation of one-half of the inferior maxilla, which can only be attributed to asphyxia from sinking back of the tongue, Fenger has since passed a loop of silk or wire around the body of the hyoid during narcosis so that the bone can be pulled forward if necessary and the larynx freed. It is easy to pass the loop of silk through a small longitudinal incision over the middle of the body of the hyoid, around its posterior surface up over the upper border and out through the wound. A small pad of iodoform gauze is placed in the wound and the loop tied over it, the ends being left long enough to permit of manipulation by the operator on the anesthetizer. At the close of the operation the loop is left in place and attached to a plaster-of-Paris cast, loosely covering the dressing at the field of operation, with traction on the hyoid sufficient to prevent sinking back of the larynx and epiglottis and thus keeping the entrance to the larynx open even during sleep. Fenger usually leaves it three or four days until the patient is able to breathe without difficulty with the head and body in any position. He shows by illustrations the *rationale* and efficiency of this procedure.

78. Gasserian Operation.—Bartlett reports two cases of excision of the intact Gasserian ganglion, following Cushing's inferior temporal procedure in preference to the Hartley-Krause operation, which former he thinks is less tedious and somewhat superior, as the middle meningeal is not endangered and primary ligation of the external carotid made needless. Both his patients had violent paroxysms shortly before passing under the anesthesia, but since the operation neither has known one twinge of the neuralgia.

79. Trigeminal Neuralgia.—Schwab gives the findings in two extirpated Gasserian ganglions as illustrating the pathology of trigeminal neuralgia. In both the nerve cells were pathologically altered, but in neither to such a degree as to consider them primarily affected. From these two ganglions it is evident that trigeminal neuralgia is not a definite disease, but merely a symptom of various processes affecting the fifth nerve anywhere in its course. It is probable that no disease of the nerve cells *per se* exists as a parenchymatous affection. With our present knowledge we are justified in making two classes of trigeminal neuralgic affections. The first and most common is the neuritis beginning in the terminal division and tending to ascend. The second is the interstitial inflammation, chronic and progressive, of the ganglion body itself. Of the two specimens studied he places one in each category. A third division is possibly a central neuritis or neuralgia affecting the sensory root on its way to the pons. The operation for removal of the ganglion has a definite standing, for wherever the process is located it must be the final means of relief. The question is: When is it justifiable? In regard to the so-called central neurites he fails to see their bearing on the utility of the operation. The sensory root, if diseased, he says, can only degenerate to the terminal ends of the neurons involved and there the process must stop. The pathologic processes in the brain itself, other than those due to pressure and those affecting the meninges, cause no symptoms of pain, and as the Gasserian ganglions contain the cells of nutrition of the sensory root, their removal is equivalent to placing this portion of the nerve outside the realm of active

symptomatology. What we need is such an improvement of the operative technique as to render the operation comparatively safe and such an improvement in our clinical knowledge that it will be possible to tell what portion of the trigeminus is affected, so that peripheral or ganglion operation can be chosen.

82. Cirrhosis of the Liver.—Frazier reports a case in which Morrison's operation was performed, describes the method, and believes that, though our experience is limited, this operation has a future in properly selected cases, namely, those where the liver is cirrhotic, those where there is reason to believe that liver-cells are not devoid of function, those where internal medication and paracentesis fail to afford relief, and lastly those in which there is no reasonable contra-indication.

95. Pterygium Operation.—The method of transplantation has been far more satisfactory to McReynolds than any method of simple abscission, and after a very thorough trial of the various methods he has adopted the following plan: 1. Grasp completely the neck of the pterygium with a strong, narrow fixation forceps. 2. Pass a Graefe knife through the constriction and as close to the globe as possible, and then with the cutting edge turned toward the cornea shave off every particle of the growth from the cornea. 3. While the pterygium is still held, divide the conjunctiva and sub-conjunctival tissue along its lower margin with a pair of slender straight scissors, commencing at its neck and extending toward the canthus, a distance of one-fourth to one-half of an inch. 4. Still holding the pterygium with the forceps, separate the body of the growth from the sclera with any small non-cutting instrument. 5. Now separate well from the sclera the conjunctiva lying below the oblique incision made with the scissors. 6. Take black silk thread armed at each end with small curved needles and carry both of these needles through the apex of the pterygium from without inwards, and separated from each other by a sufficient amount of growth to secure a firm hold. 7. Then carry these needles downward beneath the loosened conjunctiva lying below the oblique incision made by the scissors. The needles, after passing in parallel directions beneath the loosened lower segment of the conjunctiva until they reach the region of the lower fornix, should then emerge from beneath the conjunctiva at a distance of about one-eighth to one-fourth of an inch from each other. 8. With the forceps lift up the loosened lower segment of conjunctiva and gently exert traction upon the free ends of the threads, and the pterygium will glide beneath the loosened lower segment of the conjunctiva, the threads may then be tied, and the surplus portions of thread cut off, leaving enough to facilitate removal after proper union. It is important that no incision should be made along the upper border of the pterygium, because it would gap and leave a denuded space when downward traction is made upon the pterygium. The elasticity of the conjunctiva is such that when this downward traction is exerted on the head of the pterygium it becomes thinned and smoothly applied to the sclera corresponding to the former site of the body of the growth and the margin of the conjunctiva coincides accurately with the sclero-corneal junction. Thus, when the operation is completed and the speculum removed, the stitches are hidden by the lower lid and the only denuded area is on the cornea. The former site of the body of the pterygium is covered by thin and comparatively non-vascular conjunctiva. What blood vessels remain are directed downward and hence do not tend to encroach again upon the cornea, while the vascular activity is concentrated beneath the lower lid, where it is not only removed from view, but protected, and atrophy surely and naturally follows. The corneal wounds heal quickly and the thin conjunctival tissue becomes closely adherent to the sclera. After a few days the single stitch can be removed and the old pterygium be found firmly adherent to the sclera and hidden beneath the loosened lower segment of the conjunctiva. If the head of the pterygium is very large it may be cut off before the growth is drawn down. The general direction of the traction thread is vertical, but it is usually best to incline them in such a way that they will emerge from that part of the conjunctiva that lies below the cornea. This is often necessary

so as to permit the denuded sclera to be completely covered by smooth conjunctiva and if the conjunctiva should slightly overlap the cornea at any point it can easily be trimmed away without interfering with the desired results.

96. Artificial Eyes.—Borsch describes his experience with artificial eyes and recommends closed hollow ones, which he finds have many advantages, being less irritating, and without sharp edges to cut the tissues.

107. Infections in Diseases of Women.—The following are the conclusions of Reed's article: "1. The epithelial surface of the genital tract, in its integrity, is an efficient barrier against invasion of the underlying structures by pathogenic micro-organisms that establish parasitic and saprophytic relations to the vagina. 2. The normal cervix and its contained secretions are adequate barriers against the invasion of the uterus by pathogenic bacteria that are capable of maintaining a habitat in the vagina. 3. The vagina possesses certain powers of self-disinfection which work only against the organisms that are at once true parasites and facultative aerobes. 4. Certain pathogenic bacteria, notably the gonococcus of Neisser, the Klebs-Loeffler bacillus and the oidium albicans, find in the warmth and moisture of the genital epithelium conditions favorable to their propagation and to the increase of their virulence whereby the epithelium itself may be destroyed, to the extent of losing its protective properties. 5. Pathogenic bacteria innocuously present in the genital tract may become virulent when introduced into the underlying structure through a breach in the protective epithelium. 6. Pathogenic bacteria when introduced into previously normal tissues immediately provoke the process called inflammation, the essential phenomena of which is the speedy deposit and rapid extravascular migration of the leucocytes, which act as phagocytes in preventing the further invasion of the system. 7. Pathogenic bacteria that are thus overcome by the leucocytes may enter either by the lymphatic or the sanguiferous circulation, producing secondary phenomena, septicemia, pyemia, and even the death of the patient."

110. Bisection in Abdominal Surgery.—Kelly's article is elaborately illustrated and methods described. The summary of the latter is given as follows: "1. Vertical section of anterior and posterior walls into cervix or into vaginal vault in pelvic inflammatory diseases and in carcinoma of the cervix. 2. Vertical section in cases of fibroid tumors wedged in the pelvis, or held down by bilateral pelvic inflammatory disease; also in cases of large fibroid tumors filling the lower abdomen. 3. Section of the anterior wall of the uterus followed by division of the posterior wall where the fundus is adherent. 4. Transverse division of the cervix followed by vertical section of the uterus from below upwards in cases of dense adhesions of the fundus and the posterior surface. 5. Bisection of intraligmentary myomata; bisection of intraligamentary cysts; bisection of adherent ovarian cysts."

111. Appendicitis.—The microscopic appearances in cases of appendicitis are described by Lando. They show proliferation in the crypts producing elongated ducts, almost resembling an adenoma; also infiltration between them and of the submucosa and outside a greatly hypertrophied muscle layer, limited to the inner circular layer. He asks the question why the appendix becomes gangrenous or perforated without undergoing distention, while the Fallopian tubes, which are in structure quite similar, are capable of enormous distention, and finds the explanation in the well-developed circular muscular coat in the latter as compared with its poverty in the former. This, however, is only one factor; those of shock, virulence, intoxication, etc., have a bearing on the pathologic condition produced.

113. Kidney Surgery.—After reporting a number of cases of various operations on morbid kidney conditions, MacLaren concludes that: 1. That surgery of the kidney is in its infancy, and that there is a great field for conservative work. 2. That nephrorrhaphy is of questionable utility. 3. That cystoscopy with the Kelly tubes, in women, and with the Preston instrument in men, combined with catheterization of the ureters and the Harris separator, together with the modern Roentgen

photography, are valuable aids to diagnosis in obscure kidney diseases. 4. That exploration of the kidney, loosening it from fatty capsule, bringing it to the surface and bisecting it if necessary, with the exploration of the ureters through the pelvis, is often a justifiable procedure and ought to be more commonly adopted. 5. That stone in the kidney is not so rare a disease as we have generally believed; that if left to itself it sooner or later causes death, or disorganization of the kidney and invalidism. 6. That pyelitis, cysts, tumors or local tuberculosis can be cured by exploration and drainage or by resection of the kidney. 7. That tuberculous or septic disorganization of one kidney demands nephrectomy, which is not a dangerous operation, provided the other kidney is competent.

119. Syphilis.—Lydston discusses the answers in regard to syphilis which appeared in a former number of this journal. He does not believe that as many as 10 per cent. of the population in this country are affected with syphilis in one form or another, though that may be the correct figure in large cities. He makes his estimate from impressions derived from various sources, his practice and that of his confrères, the incidental confessions of others, etc. As regards the diagnosis of syphilis he is conservative where he formerly was positive in these matters. In respect to treatment he thinks that nitrate of silver only aggravates the lesion, excepting in cases of granular sores which requires stimulation. One answer given in regard to the curability of syphilis he thinks is too positive, that is that it naturally tends to a cure. Nature's efforts to cure syphilis are not productive of very satisfactory results. The disease will run its course without treatment, but what a course! The marriage of syphilitics is a very important question, for which it is impossible to lay down rules. Lydston criticizes the opinion of Dr. J. M. Mathews that syphilitics should never marry. He also criticizes him in regard to the opinion as to the transmission to children and doubts whether he has given the subject the study that is its due.

126. Mastoiditis.—The technique of the operation for mastoiditis is described by Keiper, who discards gown and aprons which render the physician over-warm. He thinks it is best to take off all outer clothing, including the white shirt, and put on a sterilized negligé shirt, and over these a sterilized linen suit with canvas slippers and a sterile cap. He emphasizes making a free incision as close to the auricle as possible to expose at once all the surface to be operated upon and be able to give the periosteum the attention it should receive. The trephine he thinks a splendid instrument to begin with. Some have boasted that they pay no attention to the possible injuries of the facial nerve; he thinks they have been lucky rather than wise. Sterilized sponging will do away with the necessity of irrigation, which has its disadvantages, and he believes in making the inspection of the brain cavity and lateral sinus under strict asepsis to be sure of their non-involvement.

139. Turbinal Hypertrophies.—Goldstein objects to turbinotomy or turbinectomy on account of the extensive destruction of the physiologic vital tissues, the discomfort and pain to the patient, the frequency of post-operative hemorrhage, and the possibility of infection. He has devised a special trocar for the cautery operation in this condition as suggested by Pierce. The trocar is armed with an obturator and sliding ring which may be fixed so as to gauge the penetration. After cocaineization and sterilization he locks the obturator in the trocar and adjusts it to any desired depth by the ring, and introduces it into the hypertrophied tissue parallel with the turbinal bone and along its surface as close as possible. Then withdrawing the obturator he uses the probe with a bead of chromic acid fused on its end, also with guard to secure proper penetration, and passes it through the trocar into the tissues, gradually withdrawing them both, so that the entire turbinal area to be cauterized is brought in contact with the chromic acid, and there is an even distribution along the whole route. He concludes the technique with an oily eampho-menthol spray and introduces a cotton tampon sat-

urated with benzoinol into the nares with the hope of producing mild and constant pressure on the hypertrophied mass during healing and cicatrization. There is no hemorrhage, the time is short, the patient suffers little or no pain, there are no untoward after-effects, no destruction of physiologically vital tissue, and no formation of synechia, as all inflammatory exudate is submucous.

140. Influenzal Effects on the Upper Respiratory Tract.—Kyle describes briefly the various conditions following influenza in the upper respiratory tract. The virus has a peculiar faculty of getting into all sorts of localities. He has seen both middle ears involved, and both mastoids in a short time, and the frontal sinus becomes involved early in the disease and reaches its greatest degree of disturbance during the height of the disease. The ethmoidal cells are involved early or during the attack, and the disease frequently continues as a suppurative ethmoiditis distinguished by its virulent infectious character. Tonsillar and peritonsillar involvement is quite common. The mucous membranes are affected in various ways; blood clots form on the surface, yet there may be no distinct hemorrhage. There is often a thickening of the membrane afterwards, not an edematous swelling, but a tough and infiltrated condition. A curious fact is that local treatment with nitrate of silver, iodine, chlorid of zinc, etc., aggravates and makes worse the inflamed area, while sedative oily solutions seem to relieve. Where there is need to use a germicide, he prefers the Loeffler solution. He believes that there is a marked alteration in the local constituents of the blood; the exudate from vessels in this disorder is a highly coagulable albuminous material infiltrating the tissues, obstructing secretion and causing interference in function as well as nutrition.

152. Tender Point in Pressure-Paralysis.—Browning states that in a former article he called attention to this tender point, but the feature was not perhaps sufficiently emphasized to gain recognition. He has since verified his observation and can more thoroughly estimate its value. The tender spot can be demonstrated in most cases during a considerable period in the course of nerve injuries, and it consists of a circumscribed point to be made out where the harmful pressure has been exerted. If the path of the musculospiral nerve around the back of the upper arm, early in a pressure case of the common radial type, be closely palpated, a very definite tender spot can generally be discovered. It is not excessively sensitive, but can be detected by running up and down over the course of the nerve with the finger tips, pressing firmly. Sometimes the patient can find it best. The time in which it develops is uncertain; in some cases it appears early, and it may not be found even after a long period of time in others. The practical and theoretical importance is considerable. It indicates that there are pathologic changes at the point of injury and leaves the presumption that there is a limited congestion or effusion at the affected spot and probably slight alteration in nerve structure, sufficient to interrupt conduction, without as a rule causing any degeneration. It is useful also in the diagnosis in determining the character of the case. Any slight inflammation in or about the nerve with a sort of focal neuritis, if left undisturbed, tends to prolong the paralysis and is an indication for local treatment. By applying counter-irritants or local derivation directly over the tender spot we attack the cause of the trouble and materially hasten the cure. Of course, this local treatment should be supplemented by other measures.

162. Albuminuria.—Dean finds from his statistics that there is a functional albuminuria occurring with more or less frequency and persistency. The cases have been traced to various causes, such as dietetic, neurotic, and oxaluric conditions. Under whatever form they occur there is reason to believe that vascular changes in the kidneys exist, that there is a true local congestion which may lead to more serious trouble if persistent. There is no reason, he thinks, for believing in a true physiologic albuminuria.

168. "X" Fever of the South.—This disorder, which has been previously noticed, is described by West. It seems to

bear close resemblance to typhoid in some respects. It is ushered in by not more than three days of fever, the temperature rising suddenly and remaining between 103 and 104 F. for from two to eight weeks. The bowels are generally constipated, though in three cases there was diarrhea and tympanites. The nervous symptoms are conspicuously absent. The object of his study was to determine the presence or absence of three things: 1. The hematozoon of malaria. 2. The bacillus of typhoid. 3. The presence or absence of any other infectious organism. A bedside study of wet blood films was usually made each day; in two cases this was made only three times a week. The Widal serum test was employed and attempts were made at isolation from the feces and urine. Culture experiments were also made. The results obtained were: 1. The hematozoon of malaria was never found in any of its forms. 2. The Widal reaction was not positive at any period during the course of the fever. 3. Typhoid bacilli were never isolated from stools or urine. 4. No growth resulted from inoculations made from the patient's blood. In conclusion, he says that the etiologic factor concerned in typhoid and malarial fever is not present in this fever, and it remains for more refined technique and further research to bring out the cause of X fever. In the discussion which followed some of the speakers seemed to think that this disorder was associated with malarial fever, though not malaria itself, and hence maintained that it is a disease *sui generis*.

FOREIGN.

British Medical Journal, June 1.

The Pathogenesis of Tabes and Allied Conditions in the Cord. CHALMERS WATSON.—The author criticizes the more generally accepted view in regard to the pathogenesis of tabes, viz., that it is a disease primarily of the nerve cells. He holds that tabes is not a nervous disease in the sense usually apprehended and the lesions in and around the vessels are of primary importance, the lesions of the neurons being determined by the local interference with the blood supply. (This does not include the conditions of varying vitality of the neurons as an important factor in disease.) Further, there is, he thinks, grounds for the belief that the condition is dependent upon chronic intoxication, the vascular lesion being to some extent general, but tending to be more advanced locally, and that the more advanced local changes demonstrate the failure of nutrition in the adjacent nerve elements. If these views are correct the disease ought to be curable in its early stages. He deprecates the tendency to differentiate tabes sharply from other diseases of the cord. We should rather investigate the nature of different toxins and the conditions which have brought about the variation in the result of their action. The arguments in favor of his views are drawn from the facts of comparative pathology, from histologic appearances of the cord in early tabes, from the fact that we have no occurrence of the disease where the vascular origin can be definitely excluded, and from what he considers clinical evidences in its favor. He believes that the vascular theory would explain the anomalous cases, the relation of the onset of the disease to traumatism, exposure, etc., and would account for the transient paralyses and the association of paresis, muscular atrophy, etc., which point to involvement of portions of the cord having no direct continuity with the part most affected. The epileptic attacks that occur in the disease, and the mental symptoms, also, are, in his opinion, supporters of this view. As regards the syphilitic origin of tabes, he considers it a mere *non sequitur* from the fact that syphilitic history can be traced in a large number of tabetic subjects. He can only say he believes that syphilis alters the physiologic condition in such a way as to favor the attack and the operation of the actual causes of tabes and allied conditions.

The Lancet, June 1.

Acroparesthesia, Erythromelalgia, Sclerodactylia, and other Angioneurotic Disturbances. THOMAS D. SAVILL.—After reporting a number of cases of acroparesthesias and allied conditions, Savill discusses their causation, classification, and the relation they bear to Raynaud's disease. As regards the etiology of acroparesthesia, out of 35 cases recently ob-

served, 29, or 82.8 per cent., were females. Excluding 2 children, the average age was 32.4 years. In 10 patients these conditions were secondary to other maladies, such as neurasthenia, hysteria, Graves's disease, acromegaly and general paralysis, but the rest applied for relief of the acroparesthetic conditions directly. "Acroparesthesia, erythromelalgia, and the other many and varied vasomotor symptoms have certain features in common. 1. They are much more frequently met with in the female sex, the proportion, I find, usually being much higher than that above mentioned. I imagine that something like 90 per cent. of these cases occur in female patients. 2. Vasomotor conditions appear to be due to some inherent and very often inherited tendency in the patient, for they recur again and again in one form or another during the life of an individual. Thus, a patient may have migraine at one time, severe flushings at another, and syncopal attacks at another, though I have generally found that there is a tendency to a recurrence of the same disorder. There are, moreover, two epochs of life which are specially prone to their development—namely, puberty and the climacteric. 3. The onset of the symptoms, whatever they may be, is always more or less sudden. 4. They are in all cases paroxysmal—i. e., they occur in the form of attacks. There is a sudden rise, when the symptoms soon reach their acme, followed by a gradual descent. In severe cases the attacks may be so frequent as to resemble a continuous malady, but close observation will detect that there are well-marked exacerbations. 5. In the great majority of the patients flushes or flush-storms occur from time to time during the patient's life; should these be absent there are generally other evidences of vasomotor instability. 6. A great many of them—particularly of the vasodilator kind—are amenable to treatment by bromids, which relieve them at any rate for a time. These six features are very instructive, and many of them may be explained by the study of the physiology of involuntary muscular fiber." He makes the following clinical classification: Cases due to vasodilation are, 1, early stage (chronic); attacks of redness, tingling, burning, etc.; 2, late stage: symptoms attended by swelling which gradually becomes permanent (erythromelalgia); 3, if the process takes an acute course the symptoms go to gangrene, usually moist gangrene (Raynaud's disease—congestive or asphyxial type). Cases due to vasoconstriction are, 1, early stage (chronic); ischemia, attended by numbness, tingling, "pins and needles," "dead fingers," etc. (ischemic acroparesthesia); 2, late stage, sclerosis of skin and subcutaneous tissue; 3, if process takes an acute course dry gangrene probably results (Raynaud's disease—syncopal type). It will be seen that these varieties correspond to the different varieties and phases of Raynaud's disease, which begins in one or other of the above ways and may go on to gangrene. These cases are also probably related to the condition described by Dr. Henri Meige and others under the name of "chronic hereditary atrophiedema. He remarks that the attacks of perspiration sometimes met with in the extremities, probably come under the same category, but are not included in the above classification, because although the derangement is probably situated in the sympathetic nerves and the sweating is generally attended by flushing, we are not sure that it is not controlled by separate nerves. The idea of his paper is to show the relation as it appears to him, of these conditions to each other and to Raynaud's disease. We know comparatively little of the sympathetic nervous system. Laboratory experiments have not thrown much light on the subject; therefore, he believes the first step is to get a clear notion of clinical phenomena and their relation to each other.

Arterial Hypertonus and Arteriosclerosis: Their Relations and Significance. WILLIAM RUSSELL.—The author calls attention to the application of the term "arteriosclerosis" and criticizes the signification given to it of recent date through German influence. He reports a number of personal observations and sums up the views of other authorities, showing that the term is applied to three diseases: 1, to atheroma; 2, to a generalized endarteritis; and 3, to a thickening of the intima compensatory to dilatation of vessels from weakening of their middle coat. The results which he arrives at through

his own studies are: 1. Atheroma and arteriosclerosis are two totally distinct clinical and pathological entities. 2. Atheroma is a localized and patchy affection of the arteries characterized by degenerative changes which have long been recognized. 3. Arteriosclerosis is a generalized affection of the arteries and is characterized by (a) thickening of the tunica media, this thickening being primarily a true hypertrophy, although it may ultimately show some degeneration; (b) thickening of the tunica intima from fibrous hyperplasia of the subendothelial connective tissue without atheromatous degeneration; and (c) in some instances fibrous thickening of the tunica adventitia. 4. The changes in the arteries in the kidneys differ from those in the radial, or even in the renal arteries themselves before they enter the kidneys. They differ in the following respects: in the kidney the thickening of the intima is proportionally greater, the media is not appreciably thickened, it may even be atrophied and may have undergone hyaline degeneration. (The atrophic changes in the kidneys are in proportion to the sclerotic changes in the vessels.) 5. The lumen of the radial arteries and of the arteries in the kidneys is markedly diminished. 6. The changes in the nutrient arteries of the brain, and probably of the cord, correspond with those in the arteries inside the kidneys. 7. Arteriosclerosis may be associated with more or less atheroma in the same subject. His cases contradict Thoma's view that thickening of the intima is compensatory to weakening and yielding of the media. Much of the confusion has arisen, he thinks, from failure to separate the points of similarity and dissimilarity in the changes that take place in the arteries inside and outside the kidney. Inside the kidney changes are most marked in the intima, outside in the media. In both the intima is thickened. Inside the kidney the media may disappear and often atrophies; outside this never occurs. He analyzes also certain features of the pulse and contraction of the vessel wall which is not usually recognized excepting in a few distinct morbid conditions, such as angina pectoris and some renal troubles. He therefore uses the term hypertonus as indicating the condition which he believes exists. A number of cases are reported and illustrated by sphygmographic tracings, illustrating this fact. The condition occurs at all ages. In strong persons it is associated with and a part of heightened blood-pressure and high-tension pulse. In aged people with failing heart it does not lead to increase in the blood-pressure, but the reverse, and is not infrequently the precursor of heart failure. In all ages it is produced in the great majority of cases by poisons introduced from without or by auto-intoxication. It may even be caused by syphilis and probably occurs in all diseases where there is absorption of toxins. Hypertonus is connected, in his opinion, with arteriosclerosis, in that the recurring or continuing hypertonus leads to hypertrophy of the muscle media of the arteries under the physiologic law of hypertrophy from increased action. The thickened intima in the arteries is explained by the circulation in the blood of deleterious substances of various kinds acting on the subendothelial connective tissue.

The Bacteriology of Sporadic Cerebrospinal Meningitis. WILLIAM HUNTER and ALEXANDER W. NUTHALL.—In this paper are described the bacteriologic findings in a number of cases of meningitis. In all the cases the diplococci had been isolated from the cerebrospinal fluid. In nine the fluid was obtained by lumbar puncture during life. This diplococcus has the same morphologic and biologic characteristics as Weichselbaum's diplococcus intracellularis meningitidis. In some it occurred in the pure culture, in others it was associated with other microbes, such as influenzal and tuberculous bacilli. The clinical picture and pathologic changes in these cases are those met with in so-called "posterior basal meningitis," which in all probability is simply a sporadic manifestation of cerebrospinal meningitis and produced by the same micro-organism. The cases reported number ten, and their bacteriologic findings in culture experiments are given in detail.

Bulletin de la Soc. des Hop. de Paris, May 23.

The Pupil Reflex in Syphilis. G. BABINSKI and CHARPENTIER.—These writers announced two years ago that the

absence of the pupil reflex to light, if permanent and unaccompanied by any changes in the eyeball or optic nerve, or paralysis of the third pair, is almost pathognomonic of hereditary or acquired syphilis. Further experience has convinced them that the absence of the pupil reflex under these circumstances may be the only sign of an organic affection of the nervous system, and that patients thus affected are liable to be attacked by tabes, general paralysis or confirmed cerebrospinal syphilis. This sign, therefore, may be of great importance as it enables specific treatment to be instituted in the incipient stage.

Gazette Med. de Paris, May 25.

Contraction of the Pylorus in Gastric Pathology. M. BAUDOUIN.—Commenting on the case reported by Lépine (See THE JOURNAL of June 8, p. 1668), in which the pylorus by its contraction had served as a protecting sphincter against the escape of arsenic in the stomach and consequent intoxication, Baudouin states that he has had a somewhat similar experience, quite frequently during the last ten years, during attacks of neurasthenic migraine. He notes a sensation of constriction at the point corresponding to the pylorus. This continues during the vomiting but vanishes as the vomiting brings a little bile. He always rejoices when he sees the bile as it is evidence that his attack of migraine is terminated. The bile can not flow into the stomach unless the pylorus is open.

Presse Medicale (Paris), May 8.

Temporal Periostitis of Otitic Origin. H. LUC.—Four patients have been treated by Luc for a periostitis involving the temporal bone. The inflammatory tumefaction was restricted to this bone and the rear upper wall of the auditory canal, while the mastoid region proper was not involved at all in the process, which may or may not terminate in suppuration. He finds that this temporal periostitis, unaccompanied by intra-osseous suppuration, usually occurs in the course of a mild infection of the tympanum characterized by an exudate which does not always result in the perforation of the membrane and is frequently to be discovered only by auscultation. The pain is moderate but the fever may be slight or intense. The external manifestations are an edematous tumefaction over the temporal region, and, in case of suppuration, a swelling of the upper wall of the auditory canal where the pus collects at the lowest portion of the temporal fossa. A long, thin bistoury easily opens the abscess at this point, incising from without inward, the entire accessible length of the upper wall of the canal, passing through all the soft parts down to the bone. Pressure on the temporal region will evacuate the collected fluids through this incision, and a small drain should be introduced and left for two days.

May 15.

The Flora of the Human Body and the Evils of the Large Intestine. E. METCHNIKOFF.—This lecture, delivered at Manchester, states that the human body shelters from sixty to seventy different kinds of microbes. There are less on the skin than elsewhere; about thirty are found in the mouth where their secretions attract the leucocytes and are thus beneficial; about thirty in the stomach, fourteen in the small intestine and forty-five in the rest of the intestines. The microbes in the gastro-intestinal canal do not seem to influence digestion, but certain species evidently prevent the development of others. The cholera vibrio, for instance, kills a nursing rabbit, while it is completely harmless for the adult rabbit, after its intestines are tenanted by microbes. Most of the products secreted by the microbes inhabiting the large intestine are poisonous for the human organism, and the auto-intoxication may assume all forms. Even a chronic inflammation of the large arteries has been noticed in calves as the result of intestinal auto-intoxication. During our entire existence we have to submit to the noxious action of the poisons secreted by our intestinal flora. Attempts to sterilize the intestines have proved futile. The best means of getting rid of the microbial flora in the intestines would be to follow the example of the birds, and evacuate the contents of the intestines the moment that digestion is finished. Recent experiences have shown that persons can survive in good health after the removal of a considerable portion of the alimentary canal—four individuals

are now alive whose stomachs have been removed. Ciechomski, of Warsaw, has reported the case of a woman of 50 who had carried a spontaneous abdominal fistula for more than three years without interfering with her occupations or child-bearing. The entire large intestine was found completely atrophied. Comparative anatomy shows that the vertebrates with the smallest amount of large intestine are the longest-lived. Parrots and ravens live for 60 to 100 years, while the horse, with its exceptionally developed large intestine, lives but 20. Ostriches and cassowaries live only for 23 to 35 years, and these are the only large birds with a large intestine. Man is not immunized against his microbial flora, and natural selection has failed to liberate him from his large intestine, which is an absolutely harmful and dangerous organ, not merely from the poisonous products of its microbial tenants, but also because it is the seat of many fatal lesions. Most of the poisons which intoxicate, which gradually enfeeble us and render us old before our time, originate in the large intestine. If it is still impossible to attack the evil at its root by having the surgeon remove the large intestine, there is yet a possibility of relief by means of microbicidal and antitoxic serums and by reinforcing the noble elements of our organs. The cytotoxins which Metchnikoff and his pupils have produced, which in large doses destroy red corpuscles, spermatozooids, kidney and liver cells, etc., injected in small doses, have an opposite effect, stimulating instead of destroying the functions of the elements in question.

May 18.

Lateral and End-to-end Suture of Veins. G. CLERMONT.—After the successful suture of the internal jugular vein during the extirpation of a cervical adenitis, Clermont tested various kinds of sutures on rabbits and dogs to determine the best technique. He concludes that large veins alone can be sutured to advantage, although he succeeded in suturing a vein 4 mm. in diameter on a rabbit. On man he would never attempt it on a vein smaller than the external jugular. No. 00 silk is preferable to catgut or any absorbable material, but linen thread is as good as silk. The best method of suture is that which entails the least contraction of the vessel. The blood that accumulates in the stitch holes coagulates at once and closes them tight. An over-and-over-suture is perhaps best for a lateral closure but for end-to-end approximation he found the ideal method the "suture rabattue," or fell suture. The inner edges of the wound are brought together and the needle is passed through the base of fold formed by the two margins and back again in opposite direction. The outer margins are then brought together above and sutured with the same thread, the ends tied together finally outside. This method is ideal as there is no projection into the lumen of the vein and normal permeability is retained. The aseptic suture of a deep-lying vein was not followed by thrombosis in any of his experiments. Tikhoff reports that microscopic examination of the wound in the vein in dogs, one to thirty-three days after suturing, showed that a parietal thrombus formed over the line of suture inside the vessel, while the blood circulated freely over it. Small round cells then developed between the severed tissues and the thrombus, and the line of suture is thus isolated by this layer of cells and the thrombus from the interior of the vein. By the end of fifteen days this isolation of the suture had continued until it seemed to be pushed out into the perivenous cellular tissue by the proliferation within. The endothelial cells gradually extended over the thrombus and closed it in completely. It serves at first as a temporary protection over the suture and finally becomes an integral part of it, until it is absorbed, and the cicatrix at last becomes a narrow band of cicatricial connective tissue. Lateral ligature is so frequently followed by secondary hemorrhage that it should be definitely rejected.

Orthoform Eruptions. W. DUBREUILH.—Occasionally the use of orthoform causes an erythematous eruption, local or generalized, complicated with vesicles or pustules in most cases. Rarely the eruption has a gangrenous character. Asam has described nine cases in which orthoform dressings of wounds or of varicose ulcers caused a gangrenous ulceration, the aspect resembling that of an ulcerated lupus after treatment with pyrogallie acid. In exceptional cases the gangrene was deep, with

thick, fetid, black eschars. The gangrene appeared after a few days, accompanied by intense pains, aggravated by renewed applications of the orthoform. Dubreuilh reports two cases of gangrene, but the intense pain in these instances could be relieved only by renewed application of the orthoform, which thus kept up a *circulus vitiosus*. In the first observation, the gangrene was diagnosed as a trophoneurotic lesion. The patient was a woman of 38 who had suffered from a fetid diarrhea followed by a violent anal pruritus. Orthoform was applied to the region of the anus, and it was not long before the pruritus was replaced by violent burning pains and gangrenous ulcerations, horribly painful and relieved solely by repeated applications of orthoform. The patient finally recovered. His second patient was a woman of 30 with a history of a pustulous eruption in childhood and a recent eruption of white pustules on the hands followed by almost necrotic erosions, extremely painful spontaneously at times, but not tender. A salve containing 10 per cent. orthoform was applied and a few days later a diffuse and intense dermatitis appeared on the hands and arms. An application of dermatol and salol caused such intense pain that orthoform had to be applied again. This relieved the pain at once and for several hours. The dermatitis gradually passed away, but the gangrenous erosions multiplied and became aggravated, accompanied by intense spontaneous pains. The similarity between these erosions and the anal ulcerations in his first case, suggested that the orthoform might be the cause, and the lesions gradually healed after its suspension. Morphine was required several times during the first days of the suspension as the pains were unbearable, but in eighteen days all the lesions were cicatrized, and the pains had disappeared.

Revue Hebdomadaire de Laryngologie (Bordeaux), May 18.

Nasal Hydrorrhea. J. MOLINIÉ.—Nasal hydrorrhea is not a morbid entity, but is always a secondary phenomenon. In some cases the discharge comes from the brain and in others from a sinus, owing to a growth or accumulation of fluid therein. In other cases the nasal mucosa is the source of the discharge. Molinié classifies all the varieties of aqueous secretion from the pituitary as: 1, spasmodic rhinitis, in which he includes hay fever; 2, hydrorrheic rhinitis, in which a quart of fluid may be discharged during the twenty-four hours. This variety usually accompanies the arthritic, nervous, malarial or hepatic predisposition. It is aperiodical and the only circumstances which seem to have an influence on its production are emotions and cold. Treatment should be local and addressed also to the underlying predisposition. The third variety is the reflex rhinitis, due usually to intranasal irritation or cold as the principal extranasal factor. In ectopic rhinohydrorrhea the flow may proceed from the skull either spontaneously or after a traumatism. Huguenin has reported four cases of hydrocephalus cured by the spontaneous evacuation of cerebrospinal fluid by the nose. This craniohydrorrhea may persist indefinitely. One case is on record in which it lasted nine years. Recovery is exceptional; 50 per cent. of the patients have died, usually from tuberculosis or a cerebral complication. Traumatism was noted in the antecedents of three cases. The average age was between 15 and 30. No solution of continuity was discovered at the autopsy in most cases, and the fluid must have found its way through the perineural sheaths or the holes in the cribiform plate or the lymphatic passages which terminate in the nasal mucosa, but which normally are impermeable. The treatment must be addressed solely to the primary cause of the hydrorrhea. In sinusohydrorrhea the fluid flows drop by drop until the sinusitis is cured. In Berg's case the sphenoidal sinus was the seat of the hydrorrhea and the other symptoms were constant headache, exophthalmia and atrophy of the papilla. The fluid is not usually perfectly clear in these cases which are always due to some polycystic degeneration, or dropsy. The differentiation between hydrorrhea from the skull or from a sinus may require puncture of the sinuses. He distinguishes still another group which he calls aberrant rhinohydrorrhea, of medicinal origin, and concludes by citing several puzzling cases which do not seem to belong in any of the groups above described. One patient had a constant hydrorrhea for two years, which ceased during

an attack of typhoid fever. Ekkert's patient has suffered from constant hydrorrhea for more than two years, rebellious to all treatment and remarkable on account of an elevation of temperature every morning, accompanied by chills, sweats and aggravation of a cough. The nose, blood and urine seem entirely normal.

Semaine Medicale (Paris), May 22.

League Against Syphilis. A FOURNIER.—A society has been formed at Paris for "Sanitary and Moral Prophylaxis," composed of physicians, business men, officials and others, the aim being an actual campaign against syphilis. The progress of science has shown that syphilis is more serious and more dangerous than ever imagined until recently. Fournier is convinced that the number of syphilitics is increasing and estimates that the proportion to the male population of Paris is from 13 to 18 per cent. There is no other disease whose domain has grown so rapidly by annexations. This can be seen by comparison of the text books during the last fifty or even ten years. Even as late as ten years ago tardy hereditary syphilis was still unsuspected, and parasyphilis has been added to the black record still more recently. By parasyphilis he refers to tabes, general paralysis and buccal leucoplasmia, with its frequent sequel, cancer of the tongue. These incurable affections prey by preference on syphilitics, and by their gravity and frequency and their resistance to antisiphilitic treatment, have rendered the prognosis of syphilis very different from the general acceptance of twenty years ago. The prognosis is at least tenfold more serious than in the days of our fathers. Many practitioners now forbid marriage under four to six years of treatment. The new society aims to have a large representative membership from all classes and to utilize all measures in the campaign against syphilis and its great procurers, prostitution; education of the public in the dangers of venereal diseases, official regulation, medical prophylaxis by public evening dispensaries with private consultations and circulars of instruction and warning, besides measures of a religious and moral order. He endorses the value of official regulation of prostitution, imperfect as it is, mentioning that 25 to 48 per cent. of the clandestine, that is, unregistered prostitutes of Paris are syphilitics, and that 873 in the contagious stage were arrested during 1897 for street solicitation, and sent to the hospitals for treatment. The innocent wives and children are protected somewhat by this official regulation, but even at its best fully 48 per cent. of the children in private practice are slain by syphilis and nearly 86 per cent. in the special hospitals. Among the measures which the League is advocating is training girls to some trade, the closing of saloons with private rooms, opening the liberal careers more freely to women, warning young girls of the dangers that threaten them, fixing "paternal responsibility" and legal penalties for damages from venereal contamination. In regard to warning young men, he quotes with approval: "the fear of syphilis is the beginning of wisdom." The public should be warned of the dangers of extragenital contagion. He has three patients who infected their mothers by a filial embrace. In one case he found the children's nurse developing a typical chancre on the lip unnoticed by the family.

Centralblatt f. Chirurgie (Leipsic), May 18.

Magnesium for Absorbable Surgical Appliances. E. PAYR.—The advantages of an absorbable material for buttons for entero-anastomosis and interposed plates to prevent the development of ankylosis in operations on joints, are generally recognized, and magnesium is proving all and more than Payr hoped for in his first communications on the superiority of this material for appliances in surgical technique. There have been no inconveniences from its use. He has found delicate, magnesium hollow cylinders extremely useful and satisfactory for the primary or secondary suturing of nerves and vessels. Narrow strips of magnesium laced together with catgut are a safe and reliable means of arresting hemorrhage in parenchymatous organs. Pegs made of magnesium are also very useful to hold rebellious fractures and in pseudarthrosis. Previous communications on magnesium for surgical appliances have been noticed in THE JOURNAL, xxxvi, 1901, pp. 294, 1357, etc.

June 1.

Improved Turpentine-Ether Narcosis. E. BECKER.—The familiar properties of the volatile ethereal oils in inhibiting mucous secretion, are utilized by Becker to diminish the secretions during ether narcosis. He finds that oleum pini pumilionis is the best adapted for the purpose. It closely resembles oil of turpentine but has an agreeable, aromatic odor which masks that of the ether. He adds twenty drops—about 1 gm.—to 200 gm. of ether. It dissolves readily and he administers the mixture the same as the ether alone. He has been much gratified with this improved method of narcosis in his experience with about 500 patients and considers it a distinct advance.

Deutsche Med. Wochenschrift (Berlin and Leipsic), May 23.

Treatment of the Uric Acid Diathesis. DETERMEYER and BUETTNER.—Clinical tests on several patients at Salzbrunn i. Schl. showed that the waters of the alkaline spring, Oberbrunn, had besides the diuretic effect and the general dilution of the corporeal juices, a specific action on the urine, conferring upon it the power to dissolve uric acid and the urates in vitro and in vivo. The urine at first contains an enormous amount of uric acid after these waters have been used for a time. This can be explained only by the assumption that the uric acid throughout the organism, in the tissues or in the deposits of urates, is dissolved out by the action of the waters. After this has proceeded for a time, the general production of uric acid is diminished, the excess has been dissolved and eliminated and consequently the amount in the urine becomes and remains very small. In taking these or any alkaline waters the amount should not be sufficient to abolish the acid reaction, on account of the danger of precipitating the phosphates, and the formation of phosphatic calculi. Close supervision is therefore kept over the urine of patients taking the Oberbrunn waters. A comparatively small amount is found most effectual.

May 30.

Tendon Transplantation for Contraction of the Knee. L. HUESNER.—In three severe cases of recurring contraction of the knee after various affections of the joint, the tendency to contraction was permanently cured by transplanting the tendon of the semitendinosus or gracilis muscles. The incision should be very long in order to amply isolate the tendons and muscles involved. Then a small median incision upward from the patella enables the flexor tendons inside and outside of the aponeurosis of the quadriceps, to be slit and sutured in place.

Cerebral Hemorrhage with Verrucose Endocarditis. M. SIMMONDS.—The post-mortem examination of two children showed that the cause of death had been cerebral hemorrhage from a ruptured aneurysm in the course of a verrucose endocarditis. The same cocci were derived from the thrombosed vessels that had been isolated from the verrucose endocarditic vegetations, a staphylococcus. Material containing bacteria had evidently been transported from the heart-valve to the smaller cerebral vessels, and had there occasioned the destruction of the vessel wall and the formation of an aneurysm. The connection between the endocarditis and the cerebral hemorrhage was evident. In two cases in young women death had occurred in consequence of the rupture of an aneurysm in the right sylvian artery in one patient. The remainder of the vascular system and the kidneys were intact and other conditions were normal, except that recent and old verrucose vegetations were discovered on the mitral valve. In the other patient no less than four aneurysms were found at the base of the brain, and the hemorrhage had evidently proceeded from a fifth. Verrucose lesions, recent and old, were found on both the aortic and mitral valves. No bacilli could be discovered in either case. In three others a cerebral hemorrhage was the cause of death, but no aneurysm could be found. There was a history of chronic, recurring verrucose endocarditis in each case and preceding articular rheumatism in one. A mere coincidence between the verrucose affection and the cerebral hemorrhage is, of course, possible, but Simmonds believes that all

the seven cases described indicate that there is a close connection between the bacterial verrucose endocarditis and the consecutive cerebral lesion, in the absence of alcoholic or syphilitic antecedents, and with the rest of the vascular system and the kidneys intact.

Muenchener Med. Wochenschrift, May 14.

Mixed Ether and Chloroform Narcosis. H. BRAUN.—For several years Braun has been using an apparatus for the administration of ether and chloroform which allows the combination of the two at will. A metal case contains two bottles which project above through the cover, the larger holding ether and the other, chloroform. A shallow flat box fits hermetically over the tops of the bottles. It has a stopcock in each side near the center, and rubber tubes emerge above and below. The upper tube terminates in a rubber bulb. The second tube passes into the anesthesia mask. When both stopcocks are open the ether and chloroform pass into the mask together in the proportion of 4 to 1. A leather strap suspends the entire apparatus from the neck of the anesthetizer. After the mask is applied, the bulb is compressed at each inspiration of the patient. When the limit of tolerance has been reached the chloroform is shut off and the narcosis continued with ether alone. Slight pressure on the bulb is sufficient to keep the patient under the influence of merely traces of ether during protracted operations. A whiff of chloroform may be added from time to time as required. In 250 anesthetics by this method, an average of 54 c.c. of ether and 12 c.c. of chloroform was used, the length of the operation varying from fifteen minutes to three and a half hours, average forty-seven minutes. The patients awoke remarkably easily and normally. Vomiting occurred in one-fifth of the cases, usually only once on awakening. By this method the advantages of both ether and chloroform are secured and their disadvantages avoided. The narcosis can be individualized to the case; 15 to 20 c.c. of pure ether will be found sufficient for a child, while a hard drinker may require 40 to 50 c.c. of chloroform, with little, if any, ether.

Inguinal Hernia of the Ovary. QUADFLIEG.—Three cases are described, two of which were congenital. One infant was operated on at two months. The painful tumor in the left inguinal region contained a cystic degenerated ovary, which was removed. The second infant was about three months old, and the ovary was twisted and gangrenous. The third patient was a woman of 41, in the fourth month of pregnancy. She had noticed a bunch in the right inguinal region for nine years, and had suffered from digestive troubles and constipation since that time, but was otherwise well. The tumor suddenly commenced to grow larger and became painful. There was no vomiting nor fever, but the appetite had diminished. The operation disclosed an inguinal hernia, the sac containing the swollen tube and ovary. After enlarging the hernial opening the ovary and tube were replaced in normal position, and the patient made an uneventful and rapid recovery. The symptoms in the first two cases were merely vomiting and the painful tumor.

Cosmetic Operations on Goiter. E. MEUSEL.—The best cosmetic results are obtained by removing the goiter horizontally. A flap of gland tissue is cut and the front and rear surfaces pared to make it flat. This flap then fits smooth in place and the skin flap over it. In seven years of experience Meusel has never had a hemorrhage nor necrosis from a goiter thus treated. The flap of the gland thus left is sufficient to prevent cachexia strumipriva.

Myasthenic Paralysis. H. OPPENHEIM.—The first symptoms of bulbar paralysis appear in the ocular muscles, as phenomena of paralysis or fatigue, ptosis and diplopia. After a few weeks, or occasionally not till after a few months, the muscles involved in chewing, speaking, swallowing and the facial muscles show signs of exhaustion. This weakness may, however, involve at once the muscles of the nape of the neck, the trunk and the extremities, or may spare them for a time. The affection may run an alternating course and the limbs or articulations may be the first affected. Genuine atrophy of the muscles and the corresponding changes in electric excita-

bility never appear even in a prolonged course of the disease, nor are objective disturbances in sensibility or the senses observed. The patients frequently complain of pain in the head, back and extremities. Oppenheim considers the neuropathic diathesis the most important factor. The influence of infections or intoxications is still dubious, and overexertion is probably merely an inciting cause. A few observations indicate congenital anomalies in development. The affection seems to be due to a pre-existing tendency in certain portions of the nervous system which renders these portions sooner or later incapable of functioning, either that they completely and permanently renounce their functions, or are exhausted abnormally early, and require rest after brief activity. The protracted course of the affection—ten, fifteen, and even thirty-five years—and the remissions and intermissions, render the prognosis less unfavorable than at first supposed, although twenty-six out of the fifty-eight cases on record have resulted fatally. The general manner of life must be regulated to spare the muscles as much as possible; the food taken in such form as to supply the greatest amount of nourishment in the form that requires least work from the muscles of chewing and swallowing. These measures can be supplemented by the constant current and by gentle hydropathic measures. Faradization is strictly contraindicated.

May 21.

The Stump of the Appendix Vermiformis.—O. LANZ.—The microscope shows that the muscular and mucous coats of the appendix contract away from the spot when the appendix is crushed close to the base. This leaves the serous membrane empty, and the stump therefore consists of nothing but this membrane. Lanz advocates crushing the appendix in this manner with the angiotribe, close to the base, concluding with a Lembert suture of the stump, as the ideal method of amputating.

A Case of Cholecysto-Gastrostomy. F. KRUMM.—A patient with a large tumor in the pancreas, completely occluding the common bile duct, refused surgical intervention until it was too late for more than a palliative operation. Adhesions rendered anastomosis of the gall bladder with the intestines impossible, and consequently cholecysto-gastrostomy was done. The fistula thus produced functioned with perfect success. Appetite and strength returned and the intolerable pruritus was definitely cured, but the cachexia progressed to a fatal termination in seven weeks. Boeckel could collect only four cases of this operation in his report at the Paris International Medical Congress. The improvement can only be transient, and this was his experience in cholecystenterostomy. Quénu has published a case of chronic icterus completely cured by cholecysto-gastrostomy, and Jaboulay has also reported a similar case. No bad after-effects from the flow of the bile into the stomach were observed in any case.

Inhalation of Sprays. M. SAENGER.—As the result of much experimentation, Saenger announces that a fluid sprayed in the throat does not necessarily penetrate into the remoter air passages as a spray. The droplets flow together, and the spray effect is thus entirely lost, even in the throat. The fluid thus formed may find its way downward by gravity, by capillary attraction, and by the force of the inspiration, and thus be drawn into the remotest alveoles, but it is extremely improbable that any of the spray passes beyond the bifurcation of the bronchi. The narrowing of the mouth into the throat favors the coalescing of the droplets of spray.

May 28.

Application of Steam to the Uterus. H. FUCHS.—Since the introduction of atmocauter, or the application of a stream of steam directly into the uterus, not a single hysterectomy has been found necessary for the uncontrollable uterine hemorrhages of the menopause at the Kiel clinic. The early and remote results in twenty-two cases are tabulated and described in this article. In several cases the uterus had been previously curetted in vain. The steam, at 115 to 120 C., was applied for twenty to forty seconds. In six cases the menopause was completely established after the vaporization; in six others menstruation recurred, but diminished in quantity,

and in eight slight discharges of blood were noticed at irregular intervals. The condition known as chronic uterine infarct was cured by the removal of the cause. The involution of the enlarged organ was hastened. All of the patients are in good health with one exception, and a repetition of the atmo-causis is in prospect to definitely abolish the slight hemorrhages which still persist in this case.

Instrumental Perforation of the Uterus.—F. SCHENK.—In the case reported a woman of 38, ix-para, was operated on for the cure of a laceration from the last childbirth, eight months before. The uterus was rinsed out with a sublimate solution. The catheter introduced penetrated 20 cm. without encountering the least resistance. Two other catheters were inserted with the same experience. The patient showed signs of distress, and the abdomen was opened at once to forestall intoxication from the sublimate, as a perforation seemed certain. Three were found. The uterine walls were so soft and friable that it was almost impossible to suture them. The organ seemed normal except for this extreme friability, and the patient rapidly recovered. Menstruation had immediately preceded the operation, and Schenk noticed a similar friability recently in another patient who had menstruated just previous to the operation.

Wiener Klin. Wochenschrift, May 9.

Local Action of Suprarenal Extract on Nose and Throat. L. HARMER.—The reduction of the hyperemia that follows the local application of suprarenal extract to the mucosa of the nose and throat has a favorable effect in catarrhal conditions. It enhances the analgesic action of cocain, which property is probably due also to this vasoconstricting influence; possibly the cocain works more effectually on tissue free from blood. Suprarenal extract is, therefore, indicated in cases that require cocainization, as the amount of cocain can be materially reduced. This is the only positive indication announced as yet from Chiari's clinic in regard to the action of suprarenal extract on the nose and throat, after considerable experience.

May 16.

Etiology of Articular Rheumatism. G. SINGER.—In five cases of acute articular rheumatism and in one of rheumatic chorea, Singer found the streptococcus in the various organs post-mortem. The staphylococcus was also discovered in the case of chorea, which had been accompanied by an inflammation of the elbow and preceded by a follicular tonsillitis. The writer in 1898 called attention to the numerous clinical and anatomic analogies between acute articular rheumatism and the staphylo-strepto-mycoses. Others are gradually coming to recognize now that there are a number of indistinct and ambiguous cases of disease which belong in the borderland between acute articular rheumatism and cryptogenetic pyemia. The experiences of the past in respect to pneumonia and endocarditis demonstrate the folly of setting certain bacteria apart as specific for certain diseases. Other micro-organisms, not at all related to them, may originate the same apparently specific processes. The staphylococcus and the streptococcus have each been found in acute articular rheumatism, and the latest research by Wasserman and Meyer only confirms the assumption that there is no specific agent of this disease, as the streptococci which they discovered proved to be merely the ordinary variety after all.

Clinical Diagnosis of Renal Colic and Kidney Infarcts. R. SCHMIDT.—The clinical pictures in a large number of collected and personal cases of renal colic are reviewed and the most important diagnostic and differentiating points are seen to be the following: In every case of renal colic it is necessary to determine whether the pain proceeds from conditions inside the kidney—increased pressure or tissue necrosis—or in the ureter, from obstruction. Intrarenal pain is generally restricted more to the actual kidney region. The organ is extremely sensitive to pressure, especially in case of infarction. The pain is more continuous, and is eventually accompanied by sudden, intense albuminuria or a nephritic sediment in the urine. The extrarenal or ureteral colic has a greater tendency to radiate along the course of the ureter, which is sensitive to pressure. Acute hydronephrosis may follow. The

pain is more intermittent. The intrarenal colics may be caused by twisting of the stem of a wandering kidney, sudden compression from a vascular, malignant tumor, chronic nephritis with acute inflammatory exacerbations, or infarcts in the kidney. The pain on pressure is generally more intense and more frequent in the latter case, but the blood pressure is low. The colic pains frequently appear while the patient is in bed, in case of infarcts, but with torsion of the stem or chronic nephritis, the colic is usually preceded by a mechanical injury. An apoplectic onset of the colic pains in their extreme intensity is a feature peculiar to the colic from infarction, but hematuria is rare. Suddenly appearing and rapidly disappearing albuminuria, without sediment in the urine, is another characteristic of infarction. Enteroptosis obscures the prognosis, as it induces reflex vomiting. The pain in cases of infarct is increased by reclining on the healthy or least affected side. Total occlusion of the renal artery may occur without heart symptoms. Oliguria and anuria are frequent in bilateral renal infarcts, but there is no morbid desire to urinate. This article is continued through several numbers, and is a communication from E. Neusser's clinic.

Gazzetta degli Ospedali (Milan), May 12.

Agglutination by Malarial Blood. G. GRIGNONI.—Tests on 130 persons have demonstrated that the blood or the serum of a malarial patient will agglutinate the erythrocytes in the blood of a normal person or of a malarial or typhoid fever patient or in any other infectious disease. Normal blood does not possess this property. In doubtful cases of malaria, therefore, a drop of blood or serum from the febrile patient, mixed with a drop of blood from another person free from malaria, will differentiate the disease to the naked eye in ten minutes. When the blood agglutinates in this way, even although there may be no clinical manifestations of malaria, quinin treatment should be instituted, as the affection evidently persists in a latent form. This agglutinating power is specific of malaria and typhoid fever; it was impossible to detect it in any other of the numerous diseases and affections tested. Quinin in vitro, as well as in the organism, has a marked anti-agglutinating influence.

The Cerebrospinal Fluid a Secretion. CAVAZZANI.—The alkalinity of the cerebrospinal fluid is less than half that of the blood. In dogs under the influence of curare, that is, with the central nervous organs functioning, the alkalinity progressively diminishes, while in other dogs under the influence of morphin, it remains stationary. Cavazzani accepts these facts as confirmation of the assumption that the nerve secretes an acid substance during its functional activity. He has determined the presence of an oxydasis in the cerebrospinal fluid, for which he proposes the name "cerebrospinosis." He considers the cerebrospinal fluid an actual secretion, probably localized in the epithelial elements.

Endovenous Injection of Iodin. SPOLVERINI.—Remarkably fine results are reported by Spolverini in the treatment of scrofulo-tuberculosis in children, and of syphilis in adults, by the direct injection into a vein of a maximum of 5 cg. of metallic iodine. His formula is: potassium iodid 3 gm. and metallic iodine 1 gm. in 100 gm. of sterilized distilled water. As much as 28 cg. of iodine was injected in one case with no bad effects. The tolerance to the usual doses was always perfect, except in a few tuberculous children, in whom the local reaction threatened phlebitis for a day or so.

May 19.

The Cutaneous and Tendon Reflexes in Nervous Diseases. E. TEDESCHI.—The morbid processes entailing injury of the pyramidal tracts are usually accompanied by an exaggeration of the tendon reflexes and the weakening or abolition of the cutaneous reflexes. This antagonism between the tendon and cutaneous reflexes is especially marked in certain cases of chorea and in epileptics immediately after a seizure. The examination of the cutaneous reflexes is a valuable differentiating measure between organic and functional nervous affections. Babinski's sign almost invariably accompanies a lesion of the pyramidal tracts, but the condition of the extensor and flexor muscles of the toes is important in its production.

Queries and Minor Notes.

OBLIGATIONS OF OPERATOR TO ASSISTANT.

GRAND ISLAND, NEB., May 17, 1901.

To the Editor:—Will you kindly solve the question involved in the following case? Dr. A. operated on a patient and was assisted by two of his colleagues whom he had engaged for that purpose. Dr. A. continues in attendance until the patient's death some months later. The widow receives sufficient life-insurance money to pay all bills, but taking advantage of the fact that life-insurance is exempt from execution, she refuses to pay only such as she may elect. She tells Dr. A. that if he will discount his bill 25 per cent., I think, she will pay him. He complies and receives the cash (\$300). Dr. B., one of the assistants, holds that Dr. A. was and is, in honor bound to protect the interests of the physicians whom he had called into the case. Dr. A. disclaims any such responsibility.

The question submitted is: Has Dr. A. any obligations touching the compensation of the physicians who assisted him, he having made all the arrangements as above stated, and nothing having been said as to gratuitous assistance, or that each one should look to the patient, or as it has resulted, the widow, for his pay? In other words, in such a case as the above, what are the obligations on the one hand and the rights on the other?

J. L. S.

Ans.—The "obligations" and the "rights" depend on the arrangements made between the parties interested, which our correspondent does not disclose. It is not unusual for physicians to assist each other in operative work, without making definite arrangements for compensation, and sometimes, perhaps, without any intention of asking it. If, however, compensation was expected, and this was understood by the operator, he is under a moral obligation at least to look out for the interests of those he called to his aid.

MEDICAL PRACTICE ACTS.

RAINSBORO, OHIO, June 10, 1901.

To the Editor:—Do persons graduating in Ohio or other states have to be examined by the State Board of Indiana before they are allowed to practice in that state?

D. N. M.

Ans.—The laws of the state of Indiana require a diploma from an institution recognized as coming up to the standards fixed by the State Board. All others have to pass an examination. The State Board also is authorized to arrange as regards reciprocity with other states. About a year ago a resolution was passed that "No applicant from any other state for a certificate entitling him to practice medicine, surgery and obstetrics, shall be granted a certificate by this board on conditions more lenient than those required of applicants from Indiana by the examining board of the state from which he comes." This would imply that applicants from Ohio would have to stand an examination in Indiana unless reciprocity had been established between the states.

CARLISLE, PA., June 11, 1901.

To the Editor:—I wish to secure a copy of the medical laws of the different states of the United States. Will you please tell me how and where I can secure the same?

H. H. L.

Ans.—If a file of the Bulletin of the American Academy of Medicine is available to you or at hand, it would give the best general résumé of the laws of the different states in regard to the practice of medicine. The June number, now due, will probably bring it up to date. The state of New York published a résumé of the practice acts a year or two ago, but it would not now be up to date. We know of nothing better than the résumé in the Bulletin of the American Academy of Medicine, which can be obtained through correspondence with the Secretary, Dr. Charles McIntyre, La Fayette College, Easton, Pa.

New Patents.

Patents of interest to physicians, etc., May 21 and 28:

- 674,691. Apparatus for the production of caustic alkali and halogen gas. Charles E. Acker, Niagara Falls, N. Y.
- 674,371. Spraying nozzle. Carl Altenburger, Des Moines, Iowa.
- 674,391. Exercising device. Frank W. Baker, Chicago.
- 674,395. Hygienic handkerchief pocket or receptacle, Anna M. Bevis, Mount Airy, Iowa.
- 674,833. Spray tube for nebulizers. Wm. and J. Boeckel, Philadelphia.
- 674,598. Hernial truss. John W. Bunker, Farmington, Maine.
- 674,645. Truss, Henry C. Demaree and W. C. Eckhart, Roca, Neb.
- 674,701. Antiseptic apparatus. Wilber M. Kelso, Chicago.
- 34,546. Design, truss support. Benjamin T. Allison and J. J. Brown, Pine Bluff, Ark.
- 675,364. Medicine dose indicator. James L. Burton, New Britain, Conn.
- 674,853. Coin or lozenge package. Elliott H. Crane, Colon, Mich.
- 675,131. Hernial truss. Henry T. Emeis, Salt Lake City, Utah.
- 675,208. Truss. Henry H. Gerhardt, Nashville, Tenn.
- 675,275. Nasal device. Josephus H. Gunning, New York City.
- 675,042. Apparatus for testing urine. John Hepburn, Warren, Pa.
- 675,006. Hernial truss. Francis E. Jackson, Socorro, N. M.
- 675,243. Atomizer, Josiah K. Proctor, Philadelphia.
- 675,017. Surgical appliance. Wilber C. Roush, Anderson, Ind.
- 675,180. Atomizer. Jacob Waldman, New York City.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., May 30 to June 5, 1901, inclusive:

Ira A. Allen, captain and asst.-surgeon, Vols., leave of absence extended.

Joseph L. Bell, contract surgeon, now in Washington, D. C., on leave of absence, is relieved from further duty at Fort Crook, Neb., and will proceed to Fort Morgan, Ala., for post duty there.

George M. Decker, contract dental surgeon, from Troy, Pa., via Tampa, Fla., to Havana, Cuba, for duty in the Department of Cuba.

James C. Dougherty, contract surgeon, from New York City, N. Y., to Aibonito, P. R., for post duty.

H. A. Eberle, contract surgeon, leave of absence granted on being relieved from duty in Porto Rico.

Lawrence A. Felder, contract surgeon, from Fort Morgan, Ala., to Atlanta, Ga., for annulment of contract.

Nevil M. Garrett, contract surgeon, leave of absence granted.

F. M. Hartsock, lieutenant and asst.-surgeon, U. S. A., leave of absence granted.

George P. Heard, contract surgeon, member of an examining board at Fort McPherson, Ga.

George H. Richardson, contract surgeon, from Washington, D. C., to post duty at Plattsburg Barracks, N. Y.

William M. Roberts, lieutenant and asst.-surgeon, U. S. A., member of a board at San Francisco, Cal., for the competitive examination of enlisted men and others for commission in the Army.

F. Homer Wollen, contract dental surgeon, from Washington, D. C., to San Francisco, Cal., en route for duty in the Division of the Philippines.

In addition to the above, the following-named medical officers, upon the expiration of their present leaves of absence, are to be assigned by the commanding general, Department of California, to temporary duty pertaining to the muster out of returning volunteers, on the completion of which they will proceed to Manila, P. I., as heretofore ordered: Major Thomas C. Chalmers, surgeon, Vols.; Major Luther B. Grandy, surgeon, Vols.; Major John A. Metzger, surgeon, Vols.; Major Frederic A. Washburn, Jr., surgeon, Vols.; Major John Carling, surgeon, Vols.; Major George P. Peed, surgeon, Vols.; Captain Frederick H. Sparrenberger, asst.-surgeon, Vols.; Captain Charles R. Gill, asst.-surgeon, Vols.; and Captain Willis J. Raynor, asst.-surgeon, Vols. Also, the following-named assistant surgeons, U. S. A., are honorably discharged by the Secretary of War, as majors, surgeons, U. S. Vols., only, to take effect June 30, 1901: Captains Henry C. Fisher, Eugene L. Swift, John S. Kulp, Frederick P. Reynolds, Merritte W. Ireland, William F. Lewis, Paul Shillock, Alexander N. Stark, Powell C. Fauntleroy, Charles Willcox, Henry A. Shaw and First Lieutenant George W. Mathews.

Navy Changes.

Changes in the Medical Corps of the Navy, week ended June 8, 1901:

Drs. J. W. Backus, F. A. Asserson, J. F. Murphy, W. Seaman and R. R. Richardson, appointed assistant surgeons in the navy.

Surgeon F. J. B. Cordeiro, detached from the *Buffalo*, June 10, and ordered home to wait orders.

Surgeon L. W. Curtis, ordered to the *Buffalo*, June 10.

P. A. Surgeon E. S. Bogert, Jr., commissioned surgeon, from Dec. 15, 1900.

Asst.-Surgeon R. W. Plummer, detached from the *Nashville* and ordered to the *Princeton*.

Asst.-Surgeon W. Seaman, ordered to the *Independence*, June 17.

Asst.-Surgeon H. H. Haas, detached from Naval Hospital, New York, and ordered to the Norfolk Navy Yard, June 10.

Asst.-Surgeon R. R. Richardson, ordered to Naval Hospital, New York, June 10.

Asst.-Surgeon J. M. Brister, detached from the *Independence*, June 17, and ordered to the Asiatic Station via transport *Hancock*.

Marine Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service for the seven days ended May 30, 1901:

Surgeon H. R. Carter, to inspect the local quarantine station at Baltimore, Md.

Surgeon R. M. Woodward, granted two weeks' extension of leave of absence from May 28.

Surgeon G. T. Vaughan, detailed as delegate to represent the service at the meetings of the Association of Military Surgeons of the United States May 30, and American Medical Association June 4, at St. Paul, Minn.

P. A. Surgeon J. O. Cobb, relieved from duty at Fort Stanton, N. M., and directed to proceed to Portland, Ore.

P. A. Surgeon C. P. Wertenbaker, detailed to represent the service at meetings of the Association of Military Surgeons of the United States May 30, and American Medical Association June 4, at St. Paul, Minn.

P. A. Surgeon C. P. Gardner, detailed to represent the service at meeting of the Washington State Medical Society, at Seattle, Wash., June 18 to 20, 1901, inclusive.

Asst.-Surgeon C. E. Decker, granted leave of absence for ten days.

Asst.-Surgeon W. C. Hobdy, to proceed to Thomson, Ga., for special temporary duty.

A. A. Surgeon J. W. Hargis, granted leave of absence for four days from May 28.

Hospital Steward E. T. Olsen, granted leave of absence for fifteen days from June 13.

Hospital Steward L. C. Spangler, to proceed to Delaware Breakwater, Del., and report to medical officer in command for duty and assignment to quarters.

APPOINTMENT.

Lewis C. Spangler, of Ohio, appointed junior hospital steward in the U. S. Marine-Hospital Service.

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Address.

THE RELATION OF NERVOUS AND MENTAL DISEASES TO GENERAL MEDICINE.

ADDRESS OF CHAIRMAN, DELIVERED BEFORE THE SECTION OF
NERVOUS AND MENTAL DISEASES, AT THE FIFTY-SECOND
ANNUAL MEETING OF THE A. M. A., AT ST. PAUL,
MINN., JUNE 4-7, 1901.

H. A. TOMLINSON, M.D.
ST. PETER, MINN.

I will crave your indulgence, and take the liberty to depart from the regular order, as defined in the By-Laws of the Association, to the extent of omitting the usual summary of progress during the past year in the realm of neurology and psychiatry, as represented in the literature of our special work, and confine myself to the discussion of some of the tendencies of modern methods of investigation, and their interpretation, with relation to nervous disease in general. I have been particularly impressed by the increasing tendency to discuss the differentiation of the morbid histology of the nervous system, as if that included all there was to the pathology of nervous disease; to consider that general medical knowledge is of little value in the study of its etiology, and of no importance in establishing its therapeutics.

This is the age of mechanics; and the same inspiration which has led men from the pursuit of the philosopher's stone, and the invocation of the supernatural, to the patient observation and application of force in all of its forms to the material advancement and convenience of mankind, has affected science in general, and during the past twenty-five years medicine in particular. Hence, we now approach the study of human organism with the same methods and by similar means to those used in determining the properties of matter and the combination of force as manifested in inanimate nature. These methods are all the more alluring because they call for mechanical ingenuity more than mental effort, and the explanations they suggest of the manifestations of disease and their origin seem so rational and complete. Besides, these methods represent a natural reaction from the superstition and metaphysical speculation which persisted in medicine, and especially in psychiatry, even to the middle of the last century. I believe, however, that this reaction is going too far; that the human organism is something more than a mechanism; also that the morbid histological changes developed experimentally in animals, or found after death in human beings, are not necessarily the cause of the disease conditions they apparently create, any more than their presence in one organ of the body is proof that the disease is confined to that part of the organism. In other words, there can not be special change without general disease; and in the study and treatment of the special condition, the general involvement and its extent is the most important.

It has been asserted that in scientific medicine there is no place for the polemic, that hypotheses are dangerous, and that argument, other than that involved in the comparison of experiments, their verification, and the construction of formulæ, is useless. I believe this assumption to be wrong; for, out of it has grown the modern tendency to reduce everything in medicine to mechanical terms, to lose sight of the relativity of all of the activities involved in life, and to develop what, for want of a better name, I will call the organ physiologist and pathologist, and as a natural result the medical specialist, who sees in the symptoms complained of by his patient only the manifestations of disease in the organ or system in which he is particularly interested. This tendency has become so conspicuously a characteristic of medical thought and method, that recently one of our prominent medical journals, in commenting editorially in approval of the dictum of a great German pathologist concerning the value of brevity in scientific communications, deprecated the publishing of the details of the clinical history or post-mortem findings in any given case, if they were not directly connected with the organ apparently involved, losing sight of the fact that there enters into the conclusions reached concerning any given case, not only the personal equation of the observer but also the influence of his special training upon his interpretation of the facts observed, and leaving out of consideration altogether the obvious inference that another observer differently situated might interpret the facts differently if all the data were presented to him. Neurology has become a series of demonstrations of the normal and morbid histology of the general nervous system, and the neurologist is endeavoring to apply this same method to the study of psychiatry; while the psychiatrist still discusses insanity in the terminology of metaphysics. The significance of this tendency is well expressed in the following quotation from Herbert Spencer:¹ "If insistence on them tends to unsettle established systems of belief, self-evident truths are by most people silently passed over; or else there is a tacit refusal to draw from them the most obvious inferences. Of self-evident truths so dealt with, the one which most concerns us is that the creature must live before it can act." I would paraphrase this statement thus: Those activities upon which the functioning of the nervous system depends are more important than the resulting activities that the nervous system directs. Because of methods of study and the still too prevalent metaphysical conception of the relation of the central nervous system to the activities of the rest of the organism, the neurologist has ignored the relation of his special work to general medicine, his studies have been confined largely to the motor apparatus of the nervous system, losing sight of the fact that the nervous system, while it directs all of the activities of the rest of the organism, supplies nothing toward its own nutrition and is not concerned in the elimination of the waste

materials of its own activity. Out of the failure to recognize the obvious inference from this fact in physiology has grown the therapeutic nihilism and sterility, referred to by the chairman of the Section in his address at Atlantic City last year.

In order to formulate my argument as to what constitutes what I believe to be the true relationship between general medicine and mental and nervous disease. I will posit certain data drawn from current sources of knowledge concerning the facts of development and physiology, as to the relation of the nervous system to the rest of the organism.

There are two assumptions we may safely make concerning the human organism, based upon what has been demonstrated as to the processes of its functional activity and is known of its cytology: 1, that the primary functions are those of vegetation, and that all others are related and in sequence to some form of activity involved in the processes of nutrition; 2, that the nervous system is the last as well as most complex in the order of development. Also, the complexity of the nervous system has increased in a direct ratio with the demands upon the general organism, resulting from changes in its environment. It may further be assumed from our knowledge of biologic chemistry that the functional cell wherever found has a limited potentiality; also a normal plane of response to the incident forces constituted in its environment. This plane of response naturally will vary with the individual, and other things being equal, will depend for its level of development upon the combined capacities of the parents at the time of conception, the competence of the mother during pregnancy, and the suitability of the individual environment up to the period of second dentition.*

It follows as a corollary of this statement, that if for any reason the potentiality of the functional cell is abnormally limited, or on account of untoward or disastrous conditions in the environment of the organism is manifested excessively, the limit of capacity in the area or organ will be prematurely reached and a degenerative process begin. That this is true the fact of arrested and defective development and instability in the nervous system, as well as the different tendencies toward degenerative processes in the vital organs abundantly prove. Further, those degenerative processes which are supposed to be confined to the spinal nervous system, have for their antecedents, conditions which interfere with general nutrition and elimination, for a long time before the symptoms of involvement of the structure of the spinal cord become apparent. It is unfortunate that the morbid changes in the histology of the nervous system should be obscured by the results of the degenerative process which accompanies chronic disease, so that we are unable to say that the changes found are not the result rather than the cause of the disease present during life, since we always find that these changes have for their chief characteristic, destruction of the functional cell and its more or less complete re-

placement by the structural tissue. This want of correspondence between the symptoms manifested and the amount of degenerative change in the nervous system is well shown in the only two acute conditions which give an opportunity to study the changes apparently causing the symptoms, unaccompanied by other changes which are consecutive. I refer to Landry's paralysis and acute delirium. In both of these disease conditions, while there is nothing distinctive in the morbid histology, there is abundant evidence of antecedent involvement of the vegetative organs, with more or less complete abeyance of both their nutritional and eliminatory functions. Even in those processes where the morbid histological changes are believed to be not only distinctive but characteristic, we have no evidence that the circulation is not first involved. This presumes the presence in the blood stream of some toxic substance acting as a persistent irritant, while the presence of this substance in the organism involves failure or incapacity in the vegetative organs, both as regards resistance to the entrance of toxic material and failure in its elimination.

It is not conceivable to me that the relations of the spinal nervous system to the rest of the organism, should be any different in kind than those of the cerebrum. The spinal nervous system represents the simplest and most direct relationship between the different parts of the organism, and we have it in common with those forms of animal life in which the functioning of the nervous system is confined to the direction of those activities which have for their object the acquisition of food and the avoidance of sources of danger which are obvious. Indeed, this is largely the limit of functional activity of the spinal nervous system in even the highest developed organism. In those forms of animal life having only a spinal nervous system, the vegetative functions remain inherent in the cell or group of cells comprising the organ—witness what we know of the inherent capacity of the heart and the so-called vital secretions of the different vegetative organs—but as the nervous system continues to evolve in response to the growing complexity of the general organism, resulting from changes in environment; there is a practically separate system developed for the control of the vegetative functions, and lastly, as the channels for the transmission of nutrient material, which at first carry all of the products of metabolism indifferently, are separated into an afferent and efferent system, there is evolved the ganglionic nervous mechanism for their control. All of these systems are in intimate association but the connection between the vegetative organs and circulatory apparatus, though the ganglionic is most close, and these with the cerebrum more intimate than with the spinal; which still has for its principal form of activity the transmission of common sensation, the locomotion of the general organism, and only indirectly the motor activity of the mechanism of the vegetative organs.

Any man who has worked much among the insane has abundant evidence of how all of those degenerative processes which are supposed to be the result of disease of the spinal cord and bulb can be mimicked during the course of progressive brain degeneration, and we know how promptly symptoms of involvement of the nervous system follow destructive or degenerative disease of the vital organs. While the pathologist finds in studying post-mortem the histological changes in the spinal cord which, from the standpoint of morbid anatomy, seem to him to be causative; he has only to examine the evidence furnished by the study of development and the causes which operate to arrest its processes or make them

* While I do not believe that we have any evidence of increase in the functional potentiality of the nerve cell after this period, there are undoubtedly marked increases both in number and special forms of activity, before and after puberty; and just as different areas in the nervous system become functionally active at different periods in the development of the embryo, so the level of the plane of response in the individual cell, functional group or area, may be raised at the different epochs in the order of development, without any increase in its potentiality, as shown in the limitation of the period of sexual activity as well as by the excessive activity of all metabolic processes during the period of adolescence, and the reduction in the plane of activity of those parts of the organism involved in the processes of nutrition, after the climacteric period, in both sexes.

aberrant, to realize that it is still at least an open question as to whether the disintegration he finds is not the result of the breaking down of an unstable structure, rather than the cause of the symptoms manifested. And that this break-down is in its turn dependent upon impaired nutrition and imperfect elimination following disease in the vegetative organs, not primarily specific affection of the nerve cell. Even in syringomyelia, if we consider the mode of development of the spinal cord, the weight of evidence from the natural history of the disease and the post-mortem findings, is in the direction of the process being one of atrophic degeneration, taking place in a tissue primarily defective and of limited potentiality.

Impaired nutrition involves either failure of supply, overuse, or imperfect elimination, and these in their turn affection of the blood vessels, or change in the character of the blood stream itself, either through impoverishment or the presence of some constituent which is toxic; and it is the persistence of these blood changes which give rise to the changes in the blood vessels. These changes involve in their turn the pre-existence of failure in one or more of the processes of metabolism or incapacity of the eliminatory organs. Therefore, while the symptoms manifested may have their origin in a destructive or degenerative process in some part of the nervous system, the real disease, upon the cure of which the ultimate recovery of the patient depends, has its existence in the vegetative organs, either in the ensemble of their functions or as affecting conspicuously some one of them. I believe we may safely say that all disease processes begin as intoxications, and this is so even with chronic degenerative processes in the nervous system. During ten years of careful observation of the phenomena connected with the development and manifestations of insanity, in more than three thousand cases, I have never failed to find intoxication either the result of imperfect elimination or failure in the processes of digestion and assimilation. Failure in elimination is most common and involves most frequently the kidneys, next the bowels, then the lungs and skin. Failure in the digestive processes is generally in the direction of an abeyance of function and in cases of depression this is sometimes so extreme that the active constituents of the gastric juice are entirely absent for considerable periods.

We are all familiar with the influence of emotion and fatigue upon the nervous system, and have seen how tremor, spasm, convulsion and even paralysis follow shock, while again they are apparently the result of violent gastro-intestinal disturbance or renal inadequacy. It is here that the question arises as to the truth and significance of my thesis. We recognize the effect of overstimulation of an organ or part in checking katabolic change, interfering with oxidation and leading to auto-intoxication; but the failure in capacity is just as much the result of the suspension of anabolism as it is of the abeyance of katabolism. For, obviously, life involves the persistence of anabolism, so that even aberrant functioning involves the persistence of the nutritive processes. The over-activity of the cell or part may be so great or its potentiality so limited that suspension of the nutritive process is complete and almost immediate; or the exhaustion may be more gradual, so that the interference with katabolism results in retention of so much waste material that the cell no longer is reconstituted but disintegrates. While I freely admit that these statements of what is involved in the processes of metabolism

are trite and even elementary, yet it is equally true that the most obvious inferences to be drawn from them in their application to the study of mental and nervous disease are either ignored, or, if recognized, not appreciated, because we overlook the fact that the morphologic changes found in the cell simply represent the exaggeration of the processes which, kept in balance, constitute normal metabolism, and that these changes may proceed to a very considerable extent without involving the permanent death of the cell, provided the limit of its potentiality is not reached. This is graphically shown in the morphologic changes which take place in the cortical cells of that part of the brain anterior to the pre-central fissure in acute delirium, which are alike, except in degree, both in those cases where death comes early as the result of pulmonary edema, or later from bulbar paralysis, and this difference in degree, other things being equal, will be found to depend upon the amount of instability or defect in the individual which limits his potentiality and exaggerates the manifestations of nervous disturbance.

I trust I may be pardoned for referring here to some of my own work, but I will venture to do so because I believe I can best illustrate my contention by relating the experience which first called my attention to the importance of appreciating the intimate relation between general somatic disturbance and mental and nervous disease.

Some years ago I gave considerable study to the mode of death among the chronic patients in the St. Peter Hospital, and found that no matter what the apparent somatic disease, all of them presented marked symptoms of uremic poisoning, and the condition of the kidneys was confirmed by uranalysis. I noted further that death came in one of four ways: 1, suddenly from apparent cerebral hemorrhage; 2, apparent collapse with syncope; 3, more slowly with dilatation of the right heart, pulmonary edema, vasomotor paresis and death from asphyxia; 4, apparent asthenic bulbar palsy; sometimes rapidly fatal; again accompanied by a mono- or di-plegia, a hemi- or para-plegia of varying degree of completeness, death resulting from progressive asthenia. The merging of these different modes of death into each other was also noted from time to time, especially among the victims of chronic degenerative disease of the lungs. The necropsy failed to reveal any evidence of gross lesion or degenerative change to account for the symptoms and conditions present during life; but certain changes were found which have been described by me elsewhere.² This experience led to the systematic study of the urine in our chronic cases to determine if possible how far the nervous manifestations of uremia might be anticipated. We found that profound changes might be present in the structure of the kidney without the presence of albumin or casts, and in the absence of the ordinary clinical signs of nephritis. Also, that in proportion, as the nervous symptoms of uremia were present, were the ordinary somatic manifestations absent. Furthermore, we found that uremic poisoning, fatal in result, might be present as the result of auto-intoxication from imperfect metabolism, acting through the vasomotor apparatus and bringing about the abeyance of the function of the kidney as the result of vasomotor spasm producing ischemia, and in the absence of any marked degenerative change in the kidney itself. That is, the function of the kidney as a filter was not interfered with, but the secretion and excretion of the solid constituents of the urine was diminished and the chlorids

often entirely absent, while, for obvious reasons, urea would not be diminished in amount. In cases of parenchymatous nephritis and the diffuse form where the medullary substance of the kidney is most involved, the diminution of the excretion of urea was the rule and albumin and casts more common.

This experience led us to study more carefully similar conditions among the recent cases, and we found to our surprise that practically all cases admitted to the hospital gave evidence of some degree of renal inadequacy. In the cases of so-called delirious mania and in delirium associated with other forms of insanity the evidence of imperfect elimination was marked; and furthermore our success in relieving these conditions was always in proportion and in sequence to the re-establishment of the function of the kidneys. In those cases which proved fatal and had been accompanied by high temperature with vasomotor paresis before death, the change in the kidneys was found to be parenchymatous; while in those without elevation of temperature but exhibiting progressive asthenia the change in the kidney was interstitial. By following the same method in the study of the other vital functions, the intimate association between irritability, exacerbations of excitement, disturbance of the special senses, recrudescence of delusion, and impairment of digestion with constipation was determined.

Bearing in mind that in a hospital for the insane, on account of the environment of the patient, the conditions which modify and complicate the progress of degenerative processes in general practice are absent, that the life of the individual is ordered, his diet and occupation controlled, and that in the demented vegetation dominates and often comprises the activities of the organism; it will be readily understood why we see so conspicuously manifested the changes in the vegetative organs, and the influence of interference with or abeyance of their functions in the determination and progress of degenerative processes in the nervous system.

If then these conditions exist among the insane in hospitals, they must necessarily have existed in the same individuals before they came to the hospital, and there is *a priori* reason to believe that they also exist among the sane and especially among those suffering from degenerative processes in the nervous system. Personally my observations as a consultant confirm, in this connection, my experience in hospital work, and lead me to believe that in the appreciation of general nervous disease, the prognosis, and especially in our therapeutic efforts, we are more concerned with the functioning of the vegetative organs and the general processes of metabolism than with the morbid anatomy and histology of the nervous structure; or, to express the conclusion tersely, we are more concerned with function than with form; for the morphologic change seldom determines definitely what the nature of the disturbance of nutrition has been even if it does indicate the result.

I do not wish to be understood as failing to appreciate the value and significance of modern methods of research nor to oppose my limited understanding of the results attained to the general opinion. But I feel justified in suggesting for your consideration the fact that the study of the pathology of nervous and mental disease has not advanced proportionately with the development of methods for the recognition of its morbid histology. And I believe that the apparent futility of therapeutic effort in disease of the general nervous system, has resulted from the giving of undue significance to the morphology

of the changes found after death in man, or produced experimentally in animals; and too little study and care to the general processes of metabolism as represented in the functioning of the vegetative organs.

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Original Articles.

ORAL MANIFESTATIONS AND ALLIED STATES.

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(Concluded from p. 1766.)

The following autopsy was made on an old man, in whose case the pathologic diagnosis was as follows: Senile marasmus (senile emphysema, senile sclerosis of the aorta, atrophy of the parenchymatous organs), scurvy (hemorrhagic gingivitis); chronic aortic and mitral endocarditis; fibrous myocarditis; chronic nephritis; caseo-calcareous areas in the right apex, spleen and left adrenal; double hydrothorax; bronchitis; fibroma of the stomach; amputation of the left lower extremity at the lower third of the thigh. The findings unrelated to the scope of the present investigations are omitted. The gums were found swollen, and here and there infiltrated with blood. There was purulent matter about the roots of the teeth, many of which were loosened and some of which could be removed with the fingers. The roots of the loosened teeth were covered with a granular, grayish material.

Only the lower frontal teeth and corresponding part of the jaw could be examined. The epithelial covering of the gums appeared to be quite intact. In some places it was a little thickened, and its lower layers infiltrated with new cells. The sub-epithelial tissue was much thickened, presenting the general structure of an inflammatory granulation tissue of some standing. Areas occurred in which there were many new cells and but little stroma. In other foci the tissue was more fibrous, the new cells running in bands. Here and there occurred free and intracellular granular, yellow pigment. Typical hyaline bodies of various sizes, and staining a precise bluish-violet with Gram's method were found in rather small numbers. In some places small sub-epithelial abscesses were met with, which (in the instance of a district including a lower incisor) were really subperiosteal. The contents consisted of nuclear detritus and bacteria (mostly cocci) which have accumulated, especially upon and in the walls of the minute cavities extending from such an abscess. There seems to be a complete occlusion of the vessels (capillaries) with typical bacteria masses, staining a peculiar bluish-violet color with hematoxylin, and blue with Gram's method, so that the vessels presented the appearance of being very successfully filled by an infection mass. The small dilatations, the branches and the larger vessels (judging from structure these seemed to be veins) were sometimes brought out very nicely. The intravascular growth of bacteria extended into the bone below as well as, and more especially into, the peridental membrane. These abscesses (suppurative periostitis) occur almost exclusively upon the inner surface of the alveolar process, being confined (as far as there was occasion to

observe) to the external aspect of the process. There was always a thin, sound layer of bone separating the abscess from the peridental membrane. Very generally the spaces in the adjacent bone were filled with a cellular fibrous tissue in which occurred islands of osteoid tissue. The bone trabeculae were generally covered by a thin layer of osteoid tissue, which (from the greater number of cells it contains, as compared with the other bones) must be newly formed. Rows of osteoblasts were found often upon the trabeculae. Few Howship's lacunae were found, and these were filled with small cells. There were no osteoblasts in the areas about the abscesses. The bone outside of the alveolar process is quite unchanged.

The "bacterial thrombosis" not unusually extended into the peridental membrane, which then refused to stain as clearly as normal. The upper part of the peri-

mucous membrane (G) and involves the deeper structures. The mucous membrane layer has doubled upon itself, forming a pocket (RR). Violent inflammation is evident at V. This is of unusual interest, since it demonstrates that inflammatory products may be carried by the blood-vessels anywhere throughout the alveolar process, and may result in abscesses. The inflammation extends throughout the periosteum (H), the fibers of which extend from the root of the tooth over the border of the alveolar process (J). There the coarse fibers of the periosteum contrast decidedly with the finer fibers of the sub-epithelium. Absorption and contraction of the alveolar process (fully one-half the length of the root of the tooth) has taken place, as well as lateral absorption. The inflammatory process extends through the Haversian canals (L).

Fig. 18 illustrates a section of the peridental mem-

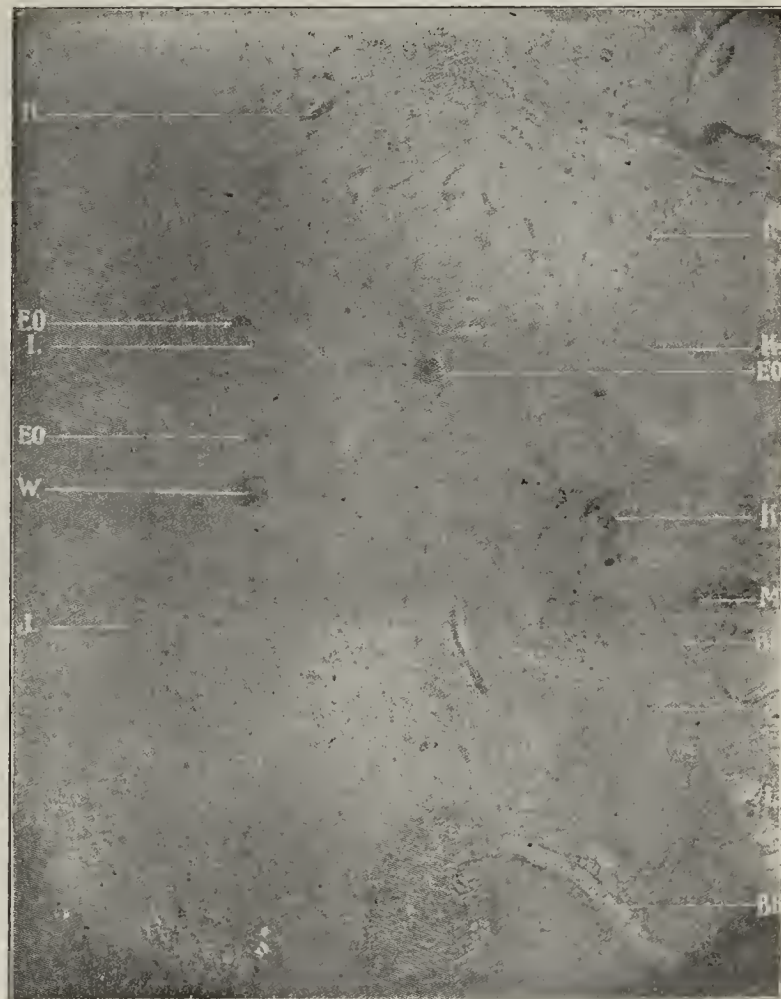


X 40. 35 M. M. Zeiss. Micro-photograph reduced four-sevenths.

Fig. 17.—Longitudinal Section of Tooth, Alveolar Process and Gingival Border, Showing Active Inflammation in Scurvy in Man.—B, Sentine. C, Cementum. E, Epithelial tissue. G, Submucous membrane. H, Periosteum. J, Alveolar process. L, Haversian canals. M, Fibrous tissue. V, Violent inflammation. AA, Point of union of epithelial tissue and peridental membrane. RR, space pocket from want of union of the epithelial fold.

dental membrane was usually the seat of cell proliferation and of formation of fibrous. due to the direct extension of the similar process in the sub-epithelial connective tissue of the gingivus. There were no indications that the process began below, at the apex of the tooth, for example, and extended upward. In the peridental membrane, and often connected with the cementum of every tooth examined, were very many so-called calco-spherites; calcified, concentrically lamellated, round or oval bodies, not unlike the "corpora amyloacea." In many instances, it seemed as if the body had formed in the cement or at its margin—the cement presenting here a nodular condition.

Fig. 17 illustrates a section through the tissues of the jaw and cuspid tooth. The epithelium is not so dense and thick as in a similar section from the dog. Inflammation extends along the capillary layer of the sub-



X 75. A. A. obj. Zeiss. Micro-photograph, reduced four-sevenths.

Fig. 18.—Cross-section of Inflamed Peridental Membrane. Scurvy in Man.—I, Peridental membrane. J, Alveolar process. K, Capillaries. L, Haversian canals. BB, Blood vessels of Von Ebner, preceding perforating canals. EO, Endarteritis obliterans. W, Epithelial debris.

brane (I) and alveolar process (J) with inflammation extending throughout. Capillaries (K) are also noticeable in large quantities nearer the alveolar process than the root of the tooth. Epithelial debris are evident at W. Endarteritis obliterans (EO) may be seen in different portions of the field. Inflammation has extended into the Haversian canals (L) but absorption has not occurred to any great extent. The blood-vessels of Von Ebner (BB) are quite well shown.

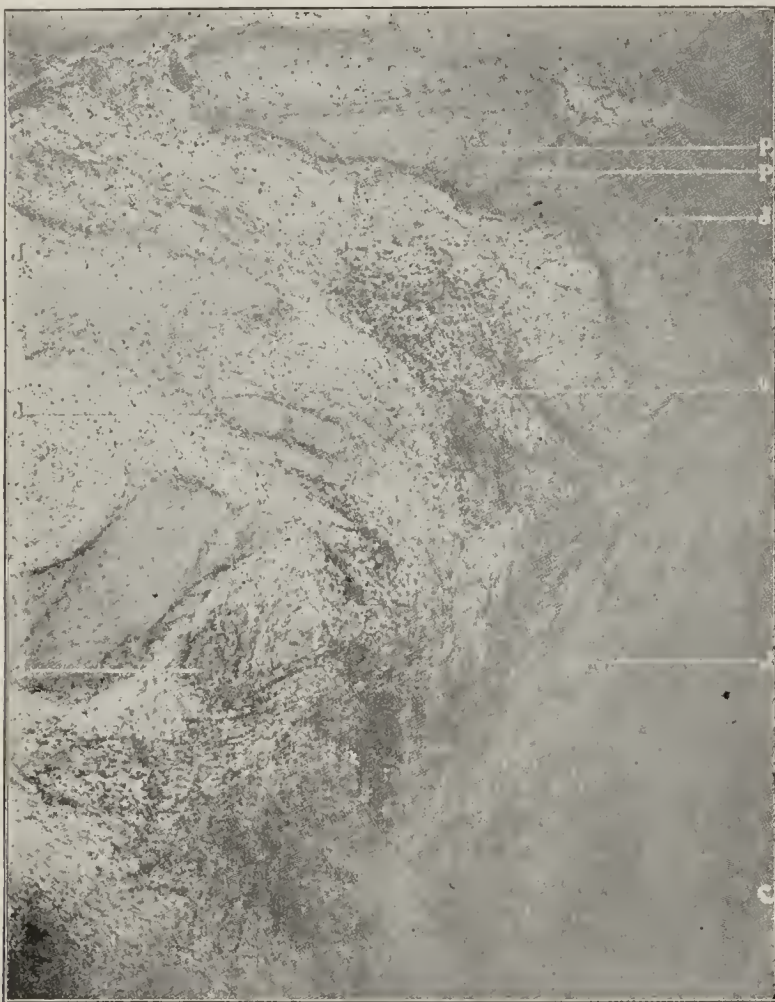
Fig. 19 is a section showing the cementum (C), the peridental membrane (I) and the alveolar process (J). Marked inflammation extends through the peridental membrane, thence through the Haversian canals (which are entirely obliterated). Absorption of the trabeculae (halisteresis) has resulted to the extent that what remains of the alveolar process (J) are islands of bone held in place by fibrous tissue. Blood-vessels of Von Ebner with perforating canals are seen at P.

Fig. 20 illustrates a large abscess (Y) from another location. This is also situated within the alveolar wall, showing that the inflammatory products extend through the blood-vessels. Marked inflammation is seen upon the side next to the peridental membrane (I¹), while rapid absorption—halisteresis (Q), and perforating canal (P)—is proceeding at the borders of the abscess and nearest the alveolar process.

A 48-year-old merchant was dyspeptic, debilitated and asthmatic, and for the treatment of the conditions he had been under calomel and tonics for a little less than two weeks. When he came under observation, the mucous membrane and gums were then much inflamed. There was marked sialorrhea. The teeth were loose. The gums were swollen. Pus oozed from the gums. The breath had a decided metallic odor. At my suggestion, his medical attendant stopped the calomel. He

Pus flowed from the gums. He was placed on ozonate spring water and the gums were saturated with iodine on alternate days. Three loose teeth were removed and placed in alcohol. Sections from the upper third of the left superior second bicuspid gave results on microscopic examination similar to those already described as occurring in mercurial poisoning. Fig. 23 shows round cells of inflammation. Fig. 24 illustrates very marked degeneration of the peridental membrane. In the lower right-hand corner are seen the root of the tooth, dentine and cementum. The whole surface of the peridental membrane is in an advanced phase of inflammation. Just at the border of the root is evident an area of membrane softening. Just beyond, but joining, is noticeable breaking down of tissue. In the center are seen two areas of softened tissue more advanced in degeneration.

One occupation disease which has been ignored in

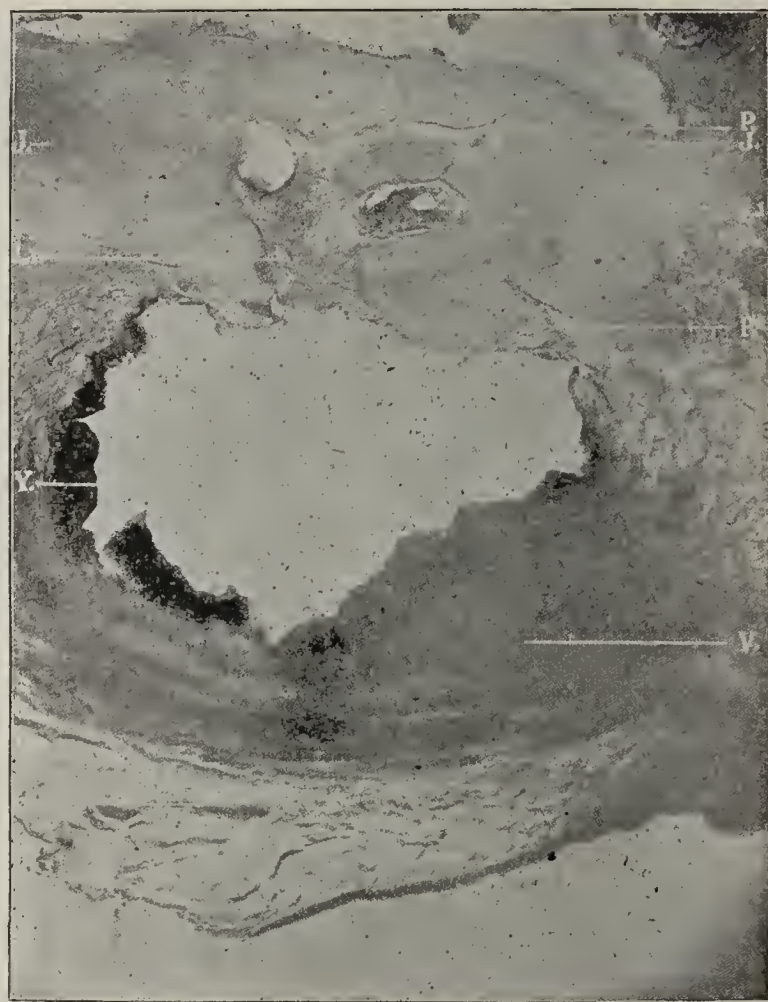


X 75. A. A. obj. Zeiss. Micro-photograph, reduced four-sevenths.

Fig. 19.—Cross-section of Tooth, Alveolar Process and Peridental Membrane, Showing Active Inflammation and Absorption of Bone. Scurvy in Man.—C, Cementum. I, Peridental membrane. J, Alveolar process. P, Perforating canal absorption. V, Violent inflammation.

was then ordered six pints of spring water daily. The gums were, on alternate days, saturated with iodine. In a few days the soreness and swelling were so reduced that the deposits could be removed. The patient was discharged cured in a short time, other than as to the right inferior second molar, which was so loose as to require removal. This tooth was placed immediately in 50 per cent. alcohol for twenty-four hours and then removed to absolute alcohol for twenty-four hours more. The membranes had receded about two-thirds the length of the root. Sections for microscopic purposes were made from the lower third of the root. Of these sections Fig. 21 shows a small fragment of inflamed peridental membrane. Fig. 22 exhibits violent round-cell inflammation, degeneration and liquefaction of tissue.

A 35-year-old diabetic painter came under observation for plumbic poisoning. His gums were swollen. There was decided sialorrhea. The teeth were loose.



X 75. A. A. obj. Zeiss. Micro-photograph, reduced four-sevenths.

Fig. 20.—Cross-section of Peridental Membrane and Alveolar Process, Showing Active Inflammation and Another Large Abscess. Scurvy in Man.—J, Alveolar process. P, Perforating canal absorption. V, Violent inflammation. Y, Abscess. I¹, Inflamed peridental membrane. L¹, Inflammation extending through enlarged Haversian canals.

the etiology of interstitial gingivitis is "brass-workers' ague." In almost all brass-workers, a stain varying from a brown to a brownish-green is detectible on the necks of the teeth between the crowns and the gum insertion. This is most obvious in the upper jaw. After a while, as E. Hogben⁴ has shown, the teeth become loosened and fall out. Before these changes in the gums appear nervous symptoms have developed from the brass poisoning.

Arsenic should be taken into account in the etiology of interstitial gingivitis. This drug has a very decided tendency in certain subjects to cause, even in small doses, marked stomatitis and irritation of the mucous membranes throughout the body.

Tartar emetic and other preparations of antimony, producing irritation of the mucous membranes of the

4. Birmingham Medical Review, 1887.

mouth, and elsewhere, may act as predisposing and exciting factors of interstitial gingivitis.⁵

Among the drugs which should be taken into account in the etiology of interstitial gingivitis is potassium bromid. This produces in certain individuals, or when given to excess, marked increase of the saliva with irritation of the mucous membranes of the mouth, followed

greater degree, as has elsewhere been shown of the iodids.

The poison in the blood, together with the diseased peripheral nerves, produce irritation and inflammation of the inner coat of the capillaries. If this irritation does not disappear soon after its inception, the inflam-

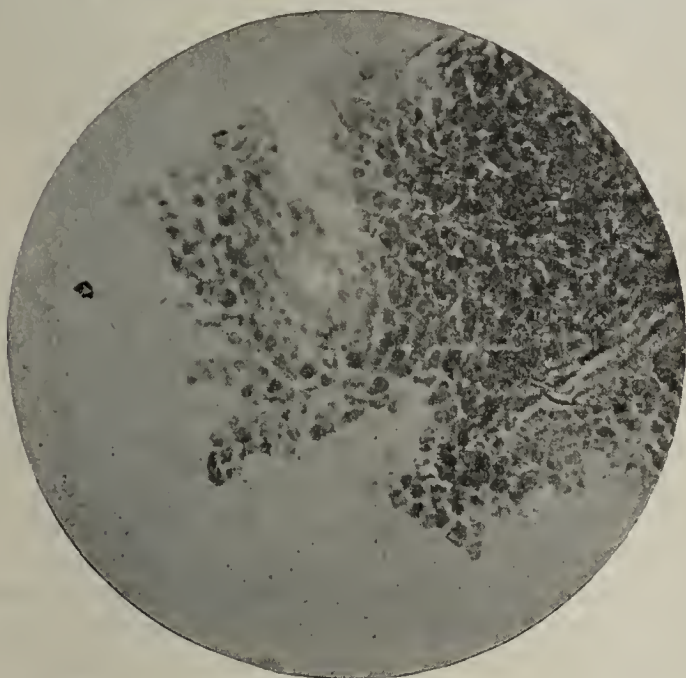


Figure 21.

later by dryness of the mouth and shrinking of the gums. The bromids have, as H. C. B. Alexander⁶ has shown, a tendency to irritate all the mucous membranes of the body as well as the skin. Therefore, in dealing with cases of interstitial gingivitis in which the bromids are being taken, this factor should not be neglected. In these cases the symptoms due to the bromids are apt



Figure 22.

to be charged to the nervous state for which the bromids have been given. The irritation of the mucous membrane by the bromids may occur quite early among the untoward effects produced by them. In all probability the bromin rather than the alkali is the source of these untoward effects.

What is true of the bromids is also true to an even

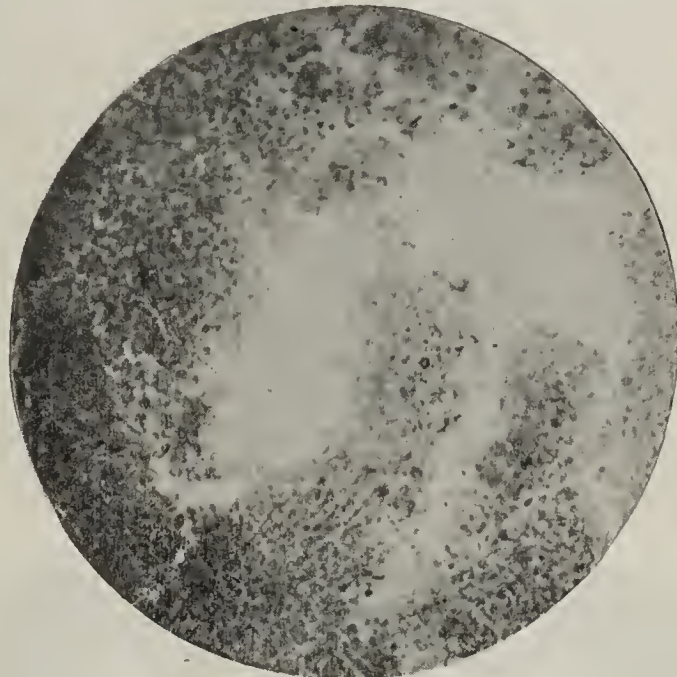


Figure 23.

mation tends to affect the other coats of the blood-vessels. Under certain conditions, endarteritis may, however, never involve the other coats of the vessels. When irritation of the inner coat of the capillaries takes place proliferation of the endothelium occurs. This inflammatory growth tends to obstruct the lumen of the vessel. The media may likewise become thickened by



Figure 24.

an increased connective tissue. The capillaries become obstructed, and finally obliterated. This finally impedes the circulation. Fig. 25 shows such a condition in the scurvy case, elsewhere illustrated.

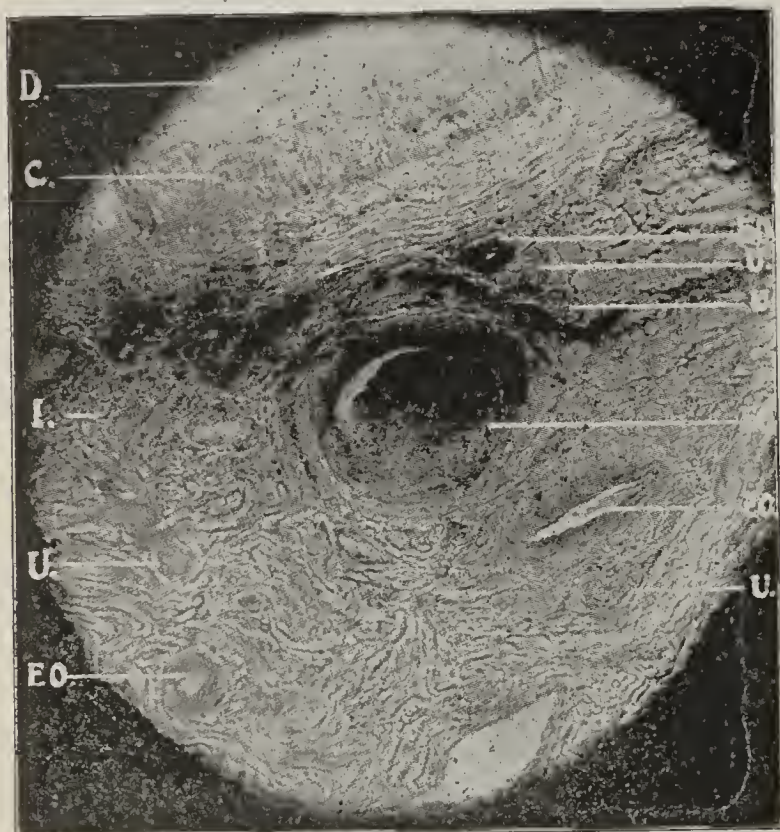
Irritation may be of less intensity but greater duration, as in case of syphilis, tuberculosis, scurvy, mercurialism, plumbism, etc., and the results are then slowly effected. Proliferation of sub-endothelial connective tissue gradually increases until it reaches its limit (endarteritis obliterans). This influence of the pro-

5. Lewin: Untoward Effects of Drugs.

6. Alienist and Neurologist, July, 1896.

liferation is exerted in addition to that of the round-cell infiltration about the structure.

The recent studies of Hektoen⁷ on meningeal tuberculosis demonstrate that tubercle bacilli may penetrate the unbroken endothelial layers of the vessel and stimulate marked proliferation of the sub-endothelial connective tissue. An internal irritant, such as may be produced in the course of any infectious disease or from suboxidation, probably acts upon the endothelium of the walls of the smaller blood-vessels in such a way as to permit the escape through the walls, first of serum, then of leucocytes, the latter infecting and surrounding the vessels. The effect of the chronic endarteritis is to check the blood supply to the gum tissue. Mercury, lead, and other poisons circulating through the blood are forced to remain, hence discoloration of tissue along the gum margin. Interstitial gingivitis, resulting in a slow disturbance of nutrition, produces overgrowth of connective tissue. In all cases of chronic interstitial gingivitis, as shown in the illustration, blood-vessels are thus involved.



X 150. D. D. obj. Zeiss.

Fig. 25.—Cross-section of Peridental Membrane, Showing Endarteritis Obliterans. Scurvy in Man.—C, Cementum. D, Dentine. I, Peridental membrane. U, Nerve tissue. EO, Endarteritis obliterans.

Among the predisposing influences which cause this disease are syphilis, tuberculosis, mercurialism, plumbism, brass poisoning, lithemia, nephritis, gout, rheumatism, alcoholism, nervous diseases, pregnancy and old age. Under certain conditions of the system any and all diseases which tend to lower the vitality, producing anemia, will assist in producing this disease. The direct cause may be resultant overstrain of the blood-vessels.

Owing to obliteration of the arterioles in the alveolar process, stasis of the blood must follow. The detritus from the alveolar process, therefore, must remain in the tissue and collect upon the roots of the teeth.

The reason disturbances of the system manifest themselves so readily upon the gums and alveolar process, is due to their unstable and transitory nature, hence the marked impression made by autointoxication and drug poisons.

In conclusion, I would say that the etiology of this disease may be divided into local and constitutional causes. The local may be due to irritation about the gingival borders of the gums, such as tartar, crown and bridge work, etc. The constitutional causes are autointoxication and drug poisoning. These act by direct irritation through the peripheral nerves and the blood streams (as shown in the experiments by mercurialization of dogs) setting up the inflammation in the capillaries extending throughout the alveolar process and gum tissue. Endarteritis obliterans results, cutting off the blood supply. A new source of danger to be guarded against is the administration of drugs, more especially those of mercury.

The question has arisen whether there exists a specific bacterium which bears the same relation to the pyorrheic stage that the streptococcus does to streptococcus diphtheria. This question, raised by Galippe, must, in the light of careful research, be regarded as settled in the negative. No special bacterium has been found which complies with the laws of Koch. Dogs are liable to this disease. Galippe had but to infect their gums with his bacterium to demonstrate its specific pathogenic activity. He has not done this. As the researches (already cited) also failed to find a bacterium which could comply with this test required by the laws of Koch, it must be admitted that there is no bacteriologic evidence of a specific bacterium. Furthermore, the pathologic evidence demonstrates that bacteria play the very subordinate rôle in this disease that they do in ordinary wound infection.

Clinical Reports.

REPORT OF A CASE OF PUERPERAL ECLAMPSIA, WITH RECOVERY.*

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There is nothing unusual in this case. It is reported because each experience teaches us lessons which may be mutually profitable.

L. S., aged 20, moderately well nourished, and weighing 120 pounds, with previous health good, period of gestation complete and normal, was in labor about fourteen hours. Examination showed dilatation nearly complete, vertex presenting, pains strong; pulse 86, character good, excepting a slight high tension; action regular. After about fifteen minutes, during which time there were some four or five pains, descent had taken place almost to the perineum and the membranes had ruptured, when, without warning, a convulsion lasting about one minute occurred, manifesting about all the classic symptoms. The stertorous respiration, opisthotonus and depression of pulse were very marked. A semi-comatose condition ensued for about forty minutes, when a second convulsion lasting about thirty seconds occurred. This was followed by a condition of extreme irritability with threatening convulsive seizures for a little over two hours. During this time the pulse was an interesting study, the average rate being 160. Immediately after the first convulsion the character was decidedly thready and irregular, some beats showing high tension, and some being almost imperceptible. Improvement was gradual, and in three hours the rate was 96 and the character improved. A quiet and sound sleep ensued and lasted eight hours with but two waking periods aggregating forty minutes. The subsequent course of the case up to the present, which is eight days, has been uneventful, excepting that on Sunday, the fifth day, a slight convulsion occurred lasting but a few seconds, with succeeding slight stupor for two hours.

Treatment.—The patient was first seen by the writer eleven

7. American System of the Practice of Medicine, p. 119.

* Read before the Detroit Medical Society, Jan. 30, 1901.

days prior to confinement. There was nothing in the appearance of premonitory eclampsia symptoms, excepting a slight edema of the face, feet and legs. Examination of the urine gave the following: sp. gr., 1022; reaction, slightly acid; albumin 1 per cent.; urea about 2.5 per cent.; quantity passed in twenty-four hours, 45 ounces.

An exclusive milk diet was ordered, with a daily cathartic of Rochelle salts and $\frac{1}{2}$ oz. of infusion of digitalis three times a day. Daily baths and plain water *ad libitum*.

Immediately after the onset of the first convulsion chloroform was administered during the period of spasm, followed by $\frac{1}{2}$ dram of fluid extract of veratrum viride. Chloroform was next resumed and a forceps delivery performed quickly and easily. The child was normal and strong. The placenta was delivered without difficulty, in about ten minutes; hemorrhage following was normal. The bladder contained $2\frac{1}{2}$ ounces of urine, which was drawn by the catheter soon after delivery. Analysis: sp. gr. 1022; reaction, acid; urea, 2.5 per cent.; albumin, 2 per cent.; a large number of granular and hyaline casts, some of which contained pus cells.

Strychnia sulphate— $\frac{1}{60}$ grain—was given hypodermatically at the end of the placental delivery, to support the heart; in about half an hour after this, morphia sulph., $\frac{1}{2}$ gr. The second convulsion was controlled, as the first, by a few whiffs of chloroform. The pulse and nervous symptoms now became gradually quieter and 30 grains of chloral hydrate was given in 16 ounces of water, per rectum. Two hot-water bottles were kept under the lumbar regions. At 7:30 o'clock, $3\frac{1}{2}$ hours after the first convulsion, perspiration was very free and the patient relaxed into a quiet sleep.

Subsequent treatment has been potassium citrate, 1 dram in 8 ounces of water every two hours, free catharsis daily, and free perspiration once daily, which was secured easily by the hot-water bottles.

During the first thirteen hours succeeding delivery, 10 ounces of urine were secreted, and since this time from 35 to 45 ounces daily. A milk diet has been rigidly enforced.

Repeated examinations of urine show persistent albuminuria, though much reduced in severity.

831 Fort Street, West.

CESAREAN SECTION THREE TIMES IN THE SAME PERSON IN SIX AND ONE-HALF YEARS.

J. W. COAKLEY, M.D.

MT. ETNA, IA.

August 3, 1893 I was called to see Mrs. P., aged 30 years, in her fourth pregnancy. She had had previously one abortion, and I had performed craniotomy in two preceding labors on account of a contraction of the pelvis. Its conjugate diameter was but two and a half inches. I decided not to destroy this, the fourth child, and the mother consented to an operation. I operated on the morning of August 4, assisted by Drs. Sweet and Bryant. Every antiseptic detail was carried out. I made an incision to the peritoneum, through the abdominal wall in the median line, from 4 inches above the umbilicus to within 2 inches of the pubes. The peritoneum was opened on a grooved director with scissors and the uterus lifted bodily outside the abdominal cavity and wrapped in hot antiseptic towels. The upper part of the wound was temporarily closed with silver sutures to retain the abdominal contents; a broad, flat sponge was wrung out in hot boric acid solution, and placed posterior to the uterus over the abdominal incision for further safety; a rubber ligature was passed around the neck of the uterus to prevent hemorrhage. The peritoneum being opened, an incision 4 inches long into the uterus and penetrating to the sac was then made, and the child was removed with membranes intact; no vessels of any size were severed. The rubber ligature was taken off, uterus washed out with hot antiseptic solution. The edges of the wound of the uterus were brought together with catgut, about half an inch apart, made with a curved needle, quarter of an inch from the edge of the incision through the muscular tissue of the uterus, but not including the mucous membrane. Sutures were tied firmly, but not so tight as to strangulate the enclosed tissue.

For the purpose of approximating still more the edges of the incision, a set of superficial stitches of silkworm gut were inserted between the other stitches about quarter the thickness of the uterine walls. Then uterine incision was dusted with

iodoform. We concluded not to irrigate, because no blood or septic material was found within the abdomen. The peritoneum was united with continuous sutures of silkworm gut; the abdominal wall was next coaptated with interrupted sutures of silk, the whole wound being dressed with iodoform gauze and absorbent cotton. The next day her temperature was normal and but for slight vomiting from the effects of the anesthetic, the patient was quiet.

On the third day, she had a little fever for the first, owing to secretion of milk; the temperature of 100 lasted one day. On the fourth day temp. normal and she furnished milk for infant and was anxious for food to appease her own appetite. On the fifth day, bowels moved and temp. normal.

On same day dressings were changed, wound completely healed by first intention. On the tenth day, no untoward symptoms. On the 21st day patient walked through house, and felt as well as ever, excepting muscular debility.

I was again called to see this woman in labor at full term pregnancy on July 27, 1895. I was assisted in this operation by Drs. Sweet, Salts and Davis. This time the case was somewhat complicated by reason of the placenta being attached near and over the os uteri, as in case of placenta previa. I cut through the former cicatrix and found the wall of the uterus to be extremely thin.

The rubber ligature was tightened, the child turned, to save time, membranes were ruptured, child removed and turned over to Dr. Salts.

Placenta quickly removed with all adherent portions of decidua carefully separated, all subsequent details finished as related in first operation. The patient did not lose more than an ounce of blood at most; neither had I to ligate, nor to use torsion on any vessels. Her temperature rose one degree above normal on the third day at the appearance of the milk.

During a subsequent pregnancy in the same patient her husband came to me about the eighth month and informed me that his wife was pregnant and wished another operation. He thought his wife was in average health for her; I called on her in about ten days from that time to make some arrangement for the operation. This visit was in February, 1900, and I was surprised to find my patient in rather poor health, with urine quite heavily loaded with albumin; considerable headache and other symptoms belonging to this condition.

I put her on treatment to build up system and relieve kidney trouble. I was again called to see her in labor on March 2, 1900, and being about 20 miles out in the country, I was called by telephone in the afternoon. I did not arrive in time to operate, that day, so I gave morphia to control pains and postponed the operation until the next morning and had patient prepared, as in the two preceeding operations. Next morning, March 3, I gave patient morphia and atropin with strychnia.

At this operation I had as assistants Drs. Sweet, my son, a medical student, and Miss Belle Shaw as special nurse.

After the patient was under full anesthesia, I made an incision down to the peritoneum, through the abdominal wall. I found the peritoneum adhered to the uterus, also to the abdominal wall in places. I cut down at the side of the old cicatrix, which in my opinion, is the best way.

I broke up the adhesions and lifted the gravid uterus bodily outside of the abdomen, wrapped it in hot towels and made an incision 4 in. long in the uterus, after placing a gauze pad under and around the uterus to prevent any amniotic fluid from getting into the abdominal cavity. This time I did not use the rubber ligature and would not do so again, as it certainly will injure the tissues of the uterus, if placed around tight enough to control hemorrhage.

In 13 minutes from the time I commenced the operation, I had completed all, and was ready to tie the abdominal sutures. The wound was dressed in same manner as in preceding operations. There was but one-half ounce of chloroform used during this, the third operation. The mother was awake and making inquiry of nurse as to whether the babe was a girl or a boy in twenty minutes from time operation commenced.

The next day after operation temperature normal; some nausea from effects of chloroform. Third day: temperature normal. Fourth, 1.5 above normal. Fifth day: bowels moved, temperature normal, dressing changed, found incision hermetically sealed by first intention. We used intra-uterine douches, as before, for first four days only. There were no untoward symptoms after fifth day and patient made a rapid recovery.

Having sold their farm, they moved a distance of 3 miles on the 20th day, with no bad effects whatever. The oldest child, a bright little girl, is attending school and her teacher claims the honor of teaching one pupil that was never born.

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THE LARGE amount of space occupied by the Index in this issue necessitates the entire omission of some of the departments, and a reduction in the amount of space devoted to others.

THE INDEX OF AMERICAN MEDICAL LITERATURE.

There is one part of the Index printed in this issue of THE JOURNAL to which we desire to call attention. It has been a feature of the last four volumes, and yet it has been lost to many of our readers, because its nature has not been known. The feature referred to is the Index to American Medical Literature, commencing on page 1861. This is, in truth, an "Index Medicus" of American Medical Literature, covering, as it does, practically all the original articles in all the reputable medical journals of this country and Canada, except those which appeared in THE JOURNAL. Under "Index of Authors" is given the name of every author who has published a paper in the journals during the six months, giving references which include the titles of papers and where published. The Index to the titles is crossed sufficiently to enable one to look up any subject.

This phase of our index takes a large amount of labor and we do not hesitate to call attention to it thus prominently, believing that this effort on our part needs only to be known to be appreciated. The Index of American Medical Literature will be issued separately, and bound, with the titles as these were printed in THE JOURNAL each week. It will make a ready reference to authors, titles and subjects comparatively easy. This will be supplied to members and subscribers at 10 cents, and to others at 25 cents.

SERUM DIAGNOSIS OF BLOOD FOR FORENSIC PURPOSES.

The determination of the nature of traces of blood for forensic purposes is a very difficult problem, which often can not be cleared up sufficiently to afford definite aid to the administration of law and justice. Soon after the discovery, by Bordet, of cytotoxins produced by injecting the blood of an animal into another animal of a different species, it was found that hemolytic serum also has a precipitating action. It has been shown by Nolf that the precipitation develops as the result of the injection of serum without admixture of red corpuscles. Like the hemolytic action, the precipitating property is also strictly specific, becoming evident only

when the serum is mixed with the blood of the species that furnished the blood for injection. Deutsch¹ found that prepared serum has the same—both hemolytic and precipitating—action on dried as on fresh blood, and thus the idea developed that serum diagnosis might be made available for forensic purposes. The method of preparation of hemolytic and precipitating serum for human blood consequently becomes an important question. In general, Deutsch has found that three injections into the subcutaneous tissue of rabbits, of 10 c.c. of sedimented red corpuscles, repeated at intervals of seven days, gives a strong hemolytic serum, which, when diluted four times with an emulsion made with dried human blood, causes complete solution of the fragments and scales of red corpuscles at the same time as a granular precipitate forms. Such experiments are made best in capillary tubes or as hanging-drop preparations, which are placed in the incubator for some hours. It should be repeated that the serum prepared as stated above has no such action upon the red corpuscles of any other animal. Deutsch emphasizes the important point that hemolytic serum acts upon ordinary dried blood, but not upon blood corpuscles that have been "fixed" by alcohol, formalin, heat or any of the other methods of fixation.

Uhlenhuth, Wassermann and Schütze, and others also have pointed out the forensic importance of the precipitation which takes place when prepared serum is mixed with the serum of the animal species which furnished the injected blood; and this method may be found of service, especially when the blood trace or spot is so old and dry that intact or approximately intact corpuscles no longer are present at all. But in the case of more recent blood it would seem that use might well be made of the dissolving action as well as of the precipitating action of the prepared serum. We have here another example of the eminently practical application of observations which at first seemed eminently scientific and abstruse.

MEMBRANOUS ENTERITIS.

Some difference of opinion prevails as to whether the curious disorder attended with the discharge from the bowel of masses or shreds or bands or tubes of mucus is really a single affection or represents two distinct diseases, both etiologically and clinically. Some writers speak of mucous colic and of membranous enteritis, the former being looked upon as an intestinal neurosis, characterized by severe paroxysms of abdominal pain, associated with the discharge of membrane from the bowel and unattended with anatomic alteration; while membranous enteritis is attended with slight pain and exhibits the anatomic features of chronic catarrh of the intestine. In both the formation of membrane must be attributed to a secretory neurosis, in the one idiopathic—that is, without obvious cause—and in the other secondary to the intestinal condition. Some observers

1. Centralbl. f. Bakt., Abt. I, 1901, xxix, 661.

contend for the existence also of a sensory neurosis.

An interesting group of cases illustrating the various phases of the disorder under consideration is reported by Dr. H. Westphalen,¹ from a study of which, in conjunction with the opinions of others, he dissents from the view that makes a separation of mucous colitis and membranous enteritis as distinct affections. Both are believed to be of like etiology. The formation of the so-called enteritic membrane is attributed to excessive secretion of intestinal mucus of neurotic origin and as a result of which alone abnormal amounts of amorphous mucus are discharged. If, however, there be associated with this a spastic state of the bowel the excessive amount of mucus is compressed and band-like formations are expelled. If the discharge is attended with severe pain the assumption of a simultaneous sensory neurosis of the intestine seems justifiable. Westphalen calls attention also to the association that has been noted between membranous enteritis and intestinal sand, and of this he reports two illustrative instances.

The treatment of the disorder in question should be directed to the relief, by dietetic means, of constipation, when this is present, and substances rich in cellulose have been recommended for this purpose. Besides, mild enemata with simple infusions of warm water or with the addition of sodium chlorid, sodium bicarbonate, Carlsbad salt or aromatics may be given, or injections of oil. For the improvement of the nutrition starches and fats may be added to the food. Small amounts of oil may also be taken by the mouth, and at times bromid or opium, or belladonna may be administered with advantage. The state of the nervous system should be improved by exercise, gymnastics, hydropathic measures, and the like, and a partial or complete rest-cure may render valuable service.

PNEUMOTHORAX IN THE ABSENCE OF DISEASE OF THE LUNGS.

Air may gain entrance into the pleural cavity as a result of perforating wounds of the chest, or of perforation through the diaphragm or the esophagus or the lung. The last-named event commonly occurs in consequence of disease of the lung or the pleura, but rarely it is due to rupture of air-vesicles from overdistention or from succussion, as in coughing, sneezing, laughing, and the like. Even under such conditions, however, it is probable that there must have been a weak point in the lung, perhaps the seat of emphysema or a pleural adhesion.

A remarkable instance of this sort is reported by Dr. B. Stiller,¹ who was called urgently to see a young man whom he had previously treated for a mild attack of nervous dyspepsia. The patient was found in great distress, in a semirecumbent posture, and it was learned that he had been seized suddenly an hour before with unbearable epigastric pain, after a violent paroxysm of

sneezing. On examination, a large tumor was found in the epigastrium, yielding dulness on percussion, and which, it was concluded, was the liver, displaced downward and inward, and rotated forward upon its transverse axis. The right half of the chest was distended to its utmost, and immobile in respiration, with the percussion-note clear, but not tympanitic, on account of the great tension; vocal fremitus was absent. The heart was displaced to the left, the apex-beat being situated in the anterior axillary line. The respiratory murmur was amphoric on the right side, but metallic, ringing râles, as well as succussion splash, were wanting. There was no doubt that the condition was one of pneumothorax, with displacement of the liver from the concavity of the diaphragm. Suffering was relieved by injection and internal administration of morphin, and in the course of a day the liver had returned to its usual situation, though possibly a little lower than normal. In the course of a week, all signs of pneumothorax had disappeared. At no time was there any evidence of effusion into the pleural cavity. It is believed that, as a result of rupture of a subpleural air-vesicle, air was pumped with each inspiration from the lung into the pleural cavity, from which its escape was prevented by a valve-like formation, and finally causing the extreme displacement of the liver noted. The opening, fortunately, soon closed, and the air was speedily absorbed. So far as could be ascertained, the lungs were healthy.

A REMARKABLE SURVIVAL OF SEVERE INJURIES.

What the human organism can stand in the way of injury, at least temporarily, is not yet absolutely determined. Every little while there appear presumably authentic reports of individuals surviving for hours, or even for longer periods, mutilations and injuries of supposed vital organs that are usually considered inevitably and immediately fatal. A recent case of this kind is reported by W. H. Clayton Greene,¹ that is of some curious interest. A man fell from a ladder and was impaled upon an area railing. He was removed to the hospital, and when seen a little later was pulseless, but the heart could be felt beating feebly and irregularly. There was a large gaping wound of the left hypochondrium, and it appeared that several ribs were fractured and hemorrhage had been excessive, but the condition of the patient prevented a detailed examination at this time. Under the influence of strychnin injections, hot applications, and saline solutions per rectum and the basilic vein, he rallied so that in less than one and a half hours the pulse was easily felt, and the wound was explored as far as practicable, but the source of the still-continued bleeding could not be definitely made out. About three and one-fourth hours after his reception an attempt was made to control hemorrhage; he was anesthetized and the wound again explored and found so extensive as to forbid surgical interference. The patient died nine hours after reception, and the autopsy revealed fracture of five ribs, perforation of both walls of the stomach from before backward, perforation and

1. Berliner Klin. Woch., 1901, Nos. 14, 15 and 16.

1. Wiener Med. Woch., 1901, No. 18, p. 857.

1. The Lancet, June 8.

laceration of the diaphragm, extensive collapse of the left lung, and perforation of the pericardium and left ventricle of the heart. While this case is not altogether unique in its severity, being, indeed, less obviously remarkable than that of the man who for some time survived being cut in two on a railroad in North Carolina, noticed editorially at the time in *THE JOURNAL*, it is still striking enough to call for attention. Perforation of the left ventricle by an iron fence paling, without immediate death, is certainly remarkable enough, but the wound was a lacerated or punctured one and probably valvular, so to speak, to some extent. The case, as Greene remarks, illustrates the vitality of the body after such injuries, and the value of normal salt solution, which in this case must have compensated largely for the loss by hemorrhage. Survival was impossible, but that he should have lived nine hours after such an injury seems almost miraculous.

Medical News.

(The usual amount of News has been crowded out on account of the Index.)

CALIFORNIA.

Dr. John M. Kane has been appointed city bacteriologist of Oakland, the appointment to take effect July 1.

Dr. Frederick W. Hatch, Sacramento, was reappointed general superintendent of the State Hospitals, June 10.

Dr. A. H. Giannini, San Francisco, who has recently returned from an eighteen-months' tour of Europe, was given a banquet by his professional and lay friends, June 8.

The College of Medicine of Southern California, Los Angeles, held its sixteenth annual commencement, June 13, graduating a class of eighteen. The Faculty address was delivered by Rev. George T. Dowling, on "Originality."

CONNECTICUT.

Dr. Ellen Pembroke O'Flaherty, Hartford, has been appointed assistant physician in the Sanatorium at Santa Clara, N. Y.

Prof. Edmund B. Wilson, of Columbia University, delivered the annual address in Medicine at Yale University, June 25, on "The Higher Claims of Minute Search in Biology and Medicine."

Hartford Medical Society received a donation of a portrait of the late Dr. Melancthon Storrs, painted by Charles Noel Flagg. William M. Storrs, in behalf of the other children, sent with the portrait a letter of presentation through Dr. George Shepherd, the president of the society.

New Britain Hospital has appointed the following on its staff for the ensuing year: Drs. Erastus P. Swasey, Lawrence M. Cremin, W. H. Barton and John E. Martin, acting staff; Drs. Robert M. Clark, Jay S. Stone and J. Norris Ball, Plainville, consulting staff; Dr. George J. Holmes, oculist and aurist; Dr. Kenneth E. Kellogg, neurologist, and Dr. Joseph B. Brocksieper, dermatologist. The directors have decided to equip a pathological laboratory.

FLORIDA.

The Board of Medical Examiners met at Tallahassee on May 14 and admitted two applicants to practice medicine in the state.

The Plant System Hospital, at Sanford, has been closed for reasons of economy. As the hospital at Montgomery, Ala., has also been closed, this leaves only two of the Plant system hospitals in operation, those at Waycross, Ga., and High Springs, Fla.

Central Florida is to have a national sanatorium for tuberculosis, located where the advantages of climate and water can be secured, without excessive humidity. Dr. James K. Crook, New York, has been making investigations throughout the state with this object in view.

Quarantine Station Leased.—The State Board of Health has leased to the United States treasury department, through the marine-hospital service, the quarantine stations, except Mullett Key stations in Tampa bay belonging to and operated by the State Board of Health of Florida, for a period of three years.

GEORGIA.

The Prison Commission has failed to sustain the charges of incompetency and neglect of duty made by the convict lessees against Dr. Hugo Robinson, of Albany, and he has been fully exonerated.

The Presbyterian Hospital at Atlanta has elected the following medical board: Drs. Marion McH. Hull, president, and E. Bates Block, general medicine and diseases of children; Drs. Stephen T. Barnett and Cyrus W. Strickler, general surgery; Drs. Edward C. Davis and James N. Ellis, gynecology and obstetrics; Drs. Walter B. Emery, secretary, and James McFadden Gaston, Jr., genito-urinary surgery; Drs. Arthur G. Hobbs and James M. Crawford, eye, ear, nose and throat; Dr. Michael Hoke, orthopedic surgery, and Drs. Miller B. Hutchins and John L. McDaniel, diseases of skin and nervous system. The hospital will be opened July 1.

ILLINOIS.

Dr. Lincoln M. Bowman has been elected physician of Alton, and Dr. Edward C. Lemen, of Upper Alton.

Dr. R. Homer Mead, Camden, has been appointed superintendent of the warden's part of the state penitentiary at Chester.

Dr. Edward L. Birch, Robinson, has been appointed assistant physician of the Illinois Northern Hospital for the Insane at Kankakee.

St. Francis Hospital, Freeport, received \$10,000 from the estate of the late Dr. W. S. Caldwell. It is directed that this sum be invested and its interest used for the treatment and care of the sick poor.

GENERAL.

Dr. Henry L. E. Johnson, Washington, D. C., secretary of the Board of Trustees of the AMERICAN MEDICAL ASSOCIATION, was married to Miss Eugenie Taylor, also of Washington, June 19. On their return from their wedding trip Dr. and Mrs. Johnson will occupy their new residence at 1821 Jefferson Place.

Congress on Tuberculosis.—It is much to be desired that a large contingent from the United States should participate in the work of this Congress, which will be held in London, July 23 to 26. Many prominent physicians have signified their intention of joining the Congress. Members of the profession wishing to do so should send their names, inclosing five dollars, to Dr. St. Clair Thomson, 20 Hanover Square, London, W., England.

The "Atlanta Institute of Christian Science," which applied for a charter, has been denied recognition by Judge J. H. Lumpkin, who holds that "Christian Scientists" cannot practice their treatment of diseases in the state of Georgia without having regularly graduated in medicine or passed an examination before the medical examining board, the same as other physicians. He holds that, according to the decision of a case in the Supreme Court of Nebraska, Christian Science is the practice of medicine, and that the practice of medicine in Georgia, according to the state law, must be accomplished by persons who are regularly graduated from a medical school.

Current Medical Literature.

Titles marked with an asterisk (*) are noted below.

Medical News (N. Y.), June 15.

- 1 *Decortication of the Lung for Chronic Empyema. George Ryerson Fowler.
- 2 *A Study of Some Complications and Sequelæ of Typhoid Fever. H. A. Hare and H. R. M. Landis.
- 3 "The Porro-Cesarean Operation," with Report of Two Successful Cases. James H. Glass.
- 4 *The Treatment of Scarlatinal Nephritis. Charles Gilmora Kerley.

American Medicine (Philadelphia), June 15.

- 5 *Pulsation of the Uvula in Aortic Insufficiency. David Riesmann.
- 6 *Prevention and Cure of Post-operative Hernia. James E. Moore.
- 7 A Few Useful Points in the Symptomatology of Eye Diseases Applied to General Practice. Henry Bassett Lemere.
- 8 *Formalin in the Treatment of Suppurative Otitis Media. Nathan G. Ward.
- 9 Synchronous Amputation of Both Thighs for Gangrene of Feet under Special Cocainization. George G. Hopkins.
- 10 *Permanent Gold Preparations. Emma L. Billstein.

- 11 An Improved Bedstead for Invalids. E. E. Munger.
 12 Excessive Eosinophilia in Trichiniasis. A. J. Patek.

Medical Record (N. Y.), June 15.

- 13 *A Note on the Spread of Yellow Fever in Houses. Extrinsic Incubation. H. R. Carter.
 14 *On the Origin of Cancer; What Remains to Be Demonstrated. Samuel W. Bandler.
 15 *The Redundancy of the Pre-insula in the Brains of Distinguished Educated Men. Edward A. Spitzka.

New York Medical Journal, June 15.

- 16 An X-ray Study of the Causes of Disability Following Fractures Involving the Elbow Joint. Samuel Lloyd.
 17 *A Modified Urethral Dilator-handle. Ferd C. Valentine.
 18 Hyperacidity (Superacidity, Hyperchlorhydria, Superaciditas Chlorhydrica); A Clinical Study. (Continued.) H. Iloway.
 19 Penetrating Wounds of the Abdomen. Russell S. Fowler.
 20 Paramyoclonus Multiplex. L. J. Morton.
 21 A Case of Cerebellar Apoplexy with Autopsy. Leonard Weber.

Boston Medical and Surgical Journal, June 13.

- 22 *Internal Medicine in the Nineteenth Century. N. S. Davis, Jr.
 23 *Some Observations on Chronic Seminal Vesiculitis. Arthur L. Chute and Richard F. O'Neill.
 24 *Iodophilia. Theodore Dunham.
 25 Cystic Tumor of Median Nerve; Operation: Restoration of Function. A. S. Hartwell.

Philadelphia Medical Journal, June 15.

- 26 *The Topical Treatment of Focal and Jacksonian Epilepsy. J. William White.
 27 *Theoretical and Practical Considerations on the Treatment of Jacksonian Epilepsy by Operation; with the Report of Five Cases. (To be continued.) James Jackson Putnam.
 28 *What I Have Learned from 161 Operations for the Relief of Senile Hypertrophy of the Prostate Gland. (Continued.) Orville Horwitz.
 29 The Value of the Combined Medical and Surgical Clinic to the Student. Robert G. LeConte.
 30 A Case of Abdominal Pregnancy. Augustus C. Behle.
 31 Specialism and Some of Its Relations to the General Practice of Medicine. Henry Wallace.

Cincinnati Lancet-Clinic, June 15.

- 32 *Diagnosis of Typhoid Perforation. Mark A. Brown.
 33 Surgical Interference in Typhoid Perforation. N. P. Dandridge.
 34 The Curette and Packing in Endometritis. J. M. Withrow.
 35 *Insanity in Women from the Gynecologic and Obstetric Point of View. A. Laphorn Smith.
 36 A Case of Puerperal Sepsis. Willis Hall.

Medical Council (Philadelphia), June.

- 37 Disorders of the Sexual Function in Man. A. H. P. Leuf.
 38 The Biography of Culex. J. J. Hanley.
 39 Idiosyncrasies. Carroll Kendrick.
 40 Some Reminiscences from My Obstetric Experience. W. H. Thomas.
 41 Diphtheria Successfully Treated with Pilocarpine. J. A. Muenich.
 42 The Injection Method for the Relief and Cure of Hernia. C. Fletcher Souder.

American Journal of Insanity (Baltimore), April.

- 43 Some Points in the Treatment of the Chronic Insane. Francis O. Simpson.
 44 *Notes on the Contracts and Torts of Lunatics, with Special Reference to the Law of Maryland. William H. Buckler.
 45 Heredity. J. T. Searcy.
 46 Insane or Criminal? George J. Preston.
 47 Death of an Insane Man from Fracture of Skull and Hemorrhage of the Brain; Skull Abnormally Thin. A. R. Moulton.
 48 The Relation of Mental Content to Nervous Activity. E. B. Delabarre.
 49 *Mental Therapeutics in Nervous and Mental Diseases. Richard Dewey.
 50 Signs of Degeneracy and Types of the Criminal Insane. Chas. A. Drew.

Journal of Cutaneous and Genito-Urinary Diseases (N.Y.), June.

- 51 Therapeutic Notes on Sulphur Cream, Goose Grease, and Crude Petroleum. George Thomas Jackson.
 52 *A Modification of Cock's Method of Performing External Urethrotomy Without a Guide. Percy R. Bolton.
 53 Case of Prostatectomy. James Bell.
 54 Multiple Nodular Melanosarcoma of the Skin from a Nevus. A. Ravogli.

St. Louis Medical and Surgical Journal, June.

- 55 A Case of Disseminated Seborrhoeic Epithelioma. A. H. Ohmann-Dumesnil.
 56 Fever. Benjamin H. Brodnax.
 57 Observations and Tabulated Report of the Result of 150 Operations for Appendicitis. Leon Brinkman.

- 58 A Contribution to the Modern Treatment of Piles. Dr. Jedlicka.

Cleveland Medical Gazette, June.

- 59 *Diagnosis of Meningitis. Charles J. Aldrich.
 60 *Albumosuria as a Diagnostic Aid in Diseases of the Osseous System. Walter G. Stern.
 61 *Albuminuria of Adolescence and Cyclical Albuminuria. H. J. Lee.

Southern Medical Journal (La Grange, N. C.), May.

- 62 Circumcision. Israel Brown and Stanley H. Graves.
 63 Malaria: A Clinical Report. J. W. P. Smithwick.
 64 Cholera Morbus. A. S. Buchanan.
 65 Treatment of Opium and Morphin Habit. J. W. P. Smithwick.
 66 *Abdominal Versus Vaginal Hysterectomy. Henry O. Walker.

Nashville Journal of Medicine and Surgery, May.

- 67 A Case of Traumatic Separation of the Symphysis Pubis Complicated by Rupture of the Bladder and Urethra, and Extensive Urinary Infiltration—Operation and Recovery. Charles S. Briggs.

- 68 Jacksonian Epilepsy, with Report of a Case. E. G. Wood.

Charlotte Medical Journal, May.

- 69 Materia Medica and Therapeutics. J. A. Reagan.
 70 The Use of Continuous Silver Wire Sutures in the Closure of Abdominal Incisions and the Radical Cure of Hernia. L. B. McBrayer.
 71 Dacryocystitis. W. W. Dusen.
 72 The Treatment of Alcoholism. H. L. Baird.

AMERICAN.

1. **Decortication of the Lung.**—Decortication of the lungs is a term applied by Fowler for designating the procedure intended to relieve the lung of its environment in cases in which expansion is prevented or interfered with by the presence of greatly thickened pleural covering. He reproduces here in abstract a case of the first observation of this kind published by him in 1893. He reviews the literature and experience with the operation so far as known up to the present time. His conclusions are: 1. Decortication of the lung is an operation adapted to all cases of old empyema in which extensive and pre-operatively discoverable tuberculous lesions of the lungs are not present, and in which the patient's condition will permit of a major operation. 2. It may be advantageously substituted for Estlander's operation in the majority of instances in which the latter has been considered, up to the present time, as being indicated, since it is more a rational procedure in that it combines the advantages of restoration of function of the lung, so far as this is possible, with closure of the empyemic cavity. 3. It should replace Schede's operation in all cases. 4. The method by extirpation of the diseased portion of the pleural membrane, including the visceral, cortical, and diaphragmatic portions, is the operation of choice. 5. Failing this, visceral pleurectomy should be selected. 6. Pleurotomy, with simple detachment of the visceral layer of the diseased pleural membrane, gives sufficiently good results to warrant the surgeon in resorting to this procedure in cases in which the condition of the patient will not permit of the application of the other and more desirable methods. 7. Whatever operative method is adopted, as complete access to the cavity of the chest as possible should be obtained, and rapid closure of the opening in the chest-wall afterward secured, since the complete re-expansion of the lung must depend largely upon the normal respiratory movements. 8. Pulmonary or respiratory exercises should not be neglected in the after-treatment, since these aid greatly in the restoration of the function of the lung.

2. **Typhoid Fever.**—The complications and conditions noticed in the paper of Hare and Landis are those of typhoid fever in pregnancy, the frequency of typhoid in children and its symptoms in them as distinct from those in the adult, especially the temperature, eruption, and circulatory and nervous symptoms. He also discusses the facts in regard to typhoid fever in advanced years, the different forms of onset of the disease and the alimentary, respiratory, nervous and renal conditions at the beginning of the case.

4. **Scarlatinal Nephritis.**—After noticing some errors of treatment for the sequelæ of scarlet fever in its convalescence, Kerley asks: What is to be the management of a case in which exudative glomerular nephritis of average severity in a child,

with puffiness of the eyelids, edema of the feet and ankles, scanty, high-colored urine, fever, headache, and perhaps nausea, usually at three or five weeks after disappearance of the rash? The first step refers to the diet. Milk, broths, and thin gruels only should be given. The bowels should be moved two or three times daily. Small doses of calomel, one-tenth of a grain per hour, or citrate of magnesia are recommended for this purpose. Small doses of aconite, one-fourth minim every two hours for a child 3 years old, is prescribed usually as a routine measure, and he has found it a very useful drug in producing diaphoresis. In case this fails hot air is brought into use, being conducted under the bedclothes from a lamp, and if this fails hot packs may also be employed, while great care should be exercised as regards exposure. A very important remedy which he recommends is hot-water flushing of the colon; this he thinks is of more value in restoring the kidney function than any other measure. It may be used to advantage when the urine first becomes scanty, as well as when convulsions are threatened or present. For a child 3 years of age, 16 to 24 ounces of normal salt solution at 110 F. is introduced by a rectal tube, which should be inserted at least ten inches. The object is to have the water retained and the higher it is introduced the better. A pint to a pint and one-half every six hours does best in most cases. The child must be kept in bed until the urine has been normal for two weeks.

5. Uvular Pulsation in Aortic Insufficiency.—Riesman calls attention to the fact that pharyngeal pulsation in aortic insufficiency was first brought to the attention of the profession by F. Mueller in 1889 and that little reference to it has since been made. He reports two cases in which the phenomenon occurred. It is, of course, of the same nature as the capillary pulse and has no special diagnostic value, but the knowledge of its existence adds one more point to be looked for in the critical study of a case and sharpens the powers of minute observation.

6. Post-operative Hernia.—After first noticing a case of post-operative hernia, Moore gives the following method, which he has used for several years, in closing the abdominal wound: The peritoneum is first closed by a running stitch of medium-weight catgut. Silkworm-gut sutures are next passed through all of the tissues except the peritoneum by means of a full curved needle of a size suited to the thickness of the abdominal wall. The needle passes from without inward through the integument, fascia, muscle, and deep fascia, coming out next to the peritoneum. It then passes from within out through the inner fascia, muscle, outer fascia and integument. In a very thin abdominal wall the needle can be passed through both edges of the wound at one sweep, but in most cases it is better to take them separately. These stitches are placed about a half inch apart. The fascia of the external oblique is next united by a running stitch of medium-weight catgut. All the ends of the silkworm-gut are now caught and pulled upon at once so that they are made taut, after which they are tied lightly. Extra skin sutures are applied when needed. The advantages are, that the peritoneal cavity is closed without delay, and there is no undesirable material left in the tissues to make future trouble. Suturing of the outer fascia gives such support that the silkworm suture need not be tied so tightly as to cause necrosis. The operation obliterates any dead space and yields permanently satisfactory results.

8. Formalin.—The use of formalin in the treatment of suppurative otitis media is advised by Ward. He finds that by the judicious use of formalin the following results may be obtained: 1. Fetid odor quickly disappears. 2. There is an early cessation of the discharge. 3. It protects against the formation of granulations, and small granulations are destroyed by alcoholic solutions. 4. It promotes healing of ulcerated mucous membrane, skin abrasions, and inflammation of the external auditory canal. 5. It retards, but does not entirely check, bone necrosis.

10. Permanent Gold Preparations.—The usual temporary nature of gold stain on nervous tissue is first mentioned by Billstein, who reports her results with a mixture made by 8 parts of a 1 per cent. solution of gold chlorid and 2 parts of

formic acid boiled three times and then cooled. The tissue is put in the cold material, which must be kept in the dark. After one hour it is washed in distilled water and placed in a mixture of 10 parts of formic acid and 40 parts of distilled water and exposed to diffuse daylight. The reduction occurs at 24 to 48 hours, when the violet tissue is transferred to 70 per cent., and after 24 hours to 90 per cent. alcohol and kept in the dark for at least one week. It is then ready for final manipulation and may be teased and mounted in acidulated glycerol or imbedded and cut into sections. This method has been attributed to Stöhr, and is similar to Ranvier's technique, "Procédé de l'or bouilli." Stöhr, however, advises longer boiling of the gold chlorid and formic acid mixture. The author has found the stain to remain permanently two and three years, and apparently it will endure indefinitely.

13. Yellow Fever.—Carter's article deals with the subject of house infection and gives illustrations showing the interval between the infection and the first appearance of yellow fever. The article was mainly written before the recent publication of the observations of Reed and Carroll at Quemados, and he says that they agree entirely with his result, the incubation after the mosquito bite being only slightly longer than that which he found from apparently infected houses, and Reed's theory agrees absolutely with the conclusions of this paper.

14. Cancer.—Bandler reviews the recent experimental researches on the origin of cancer. He quotes Cullen as stating that Gaylord has not in any case experimented with the cure culture and that the recovery of the organism from the cancer produced is hardly touched upon by him. He says, however, that as Gaylord's communication is preliminary the complete work may yet solve these problems. The larger part of his paper is a review of Leopold's work on the production of cancer from the injection of blastomycetæ and he admits that the causal relation of these organisms to the growths produced in animals must be granted. The decision concerning the character of these neoplasms and their actual relation to carcinoma and sarcoma is a question yet to be settled.

15. The Pre-insula.—The relation between the development of the insula and mental development is the subject of Spitzka's article. E. C. Spitzka has shown in 1880 that the insula had a greater development in the porpoise than the human species, but it appears that the greater part of this development was in the post-insula, and the theory was offered that it had to do with the excessive development of the functions of audition and equilibrium in these mammals. The observations of Waldschmidt and Donaldson on the insula of deaf mutes are referred to, and also the theory that exposure of the insula indicates defective brain development. This last is apparently contradicted by results of examination of the brain of the Seguins previously published by Spitzka and it is possible that a similar exposure of the insula exists in the brain of Chauncey Wright, which is being examined by B. G. Wilder. In the human subject the development is greatest in the pre-insular portion and the conclusions to be drawn from the Seguin brains as correlated with their known abilities are: 1. In the highly intellectual (for example, the two Seguins), owing to the excessive growth and development of the left pre-insula causing a displacement of the opercula, thrusting them apart, as it were, and even though the latter be very well developed. 2. In the defective, exposure of the pre-insula is due to deficient development of the opercula, and because these fail to approach each other. In such cases the insula itself is, with a single exception in the series studied by me, of inferior development, indicated not only by the soundings of the Sylvian cleft, but also by the flatness of configuration, and lesser area of the insular cortex. A possible additional factor is that the deeper and more numerous the infraconvolutions of the insula the more numerous are the important branches of the medicerebral artery and the greater their caliber. Since the greater blood supply is presumably a condition of higher potency of function, insular development *per se* is an expression of general development in this other respect as well as in the purely morphologic one. He asks, putting the facts together of the relative proportions of the two extremities of the insula in the porpoise and in man, and in the light of Waldschmidt's

observation, would it be rash to propose that the post-insula shares in its development that of the auditory sense center, by virtue of association neurons with short axons, while the growth of the pre-insula is more in consonance with that of the true "speech-center" in the subfrontal operculum? After all, the development of the pre-insula is only an intense expression of that feature by which the human brain excels all other animals; for in no lower form do we find the insula so fully developed in its cephalic region.

17. Modified Urethral Dilator-handle.—The modification proposed by Valentine consists in putting the dial on the top of the handle instead of the side, and having two heavy metal projections for the operator's thumb and index finger. The advantages are that the dial is continuously under the operator's eye and out of the range of the patient's, and the improved mechanism does not increase the cost.

22. See THE JOURNAL of June 8, p. 1606.

23. Chronic Seminal Vesiculitis.—Chute and O'Neil call attention to the importance, only recently recognized, of seminal vesiculitis and describe its symptoms, diagnosis and treatment. Among the symptoms they specially mention are feelings of vague discomfort in the rectum and perineum, pain and discomfort on defecation, persistent discharges, especially those containing small comma-shaped shreds from the prostatic urethra, sometimes frequency of micturition, tenesmus, etc. The direct symptoms are for the most part urinary in character and not particularly distinctive. The reflex symptoms are those of sexual neurasthenia. The most characteristic symptoms are irregularity in the function of erection. A combination of neurasthenic symptoms with these latter is almost pathognomonic. The details of physical examination of the prostate, etc., are mentioned. The treatment which has given the writer the best results is massage of the vesical ducts and of the prostate as well. He warns against advising sexual indulgence as a therapeutic measure. It is probable that a certain number of cases of impotence and many of sterility are due to this condition, which gives its treatment wider importance than that mere relief of the discomfort. He would strongly advise examination by rectum of all patients with urethral disease not progressing favorably, particularly those presenting so-called neurasthenic symptoms.

24. Iodophilia.—This term is coined by Dunham to designate the reaction shown by the blood, in which the polymorphonuclear neutrophils take on a reddish-brown coloration, when examined with a solution of iodine dissolved in iodide of potassium. The solution is made up as follows: Three parts of potassium iodide are dissolved in 100 parts of water. In this is dissolved 1 part of iodine. The resulting solution is thickened to a syrupy consistency by the addition of gum arabic and the blood smear is mounted in a drop of this syrup and a bit of filter paper placed at the edge of the cover glass to absorb the excess of fluid. The specimen is then ready for examination with an oil-immersion lens. The reaction is apparently always present in progressive suppurations and in progressive pneumonia and may occur in a few other diseases, such as grave anemias, leukemia, etc. Its value, however, lies in cases of doubtful suppuration and doubtful pneumonia. He gives illustrations of its use in cases of abscess and inflammation of the lungs.

26. Focal Epilepsy Operations.—White refers to a former article of his on the influence of operation *per se*, and discusses the rationale of the effect. The problems finally took this shape in his mind: When can subjects of epilepsy receive, without undue risk of life or health, the benefit of both operative interference and sedation of affected brain area? 2. Can operation be based on any but empirical grounds? If on the latter only does the evidence warrant its continuance? Is there any means of securing sedation, that is, of applying the general therapeutic principle of rest in such a way so that natural processes may have an opportunity to effect a cure without at the same time disturbing or interfering with the general health. He decides at once that as regards the idiopathic epilepsies and pseudo-Jacksonian cases, the answer to these questions should be in the negative, but as to true focal epi-

lepsy, whether traumatic or not, the case may be slightly different. In fact the results of operation, while more encouraging, are not sufficiently so to justify us in ignoring the greatly increased risk and post-operative paralysis following excision of the center, without which trephining becomes an incomplete and an unsatisfactory operation. He was therefore led to try the following method: The affected center is, of course, determined in advance by the most careful study and observation of the case. Its relation to the cranium is indicated by a silver or iodine mark upon the shaven scalp two days before the operation. The scalp is sterilized and re-sterilized three times at intervals of twelve hours, not only before the trephining, but also before each subsequent application of the treatment. A horseshoe-shaped flap is raised and a half-inch button of bone removed with a small trephine. The dura is left intact. Thirty minims of a sterile 2 per cent. solution of eucain is then injected into the brain substance at the center of the trephine opening, the point of the needle being introduced about three-quarters of an inch. The needle is gradually withdrawn as the last ten minims of the solution are injected. The flap is replaced. The patient is returned to bed, and on the day of operation, and the following day, should receive full doses of bromids. At intervals, the proper length of which can only be determined by experience, the scalp having been sterilized as above, the injection is repeated. The patient should be kept in bed at least four hours after each injection and should take bromids for from one to two days." He is not convinced that this method has any additional value, but he reports two cases in which it was tried at the University Hospital. He admits that this can not be said to establish even the entire safety of the procedure, as convulsions in Case 2, which followed one of the injections, were of marked severity. Neither can it be said that the results obtained were noticeably better than those seen to follow the very miscellaneous procedures that have been reported, but he still thinks that the possibilities of benefit would justify him in placing it conservatively before the profession.

27. Jacksonian Epilepsy.—The views maintained by Putnam are: 1, that operations of many different sorts are of value; 2, that the beneficial action of these operations, although complex in character, is mainly due to the induction of a temporary inhibition of the morbid action of the cortex, which permits of the establishment of a more normal tendency; 3, that the removal of the apparently normal cortex is rarely advisable, and, when beneficial, acts mainly as above indicated; 4, that the cause of the persistence of the "epileptic habit" is not to be sought alone in anatomic peculiarities of the brain, but that it shares the vitality and independent endurance of memories in general. Also, the symptom-groups which present themselves after cortical lesions conform, in general, to certain special types, which recur without being closely dependent on the localization of the cerebral injury. These symptom-groups represent, in fact, efforts at the formation of a new equilibrium on the part of a being endowed with consciousness and memory on the one hand, and with a complex brain mechanism on the other. The principle on which this readjustment goes on in cases of actual cerebral lesion, is analogous to that which is operative in "hysteria."

28. Prostatectomy.—Horwitz' conclusions regarding prostatectomy are: 1. With the exception of ligation of the internal iliac arteries, prostatectomy is the most dangerous of any operation that has been recommended for the relief of prostatic obstruction due to hypertrophy. 2. Suprapubic prostatectomy is the safest method, especially if combined with perineal drainage. 3. The best period to select to perform this operation is early, before the break-down of catheter life and serious complications have supervened. 4. Either an atonied or contracted bladder of long standing, associated with chronic cystitis, attended by the formation of sacs, or pouches, are contra-indications for the operation. 5. A partial prostatectomy is indicated in those cases where a valve-like lobe exists, which interferes with urination, or where there is partial hypertrophy of one of the lobes. 6. A complete prostatectomy is indicated where a hypertrophy of the three lobes has taken place, especially if the condition is associated with tumor for-

mation, projecting well back into the bladder, or has given rise to a stenosis of the prostatic urethra. 7. Perineal prostatectomy is best suited to those cases where the enlargement of the lateral lobes has a tendency to grow towards the rectum, or obstruct the urethra. 8. When performing a perineal prostatectomy the semicircular incisions advocated by Pyle, or the transverse cut of Worholm, is the most satisfactory. 9. The removal of a portion of a small, hard, fibrous prostate gland by means of the perineal route is a very difficult operation. There is danger of not only extirpating the entire gland, but the prostatic urethra as well.

32. Typhoid Perforation.—Typhoid perforation is discussed by Brown. It occurs as a rule at the end of the second or beginning of the third week and special attention should be given at this time for its occurrence. The first symptom is pain, sudden in its onset, agonizing in character, though this symptom may be dependent on other causes, even in cases of typhoid. A sudden and decided drop in the temperature usually follows, though not invariably, and it may be so transitory as to escape notice. The pulse usually becomes increased in frequency and decidedly weakened, but not wiry until actual peritonitis has set in. The most important part of the symptomatology is objective. With an opening between the bowel and peritoneal cavity there will be a more or less rapid outpouring of gas and fluid, gradually decreasing as the pressure becomes lessened. This gaseous distention of the abdomen, palpation signs, etc., are all noticed at length. Auscultation is of little value. A blood examination may reveal slight leucocytosis. The facial expression, sweating and decubitus indicate the passage into the third stage. The combinations of symptoms are, he says, generally so varied that it is almost impossible at times to diagnose the conditions early enough to allow operative interference with any chance of success.

35. Insanity in Women.—Lapthorn Smith reviews the work of Hobbs, Hall, Rohe, Bucke, and others, and concludes that insanity in the majority of cases is not due to organic brain disease, but to the functional disorders of diseased circulation and its circulating fluid, and that this in many cases in women is caused by reflex irregularities from pelvic organs. He thinks it is the duty of the family physician to examine every insane woman in his practice, or have her examined by a gynecologist, and remedy any pelvic diseases that may exist. This should be done systematically also in asylums. He makes the statement in conclusion, that in view of the number of women that become insane from uremia some care should be exercised by the practitioner in preventing this condition and that physicians should, when permitted, with the advice of one or two colleagues, empty the uterus.

44. Contracts and Torts of Lunatics.—Buckler sums up the Maryland law, and says that for the present the rule undoubtedly is that whenever a person is injured by the act of a lunatic, he may sue and recover damages from the lunatic, unless malicious intent is a necessary ingredient in the tort. There seems, however, to be a tendency to depart from the rashness of this rule, and to place the tortious acts of lunatics on the same footing as those of sane persons which occur as the result of an inevitable accident.

49. Mental Therapeutics.—The central idea of Dewey's article is that the cure of many nervous and mental diseases consists in a process replacing in the patient a natural and healthy mind and healthy association, replacing morbid ideas with normal ones, forming new habits by a process that may be in some cases likened to education.

52. External Urethrotomy.—Where the use of a guide for urethrotomy becomes impossible, as with impermeable stricture or complex division of the urethra, the operation is often tedious and difficult. The appliances that are available for this purpose and have been instituted have their disadvantages. Retrocatheterization implies extra mutilation and adds somewhat to the danger. The Wheelhouse operation is of limited practicability; it can only be performed where the stricture is still permeable and many times can not be carried out even in these cases. The Cock operation has a wider field, but Bolton

suggests a method, whose principles are the same as those underlying the Cock operation, but differing in details. He describes it as follows: "The patient may be placed in the lithotomy or knee-chest position. A curvilinear transverse incision is made across the perineum, the convexity looking forward or backward and the tendinous center of the perineum exposed. The attachment of the sphincter ani to this point is divided and reflected and the triangular ligament thus exposed incised transversely. The anterior fibers of the levator ani passing beneath the prostate to the rectum now come into view. These, together with the rectum, are next pushed backward and the prostate exposed. The exposed surface of the prostate is now cleaned and its apex identified. No harm can accrue from incision into the floor of the prostatic urethra anterior to the veru montanum, and incision made into this part of the prostate is sure to enter the urethra behind its point of stricture. The anterior quarter inch of the apex of the prostate is accordingly incised longitudinally in the median line, the urethra opened and the incision then prolonged forward as far as desired, guided, if necessary, by a probe or director suitably bent and introduced into the urethra from behind forward." He says this method, while a little more elaborate than the original operation, does not seem to him especially difficult and will be found useful in recent ruptures of the urethra, and in strictures uncomplicated by extravasation of urine or perineal abscess. He would hesitate to make use of it in cases of infectious inflammation or necrosis of the perineal tissues, on account of the larger wound surface exposed to infection and the risk of infection of cellular tissue, above the transverse ligament between the rectum and bladder.

59. Diagnosis of Meningitis.—The various symptoms indicating the presence of meningitis are reviewed by Aldrich, according to their various diagnostic values: the widely varying onset, head pains, convulsions, facies, mental state, pulse, temperature, respiration, etc., and he mentions one respiratory change which he has observed so often that he believes it of diagnostic value. In normal inspiration the abdominal walls are expanded, but retracted on expiration. In meningitis, however, there is a retraction of the walls during inspiration and the descent of the diaphragm, probably due to hypertonus of the muscles, which is a constant and early symptom. Vomiting, abdominal symptoms, muscular rigidity, urinary retention, Kernig's sign, cutaneous eruptions, etc., various sensory symptoms, leucocytosis, etc., are mentioned. He believes that in lumbar puncture we have a great step towards accuracy in the diagnosis, and calls attention particularly to a condition of the serum which has been observed by him since 1898. When a test tube containing a column of cerebrospinal fluid from a case of meningitis is allowed to stand from twelve to twenty-four hours without agitation, a thin filament of fibrin forms in the center of the column of fluid, and seems to be suspended from a delicate pellicle at the top and extends to the bottom. Lifting out this fibrin with a platinum loop and with it spread out on the cover glass, cells of diplococci were revealed. He thinks that this observation is of special value where the use of the centrifuge, and microscope and culture studies are not available. The same symptom has been noticed by Breuer in Vienna and the same diagnostic importance attributed to it.

60. Albumosuria.—Stern calls attention to the presence of albumose in the urine as an indication of osteomalacia and bone tumors. Not all cases of osteomalacia or multiple bone tumors show this symptom; sometimes it may be absent during the short time the case is under observation. Nevertheless, in a large number of cases it gives the only possible indication of the diagnosis.

61. Cyclic Albuminuria.—The title of this article, Lee remarks, implies two distinct conditions, which, however, are practically one in all essential points. The albuminuria of adolescence is always cyclic, and cyclic albuminuria occurs most often about the period of adolescence, and it is no doubt the same as that which more rarely occurs later in life. Functional albuminuria is the term usually employed. It is an important condition. When it persists after 25 years of age he would not consider the case a good insurance risk. The

etiology is obscure. The condition produces no systemic symptoms and is often accidentally recognized, but many cases probably go unrecognized. In a typical case the albuminuria is absent in the morning, but appears after eating and after muscular exercise or cold bathing, and reaches the maximum the latter part of the day and disappears entirely again. Exceptionally it may be present all the time. The points of diagnosis are the small amount of albumin, absence or rarity of casts, lack of retinal changes, of cardiac hypertrophy, of increased arterial tension, of exaggeration of aortic second sound and dropsy. If after repeated observations, say for over six months, these symptoms exist, we have a case of so-called functional albuminuria. The prognosis is favorable, the albumin usually disappearing before adult life. The treatment consists chiefly in attention to existing anemia, diet, etc.

66.—See abstract in *THE JOURNAL*, xxxv, p. 1046.

FOREIGN.

Bulletin de l'Academie de Med. de Paris, May 28.

Neuralgia in Connection with Latent Aneurysms of the Aorta. H. HUCHARD.—The portion of the aorta between the fourth dorsal vertebra and the tenth is comparatively isolated from the surrounding organs, and an aneurysm may grow to a large size without causing symptoms. The descending thoracic aorta is, therefore, the latent zone of unrecognized aneurysms, of mistakes in diagnosis. The abdominal aorta also occasions similar mistakes. There are, however, certain pains sometimes connected with these latent aneurysms, which have a peculiar clinical character and establish a strong presumption in favor of the latent lesion. The seat of the pains is variable and may suggest a simple rheumatism of the shoulder, a rebellious intercostal or thoracobrachial neuralgia; but close study will show that the pain is not that of true neuralgia. The patients suffer for months, for years, from a single, fixed pain in the shoulder or suprascapular, subclavicular or interscapular region. In other cases, the pain occupies one entire side of the thorax and neck; it may be deeper in the chest, starting at the upper third of the sternum and passing to the spine, simulating angina pectoris. It may, in other patients, invade the arm and extend along the neck to the side of the head. It may affect the nerves of the cervical plexus and induce, by reflex action, contraction of the muscles of the neck, suggesting a simple torticollis. In other patients the pain may appear in one of the intercostal spaces, may be so severe as to interfere with respiration, or it may be bilateral, in girdle form, as if from a spinal affection. The pain is almost always continuous, permanently at the same spot, not paroxysmal and very rarely has the lancinating character of true neuralgia. The diagnosis of these pains in the cases reported has ranged from compression of the spine to simple rheumatism, but the appearance sooner or later of a pulsating tumor, or sudden death from hemorrhage, showed the error. Another peculiar feature of these pains, which are the premonitory symptoms of a latent aneurysm, is the fact that they can be exaggerated or diminished by changes of position. If the radioscope shows a tumor in the mediastinum, it must be borne in mind that aneurysms alone give rise to these pains, remarkable for their obstinacy and long duration, their abnormal intensity and rebelliousness to all the usual medication. The mechanism is probably a kind of uninterrupted pounding from the developing aneurysm. Fournier has seen a case of sudden, inexplicable pain in the arm in an old syphilitic vanish after specific treatment. Three years later an aneurysm of the aorta was observed and this also vanished under mercurial treatment. Huchard described several cases to illustrate the variety of pains that might be encountered with latent aneurysms. The pains that accompany an aneurysm of the abdominal aorta may simulate lumbago or nephritic colic, or girdle the trunk or follow the course of the ureters or spermatic cord.

Presse Medicale (Paris), May 29.

Preservation of Glycogenic Function of Liver in Cirrhosis. BRAULT.—The writer's studies on glycogenesis in neoplasms have been mentioned in *THE JOURNAL*, xxx, p. 877, and xxxv, p. 914. He showed that it was possible for a tumor

in the liver to be producing glycogen while the liver cells were incapable of glycogenesis at the time. He now demonstrates that during the evolution of cirrhosis many of the liver cells retain their reserves of glycogen intact, and renew them, even those cells which are isolated. The cells are separated into groups or isolated by the progress of the morbid process, but the strips or rings of sclerosis, hitherto considered destructive to the trabeculae and liver cells, are in reality so passive that the cells in contact with them or isolated in their depths, retain their normal histochemical properties and especially their glycogenetic activity. This integrity of the cells explains the latent or compensation period of cirrhosis, the respites and the cases in which the destructive process may be arrested for years. It also shows the possibility of the cure of cirrhosis in certain cases and survival with a liver, cirrhotic and indurated, but still functionally sufficient. Brault's latest research also demonstrated that glycogen could be found in the liver twenty-six to thirty-six hours after death, and that a severe infection (pneumonia), chronic disease (tuberculosis) and gastro-intestinal disturbances (diarrhea and vomiting), may be unable to exhaust the glycogen in the liver in certain cases.

June 1.

Syphilis and the Spindle-Shaped Bacillus. H. VINCENT. Syphilitic lesions in the throat invite the fusiform or spindle-shaped bacillus, first described by Vincent. As it colonizes, it modifies the clinical characteristics of the syphilitic lesions and masks their true nature, as if the ulceration were complicated by hospital gangrene. The bacilli are never so numerous, however, as in case of simple angina and they are always associated with other micro-organisms. If the ulceration persists after the bacilli have disappeared under the influence of iodine, to which they are very sensitive, the syphilitic nature is evident. If the lesions become diphtheroid, the false membrane is closely adherent to the subjacent tissue, while the spindle-bacillus false membrane is soft and easily detached. Specific treatment aggravates the true spindle bacillus angina and is thus an important differentiating measure.

June 5.

New and Rapid Method of Differentiating the Typhoid Bacillus in Water. A. CHANTEMESSE.—Eberth's bacillus becomes modified by sojourn in water and this renders its differentiation difficult. In order to obviate this difficulty Chantemesse places the suspected water in a medium that favors proliferation and rejuvenation of the bacillus and proceeds later to its differentiation, after it has regained the characteristics modified by its stay in the water. He describes his method as follows: A Chamberland filtering bougie is placed in a vessel containing six quarts of the suspected water. By producing a vacuum inside the bougie all the microbes in the water are attracted to its outer surface. The bougie is then rinsed with 200 gm. of a 3 per cent. solution of peptone. The turbid fluid thus obtained is kept at 37 C. in a large-mouthed jar with a rubber stopper containing four holes. A small, porous, filtering bougie is inserted in one of the holes; through the second passes a glass tube lightly plugged with cotton, which allows the entrance of air, kept constantly bubbling at the bottom of the jar, as the air is aspirated through a second glass tube in the third hole. The fourth hole holds a glass tube communicating above with a vessel containing the 3 per cent. solution of peptone. The fluid in the jar is changed once or twice every twelve hours by producing a vacuum and then aspirating the fluid out through the filtering bougie, leaving the microbes clinging to its outer surface and the walls of the jar. Fresh culture medium is then introduced through the tube from the receptacle of the solution of peptone above. The culture and the bubbling of the fluid thus commence anew in a fresh, aerated culture medium, with every condition favorable for the cultivation of the microbes. The culture is finally centrifugalized for half an hour and decanted. Most of the slender and extremely motile typhoid bacilli remain in suspension in the fluid and can be transferred directly to the differentiating medium. This is composed of a 3 per cent. solution of peptone, to which 2 per cent. of gelose has been added, and is kept at a temperature of 120 C. for forty-five

minutes. The medium should be absolutely neutral. A few minutes before using, 1.05 gm. of carbolic acid are added to each 1000 gm. of fluid. The medium must be used as a thin pellicle, and about 2 c.c. of the fluid is poured into each one of a dozen tubes in the water-bath at 42 C. They are then sown with a platinum loop taken from the bouillon first poured out of the centrifugalizer, which is ample for four tubes. The platinum loop must therefore be dipped in the bouillon three times to inoculate the dozen tubes. The latter are then warmed to 46 C. in the water-bath and the fluid is spread over the inside of the tube by turning and rolling it. The tube is then placed upside down; the fluid settles to the bottom on the cotton stopper, but a thin pellicle remains adherent to the inner surface of the glass and hardens. The cotton plug is then replaced with a cork taken from a vessel containing melted paraffin. This hermetically seals the tube and prevents the gelose from drying. Kept at 37 C., the colonies of the colon bacillus develop in the course of sixteen to seventeen hours. Each colony visible to the naked eye is marked with ink and the tube is replaced in the oven. By the eighteenth to the twenty-fourth hour a number of new, very small colonies appear, which, as the microscope shows, are formed of the typhoid bacillus and a micrococcus. The bacillus is then transferred to a similar solution of peptone to which lactose has been added. The agglutination test may occasionally differentiate the bacillus at once. The fermentation of the lactose is an important means of differentiating the typhoid bacillus. The fermentation is determined in the neutral fluid with litmus tincture. The medium turns red in the presence of the colon bacillus, while the typhoid bacillus leaves it violet and later turns it blue, or may sometimes decolor the lower portion. This reaction on the part of the lactosed medium—which from neutral at first, becomes gradually alkaline, never acid—and microscopic determination of the characteristics of the typhoid bacillus, establish its identity with positive certainty in three or four days at most. Tests of Seine water from the hydrants always disclosed the typhoid bacilli by this technique and it was found alive in water inoculated with it, after fifteen to forty-four days. Chantemesse concludes by emphasizing the fact that exhaustion, diminished vitality and possibly a peculiar condition of the intestinal flora at certain seasons of the year, may afford the conditions necessary to restore attenuated, non-virulent typhoid bacilli, ingested by man, to pristine virulence, in a manner similar to the influence of the proliferating and rejuvenating conditions in the first stage of his technique.

Revue de Gynecologie (Paris), v, 1 and 2.

Etiology of Extra-Uterine Pregnancy. F. STEPOWSKI.—The conclusions derived from study of thirty-seven cases of extra-uterine pregnancy at Neugebauer's clinic, are that two conditions are indispensable for the production of extra-uterine pregnancy: 1. that the mucous membrane of the tube, under the influence of the fecundated ovum, reacts on the decidua and renders conditions favorable for the incubation of the ovum; 2, the existence of some cause which prevents or paralyzes the passage of the ovum into the matrix.

Permanent Sound for the Ureter. J. ALBARRAN.—After nephrotomy Albarran inserts a sound in the ureter and leaves it for several days, to prevent or cure a renal fistula. It is useful only in urinary or uro-purulent fistulae—in case of pus alone it can do no good. In this case it is not the kidney, but merely the cellular tissue as such, that is suppurating, and the kidney may be still whole, allowing the urine to be normally voided. When the kidney itself secretes pus, without admixture of urine, the organ is so destroyed that there is no interest in preserving it longer, but in case of simple, purulent fistula the kidney plays but a subordinate role. The organ may still be useful and there is every reason to preserve it. When, however, the kidney has ceased to secrete urine the purulent fistula will heal more rapidly if the useless organ is removed. Catheterization of the ureter is not indicated even in cases of urinary or uro-purulent fistula, if the ureter is impermeable or the bladder irritable. But in appropriate cases he inserts a No. 6 sound in the bladder before the nephrotomy. Then, when

the kidney has been exposed and incised, he pushes the tip of this sound into the incision in the kidney, and fits over it a 10 or 11 Charrière sound, with four large eyes in the side and the lower end made to fit over the tip of the No. 6 sound. Both are then drawn down together and worked out through the meatus until the tip of the large sound is in the renal pelvis. The lower end is then fastened with a thread to the skin. The wound in the kidney is then sutured over a drain. The organ is irrigated through the permanent sound two or three times a day. The threads fastening it in place are removed the twelfth day, and it is discarded between the eighteenth and twenty-eighth days. The patients bear the ureteral sound better than the ordinary urethral sound. The result was extremely satisfactory in every one of the fifteen cases described. A fistula developed in eight, but healed over in one to four days. Six were cured, but in one the sounding was a failure, as the ureter was inserted above the bottom of the pelvis. In another, the persistence of gangrenous fragments prevented healing. He left the sound in place for ten to twenty-six days in the cured cases, but has since learned that it is unnecessary to retain it after urine has ceased to trickle through the wound. In two cases symptoms of retention required a repetition of the sounding. When necessary to change the sound, he first inserted a mandrin or guide in it to the tip. He then withdrew the sound over the mandrin and replaced it with another well lubricated sound, which he slipped on over the mandrin to the renal pelvis and then withdrew the mandrin.

Semaine Medicale (Paris), May 29.

Treatment of Old Luxations of the Shoulder. F. LEGUEU.—After failure of the ordinary measures, Legueu cuts an osteo-muscular flap by section of the acromio-clavicular are, not dividing any of the muscles. Turning this flap over allows wide and easy access to the joint. In a case described in detail the head was found so firmly lodged under the coracoid muscles that it was impossible to dislodge it. In order to do this the coracoid process was cut with the scissors and the muscles attached to it were stretched. This released the head and the hindrance to reposition was found to be a fracture of the anatomic neck of the humerus, with laceration of the capsule and retraction of the capsular opening. The head of the humerus was resected and fitted to the capsule. The coracoid process was sutured with silver wire, the acromion united with the scapula and after insertion of a drain the skin was sutured. The patient could move and bend her arm with ease when dismissed seventeen days later.

Differentiating Sign of Infantile Pneumonia. WEILL.—Pneumonia in young children can be differentiated in its incipency by the pathognomonic sign described by Weill, the lack of expansion in the subclavicular region, independent of the site of the pneumonic lesion. The little patient being on his back, the chest exposed, and respiration regular, it is easy to note the difference in the expansion between the two sides. On placing the fingers on the subclavicular region on either side, they are lifted as by a wave on the sound side, while on the other the lack of expansion is evident, even in the very first days of the disease. In pleurisy or pneumothorax, the lack of expansion corresponds to the seat of the lesion, but in pneumonia it is invariably subclavicular.

Berliner Klin. Wochenschrift, May 27.

Functional Importance of Pyramidal Tracts. M. ROTHMANN.—Reviewing the clinical and experimental experiences of recent years in regard to the pyramidal tracts, Rothmann concludes that we have no evidence for the assumption that they have any special function. The motor function is the property of the combination of cerebrum, thalamus, corpora quadrigemina and spinal cord. Comparative anatomy, however, shows that the pyramidal tracts are gradually usurping this duty as evolution progresses. They are absent in birds, and in the lower animals are in the posterior columns, and in the lateral columns in the higher animals, while in man they are in both the lateral and anterior columns. This progressive development suggests that the pyramidal tracts are a link in the great chain of phenomena which show that the cerebrum in its evolution is constantly assuming greater predominance

and subordinating the centers of the mesencephalon and the thalamencephalon.

Chaloderma.—L. Ketly has coined this new term as descriptive of the case of a patient whose skin hangs loose and pendulous. The muscles beneath are sound and the skin hangs away from them and bags from the arms, calves and trunk, but the buttocks and mammae are most conspicuously affected. The changes in the dependent skin are only in the reticular layer and the subcutis. The lack of elastic fibers, and the extreme dilatation of the blood vessels, with a diffuse, small-celled infiltration are noticeable.

Paralysis of the Rectum. A. HESSE.—Wallace has reported a case of alvine incontinence in a child, from paralysis of the rectum, much improved by astringent enemata. Hesse describes a similar case, the patient a boy of 6 with complete paresis of the bladder and anal sphincters, alvine and urinary incontinence, strabismus and chronic intestinal catarrh. He cured the intestinal affection with appropriate diet, tannalbin and Carlsbad waters, and with the subsidence of the catarrhal symptoms, the rectal paralysis was also cured. Partial enuresis still persists, but the lad has been completely relieved of all his other disturbances by this removal of the cause, the chronic catarrh. Hesse urges others to seek the causal factor in some local lesion in these cases, and not be so ready to attribute them to the nervous system.

Deutsche Med. Wochenschrift (Berlin and Leipsic), June 6.

Vicarious Menstruation Through the Bladder. BUENTING.—In a case under the writer's direct observation, menstruation occurred twice through the bronchi, at a year's interval, and ten years later through the bladder. Each time the phenomenon happened in August. The young woman was and is in robust health, with no symptoms on the part of the organs involved.

A Foreign Body as a Hindrance to Delivery. CZARNECKI.—A metal box—10x4 cm. in size—was inserted in the vagina by a girl at her first menstruation for the purpose of checking the flow. She was unable to remove the box later and informed no one of its presence, not even her husband when she married. She passed through an abortion and at that time the box probably slipped into the uterus. The writer was summoned to attend her in childbirth, and delivery was impossible until the box was removed with forceps. The foreign body had thus remained thirteen years in the vagina and eighteen months in the uterus without causing disturbances of any kind until it mechanically interfered with delivery.

Wiener Klin. Wochenschrift, May 23.

Juvenile Form of Progressive Paralysis. J. A. HIRSCHL.—Study of twenty cases of juvenile progressive paralysis showed that congenital lues was a very frequent factor, occurring in 17 out of 20 patients. Also that mentally deficient individuals were more prone to the affection than is the case among adults, and that the prodromal period is characterized by more pronounced symptoms. Another difference is the fact that simple dementia is the usual termination, scarcely ever paralytic mania or paralytic hypochondria, the lack of remissions when the disease is at its height, and that symptoms of irritation as well as seizures are common. The duration is comparatively longer and the autopsy reveals a diffuse sclerosis of the brain with marked leptomenigitis. The affection usually commences between the fourteenth and sixteenth years. Puberty evidently has the same influence as the menopause in paralysis in women, but at the same time it is possible that the paralysis requires the same period for incubation in the young as it does in adults, that is about fifteen years. Assuming that the congenital lues is the causal factor—the same as acquired lues in adults—the period before the outbreak of the paralysis corresponds in each case.

May 30.

Iodoform Filling for Wounds. N. HACKMANN.—Wounds that form a cavity and defects in bones are treated by Mosetig-Moorhof as a dentist fills a tooth. A mixture of oil of sesame, 20 parts; spermaceti, 40, and iodoform, 30 to 60 parts, is melted and poured into the cavity while still warm. It rapidly hardens and fills the cavity completely, bringing the

iodoform into close contact with every particle of the tissues. This filling is particularly useful to close cavities in the bones; the tallowy substance is gradually absorbed as new bone is formed. The influence of the materials in the filling is directly stimulating to the tissues, and granulation proceeds more rapidly and satisfactorily than without it. The foreign mass is gradually devoured, as it were, by the crowding granulations. A few cases are described in detail, showing the great benefits derived from this aseptic and antiseptic, stimulating substitute for missing bone or tissues. The filling is sometimes partially expelled by the new tissues forming beneath, in open wounds. The mixture is kept in a bottle inside a thermophor, ready for use. The cavity in the bone may be sterilized with superheated air. In applying the filling to a tuberculous cavity in a long bone, a constricting bandage is applied above, the cavity filled with the mixture and the constricting band removed after it has solidified. The skin is then sutured over the defect. Radiographs taken at intervals show that the filling gradually grows smaller, while the encroaching new formation of bone casts a normal shadow.

St. Petersburg Med. Wochenschrift, May 25.

The Pathology of the Jews. M. KRETZMER.—The exceptional fertility of the Jews and their low mortality are shown in Hoffman's statistics for eighteen years in Prussia. The mortality was 21.61 per cent., while among the rest of the population it was 29.61; the increase during the same period was 34.75 per cent.; in the rest of the population, less than 28 per cent. The excess of boys over girls is another feature of their physiology. Schwimmer found in Austria that 128.5 boys were born to each 100 girls, while the usual proportion is 105.8. The nervous system seems to be the locus minoris resistentiae among the Jews. The official report for Prussia and Bavaria for the year 1871 showed that there were nearly twice as many Jews among the blind, deaf, dumb and insane as from the remainder of the population. Progressive paralysis and post-puerperal mental disturbances are more frequent; and, in Russia at least, trachoma, myopia, cutaneous affections and abdominal diseases. Affections of the respiratory passages are less frequent among the Jews. Recent military statistics showed that consumptives in the army were in the proportion of 1 Jew to 22.3 Christians and 1.7 Mohammedans. Eminent Jews in the profession of late years are Traube, Heidenhain, Henle, Cohnheim, Bernstein, Senator, Liebreich, Saenger, Freund, Jaffe, Schreiber, Mendel, Hirschberg, Zuckerkandl and Meynert.

New Patents.

- Patents of interest to physicians, etc., June 4 and 11:
- 675,556. Atomizer. Alfred Clarkson, Fall River, Mass.
 - 675,821. Attachment for truss pads, Cornelius Donovan, New York City.
 - 675,775. Apparatus for filling capsules. John G. Gilmer, St. Petersburg, Fla.
 - 675,739. Device for testing eyes. Christlan F. Kantelehner, Chelsea, Mich.
 - 675,674. Elevating or lowering device for dental chairs. Frank Rittter, Rochester, N. Y.
 - 675,678. Movement cure apparatus. Charles A. Scholder, Lausanne, Switzerland.
 - 675,700. Device attached to hats to aid in hearing. Albert G. Zimmerman, Chicago.
 - 676,178. Mercurial barometer. Arthur S. Davis, Leeds, England.
 - 676,124. Hot-air cabinet. Henry A. Dygert, Philadelphia.
 - 675,897. Water-bag syringe. Wm. D. Martin, Warsaw, N. Y.
 - 675,966. Inhaler. John Y. McFarland, Chicago.
 - 676,269. Return-flow syringe. Denwood N. L. Newbury, New York City.
 - 676,158. Shirt for invalids. Wm. E. St. John, Leonardsville, N. Y.
 - 676,283. Tonsillotome. Ernst Stratmann, New York City.
 - 676,379. Eye-cups. Frank E. Young, Canton, Ohio.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., June 6 to 12, 1901, inclusive:

Percy M. Ashburn, lieutenant and asst.-surgeon, U. S. A., on his arrival at San Francisco, Cal., will proceed to Fort Sheridan, Ill., for post duty.

Thomas S. Bratton, captain and asst.-surgeon, U. S. A., from duty in the Division of the Philippines, to Fort Clark, Texas.

William J. Calvert, lieutenant and asst.-surgeon, U. S. A., on

his arrival at San Francisco, Cal., to proceed to Washington Barracks, D. C., for duty at the General Hospital at that place.

W. Fitzhugh Carter, major and surgeon, U. S. A., leave of absence granted.

Henry R. Carter, Jr., contract surgeon, from Vancouver Barracks, Wash., to San Francisco, Cal., en route for duty in the Division of the Philippines.

Edward T. Comegys, major and surgeon, U. S. A., relieved from further duty in the Division of the Philippines; on the expiration of his present sick leave he will report for duty at Fort Meade, S. D.

William D. Crosby, major and surgeon, U. S. A., from New York City, to post duty at Fort McPherson, Ga.

J. Ryan Devereux, contract surgeon, from Washington Barracks, D. C., to temporary duty at Fort McPherson, Ga.

Basil H. Dutcher, lieutenant and asst.-surgeon, U. S. A., now on duty in the U. S. Military Hospital, Nagasaki, Japan, is relieved from duty in the Division of the Philippines, and will proceed to Fort Hancock, N. J., for post duty.

James J. Erwin, captain and asst.-surgeon, Vols., honorably discharged from the service of the United States, to take effect June 30, 1901.

Powell C. Fauntleroy, major and surgeon, Vols. (captain and asst.-surgeon, U. S. A.), relieved from further duty in the Division of the Philippines and will proceed to Madison Barracks, N. Y., for post duty.

Joseph H. Ford, lieutenant and asst.-surgeon, U. S. A., from the Division of the Philippines to Fort Washington, Md., for post duty.

Clyde S. Ford, lieutenant and asst.-surgeon, U. S. A., from the Division of the Philippines to duty at Fort Morgan, Ala.

Harry L. Gilchrist, lieutenant and asst.-surgeon, U. S. A., on his arrival at San Francisco, Cal., will proceed to Vancouver Barracks, Wash., for duty at that post.

Charles R. Gill, contract surgeon, former orders revoked: he will proceed to Fort Totten, N. Y., to accompany the Second Battalion of Engineers from that post to San Francisco, Cal.

Joseph B. Girard, lieutenant-col., deputy surgeon-general, U. S. A., from duty at the Medical Supply Depot, St. Louis, Mo., to Vancouver Barracks, Wash., as post surgeon and chief surgeon, Department of the Columbia.

Henry S. Greenleaf, lieutenant and asst.-surgeon, U. S. A., from the Division of the Philippines to duty at Abetraz Island, Cal.

Richard S. Griswold, major and surgeon, Vols., recently appointed and now in New York City, N. Y., to proceed to San Francisco, Cal., en route for service in the Division of the Philippines.

Harry M. Hallock, captain and asst.-surgeon, U. S. A., from Fort McPherson, Ga., to San Francisco, Cal., en route for service in the Division of the Philippines.

Eugene H. Hartnett, lieutenant and asst.-surgeon, U. S. A., on his arrival at San Francisco, Cal., will proceed to Fort Columbus, N. Y., for duty at that post.

Deane C. Howard, captain and asst.-surgeon, U. S. A., former orders amended so as to direct him to proceed to Havana, Cuba, for duty in the Department of Cuba.

John S. Kulp, major and surgeon, Vols., so much of former orders as assigns him to Fort Hancock, N. J., is amended, assigning him to duty in New York City, as attending surgeon, examiner of recruits, and medical superintendent of the Army Transport Service.

Walter D. McCaw, major and surgeon, U. S. Army, detailed a member of the board in session at Manila, P. I., for the examination of candidates for admission to the Medical Corps of the Army, relieving Major William J. Wakeman, surgeon, U. S. Army.

H. E. Menage, contract surgeon, leave of absence from the Department of the Colorado extended.

Ben H. Metcalf, contract surgeon, to report from Fort Banks, Mass., by letter to the Surgeon-General for annulment of contract.

Edward W. Pinkham, lieutenant and asst.-surgeon, U. S. A., on arrival at San Francisco, Cal., will report for duty at Fort Banks, Mass.

Walter Reed, major and surgeon, U. S. A., from Washington, D. C., to Fort Monroe, Va., on official business, on the completion of which he will return to his proper station.

Edward R. Schreiner, lieutenant and asst.-surgeon, U. S. A., from duty in the Division of the Philippines, to Fort Howard, Md.

Samuel L. Steer, lieutenant and asst.-surgeon, U. S. A., on arrival at San Francisco, Cal., will proceed to Fort Dupont, Del., for duty at that place.

Henry R. Stiles, captain and asst.-surgeon, U. S. A., from Madison Barracks, N. Y., to San Francisco, Cal., en route for service in the Division of the Philippines.

Samuel M. Waterhouse, lieutenant and asst.-surgeon, U. S. A., from Fort Meade, S. D., to San Francisco, Cal., en route for service in the Division of the Philippines.

Roy A. Wilson, contract surgeon, from Fort Totten, N. Y., to San Francisco, Cal., en route for service in the Division of the Philippines.

Francis A. Winter, captain and asst.-surgeon, U. S. Army, from Fort Sheridan, Ill., to duty at Jefferson Barracks, Mo.

Halsey L. Wood, contract surgeon, leave of absence granted.

Marshall W. Wood, major and surgeon, U. S. A., from Jefferson Barracks, Mo., to St. Louis, Mo., to take charge of the Medical supply depot in that city.

Navy Changes.

Changes in the Medical Corps of the Navy, week ended June 15, 1901:

Dr. G. M. Mayers, appointed asst.-surgeon, from June 1, 1891.

Asst.-Surgeon J. F. Murphy, ordered to the Naval Academy, June 15.

Surgeon A. R. Wentworth, detached from the *Solace* and ordered to the *Albany*.

Surgeon H. N. T. Harris, detached from the *Albany* and ordered to the *Monocacy*.

P. A. Surgeon S. G. Evans, detached from the *Monocacy* and ordered to the *Solace*.

Asst.-Surgeon J. W. Backus, ordered to the *Vermont*, June 17.

Asst.-Surgeon F. A. Asserson, ordered to the Naval Hospital, New York, June 17.

Asst.-Surgeon G. M. Mayers, ordered to the Pensacola Navy Yard, June 18.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the U. S. Marine-Hospital Service, for the fourteen days ended June 13, 1901:

Surgeon J. H. White, to report at Washington, D. C., for conference.

Surgeon L. L. Williams, granted leave of absence for five days from June 6.

Surgeon W. J. Pettus, granted leave of absence for three days from June 13.

P. A. Surgeon J. A. Nydegger, granted leave of absence for thirty days from June 8.

P. A. Surgeon E. K. Sprague, granted leave of absence for thirty days from May 30.

P. A. Surgeon H. W. Wickes, granted leave of absence for four days from June 3.

Asst.-Surgeon C. E. Decker, granted leave of absence for ten days, on account of sickness.

Asst.-Surgeon W. W. King, granted leave of absence for four days.

A. A. Surgeon J. E. Bready, granted leave of absence for one day, June 19.

A. A. Surgeon Henry Ecroyd, granted leave of absence for ten days from June 8.

A. A. Surgeon W. C. Mason, granted leave of absence for six days from June 23.

A. A. Surgeon F. R. Smyth, leave of absence for three days granted by bureau telegram of May 31, 1901, revoked.

A. A. Surgeon J. G. Stanton, granted leave of absence for fifteen days from June 3.

BOARD CONVENED.

Board convened to meet at Washington, D. C., on June 7, 1901, for the physical examination of an applicant for cadetship in the U. S. Revenue-Cutter Service. Details for the Board: P. A. Surgeon H. D. Geddings, chairman; Asst.-Surgeon B. S. Warren, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended June 15, 1901:

SMALLPOX—UNITED STATES AND INSULAR.

Alaska: Douglas City, May 25, 5 cases.

California: San Francisco, May 25-June 1, 4 cases.

District of Columbia: Washington, May 30, 1 case.

Illinois: Chicago, June 1-9, 6 cases.

Indiana: Michigan City, June 3-10, 2 cases; South Bend, June 1-8, 1 case.

Kansas: Wichita, June 1-8, 7 cases, 1 death.

Louisiana: New Orleans, June 1-9, 5 cases, 1 death; Shreveport, May 25-June 1, 2 cases.

Maine: Portland, June 1-8, 1 case.

Maryland: Baltimore, June 1-8, 1 case.

Massachusetts: Boston, June 1-8, 1 case; Fall River, June 1-8, 1 case; Marlboro, June 1-5, 1 case; New Bedford, June 1-8, 27 cases, 1 death; Somerville, June 1-8, 1 case.

Michigan: June 1-8, Detroit, 33 cases; West Bay City, 1 case.

Minnesota: Winona, June 1-8, 1 case; St. Louis, May 26-June 2, 32 cases.

New Hampshire: Manchester, June 1-8, 4 cases.

New York: New York, June 1-8, 86 cases, 16 deaths.

Ohio: Cincinnati, May 31-June 7, 5 cases; Cleveland, June 1-8, 30 cases; Toledo, June 1-8, 1 case.

Pennsylvania: June 1-8, Lebanon, 1 case; Philadelphia, 1 death; Pittsburg, 5 cases.

Rhode Island: Providence, June 1-8, 1 case, 1 death.

Utah: Ogden, May 1-31, 11 cases; Salt Lake City, June 1-8, 4 cases.

Washington: Tacoma, May 26-June 2, 1 case.

Wisconsin: Green Bay, June 2-9, 2 cases.

Philippines: Manila, April 13-20, 9 cases.

Porto Rico: San Juan, May 10, extinct, 8 cases on island.

SMALLPOX—FOREIGN.

Austria: Prague, May 18-25, 3 cases.

Belgium: Antwerp, May 18-25, 3 cases, 1 death.

Brazil: Pernambuco, April 1-15, 27 cases.

China: Hongkong, April 22-27, 7 cases, 5 deaths.

Colombia: Panama, May 27-June 3, 5 cases, 1 death.

France: Paris, May 18-25, 15 deaths.

Great Britain: Glasgow, May 25-31, 42 cases, 1 death.

Greece: Athens, May 18-25, 2 cases.

India: Calcutta, May 4-11, 34 deaths; Karachi, April 28-May 12, 9 cases, 3 deaths.

Italy: Naples, May 19-26, 161 cases, 28 deaths.

Japan: Nagasaki, May 6, 1 case on U. S. S. *Indiana*; Tokyo, May 11, 3 cases.

Manitoba: Winnipeg, May 25, June 1, 2 cases.

Mexico: Mexico City, May 19-June 2, 3 deaths.

Russia: Odessa, May 11-26, 9 cases, 1 death; St. Petersburg, May 4-18, 24 cases, 5 deaths; Warsaw, May 4-11, 8 deaths.

YELLOW FEVER.

Mexico: Vera Cruz, May 18-25, 1 death.

CHOLERA.

India: Bombay, May 7-14, 3 deaths; Calcutta, May 4-11, 47 deaths.

PLAGUE—FOREIGN AND INSULAR.

Africa: Cape Town, to April 5, 412 cases, 181 deaths.

China: Hongkong, April 20-27, 65 cases, 55 deaths.

India: Bombay, May 7-14, 289 deaths; Calcutta, May 4-11, 134 deaths; Karachi, April 28-May 12, 657 cases, 563 deaths.

Japan: Formosa, May 19, increasing; from May 3-June 1, 2157 cases.

Philippines: Manila, April 13-20, 27 cases, 16 deaths.

GENERAL INDEX.

Use of the index will be facilitated by bearing in mind that subjects are frequently given under two or more headings, e. g., brain, cerebral, tumors, etc.; heart and cardiac; cirrhosis, liver and hepatic; child, children and infant; gland, thyroid, etc. Often, too, writers treat of the eye, ear, nose and throat under one head, etc., and the titles do not always permit of indexing under the several headings. The "General Index" contains only titles of articles, editorials, society reports, abstracts, and miscellaneous matter appearing in The Journal; the book notices, deaths, societies, marriages, authors, and titles of articles mentioned in the "Current Medical Literature" department are indexed and arranged under their separate headings instead of in the body of the "General Index."

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AMERICAN MEDICAL LITERATURE

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Explanation: This index covers titles and subjects of original articles published in the medical journals of the United States and Canada during the past six months. The titles, and the journals in which they appeared, were published weekly in the Current Medical Literature department, to which references are made. The figures in () refer to the paragraph; the number following, to the page in The Journal. For instance, "Abortion, criminal, (127) 525" refers to page 525 of The Journal, on which is found opposite paragraph 127 the title and name of author, viz., "Criminal abortion. W. D. Stewart." This title is listed under the journal in which the article appeared: The Toledo (O.) Medical and Surgical Reporter for February. For titles of articles in The Journal see General Index.

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